



INDONESIA LONGITUDINAL AGING SURVEY 2023

SEPTEMBER 2024



Ministry of National
Development Planning/Bappenas
Republic of Indonesia



SurveyMETER
SURVEY-MEASUREMENT-TRAINING-RESEARCH



UNIVERSITAS
INDONESIA

Yogyakarta

Yogyakarta

FEB



Lembaga
Demografi

ADB

INDONESIA LONGITUDINAL AGING SURVEY 2023

SEPTEMBER 2024



Creative Commons Attribution 3.0 IGO license (CC BY 3.0 IGO)

© 2024 Asian Development Bank, SurveyMETER, and Lembaga Demografi Faculty of Economics and Business Universitas Indonesia

Some rights reserved. Published in 2024.

ISBN 978-92-9270-868-9 (print); 978-92-9270-869-6 (PDF); 978-92-9270-870-2 (ebook)

Publication Stock No. TCS240416-2

DOI: <http://dx.doi.org/10.22617/TCS240416-2>

The views expressed in this publication are those of the authors and do not necessarily reflect the views and policies of the Asian Development Bank (ADB) or its Board of Governors or the governments they represent, nor the views or policies of SurveyMETER or Lembaga Demografi Faculty of Economics and Business Universitas Indonesia (LD FEB UI).

ADB, SurveyMETER, and LD FEB UI do not guarantee the accuracy of the data included in this publication and accept no responsibility for any consequence of their use. The mention of specific companies or products of manufacturers does not imply that they are endorsed or recommended by ADB, SurveyMETER, and LD FEB UI in preference to others of a similar nature that are not mentioned.

By making any designation of or reference to a particular territory or geographic area in this document ADB, SurveyMETER, and LD FEB UI do not intend to make any judgments as to the legal or other status of any territory or area.

This publication is available under the Creative Commons Attribution 3.0 IGO license (CC BY 3.0 IGO) <https://creativecommons.org/licenses/by/3.0/igo/>. By using the content of this publication, you agree to be bound by the terms of this license. For attribution, translations, adaptations, and permissions, please read the provisions and terms of use at <https://www.adb.org/terms-use#openaccess>.

This CC license does not apply to non-ADB, non-SurveyMETER, and non-LD FEB UI copyright materials in this publication. If the material is attributed to another source, please contact the copyright owner or publisher of that source for permission to reproduce it. ADB, SurveyMETER, and LD FEB UI cannot be held liable for any claims that arise as a result of your use of the material.

Please contact pubsmarketing@adb.org, if you have questions or comments with respect to content, or if you wish to obtain copyright permission for your intended use that does not fall within these terms, or for permission to use the ADB logo. For permission to use the SurveyMETER logo, please contact sm@surveymeter.org, and for permission to use the LD FEB UI logo, please contact info@ldfebui.org

Corrigenda to ADB publications may be found at <http://www.adb.org/publications/corrigenda>.

Notes:

In this publication, “\$” refers to United States dollars and “Rp” refers to rupiah.

ADB recognizes “China” as the People’s Republic of China; “Korea” and “South Korea” as the Republic of Korea; and “Vietnam” as Viet Nam.

The tables and figures in this publication are by the Indonesia Longitudinal Aging Survey 2023 unless otherwise indicated.

On the cover: Bridging Generational Gap and Digital Divide (photo by Henry Setyo Nugroho and Yainur Pratomo).

Contents

Contents	iii
Tables, Figures, and Boxes	v
Preface	xii
Acknowledgments	xiii
Abbreviations	xv
Executive Summary	xvi
1. INTRODUCTION	1
Population Aging in Indonesia	1
National Strategy for Aging (Stranas Kelanjutan)	5
The Need for Longitudinal Research on Older People	6
Initiation of the Indonesia Longitudinal Aging Survey	7
Objective of the Indonesia Longitudinal Aging Survey	7
Significance of the Indonesia Longitudinal Aging Survey	8
Structure of Report	8
2. SURVEY DESIGN	9
Sample and Completion Rate	9
Research Ethical Clearance	14
Data Collection	14
Validation and Data Quality Control	15
Analytical Weights	16
3. DEMOGRAPHIC PROFILE OF SURVEY RESPONDENTS	18
Profile of the Pre-Older and Older Age Groups	18
4. HEALTH, SOCIAL, AND ECONOMIC CONDITIONS	27
Health Status	27
Social Status	57
Economic Status	71
5. LIFESTYLE, HABITS, AND LIVING CONDITIONS	98
Individual Habits	98
Living Conditions and Surroundings	108
6. HEALTH AND AGED-CARE SERVICES	113
Utilization of Health Services	113
Health Insurance	126
Long-Term Care Needs	132
Profile of Older People's Caregivers	139

7. USE OF TECHNOLOGY, APPS, AND FINANCIAL INCLUSION	147
Access to and Use of Communication Devices	147
Access to and Use of Tablet Devices or Computers	153
Use of Mobile Apps	157
Access to Digital Payments and Finance	158
8. INFORMATION ACCESS AND SOCIAL ENGAGEMENT	162
Information Access	162
Welfare Programs for Older People	167
Appendixes	175
Appendix 1: Sample Size Calculation	175
Appendix 2: List of Enumerators	176
Appendix 3: National Strategy for Aging	177
References	186

Tables, Figures, and Boxes

Tables

2.1	Distribution of Sample Areas	10
2.2	Completion, Refusal, and Proxy Rates of Individual Interviews	11
2.3	Structure of the Indonesia Longitudinal Aging Survey Questionnaire	12
3.1	Demographic Characteristics and Origin of Respondents by Age Group	18
3.2	Distribution of Respondents by Age Group and Gender	19
3.3	Key Findings and Policy Recommendations	26
4.1	Pattern of Comorbidity in Pre-Older and Older People	35
4.2	Classification of Hypertension in Adults	39
4.3	Threshold of Body Mass Index	42
4.4	Classification of Abdominal and/or Central Obesity in Adults	44
4.5	Activities of Daily Living Among Older People (Aged 60 and Older) by Age Group	52
4.6	Activities of Daily Living Among Older People (Aged 60 and Older) by Gender	52
4.7	Instrumental Activities of Daily Living Performed by Older People (Aged 60 and Older) by Age Group	54
4.8	Instrumental Activities of Daily Living Performed by Older People (Aged 60 and Older) by Gender	54
4.9	Number of Living Children	65
4.10	Cross-Tabulation of Respondents' Education and Their Child's Education	67
4.11	Statutory Retirement Age by Gender	75
4.12	Beneficiaries of Government Transfers by Age Group	88
4.13	Ownership of Savings and Assets by Age Group, Gender, Location, and Education	91
4.14	Key Findings and Policy Recommendations	95
5.1	Key Findings and Policy Recommendations	112
6.1	Monthly Health-Related Expenses Excluding Outpatient and Inpatient Treatment	126
6.2	Payments and Average/Median Costs for Outpatient Treatment in the Last 12 Months	130
6.3	Payments and Average/Median Costs for Inpatient Treatment in the Last 12 Months	132
6.4	Classification of People with Long-Term Care Needs	132
6.5	Time Spent by Primary Caregivers in Helping or Caring for Older People	143
6.6	Key Findings and Policy Directions	144
7.1	Key Findings and Policy Recommendations	161
8.1	Key Findings and Policy Recommendations	174

Figures

1.1	Share of the Population in Indonesia by Age Group, 1970–2050	2
1.2	Indonesia’s Population Pyramid for the Years 1950, 2000, 2050, and 2100	3
1.3	Share of Older People and the Old-Age Dependency Ratio, 2009–2021	4
2.1	Sample Areas of the Indonesia Longitudinal Aging Survey 2023	9
3.1	Residence and Age Group	20
3.2	Residence by Age Group and Gender	20
3.3	Education Level by Age Group	21
3.4	Education Level by Gender and Age Group	22
3.5	Marital Status by Age Group	22
3.6	Marital Status by Gender and Age Group	23
3.7	Spoken Language at Home by Age Group	23
3.8	Spoken Language at Home by Gender and Age Group	24
3.9	Migration Pattern by Age Group	25
3.10	Migration Pattern by Gender and Age Group	25
4.1	Self-Reported Health Status by Age Group	28
4.2	Self-Reported Health Status by Age Group and Gender	29
4.3	Assessment of Current Health Status Compared to the Previous Year by Age Group	29
4.4	Assessment of Current Health Status Compared to the Previous Year by Age Group and Gender	30
4.5	Pain and Limitation of Daily Activities Experienced in the Last 30 Days	31
4.6	Major Body Pain in the Last 30 Days Limiting Daily Activity by Age Group	31
4.7	Most Limiting Body Pain in the Last 30 Days Restricting Daily Tasks by Age Group and Gender	32
4.8	Medical Conditions Diagnosed by a Doctor or Health-Care Provider	33
4.9	Respondents Diagnosed with at Least One Disease by a Doctor or Health-Care Provider by Age Group	34
4.10	Respondents Diagnosed with at Least One Disease by a Doctor or Health-Care Provider by Age Group and Gender	34
4.11	Prevalence of the Top Three Diseases Diagnosed by a Doctor or Health-Care Provider by Age Group	35
4.12	Prevalence of the Top Three Diseases Diagnosed by a Doctor or Health-Care Provider by Age Group and Gender	36
4.13	Patients with Functional Limitations in Daily Activities by Disease	37
4.14	Proportion of Patients with Functional Limitations in Daily Activities by Age Group and Disease	37
4.15	Proportion of Patients with Functional Limitations in Daily Activities by Age Group and Disease	38
4.16	Classification of Blood Pressure Measurement by Age Group	39
4.17	Classification of Blood Pressure Measurement by Age Group and Gender	40
4.18	Blood Pressure Measurement According to Doctor’s Diagnosis and Field Measurement by Age Group	41
4.19	Blood Pressure Measurement According to Doctor’s Diagnosis and Field Measurement by Age Group and Gender	41
4.20	Nutritional Status According to Body Mass Index by Age Group	43
4.21	Nutritional Status According to Body Mass Index by Age Group and Gender	43
4.22	Abdominal Obesity with a Waist Circumference of More Than 90 Centimeters by Age Group	45

4.23	Abdominal Obesity with a Waist Circumference of More Than 90 Centimeters by Age Group and Gender	45
4.24	Use of Dominant Hand by Age Group	46
4.25	Use of Dominant Hand by Age Group and Gender	47
4.26	Average Grip Strength by Age Group	47
4.27	Average Grip Strength by Age Group and Gender	48
4.28	Respondents with Symptoms of Depression by Age Group	48
4.29	Respondents with Symptoms of Depression by Age Group and Gender	49
4.30	Cognitive Impairment by Age Group	50
4.31	Cognitive Impairment by Age Group and Gender	50
4.32	Independence in Performing Activities of Daily Living, Aged 60 and Older	52
4.33	Independence in Performing Instrumental Activities of Daily Living, Aged 60 and Older	53
4.34	Prevalence of Disability Based on the Washington Group's Threshold Recommendations by Age Group	55
4.35	Prevalence of Disability Based on the Washington Group's Threshold Recommendations by Age Group and Gender	55
4.36	Disabilities According to the Washington Scale by Age Group	56
4.37	Disabilities According to the Washington Scale by Age Group and Gender	57
4.38	Living Arrangements by Age Group	58
4.39	Living Arrangements by Age Group and Gender	59
4.40	Living Arrangements by Location	59
4.41	Living Arrangements by Ethnicity	60
4.42	Composition of Household Members by Age Group and Gender	60
4.43	Household Members by Ethnicity	61
4.44	Respondents Living with or Near Their Children by Age Group	61
4.45	Respondents Living with or Near Their Children by Age Group and Gender	62
4.46	Frequency of Meetings with Children by Age Group	63
4.47	Frequency of Meetings with Children by Place of Residence	63
4.48	Frequency of Interactions with Children in Person or Virtually by Age Group	64
4.49	With Living Parents by Age Group and Gender	64
4.50	Frequency of Interactions with Parent(s) in Person or Virtually by Age Group and Gender	65
4.51	Children of Respondents Who Live with Them, Live Near Them, and Live Elsewhere/Abroad, by Age Group	66
4.52	Employment Status of Children Aged 15+ by Age Group	66
4.53	Employment Status of Children by Age Group	67
4.54	Median Transfers of All Respondents per Year	68
4.55	Median Transfers of Pre-Older Respondents per Year	68
4.56	Median Transfers of Older Respondents per Year	69
4.57	Respondents as Grandchild Caregiver by Age Group	70
4.58	Respondents as Grandchild Caregivers by Age Group and Gender	70
4.59	Respondents as Grandchild Caregivers by Place of Residence	70
4.60	Employment Status by Age Group	71
4.61	Employment Status by Gender, Location, and Education	72
4.62	Reason for Not Working by Age Group	73
4.63	Reason for Not Working by Gender, Location, and Education	73
4.64	Reason for Retirement by Age Group	74
4.65	Reason for Retirement by Gender, Location, and Education	74
4.66	Employment Status of Working Respondents by Age Group and Gender	76

4.67	Employment Status of Working Respondents by Gender, Location, and Education	76
4.68	Sector of Working Respondents by Age Group and Gender	77
4.69	Sector of Working Respondents by Gender, Location, and Education	77
4.70	Type of Employment by Age Group and Gender	78
4.71	Type of Employment by Gender, Location, and Education	78
4.72	Job Characteristics of Pre-Older Respondents	79
4.73	Job Characteristics of Older Respondents	79
4.74	Job Satisfaction for Pre-Older Respondents	80
4.75	Job Satisfaction for Older Respondents	80
4.76	Expected Retention of Current Job by Age Group and Gender	81
4.77	Plans After Retirement in Current Job by Age Group and Gender	81
4.78	Retirement Circumstances by Age Group and Gender	82
4.79	Retirement Circumstances by Gender, Location, and Education	82
4.80	Life Satisfaction After Retirement by Age Group and Gender	83
4.81	Life Satisfaction After Retirement by Gender, Location, and Education	83
4.82	Life Satisfaction and Retirement Circumstances	84
4.83	Sources of Income Received by Age Group	85
4.84	Sources of Income Received by Gender, Location, and Education	86
4.85	Sources of Income by Age Group	86
4.86	Sources of Income by Gender, Location, and Education	87
4.87	Annual Median Income and Transfers by Source and Age Group	89
4.88	Annual Median Expenditure by Age Group	89
4.89	Median Expenditure and Income by Age Group	90
4.90	Type of Savings by Age Group and Gender	92
4.91	Type of Savings by Gender, Location, and Education	92
4.92	Type of Assets Owned by Respondents by Age Group and Gender	93
4.93	Type of Assets Owned by Respondents by Gender, Location, and Education	94
4.94	Median Total Savings and Assets of Respondents by Age Group	94
5.1	Active Smokers by Age Group	98
5.2	Active Smokers by Age Group and Gender	99
5.3	Respondents Who Have Ever Smoked by Age Group	100
5.4	Respondents Who Have Ever Smoked by Age Group and Gender	100
5.5	Age at Which Respondents Who Have Ever Smoked Started Smoking by Age Group	101
5.6	Age at Which Respondents Who Have Ever Smoked Started Smoking by Age Group and Gender	101
5.7	Number of Years of Smoking Among Current Smokers by Age Group	102
5.8	Number of Years of Smoking Among Current Smokers by Gender	102
5.9	Items Smoked by Current Smokers and Respondents Who Have Ever Smoked by Age Group	103
5.10	Smoking Frequency (Number of Sticks per Day) by Age Group	103
5.11	Smoking Frequency (Number of Sticks per Day) by Age Group and Gender	104
5.12	Age at Which Respondents Who Have Ever Smoked Quit Smoking by Age Group	104
5.13	Age at Which Respondents Who Have Ever Smoked Quit Smoking by Age Group and Gender	105
5.14	Current Consumption of Alcoholic Beverages by Age Group	105
5.15	Current Consumption of Alcoholic Beverages by Age Group and Gender	106
5.16	History of Consumption of Alcoholic Beverages by Age Group	106
5.17	History of Consumption of Alcoholic Beverages by Age Group and Gender	107
5.18	Age at Which Respondents Started the Consumption of Alcoholic Beverages by Age Group	107

5.19	Age at Which Respondents Started the Consumption of Alcoholic Beverages by Age Group and Gender	108
5.20	Housing Improvement Needs for an Age-Friendly Home by Age Group	109
5.21	Housing Improvement Needs for an Age-Friendly Home by Age Group and Gender	110
5.22	Perspective on Neglect or Physical/Verbal Abuse Toward Older People in the Neighborhood by Age Group	111
5.23	Perspective on Neglect or Physical/Verbal Abuse Toward Older People in the Neighborhood by Age Group and Gender	111
6.1	Health Screening in the Last 12 Months by Age Group	113
6.2	Health Screening in the Last 12 Months by Age Group and Gender	114
6.3	Reasons for Not Undergoing Health Screening in the Last 12 Months by Age Group	114
6.4	Reasons for Not Undergoing Health Screening in the Last 12 Months by Age Group and Gender	115
6.5	Outpatient Care Visits or Medical Treatment at Home in the Last 12 Months by Age Group	116
6.6	Outpatient Care Visits or Medical Treatment at Home in the Last 12 Months by Age Group and Gender	116
6.7	Frequency of Outpatient Care Visits or Medical Treatment at Home in the Last 12 Months by Age Group	116
6.8	Frequency of Outpatient Care Visits or Medical Treatment at Home in the Last 12 Months by Age Group and Gender	117
6.9	Outpatient Care Visits in the Last 12 Months by Age Group and Type of Facility	118
6.10	Outpatient Care Visits in the Last 12 Months by Age Group, Gender, and Type of Facility	118
6.11	Primary Person Accompanying Outpatient Treatment in the Last 12 Months by Age Group	119
6.12	Primary Person Accompanying Outpatient Treatment in the Last 12 Months by Age Group and Gender	119
6.13	Inpatient Treatment in the Last 12 Months by Age Group	120
6.14	Inpatient Treatment in the Last 12 Months by Age Group and Gender	120
6.15	Frequency of Inpatient Treatment in the Last 12 Months by Age Group	121
6.16	Frequency of Inpatient Treatment in the Last 12 Months by Age Group and Gender	121
6.17	Type of Inpatient Treatment Facilities Used in the Last 12 Months by Age Group	122
6.18	Type of Inpatient Treatment Facilities Used in the Last 12 Months by Age Group and Gender	122
6.19	Major Reasons for Being Hospitalized in the Last 12 Months	123
6.20	Three Main Causes for Inpatient Treatment in the Last 12 Months by Age Group	124
6.21	Three Main Causes for Inpatient Treatment in the Last 12 Months by Age Group and Gender	124
6.22	Primary Person Accompanying Inpatient Treatment in the Last 12 Months by Age Group	125
6.23	Primary Person Accompanying Inpatient Treatment in the Last 12 Months by Age Group and Gender	125
6.24	Type of Health Insurance Coverage by Age Group	127
6.25	Type of Health Insurance Coverage by Age Group and Gender	127
6.26	Source of Payment of Health Insurance by Age Group	128
6.27	Source of Payment of Health Insurance by Age Group and Gender	128
6.28	Types of Health Insurance Used for Outpatient Treatment in the Last 12 Months by Age Group	129
6.29	Types of Health Insurance Used for Outpatient Treatment in the Last 12 Months by Age Group and Gender	129
6.30	Type of Health Insurance Used for Inpatient Treatment by Age Group	131
6.31	Type of Health Insurance Used for Inpatient Treatment by Age Group and Gender	131
6.32	Older Respondents with Long-Term Care Needs by Age Group	133
6.33	Older Respondents with Long-Term Care Needs by Gender	133

6.34	Respondents with Positive View Toward Special Housing or Complexes with Age-Friendly Services by Age Group	134
6.35	Respondents with Positive View Toward Special Housing or Complexes with Age-Friendly Services by Age Group and Gender	134
6.36	Respondents Ready or Willing to Live in Special Housing/Complexes with Older-People-Friendly Services by Age Group	135
6.37	Respondents Ready or Willing to Live in Special Housing/Complexes with Older-People-Friendly Services by Age Group and Gender	135
6.38	Reasons for Being Prepared and Willing to Live in Special Housing/Complexes with Age-Friendly Services by Age Group	136
6.39	Reasons for Being Prepared and Willing to Live in Special Housing/Complexes with Age-Friendly Services by Age Group and Gender	137
6.40	Reasons for Being Unprepared or Unwilling to Live in Special Housing/Complexes with Age-Friendly Services by Age Group	137
6.41	Reasons for Being Unprepared or Unwilling to Live in Special Housing/Complexes with Age-Friendly Services by Age Group and Gender	138
6.42	Willingness to Use Home Visit Services/Assistance in Old Age by Age Group	138
6.43	Willingness to Use Home Visit Services/Assistance in Old Age by Age Group and Gender	139
6.44	Older People (Aged 60 Years and Older) Without a Caregiver by Age Group	139
6.45	Older People (Aged 60 Years and Older) Without a Caregiver by Gender	140
6.46	Older People (Aged 60 Years and Older) Without a Caregiver by Need of Long-Term Care	140
6.47	Respondents with Household Members as Primary Caregivers by Age Group	140
6.48	Respondents with Household Members as Primary Caregivers by Gender	141
6.49	Primary Caregivers of Older People by Age Group and Gender of Care Beneficiary	141
6.50	Primary Caregivers of Older People by Age Group and Gender of Care Beneficiary	142
6.51	Education Level of Primary Caregivers	142
6.52	Marital Status of Primary Caregivers	142
6.53	Relationship Between Primary Caregivers and Older People	143
6.54	Wages and Salary of Primary Caregivers	144
7.1	Access to a Phone (Smartphone/Cell Phone/Landline) by Age Group	147
7.2	Access to a Phone (Smartphone/Cell Phone/Landline) by Age Group and Gender	147
7.3	Access to a Phone (Smartphone/Cell Phone/Landline) by Education Level	148
7.4	Access to a Phone (Smartphone/Cell Phone/Landline) by Place of Residence	148
7.5	Able to Use a Phone (Smartphone/Cell Phone/Landline) Independently by Age Group	149
7.6	Able to Use a Phone (Smartphone/Cell Phone/Landline) Independently by Age Group and Gender	149
7.7	Able to Use a Phone (Smartphone/Cell Phone/Landline) by Education Level	150
7.8	Able to Use a Phone (Smartphone/Cell Phone/Landline) by Place of Residence	150
7.9	Access to a Smartphone, Cell Phone, or Landline by Age Group	151
7.10	Access to a Smartphone, Cell Phone, or Landline by Age Group and Gender	151
7.11	Access to a Smartphone, Cell Phone, or Landline by Education Level	152
7.12	Access to a Smartphone, Cell Phone, or Landline by Place of Residence	152
7.13	Access to a Tablet Device or Computer by Age Group	154
7.14	Access to a Tablet Device or Computer by Age Group and Gender	154
7.15	Access to a Tablet Device or Computer by Education Level	154
7.16	Access to a Tablet Device or Computer by Place of Residence	155
7.17	Able to Use a Tablet Device or Computer Independently by Age Group	155
7.18	Able to Use a Tablet Device or Computer Independently by Age Group and Gender	156
7.19	Able to Use a Tablet Device or Computer by Education Level	156

7.20	Able to Use a Tablet Device or Computer by Place of Residence	156
7.21	Able to Use Apps (such as Gojek or Grab, Tokopedia or Shopee, and M-Banking) by Age Group	157
7.22	Able to Use Apps (such as Gojek or Grab, Tokopedia or Shopee, and M-Banking) by Age Group and Gender	157
7.23	Use of Debit or ATM Cards for Purchases, Payments, and Transfers in the Last 12 Months by Age Group	158
7.24	Use of Debit or ATM Cards for Purchases, Payments, or Transfers in the Last 12 Months by Age Group and Gender	159
7.25	Use of Smartphones and/or the Internet for Purchases, Payments, or Transfers in the Last 12 Months by Age Group	159
7.26	Use of Smartphones or the Internet for Purchases, Payments, or Transfers in the Last 12 Months by Age Group and Gender	160
8.1	Information-Seeking Activities of Respondents	162
8.2	Information-Seeking Activities by Age Group	163
8.3	Information-Seeking Activities by Age Group and Gender	163
8.4	Participation in Family and Social Activities	164
8.5	Participation in Voluntary/Charitable Activities by Age Group	164
8.6	Participation in Voluntary/Charitable Activities by Age Group and Gender	165
8.7	Caring for Older People and Grandchildren	165
8.8	Time Spent Helping/Caring for Older People and Grandchildren, by Age Group	166
8.9	Time Spent Helping/Caring for Older People and Grandchildren, by Age Group and Gender	166
8.10	Activities and Services for Older People by Age Group	167
8.11	Activities and Services for Older People by Age Group and Gender	168
8.12	Participation in Activities and Services by Age Group	169
8.13	Participation in Activities and Services by Age Group and Gender	170
8.14	Frequency of Participation in Activities and Services in the Last Months by Age Group	171
8.15	Frequency of Participation in Activities and Services in the Last 12 Months by Age Group and Gender	172

Boxes

4.1	Comparison of National Strategy for Aging Indicator and Indonesia Longitudinal Aging Survey Findings	33
4.2	Comparison of National Strategy for Aging Indicator and Indonesia Longitudinal Aging Survey Findings	44
4.3	Comparison of National Strategy for Aging Indicator and Indonesia Longitudinal Aging Survey Findings	53
8.1	Comparison of National Strategy for Aging Indicator and Indonesia Longitudinal Aging Survey Findings	173

Preface

Population aging is a megatrend that is reshaping economies and societies in Asia and the Pacific. The region's population aged 60 and above is projected to double from 567.7 million in 2022 to 1.2 billion in 2050, accounting for a quarter of the regional population. Rapid demographic transition brings challenges and opportunities for societies, older people, and their families in the region, including Indonesia, which has witnessed steady growth in the number and share of its population aged 60 years or older. This demographic has increased from 2.2 million (3.2%) in 1950 to 12 million (6.5%) in 1990, reaching 30.1 million (10.8%) in 2022. The share of the older population is expected to rise to 21.9% by 2050.

The Indonesia Longitudinal Aging Survey (ILAS) 2023 was conducted with the aim of monitoring trends related to the aging population in Indonesia, instituting data-driven reforms to improve health and social security systems for older people, and assessing and monitoring the policy objectives and target indicators outlined in Presidential Regulation No. 88 of 2021 on the National Strategy for Aging.

ILAS 2023 is a crucial milestone in the country's ongoing efforts to broaden and deepen the knowledge base to better understand the process and consequences of population aging and the state of well-being of older people. ILAS is expected to play a critical role in informing future social development policies in Indonesia. We invite policymakers, scholars, and other stakeholders to make active use of the ILAS dataset to meet these objectives.



Albert Park

Chief Economist and Director General
Economic Research and Development
Impact Department
Asian Development Bank



Ni Wayan Suriastini

Survey Director – Team Leader
SurveyMETER



Maliki

Deputy for Population and Employment
Ministry of National Development Planning (BAPPENAS)
Republic of Indonesia

Acknowledgments

The Indonesia Longitudinal Aging Survey (ILAS) 2023 was prepared with the support of the Asian Development Bank (ADB) knowledge and support technical assistance project, 6556-REG: Challenges and Opportunities of Population Aging in Asia – Strengthening Data and Analysis for Healthy and Productive Aging, supported by the Japan Fund for Prosperous and Resilient Asia and the Pacific. ILAS 2023 was carried out as a first step toward producing a nationally representative longitudinal panel data on aging population.

The research team from the SurveyMETER Research Institute and the Demography Institute of the Faculty of Economics and Business at the University of Indonesia conducted ILAS 2023 with assistance from the National Planning Agency (BAPPENAS) and ADB. Ni Wayan Suriastini led the research team as survey director–team leader, with I Dewa Gede Karma Wisana as survey designer and database manager; Paksi Walandouw as quality control and knowledge management expert; Edy Purwanto as fieldwork and production manager; Amalia Rifana Widiastuti as technical manager; Ernisa Asanti, Dwi Oktarina, Cici Permata Rusadi, and Abror Tegar Pradana as data analysts; and Santi Wulandari, Ginanjar Dwi Pratiwi, Shifa Fauzia, and Anita Permata Sari as data specialists.

Aiko Kikkawa, senior economist, and Lilibeth Poot, senior economics officer, ADB provided technical and administrative support for the survey and publication of the report.

We would like to acknowledge BAPPENAS who provided guidance and invaluable support in conducting the survey and the preparation of the report, particularly Maliki, deputy for population and employment; Tirta Sutedjo, director for poverty alleviation and community empowerment; Dinar Dana Kharisma, senior policy planner; and Fiska Aulia, junior policy planner. Assistance from BAPPENAS staff such as Aqilah Farhani, Anggita Suwandani, and the older people team in BAPPENAS is also appreciated.

Special thanks go to the Coordinating Ministry for Human Development and Culture, the Ministry of Social Affairs, the Ministry of Women’s Empowerment and Child Protection, the Ministry of Finance, the Ministry of Health, the Ministry of Manpower, the Central Statistics Agency, the National Population and Family Planning Board, and the Financial Services Authority for their support in the survey and the preparation of the report.

We appreciate the helpful comments of Meredith Wyse, senior social development specialist, ADB and the ADB Indonesia Resident Mission.

We thank our enumerators for their commitment and patience during the data collection process and for the trust and willingness of our respondents to participate in the survey.

We are grateful to Ni Wayan Suriastini for her unwavering leadership and dedication in guiding and shaping this study. We will miss her presence greatly, but her work will serve as a lasting source of inspiration.

Kawandiyono Santoso, Wawan Setiawan Watmawidjaja, Ragil Safitri, Sri Lestari from SurveyMETER and Abror Tegar Pradana from Demography Institute of the Faculty of Economics and Business at the University of Indonesia helped translate the original report from Bahasa Indonesia into English. The report was then copyedited by Tuesday Soriano, with Michael Cortes responsible for layout and typesetting and ADB staff acting as proofreaders. The team is grateful for the guidance and support provided by ADB's Department of Communications and Knowledge Management.

Abbreviations

ADL	activity of daily living
BAPPENAS	Badan Perencanaan Pembangunan Nasional (National Development Planning Agency)
BPJS	Badan Penyelenggara Jaminan Sosial (Social Security Agency)
CAPI	computer-assisted personal interview
COVID-19	coronavirus disease
IADL	instrumental activity of daily living
IFLS	Indonesia Family Life Survey
ILAS	Indonesia Longitudinal Aging Survey
Jamkesda	Jaminan Kesehatan Daerah (Regional Health Security)
mmHg	millimeters of mercury
PBI	penerima bantuan iuran (government contribution beneficiaries)
Puskesmas	pusat kesehatan masyarakat (community health center)
SLS	satuan lingkungan setempat (local neighborhood unit)
WHO	World Health Organization

Executive Summary

The Indonesia Longitudinal Aging Survey (ILAS) is the first survey in Indonesia to provide representative and comprehensive information on the demographics, social and economic situation, health status, and living environment of current and future cohorts of older people. The survey aims to help the government monitor the process of population aging in Indonesia, implement data-driven reforms to the health care and social security systems for citizens of all ages, and assess the objectives and impact of aging policies. ILAS is designed as a longitudinal survey in which the same groups of people are observed over a longer period of time so that the trajectory of aging can be tracked across different cohorts of respondents.

This report presents the results of the first wave of ILAS, conducted between May and June 2023. ILAS interviewed 4,084 respondents aged 45 years and older living in nine regions (West Sumatra, Lampung, West Java, the Special Region of Yogyakarta, East Java, Bali, South Kalimantan, South Sulawesi, and the Mollucas) where the proportion of older people is above or close to 10%. The respondents consist of 60.8% pre-older people (aged 45–59 years) and 39.2% older people (aged 60 years and older). ILAS data is representative of pre-older and older people in these regions.

Living arrangement and family structure

More than half of older respondents reported living in multigenerational households with their spouse, children and/or grandchildren and maintaining active relationships through frequent communication and mutual support, but the proportion of older people living alone increases with age. In addition, 14% of older women reported living alone, with some having limited contact with their children and communities. The median number of children among pre-older respondents has almost halved compared to older cohorts (from 4 to 2 children). Moreover, the number of widows and widowers among older people rises rapidly with increasing age. The report also highlights the increased vulnerability of older women. Some older women are even more at risk of economic insecurity and social isolation. These changing family structures and other supportive environments for older people, as revealed by the data, call for a greater need for policies that ensure the well-being of older people in different dimensions of their social and economic lives.

Physical health and functional limitations

Life expectancy in Indonesia has risen, but not all the extra years are healthy life years. Approximately 64% of the pre-older and 70% of older people have been diagnosed with at least one disease. The most commonly reported diseases among older people include ulcers or other gastrointestinal disorders (33.4%), hypertension (30.9%), and high cholesterol (15.1%). However, reported cases largely underestimate the actual prevalence. Blood pressure measurements taken during the ILAS interviews revealed that up to 57.6% of older people had a blood pressure reading that was considered hypertensive, but only two in five detected cases of hypertension had been previously diagnosed by a medical professional. Up to 65% of respondents have not had a health

checkup in the last year, and 31% had no health insurance. Smoking is one of the main health risks, and ILAS found that 65% of pre-older men and 53% of older men currently smoke. ILAS data also show that up to 31% of older respondents have symptoms of cognitive impairment. Ongoing efforts to promote a healthy lifestyle and disease prevention and screening, including screening for cognitive impairment, need to be increased.

Long-term care

Morbidity can lead to limitations in the physical functions of patients. ILAS data show that 11.6% of older people require long-term care services due to varying degrees of difficulty in performing daily activities. Of the conditions reported, dementia/Alzheimer's disease is the most debilitating, with 65.8% of those diagnosed reporting functional difficulties. Among the older people who reported needing care, 2.7% do not live with a caregiver and do not have adequate support. Greater policy action is needed to address the long-term care needs of older people amid changing living arrangements and the declining number of children who can support older people. The majority of old-age care is provided by family members (74.3%) and mainly by women (65.5%). However, expectations of how aged care is received is evolving: 69% of respondents said they would be willing to receive home-care services. Two out of five respondents who are willing to receive home-care services said that they are also willing to pay for these services. Policies must encourage the public and private provision of care services and promote the development of the care economy through partnerships.

Old-age financial security

Older people rely on several sources of income, including their own income such as wages, rent and business income, financial dividends (58.3% of respondents have this source of income), transfers from children (76.6%), and transfers from the government (30.8%). The proportion of older people who receive a regular pension income remains low, ranging from 8% to 15% depending on the age cohort. These are mainly urban and skilled workers who have retired from formal employment. When older people retire from work and no longer receive wage income, transfers from children play an increasingly important role. Assets, including savings, are another source of financial resources in retirement. Up to 85% of respondents report owning assets, which are mostly homes and agricultural land with low liquidity. In addition, 24% of respondents reported having savings in the form of retirement savings (9.3%), Hajj savings (15.2%), and bank savings (37%). With the low pension coverage to date, government transfer programs are crucial for the income security of older people. The income and expenditure patterns of different age groups are influenced by government transfer payments. Therefore, better targeting of the program will benefit older people who have not yet received benefits. Improving social protection programs for older people will also help to reduce the financial burden on the sandwich generation.

Employment and retirement

A significant proportion of older Indonesians work and expect to work into old age. Overall, 69% of respondents are working, but with a large difference between men (82%) and women (58%). As expected, the employment rate decreases steadily with age, from 86% among 40-year-olds to 66% among those in their early 60s and 30% among those in their late 70s, with about half of older workers working part-time. Most older people are employed in the informal sector, particularly in low-paying sectors such as agriculture (56%) and low value-added services (32%). Many workers in both

the pre-older and older groups expect to work into old age, with 35% saying they will work as long as their health allows, while 16% plan to start their own business after formal retirement and 15% plan to continue working reduced hours. With the emergence of older workers who have advanced education levels, Indonesia can tap into the silver dividend for increased productivity. The proportion of pre-older people with a high school education or more exceeds that of the older group by 21.4%. Active labor market policies need to be improved to enable the integration of older people into the workforce, to bring reskilling in line with technological progress, and to improve the working environment to reduce the physical strain on workers' health. As a larger number of older workers continue to work in the informal sector to meet their needs, the government can protect them by expanding and strengthening labor protection and access to social insurance and pensions.

Social engagement

With shrinking family size, continued urban–rural migration, and the changing cultural norm regarding the role of the family, the community will play a greater role in supporting families to meet the needs of older people and serve as a center of social engagement for older people. According to the survey, older people participate in various volunteering and social gatherings (65.3%) as well as religious events (61.1%) but a significant number of them do not, due to household and care responsibilities, deteriorating health, and lack of physical access to participate in social events. Efforts should be made to enable older people to socialize and participate in community activities. These initiatives can help combat social isolation, increase overall well-being, prevent cognitive decline, and utilize the valuable skills and knowledge of older people for the benefit of society. The rapid development of information technology has improved the well-being of older people by providing them with alternative forms of communication that allow them to feel closer to their families and loved ones, but the digital divide is drawn clearly along the age group and only few older people have benefited from the development. That said, ILAS data indicate that future cohorts of older people will be more technologically savvy and will likely rely more on technology to meet their needs in old age.

Indonesia Longitudinal Aging Survey 2023 and the National Strategy for Aging

ILAS is a source of rich data and information that helps to identify the current needs of older people, identify barriers and gaps in the management of social and health services for older people, and understand the expectations and level of preparedness for old age among future cohorts of older people. ILAS can support the government in monitoring progress toward the targets set in the National Strategy for Aging. Our initial assessment shows that some goals are either being met or are on track, such as the percentage of independent older people (80% of the 2024 National Strategy for Aging target compared to 82% of the 2023 ILAS), while other targets are not being met, such as the prevalence of malnutrition in older people (40% of the 2024 National Strategy for Aging target compared to 44.5% of the 2023 ILAS). ILAS is expected to play an important role in supporting the evidence-based policymaking process in population aging policy in Indonesia. ILAS will be an even more powerful tool for policymaking when the second wave of the survey is conducted to make it a panel dataset. This will allow a more rigorous analysis of the aging process and the causal impact of aging policies.

1. INTRODUCTION

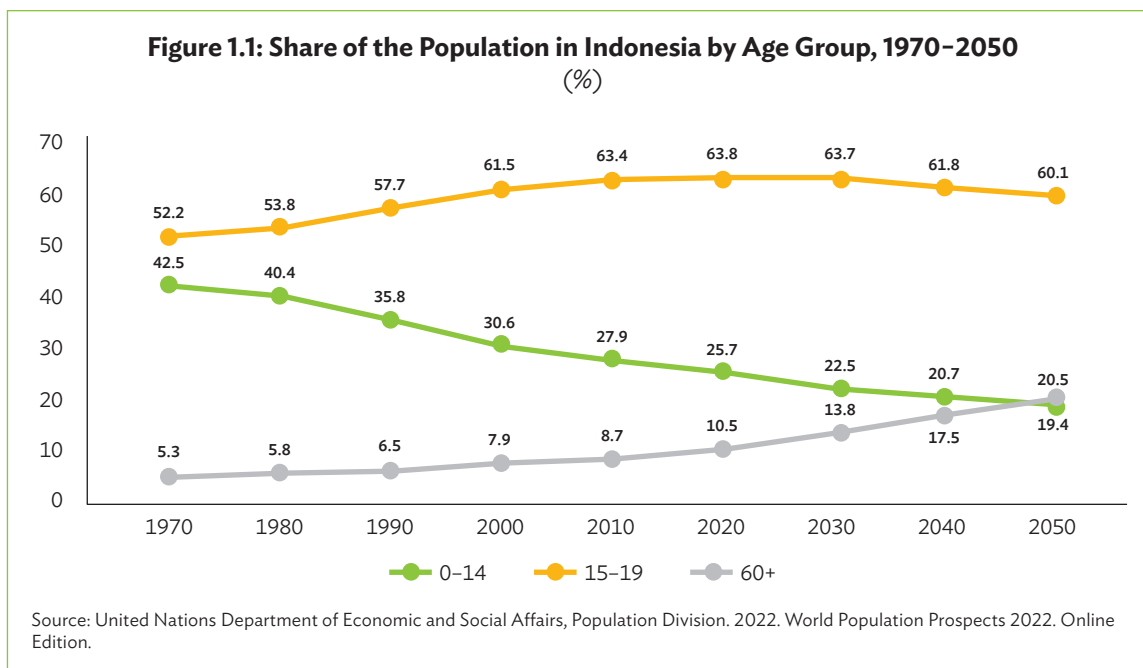
Population Aging in Indonesia

The phenomenon of population aging is being experienced worldwide. In 2022, the number of people aged 65 years or older reached 771 million. This figure is expected to more than double by 2050 (UN DESA 2022). The Asia and Pacific region is home to around 627 million people aged 60 years or older, constituting 61% of the world's older adult population in 2022. By 2050, the older population in the Asia and Pacific region is projected to reach 1.3 billion, which is about 63% of the global older population (UN DESA 2022).

Population aging occurs as fertility and mortality rates decrease, while life expectancy increases. The fertility rate in the Asia and Pacific region has fallen significantly in less than a century, from 6.0 children per woman in 1963 to 1.9 children per woman in 2022. Life expectancy has also been on the rise by 30 years, increasing from 42.9 years in 1950 to 73.0 years in 2022. Life expectancy is expected to increase further over the next 30 years. The mortality rate is decreasing annually, with women predicted to live longer than men and reach an age of over 80 by 2050 (UN DESA 2022).

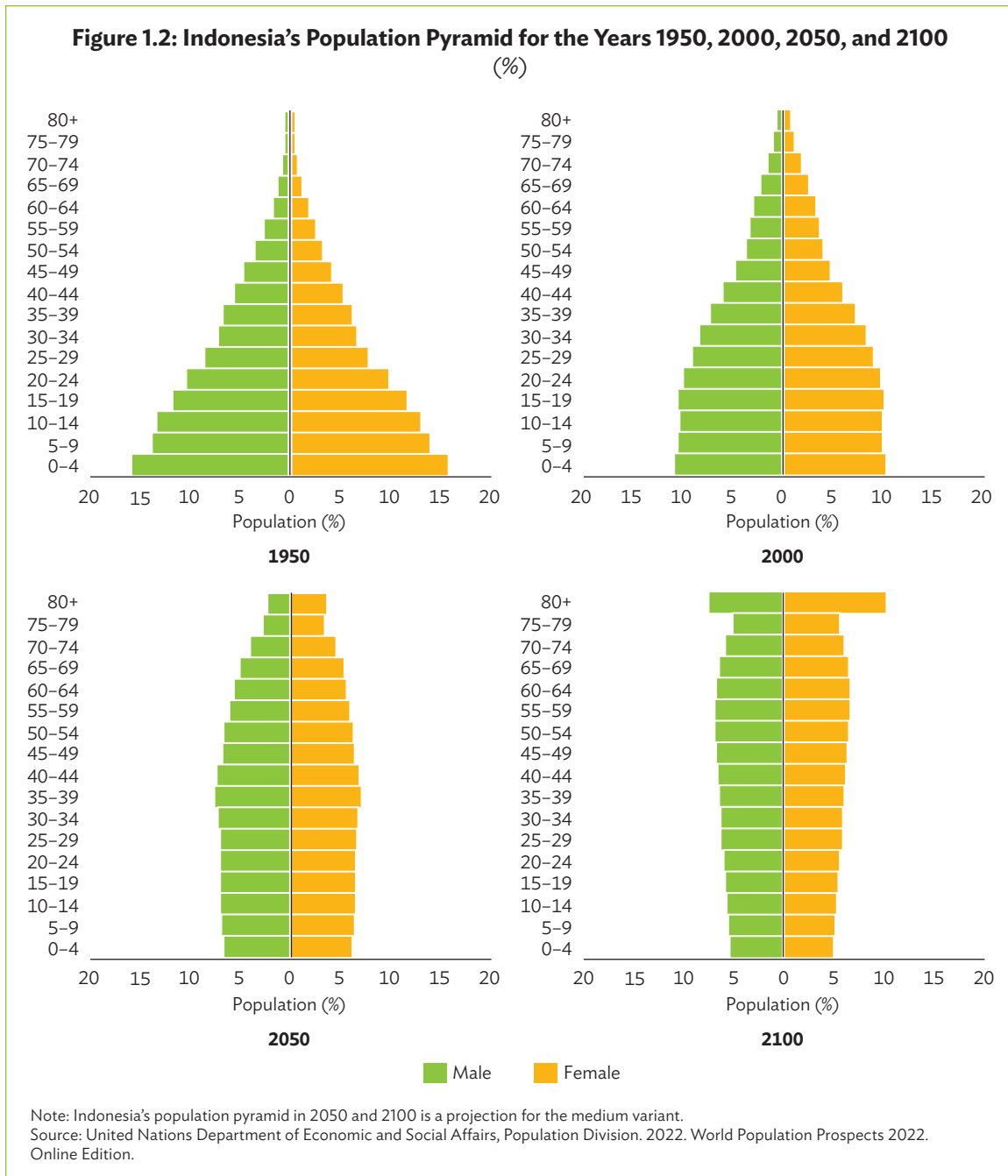
Although demographic transition is more advanced in many developed countries than in developing countries, it is projected that by 2050, 80% of the world's older population will live in developing countries, including Indonesia (Shetty 2012). In Indonesia, the percentage of the population aged 60 years or older has steadily increased, from 3.2% in 1950 to 6.5% in 1990, and reaching 10.5% in 2020 (UN DESA 2022). Statistics Indonesia (2023) estimates that the percentage of the older population will rise to 21.9% by 2050. An area is classified as having an aging population if 10% or more of its residents are older people (Adioetomo et al. 2018; Statistics Indonesia 2022). In 2021, 8 of Indonesia's 34 provinces have an aging population: the Special Region of Yogyakarta (15.52% of the total population), East Java (14.53%), Central Java (14.17%), North Sulawesi (12.74%), Bali (12.71%), South Sulawesi (11.24%), Lampung (10.22%), and West Java (10.18%). In the remaining 26 provinces, the aging of the population is slower than in the first group. However, the percentage of older people in the provinces of West Sumatra (9.86%), South Kalimantan (9.81%), and the Moluccas (8.55%) is nearly 10%.

In Indonesia, the proportion of people aged 0–14 years is decreasing and the proportion of people aged 60 years and older is increasing. It is expected that in 2050, the population aged 60 years and older will exceed the population aged 0–14 years with 20.5% compared to 19.4%. The proportion of the population aged 15–59 years will begin to decline after 2020 (Figure 1.1). The population pyramid in Figure 1.2 gives an insight into the changes in Indonesia's age demographics from 1950 to 2100.

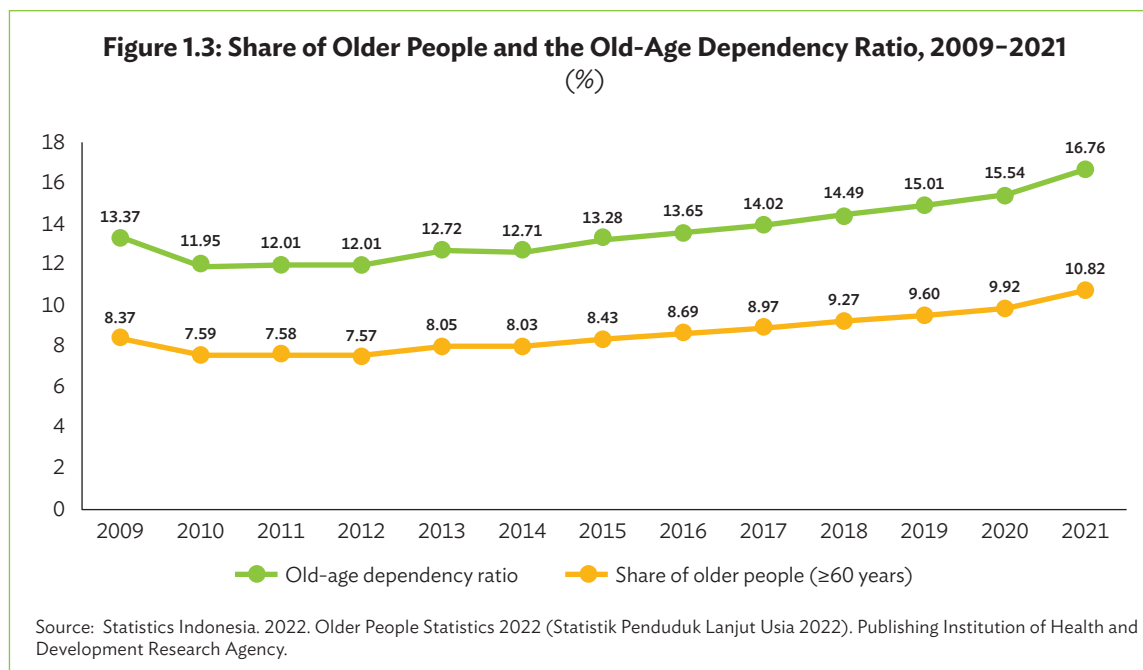


The Indonesian population experienced a shift in age structure in the years 1950, 2000, 2050, and 2100 (Figure 1.2). Fertility, mortality, and migration all play a role in shaping the age distribution of a population. Between 1950 and 1975, Indonesia had a high birth rate with an overall fertility rate of more than five children per woman, which led to a young age structure of the population, as shown in the broad-based population pyramid of 1950. As the fertility rate declined, the percentage of young people decreased, while the percentage of older adults increased (Statistics Indonesia 2022). In 2020, more than 28.5 million Indonesians have reached the age of 60 or older, representing more than 10% of the total population. This indicates that Indonesia is moving toward an aging population structure faster than previously anticipated, possibly by 2035. The proportion of the population aged 60 or older is expected to reach 20.5% by 2050, almost twice as high as in 2020 (Statistics Indonesia 2022).

Worldwide, average life span has risen from 66.8 years in 2000 to 73.3 years in 2019 (WHO 2023b). In line with the global trend, life expectancy at birth has increased for the Indonesian population. Life expectancy reflects mortality rates at different stages of life, with improvements linked to well-being and health (Murray et al. 2022). However, the decline in the overall mortality rate in Indonesia is not as rapid as in developed countries, highlighting the need for increased support and efforts to ensure the health and well-being of the population (Suriastini, Wijayanti, and Otkarina 2024). Life expectancy fell in 2020 and 2021, from 70.5 years in 2019 to 68.8 years in 2020 and 67.6 years in 2021. The decline in life expectancy during these 2 years may have been a result of the coronavirus disease (COVID-19) pandemic, as life expectancy rose again in 2022 after the pandemic was managed. The life expectancy of women in 2020 was 71 years, higher than the life expectancy of men, which was 66.7 years. The gap in life expectancy between men and women is projected to widen from 4.3 years in 2020 to 5.2 years in 2050. For both men and women in Indonesia, life expectancy at age 60 has increased, from 15.4 and 17.5 years in 2000 to 16.2 and 19.1 years in 2019, respectively. This means that people who were 60 years old in 2019 will have a life expectancy of 76.2 years for men and 79.1 years for women (Statistics Indonesia 2022).



The changes in the population structure also contribute to the decline in the aggregate count of productive age groups (15-59 years). Accordingly, as the proportion of older people in the population increases, so does the older person dependency ratio. The ratio between older people (aged 60+) to the working-age group (15-59 years) is referred to as the older person dependency ratio. In 2021, 17 older adults received care and support from 100 working-age people, resulting in an older person dependency ratio of 16.76. Therefore, it is vital that programs and support are in place to meet the needs of older persons and give necessary support to the family members who care for them (Figure 1.3).



Rapid population aging poses both challenges and opportunities for older people, families, and communities when it comes to ensuring the provision of adequate and sustainable health, social security, and pension services. Many developing countries in Asia and the Pacific, including Indonesia, face the prospect of growing old before achieving wealth. The number of people in the working-age population (aged 15–64) is expected to decrease steadily, and in some countries, the decline could even be drastic. On the other hand, longevity may hasten the inequality and vulnerability of the economic status of older adults, particularly older women with little to no income. For older adults, the risk of increasing poverty is exacerbated by the absence of social security (UN 2022).

In Indonesia, the probability of participating in the labor force decreases significantly with age for both men and women. Yet, women aged 50 and over are less likely to be part of the workforce compared to men. The impact of education on labor force participation varies between men and women. While women with a college degree are more likely to be part of the labor force, the situation is reversed for men. In addition, the formal sector mostly employs people with a higher level of education and offers health insurance benefits. Conversely, people with a lower level of education often get a job as unskilled labor in the informal sector, without access to health insurance or retirement benefits, which compels them to keep working (Budiarti and Kharisma 2022).

Population aging and longer life expectancy are bringing about demographic and epidemiological changes that heighten the risk of noncommunicable diseases. Globally, non-communicable diseases such as heart disease, stroke, diabetes, cancer, and chronic respiratory diseases are the leading causes of health-care utilization and mortality among older people (Bloom 2019; WHO 2020). Older people are also prone to depression, dementia, and a decrease in their functional ability to perform activities of daily living (Suriastini et al. 2021; Suriastini et al. 2020; AoA 2009). Nevertheless, the level of knowledge and training of health-care staff in health-care facilities (Puskesmas), specifically regarding the prevention and treatment of dementia in older adults, remains inadequate (Suriastini et al. 2023c). Furthermore, the lack of professional caregivers and living far away from family contribute to a rise in social isolation, which will have an adverse effect on the health of older adults in

the future, particularly those in low income groups with limited access to education and technology (Holt-Lunstad, Smith, and Layton 2010; Zickuhr and Madden 2012). In fact, life satisfaction in old age is greatly influenced by social interactions with family, friends, and the community (Rogers and Mitzner 2017).

Countries with with an aging population can turn demographic, economic, and social burdens into opportunities by tapping into the silver economy of a healthy, educated, and experienced aging population (Matsukura et al. 2018). Promoting education, skills, and lifelong learning is key to increasing the capacity of the older adult population. Improving mobility through the development of technology and the internet can play a key role in keeping older citizens productive. For developing countries like Indonesia, it is critical to understand the employment trends and evaluate the effectiveness of policies and programs that promote the engagement of older people in the workforce.

National Strategy for Aging (Stranas Kelanjutusiaan)

The Government of Indonesia has developed several policies to tackle the issues brought about by the aging population. Presidential Regulation No. 88 of 2021 on the National Strategy for Aging aims, among other things, to promote an older population that is independent, prosperous, and dignified (Appendix 3). This strategy was developed in accordance with the National Long-Term Development Plan, the National Medium-Term Development Plan, the National Human Rights Action Plan, and the Sustainable Development Goals.

The vision of the National Strategy for Aging is to “create an independent, prosperous, and dignified life for older people in Indonesia.” To achieve this vision, three main missions were formulated: (1) building and strengthening systems, mechanisms, and resource capacity for older adults based on the human life cycle; (2) establishing an integrated system to improve the welfare of older adults and aging; and (3) creating an environment that safeguards older people from physical and mental threats while respecting their dignity, trust, needs, privacy, and rights.

The aim of the strategies outlined in the National Strategy for Aging is to achieve the vision for addressing aging-related issues and challenges in Indonesia. The National Strategy for Aging prioritizes five main areas: (1) increasing social protection, income security, and individual capacity; (2) improving the health status and quality of life of older adults; (3) developing an age-friendly community and environment; (4) strengthening institutions that implement aging programs; and (5) respecting, protecting, and fulfilling the rights of older citizens.

The Presidential Regulation on the National Strategy for Aging provides guidance to ministries and government agencies, provincial regional governments, and regency and city regional governments on the design of policies, programs, and activities that focus on the older population to contribute to national and local development.

Each activity listed in the indicators of the National Strategy involves the relevant ministries or institutions together with all related ministries or institutions. They play a central role in coordinating, implementing, and supporting the activities and in promoting the harmonization and integration of these activities. The ministries or institutions involved are responsible for monitoring and ensuring the achievement of activity targets at national, provincial, district and city, and even individual levels. Therefore, the data generated by the Indonesia Longitudinal Aging Survey (ILAS) plays a significant role in monitoring the the indicators of the National Strategy at the micro level.

The National Strategy for Aging includes indicators at both the macro and micro levels. However, the topics in ILAS are closely related to the indicators of the National Strategy for Aging, allowing the data collected from the user perspective to accurately reflect the needs for the implementation of aging programs. For example, at the micro level, the National Strategy for Aging considers the prevalence of malnutrition in older people, a matter that can be addressed through the use of ILAS data. The macro-level indicators of the National Strategy, which relate to the supply side (program providers), are not included in the ILAS data, as this study focuses on the user perspective. For example, the National Strategy for Aging includes an indicator for the number of age-friendly districts or cities, a question that ILAS cannot answer directly. ILAS has other data on age-friendly environments, specifically exploring the perception of complexes or special housing for older people with age-friendly facilities. The discussion on the National Strategy for Aging and its relation to ILAS findings is then presented in separate box articles (Box 4.1–Box 4.4).

The Need for Longitudinal Research on Older People

Longitudinal surveys have proven to be a powerful resource for economic and social research (Thomas et al. 2012). Unlike cross-sectional studies, longitudinal studies allow for the assessment of how the progression of a disease is linked to risk factors and the impact of interventions over an extended period (van Belle et al. 2004). Indonesia has not conducted any longitudinal studies on the social, demographic, economic, and health changes affecting older adults prior to ILAS. Two well-known longitudinal surveys carried out in Indonesia are the Indonesia Family Life Survey (IFLS) (RAND Social and Economic Well-Being n.d.) and the Study of the Tsunami Aftermath and Recovery.¹ IFLS is a longitudinal survey that gathers information on individuals, households, communities, and facilities, but it does not provide detailed data on family support, psychosocial factors, and cognitive assessments for older people. The Study of the Tsunami Aftermath and Recovery is a similar survey to IFLS that focuses especially on the Indian Ocean tsunami in the Aceh region of Sumatra. High-quality data and analysis on health, population aging, and similar subjects can help the Indonesian government to oversee developments and develop economic, social, health, social security, and other reform policies for older people.

In many countries, particularly in developed regions, longitudinal data have been vital in formulating policies for older people. Policies to promote equality for older people in England were developed based on an analysis of data from the English Longitudinal Study of Aging, which focused specifically on older people's satisfaction with their living environment in 2002–2003 and in 2014–2015 (Sait and Jivraj 2022). The Government of the Republic of Korea relies on data collected from the Korean Longitudinal Study of Aging between 2006 and 2018 to underscore the crucial role of social participation for older citizens (Zhao et al. 2018). In the United States, data from the Health and Retirement Study between 1992 and 2014 were used to assess the impact of tobacco control policies, cigarette prices, and smoke-free policies on the older population (Kalousova 2020). The Government of the United Kingdom used data on Minimum Income for Healthy Living from 2003 to 2022 to analyze the dynamics of changes in the value of pension funds needed by older citizens in the region to live healthy lives (Watts and Netuveli 2022). The analysis of longitudinal data from the Canadian National Population Health Survey between 1998 and 1999 and 2010 and 2011

¹ The Study of the Tsunami Aftermath and Recovery is a collaborative project between Duke University; SurveyMETER (Indonesia); the University of California, Los Angeles; the University of Pennsylvania; the University of Southern California; the World Bank; and BPS. <https://www.stardata.org/>.

highlighted the importance of policies that ensure equality in the use of health services, especially for older citizens in Canada (Pulok and Hajizadeh 2022).

Indonesia has developed a number of national strategies that focus on social security and protection, the status and quality of life of older citizens, the promotion of an age-friendly environment, the management of aging programs, and the upholding of their rights (Government of Indonesia 2021). This was also regulated by the Regulation of the Minister of National Development Planning/Head of the National Development Planning Agency of the Republic of Indonesia No. 4 of 2022 (Government of Indonesia 2022). The National Strategy for Aging indicators undergo annual reviews to ensure that the government's efforts to address population aging are effective, focused, and tailored to the unique circumstances in each region of Indonesia. The information gathered in ILAS can be used to monitor different household and individual indicators related to the National Strategy for Aging, such as participation in social and religious activities; violence against older people; health protection (health insurance); malnutrition; functional abilities ((activities of daily living [ADLs] and instrumental activities of daily living [IADLs])); health checks; noncommunicable diseases; mental disorders (depression in ILAS); and the use of technology, information, and communication.

Initiation of the Indonesia Longitudinal Aging Survey

The Asian Development Bank is supporting a micro-level survey in Indonesia to study current and future cohorts of older people through the knowledge and support technical assistance project, 6556-REG: Challenges and Opportunities of Population Aging in Asia – Strengthening Data and Analysis for Healthy and Productive Aging, with the goal of generating nationally representative longitudinal panel data. The data collected will provide a comprehensive view of the older population in Indonesia and facilitate evidence-based policy development in the country. Indonesia is one of the three target countries in Asia and the Pacific. The technical assistance will first conduct a micro-level survey to gather detailed information on the physical and psychosocial health, cognitive functioning, and economic and social well-being by interviewing both current and future cohorts of older people.

To gather essential data for the development of medium- and long-term policies on population aging in Indonesia, the National Development Planning Agency (BAPPENAS) and the Asian Development Bank commissioned the SurveyMETER Research Institute and the Demographic Institute, Faculty of Economics and Business, University of Indonesia to conduct ILAS 2023 with the support of several relevant ministries. Since 2021, a series of meetings involving government and nongovernment institutions such as BAPPENAS, the Coordinating Ministry for Human Development and Culture, the Ministry of Social Affairs, the Ministry of Health, the National Population and Family Planning Agency, have been conducted as part of the preparatory stages. The meetings made substantial contribution to the development of research methods and the evaluation of the questionnaire in ILAS.

Objective of the Indonesia Longitudinal Aging Survey

The primary goal of ILAS is to provide information on the profiles of older people to help the government track advancements in population aging in Indonesia, implement data-driven reforms to the health care and social security systems for older citizens, and assess policy objectives such as the National Strategy for Aging targets, which rely on household and individual data.

The specific objectives of ILAS are to

1. collect data on the demographic, economic, health, and social status of older people in Indonesia;
2. identify the current needs of older people, required social protection, and other relevant policies;
3. identify barriers and gaps in the administration of social and health services for older people; and
4. serve as material for profiling older people in Indonesia.

Significance of the Indonesia Longitudinal Aging Survey

ILAS is the first longitudinal survey of older people in Indonesia. The results of this survey can be used as a data source for the annual monitoring of various national policies, including the National Strategy for Aging (Stranas Kelanjutusiaan), particularly for indicators at household and individual levels. New policies in education, digital technology use and application, and health can be developed based on the results of this survey. The assessment of age groups, gender, and life stages (pre-older and older people) can help in policy design by taking into account the different patterns observed in the results of these segments.

Structure of Report

In ILAS, health, social, and economic factors are carefully examined based on age groups (in 5-year increments), gender, and life stages, which are divided into pre-older people (45–59 years old) and older people (60 years and older). The explanations of the ILAS results are organized by chapter. Chapter 3 examines the demographic profiles of pre-older people and older people and their geographic distribution. Chapter 4 provides an analysis of the health, economic, and social status of people in the pre-older and older age groups. The sections on health cover physical, mental, cognitive, and functional health, while the section on social and economic status examines family circumstances, employment status, income, expenses, savings, and assets. Chapter 5 examines lifestyle, habits, the condition of the home, and the surrounding environment. Chapter 6 looks at the services available to older people, such as health care, long-term care, insurance, and caregiver profiles. In Chapter 7, the use of technology and financial inclusion is discussed. Finally, Chapter 8 explains how older people participate in social activities at home or in the neighborhood.

The results of ILAS 2023 provide a comprehensive analysis of the necessary preparations and development for improving the well-being of older people. Box 4.1–Box 4.4 give a comparison between the ILAS results and the National Strategy for Aging indicators, particularly in the area of health. This comparison can also be useful to determine the success of the National Strategy for Aging objectives.

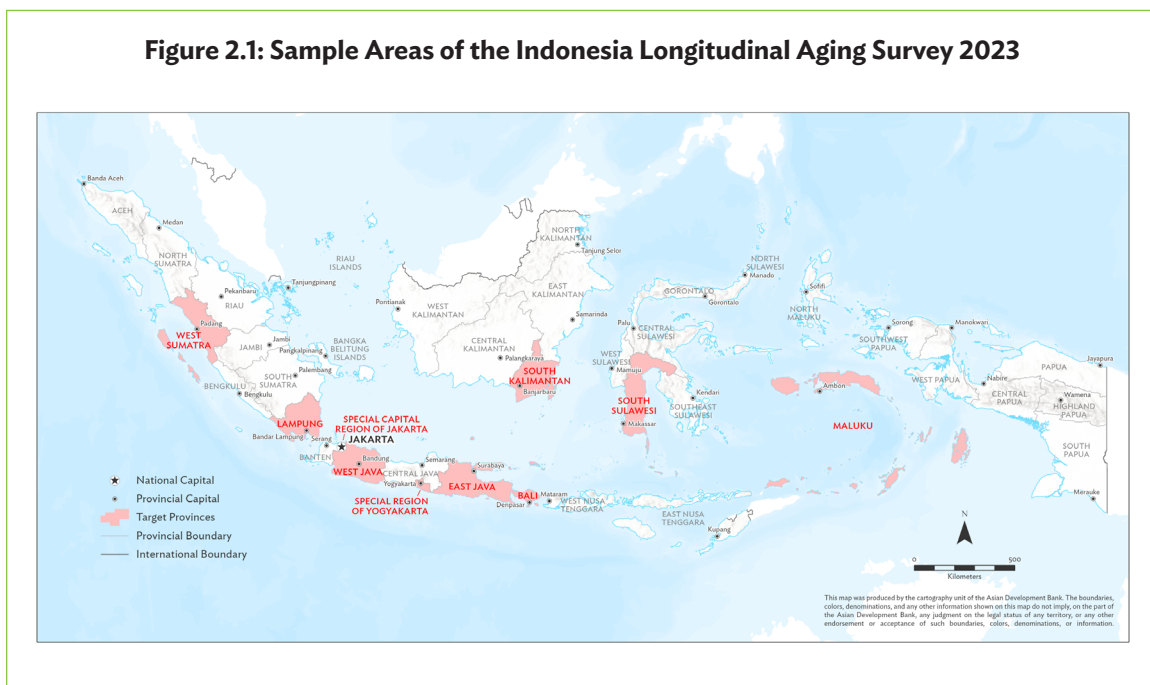
2. SURVEY DESIGN

Sample and Completion Rate

Sample

The samples in ILAS are chosen from regions or areas with a large number of older people or areas with a growing older population (where older people make up more than 10% of the population) (Figure 2.1). In Indonesia, the provinces of West Sumatra, Lampung, the Special Region of Yogyakarta, East Java, Bali, and South Sulawesi have a significant proportion of older residents (Statistics Indonesia 2022). The sample areas selected for the study also include the provinces of West Java, South Kalimantan, and the Moluccas, where the percentage of older people is around 9% or close to 10%. A total of nine provinces were selected as study areas. Multistage random sampling is used in sample selection, taking into account the socioeconomic characteristics, urban–rural differences, and the percentage of the population aged 45–69 and 70 years and older. In each selected village, respondents are randomly picked from 17 households that have members aged 45 years or older (Appendix 1).

Figure 2.1: Sample Areas of the Indonesia Longitudinal Aging Survey 2023



The ILAS list was created to identify the target households in the sample areas. After obtaining the approval of the *kelurahan* (village) and the necessary permissions from the Ministry of Home Affairs and provincial and district officials, the enumerator randomly selected two local neighborhood units (*satuan lingkungan setempat* [SLS]) for the survey area. Next, the enumerator examined households with household members aged 45 years or older or with an older person in need of care (moderate, severe, complete, and near the end of life). The listing enumerator must ensure that each SLS contains a minimum of 30 households to avoid a shortage of samples. The identified households were categorized into two groups: (i) those with individuals who are bedridden, need assistance with activities outside home, fully dependent on others physically or cognitively, or have a life expectancy of less than 6 months; and (ii) those without. The computer program then randomly selected 17 households based on the rule that at least one household from the first group was included. The survey took place in 24 districts and/or cities, 72 subdistricts, and 144 villages and/or enumeration areas, with a total of 2,448 household samples and 4,177 individual samples collected in nine sample provinces (Table 2.1).

Table 2.1: Distribution of Sample Areas

No.	Province	No. of Cities/ Districts	No. of Subdistricts	No. of Villages/EAs	No. of Households	No. of Respondents
1	West Sumatra	3	9	18	306	549
2	Lampung	3	9	18	306	524
3	West Java	4	12	24	408	685
4	Special Region of Yogyakarta	3	9	28	306	516
5	East Java	5	15	30	510	829
6	Bali	2	6	12	204	393
7	South Kalimantan	1	3	6	102	159
8	South Sulawesi	2	6	12	204	360
9	Mollucas	1	3	6	102	162
Total		24	72	144	2,448	4,177

EA = enumeration area.

Completion Rate by Respondents

A total of 2,448 households were designated as target households for ILAS 2023. In the data collection phase, the number of households visited exceeded the intended target. Several households could not be interviewed for various reasons, e.g., because the respondent was not at home, was in poor health, or refused to be interviewed. Some households were also connected to other households. The next households on the list were designated to take the place of these households according to the agreed procedure. At the end of the survey, 2,448 target households were surveyed.

With a response rate of 97.8%, ILAS 2023 interviewed 4,084 of the targeted 4,177 respondents (Table 2.2). Of completed interviews, 6.8% were answered by proxy respondents. Having a proxy respondent was more prevalent in rural areas, among male respondents and in the group of older people, especially those over 80 years of age. Proxy interviews were observed in the pre-older age group as well (4.1%). The main reasons for a proxy interview include that the respondent was not at home during the enumerator's visit (74%), that the respondent was ill (12%), that the respondent had a mental disorder (8.3%), that the respondent was deaf (4.2%), and that the respondent suffered from dementia (1%).

Three rounds of interviews were carried out: one at the beginning in the enumeration area, another after the district interview, and a final one at the end of the survey round. A total of 93 (2.23%) individuals refused to be interviewed, mainly due to their heavy workload. In urban areas, there were a high number of refusals, particularly from male respondents and pre-older people aged 45 to 59.

Table 2.2: Completion, Refusal, and Proxy Rates of Individual Interviews

	Completion Rate by Individual		Refusal		Proxy	
	N	%	N	%	N	%
Area						
Urban	1,983	96.68	68	3.32	131	6.61
Rural	2,101	98.82	25	1.18	145	6.90
Gender						
Male	1,901	96.94	60	3.06	153	8.05
Female	2,183	98.51	33	1.49	123	5.63
Age group						
45-49	773	97.11	23	2.89	39	5.05
50-54	855	97.49	22	2.51	28	3.27
55-59	713	97.27	20	2.73	29	4.07
60-64	642	98.32	11	1.68	29	4.52
65-69	499	98.81	6	1.19	35	7.01
70-74	275	97.17	8	2.83	27	9.82
75-79	157	99.37	1	0.63	27	17.20
80+	170	98.84	2	1.16	62	36.47
Stage of life						
Pre-older people	2,341	97.30	65	2.70	96	4.10
Older people	1,743	98.42	28	1.58	180	10.33
Total	4,084	97.77	93	2.23	276	6.76

N = frequency.

Questionnaire

The draft ILAS 2023 questionnaire was developed based on questions from various aging and retirement surveys including the Malaysia Ageing and Retirement Survey 1, Malaysia Ageing and Retirement Survey 2, the Indonesia Family Life Survey (IFLS), the Older People Information System (Sistem Informasi Lanjut Usia), and the Study on Older People and COVID-19 in Indonesia (Lanjut Usia dan COVID-19 di Indonesia) by SurveyMETER. The questions were then tailored to the Indonesian setting and prioritized based on the aging policy. ILAS researchers held various meetings to review the interview topics and questionnaire questions, specifically to evaluate their relevance and suitability and how they could be tailored to the local environment. In the development phase, stakeholders proposed additional questions to assess the progress of long-term care, disability issues among older people, social protection measures, retirement planning, family support dynamics, and participation in social activities. Additional follow-up and confirmation questions were included in the questionnaire.

The ILAS 2023 questionnaire was tested during the pre-pilot phase. The purpose of this phase was to determine how long the survey would take for each section of the draft questionnaire. The pre-pilot test was followed by pilot test 1 and pilot test 2. The draft was refined by revising the wording of specific questions to aid respondents' understanding and by reorganizing some questions to improve the interview flow. According to the results of pilot test 2, the average interview length was 55 minutes for the Household Book, 50 minutes for the Individual Book, and 15 minutes for the Health Measurement Book. These results show that the design of the draft questionnaire is consistent with the expected time allocation.

The questionnaire is divided into three parts: the Household Book, the Individual Book, and the Objective Health Measurement Book (Table 2.3). In cases where respondents were not available for interviews, proxy questions were used to describe the target respondent using responses of other people in the same household or elsewhere. Measurements of knee height and arm circumference were used to assess the nutritional status of bedridden respondents when height and weight measurements were not possible (Nieman 2019).

Table 2.3: Structure of the Indonesia Longitudinal Aging Survey Questionnaire

Book	Topic	Data/Variable
Household Book	Cover	<ul style="list-style-type: none"> Gender, date of birth, position in household (HH) Description of the research and declaration of consent
	Sampling description (SC)	<ul style="list-style-type: none"> Household address, phone numbers
	Household member list (AR)	<ul style="list-style-type: none"> Gender, age, and relationship to the HH head for each HH member
	HH characteristics (KR)	<ul style="list-style-type: none"> Occupation of HH head Dwelling condition
	Consumption (KS)	<ul style="list-style-type: none"> HH consumption of food and transfer for food HH consumption of nonfood items and transfers for nonfood items (clothing, equipment, health, education, taxes)
	Review information (IK)	<ul style="list-style-type: none"> Address and telephone number in case of follow-up
	Enumerator notes (CP)	<ul style="list-style-type: none"> Information on the result of interview for all sections
Individual Book	Cover	<ul style="list-style-type: none"> Description of the research and informed consent Gender, age, relationship of the respondent to the HH head Proxy information
	Individual information (A)	<ul style="list-style-type: none"> Birth, ethnicity, religion, marital status, language, and education Access and ability to use information and technology devices, social media, and social inclusion

continued on next page

Table 2.3 continued

Book	Topic	Data/Variable
Individual Book	Information on family members: child/parent/relative/grandchild, other family, friend/neighbor (B)	<ol style="list-style-type: none"> 1. Child <ul style="list-style-type: none"> • Age, gender, education, marital status, and main activity • Dwelling and interaction, both direct and indirect (via phone or other communication device) • Support received (money or other support and support given (money, other or sitting grandchildren) 2. Parent <ul style="list-style-type: none"> • Age, marital status, and condition • Dwelling and interaction, both direct and indirect (via phone or other communication device) • Support received (money or other support and support given (money, other) • Dependency status 3. Relative <ul style="list-style-type: none"> • Age, gender, education, marital status, children, work, and economic condition • Dwelling and interaction, both direct and indirect (via phone or other communication device) • Support received (money or other support and support given (money, other) 4. Grandchildren, other relative and friend/neighbor <ul style="list-style-type: none"> • Support received (money or other support and support given (money, other)
	Health status (C1)	<ul style="list-style-type: none"> • General health condition • Pain/aches • Disease diagnosed by a doctor • Activity-limiting illness
	Risk behavior (C2)	<ul style="list-style-type: none"> • Smoking habit • Drinking alcohol
	Psychology (C3)	<ul style="list-style-type: none"> • Feeling and behavior • Perspective toward dwelling and caring for an older person • Abuse in the older people's neighborhood
	ADLs/ADLs (C4)	<ul style="list-style-type: none"> • Participation in activities • Activities of daily living (ADLs) • Instrumental activities of daily living (IADLs)
	Cognitive (C5)	<ul style="list-style-type: none"> • Six-item screener • Early symptoms of dementia (for the proxied respondent)
	Use of health facilities (C6)	<ul style="list-style-type: none"> • Health insurance • Health examination • Outpatient and inpatient treatment • Activities or services for older people
	Employment (D)	<ul style="list-style-type: none"> • Employment condition • Employment aspect • Pension/retirement plan

continued on next page

Table 2.3 continued

Book	Topic	Data/Variable
Individual Book	Employment (D)	<ul style="list-style-type: none"> • Employment condition • Employment aspect • Pension/retirement plan
	Income (E)	<ul style="list-style-type: none"> • Source of income • Support from the government
	Savings and assets (F)	<ul style="list-style-type: none"> • Savings • Home ownership • Assets
	Time allocation (G)	<ul style="list-style-type: none"> • Time spent caring for the older person and grandchild (0–5 years old) • Information about the caregiver
	Enumerator notes (CP)	<ul style="list-style-type: none"> • Information on the result of the interview for all sections
Health Book (objective measurement)		<ol style="list-style-type: none"> a. Blood pressure b. Weight c. Height d. Waist circumference e. Hip circumference f. Grip strength g. Knee height (proxy) h. Arm circumference (proxy)

Note: The letters in parentheses refer to the specific section of the survey questionnaire.

Research Ethical Clearance

The application for ethical clearance and research permit for ILAS 2023 was submitted to the National Research and Innovation Agency (Badan Riset dan Inovasi Nasional), and the Ethical Commission for Social and Humanity officially granted ethical clearance, with reference number 558/KE.01/SK/12/2022. This clearance was then used to apply for research permits from other agencies such as the Ministry of Home Affairs, Welfare, Development and Politics agencies at the provincial, district, subdistrict, and village levels within the survey areas.

Data Collection

The data collection for ILAS 2023 was overseen by a survey director acting as the team leader. The team leader was assisted by a survey management team comprising a survey designer, a database manager, a quality control and knowledge management expert, a fieldwork and production manager, and a technical manager. The office-based survey management team routinely monitored and supervised the field teams.

The data collection process consisted of several phases, including the pilot test, enumerator training, interviews, and health measurement. Data collection for ILAS 2023 was initiated with two pilot tests. Pilot test 1 was conducted in the urban areas of Klaten district, Central Java province. In this first pilot test, the interview was conducted using the paper assisted personal interviewing method. Pilot test 2 took place in both urban and rural areas within Maros district, South Sulawesi. In this

phase of the pilot test, the computer-assisted personal interview (CAPI) method was used to compile a list and conduct interviews for the Household Book. Pilot test 2 led to improvements in various aspects of data collection, such as the questionnaire draft, the CAPI program, the household roster in each enumeration area, and the communication and supervision arrangement.

The training for enumerators took place in May 2023 and was attended by 61 participants, including enumerator candidates and data specialists. The training participants were divided into groups to encourage teamwork and ensure readiness for the interview. The training material provided information on the Household Book, the Individual Book, and the Health Measurement technique. The training was conducted by the team leader, the survey designer and database manager, the fieldwork and production manager, and the technical manager/programmer. The training session covered in-class learning, demonstration of questionnaire completion, running group interviews, and conducting pair interviews. The training program also included a live interview activity where real respondents were brought in for participants to interview in groups or teams at the venue. During the live interview, teams honed their interviewing skills for the Household Book and the Individual Book, in addition to taking health measurements. All enumerator candidates were divided into groups of five enumerators and one supervisor for the field practice exercises. Their assignment was to conduct interviews with approximately 17 households and 27 individuals.

The data collection for ILAS 2023 involved 48 field enumerators divided into eight teams across nine provinces (Appendix 2). Each team was paired with an enumerator to facilitate communication in the local language. Before collecting data, the supervisor obtained approval from the village administration to compile household listings. Trained enumerators used the CAPI method and a data-entry program on their laptops to conduct the interviews. The answers given by respondents were recorded electronically. Upon completion of the interviews, the enumerators carefully examined and reviewed the collected data and then forwarded the results to headquarters.

The data collection took place from May to June 2023, which was well after the surges in reported COVID-19 cases in 2021 and 2022. It is important to note that the survey was not designed to assess the impact of COVID-19 pandemic on the respondents. Therefore, any potential influences of the pandemic on the survey outcomes are undetermined and not discussed.

Validation and Data Quality Control

The process of monitoring data quality in ILAS 2023 began with the design of the data entry program and continued until the data were successfully uploaded to the SurveyMETER website. The stages of data validation and quality control included the interview process, supervisor monitoring, data specialist review, and programmer validation prior to uploading the data.

Computer-Assisted Personal Interview

The data collection for ILAS 2023 was carried out using the CAPI method, in which enumerators enter the respondents' answers into a data entry program developed based on the final questionnaire. Using the CAPI method for data collection offers several advantages: it expedited the data collection process, prevented backlogs, and allowed the simultaneous checking of variables in different books during the interview. SurveyMETER's CAPI program had additional features such as *run lookup*, a missing entry calculator, and GPS to support enumerators in enhancing data quality.

Interviews

Before conducting the interview, the enumerator must validate and supervise the data quality by performing the following steps. The first step is to verify and check the time, date, microphone, and speaker settings of the laptop used for the interview. The CAPI program automatically starts a recording containing the time, date, and sound of the interview. Before sending the data, the enumerator can use the recording to confirm the interview result. The enumerator has the option of checking the data for consistency and identifying any special values by using the *run lookup* and *run missing* features in the CAPI program. *Backup data* is performed regularly, with verification using the real-time dashboard.

Supervision by Field Supervisor

The field supervisor carried out manual supervision by observing the interviews and verification of 10% of the respondents who had been interviewed.

Data Checks

Three data specialists were assigned to monitor and check the data at the survey headquarters under the supervision of the technical manager/programmer. Daily checks were conducted at the headquarters to validate the electronic data with the information provided by the field team. Data confirmation was done by reviewing the audio recordings of at least one Household Book, one Individual Book, and one Health Measurement from each interview of an enumerator. The programmer then validated the data's completeness, conducted sampling and regular checks using the STATA do-file, and added messages in the CAPI program. All data were checked weekly to identify any errors or omissions.

Data Validation

After data collection, the data specialist performed the data cleaning process. The programmer checked outliers and other data. After all processes were completed and the final codebook was developed, the final data set was uploaded to the data.surveymeter.org website.

Analytical Weights

The findings presented in Chapters 3 to 8 of the report were derived from a weighted sample analysis to ensure that they represent the characteristics of the entire population in this study by accounting for any imbalances or biases within the sample, thereby increasing the relevance of the study results.

Each enumeration area is assigned a weight depending on the proportion of the selected samples in the population. The weights are calculated by considering the hierarchy or level, beginning with the districts and municipalities and ending with the chosen villages. The weights can be divided into household weights and individual weights. The distribution of household weights is based on the urban–rural ratio in the data of the National Socio-Economic Survey (Susenas) 2022. Individual weights are calculated with the gender variable as a control. The weights are suitable for conducting

analyses at both national and regional levels, including Sumatera, Java, Bali-Kalimantan, and Sulawesi-Mollucas. Due to the small sample size in Kalimantan and the Mollucas, it was not advisable to conduct analyses at the provincial level. It was therefore recommended to conduct analyses for these provinces either at the regional level or at the total level. The analysis in this report was performed at the individual level using individual weights.

3. DEMOGRAPHIC PROFILE OF SURVEY RESPONDENTS

Profile of the Pre-Older and Older Age Groups

ILAS conducted interviews with respondents who were 45 years old and older. With the use of individual survey weight (Section 2.6 in Chapter 2), the total number of respondents of the survey is 4,101 persons. This report categorizes the ILAS respondents into two groups: the pre-older group (aged 45–59) and the older group (aged 60 and over). Of the respondents, 60.8% were pre-older people, with the remaining 39.2% falling into the older people category (Table 3.1). The ILAS 2023 report found that the majority of the pre-older and older people live in Java and the Sumatera Islands. Meanwhile, Mollucas had the lowest percentage of pre-older and older people (Table 3.1).

Table 3.1: Demographic Characteristics and Origin of Respondents by Age Group

Variable	Pre-Older	Older	Total		Unweighted Raw Sample
	(45–59 years) (%)	(≥60 years) (%)	%	N	
Total	60.8	39.2	100	4,101	4,084
Gender					
Male	49.1	47.7	48.6	1,993	1,901
Female	50.9	52.3	51.4	2,108	2,183
Urban/Rural					
Urban	62.3	59.3	61.1	2,509	1,983
Rural	37.7	40.7	38.9	1,592	2,101
Education level					
No education/Did not complete elementary school	16.3	48.5	28.6	1,174	1,243
Elementary school	34.4	30.9	33.0	1,181	1,173
Junior high school	14.3	7.5	11.7	546	517
Senior high school	25.2	7.4	18.3	837	791
Diploma/University	9.9	5.8	8.3	362	360
Marital status					
Single/Not married	3.0	1.6	2.5	121	108
Married	84.3	58.1	74.2	3,056	3,040
Separated/Divorced	3.8	3.3	3.6	151	147
Widow/er	8.9	37.0	19.7	773	789
Daily language					
Bahasa Indonesia	15.9	8.9	13.2	559	635
Javanese	38.8	44.5	41.0	1,653	1,661
Sundanese	28.3	28.3	28.3	548	505
Balinese	3.6	3.7	3.6	366	364
Minang	3.8	3.9	3.9	502	498
Bugis	4.1	4.4	4.2	213	183
Others	5.5	6.2	5.8	261	238

continued on next page

Table 3.1 continued

Variable	Pre-Older (45-59 years)	Older (≥60 years)	Total		Unweighted Raw Sample
	(%)	(%)	%	N	
Migration from birthplace					
No migration	66.3	66.6	66.4	2,618	2,578
Subdistrict migration	10.2	9.5	10.0	370	357
District/City migration	13.0	13.0	13.0	548	555
Province migration	10.6	10.9	10.7	565	594
Province					
West Sumatra	4.1	4.2	4.1	535	541
Lampung	6.3	6.0	6.2	490	511
West Java	37.9	33.5	36.2	701	674
Special Region of Yogyakarta	3.4	4.6	3.9	530	516
East Java	34.0	38.1	35.5	814	819
Bali	3.8	4.1	3.9	397	381
South Kalimantan	3.2	2.3	2.9	150	153
South Sulawesi	6.2	6.1	6.2	328	331
Mollucas	1.2	1.1	1.1	155	158

N = frequency.

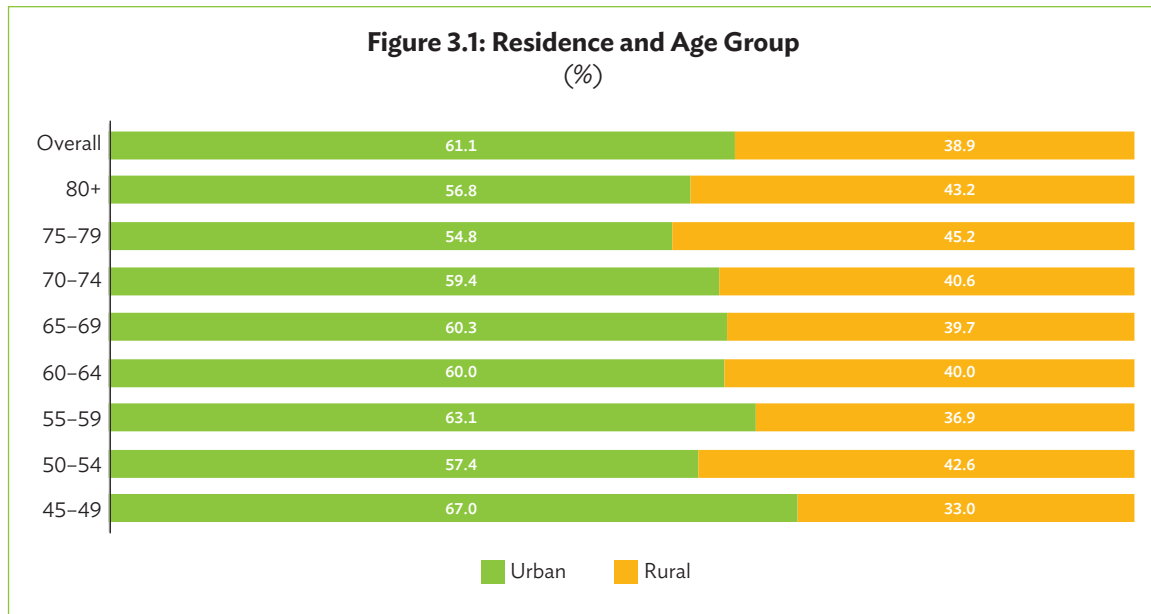
In both the pre-older and older age groups, female respondents outnumber male respondents (Table 3.1 and Table 3.2). In addition, the proportion of female respondents aged 75 and over has increased significantly compared to male respondents (Table 3.2).

Table 3.2: Distribution of Respondents by Age Group and Gender

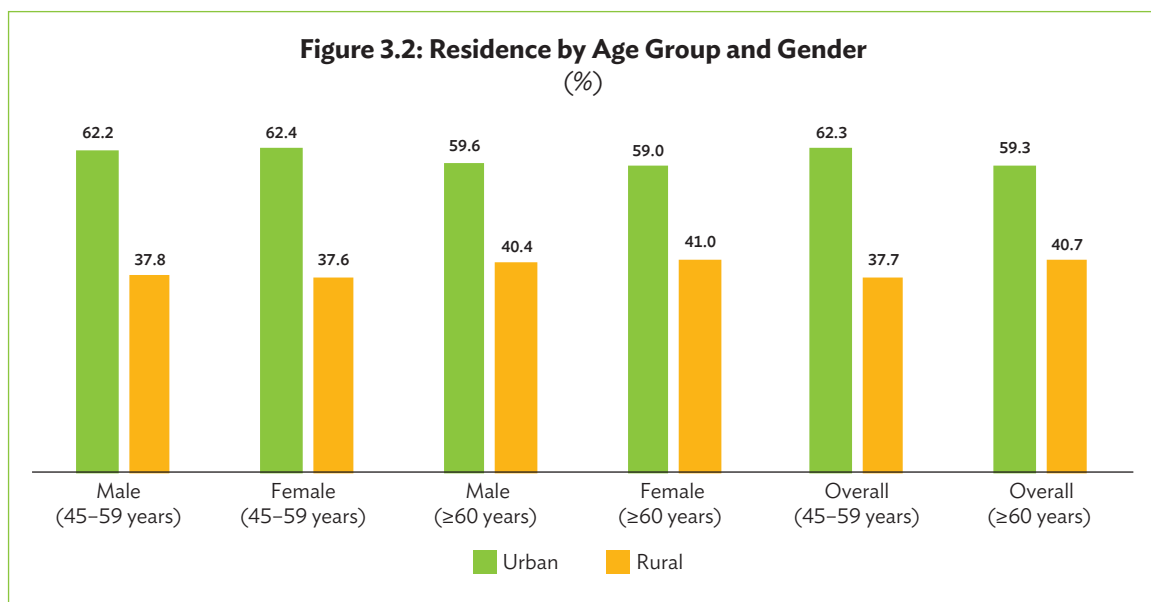
Phase of Life		Age Group	Male (%)	Female (%)	N
Total			48.6	51.4	4,101
Pre-older people	45-49		48.8	51.2	829
	50-54		50.1	49.9	896
	55-59		48.2	51.8	770
	Total pre-older people (45-59 years)			49.1	50.9
Older people	60-64		53.4	46.6	609
	65-69		45.3	54.7	464
	70-74		51.4	48.6	247
	75-79		35.8	64.2	127
	80+		36.7	63.3	158
	Total older people (60+ years)			47.7	52.3

N = frequency.

In terms of place of residence, more respondents in the pre-older and older age groups live in urban areas than in rural areas (Figure 3.1 and Figure 3.2). Nevertheless, there are no notable variations between male and female respondents in the distribution of their place of residence (Figure 3.2). The location of residence can influence their ability to reach and use health-care facilities and thus also the state of their health (Laksono, Wulandari, and Soedirham 2019).

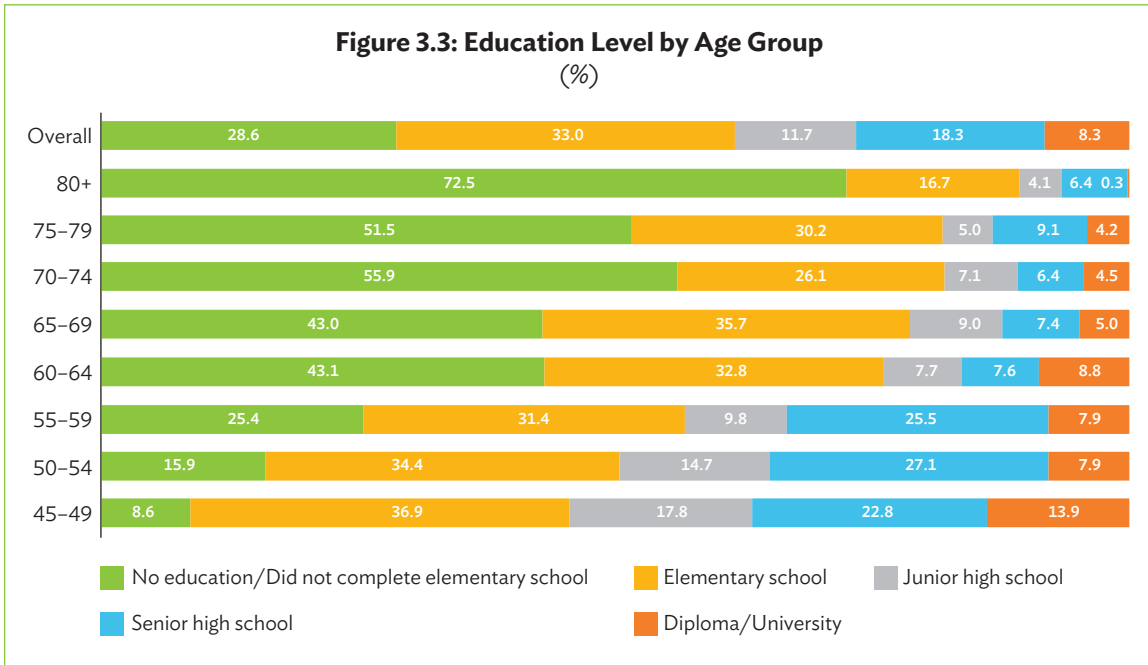


The share of urban population in Indonesia is expected to increase rapidly from 53% in 2015 to 73% in 2045 (Statistics Indonesia 2018).² The results of ILAS 2023 also show a similar trend, with an increasing number of respondents from urban areas in both the pre-older and older age groups (Figure 3.1 and Figure 3.2). However, whether people migrate (back) from the urban to rural areas in old age remains an empirical question. Factors influencing the decision on where to live among people over 60 and retirees include the state of the environment, the location of their home, the variety of food available, and the desire to live closer to family members (Takahashi et al. 2021).

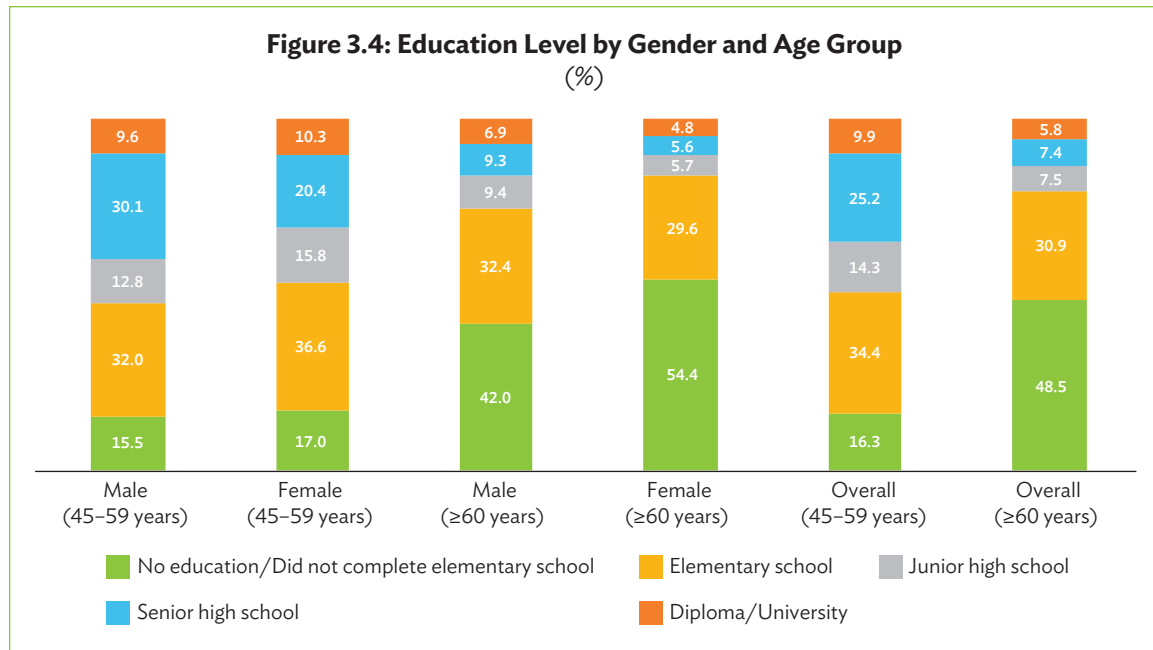


² According to the regulation of the Head of Statistics Indonesia No.120/2020, the urban-rural classification is based on factors such as population density per square kilometer, percentage of agricultural households, and the availability of urban facilities in a village (*kelurahan*). Furthermore, an area is classified as urban if it scores 9 or higher, whereas rural areas score below 9 according to the criteria.

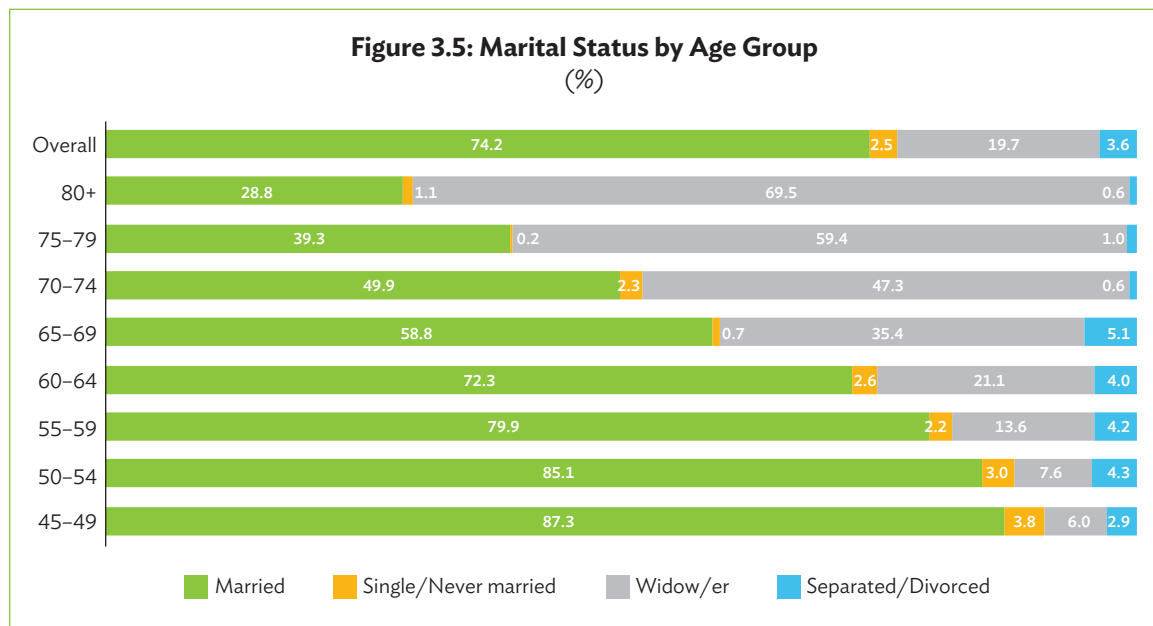
In general, the majority of ILAS respondents have completed elementary school (33.0%), while a small percentage have a college degree (8.3%) (Figure 3.3). The proportion of people aged 45-59 with less than an elementary school education is lower than those aged 60 and above, indicating an improvement in educational attainment.



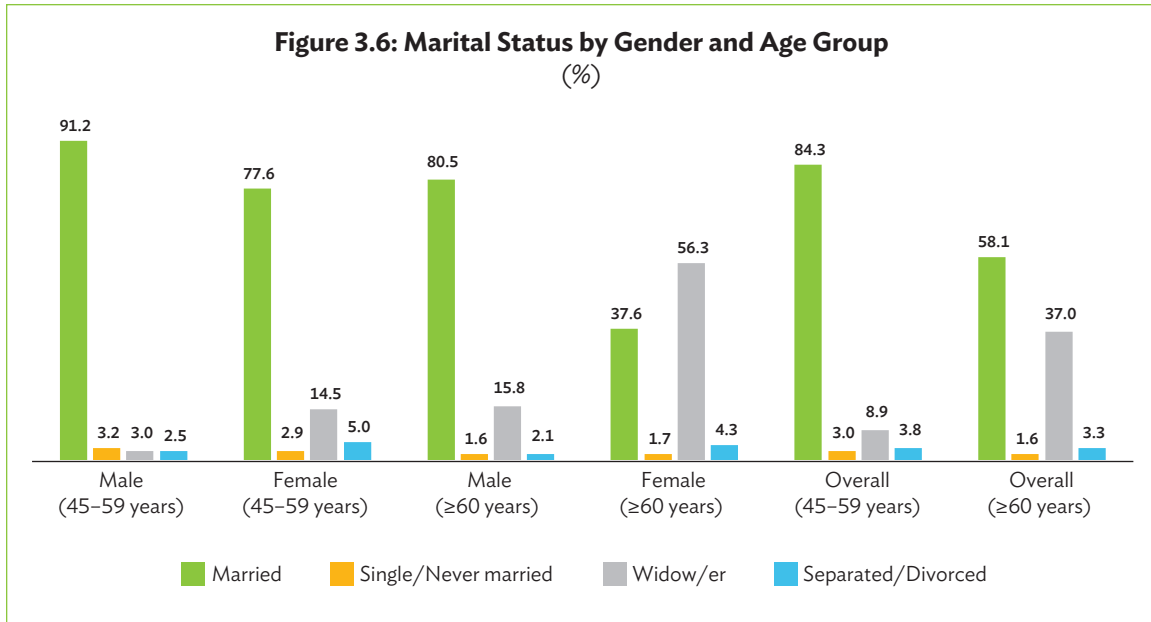
The pre-older people group has a notably higher level of education than the older people group. Nearly 50% of respondents over the age of 60 have not attended or completed elementary school (Figure 3.4). In addition, a larger percentage of female respondents have not attended or completed elementary school compared to male respondents. However, in contrast to the older age group, the gender gap in education has narrowed in the pre-older age group, with the percentage of women who have not attended or finished elementary school almost matching that of men (Figure 3.4). The ILAS data also indicate an improvement in educational attainment, with pre-older respondents having on average a higher level of education than older age respondents. For example, the percentage of pre-older respondents who have a high school diploma or higher is 21.9 percentage points higher than the older group. This means that the educational levels of future older people are expected to exceed that of the current older age group, giving them more job and other productive opportunities that are not available to current older people. Even though the future older people are more educated than the current older people, women usually achieve lower levels of education than men, pointing to the continued struggle for gender equality in education.



ILAS suggests a potential future trend of a rise in older people living on their own. This is consistent with the trend that a growing number of pre-older people are choosing to stay single or unmarried (Figure 3.5).

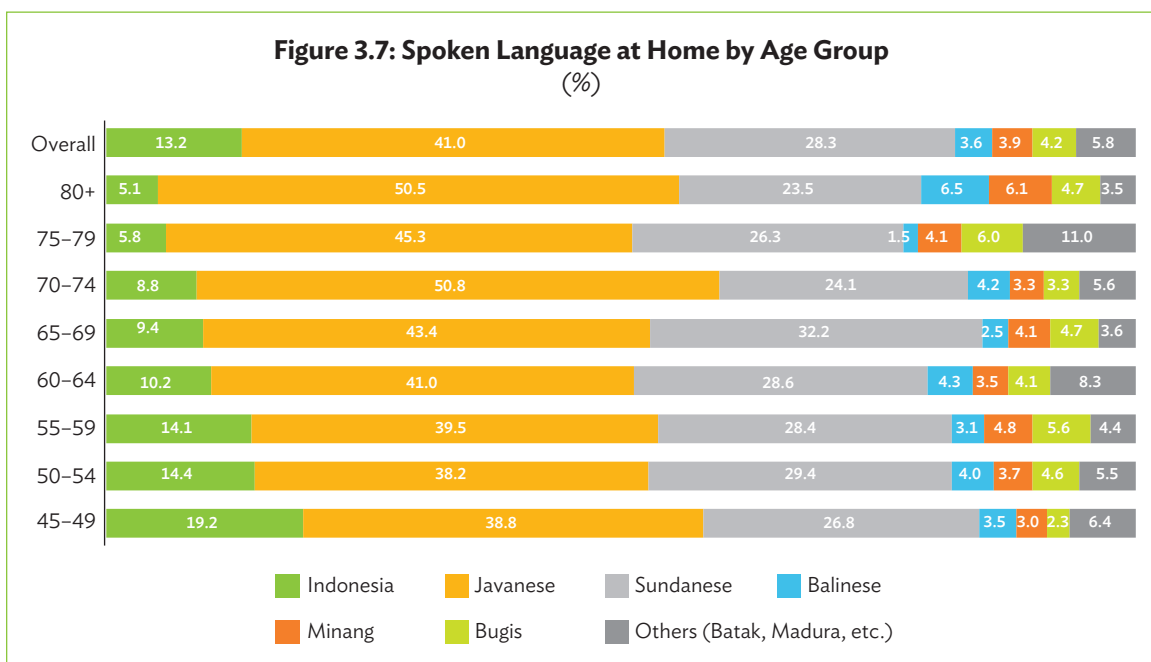


Of the older people, 41.9% are classified as single/never married (1.6%), widow/widower (37%), and separated/divorced (3.3%) (Figure 3.6). Moreover, the percentage of widowed people among those aged 60 and over is four times greater than in the 45–59 age group (Figure 3.6). In both the pre-older and older age groups, there is a notably higher percentage of widows compared to widowers (Figure 3.6).

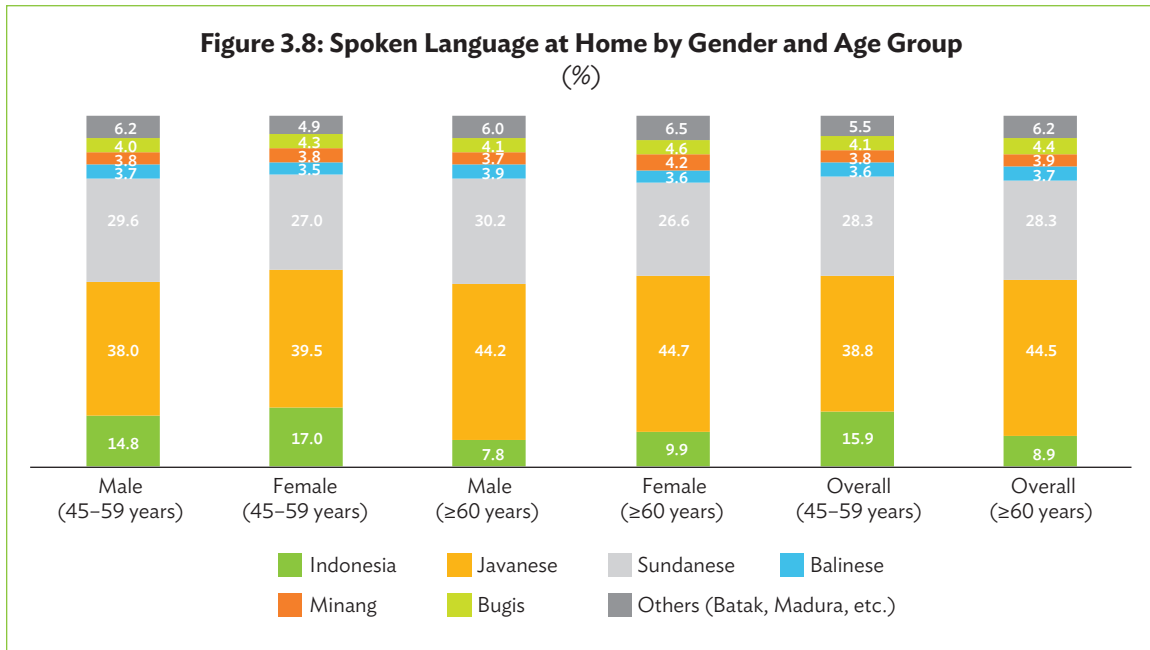


Based on the 2022 data from Statistics Indonesia, the life expectancy of men is of 69.93 years, about 4 years lower than that of women at 73.83 years. Women are less likely than men to remarry after the death of their spouse (Cleveland and Gianturco 1976). The longer life expectancy of women creates a gender imbalance and reduces the opportunities for them to remarry (Carr and Bodnar-Deren 2009). Women in the older age group may also choose not to remarry for normative and family reasons (Osmani, Matlabi, and Rezaei 2018).

The use of Bahasa Indonesia as the primary language at home is expected to increase among the older people (Figure 3.7 and Figure 3.8).



Bahasa Indonesia is used more frequently by people aged 45–59 than by people aged 60 and over (Figure 3.8). In general, women tend to use Indonesian more frequently at home than men, both in the pre-older and older age groups (Figure 3.8). Another important finding in this section is that older people use languages other than Bahasa Indonesia in their households.



The ILAS results indicate that the use of Bahasa Indonesia at home is likely to increase among older people in the future, while decreasing among the current older population. One study found that younger people with higher levels of education are more inclined to speak Bahasa Indonesia at home than older people with lower levels of education (Pesau et al. 2023). The results of the ILAS study are consistent with this finding and show that the percentage of pre-older people with a high school diploma or higher is 21.4% greater than that of older people.

Migration patterns do not vary significantly across most age groups, with the highest proportion of migration to another province observed among people aged 60–64 (Figure 3.9).

In general, more men than women migrated after birth (Figure 3.10). Men are more likely to migrate due to economic factors, such as occupation, while women are more likely to migrate for family reasons (Pardede, McCann, and Venhorst 2020). Respondents with a higher level of education are also inclined to migrate, possibly due to the educational disparity between genders highlighted in ILAS.

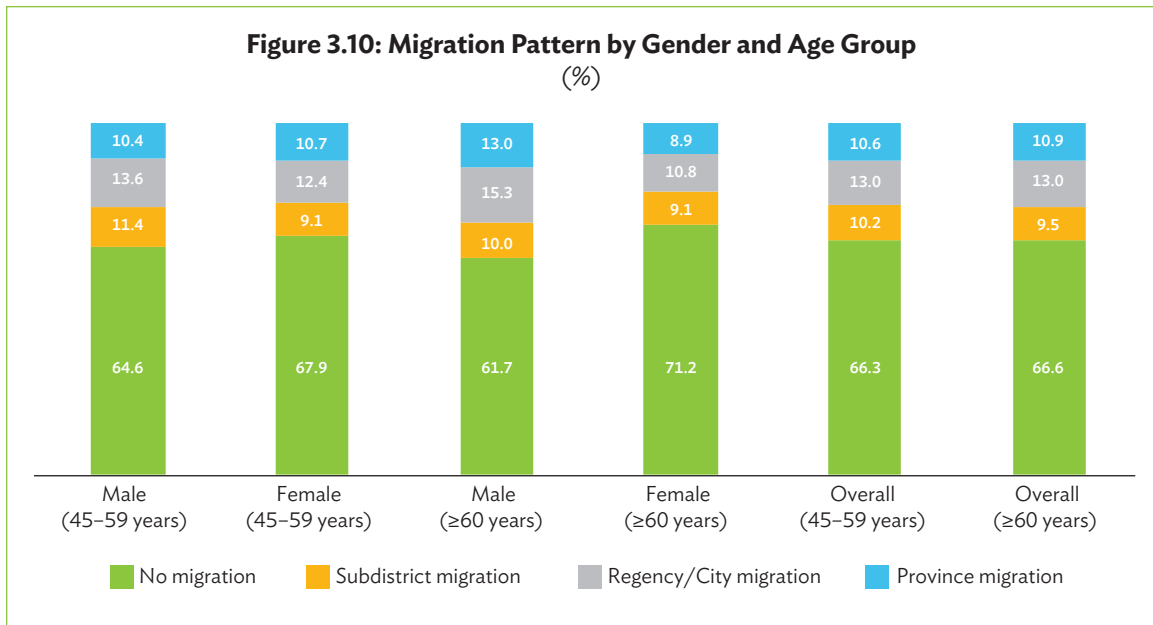
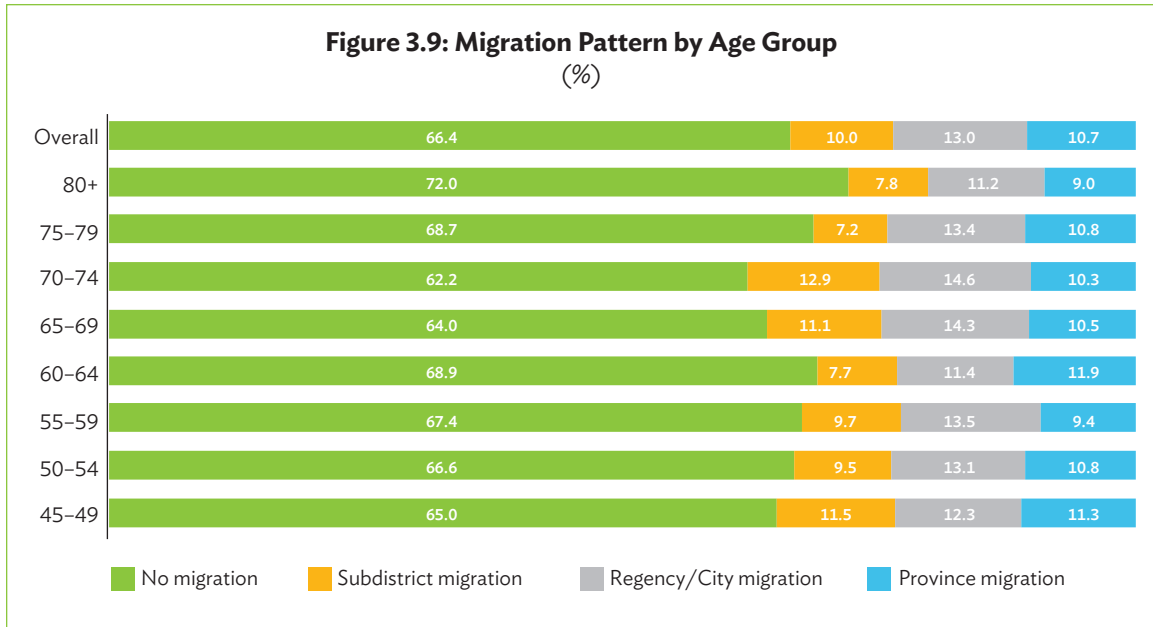


Table 3.3: Key Findings and Policy Recommendations

No.	Key Findings	Policy Recommendations
1.	<p>The percentage of people in the pre-older age group (45–59 years) with junior high school and a higher education is 49.4%, while only 20.7% of those in the older population have completed junior high school or higher education.</p>	<p>The majority of older people prefer to get information from television (see Chapter 8 of this report). Therefore, information targeted at older people can be communicated more effectively through television. For example, important health messages can be incorporated into a soap opera (<i>sinetron</i>) or other programs. Further research is required to determine the TV shows or programs favored by older people.</p> <p>Pre-older people are typically more likely to be familiar with information and communication technology that aids in accessing information on health, financial management, or economic activities. A different approach is required to bridge the education gap among older people, such as implementing community outreach activities.</p> <p>Develop the skills of older people to boost their employment prospects, particularly in the formal sector. One approach is to motivate older people to join training initiatives (e.g., the preemployment program).</p> <p>At present, the preemployment program accepts participants up to the age of 64. Increasing the program's age limit can be considered due to the rising life expectancy, and according to this study, future older people will have higher education levels than the current older people.</p>
2.	<p>There is a possibility that the number of older people living alone will rise in the future, along with an increase in the percentage of unmarried respondents (3.0% of pre-older people compared to 1.6% of older people).</p>	<p>To address the growing population of older people living alone, policy measures can prioritize the availability of affordable and age-friendly housing, financial security (pension plan), and financial planning. Further research is required to evaluate future housing arrangements and support services to address the need.</p> <p>Encourage pre-older people working in informal jobs to take part in the National Social Security Agency Employment (BPJS Ketenagakerjaan) for retirement income protection. Nonetheless, it is essential to introduce an appropriate premium scheme to encourage more people to participate.</p>
3.	<p>Older people prefer the local dialect as their primary language instead of Bahasa Indonesia. Only 8.9% of older people speak Bahasa Indonesia in their homes.</p>	<p>Service delivery must consider the language preferences of older people. Staff who can speak the local language will help older clients feel more comfortable and respected. It also facilitates better understanding of received information by older people, thereby breaking down communication barriers.</p>

4. HEALTH, SOCIAL, AND ECONOMIC CONDITIONS

Health Status

Physical Health

An increase in life expectancy does not necessarily mean an increase in healthy life expectancy. Life expectancy is an estimate of the number of years a person can expect to live on average, while healthy life expectancy is the number of years a person is likely to live without illness or disability (Robine, Saito, and Jagger 2009).³ Healthy life expectancy can offer insights into both the quantitative and qualitative state of health, as well as anticipate the expenses related to health-care services and care for older people. Healthy life expectancy can be used to predict changes in the social participation and integration of older people. The expectation is that older people will not only live longer, but also stay healthy (Jiao 2019). The National Strategy for Aging (Strategi Nasional Kelanjutan) aims to increase life expectancy from 71 years in 2017 to 75 years in 2024 and healthy life expectancy from 62 years in 2017 to 70 years in 2024.

From 2000 to 2019, the gap between life expectancy and healthy life expectancy persisted.⁴ This indicates that as people live longer, they are also more likely to experience disability or illness. According to World Health Organization (WHO) data for 2020, Indonesia had a healthy adjusted life expectancy (HALE) of 62.8 years in 2019 and a life expectancy of 71.34 years. At birth, there is an 8-year difference between life expectancy and healthy life expectancy. This means that people are projected to face on average a period of 8 years living with illness or disability (Bloom 2019).

This chapter discusses the findings of ILAS in relation to the physical health of pre-older and older people. It presents indicators on self-rated health, self-rated pain, doctor-diagnosed illness, objectively rated health, mental health, cognitive health, functional health, and disability status.

Self-Rated Health

General Health Condition

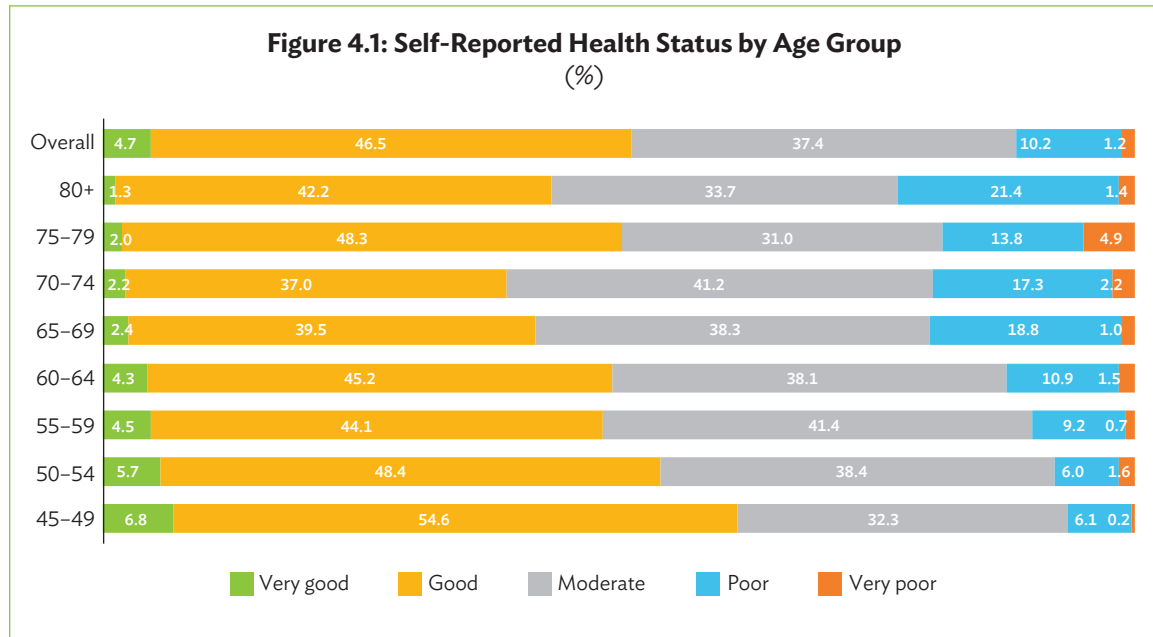
Self-rated health (SRH) is a widely used indicator to measure an individual's own health status. The use of health-care facilities is strongly linked to SRH (Tamayo-Fonseca 2015) and can forecast morbidity (Goldberg et al. 2001) and functional disability (Takahashi et al. 2020).

The ILAS questionnaire asks about the current health condition of pre-older and older people. The study revealed that the pre-older group is in better health than the older group, indicated by 48.6% to 61.4% of the pre-older age groups reporting good or very good compared to 39.2% to 50.3% in the older groups. The pre-older group also showed a smaller proportion of poor or very poor

³ Centers for Disease Control and Prevention. Life Expectancy. <https://www.cdc.gov/nchs/nvss/life-expectancy.htm>.

⁴ World Health Organization. Global Health Observatory Data Repository. <https://www.who.int/data/gho>.

(6.3% to 9.9%) than the older group (12.4% to 22.8%) (Figure 4.1). The ILAS findings indicate an unexpected increase in the number of older people over the age of 75 who described their health as good/very good.⁵



Relatively more men in the pre-older group reported being in good or very good health than women (58.1% vs 51.9%). Women also reported a higher proportion of poor or very poor (9.0%) health than men (6.6%) in the same group. Conversely, more women in the older group reported good or very good health than men (46.8% vs 43.2%) and more men reported poor or very poor health than women (17.8% vs 16.8%) (Figure 4.2).

ILAS asked respondents to assess their current health status compared to the last 12 months. In general, 36.2% of respondents reported being in better or much better health compared to the previous year. This is slightly less than those who reported no change at 41.5% (Figure 4.3). Nevertheless, the perception of being worse/much worse increases with age.

⁵ Typically, healthy aging is characterized by the absence of disease, excellent physical and cognitive health, and active participation in social activities. However, in more recent studies, there has been a shift from objective to subjective indicators, measuring the level of happiness or satisfaction with aging, even in the presence of illness. This change came about because some older people had subjectively stated that they felt healthy, despite their objective health indicators showing otherwise. Known as the “paradox of welfare,” this condition shows “resilience to various diseases” (the ability to respond to and withstand various diseases) (Whitmore et al. 2022; Wister et al. 2016). Studies have shown that older people’s subjective health status is influenced by their assessment of health in relation to their peers, their perception of aging, and the community’s perception of older people (Cheng, Fung, and Chan 2007; Jylhä 2009; Fasel et al. 2021). As a result, older people aged 75 years and older may feel better than their counterparts of the same age. They may sense that the community treats them well or have a positive attitude toward aging.

Figure 4.2: Self-Reported Health Status by Age Group and Gender
(%)

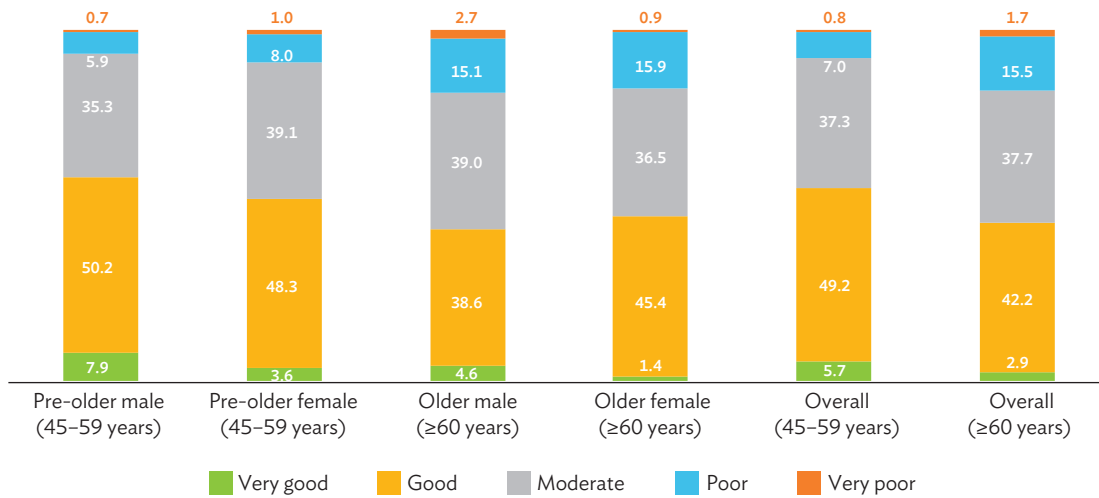
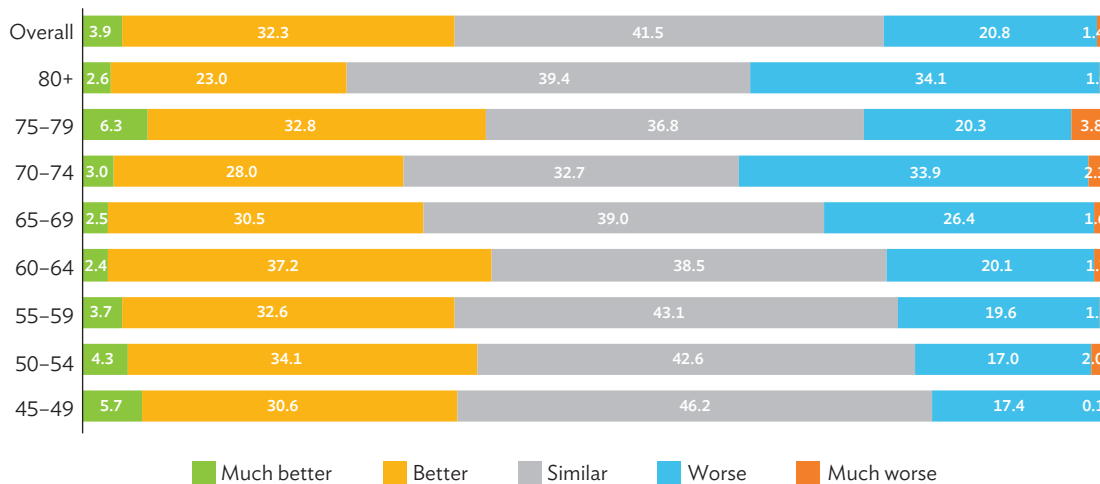
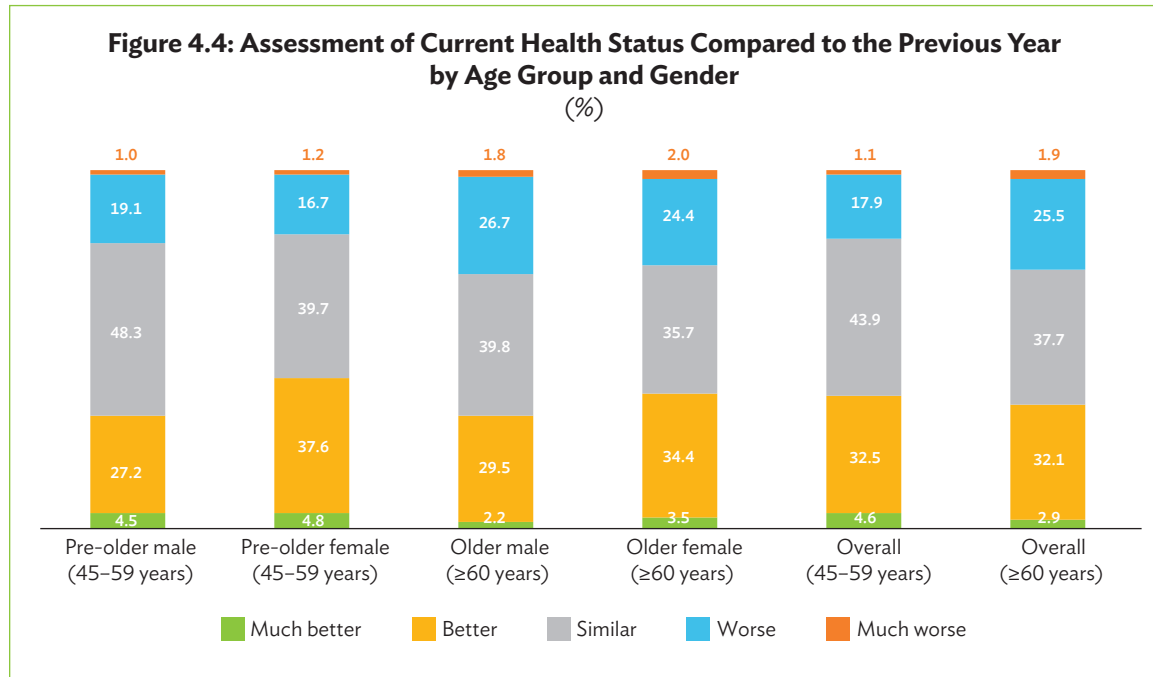


Figure 4.3: Assessment of Current Health Status Compared to the Previous Year by Age Group
(%)

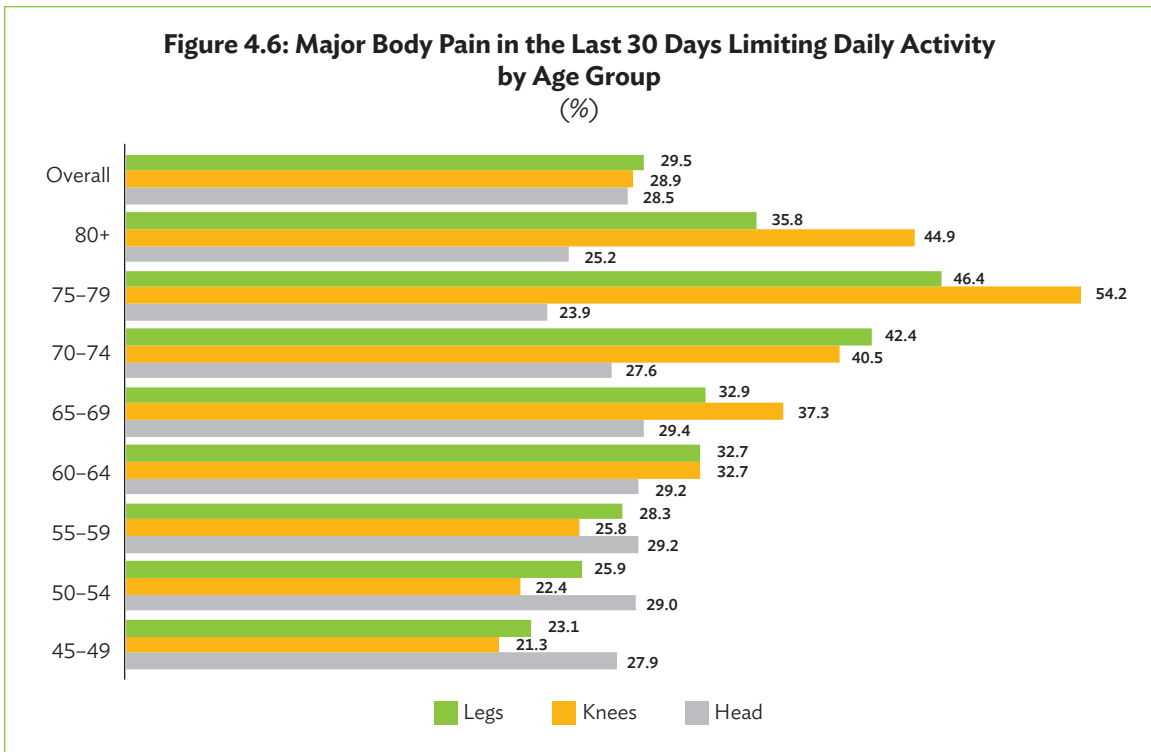
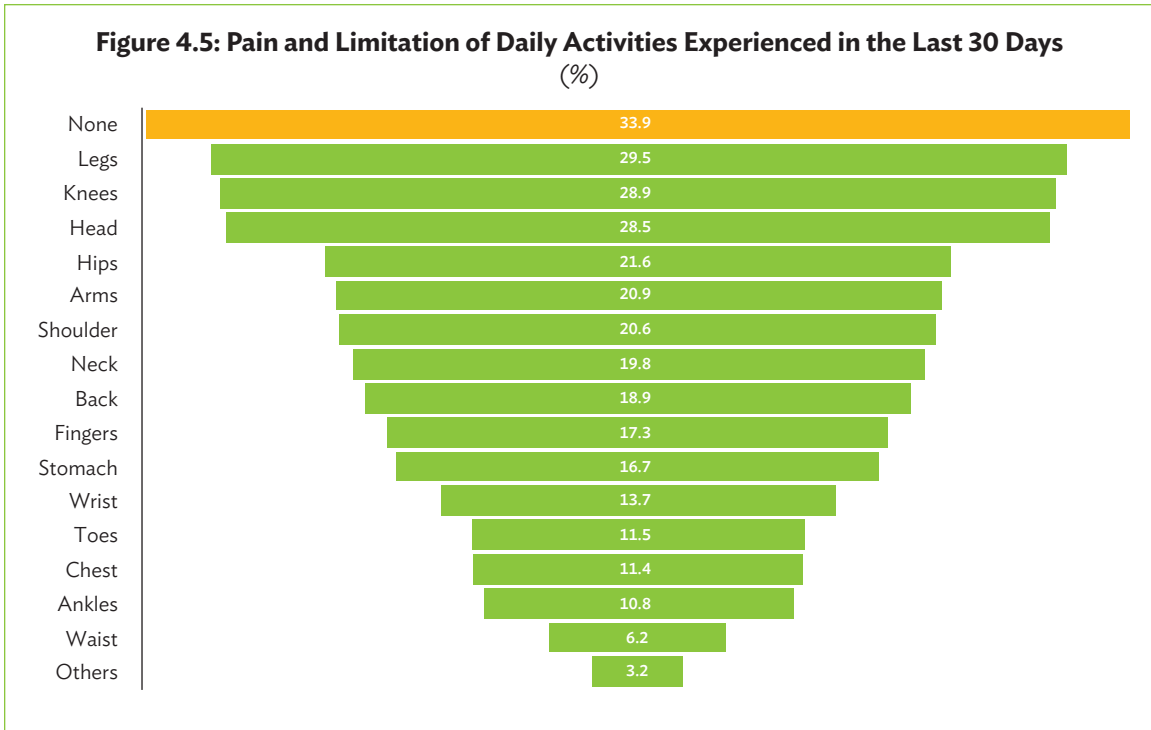


More men than women perceived their health as poorer than the previous year (Figure 4.4). This could be partly because men experience a faster decline in psychological and physical resilience in old age, as they use up more body reserves in youth and middle age (Majnarić et al. 2021).

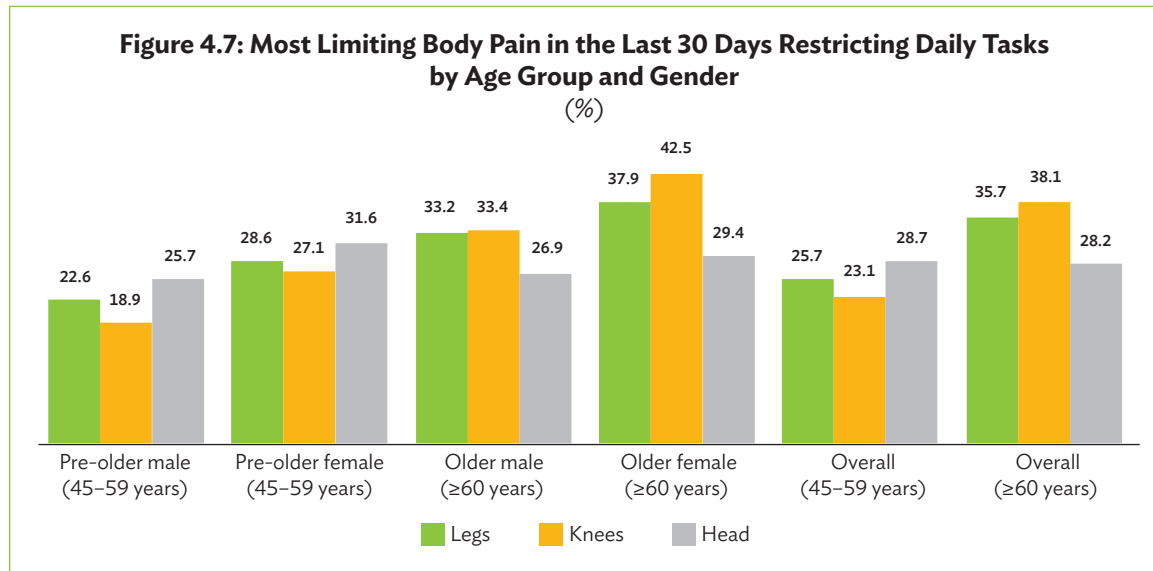


Pain Reporting

ILAS asked respondents about any pain they had felt in their body in the last 30 days that limited their ability to perform daily tasks. Respondents had the option to select multiple answers about pain in different parts of the body. More than 30% of respondents reported that they had no pain in their body (Figure 4.5). Respondents reported that the most common parts of the body where they felt pain were the legs (29.5%), knees (28.9%), and head (28.5%). The older people get, the more likely they are to report pain in their knees and legs (Figure 4.6).



A large share of older people experienced knee pain (38.1%), while more pre-older people were prone to headaches (28.7%). In general, a higher percentage of women than men reported pain in the legs, knees, and head (Figure 4.7).

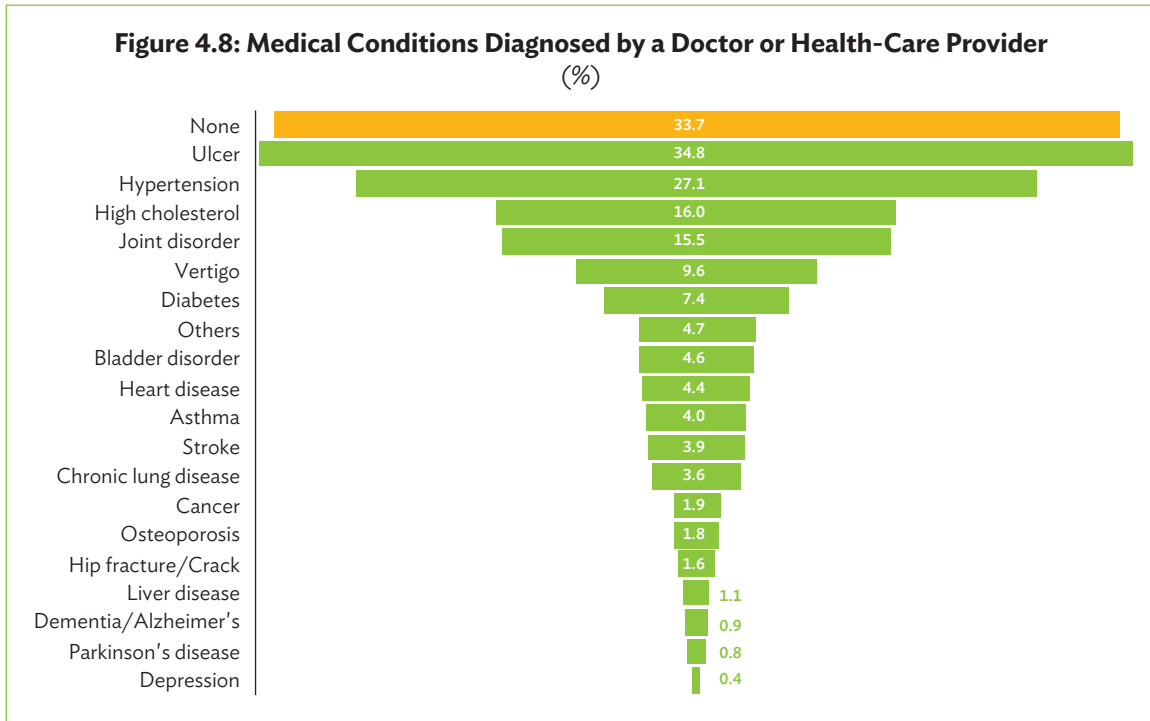


Pain in older people could pose a significant health-care challenge as the population continues to age, with older people typically reporting a higher level of pain than younger people (Zimmer et al. 2022). However, pain is often not voluntarily reported by older people as they see it as a natural part of the aging process (Kaye, Baluch, and Scott 2010). Pain has an impact on quality of life (Azizabadi Farahani and Assari 2010). Several characteristics of pain can negatively affect different aspects of quality of life. These include general health problems, reduced physical function, negative attitudes toward aging, and lower life satisfaction (O’Sullivan 2017; van Blijswijk et al. 2015). Pain intensity has the strongest impact on physical function, with the level and frequency of pain negatively associated with psychological aspects of quality of life, such as attitudes toward aging and life satisfaction (Johansson et al. 2021). Furthermore, studies have shown that pain is associated with lower life expectancy (Torrance et al. 2010; Nitter and Forseth 2013), although there is no clear evidence of this association in some studies (Smith et al. 2014). Ensuring that older people not only live longer but also lead healthier and happier lives is increasingly seen as a key measure of a good quality of life (Phyo et al. 2020). In Indonesia, pain is increasingly recognized as a critical aspect that must be managed and prevented to preserve quality of life and achieve the National Strategy for Aging objective of life expectancy and healthy life expectancy.

Diagnosed Illnesses

Noncommunicable diseases top the list of leading causes of death in Indonesia (WHO 2020). The Basic Health Research (Riskesdas) 2018 data indicate a surge in the prevalence of communicable diseases such as cancer, stroke, kidney disease, diabetes mellitus, hypertension, and overweight/obesity when compared to the previous data from 2013 (Ministry of Health Indonesia 2019). Older people have a higher risk of noncommunicable diseases due to factors such as unhealthy diet, lack of physical activity, extended exposure to cigarette smoke, or alcohol consumption (WHO 2023c). Among older people over 60 years old, the prevalence of doctor-diagnosed hypertension is 32.6%, diabetes mellitus 56%, and stroke 43% (Rukmini et al. 2021).

ILAS asked respondents about the illnesses they had been diagnosed with by doctors and/or health workers. Among those who had been diagnosed, the five most commonly cited medical conditions were stomach ulcers or other digestive issues (34.8%), hypertension (27.1%), high cholesterol (16.0%), joint problems such as joint inflammation and rheumatism (15.5%), and vertigo (9.6%)(Figure 4.8).



Box 4.1: Comparison of National Strategy for Aging Indicator and Indonesia Longitudinal Aging Survey Findings

NATIONAL STRATEGY FOR AGING

STRATEGY 2: Improving the health and quality of life of older people

Policy direction 2.3: Reduce morbidity among older people

Indicator: Percentage of older people with noncommunicable diseases

Baseline data 2018 (Riskesdas): 65%

Target 2024: 64%

ILAS 2023: 69.8%

The national strategy envisages that 64% of older people will suffer from noncommunicable diseases in 2024. According to ILAS data, nearly 70% of older people have received a diagnosis of at least one noncommunicable disease. This indicates that without increased efforts, the national strategy will not be successfully implemented. An assessment is essential to measure the actions taken to ensure a good quality of life for older people.

ILAS = Indonesia Longitudinal Aging Survey, Riskesdas = Basic Health Research (Riset Kesehatan Dasar).
Source: Presidential Regulation No. 88 of 2021 concerning the National Strategy for Aging.

With advancing age, the percentage of respondents who have been diagnosed with at least one illness by a doctor or health worker increases from 62.3% in the 45–49 age group to 71.2% in the 80 and older age group (Figure 4.9). On average, 66.3% of respondents are diagnosed with at least one illness. Approximately 70% of older people have received a doctor’s diagnosis for at least one illness, with a higher incidence among women than men (Figure 4.10).

Figure 4.9: Respondents Diagnosed with at Least One Disease by a Doctor or Health-Care Provider by Age Group (%)

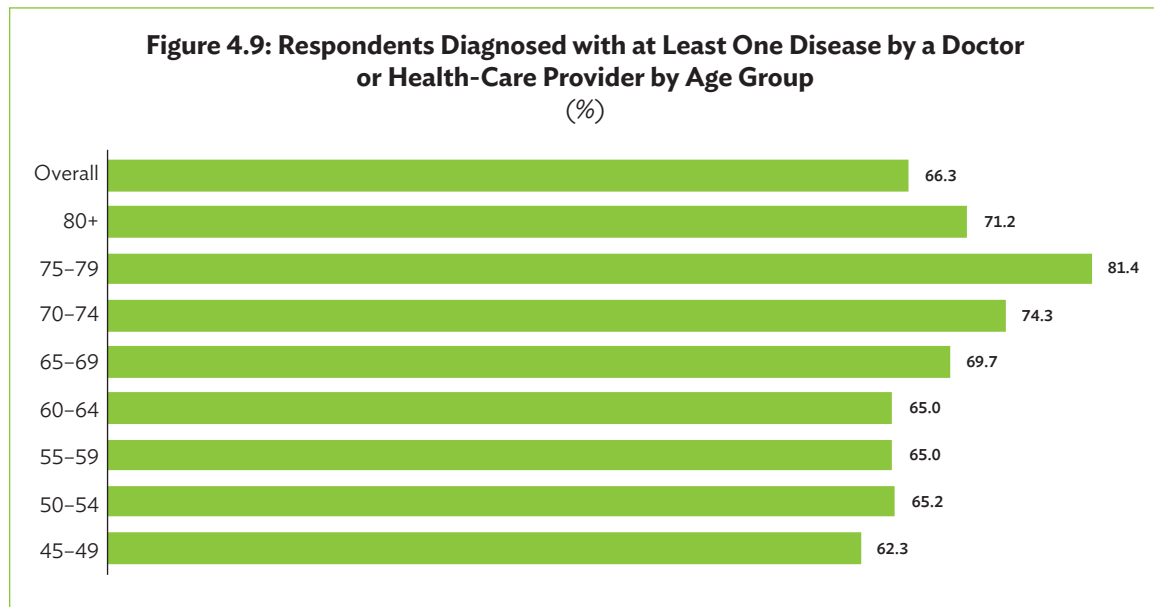
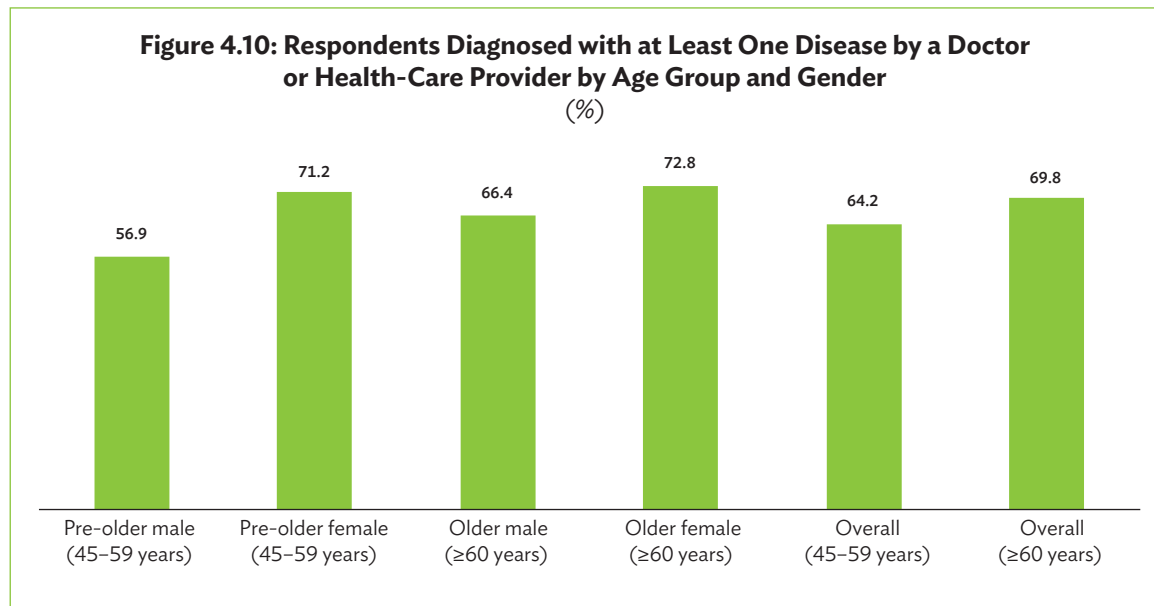


Figure 4.10: Respondents Diagnosed with at Least One Disease by a Doctor or Health-Care Provider by Age Group and Gender (%)

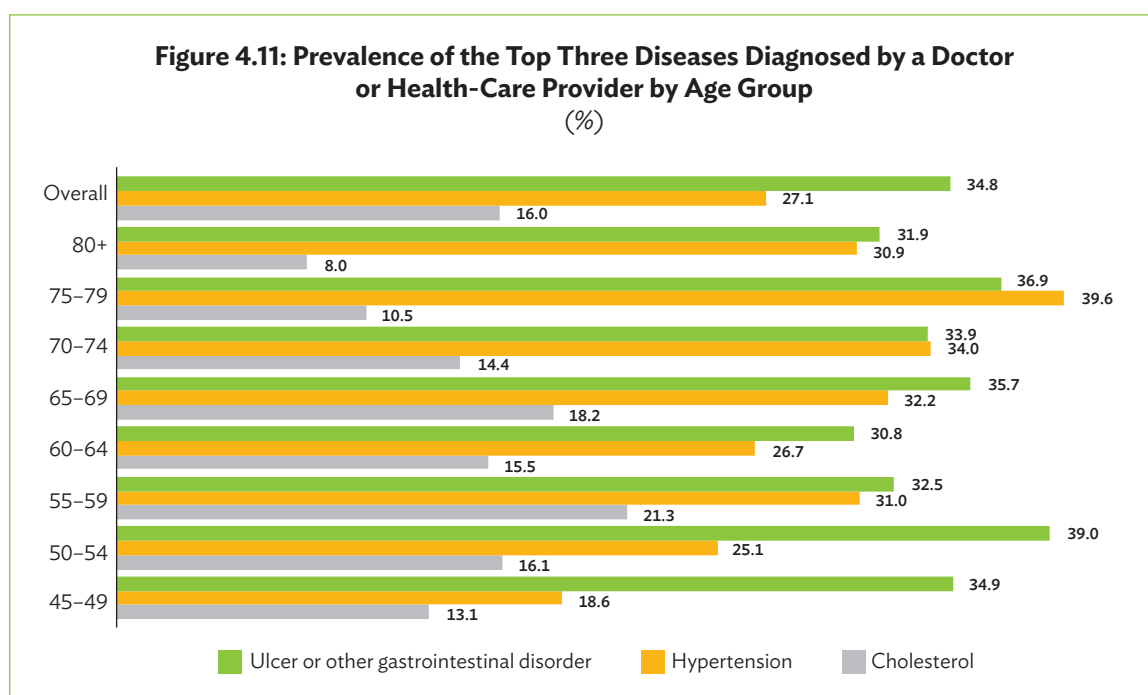


Older people have a higher prevalence of at least four diseases or comorbidity compared to pre-older people (Table 4.1). Nevertheless, comorbidity in pre-older people must be continuously monitored, as the prevalence usually increases with age (Salive 2013). The proportion of respondents who reported to have been diagnosed with high cholesterol is lower among 80 years old and above (8.0%) compared to the average (16%), while the prevalence of hypertension increases with age (Figure 4.11).

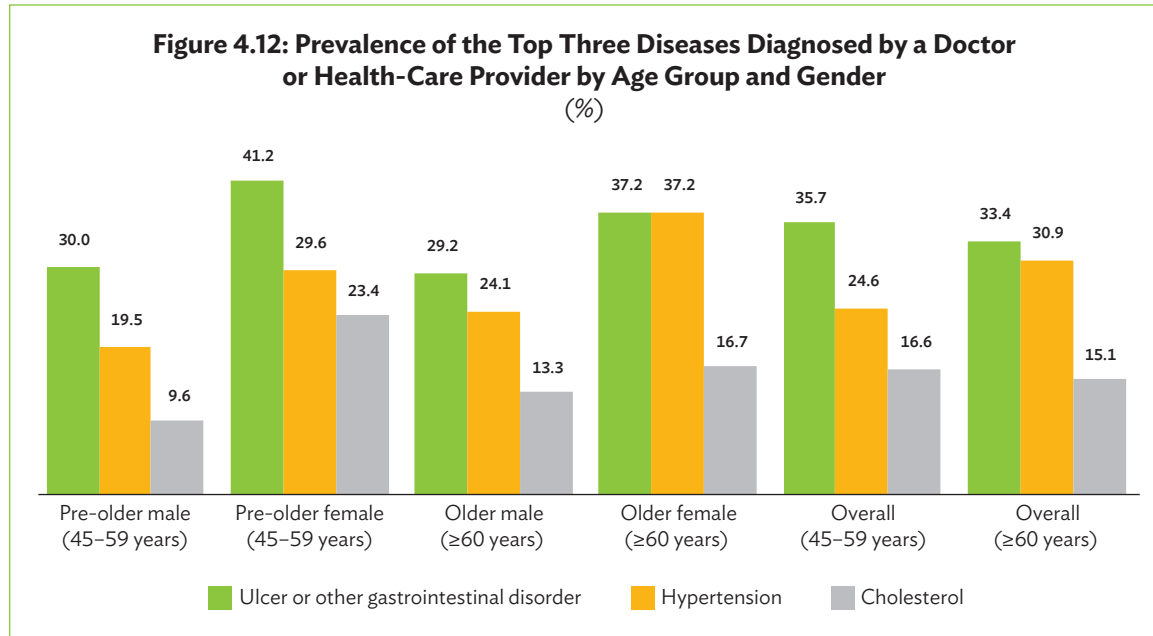
Table 4.1: Pattern of Comorbidity in Pre-Older and Older People

Total Comorbidity	Pre-Older		Older		Overall	
	%	N	%	N	%	N
1 disease	41.9	698	40.6	459	41.4	1,157
2 diseases	29.0	484	23.5	265	26.8	749
3 diseases	16.4	274	16.6	187	16.5	461
4 diseases	7.6	126	9.6	108	8.4	235
≥5 diseases	5.1	85	9.7	110	6.9	195
Total	100.0	1,667	100.0	1,129	100.0	2,796

N = observations.



Women, generally, have higher prevalence of the top three diagnosed diseases compared to men (Figure 4.12).

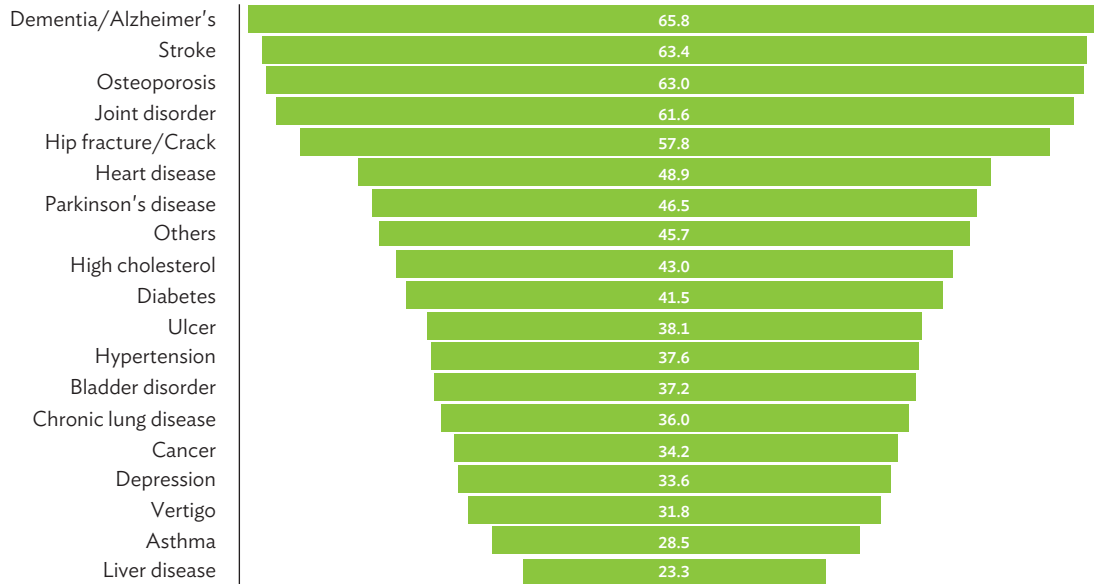


Respondents who reported being diagnosed with the disease were subsequently asked whether the disease creates a limitation to their daily activities. Daily activities assessed include bathing, dressing, transferring from bed or chair, walking, using the toilet, and eating. The list of activities also includes instrumental activities such as shopping, banking, cooking, driving, household cleaning, and using public transportation (Miller 2012). The responses show that dementia and Alzheimer’s disease⁶ were the primary diseases restricting respondents’ activities (65.8% of the patients reporting limitation), with stroke (63.4%) and osteoporosis (63.0%) trailing closely behind (Figure 4.13).

A further analysis focused on the top three diseases that limit daily activities: dementia and/or Alzheimer’s, stroke, and osteoporosis (Figure 4.14). The results indicate that dementia is the most frequently reported illness causing limitations in daily activities among pre-older people (73.9%), while stroke is the most frequently reported cause of limitations in daily activities among older people (70.8%) (Figure 4.15). More women than men, in both age groups, report all top three diseases limiting their daily activities. Among pre-older men who were diagnosed with dementia/Alzheimer’s disease, no limitation in daily activity was reported.

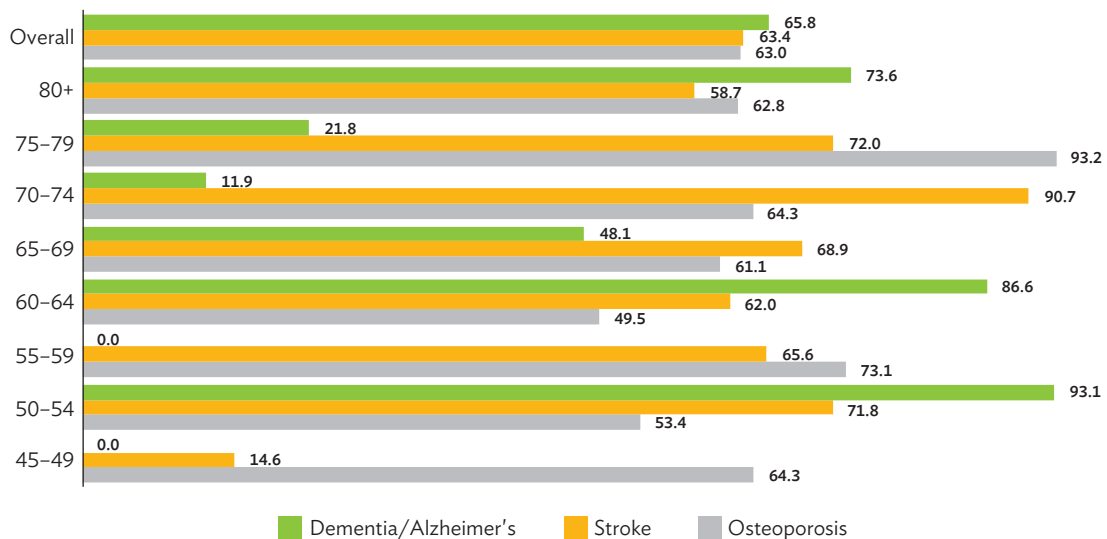
⁶ During data collection, we used simple terms like memory impairment or senility to ensure that respondents easily understood the questions about dementia and Alzheimer’s.

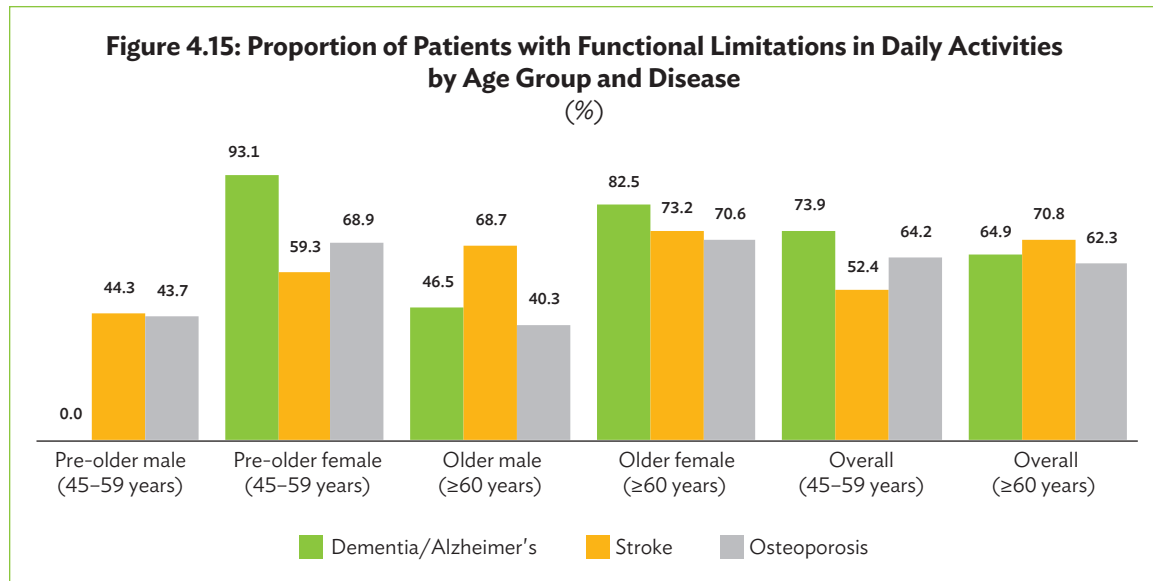
Figure 4.13: Patients with Functional Limitations in Daily Activities by Disease (%)



Note: Others include allergies (weather, dust, cold, proteins, seafood), anemia, gallstones, kidney stones, dengue fever, kidney failure, epilepsy, thyroid gland, goiter, glaucoma, cataracts, meningitis, bone fracture, lupus, typhoid fever, pinched nerve, tuberculosis, hypotension, sinusitis, bone dislocation, concussion, menopausal symptoms, herpes, blood disorders, lymph nodes, total paralysis, uterine fibroids, uterine wall thickening, and tetanus.

Figure 4.14: Proportion of Patients with Functional Limitations in Daily Activities by Age Group and Disease (%)





Physical Measurement

The health measurements are carried out in the agreed order. This is done to avoid any errors when recording the result. It is also designed to prevent one measurement from influencing the result of another measurement (e.g., blood pressure). In this survey, the health measurements are arranged in the following order: (1) blood pressure, (2) weight, (3) height, (4) waist circumference, (5) hip circumference, and (6) grip strength.

Blood Pressure

According to the World Health Organization (WHO), hypertension is the leading cause of premature death (WHO 2023a). Having hypertension increases the risk of developing cardiovascular and kidney diseases (Kjeldsen 2018). The likelihood of having hypertension increases with age (Ostchega et al. 2020). Nevertheless, the prevalence of diagnosed hypertension is lower than that of measured hypertension, suggesting that a significant number of hypertension cases in Indonesia are undetected (Ostchega et al. 2020). Data from a longitudinal survey indicate that about 70% of adults in Indonesia are unaware if they have high blood pressure (Hussain et al. 2016).

The blood pressure measurements in this survey are carried out using a digital blood pressure monitor (OMRON). After subtracting 5 millimeters of mercury (mmHg) from the monitor's systolic and diastolic readings, the average value is calculated from each measurement (Hussain et al. 2016). The final measurement follows the calculation method of Shahbabu et al. (2016), who identified a 5 mmHg absolute variance in blood pressure readings between a digital monitor and a mercury sphygmomanometer for both systolic and diastolic values. Blood pressure readings are categorized based on the guidelines set by the Ministry of Health Indonesia such as optimal, normal, high normal, grade 1 hypertension, grade 2 hypertension, grade 3 hypertension, and isolated systolic hypertension. Optimal, normal, and high normal blood pressure values are categorized as normal, while grades 1, 2, 3 hypertension and isolated systolic hypertension fall into the hypertensive category (Table 4.2).

Table 4.2: Classification of Hypertension in Adults

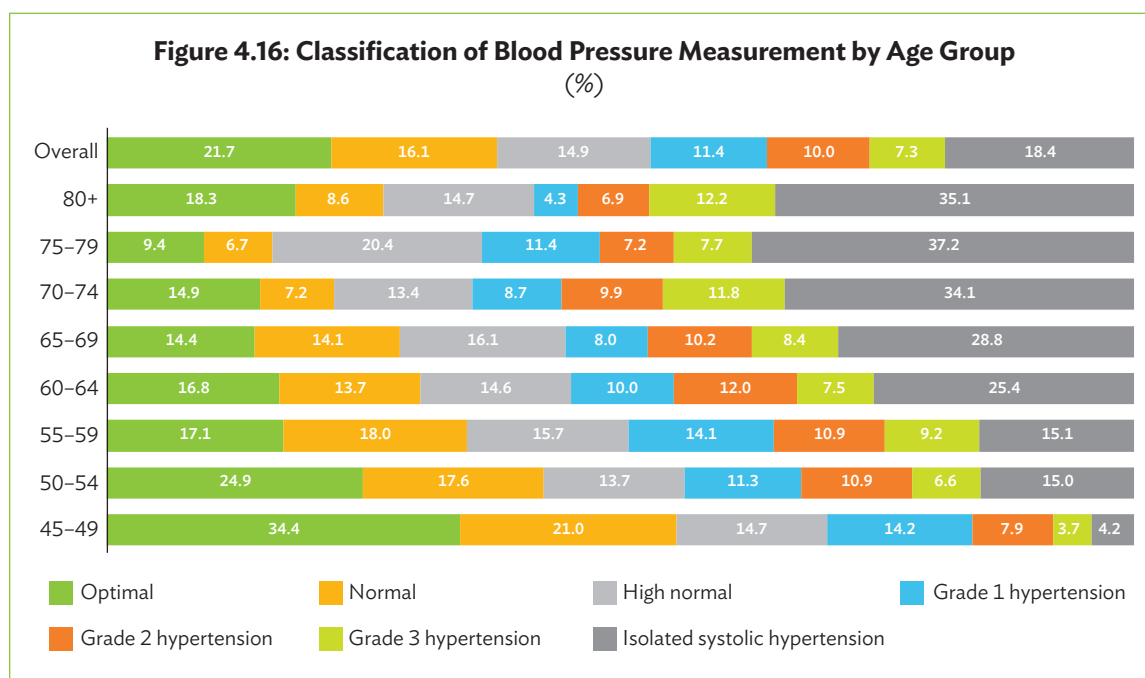
Classification	Systolic Blood Pressure (mmHg)		Diastolic Blood Pressure (mmHg)
Optimal	<120	and	<80
Normal	120–129	and/or	80–84
High normal	130–139	and/or	85–89
Grade 1 hypertension	140–159	and/or	90–99
Grade 2 hypertension	160–179	and/or	100–109
Grade 3 hypertension	≥180	and/or	≥110
Isolated systolic hypertension	≥140	and	<90

mmHg = millimeter of mercury.

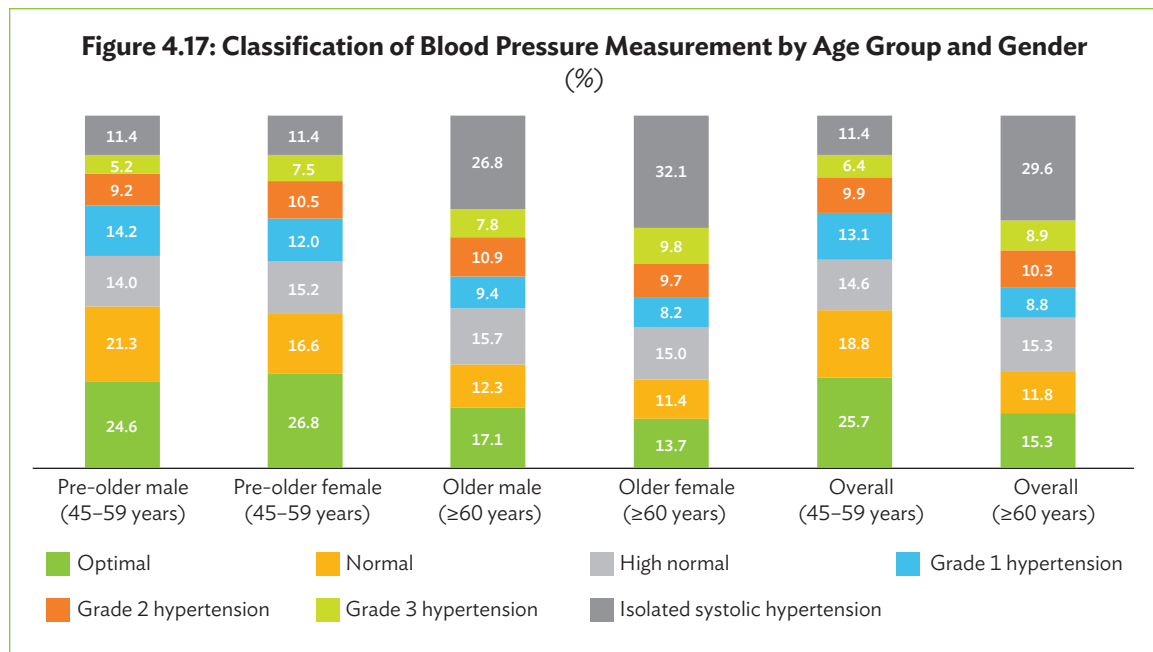
Notes: The classification of hypertension in adults in Indonesia is based on the Decision of the Minister of Health of Indonesia No. HK.01.07/MENKES/4634/2021 on National Guidelines for Adult Hypertension, using the guidelines for the management of arterial hypertension by Williams et al. (2018) as reference.

Source: Ministry of Health Indonesia. 2021. The Decision of Minister of Health Indonesia No. HK.01.07/MENKES/4634/2021 on National Guidelines for Adult Hypertension (Keputusan Menteri Kesehatan Republik Indonesia No. HK.01.07/MENKES/4634/2021 tentang Pedoman Nasional Pelayanan Kedokteran Tata Laksana Hipertensi Dewasa). https://yankes.kemkes.go.id/unduh/fileunduh_1660186120_529286.pdf; Williams, B. et al. 2018. ESC Scientific Document Group. 2018 ESC/ESH Guidelines for the Management of Arterial Hypertension. *European Heart Journal*. 39, pp. 3021–104. doi:10.1097/HJH.0000000000001940.

Of the ILAS respondents, 47.1% were categorized as hypertensive, with 11.4% having grade 1 hypertension. Hypertension rates tend to rise with age, reaching 30.0% in the 45–49 age group and 58.5% in the 80+ age group (Figure 4.16).

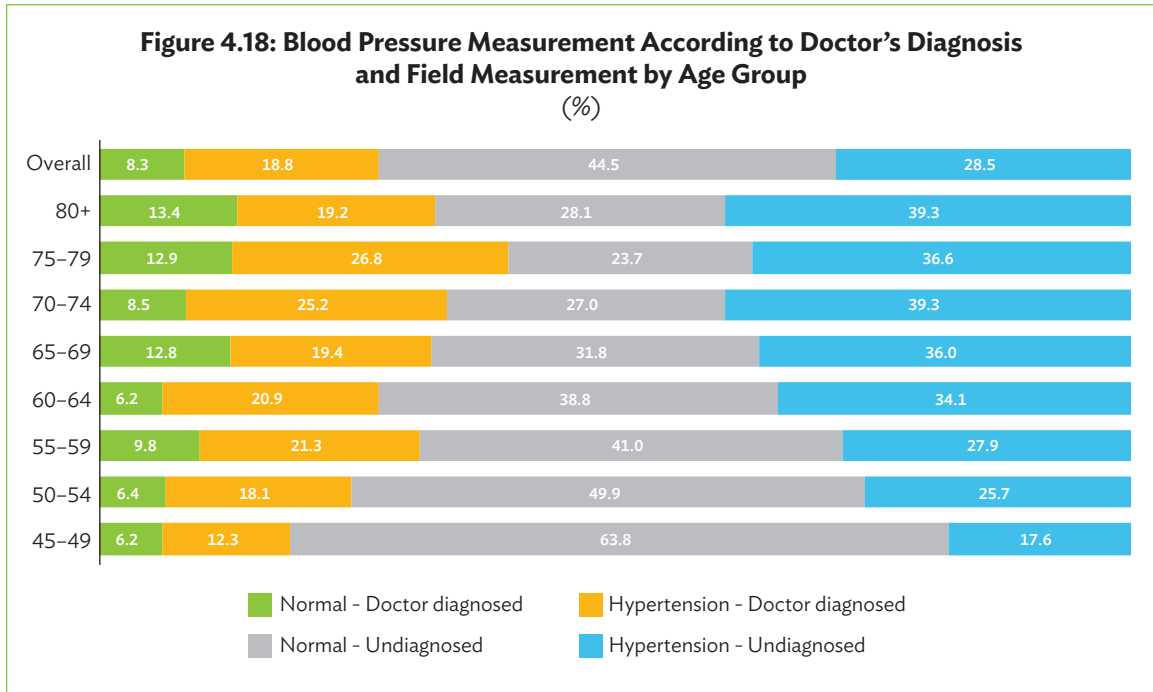
Figure 4.16: Classification of Blood Pressure Measurement by Age Group (%)

About 30% of older people have isolated systolic hypertension,⁷ with a higher incidence of hypertension in women than in men (Figure 4.17). The results are similar to those of the Basic Health Research (Riskesdas) 2018, which used the criteria set by the Joint National Committee VII to categorize hypertension. According to these criteria, an individual is deemed hypertensive if their systolic reading is ≥ 140 mmHg and their diastolic reading is ≥ 90 mmHg. Hypertension is shown to increase in the 45+ age group based on the findings of the Basic Health Research (Riskesdas) 2018. The prevalence of hypertension in the 45–54 age group is 45%, rising to 55% in the 55–64 age group, further increasing to 63% in the 65–74 age group, and peaking at 69% in the 75 and older age group.

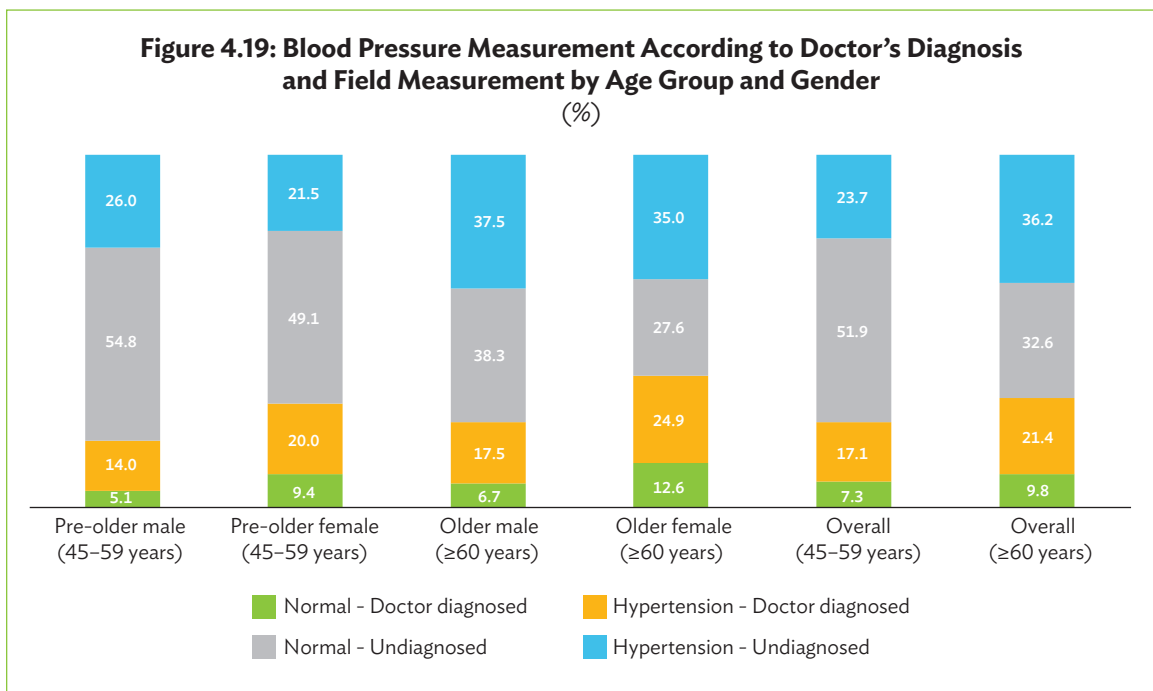


ILAS examined the prevalence of doctor-diagnosed hypertension compared to blood pressure readings during fieldwork and sorted them into four groups. Respondents diagnosed with hypertension by a doctor with a systolic reading less than 140 mmHg or a diastolic reading less than 90 mmHg are classified as normal-doctor diagnosed. Those who have been diagnosed with hypertension by a doctor are included in the hypertension-doctor diagnosed category if their systolic reading is ≥ 140 mmHg or their diastolic reading is ≥ 90 mmHg. Respondents who have never been diagnosed by a doctor but have normal blood pressure are categorized as normal-undiagnosed. Those who have not been diagnosed by a doctor and have a systolic reading of ≥ 140 mmHg or a diastolic reading of ≥ 90 mmHg fall into the undiagnosed hypertension group. The percentage of hypertension cases diagnosed during field measurement exceeds those diagnosed by a doctor (Figure 4.18).

⁷ Isolated systolic hypertension is defined as systolic blood pressure ≥ 140 mmHg and diastolic blood pressure < 90 mmHg based on “The Decision of Minister of Health Indonesia No. HK.01.07/MENKES/4634/2021” on the National Guidelines for Adult Hypertension, which uses the guidelines for the management of arterial hypertension.



More than a third of older people are living with undiagnosed hypertension (Figure 4.19). Some studies suggest that the prevalence of hypertension diagnosed by health-care workers is relatively low (Pengpid and Peltzer 2022; Morey, Valencia, and Lee 2022). Men in the older age group have a higher rate of undiagnosed hypertension compared to pre-older men. The likelihood of undiagnosed hypertension is four times higher in older people compared to younger people (Ambaw Kassie et al. 2023).



Nutritional Status

Body Mass Index

There has been a notable rise in the rates of obesity and overweight among people aged 18 and above in Indonesia in recent decades (Pujilestari et al. 2017; Oddo, Maehara, and Rah 2019). Many epidemiological studies have shown a link between obesity and cancer, cardiovascular disease, type 2 diabetes, and liver problems (Jin et al. 2023). The effects of obesity in Indonesia can be controlled by prioritizing early detection and prevention through a healthy lifestyle. Body mass index can be categorized as underweight, normal weight, overweight, or obese (Table 4.3). The national health survey in Indonesia, Basic Health Research (Riskesdas) 2018, uses this classification (Ministry of Health Indonesia 2019).

Table 4.3: Threshold of Body Mass Index

Category	Body Mass Index (kg/m ²)
Underweight	<18.5
Normal	18.5–24.9
Overweight	25.0–26.9
Obese	≥27.0

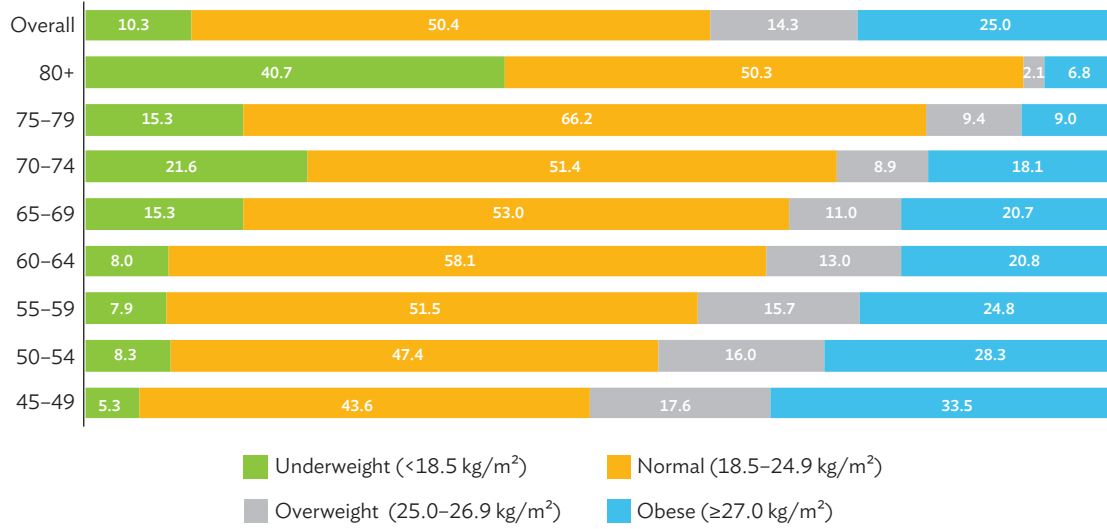
kg = kilogram, m² = square meters.

Source: Ministry of Health Indonesia. 2019. National Report of Riskesdas 2018 (Laporan Nasional Riskesdas 2018) (in Bahasa Indonesia). Publishing Institution of the Health and Development Research Agency.

The nutritional status analysis using body mass index excludes bedridden respondents (2.17%), and the data provided only apply to respondents who had their height and weight measured during field data collection (97.8%). In accordance with the classification used in the Basic Health Research (Riskesdas) 2018, ILAS respondents can be grouped into categories of underweight (10.3%), normal weight (50.4%), overweight (14.3%), and obese (25%) (Figure 4.20). This result aligns closely with the data from the Basic Health Research (Riskesdas) 2018, which showed that the population over the age of 18 was categorized as underweight (9.3%), normal weight (55.3%), overweight (13.6%), and obese (21.8%).

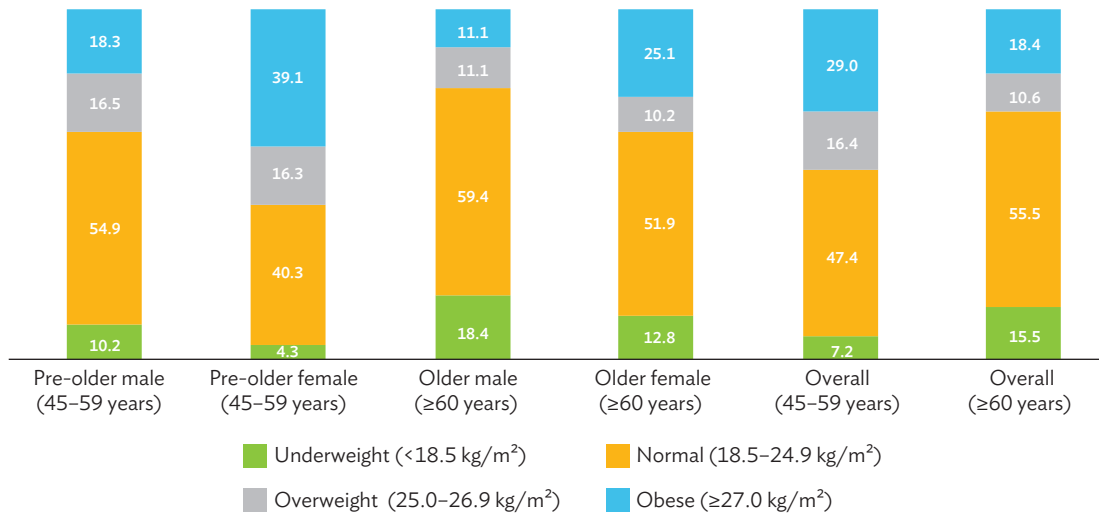
Pre-older people aged 45–59 have a higher obesity rate (29%) compared to older people. On the other hand, people aged 60 years and older are more likely to be underweight (15.5%) than pre-older people (7.2%). Men are likely to be underweight, while women are more likely to be obese (Figure 4.21). Older people are vulnerable to nutritional issues or malnutrition, especially in relation to weight loss. Weight loss in older people is often the result of macronutrient deficiency and/or catabolism. Weight loss in older people can be attributed to a variety of factors, including disease-related catabolic events, specific illnesses, or age-related anorexia (“anorexia of aging”), as well as poor food intake, and other factors (Norman, Haß, and Pirlich 2021). Several studies indicate that men are more likely to be underweight than women (Gupta et al. 2021; Jamir et al. 2015).

Figure 4.20: Nutritional Status According to Body Mass Index by Age Group (%)



kg = kilogram, m² = square meter.

Figure 4.21: Nutritional Status According to Body Mass Index by Age Group and Gender (%)



kg = kilogram, m² = square meter.

Box 4.2: Comparison of National Strategy for Aging Indicator and Indonesia Longitudinal Aging Survey Findings

NATIONAL STRATEGY FOR AGING

STRATEGY 2: Improving the health and quality of life of older people

Policy direction 2.1: Improve nutritional status and promote healthy lifestyles

Indicator: Prevalence of malnutrition among older people

Baseline data 2018 (Riskesdas): 41% (malnutrition)

Target 2024: 40%

ILAS 2023: underweight (15.5%), overweight (10.6%), obese (18.4%): Total (44.5%)

Malnutrition encompass conditions like underweight, overweight, and obesity. According to the National Strategy for Aging, malnutrition account for 41% of the baseline data. The aim is to achieve a reduction in the prevalence of malnutrition to 40% by 2024. In ILAS, 44.5% of older people suffer from malnutrition, a rate that exceeds the goals outlined in the national strategy.

ILAS = Indonesia Longitudinal Aging Survey, Riskesdas = Basic Health Research (Riset Kesehatan Dasar).
Source: Presidential Regulation No. 88 of 2021 concerning the National Strategy for Aging.

Abdominal Obesity

The measurement of abdominal obesity is included in this study to provide a more comprehensive understanding of obesity in the community. The rationale behind this is that while body mass index can provide a general picture of obesity, it may overlook metabolic disorders that can be uncovered by measuring waist circumference for abdominal obesity (Tchernof and Després 2013). Abdominal obesity in older people is more strongly associated with frailty and risk of mortality than body mass index (Liao et al. 2018), as is the risk of death from any cause (Alharbi et al. 2022).

Waist circumference is used to measure abdominal obesity and is classified according to the Basic Health Research (Riskesdas) 2018 guidelines (Table 4.4). Based on this classification, abdominal obesity is present in 53.9% of ILAS respondents (Figure 4.22).

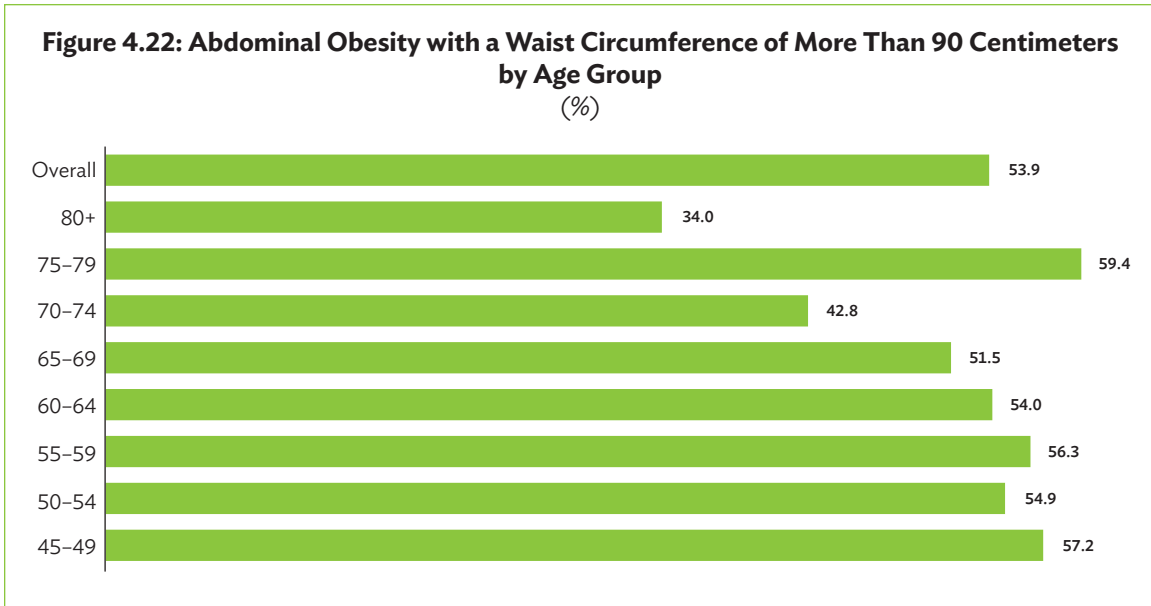
Table 4.4: Classification of Abdominal and/or Central Obesity in Adults

Gender	Waist Circumference (cm)		Classification
	≤	>	
Male	≤90		Normal
		>90	Abdominal obesity
Female	≤80		Normal
		>80	Abdominal obesity

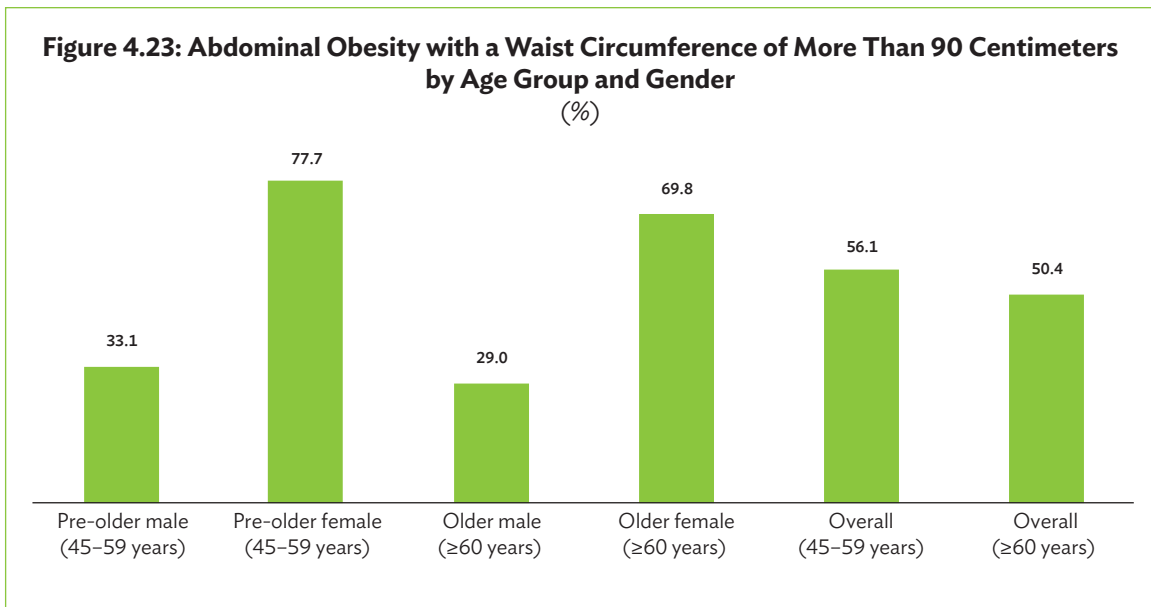
cm = centimeter.

Note: Classification of abdominal circumference for the Asian population is based on the Basic Health Research (Riskesdas) 2018.

Source: Ministry of Health Indonesia. 2019. National Report of Riskesdas 2018 (Laporan Nasional Riskesdas 2018) (in Bahasa Indonesia). Publishing Institution of the Health and Development Research Agency.



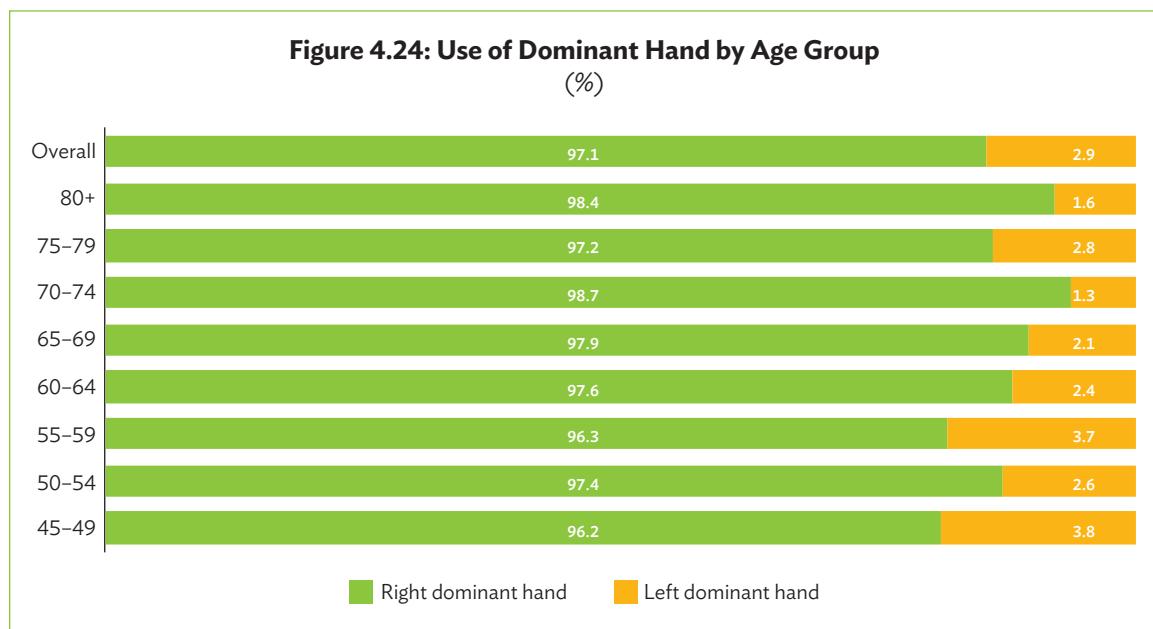
Fifty-six percent of pre-older people have abdominal obesity, which is more prevalent compared to older people. Women are more likely to suffer from abdominal obesity compared to men regardless of age (Figure 4.23).

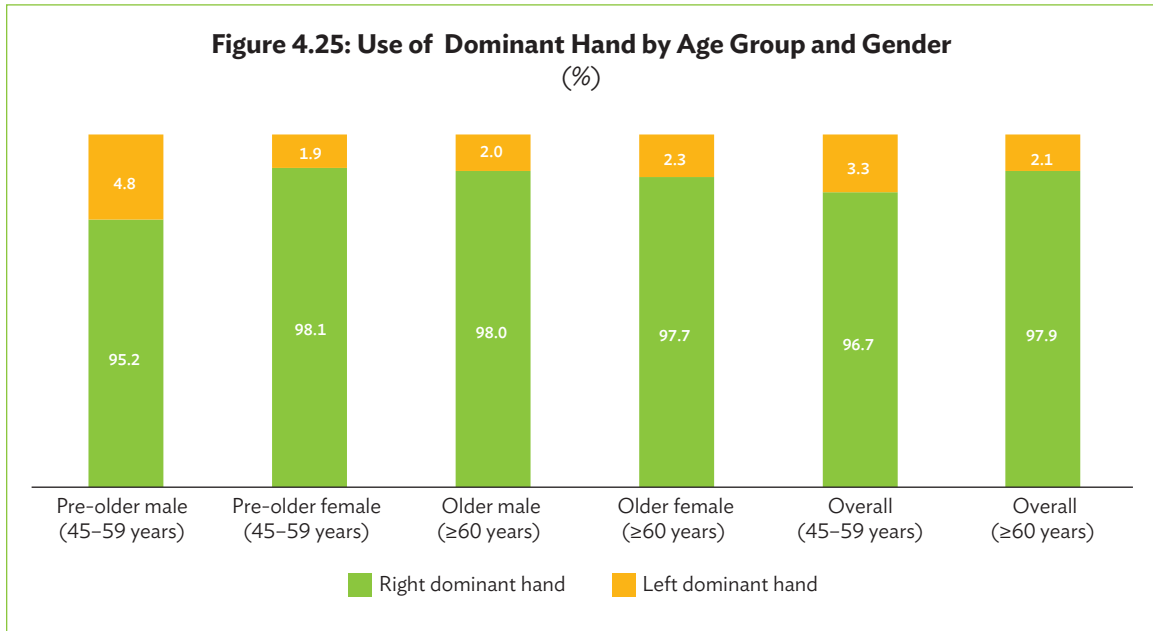


Grip Strength

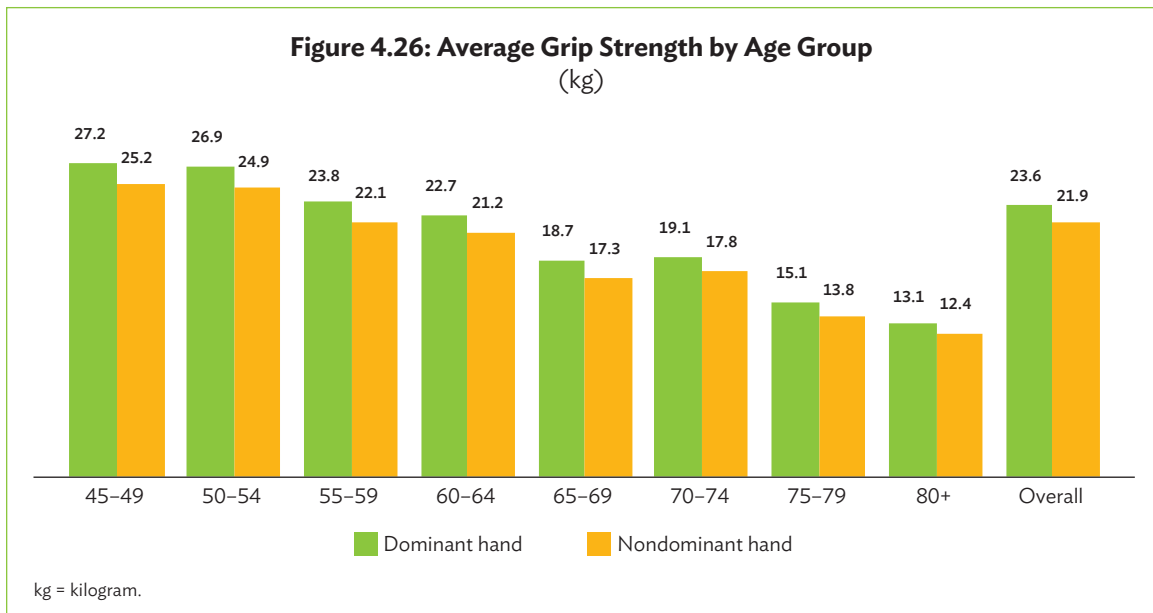
Grip strength is used to measure muscle strength (Lee 2021). Age, gender, race/ethnicity, education, smoking status, body mass index, comorbidities, and physical activity have been linked to grip strength in older people living in the community (Germain 2016). Weak handgrip strength is defined by the Asian Working Group on Sarcopenia as less than 26 kilograms (kg) in men and less than 18 kg in women (Chen et al. 2014). There are typically different normative values for grip strength for people of a certain age and gender depending on geographic region and/or ethnicity (Kim, Won, and Kim 2018). Grip strength decreases with age (Pengpid and Peltzer 2018). Typically, men tend to achieve higher grip strength scores compared to women (Morey, Valencia, and Lee 2022). Research shows that grip strength is related to other health outcomes such as cognitive function, life satisfaction, subjective well-being, depression and anxiety (Jiang et al. 2022), sleep disorders (Morey, Valencia, and Lee 2022), and mortality (Rijk et al. 2016). Routine measurement of grip strength can be a method to identify older people in poor health (Bohannon 2019). The decline in the health of older people is linked to shifts in work behavior, such as taking on less strenuous tasks and working fewer hours (Suriastini et al. 2023b).

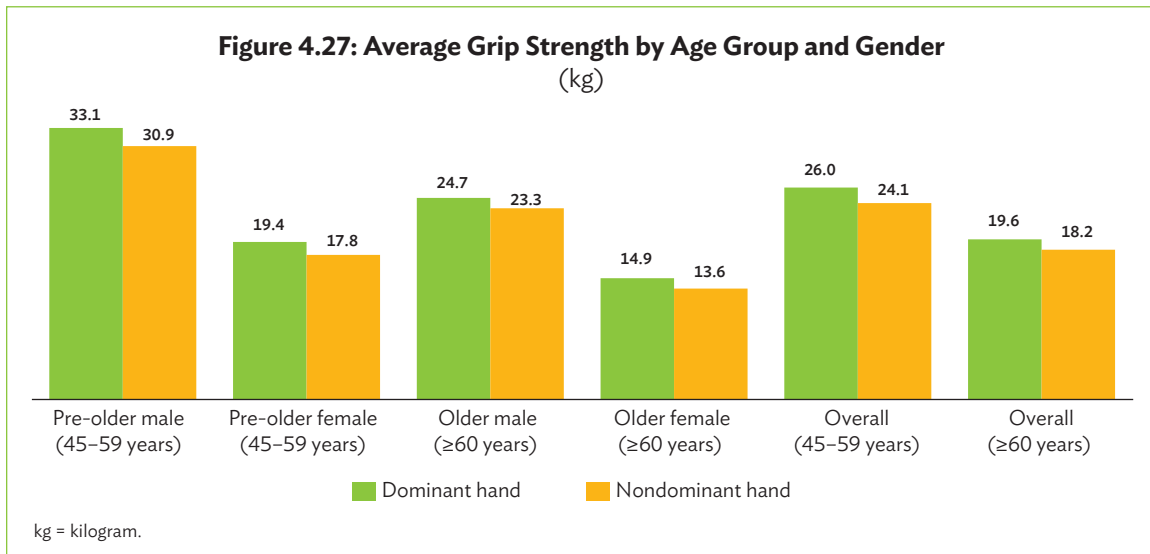
A dynamometer is used to measure grip strength in both the dominant and nondominant hand. According to the ILAS survey, the majority of pre-older and older people are right-handed when it comes to using their dominant hand (Figure 4.24 and Figure 4.25).





Grip strength tends to decline with age, and men generally have greater muscle strength than women (Figure 4.26 and Figure 4.27). ILAS found that grip strength peaks at 45 to 49 years old and declines with increasing age. A low level of grip strength is associated with the risk of experiencing work limitations that can affect their work capacity, leading to limited work opportunities and lower paying jobs (Morera et al. 2023). Therefore, it is important to raise awareness about maintaining muscle strength to prevent the effects associated with muscle loss, for example, by highlighting the need to exercise regularly and providing public exercise equipment to encourage community members to exercise.

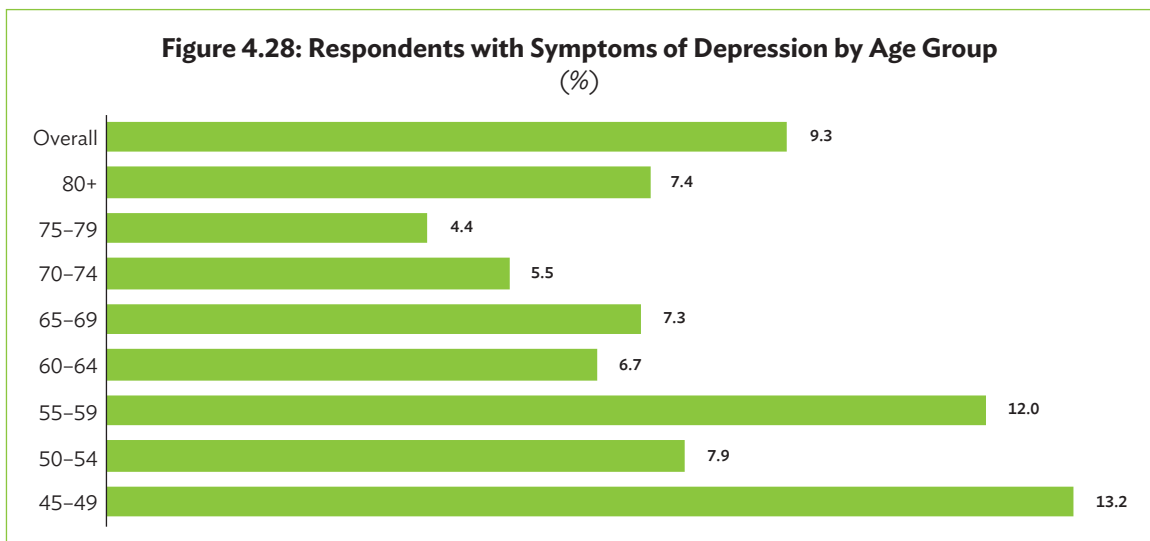


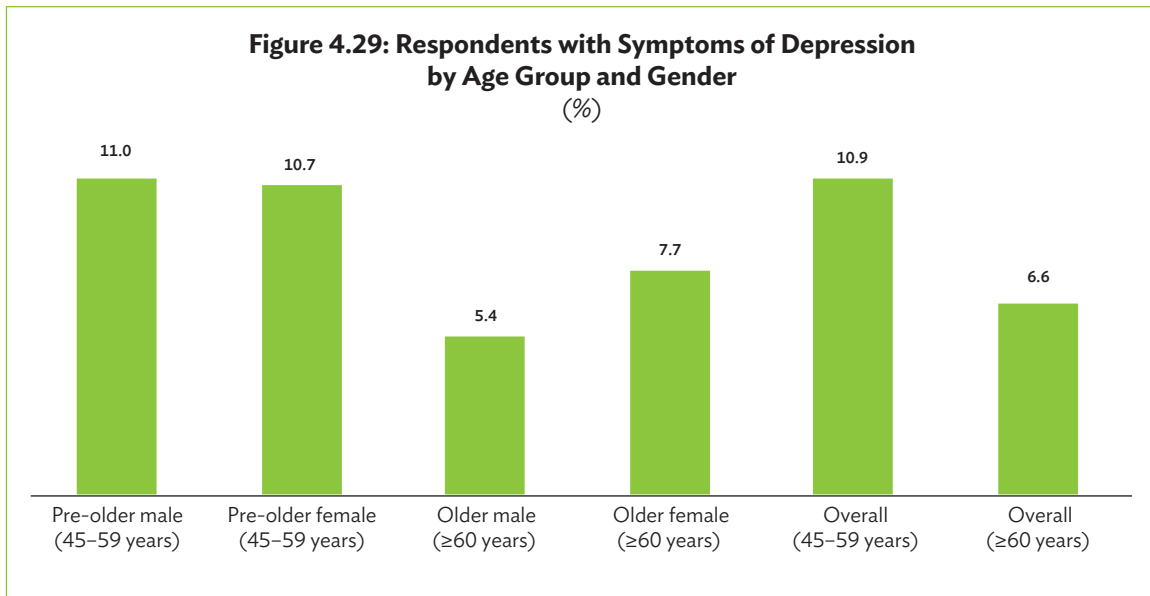


Mental Health

The psychological health of older people is assessed by examining the presence of the symptoms of depression using the Center for Epidemiological Studies Depression (CESD) - 10 scale. The CES-D 10 module includes 10 questions on respondents' feelings over the past week. Negative statements receive a score of 0 when the respondent selects "never" (less than a day), 1 for "sometimes" (1-2 days), 2 for "occasionally" (3-4 days), and 3 for "all the time" (5-7 days). For positive statements, the scoring is reversed. A respondent is diagnosed with depression if their total score reaches 10 or more (Miller, Anton, and Townson 2008).

Depression symptoms are more common in pre-older people and older women (Figure 4.28 and Figure 4.29). The percentage of pre-older people with depression is 10.9%, higher by around 4 percentage points than the older ones (6.6%). The percentage of older women with depression symptoms is also higher (7.7%) than men (5.4%).





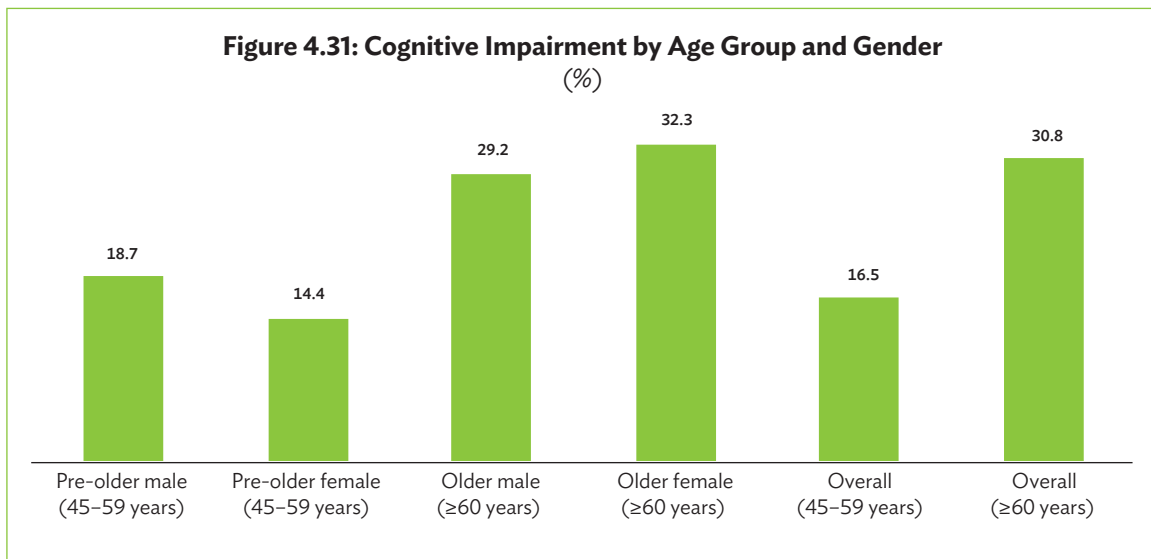
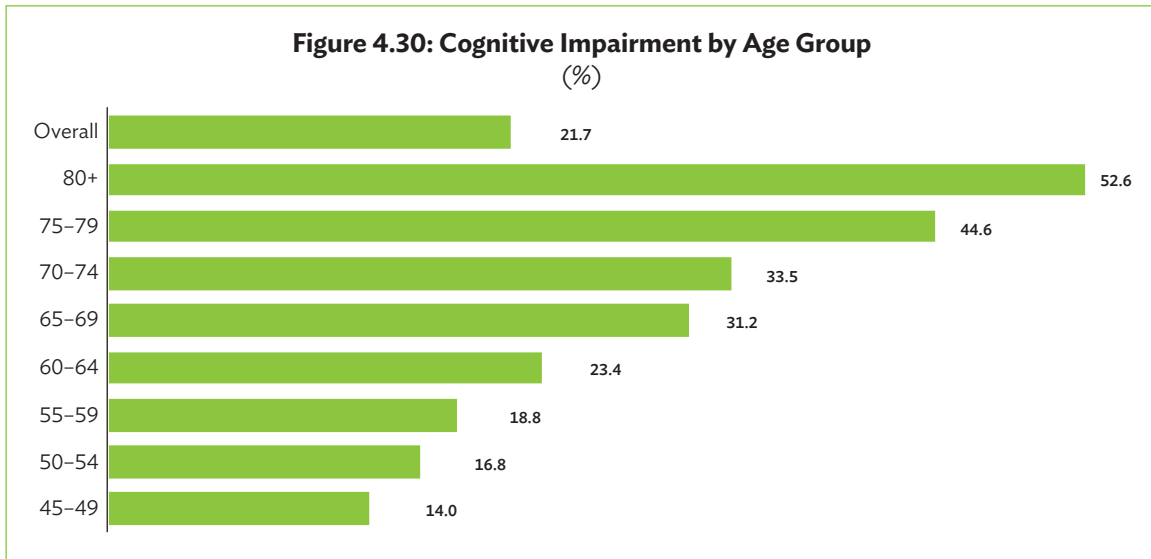
Cognitive Health

Older people frequently experience cognitive impairment and dementia as they age (Tianyi et al. 2019). A cognitive impairment is defined as difficulty remembering, learning, focusing, or decision-making that disrupt daily activities (Khanna and Metgud 2020). According to Murman (2015), as people age, their cognitive abilities for reasoning and problem-solving tend to decline, while skills and memories acquired earlier in life, like general knowledge and vocabulary can be retained into old age. However, evidence indicates that continuous mental stimulation through work or education, socialization, etc. can have a protective effect (Tucker and Stern 2011).

An assessment tool called the six-item screener (SIS) is used to recognize potential cognitive impairment in respondents. Within the SIS, three items are utilized to assess temporal orientation (day, month, year) and delayed recall (apple, table, coin). Every right response to the questions is awarded a score of 1. The total score of these six items is utilized to determine the potential for cognitive impairment (Callahan et al. 2002).

Studies conducted earlier have demonstrated a positive relationship between the SIS score and educational attainment. Hence, the cut-off score for determining cognitive impairment is ≤ 2 for illiterate individuals, ≤ 3 for elementary school graduates, and ≤ 4 for junior high school graduates (Chen et al. 2010).

The incidence of cognitive impairment also increases with age (Figure 4.30). Men in the 45-59 age group are more likely to have cognitive impairment than women, while women in the 60 and older age group have a higher incidence of cognitive impairment (Figure 4.31). This difference is unlikely to be attributed to composition, as previous studies have shown that cognitive decline occurs faster in women than in men (Levine et al. 2021). Factors contributing to this difference include shorter duration of formal education and greater involvement in domestic duties, which is consistent with the results of the ILAS study (Okamoto et al. 2021).



The results of an earlier study revealed that 20.1% of older people in Yogyakarta had dementia (Suriastini et al. 2020). Dementia is also prevalent in other regions of Indonesia (Ong et al. 2021). From a health-care perspective, the community health centers (pusat kesehatan masyarakat [Puskesmas]) are not yet equipped to provide services for persons living with dementia patients (Suriastini et al. 2023c). The data from ILAS highlight the need for health-care services for both the pre-older and older people to prevent the situation from worsening.

Functional Health

Physical activity is the term used to describe bodily movements performed by skeletal muscles to create energy, including tasks performed at work, exercise, conditioning, housework, and other activities. (Caspersen et al. 1985). As people age, muscle and bone mass typically diminish, leading to a decline in physical function. Regular physical activity helps to maintain physical function and lowers the chances of age-related decline in physical capacity (Bueno de Souza et al. 2018). Physical activity is also a key component of aging well (Eckstrom et al. 2020).

Older people can derive many health benefits from physical activity, including maintaining of physical function (Langhammer, Bergland, and Rydwik 2018). Physical function is essential for performing activities of daily living (ADLs) and instrumental activities of daily living (IADLs) (Edemekong et al. 2023). The inability to perform ADLs and IADLs independently can lead to heightened dependence and a decline in quality of life (Millán-Calenti et al. 2010). In this chapter, ILAS provides an overview of the ADL and IADL assessments of respondents aged 60 and older.

Activities of Daily Living

ADLs include daily self-care, such as getting around, eating, dressing, showering, and using the toilet. Respondents are evaluated on their ability to perform each of these activities either independently (without the need for supervision, direction, or personal assistance) or dependently (requiring some level of supervision, direction, personal assistance, or total care). A score of 1 is given to those who can perform an activity independently. Based on the Barthel index used in this survey, the possible total scores range from 0 to 20, with lower scores indicating greater disability. A score of 20 is given to those who are independent, 12–19 to those who need minimal help with ADLs, 9–11 to those who are partially dependent, 5–8 to those who are very dependent, and 0–4 to those who are totally dependent (Collin et al. 1988). While IADLs require more complex thinking skills, ADLs focus on a person's physical capabilities. Cognitive abilities (like reasoning and planning), motor abilities (such as balance and agility), and perceptual abilities (including sensory skills) are critical to the performance of ADLs and IADLs (Mlinac and Feng 2016).

The majority (82.0%) of older people aged 60 and older in ILAS are able to fully perform ADLs independently, while 18.0% require various degrees of assistance with ADLs (Figure 4.32). ADL dependency tends to increase as people age (Table 4.5). The percentage of women experiencing dependency exceeds that of men (Table 4.6).

Figure 4.32: Independence in Performing Activities of Daily Living, Aged 60 and Older (%)

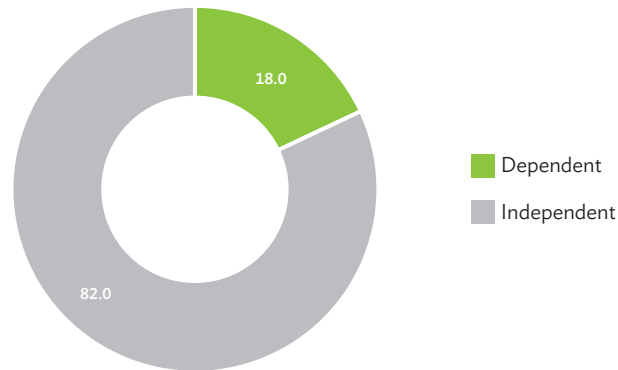


Table 4.5: Activities of Daily Living Among Older People (Aged 60 and Older) by Age Group (%)

Age group	Independent	Need Minimal Help with ADLs	Partially Dependent	Very Dependent	Totally Dependent
60-64	92.8	6.3	0.0	0.2	0.7
65-69	86.0	11.5	1.1	0.4	1.1
70-74	75.7	16.9	0.2	1.9	5.2
75-79	67.6	22.9	2.1	0.0	7.4
80+	49.3	36.1	4.1	0.8	9.8
Total	82.0	13.6	0.9	0.6	2.9

ADLs = activities of daily living.

Table 4.6: Activities of Daily Living Among Older People (Aged 60 and Older) by Gender (%)

Gender	Independent	Need Minimal Help with ADLs	Partially Dependent	Very Dependent	Totally Dependent
Older male	86.70	9.30	0.40	0.70	2.90
Older female	77.80	17.40	1.40	0.50	2.90
Total	82.00	13.60	0.90	0.60	2.90

ADLs = activities of daily living.

Instrumental Activities of Daily Living

IADLs refer to tasks related to interacting with the environment, such as making phone calls, shopping, preparing food, cleaning, washing, getting around, managing finances, and taking prescribed medication. Each activity is scored, and the total IADL score reflects the level of independence. A total score of 0 means that everything is done by other people, while a total score of 1 indicates that the individual needs help every time. A total score of 2 signifies that they need help sometimes, and a total

score between 3 and 8 shows that the individual is independent (Lawton and Brody 1969). The result of the IADL measurement provides an overview of an individual's functioning and identifies any changes in their abilities (Murman 2015).

About 88.4% of older people (aged 60 and older) can perform IADLs independently, while 11.6% reported needing help in varying degrees (Figure 4.33). IADL dependency tends to increase with age, with women having a higher percentage of dependency than men (Table 4.7 and Table 4.8).

Box 4.3: Comparison of National Strategy for Aging Indicator and Indonesia Longitudinal Aging Survey Findings

NATIONAL STRATEGY FOR AGING

STRATEGY 2: Improving the health and quality of life of older people

Policy direction 2.1: Improve nutritional status and promote healthy lifestyles

Indicator: Percentage of independent older people
 Baseline data 2018 (Riskesdas): 74.3% (60 and older)
 Target for 2024: 80%
 ILAS 2023: 82.0% (ADL independent for people aged 60 and older)

The independence of older people aged 60 and older is used as one of the indicators for improving nutritional status and promoting a healthy lifestyle. The goal of the National Strategy for Aging is for 80% of older people to achieve independence by 2024. The 2023 ILAS showed that 82% of older people were independent, suggesting an improvement in their health. Programs that support aging, such as active aging programs, are vital in preserving the health and activity levels of older people and ensuring their independence. There are various social activities currently being offered to older people to help them maintain their health and independence.

ILAS = Indonesia Longitudinal Aging Survey, Riskesdas = Basic Health Research (Riset Kesehatan Dasar).
 Source: Presidential Regulation No. 88 of 2021 concerning the National Strategy for Aging.

Figure 4.33: Independence in Performing Instrumental Activities of Daily Living, Aged 60 and Older (%)

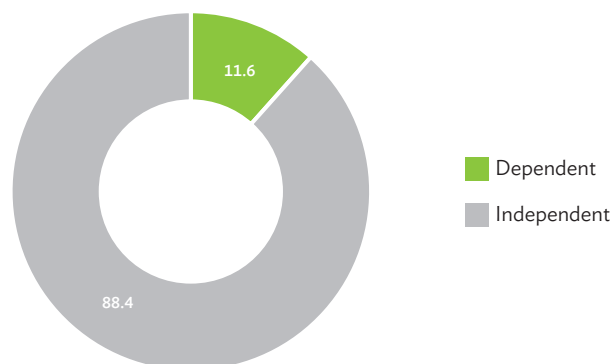


Table 4.7: Instrumental Activities of Daily Living Performed by Older People (Aged 60 and Older) by Age Group (%)

Age Group	Independent	Need Help Sometimes	Need Help Every Time	Everything Done by Others
60–64	96.9	1.6	0.7	0.9
65–69	90.6	4.7	3.2	1.6
70–74	86.2	4.0	2.8	7.0
75–79	80.5	2.2	7.0	10.3
80+	58.1	11.0	8.3	22.5
Total	88.4	3.8	3.0	4.8

Table 4.8: Instrumental Activities of Daily Living Performed by Older People (Aged 60 and Older) by Gender (%)

Gender	Independent	Need Help Sometimes	Need Help Every Time	Everything Done by Others
Older male	91.6	2.2	1.6	4.6
Older female	85.5	5.3	4.2	5.0
Total	88.4	3.8	3.0	4.8

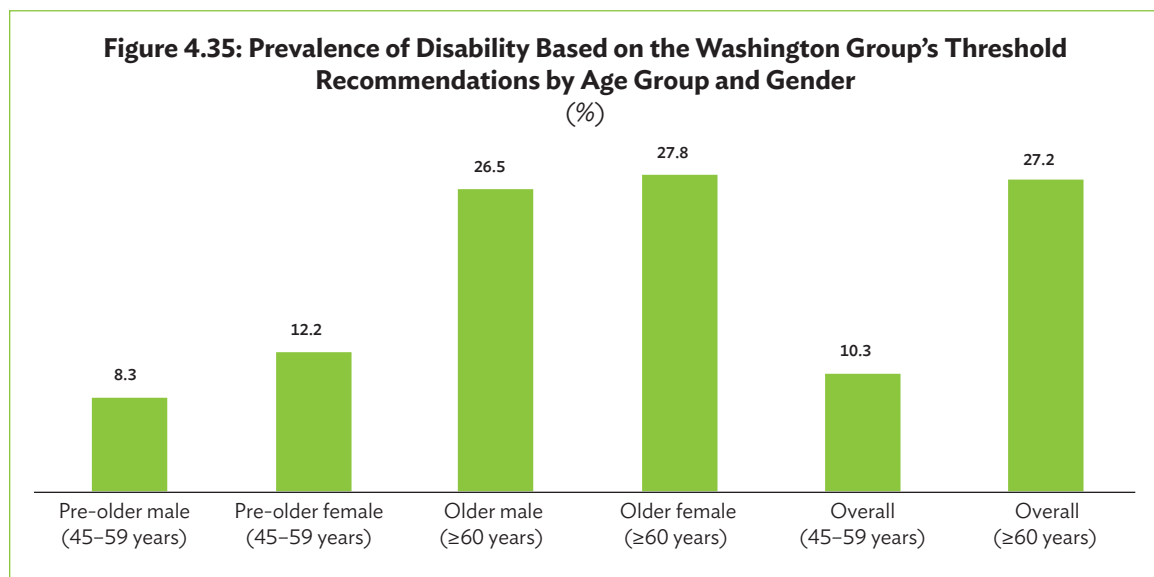
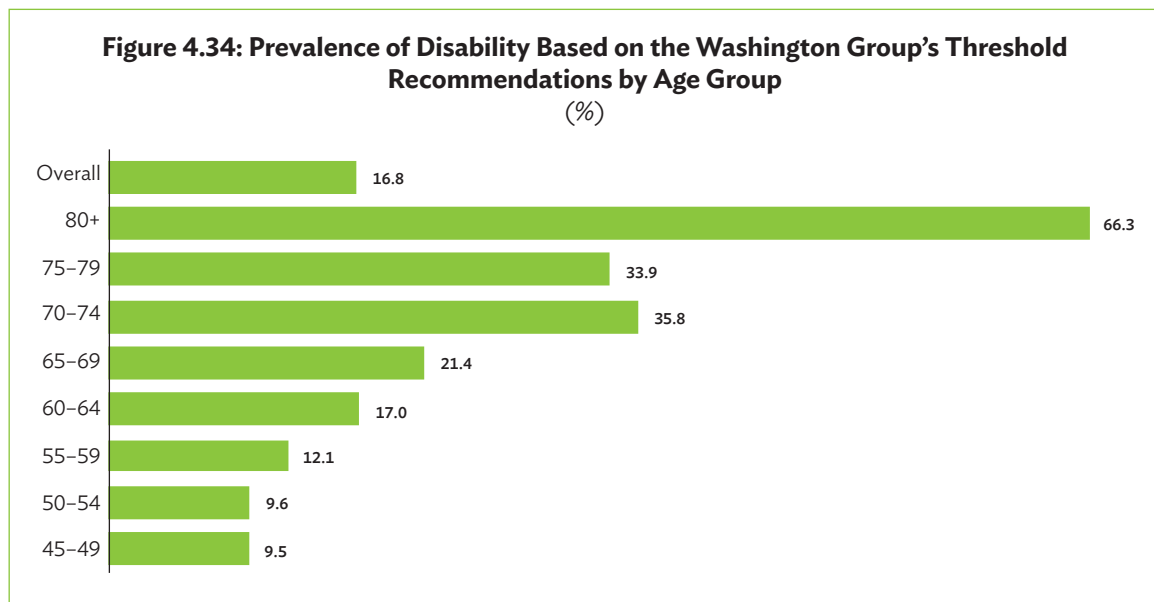
Disability (Washington Scale)

The WHO defines intrinsic capacity as “the composite of all of the physical and mental capacities that an individual can draw on” (WHO 2017). Difficulties in hearing, seeing, remembering, moving, or performing daily or social activities are often an indication of a decline in intrinsic capacity in older age (Chen et al. 2010). Fostering the independence of older people in their daily lives is crucial to promote healthy aging and enable them to engage in activities they enjoy.

The United Nations Convention on the Rights of Persons with Disabilities recognizes that disability is an evolving concept, defining individuals with disabilities as those with long-term physical, mental, intellectual, or sensory impairments that, combined with various diseases, may limit their equal participation in society (United Nations 2006).

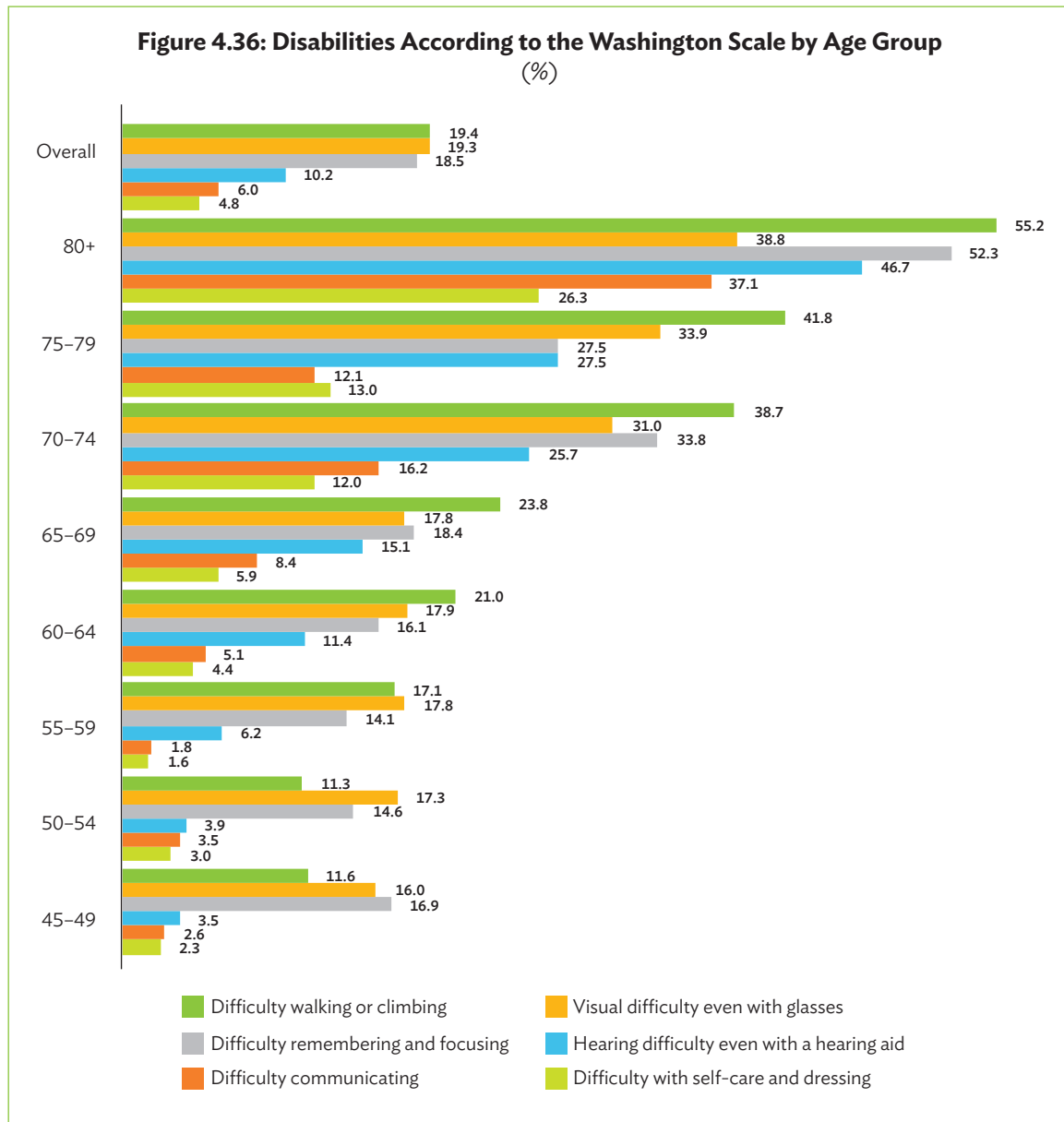
The disability scale in the Washington Scale consists of four levels: (1) no difficulty; (2) yes, some difficulty; (3) yes, great difficulty; and (4) cannot do it at all. In the ILAS study, the Washington Scale was divided into two categories: without difficulty (1) and with difficulty (2–4). The data provided show the percentage of respondents experiencing difficulties in seeing, hearing, walking, remembering, cleaning themselves, and communicating.

The Washington Group has established criteria for defining disability based on the six disability indicators.⁸ According to the thresholds recommended by the Washington Group, a person is considered to have a disability if they have great difficulty or are unable to meet any of the disability indicators (Washington Group on Disability Statistics 2020). The data following the criteria outlined by the Washington Group show that overall, 16.8% of respondents across all age groups are identified as having a disability (Figure 4.34). The age group over 70 has high percentage of difficulties, particularly those who are 80 and above with a prevalence of 66.3%. In terms of gender, women in the pre-older and older age groups are more prone to disability than men (Figure 4.35).

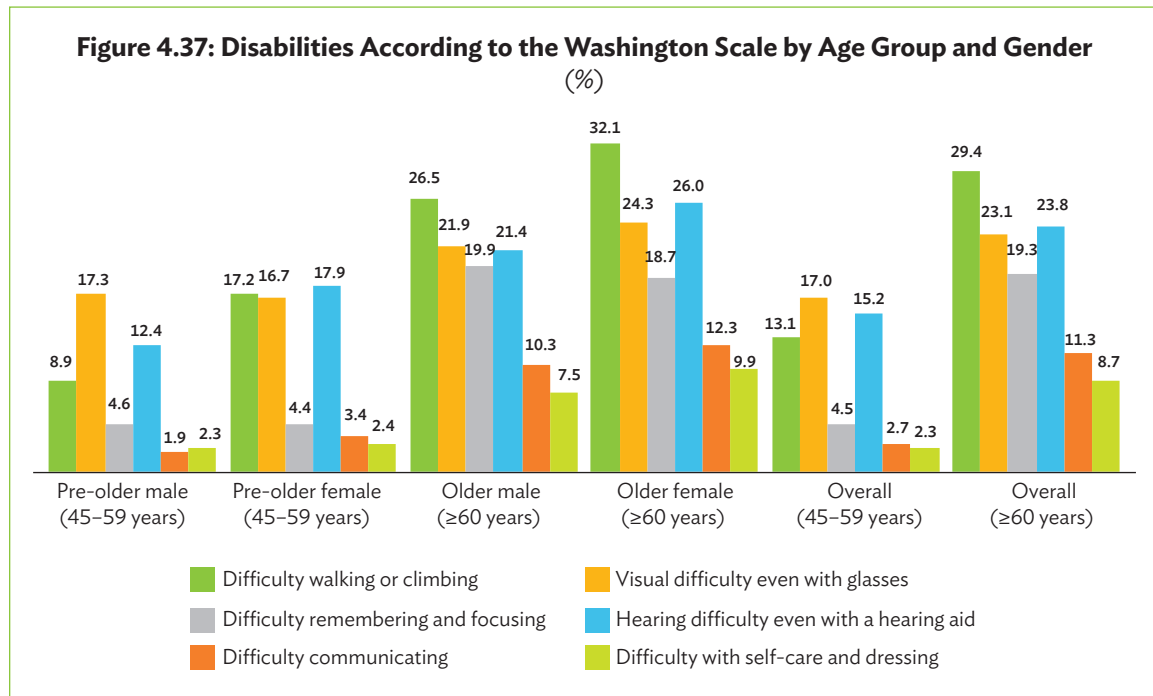


⁸ The six disability indicators are (1) vision (difficulty seeing even if wearing glasses); (2) hearing (difficulty hearing, even if using a hearing aid); (3) mobility (difficulty walking or climbing steps); (4) cognition/remembering (difficulty remembering or concentrating); (5) self-care (difficulty with self-care, such as washing all over or dressing); (6) communication (difficulty communicating, e.g., understanding or being understood).

Figure 4.36 and Figure 4.37 outline the various disabilities experienced by respondents. In general, the proportion of difficulties faced by respondents increases with age (Figure 4.36). Among the respondents who are 80 years old and above, more than 40% experience, difficulties in hearing even with hearing aid, difficulties in walking and climbing, and difficulties in memory and focus.



Older people report a higher prevalence of difficulties than pre-older people. A greater proportion of pre-older women than men have difficulty walking, hearing, and communicating. The percentage of older women experiencing difficulties is generally greater than that of men, except in the case of remembering (Figure 4.37).



Social Status

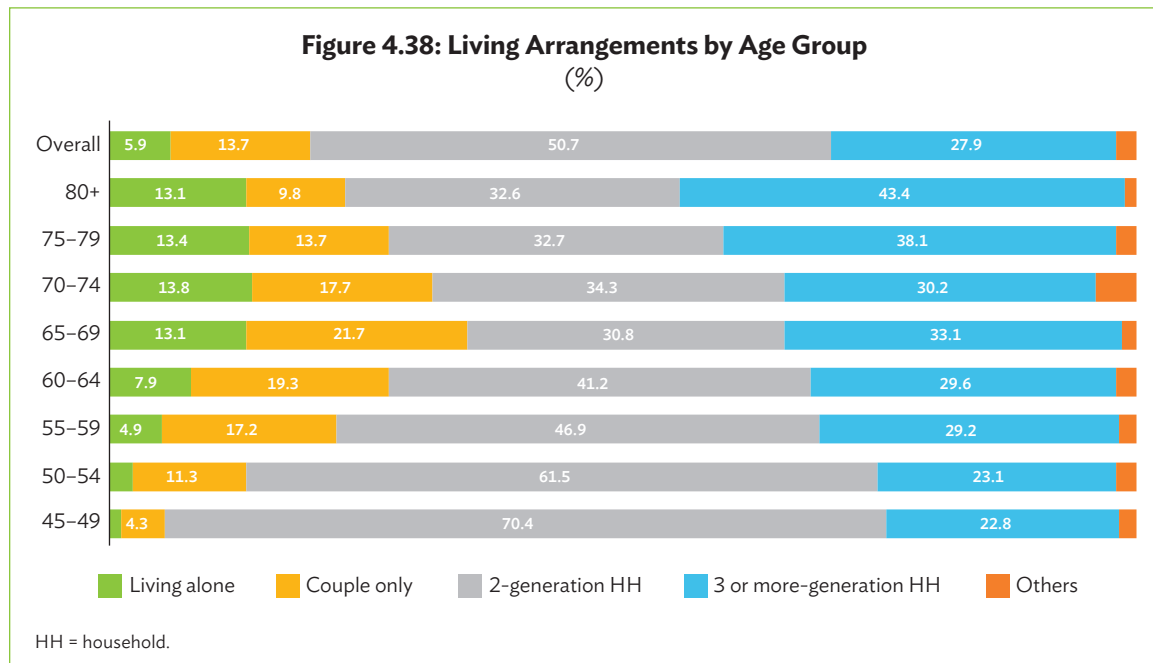
Family

The relationship between parents and children is a key element that shapes socioeconomic life in Indonesia. When children reach adulthood, they are expected to take on the task of caring for and supporting their parents. A study shows that children are more likely to live with their parents when their parents reach an older age (Frankenberg, Saputra, and Beard 1999). Nevertheless, changes in society such as urbanization and industrialization can pose challenges for the care of older people, especially in cases where children and parents are physically separated.

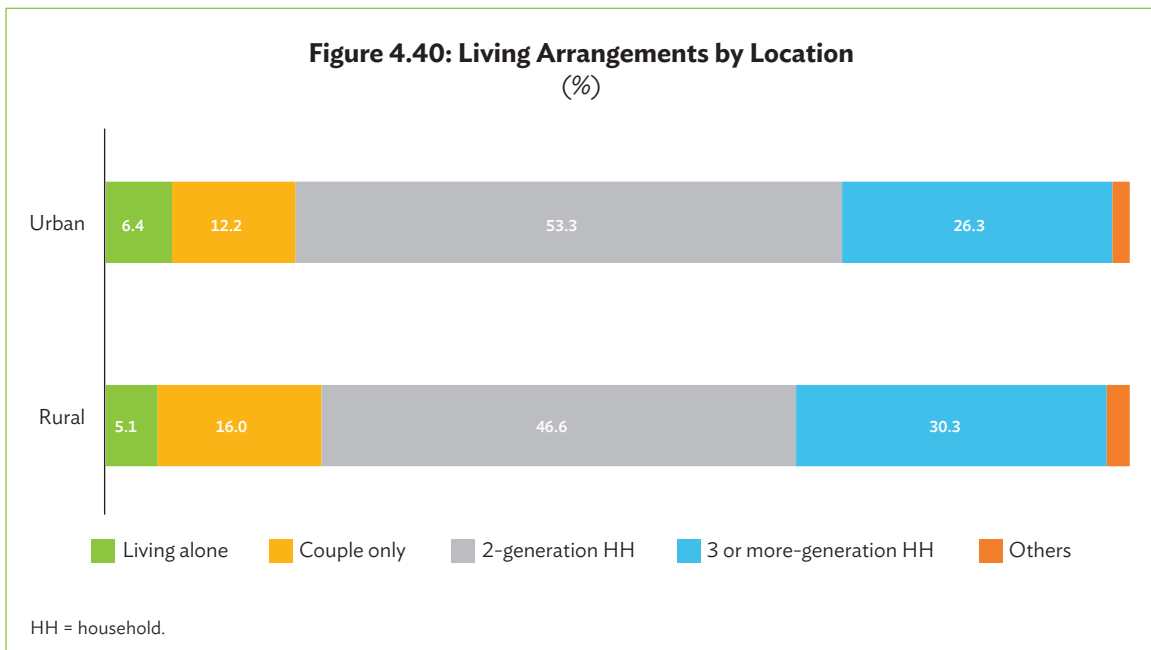
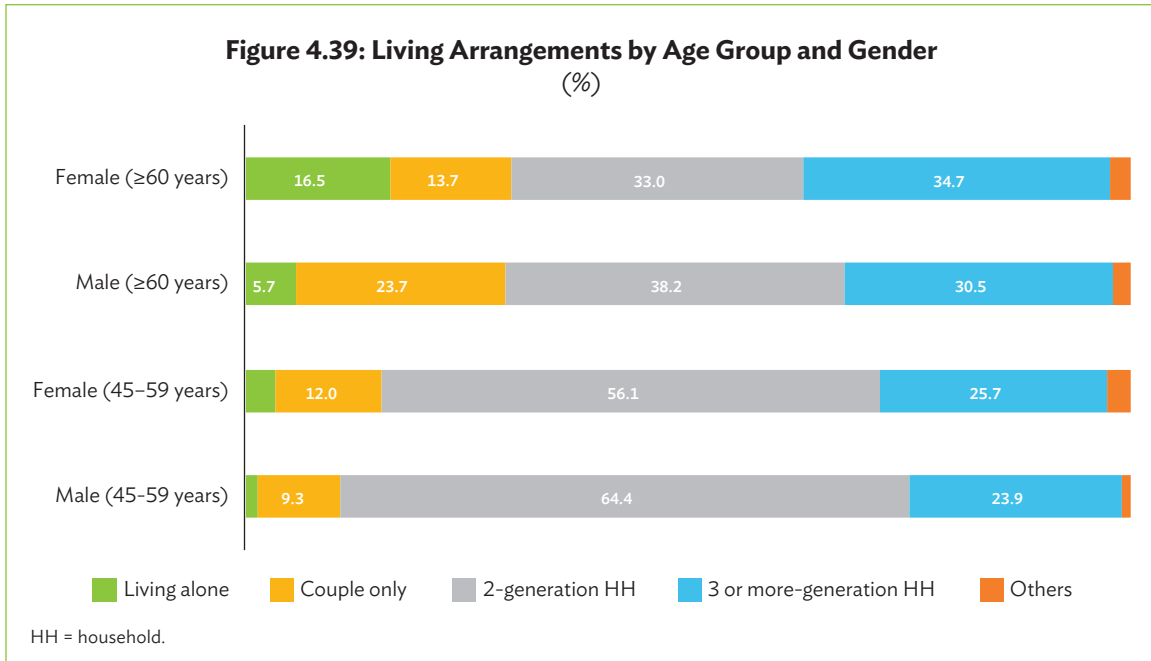
Children play an important role in shaping the well-being of their parents. Studies have found that parents' well-being tends to improve when they live with their children, especially in terms of their physical and mental health (Johar and Maruyama 2014; Kumar 2021). Meanwhile, research has shown that older parents help with childcare for their grandchildren and enable their children, especially daughters, to join the workforce (Posadas and Vidal-Fernandez 2013; Du, Dong, and Zhang 2019). This suggests that living arrangements and family relationships create an advantageous allocation of resources for both children and parents.

Living Arrangements

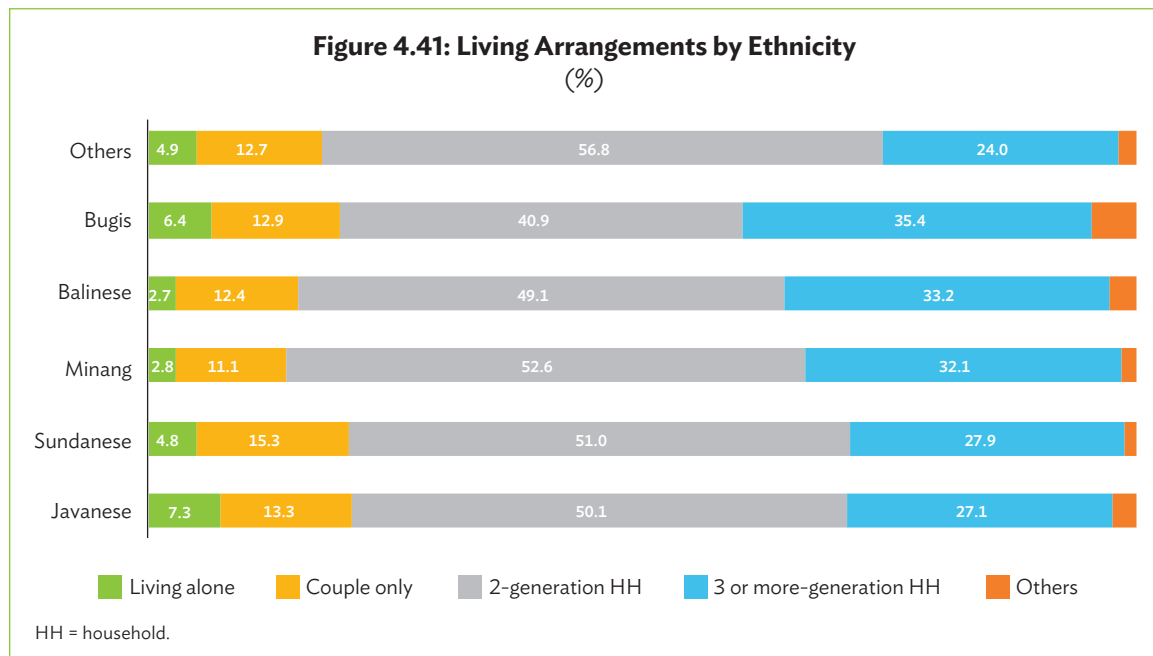
Living arrangements vary between respondents in the pre-older and older age groups (Figure 4.38). The percentage of pre-older respondents aged 45–49 living in a two-generation household (with children or parents) hit 70%, then declined to 61% among those aged 50–54, and 47% among those aged 55–59. Despite the decrease in the percentage of people living in two-generation households, the percentage of those living in three-generation households remained the same in the 45–54 age group and increased by 6 percentage points in the 55–59 age group. Meanwhile, more than 20% of older respondents aged 60 or older were found to be living alone or with a partner. Figure 4.38 also shows that the likelihood of living in a three-generation household increases with the age of respondents, particularly in the 75+ age group. It also highlights the trend toward a sandwich generation among household members in their productive years, meeting the needs of both children and parents.



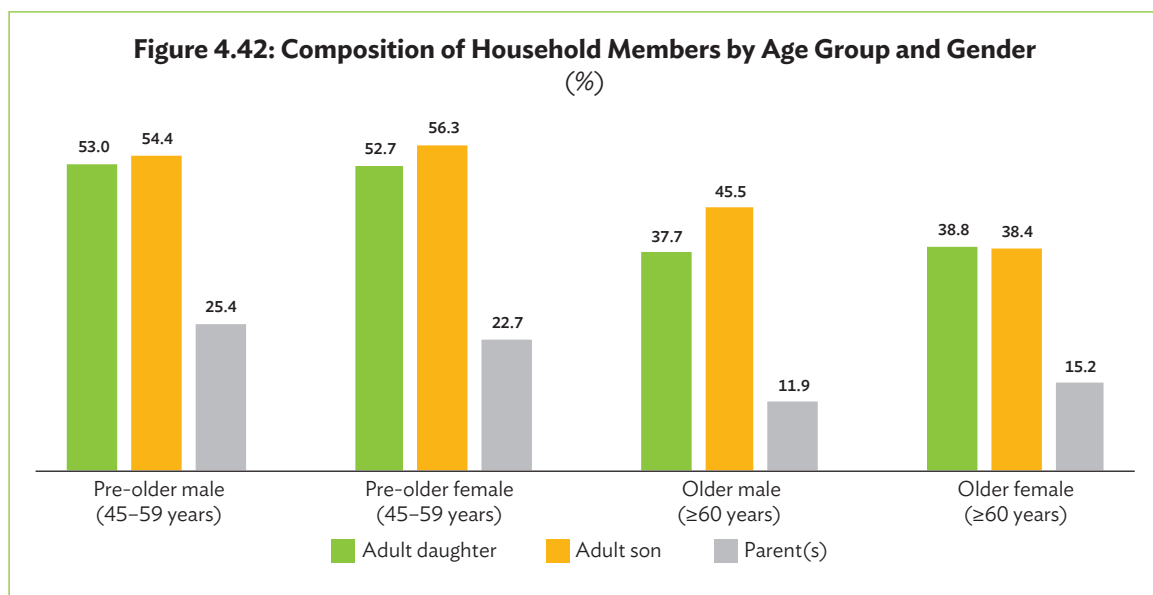
The household composition is somewhat comparable between male and female pre-older respondents (Figure 4.39). However, older women are more likely to live alone (16%) than older men (6%), reflecting the longer life expectancy of women. No significant variations in household composition were found when comparing rural and urban areas (Figure 4.40).



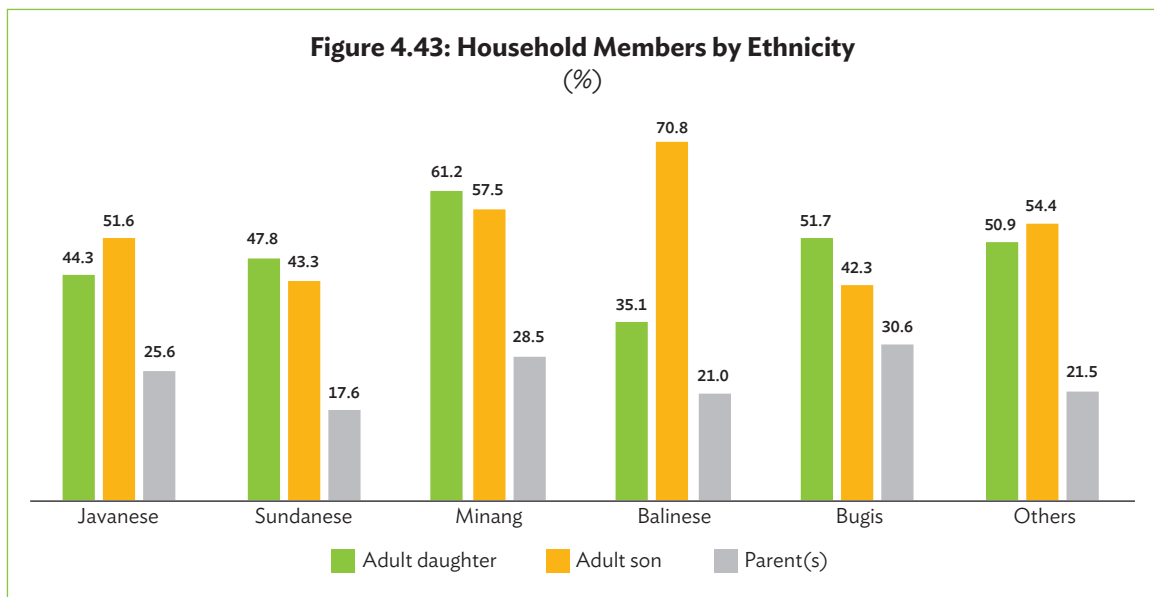
Local community customs are likely to shape household composition. Majority of the respondents regardless of ethnicity are in multigenerational households (at least 2 generations), with Minang respondents having the largest share at 84.7%, followed by Balinese at 82.3% (Figure 4.41). About 35% of Bugis respondents lived in households with three or more generations, the highest number among all ethnic groups.



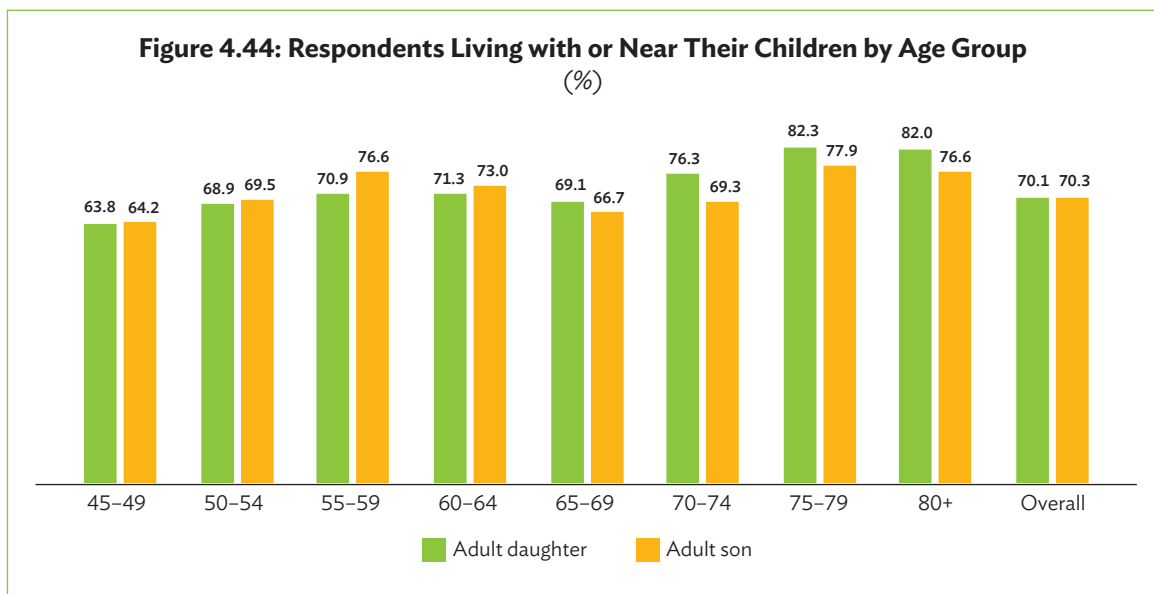
The data in Figure 4.42 show that most respondents live with their child in the same home, especially among the pre-older groups, although a slightly higher percentage of the pre-older respondents report living with their adult son. Older female respondents show a similar pattern for living with either sons or daughters. Furthermore, about 23%–25% of pre-older respondents lived with their parents.



Customs shape the respondents' choices regarding their living arrangements. Respondents from patrilineal ethnic groups (as in Java and Bali) usually live with their sons (Figure 4.43). Members of the Minang tribe usually live with their daughters, as the tribe follows a matrilineal system. Certain members of the Bugis tribe live with their daughters as they adhere to the uxori-local culture (Levine and Kevane 2003).⁹

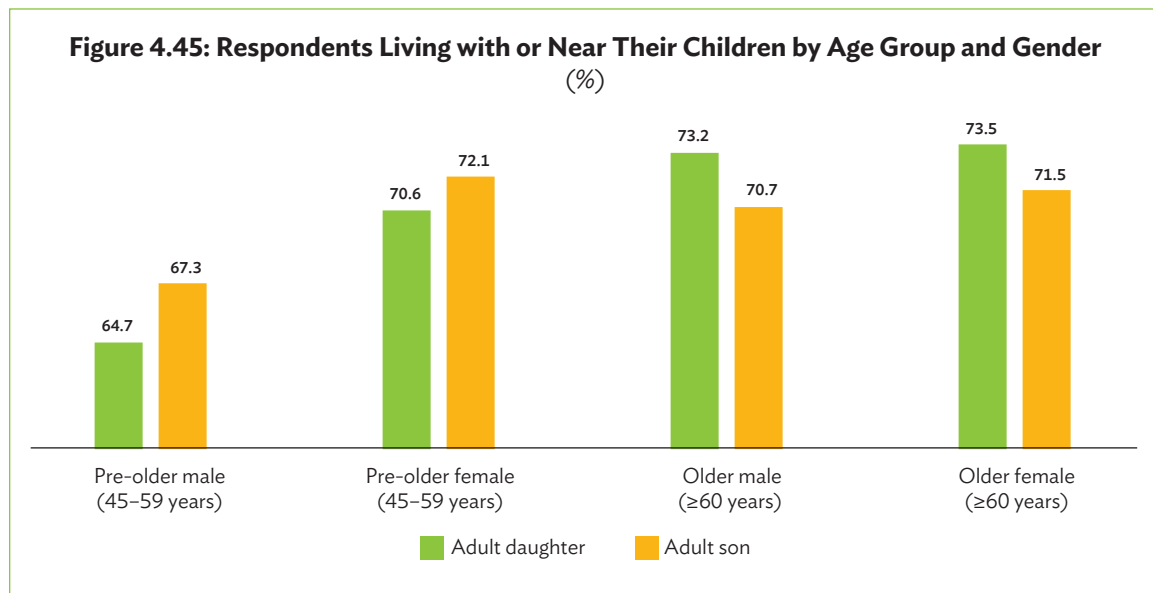


On average, around 70% of respondents live with or near their adult children, both daughter and son. A bigger share of older respondents aged 75 and above reported living with or near their adult daughter or son. The proportion of respondents aged 65–69 years old, 70–74 years old, 75–79 years old, and 80+ who live with their adult daughter is higher (Figure 4.44).



⁹ Husband lives with wife's family after marriage.

Even when the older respondents do not live with their children, they generally live near them. As Figure 4.45 shows, at least 70% of older respondents live with or near their children. However, more older respondents of both genders reported living with or near their daughters than their sons. Figure 4.45 shows that 73% of older respondents, both men and women, live with or near their daughter.



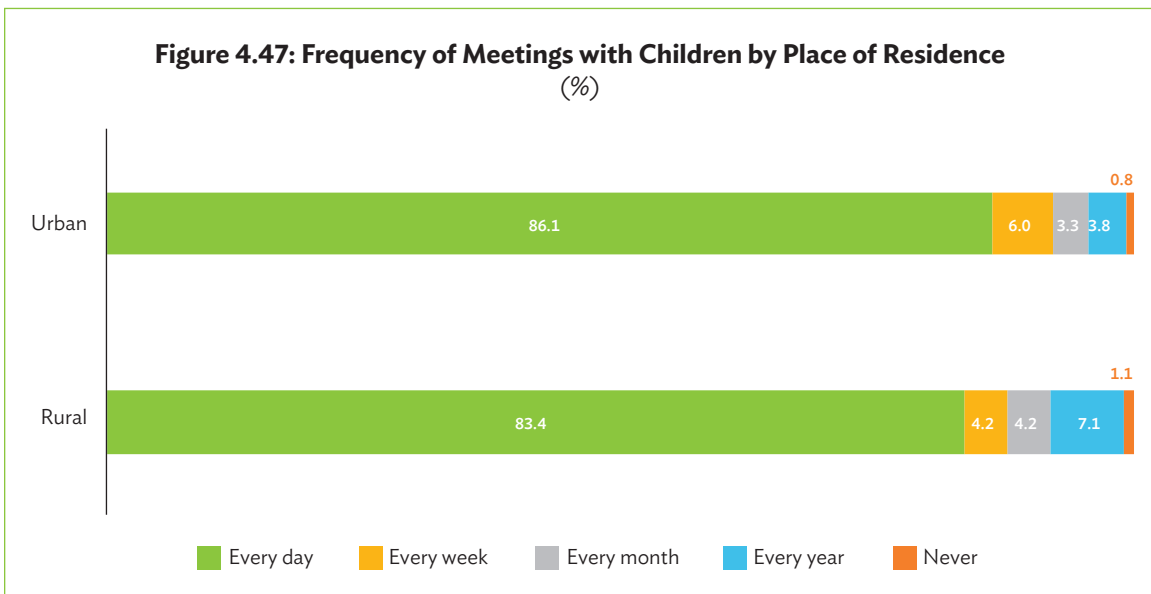
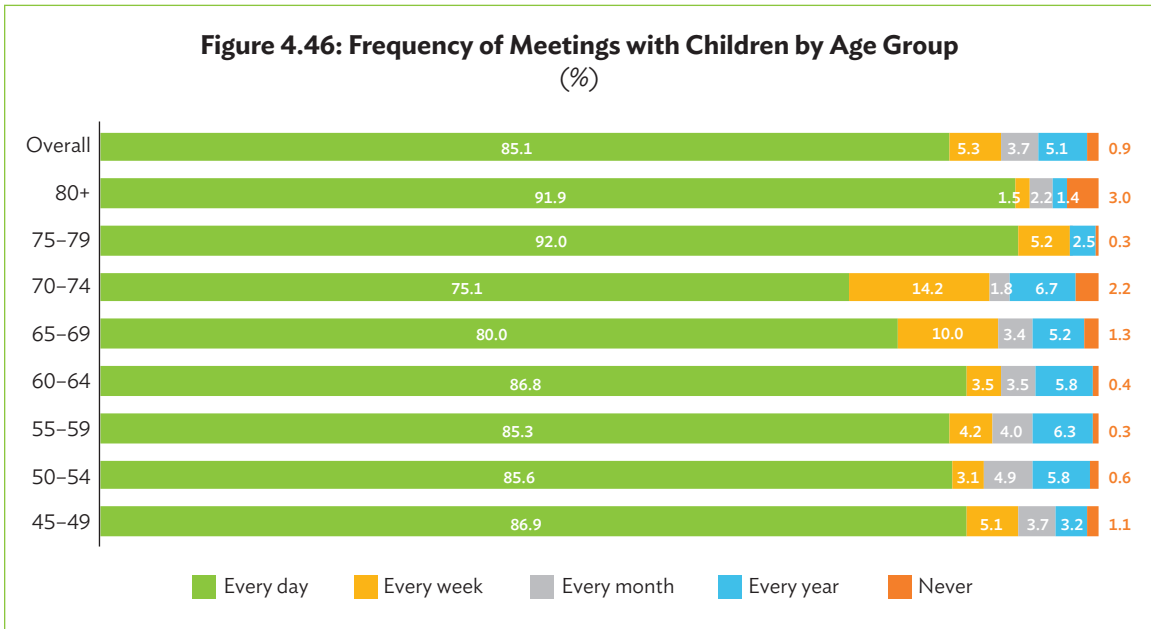
The results show that caregiving of older people is influenced by the norms and customs within the household. When designing social assistance programs, policymakers should take into account the prevailing caregiving arrangement of older people. Decentralization enables the government to develop and adapt policies in line with the common and varying care practices of the local residents.

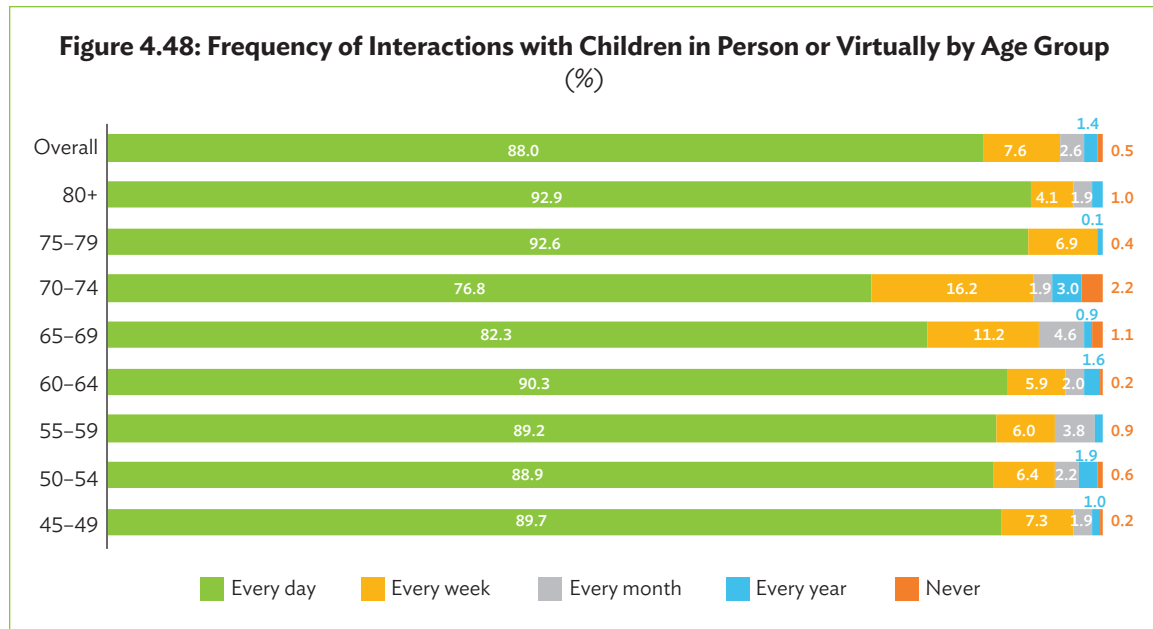
Family Relationship

In the survey, respondents were asked how often they met with their children. On average, majority of the respondents, 85%, met with their children every day (Figure 4.46). For respondents aged 75 and above, the percentage is even higher at 92%. Overall, almost 90% of respondents met with their children at least once a month.

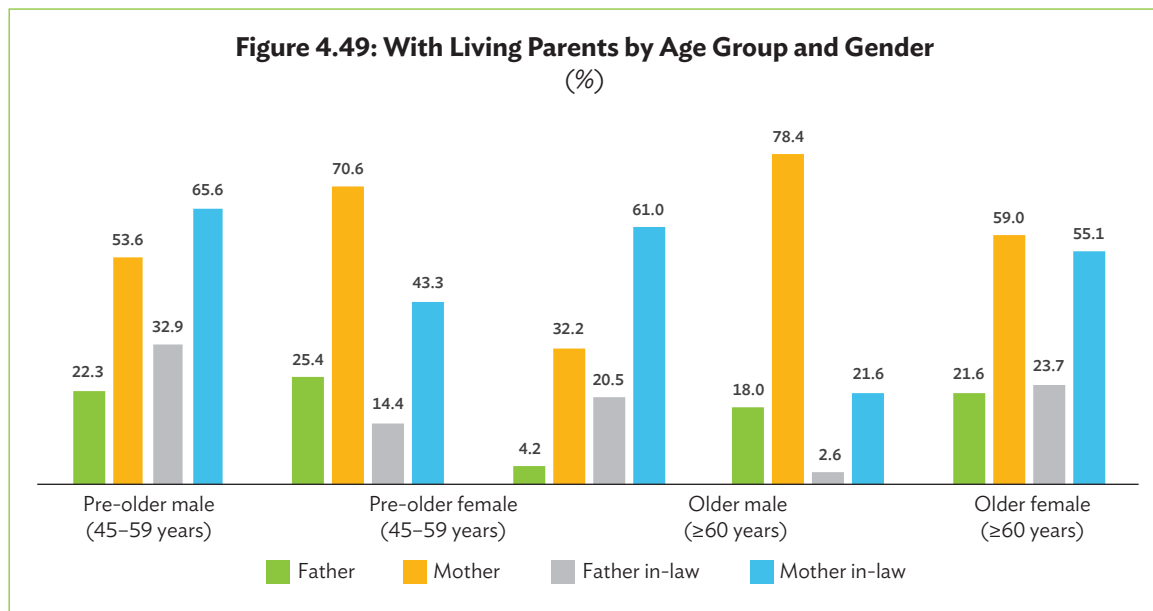
More urban residents reported meeting with their children more often than rural residents (86% compared to 83% for daily) (Figure 4.47). In addition, urban respondents were more likely to meet with their children every week compared to rural respondents (6% versus 4%).

Even if there are no face-to-face meetings, respondents can interact with their children virtually via telecommunications. Roughly 88% of respondents reported daily interactions with their children either in person or in virtual mode (Figure 4.48). Figure 4.48 highlights some influence of communication technology on the daily interaction between respondents and their children in the different age groups if not to a large extent.

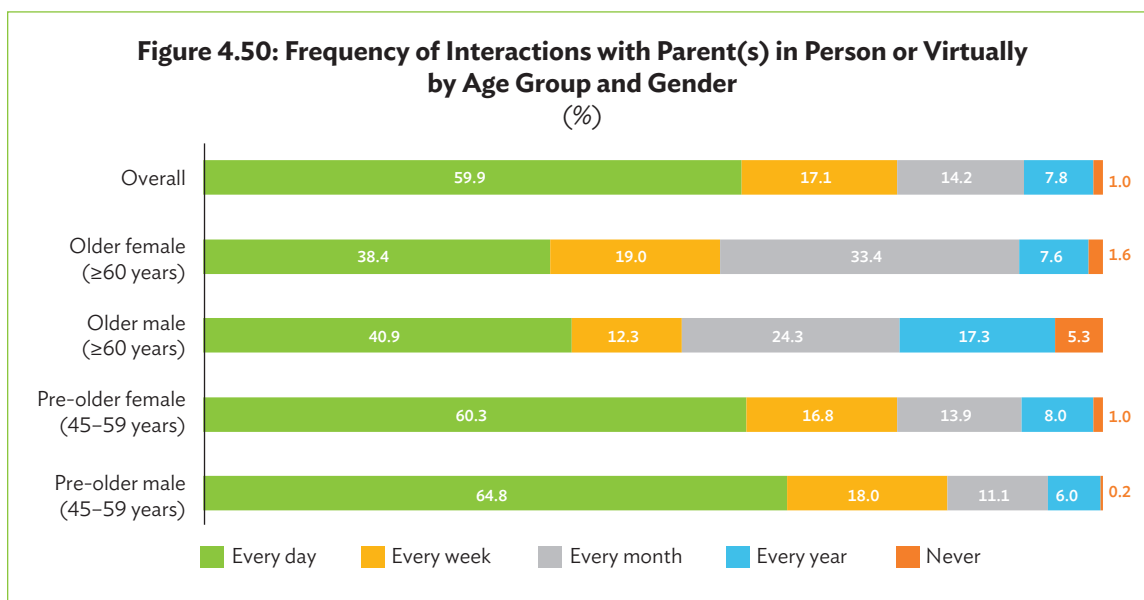




More than 50% of respondents with living parents reported that their mother, whether biological or mother-in-law, was still alive (Figure 4.49). Conversely, only 22%–24% of respondents stated that their father, whether biological father or father-in-law, was still alive.



Of those who still have living parents, around 60% have daily contact with them and 17% have weekly contact (Figure 4.50). Pre-older respondents tend to interact with their parents more frequently compared to older respondents.



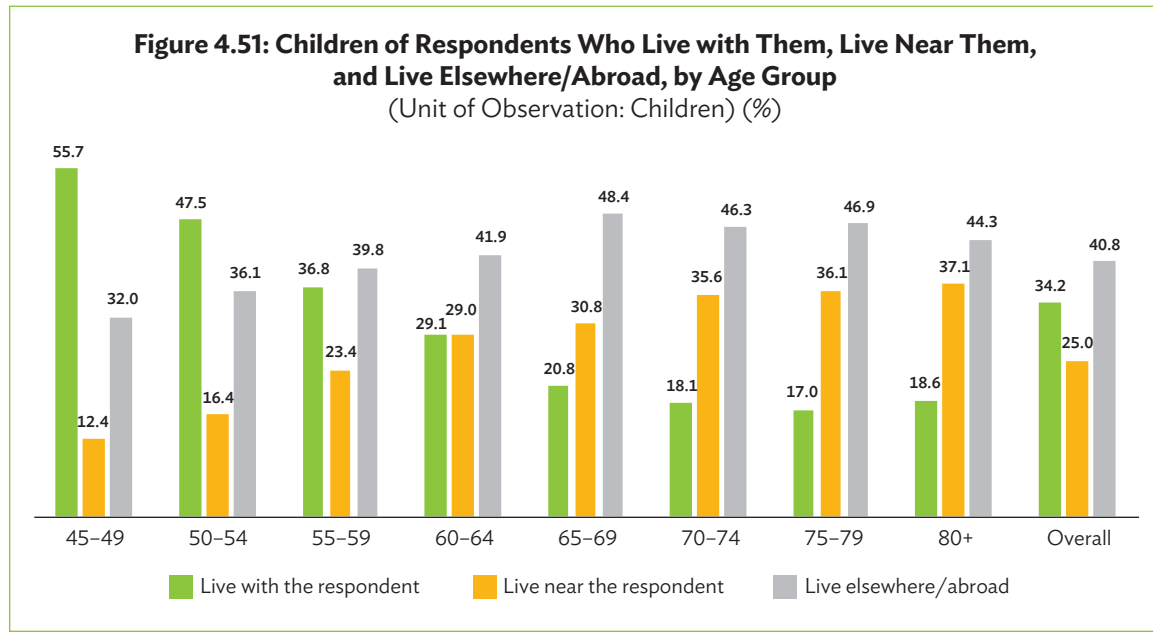
Children

Overall, the respondents had an average of three children (Table 4.9). The pre-older respondents had an average of two children, which was notably lower than the average of 3–4 children among the older respondents. When comparing rural and urban areas, there was no significant difference in the average number of children.

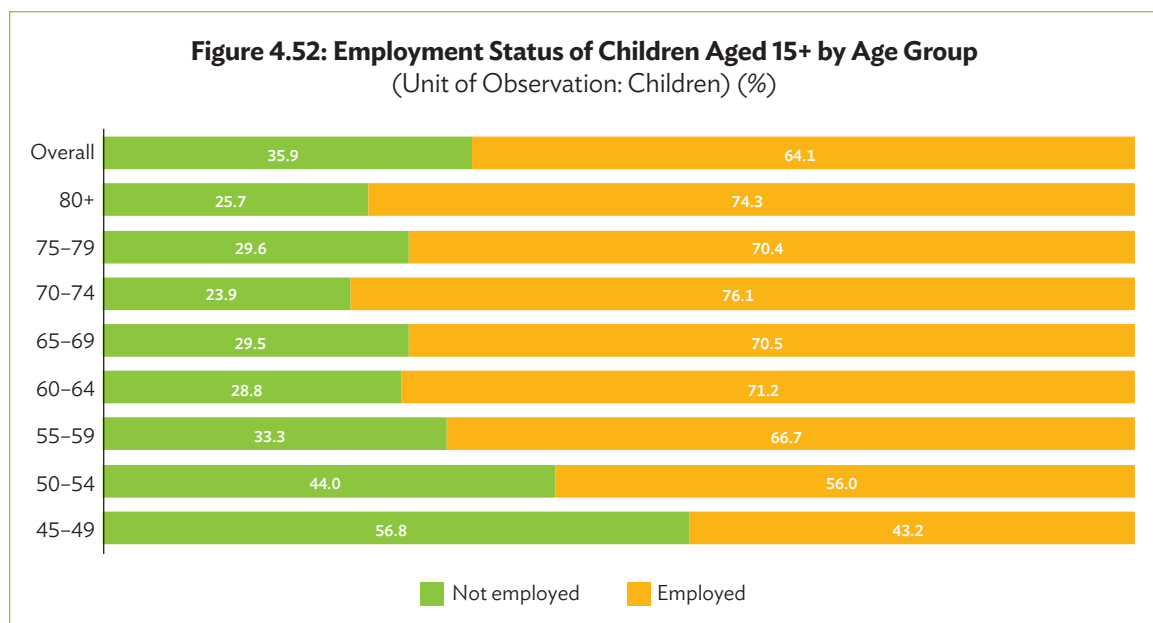
Table 4.9: Number of Living Children

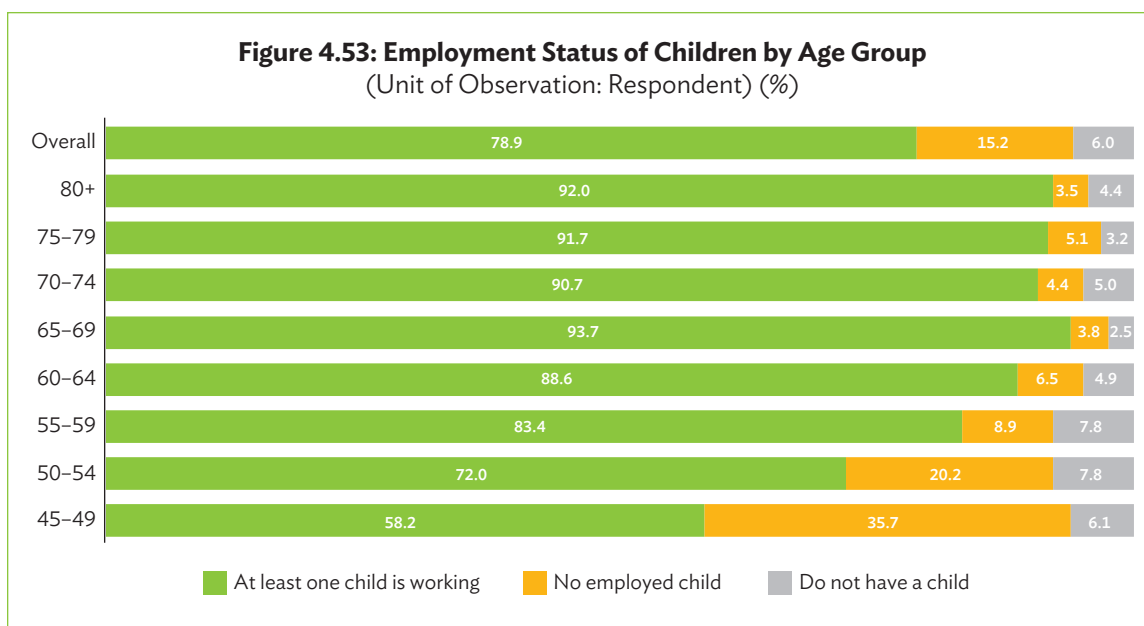
Category	Mean	Median	Min	Max
Overall	2.9	3	0	16
Age Group				
45-49	2.4	2	0	12
50-54	2.5	2	0	13
55-59	2.7	3	0	10
60-64	2.9	3	0	16
65-69	3.5	3	0	12
70-74	3.4	3	0	12
75-79	4.0	4	0	11
80+	4.2	4	0	10
Stage of life and gender				
Pre-older male (45-59 years)	2.4	2	0	10
Pre-older female (45-59 years)	2.6	2	0	13
Older male (≥60 years)	3.4	3	0	16
Older female (≥60 years)	3.3	3	0	12
Location				
Rural	2.9	3	0	16
Urban	2.9	3	0	12

Among respondents with children, the percentage of children living with them decreases as the respondents age, from 56% among those aged 45–49 to 19% among those aged 80 and older (Figure 4.51).



ILAS also inquired about the work status of the respondents' children aged 15 and above. Figure 4.52 shows that about 64% of their children are currently employed. Approximately 4%–7% of the older respondents report that none of their children work (Figure 4.53). Additionally, 3%–5% of the older respondents do not have children. This indicates that a negligible share of respondents may not have economically active members in their immediate family.





One potential application of the ILAS data is to assess the degree of intergenerational mobility in education. The data in Table 4.10 show that about 90% of the respondents have children who achieved the same or a higher level of education as the respondent. However, the intergenerational mobility among the respondents who have not completed school tends to be lower, with 51% having children completing only primary school. A bigger percentage of respondents who completed middle school (Sekolah Menengah Pertama) reported having children who completed senior high school (Sekolah Menengah Atas) or university, as 81% of them do so.

Table 4.10: Cross-Tabulation of Respondents' Education and Their Child's Education
(Unit of Observation: Children) (%)

Child's Education	Respondent's Education				
	No Schooling	Elementary School	Middle School	High School	University/Diploma
No schooling	6	1	1	0	0
Elementary school	51	27	7	4	2
Middle school	23	28	12	7	2
High school	16	37	60	53	31
University/Diploma	3	8	21	36	65

Support from and for Children, Parents, and Others

Private or inter-household transfers are common, especially in developing countries. In Southeast Asia, approximately 79% of older people in Thailand and 67% in Viet Nam report receiving support from their family (Knox-Vydmanov 2016). In contrast, only 15% of households in the United States (US) received inter-household transfers (Park 2003). ILAS data show that 72% of respondents received private transfers. In general, transfers to and from children were the largest (Figure 4.54). The median amount of transfers from children was Rp2.8 million (about \$178) per year, while transfers to children had a median of Rp1.9 million (about \$121) per year. When disaggregated by age group, significant variations are evident. Among pre-older respondents, there was almost no difference in the median transfers to children compared to those from children (Figure 4.55). Yet, older respondents were found to receive more transfers from their children than they gave to children, with a median difference of about Rp1.8 million (about \$115) per year (Figure 4.56).

Figure 4.54: Median Transfers of All Respondents per Year
(Rp '000)

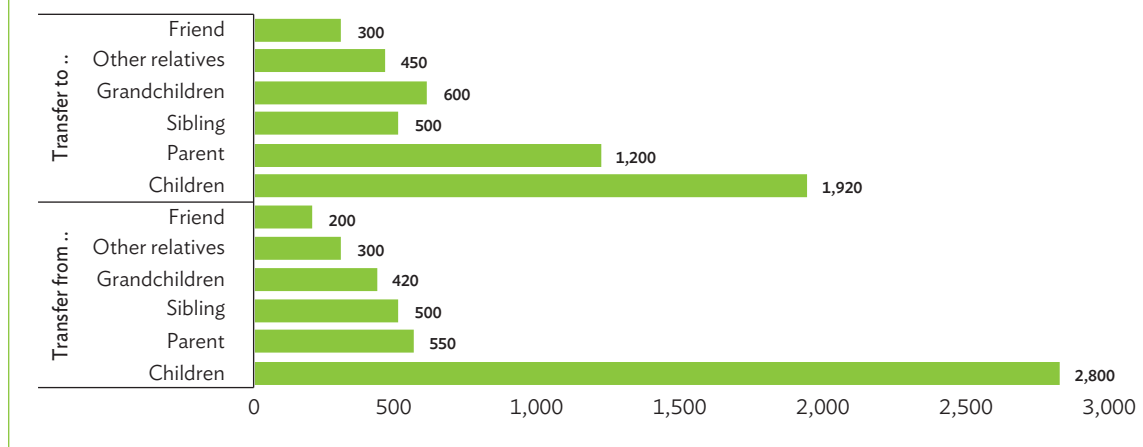
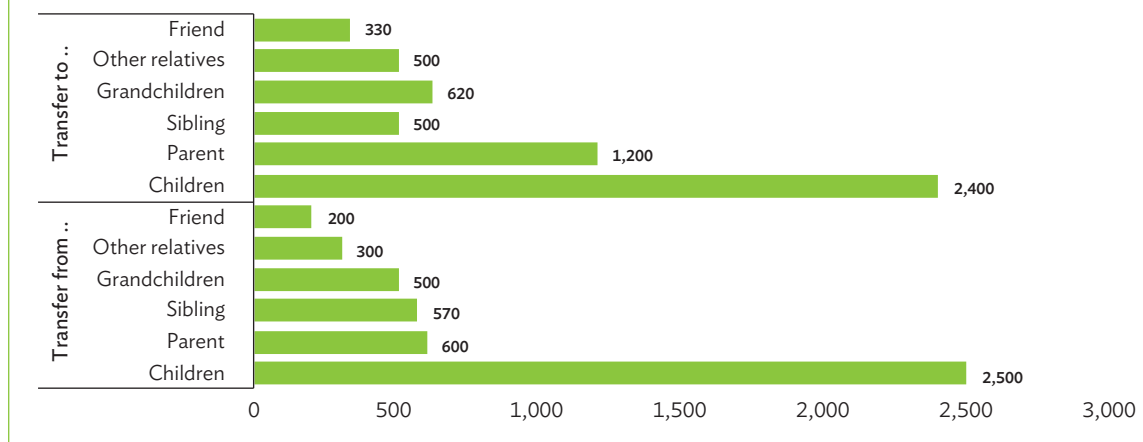
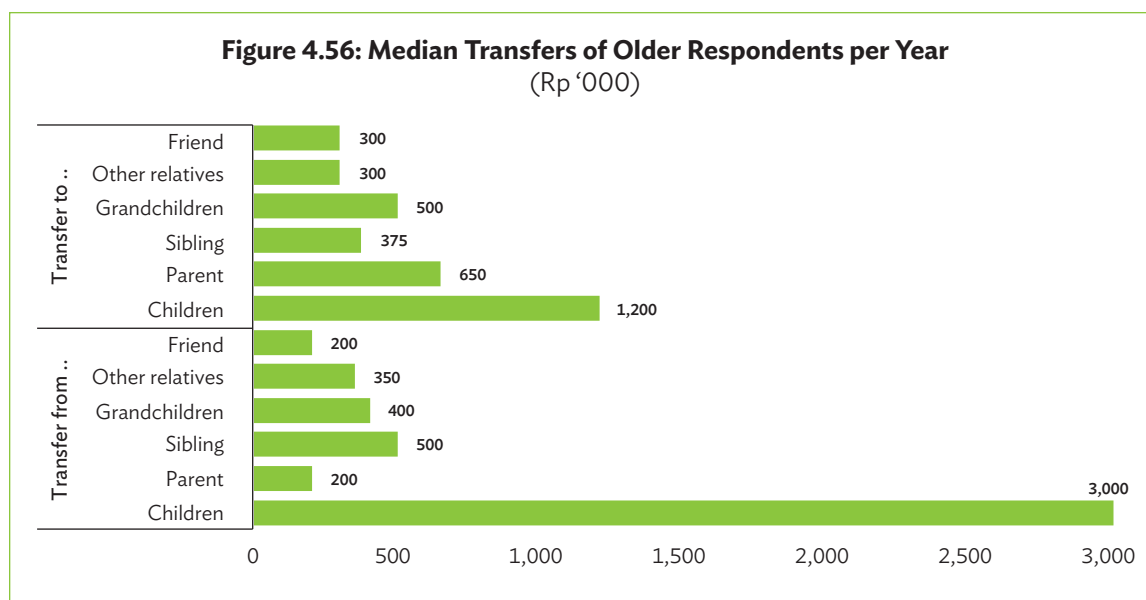


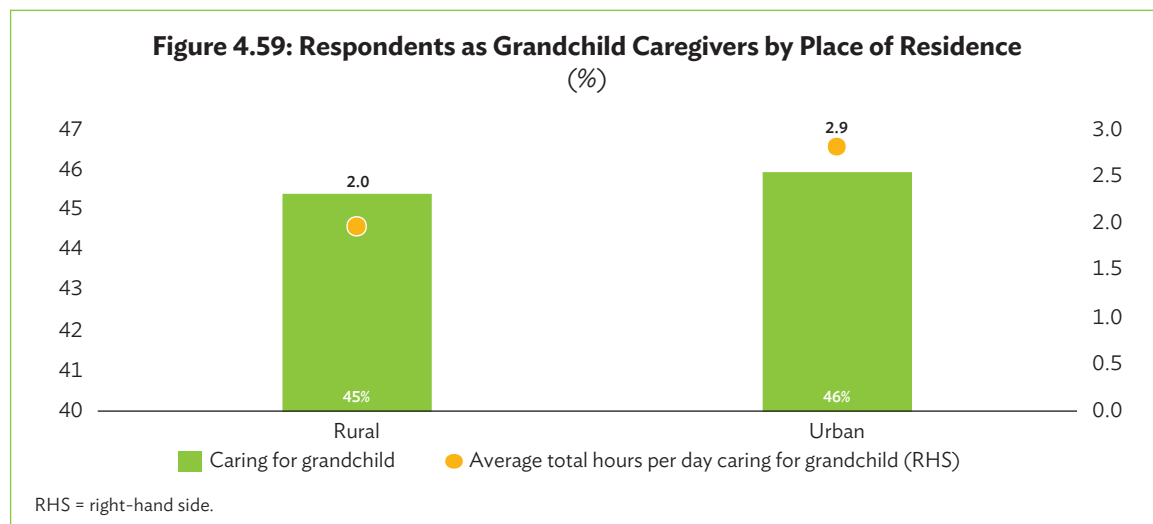
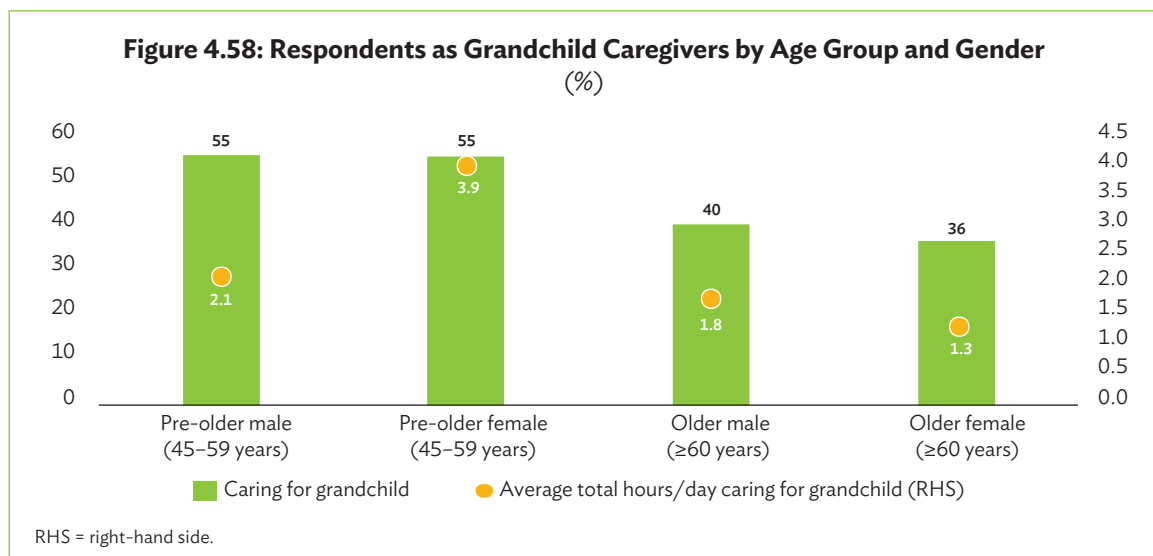
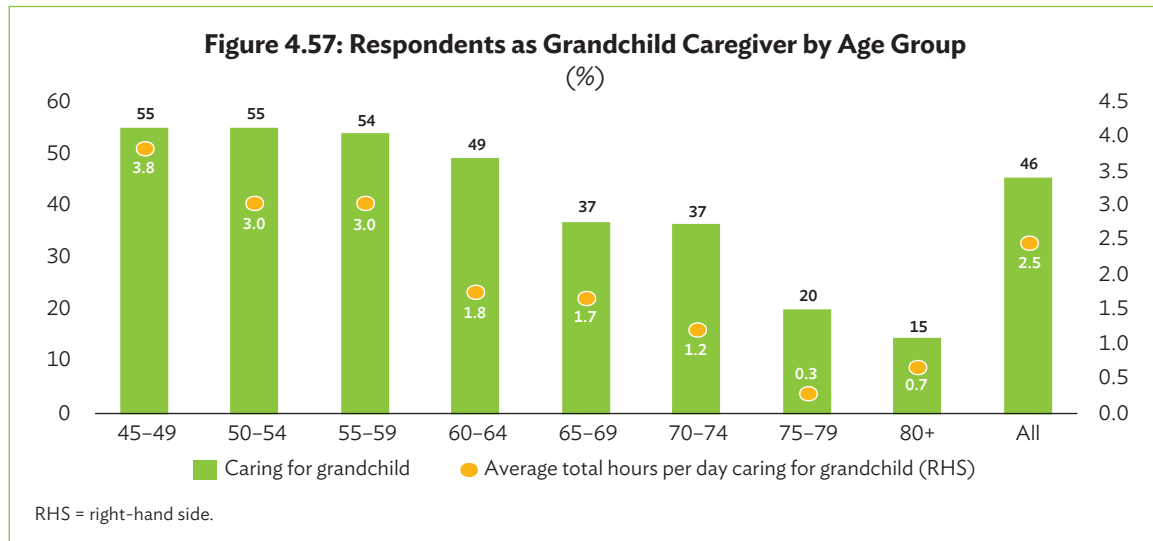
Figure 4.55: Median Transfers of Pre-Older Respondents per Year
(Rp '000)





Several studies on employment underscore the importance of grandparents stepping in as caregivers to support labor force participation (Garcia-Moran and Kuehn 2017; Posadas and Vidal-Fernandez 2017). The exchange of grandparents' time and resources for childcare allows parents to focus on their work or seek employment opportunities. About 46% of ILAS respondents who are grandparents offered childcare services (Figure 4.57), averaging 2.5 hours daily.¹⁰ The 45-54 age group had the highest percentage at 55% and spent the longest hours at 3.8 hours. As respondents get older, both the percentage and the average number of hours decrease. Among those aged 80 and over, about 15% were caregivers for grandchildren, with the average number of hours being around 0.7 hours. Disaggregating by life stage and gender reveals that male and female pre-older respondents show no difference in their role as childcare providers (55%) (Figure 4.58). Nevertheless, there is a significant difference in the amount of time they spend caring for their grandchild, with pre-older females spending about 3.9 hours compared to 2.1 hours for male pre-older respondents. However, the proportion of older male respondents providing childcare is higher than that of female respondents (40% versus 36%), albeit with a slight difference in the duration of care given (1.8 versus 1.3 hours). The percentage of respondents who lived in urban areas and cared for grandchildren was 46%, spending an average of 2.9 hours, which was slightly higher than the 45% of respondents in rural areas who spent an average of 2.0 hours (Figure 4.59).

¹⁰ The hours are calculated by asking "How much time did you spend looking after your grandchild yesterday?" or "How much time did you spend looking after your grandchild last week?" About 98% of respondents answered the first question.



Economic Status

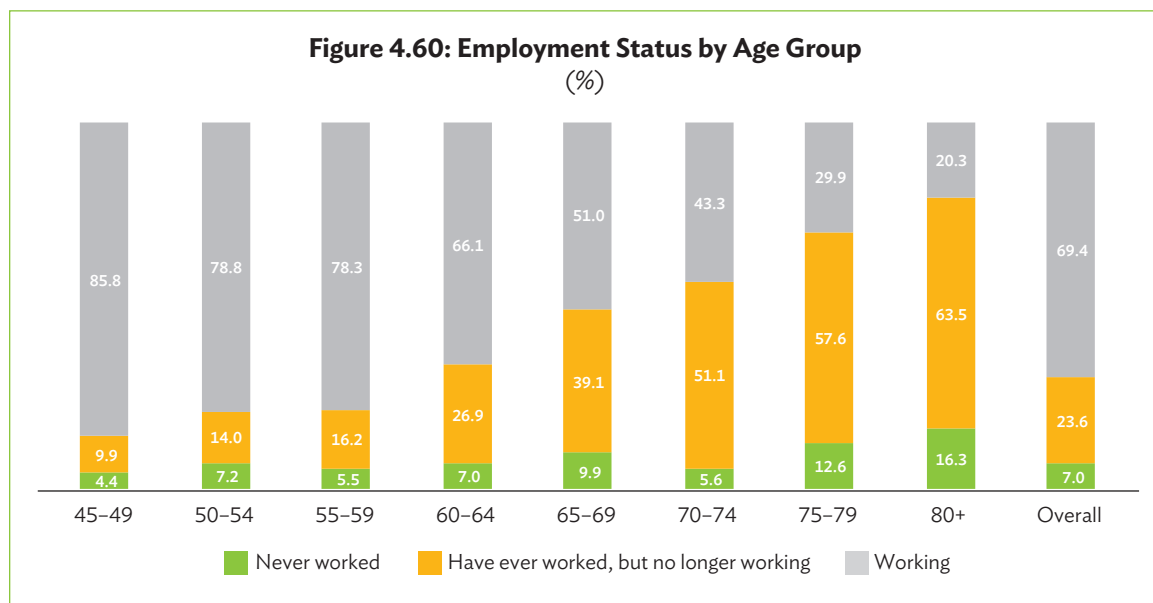
Employment

One of the key topics in the discussion about the aging population is employment. Because of the mandatory retirement age, older people are generally excluded from the labor market, especially in formal settings. If older people want to continue working, their only option is to join the informal labor market in agriculture or the low-value-added services sector, as highlighted by Cravino, Levchenko and Rojas (2022) and Siliverstovs, Kholodilin and Thiessen (2011) in the discussion on the impact of the aging population on employment in the services sector and Contzen (2017) on agriculture. For older workers in the informal sector, many of them are not covered by pensions and therefore have little choice but to continue working as long as their health permits. Productivity levels and wages tend to be lower for older people doing manual work in the informal sector.

ILAS collects data on the employment characteristics of older people. ILAS also includes a section on retirement plans. The findings of the ILAS study suggest that the government should work to create a more inclusive labor market and improve social protection, especially for poor older people (Paweenawat and Liao 2021).

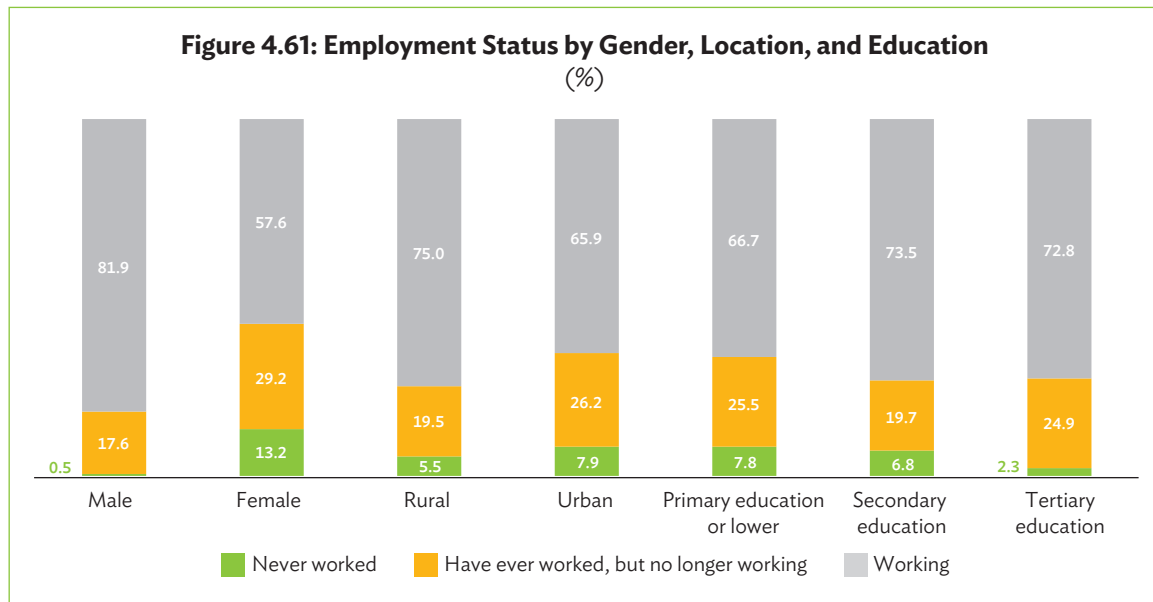
Employment Status

Overall, about 69% of respondents were employed (Figure 4.60). The highest proportion was seen in the 45–49 age group, reaching 86%. The employment rate among respondents fell with increasing age and reached its lowest level in the 80+ age group.



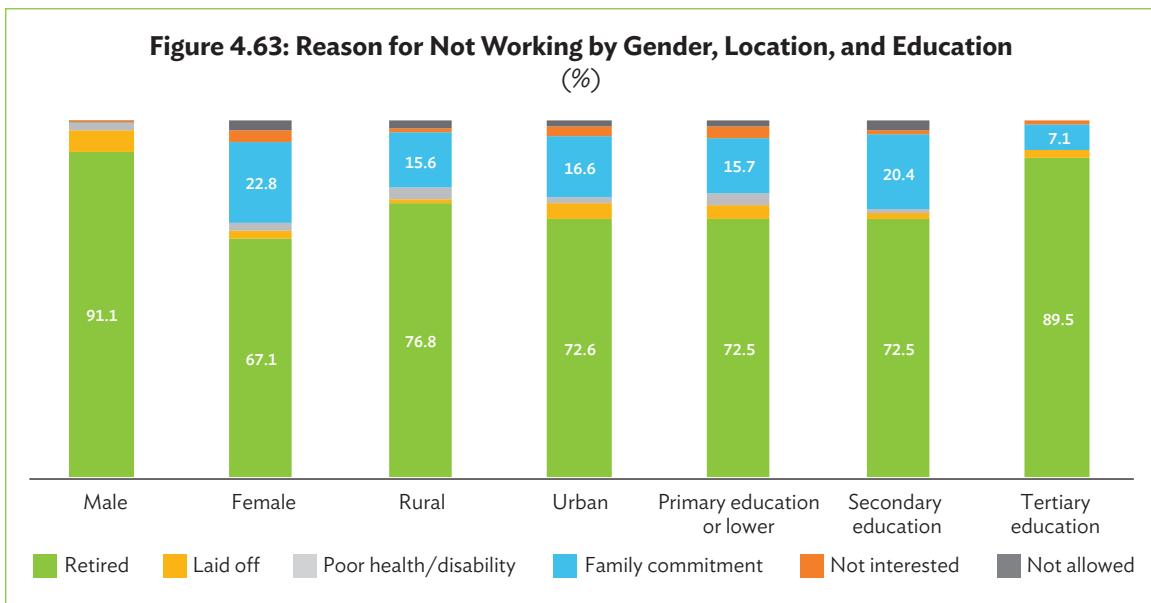
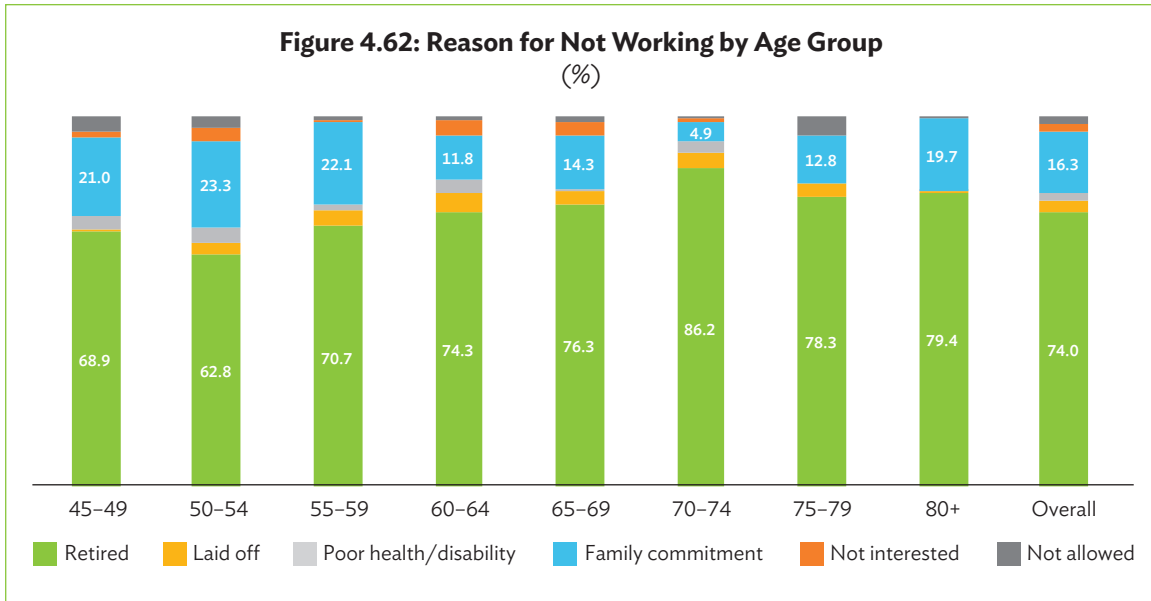
The disaggregation analysis indicates an association between the respondents' characteristics and their working status (Figure 4.61). The employment rate was notably higher among male respondents than among female respondents, with a clear gap of around 24 percentage points. A higher proportion

of respondents are employed in rural areas compared to urban areas (75% versus 66%). Their decision to work was influenced by their level of education. The percentage of employed respondents with secondary and tertiary education was approximately 73%, compared to only 67% for those with primary education or less.



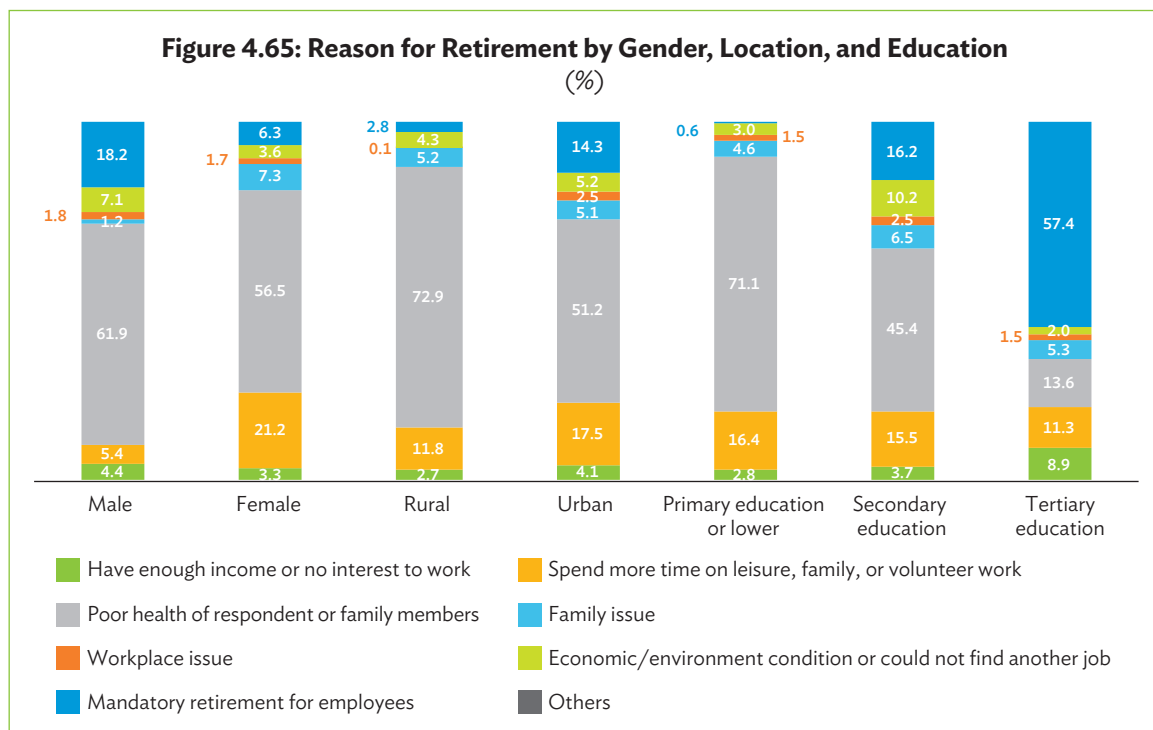
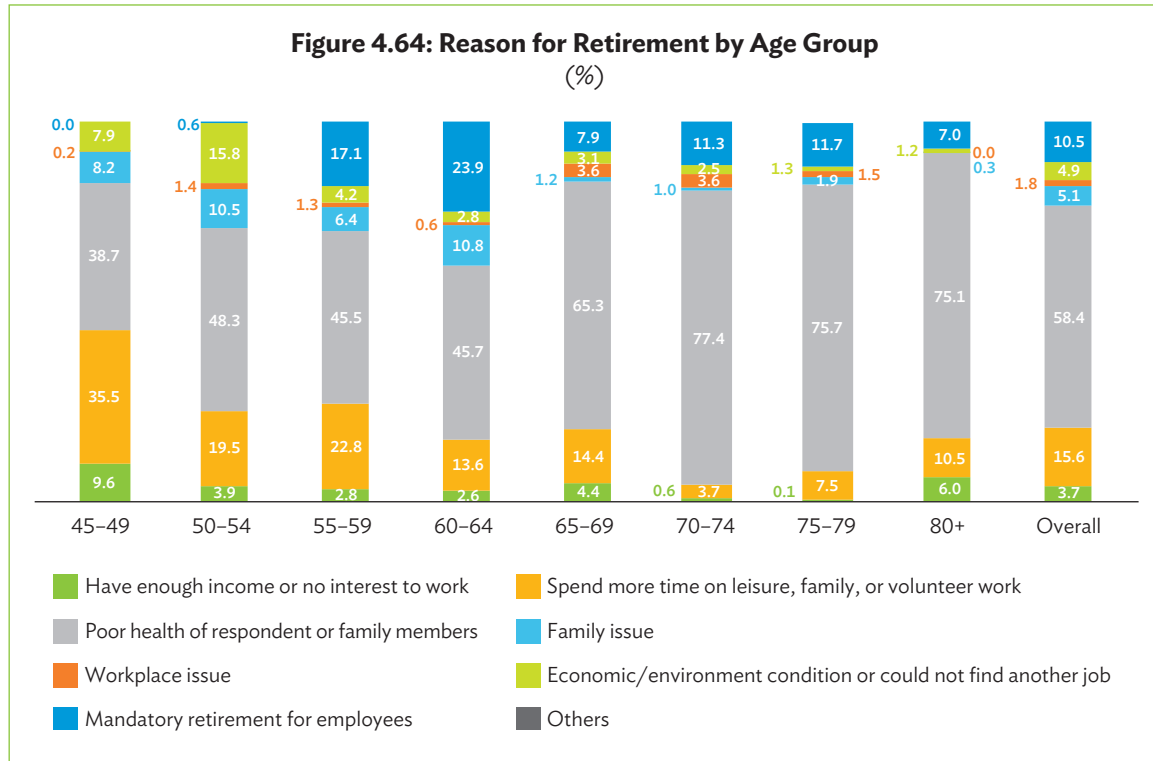
Respondents who are unemployed can be categorized into two groups: those who have stopped working after being employed because they retired or quit, or those who have never been employed. About 7% of respondents have never been employed, while 24% have some work experience (Figure 4.60). Among the older groups, the proportion of respondents who have worked has increased, indicating retirement. Among women, 13% have never worked and 29% have worked at some point (Figure 4.61). In addition, respondents with a higher education level are more likely to have work experience.

Of those who were not working, around 74% cited retirement as the reason, while 16% cited family commitments as the reason (Figure 4.62). Retirement was the predominant status for around 91% of male respondents who were not working (Figure 4.63). Of the female respondents, about 67% were retired, while 23% cited family commitments as the reason. There was little difference between rural and urban respondents, with approximately 73%–77% of both groups citing retirement as a reason. The most common reason for retirement among respondents with tertiary education was also reported by 90% of them, compared to around 72%–73% for respondents with primary and secondary education.



ILAS asked for additional information about the reasons for retirement. About 58% of respondents who retired cited health concerns or the illness of a family member as the primary reason (Figure 4.64). In the 45–49 age group, roughly 39% of respondents mentioned health-related issues as the primary reason for their decision, whether it was their own health or that of a family member, while 35% expressed a desire for free time for family or social activities. Disaggregation by characteristics reveals some differences (Figure 4.65). Male respondents retired mainly because of their own health or that of a sick family member (62%), with workplace retirement rules being the reason for 18% of them. For women, the main reason was their own health or that of a sick family member (56%), followed by a desire for more free time, family time, or social activities (21%). Urban respondents were more likely to answer the question about reasons for retirement (14%) than rural respondents (3%). More than 50% of respondents with tertiary education answered the question

about reasons for retirement, whereas the main reason for primary and secondary school respondents was health concerns or caring for a sick family member (71% for primary school respondents and 45% for secondary school respondents).



Job Characteristics

In the formal sector, men and women generally retire at around 59 years of age (Table 4.11). This age is lower compared to developing countries in Southeast Asia and developed Asian countries like the Republic of Korea and Japan. Due to the retirement age regulation, older people who continue to work are more likely to be in the informal sector. About 21% of pre-older respondents were employed,¹¹ but this figure dropped to 8% among older respondents (Figure 4.66). Among those aged 45 and older, informal employment remains the main occupation for around 80% of respondents, with self-employment the most popular choice at 30%.

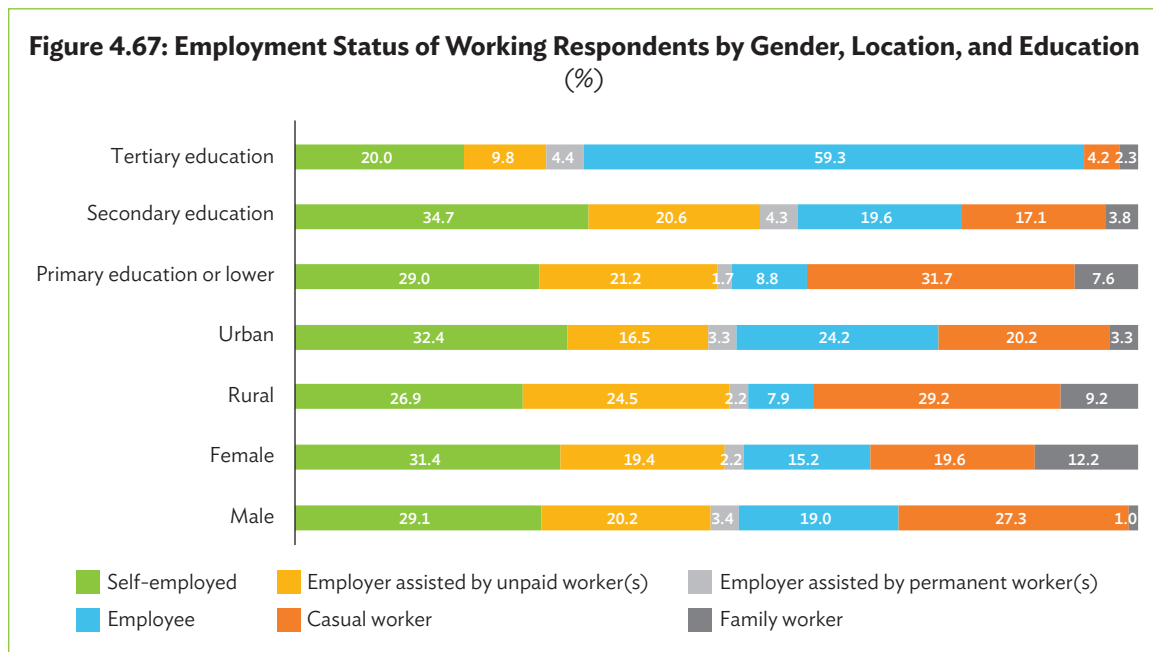
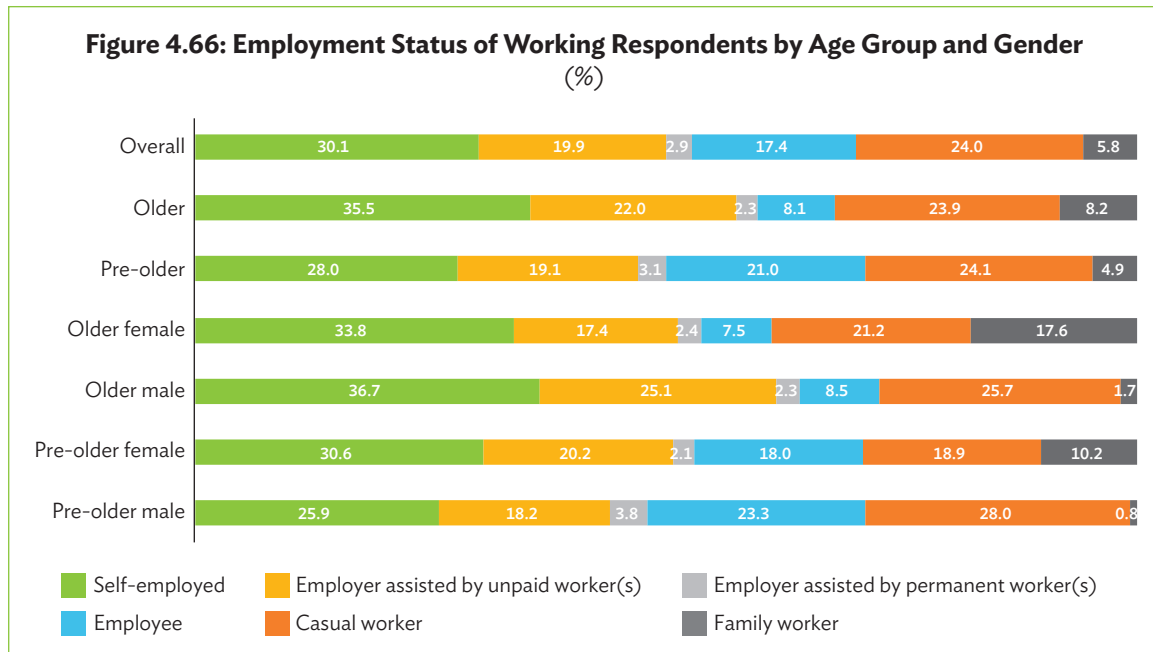
Table 4.11: Statutory Retirement Age by Gender

Country	Men	Women	Source
Brunei Darussalam	60	60	Retirement Age Order 2010
Indonesia	59	59	Government Regulation 45/2015
Japan	65	65	OECD (2018)
Lao PDR	60	55	Law on Social Security 2013
Malaysia	60	60	Minimum Retirement Age Act 2012
People's Republic of China	60	55	Liu and Xu (2023)
Philippines	65	65	Presidential Decree No. 442 Labor Code of the Philippines
Republic of Korea	62	62	OECD (2022)
Singapore	63	63	Retirement and Re-employment Act
Thailand	60	60	Labour Protection Act 1998, amended in 2008
Viet Nam	60	56	Decree on Retirement Age 2020

Lao PDR = Lao People's Democratic Republic, OECD = Organisation for Economic Co-operation and Development.

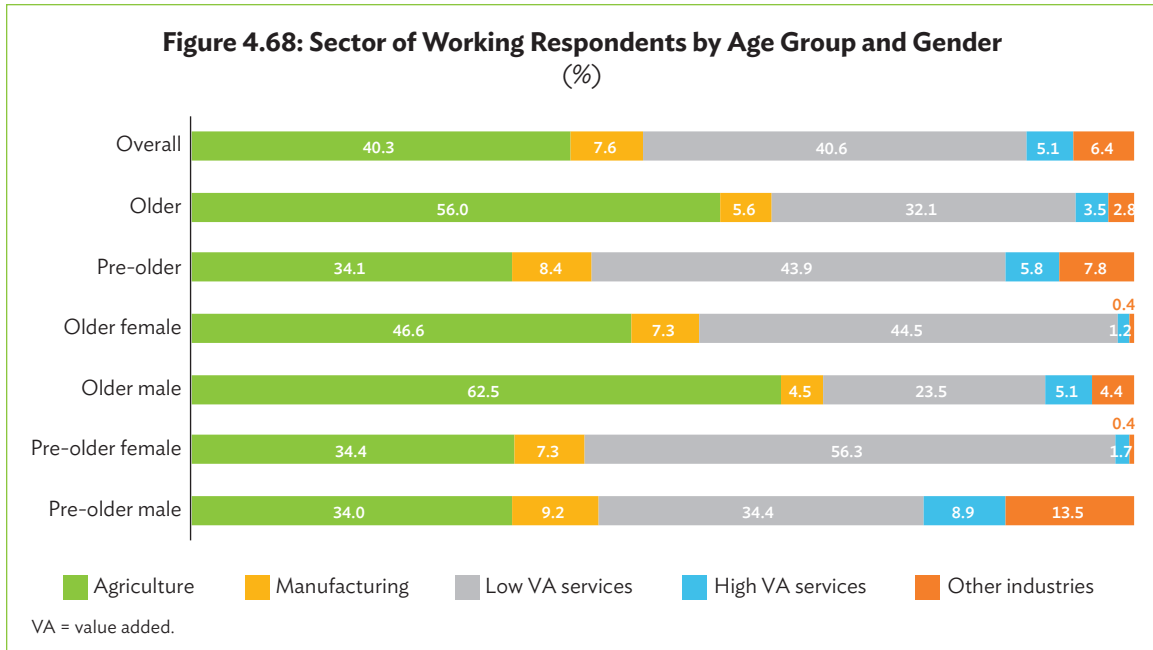
The disaggregation analysis indicates an association between the employment status and various respondent characteristics (Figure 4.67). The percentage of male respondents who were self-employed and working with the support of employees was 52%, almost matching the rate among female respondents. Nonetheless, the percentage of female respondents working as family/unpaid workers was higher than that of male respondents, at 12% versus 1%. It was found that 27% of male respondents worked casual jobs, which was higher than the 20% of female respondents. A higher percentage of respondents in urban areas were employed (24%), compared to rural areas where 29% worked as casual workers and 9% as family/unpaid workers. Those with tertiary education were more inclined to be employed in the formal sector, such as employees (59%).

¹¹ The Badan Pusat Statistik (PBS) defines employees and employer-assisted by permanent and paid workers as formal workers, while self-employed, employer-assisted by temporary workers/family workers/unpaid workers, casual workers, and family workers/unpaid workers are considered informal workers.

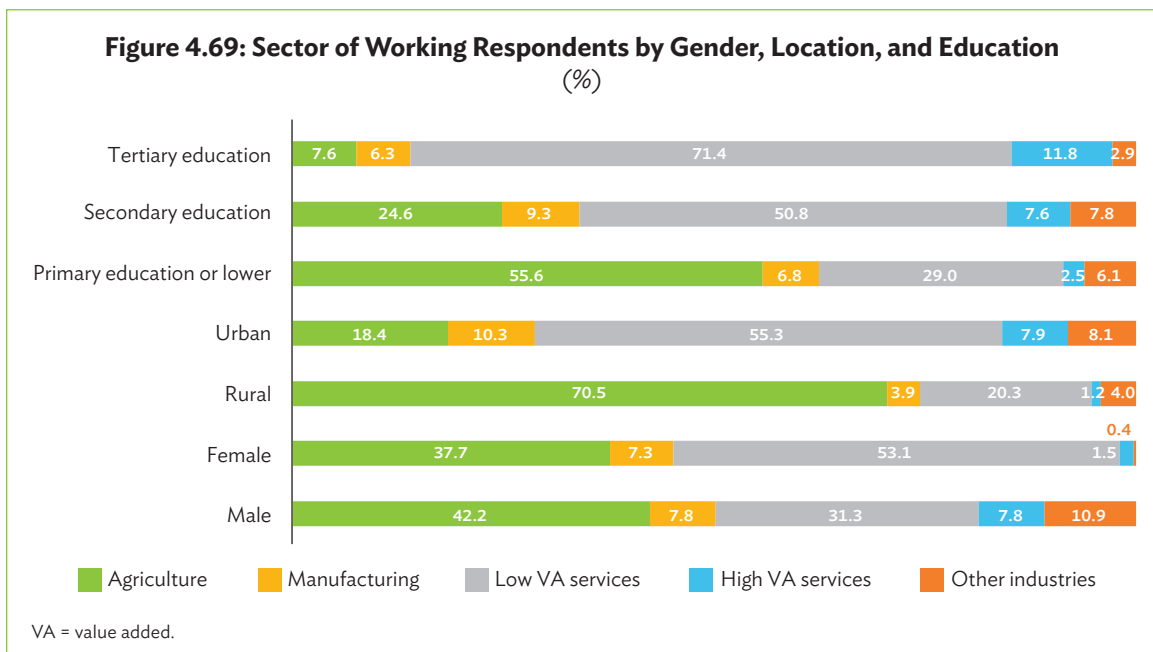


Respondents who own businesses or work as wage earners are usually engaged in agriculture or in low value-added services like trade or personal services.¹² In total, roughly 40% of respondents were employed in agriculture and 41% worked in low value-added services (Figure 4.68). Older respondents were more likely to be employed in agriculture compared to pre-older respondents (56% versus 34%).

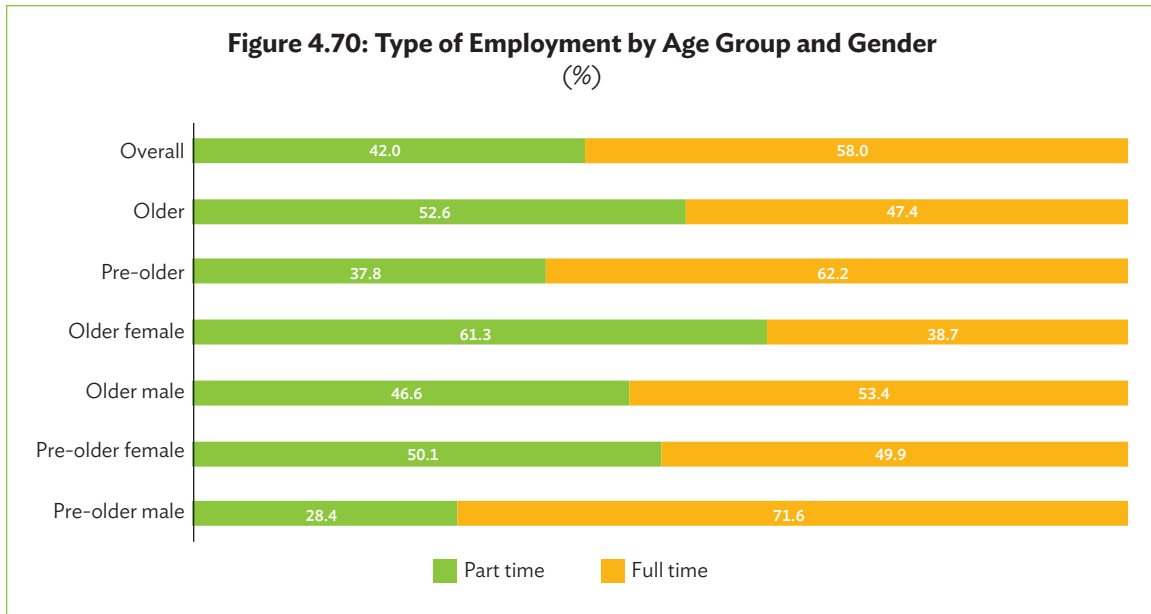
¹² We regrouped the economic sectors into agriculture; manufacturing; low value-added services, including wholesale and retail trade, restaurants, and hotels; and community, social, and personal services; high value-added services including transportation, storage, and communications; and finance, insurance, real estate and business services; and other industries including mining and quarrying; electricity, gas, and water supply; and construction.



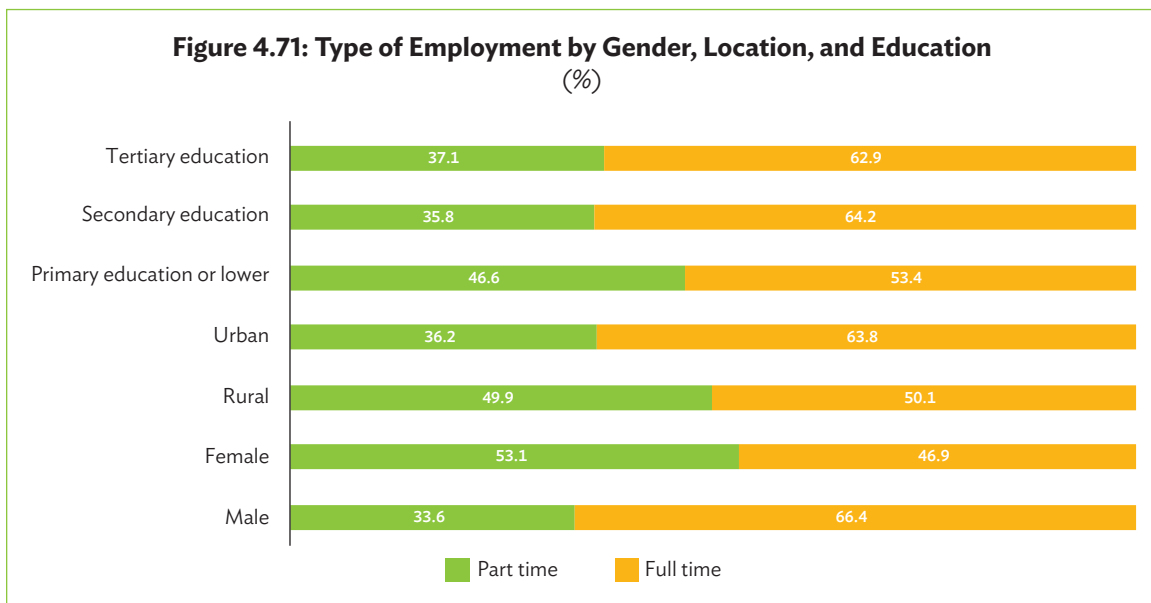
Certain sectors show concentration of specific characteristics (Figure 4.69). Men were more likely to work in the agriculture sector, accounting for 42% of respondents, while women made up about 53% in the low value-added services sector. The agriculture sector was the primary sector for about 71% of respondents in rural areas. In contrast, respondents in urban areas were more likely to work in the low value-added services sector, where about 55% of respondents had a job. In the group of respondents with primary education, 56% worked in agriculture, while respondents with secondary or higher education were more inclined to work in the low value-added services sector (51% for secondary education and 71% for tertiary education).



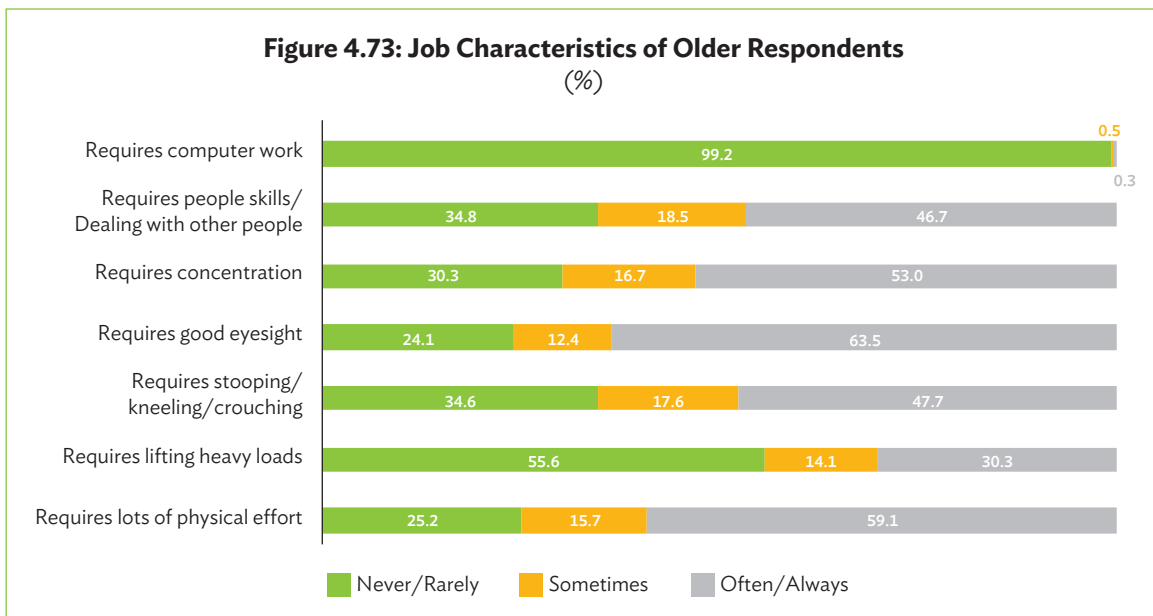
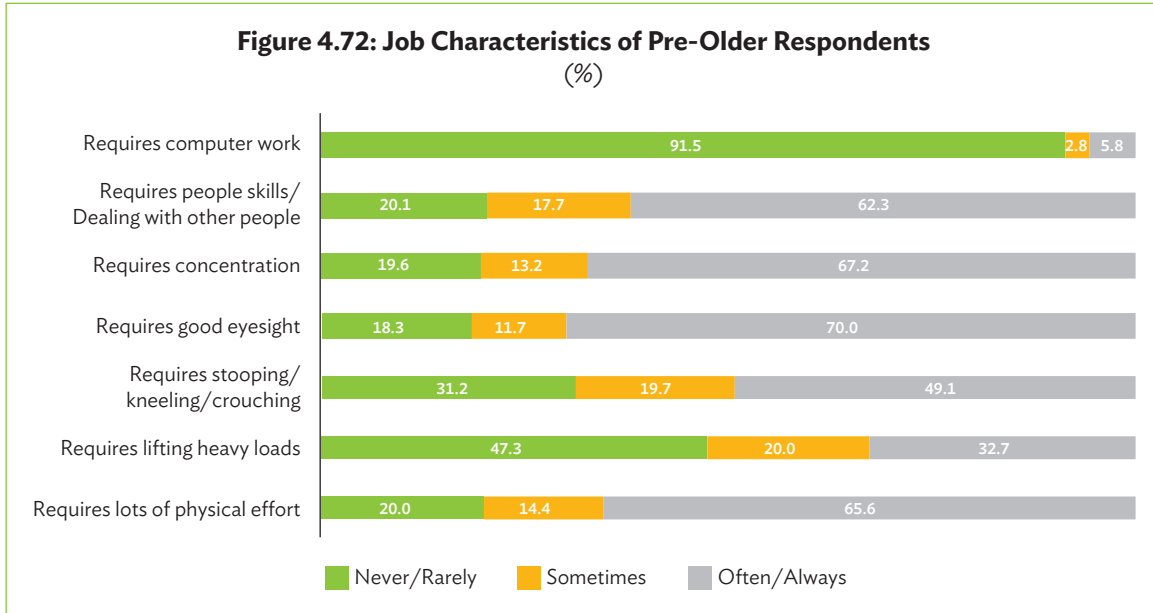
More than half of the respondents were employed in full-time positions (Figure 4.70). Among pre-older respondents, 62% worked full time, a higher percentage than the 47% of older respondents who did the same. Pre-older respondents worked an average of 37 hours per week, while the older respondents worked an average of 31 hours per week.



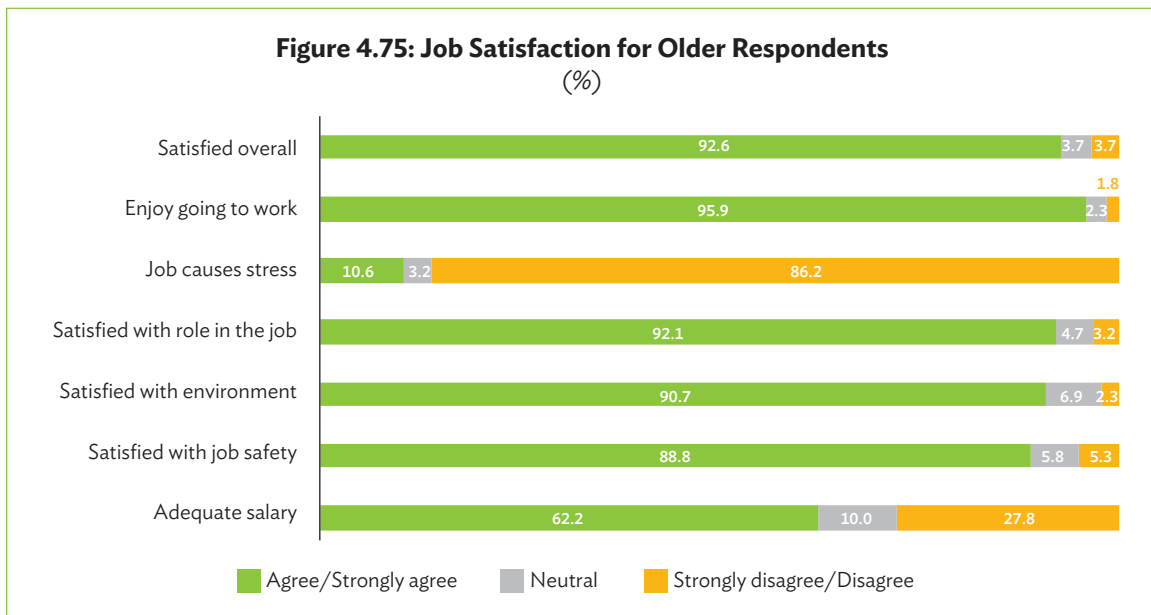
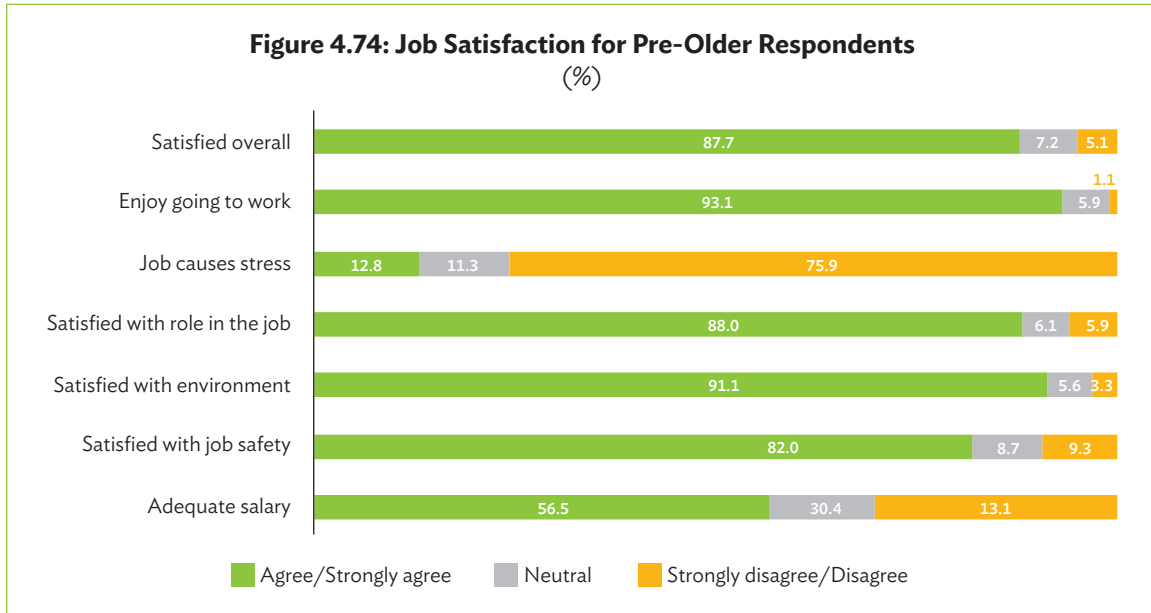
The type of employment tended to be associated with several characteristics of the respondents (Figure 4.71). A higher percentage of men, 66%, reported working full-time compared to women, 47%. In urban areas, 64% of respondents were more likely to work full time compared to 50% in rural areas. Respondents with a higher level of education typically put in more hours at work. Respondents who had secondary education or higher were more likely to be employed full-time (63%–64%) compared to those with only primary education (around 53%).



In general, ILAS respondents were employed in jobs that involved physical skills or manual labor. There were no significant differences between pre-older and older respondents in physical effort, weightlifting, and bending/kneeling/squatting (Figure 4.72 and Figure 4.73). In jobs requiring interpersonal skills, pre-older respondents were more inclined to use these skills compared to their older counterparts. The majority of both pre-older and older respondents did not use a computer for work, with approximately 91% of pre-older and 99% for older respondents falling into this category.

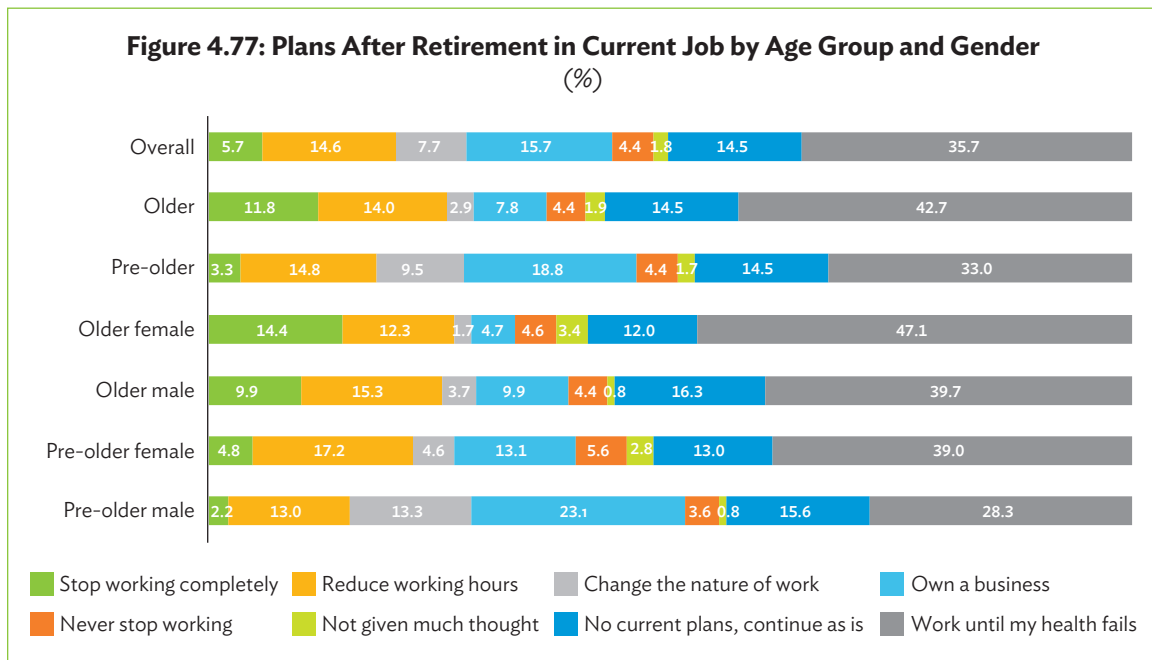
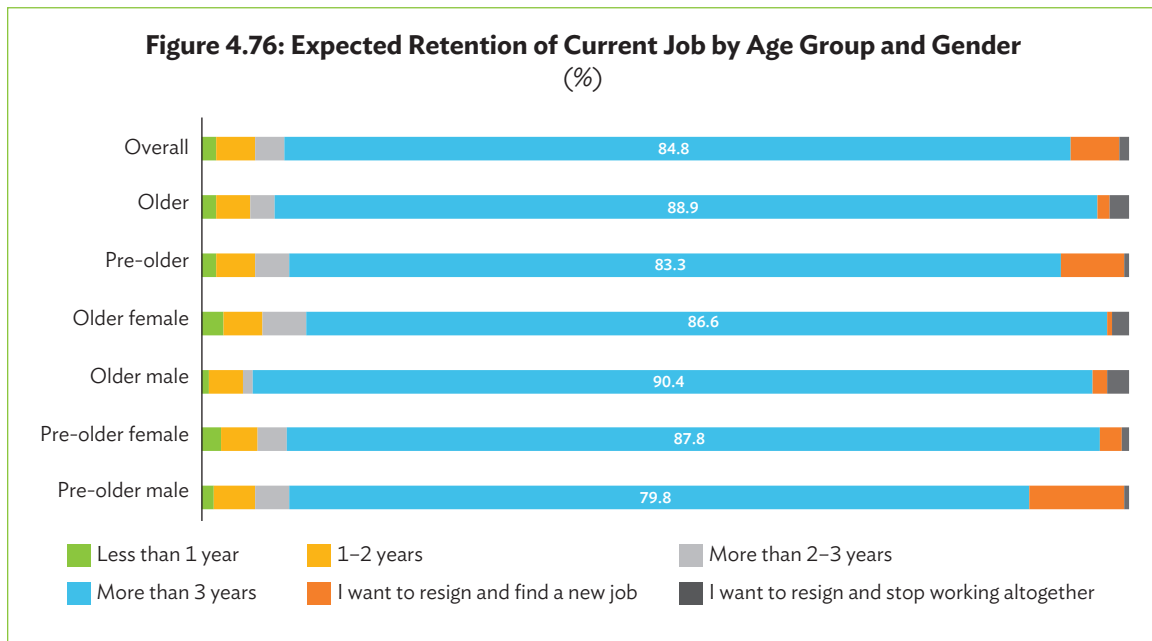


Among older respondents, 93% reported satisfaction with their job, compared with 88% of pre-older respondents. However, satisfaction with salary was the lowest of all indicators, with only 56% of pre-older respondents and 62% of older respondents reporting satisfaction (Figure 4.74 and Figure 4.75).



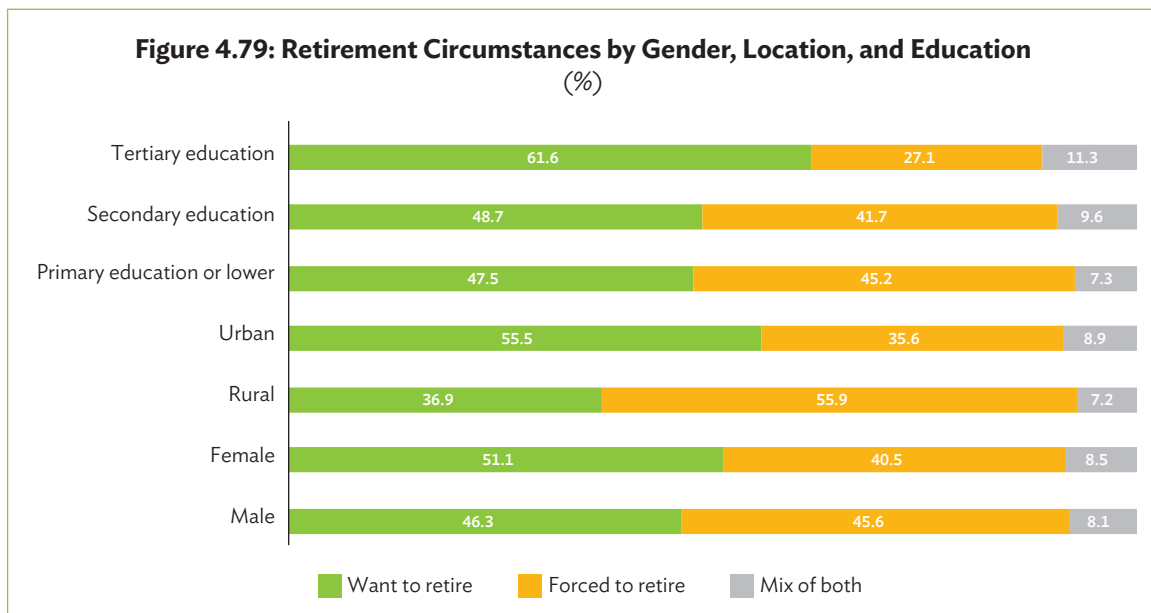
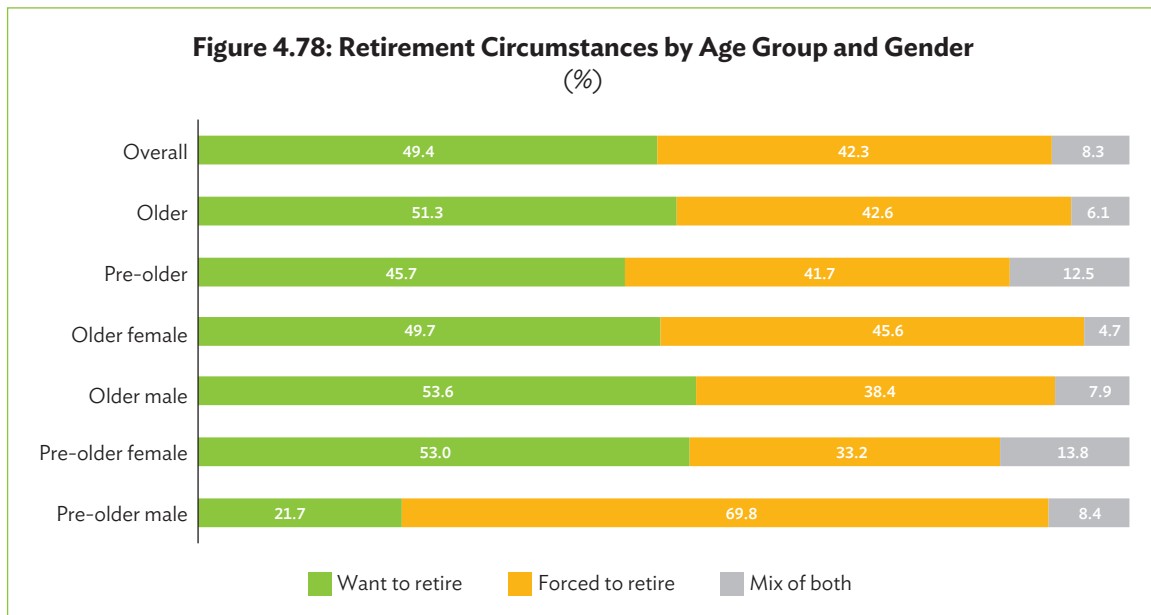
Retirement Plan

About 85% of respondents expressed a desire to stay in their current job for more than 3 years (Figure 4.76). Older respondents showed a strong preference for working in their current job for longer periods, reflecting their desire to stay active in the workforce for a longer period. Some employed respondents expressed a desire to leave their current job. The analysis in Figure 4.77 confirms the respondents' desire to continue working. About 36% of respondents indicated their desire to work as long as their health allowed. Only about 6% stated that they would stop working completely if they had to leave their current job.



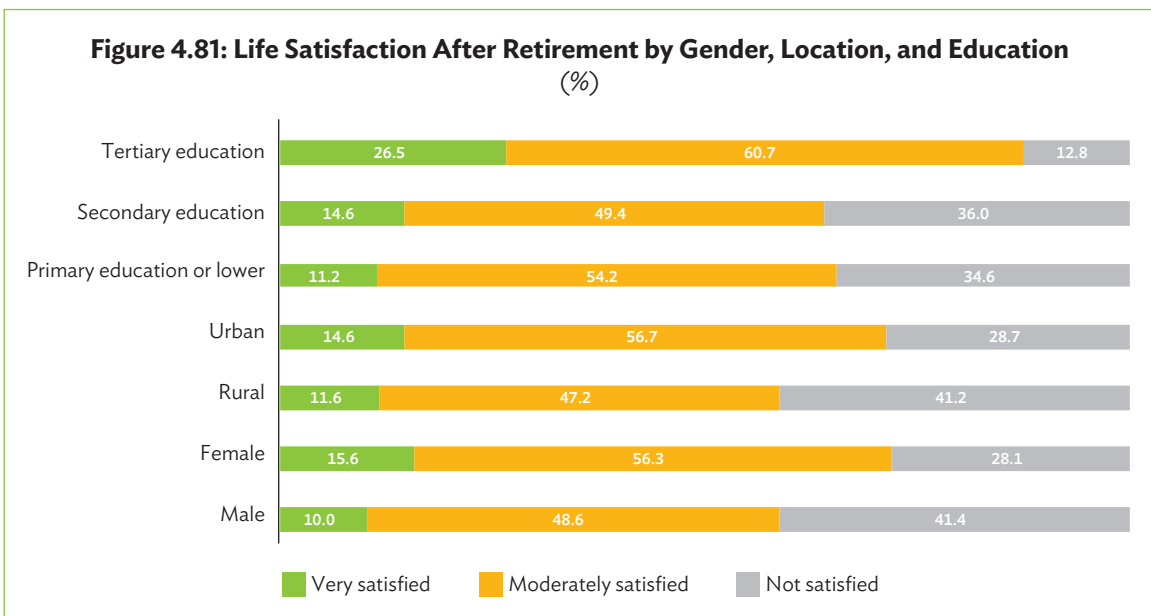
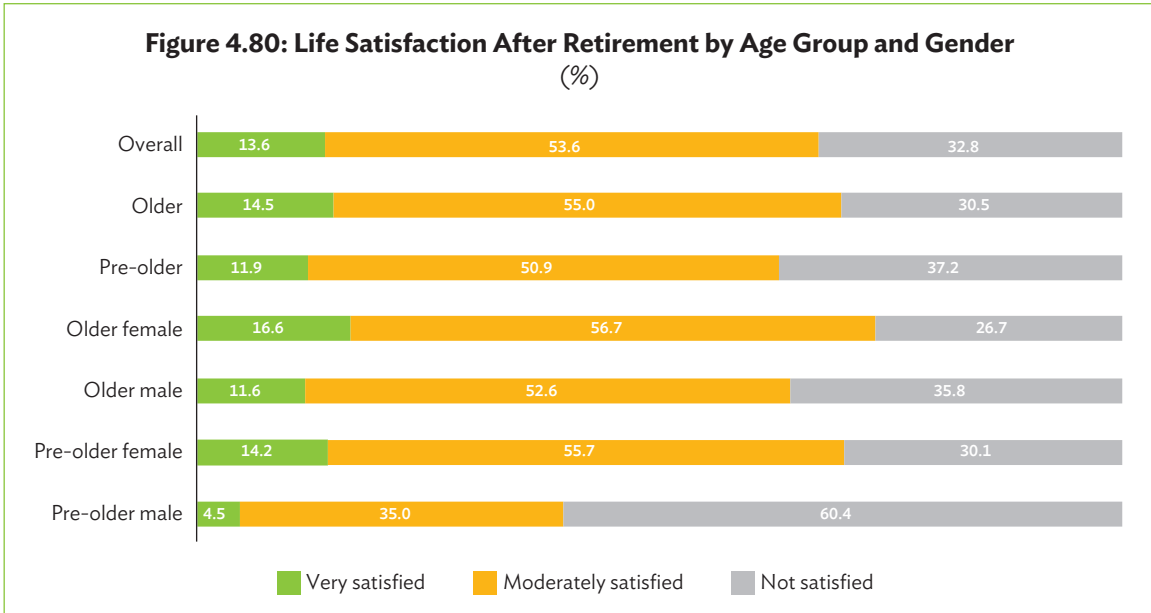
Well-Being After Retirement

ILAS asked respondents how they perceive their circumstances of retirement and well-being after retiring. Around 49% of respondents reported that they wanted to retire, while the remaining respondents felt they had no option but to retire (Figure 4.78). Male pre-older respondents felt most strongly about being forced to retire, with a majority of 70% feeling the effect.¹³ The majority of respondents with tertiary education (62%) and those living in urban areas (56%) expressed a desire to retire (Figure 4.79).

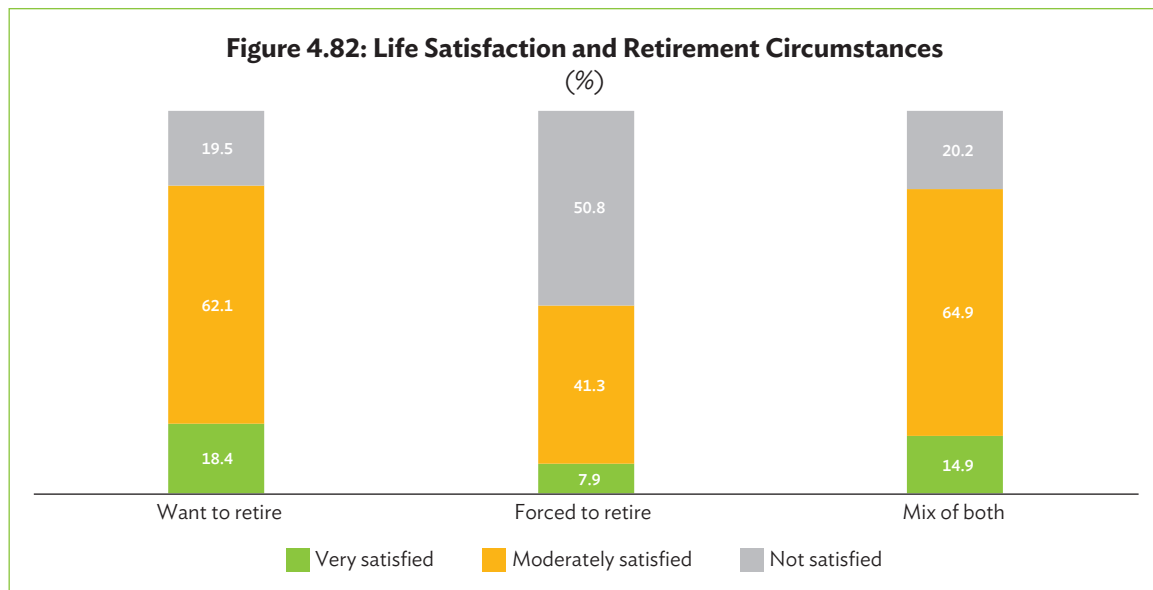


¹³ The purpose of the question was to understand how the respondent retired or ceased working.

Satisfaction with life after retirement is a crucial measure of personal happiness.¹⁴ Almost a third of respondents expressed dissatisfaction with their life after retirement (Figure 4.80). The male pre-older respondents had the highest dissatisfaction rate at 60%. The findings from examining Figure 4.82 show a positive correlation between the desire to retire and satisfaction with life after retirement. Respondents with a strong desire to retire, particularly those with a tertiary education and living in urban areas, tended to express satisfaction with their post-retirement lifestyle (Figure 4.81).



¹⁴ The life satisfaction variable is a self-reported measure using the Likert scale.



The findings in this section indicate that a significant portion of people approaching retirement age have a desire to remain in the workforce. As a result, older people are motivated to continue working in the informal sector. Employment policies should focus on making the labor market more inclusive for older people. In addition, given the growing dependency ratio, it might be worth considering raising the retirement age.

Income and Expenditure

Typically, income decreases with age, as older people have fewer opportunities to remain productive and earning. Hence, older people are more vulnerable to economic shocks like disasters or health issues. Nevertheless, economic theory posits that people generally maintain their consumption levels throughout their lifetime, influenced by their anticipated income or wealth (Modigliani and Brumberg 1954). On the other hand, the imperfect labor and financial market and low financial literacy could be barriers to wealth accumulation in Indonesia. In such a case, the gap between income and expenditure will widen as people age. To narrow the gap, individuals have the option of receiving transfers from the government¹⁵ or the private¹⁶ sector, in addition to retirement savings. The results of the analysis in this discussion demonstrate the need for policy intervention to sustain consumption levels.

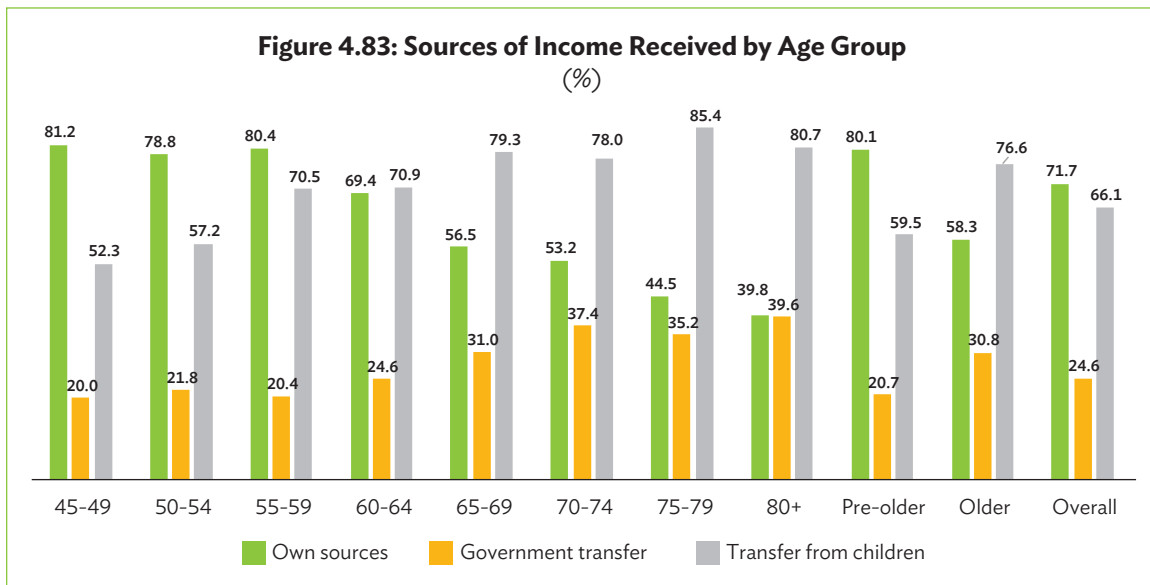
Income Status

ILAS asked about the source of the respondent's income, which may come from personal sources (e.g., employment, pension, or insurance) and/or from government transfers. Approximately 72% of respondents reported earning income from their personal sources (Figure 4.83). When combining income from personal sources and government transfers, the percentage of respondents who received an income increased to 81%. The older the respondents get, the lower the percentage of those who

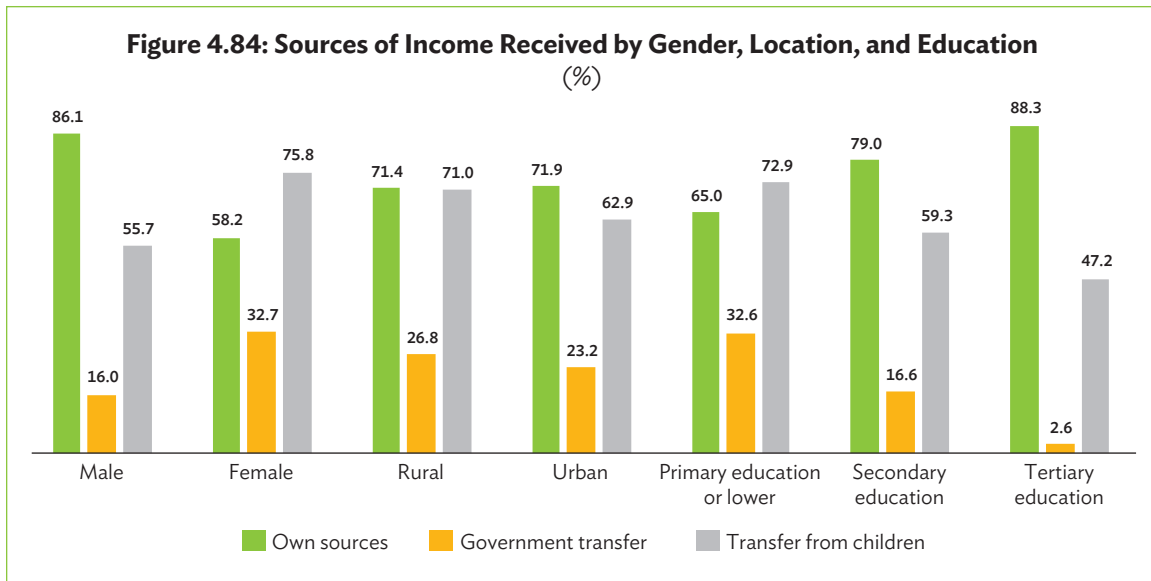
¹⁵ Social assistance and cash transfers are both examples of government transfers.

¹⁶ Private transfers include transfers from both the family members (e.g., children, parents, or siblings) and non-family members.

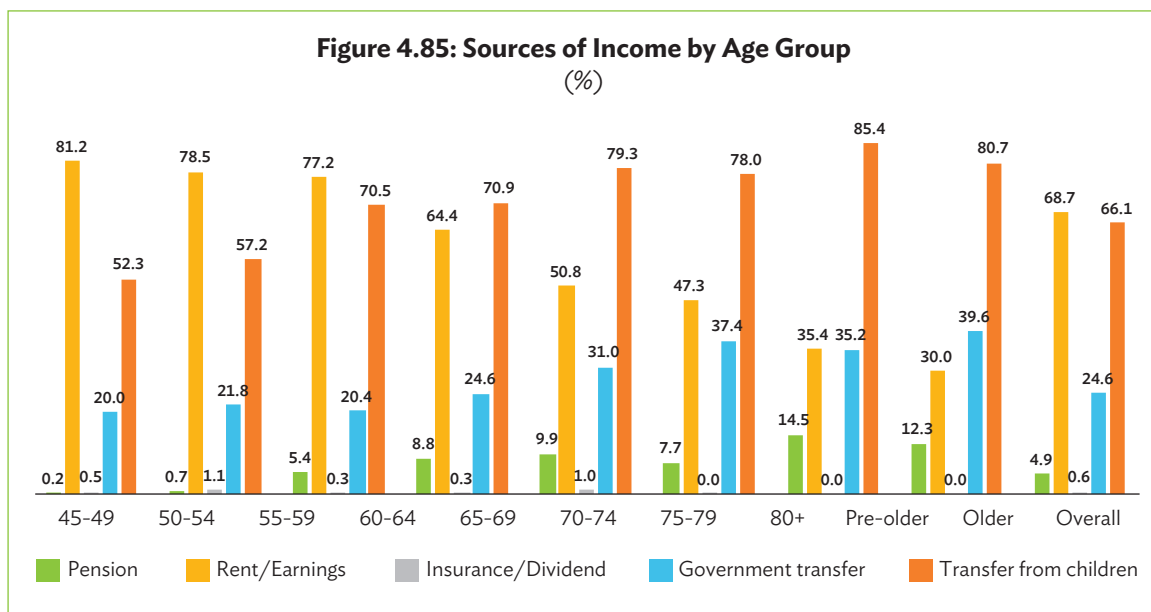
receive income from personal sources. Among pre-older respondents aged 45–49, 80% receive income from their own sources, while this proportion is 58% among older respondents. In addition, 66% of respondents receive transfer from their children. The transfer from children is substantial for older group, especially for respondents 65 years and older. The percentage of respondents receiving transfer from children is relatively higher than income from own sources and/or government transfer.



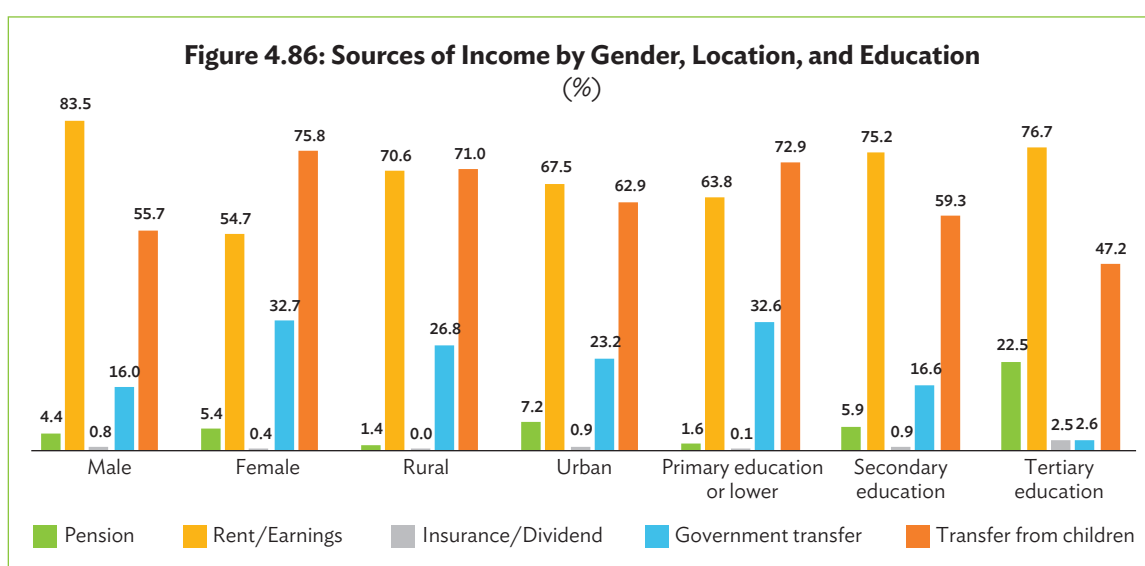
A detailed analysis was undertaken by categorizing according to gender, location, and education (Figure 4.84). Women with their own income accounted for 58%, which was substantially lower than the 86% of men with their own income. With the addition of government assistance, the proportion of women earning an income increased to 74%, still lagging behind men who were at approximately 89%. Among the women, transfer from the children was the most common source of income. When broken down by location, the analysis shows that the status of income earners in rural and urban areas is almost the same. Differences become apparent when disaggregating by education level. Of those with primary education or less, around 65% received their income from personal sources, a lower percentage than those with higher education (88%). When personal income sources are combined with government transfers, the percentage of income recipients among respondents with primary education rises to 79%. Among respondents with secondary education, 79% received income from personal sources, which increased to 84% when government transfers were included. There is negative correlation between the frequency of transfer from children and the education level of respondents. The respondents with primary education are more likely to receive transfer from children than those with secondary and tertiary education. The results of this analysis suggest that government transfers, along with the transfers from children, play a crucial role in providing income for older people, women, and those with limited education.



Work or rental income is the source of earnings for around 69% of respondents (Figure 4.85). Among respondents aged 45–49, the highest source of income came from work or rent, at approximately 81%, declining as age increased. Roughly 25% of respondents who earned an income were beneficiaries of government transfers. As age increased, so did the percentage of beneficiaries, with 40% of those aged 80 and above being beneficiaries. Pensions accounted for around 5% of the total income. Of respondents aged 60 and over, around 10% reported receiving a pension as their main source of income.



Income sources are influenced by several characteristics (Figure 4.86). About 83% of men earned income from work or rental, compared to 55% of women. In rural areas, 71% of respondents earned income from work or rent, slightly higher than 68% of urban respondents. Work or rent was the income source for 64% of respondents with primary education or lower, 75% of respondents with secondary education, and 77% of respondents with higher education. Female beneficiaries of government transfers made up about 33%, as opposed to 16% for males. The difference in percentages of beneficiary respondents living in rural and urban areas was minimal, with about 27% in rural areas and 23% in urban areas. Of those with a low education level who were earning income, about 33% were receiving government transfers. In the group of highly educated respondents who were earning an income, pensions made up 22% of their total income, in addition to income from work or rent.



ILAS asked for further information regarding different government transfer programs such as the Social Assistance for the Elderly (ASLUT),¹⁷ the Non-Cash Food Assistance (BPNT)¹⁸ for the elderly, the Family Hope Program (PKH)¹⁹ for older people, the Village Fund Cash Assistance (BLT DD)²⁰ for older people, and a number of programs at the provincial, district, city, and village levels. Table 4.12 shows the percentage of respondents reporting receiving income. In general, the BPNT program was the most prominent support among the government programs reported by respondents, followed by PKH being the next common for older people. In contrast, those aged 70 and older were more inclined to receive PKH Lansia than the BPNT program. BLT DD Lansia was another program that proved beneficial for older respondents.

¹⁷ ASLUT is a program designed for abandoned older people who are chronically ill and rely heavily on the help of others. These individuals may be bedridden, unable to perform daily activities, have no fixed source of income, or living in poverty.

¹⁸ BPNT is a form of non-cash social assistance distributed as electronic money, which can be used to buy specific food items at e-warongs.

¹⁹ PKH is a conditional cash transfer for poor and/or vulnerable households.

²⁰ BLT DD is a social assistance program for village communities funded by the Village Fund to mitigate the impact of the coronavirus disease (COVID-19) pandemic.

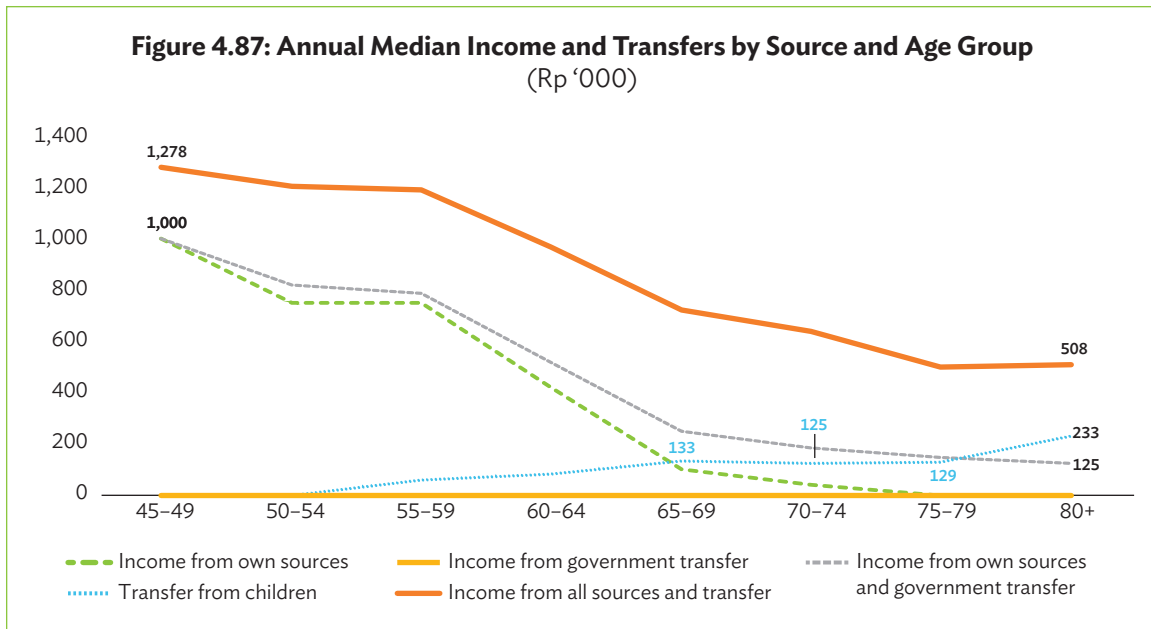
Table 4.12: Beneficiaries of Government Transfers by Age Group
(%)

	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80+	Overall
Social Assistance for the Elderly (ASLUT)	0	0	0	0	0	0	0	0	0
Non-Cash Food Assistance (BPNT)	12	14	12	15	19	15	21	18	15
Family Hope Program Elderly (PKH Lansia)	6	5	4	8	11	19	22	22	8
Assistance from district	1	2	1	2	2	3	6	5	2
Village Fund Cash Assistance (BLT DD)	6	4	6	8	10	9	12	9	7
Assistance from village	2	1	1	0	0	1	0	3	1
Assistance from province/central	1	1	2	1	1	0	0	0	1
Others	1	1	1	1	1	1	0	0	1
Combining all programs	20	22	20	25	31	37	35	40	25

Life Cycle Income and Expenditure

An important aspect of household economics to consider in the context of older people is the relationship between income and consumption over the life cycle. ILAS collects detailed information that allows for tracking income and consumption trends.²¹ Figure 4.87 shows the annual median income and transfers categorized by source and age for all respondents. The annual median of all income and non-zero transfers earned by respondents decreases with age, as indicated by the solid black line. The annual median of own-source income is represented by the dashed green line, while the dashed orange line represents the median of the combination of own-source income and government transfers, displaying a similar trend to total income and transfers. The graph shows that the gap between the dashed green line and the dashed orange line is increasing. This indicates that the annual median income increases with age due to government transfers. Nevertheless, the gap between the solid black line and the dashed orange line remains large in all age groups. The purple dotted line shows that children's transfer payments are an extra source of income for the respondents. This indicates that a significant portion of respondents' income, particularly that of older people, comes from financial support from their children.

²¹ This section is an analysis at the individual level. ILAS recorded the income and transfers (including those from the government and family) of every respondent. Individuals who do not get any income or transfers will have a value of 0 assigned. The recording of household expenditure takes place at the household level and is subsequently converted into household expenditure per capita for comparison with an individual's total income and transfers.



The results presented in this section underscore the importance of government transfer programs as a primary income source for older people. Hence, improvements in the targeting of the program will be advantageous for older people who have yet to receive its benefits. Moreover, children appear to contribute more to transfers than income from personal sources and government transfers. It is essential to make recommendations for improving social protection programs for older people, which then also alleviate the responsibilities of the sandwich generation.

Figure 4.88 illustrates the life cycle of consumption. Among respondents aged 60 and older, the median consumption of staple food (dark blue line) decreases, while the consumption of health products (gray line) tends to increase for those aged 65 and over. The median value of clothing consumption (orange line) remains steady. Overall, the median consumption value decreases slightly from Rp1.3 million in the 45–49 age group to Rp1.1 million in the 80+ age group.

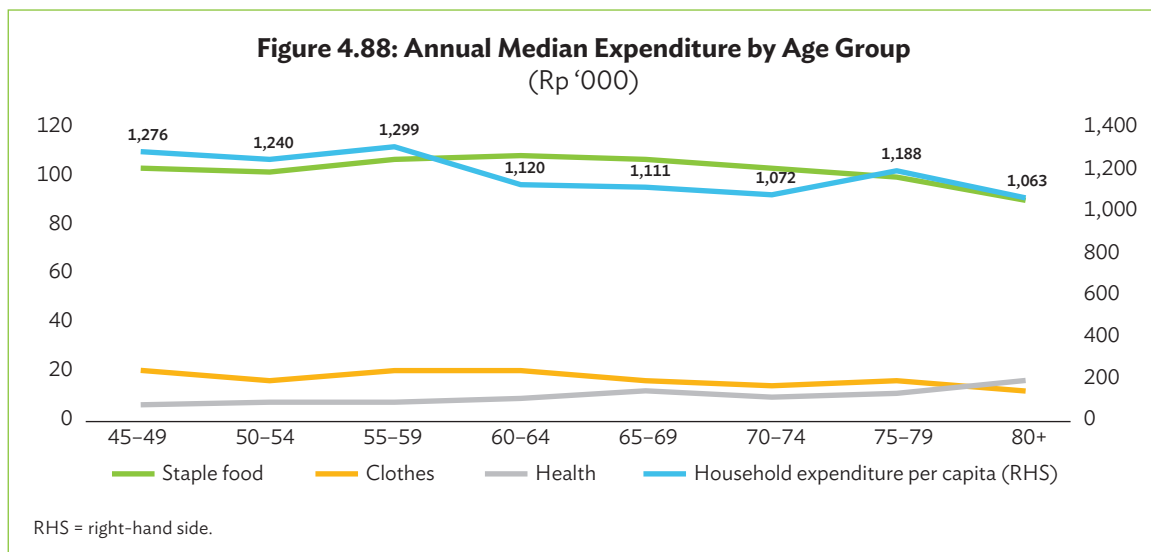
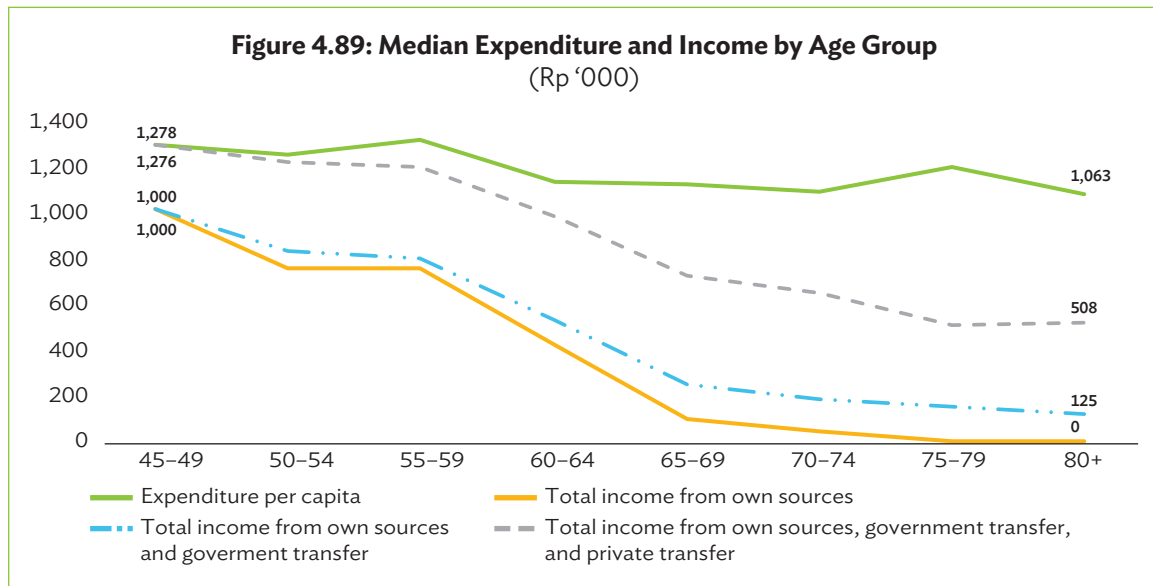


Figure 4.89 provides an overview of the components shown in Figures 4.87 and 4.88. Across the different age groups, median consumption (orange line) remains relatively stable, while median income from personal sources (yellow line), median total income from personal sources and government assistance (long dashed green line), and median total income from personal sources, government transfers, and private transfers (dashed red line) decrease as respondents get older. This finding suggests that government and private transfers²² help to reduce the gap between consumption and income among older people.



Assets and Savings

In macroeconomic theory, assets refer to both liquid (like savings) and nonliquid sources that support lifetime consumption (Modigliani and Brumberg 1954). At the individual level, assets provide a safety net in times of economic shocks (Acosta, Nicolli, and Karfakis 2021; Mogues 2011). Moreover, assets are critical to serve as income replacement when individuals reach retirement age. According to the IFG Progress Financial Research (2021) report, retirement benefits are provided to only 16.2% of workers. The low coverage of old-age security underlines the importance of assets as a vital resource for older people.

Ownership of Assets and Savings

Overall, 24% of respondents said they have savings, while 86% said they owned assets (Table 4.13). The proportion of pre-older respondents with savings was around 28%–30%, which was generally higher than the savings rate of older respondents. A comparable pattern emerges for asset ownership, with 86%–91% of pre-older respondents owning assets, compared to 74%–87% of older respondents.

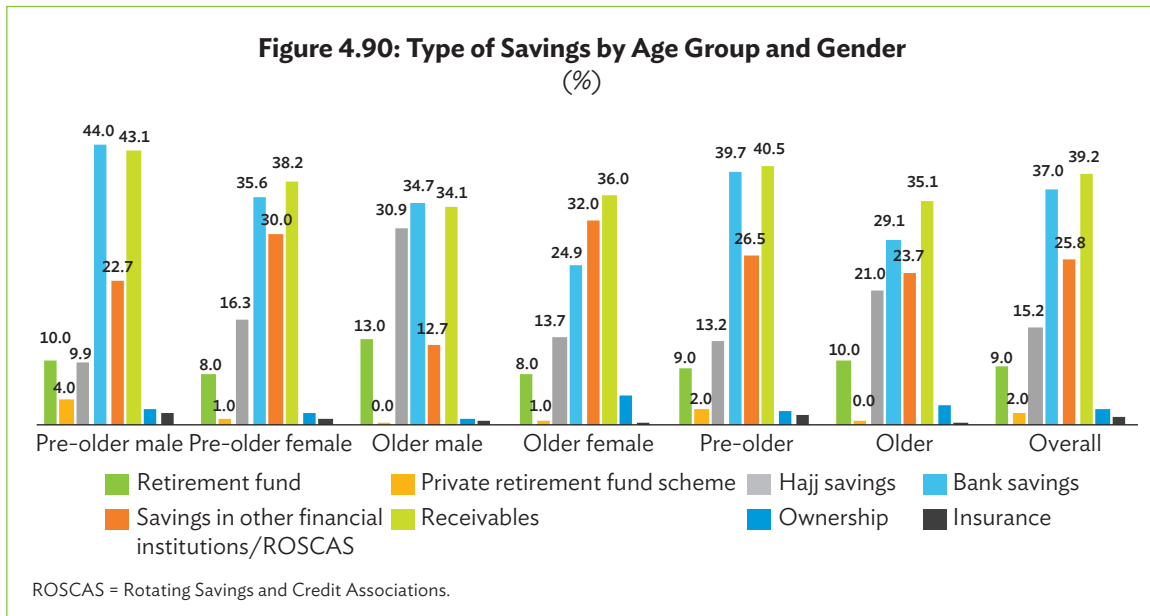
²² Family and non-family transfers both fall under the category of private transfers.

Table 4.13: Ownership of Savings and Assets by Age Group, Gender, Location, and Education (%)

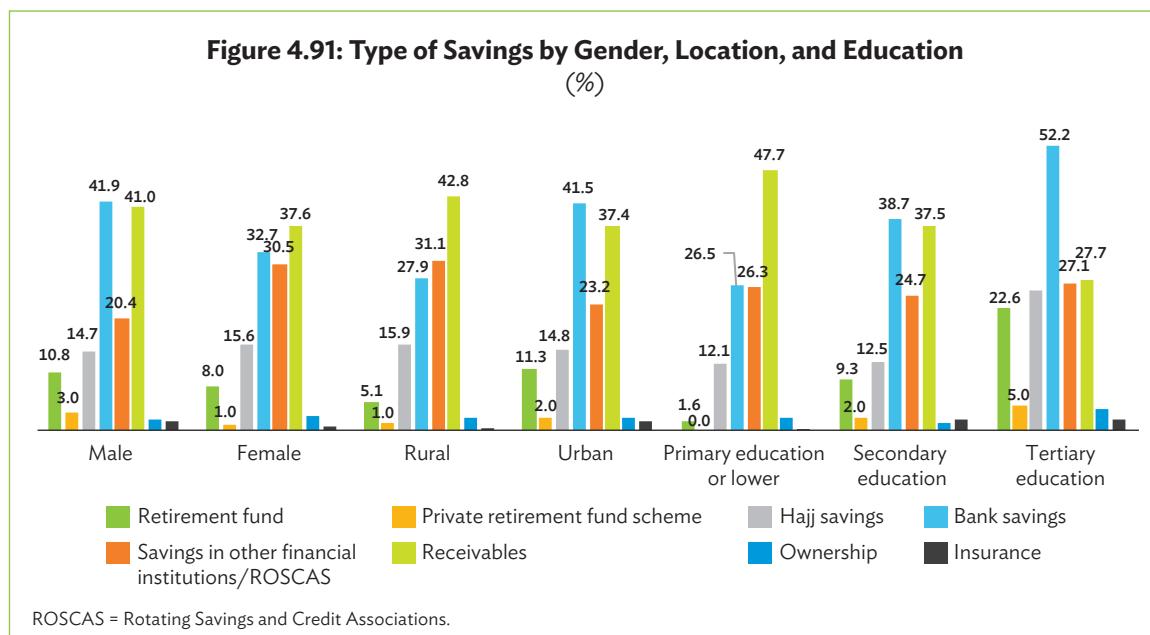
	Have Savings	Have Assets
Overall	24	86
Age group		
45–49	30	91
50–54	28	86
55–59	28	88
60–64	19	87
65–69	14	84
70–74	12	78
75–79	16	79
80+	9	74
Respondent's characteristics		
Male	23	90
Female	25	82
Rural	20	90
Urban	26	84
Primary education or lower	15	84
Secondary education	30	88
Tertiary education	55	94

Savings and asset ownership levels were found to be associated with the respondents' characteristics (Table 4.13). Approximately 23% of men had savings, only slightly less than the 25% of women who had savings. At the same time, 90% of men owned assets, compared to 82% of women. Compared to urban areas, where respondents had 26% savings, those in rural areas had only 20%. However, the proportion of asset ownership in rural areas was higher at 90% compared to 84% in urban areas. Respondents with a higher level of education tended to have more savings and own more assets. Respondents with primary education or less had savings of roughly 15% and assets of about 84%, compared to respondents with tertiary education who had savings of about 55% and assets of about 94%.

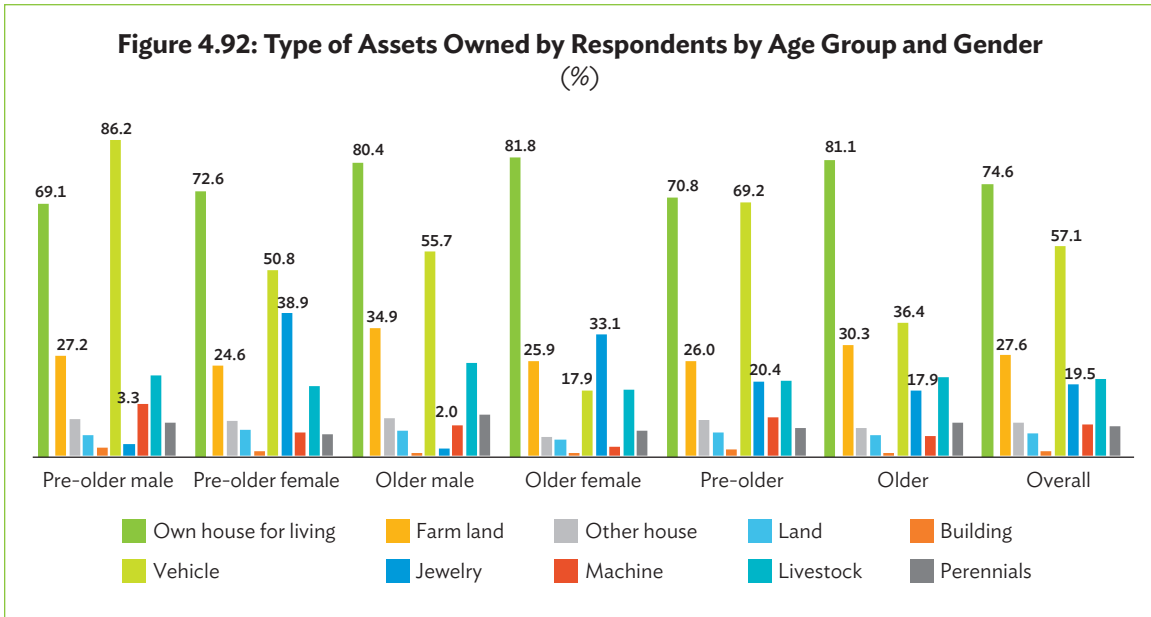
The follow-up question on savings ownership in ILAS pertains to the specific type of savings held by the respondent. The type of savings can give an indication of the respondent's financial literacy. Overall, 39% of respondents had savings in the form of receivables, 37% had savings in the bank, and 26% had savings with other financial institutions or participated in Rotating Savings and Credit Associations (ROSCAS) activities (Figure 4.90). Pre-older respondents showed higher ownership of bank savings and receivables compared to older respondents. Among older respondents, the most prevalent type of savings was for Hajj, with a proportion of approximately 21%, which was higher than that of pre-older respondents.



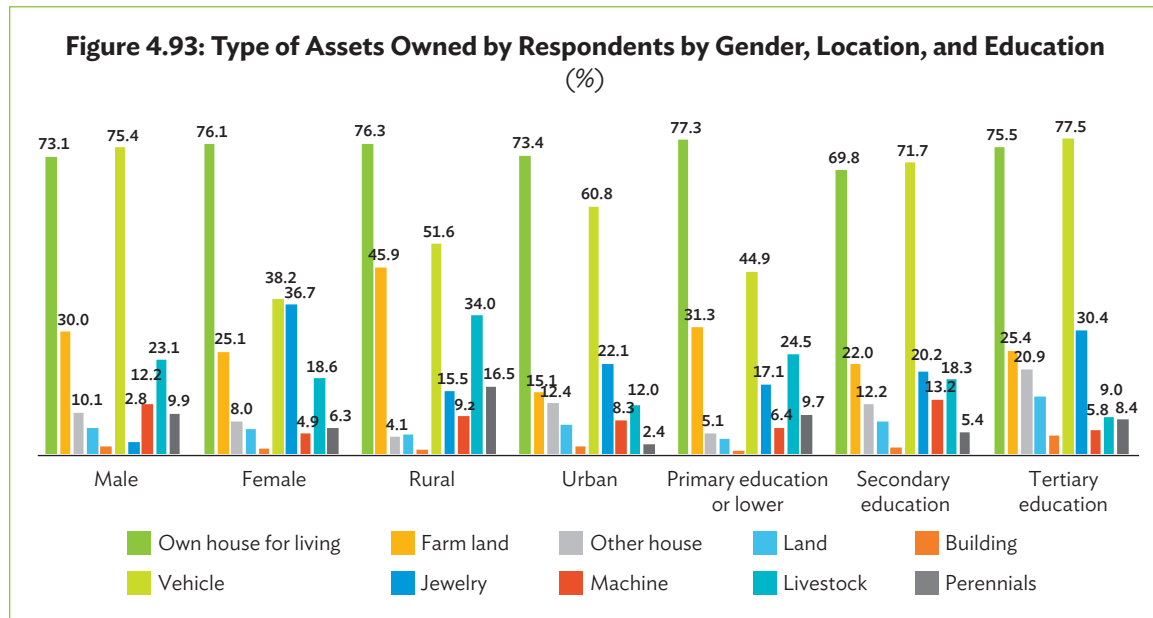
A further analysis was carried out on the types of savings by disaggregating the characteristics of the respondents. Men had a higher proportion of bank savings (42%) and accounts receivable (41%) compared to women (Figure 4.91). Women had a higher proportion of savings in other financial institutions or participation in ROSCAs activities (31%) than men. In rural areas, respondents were more likely to have savings in the form of receivables (43%) than savings in formal institutions. In urban areas, 42% of respondents had bank savings, while 37% had accounts receivable. Respondents' decision to save was influenced by their educational attainment. Respondents with a higher level of education were more inclined to save their money in formal institutions. Among those with a high level of education, 52% saved their money in banks, while 48% of respondents with a lower level of education saved in the form of receivables, with 27% saving in banks.



Asset ownership is an indicator that measures respondents' attitudes toward the accumulation of wealth. The majority of respondents, about 75%, owned assets in the form of houses, with 57% owning vehicles and 28% owning agricultural land (Figure 4.92). Older respondents had a higher homeownership rate of 81% compared to 71% among pre-older respondents. On the other hand, vehicle ownership was notably higher among pre-older respondents (69%) than among older respondents (36%).



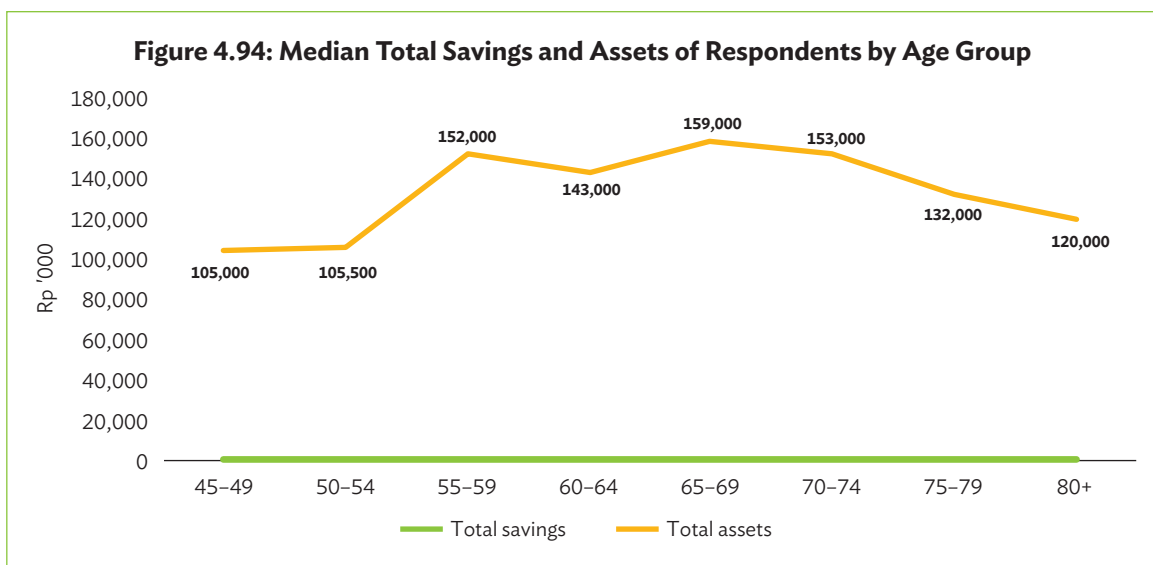
In the disaggregation analysis by gender, location, and education, the preference for assets in the form of houses remains constant (Figure 4.93). Certain characteristics can influence the various types of asset ownership. For example, women had assets in the form of jewelry at a rate of approximately 37% and in vehicles at about 38%, while men had vehicle assets at a rate of 75% and agricultural land assets at a rate of 30%. In rural areas, respondents owned assets in various forms, such as agricultural land (46%) and livestock (34%). Respondents with lower levels of education had a larger share of agricultural land than respondents with higher levels of education (31% versus 25%). In addition to houses, vehicles, and agricultural land, respondents with high levels of education also accumulated assets such as additional houses (21%) and jewelry (30%).



Life Cycle Assets and Savings

The life cycle graph illustrates the process of asset accumulation during the productive age of the respondents. The data in Figure 4.94 show that the median total savings across all age groups is 0. This suggests that some respondents prefer to accumulate assets in a nonliquid form. In the 65–69 age group, the median value of total assets peaks at around Rp159 million. With a median total assets value of Rp105 million, the 45–54 age group has the lowest value of all age groups. The primary source for the median asset value is the valuation of residential land and properties.

One of the key findings from the analysis in this section is that people tend to own more nonliquid assets than liquid assets such as savings. This finding suggests that economic shocks, such as disasters or health issues, can affect both pre-older and older people. Social protection policies should help people maintain their consumption levels when faced with unexpected shocks.



In Indonesia, assets such as houses and land are often seen as important components of retirement planning, serving as a form of investment and a cultural and familial legacy. This view is rooted in the traditional belief that owning property, particularly land and houses, symbolizes security and wealth that can be passed down through generations. According to the Indonesian Financial Services Authority (OJK), tangible assets such as real estate are an integral component of a diverse portfolio for retirement assets, supporting the idea that they are dependable stores of value over the long term. However, the liquidity of such assets is a crucial factor to consider. While they can increase in value, converting them into cash quickly can be difficult because of market conditions, legal complexities, and the sentimental value linked to family homes. This can potentially restrict their immediate usefulness as a financial asset in retirement (OJK 2021).

However, the bequest motive linked to property ownership in Indonesia highlights a wider societal value placed on intergenerational support and wealth transfer. The transfer of property to heirs not only ensures financial security for the next generation, but also cultivates a sense of heritage and connection within the family. This practice aligns with the Indonesian principle of communal cooperation (*gotong royong*), which focuses on the well-being of the family and the community. Studies conducted by the World Bank have emphasized the significance of intergenerational transfers in Asian countries, such as Indonesia. They have also underscored the crucial role that assets such as land and houses play in family retirement and inheritance planning. This approach can complement the potential for changes in value and the eventual requirement for liquidity (World Bank 2018). Essentially, the use of houses and land in Indonesia for retirement planning hinges on market conditions, the family goals, and the management of short-term needs alongside long-term inheritance plans.

Table 4.14: Key Findings and Policy Recommendations

No.	Key Findings	Policy Recommendations
1.	Many older people suffer from pain in the legs (35.7%) and knees (38.1%), with women reporting pain in the legs, knees, and head more frequently than men.	Encourage pre-older and older people to exercise weekly, engage in physical activities, and undergo basic health checks like blood pressure tests, weight, and height measurements.
2.	7 out of 10 older people have at least one noncommunicable disease. The proportion of women (pre-older 71.2% and older 72.8%) who have at least one noncommunicable disease is higher than that of men (pre-older 56.9% and older 66.4%).	Assist older people in accessing healthier food options through a cashless program for purchasing nutritious foods. Implement a program that focuses on cleanliness and hygiene to manage common diseases. This program should cover prevention, management, and monitoring.
3.	Pre-older people (aged 45–49 years) have a higher percentage of obesity (29%) than older people (18.4%). Older people (aged 60 years or older), on the other hand, are more likely to be underweight (15.5%) than pre-older people (7.2%).	Provide information about nutritious foods to older people during community activities so that they can make better choices.

continued on next page

Table 4.14 continued

No.	Key Findings	Policy Recommendations
4.	The prevalence of doctor-diagnosed hypertension is 27.1%, but the result of blood pressure measurement conducted by ILAS shows that up to 47.1% of the respondents have hypertension, suggesting that the disease is grossly undiagnosed.	<p>Increase awareness of hypertension and the associated risks among pre-older and older people, particularly women, and encourage regular checkups.</p> <p>Expand the provision of care for hypertension.</p> <p>Improve care and access to health services for patients with hypertension and encourage healthy lifestyles to lower the risk of developing hypertension.</p>
5.	Older people tend to experience a decrease in muscle mass compared to pre-older people.	<p>Encourage pre-older and older people to stay physically active to prevent muscle loss.</p> <p>Support caregivers in caring for older people with sarcopenia.</p> <p>Provide training to enhance skills for both pre-older and older people, enabling them to work for a longer period to ensure financial security in their old age.</p>
6.	Pre-older people (10.9%) are more prone to depression than older people (6.6 %).	<p>Provide information on maintaining mental health and seeking help for symptoms of mental disorder.</p>
7.	The percentage of women with depression symptoms is higher than that of men, especially among older people.	<p>Primary health-care facilities should conduct regular screenings for early detection that allows timely intervention. This needs to be supported by improving access to mental health facilities. In the Indonesian context, Posyandu Lansia cadres can potentially help improve access to mental health services.</p> <p>Provide mental health awareness training for families, caregivers, and health and long-term care providers.</p> <p>Provide peer support for pre-older and older people, particularly women, to help alleviate symptoms of depression.</p>
8.	Some 31% of older respondents have symptoms of cognitive impairment. Dementia including Alzheimer's is the most debilitating disease that limits daily activities, especially among pre-older and older women (83%–93%).	<p>Raise awareness about cognitive impairment among older people, caregivers, and health-care professionals.</p> <p>Prioritize early cognitive screening by health-care professionals in primary care facilities to promptly detect and treat cognitive impairment.</p>
9.	Among older people, the percentage of women with cognitive impairment is higher than among men.	<p>Policies should prioritize reducing the risk factors for cognitive decline by promoting healthy lifestyles, emphasizing the importance of nutrition, and encouraging mental stimulation.</p> <p>Developing a dementia-friendly community can help reduce stigma and misinformation about dementia and other cognitive impairment. It can also strengthen the support system for caregivers looking after patients with cognitive impairment.</p>

continued on next page

Table 4.14 continued

No.	Key Findings	Policy Recommendations
10.	The percentage of older people with ADL dependency and needing help with IADLs rises with age, showing a greater increase in women compared to men.	<p>Policy reforms should focus on expanding and enhancing the service of providing long-term care, such as home visits, particularly for people without caregivers who require day to day assistance and also accessing health-care facilities.</p> <p>The age-friendly environment must be promoted through investing in community infrastructure so that older people remain active and independent.</p>
11.	The percentage of people experiencing a disorder or difficulty tends to increase with age.	Increase the availability of home care services for pre-older and older people with limited mobility and communication to enhance their health and well-being.
12.	Women are more likely to experience health issues such as pain, being diagnosed with at least one disease, limitations in activities due to dementia, stroke, osteoporosis, hypertension, or obesity compared to men.	Policies and programs must ensure the access of women to various services including preventive health services.
13.	Living arrangement of older persons and the allocation of care responsibility among family members differ substantially across regions and ethnic groups. Yet, a bulk of long-term care work is performed by women in most areas.	Policymakers should consider supporting the primary caregiver when targeting social assistance. Policies must take into account the prevailing customs in the community.
14.	Most people want to continue working beyond retirement age.	<p>Employment policies should strive to create a more inclusive labor market environment for older people.</p> <p>As the dependency ratio increases, it is important to consider raising the retirement age and making it flexible.</p>
15.	Government assistance programs play a crucial role as a source of income for older people.	It is important to continue monitoring the coverage and adequacy of government assistance and ensure that such assistance reaches the vulnerable groups that need them the most.
16.	Transfers from children exceed income from personal sources and government transfers, especially for older people above 65 years old. Less than 15% of older persons in all age groups receive regular pensions.	Social protection schemes for older people including access to pensions need enhancement to alleviate the pressure on the "sandwich generations."
17.	Respondents of all age groups are more likely to have illiquid assets than liquid assets.	These findings suggest that the pre-older and older groups can be vulnerable to economic shocks such as natural disasters or health crises. Policymakers should find ways to stabilize consumption when individuals encounter such shocks.

5. LIFESTYLE, HABITS, AND LIVING CONDITIONS

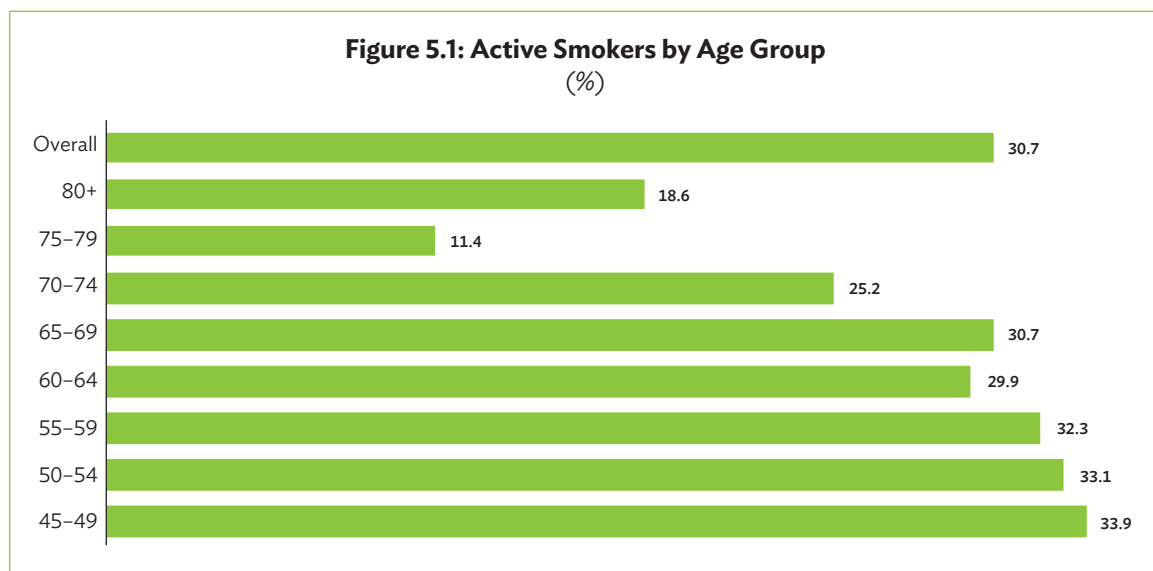
Individual Habits

Smoking Habits

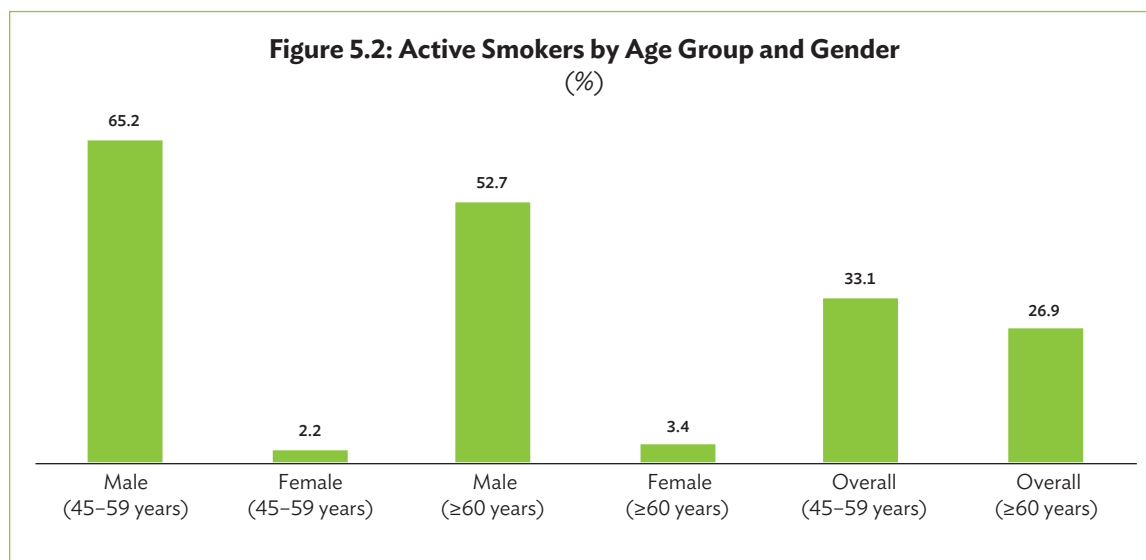
ILAS asked questions about the smoking habits and behavior of the respondent, including the type of smoking products used, such as cigarettes, e-cigarettes, vapes, pipes, pipe with tobacco, chewing tobacco, or shisha; the age at which smoking started; the duration of smoking; the age of quitting smoking; the type of cigarette used; and the daily smoking frequency.

Smoking continues to pose a significant health risk in Indonesia. The results of a 2015 study showed that 93.3% of Indonesian men and 6.9% of women were hospitalized for smoking-related conditions, including hypertension (42.65%), chronic obstructive pulmonary disease (40.2%), and stroke (5.2%), the three most prevalent smoking-related diseases in men (Kristina et al. 2018). Kosen et al. (2017) estimated that smoking-related diseases resulted in a total loss of productive years equivalent to 8,558,601 disability adjusted life years in 2015 due to morbidity, disability, and premature mortality. In 2019, the estimated economic cost of smoking ranged from Rp184.36 trillion to Rp410.76 trillion (1.16%–2.59% of gross domestic product) (Meilissa et al. 2022). Indonesia is the only country in the Asia and Pacific region that has not yet ratified the World Health Organization Framework Convention on Tobacco Control (WHO-FCTC).

The ILAS data show that about 30.7% of respondents still smoke. The percentage of smokers in the 65 and over age group tends to decrease with age, except for those over 80 (Figure 5.1).

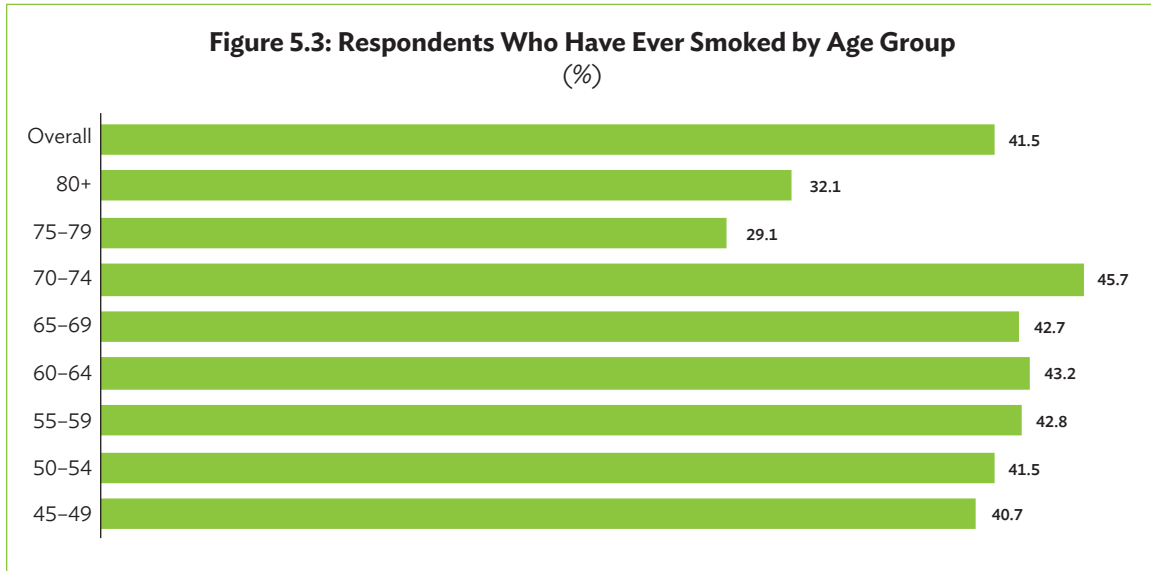


The majority of male respondents are active smokers. The share is high among pre-older (65.2%) and older (52.7%) males (Figure 5.2).

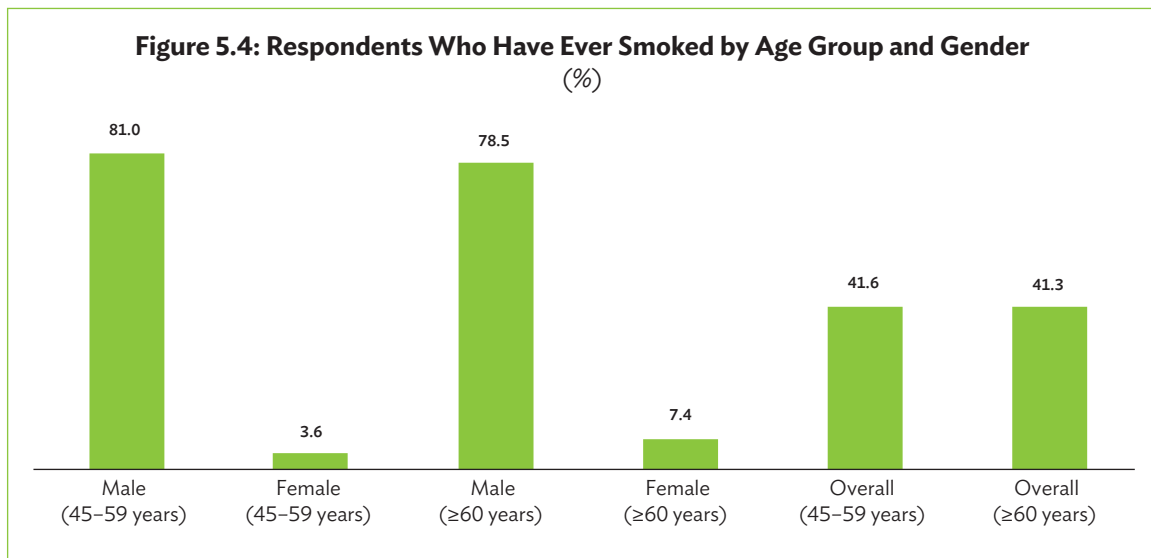


There is considerable evidence of the advantages of a healthy lifestyle, including refraining from smoking (Doll et al. 2004). Nevertheless, the results of the ILAS study confirm that community members in Indonesia, particularly men, do not follow these healthy lifestyle behaviors (Smith et al. 2014). In 2016, the Ministry of Health launched the Community Healthy Living Movement Campaign or *Kampanye Gerakan Masyarakat Hidup Sehat (GERMAS)* to motivate the community to quit smoking and adopt healthier habits. However, efforts to educate people on quitting smoking may not always lead to behavioral change due to socioeconomic factors such as education levels. Education has the potential to increase the likelihood of an individual giving up smoking (Margolis 2013). One possible reason for this is that people with higher levels of education tend to have a better grasp of health information, leading to potential behavior change. This study found that more than 70% of older people aged 80 and older have no formal education background or failed to complete elementary school (see Chapter 3 of this report). The ILAS study findings suggest that activities related to information access decrease significantly after the age of 80, potentially affecting the extent of interaction with health information (see Chapter 8 of this report).

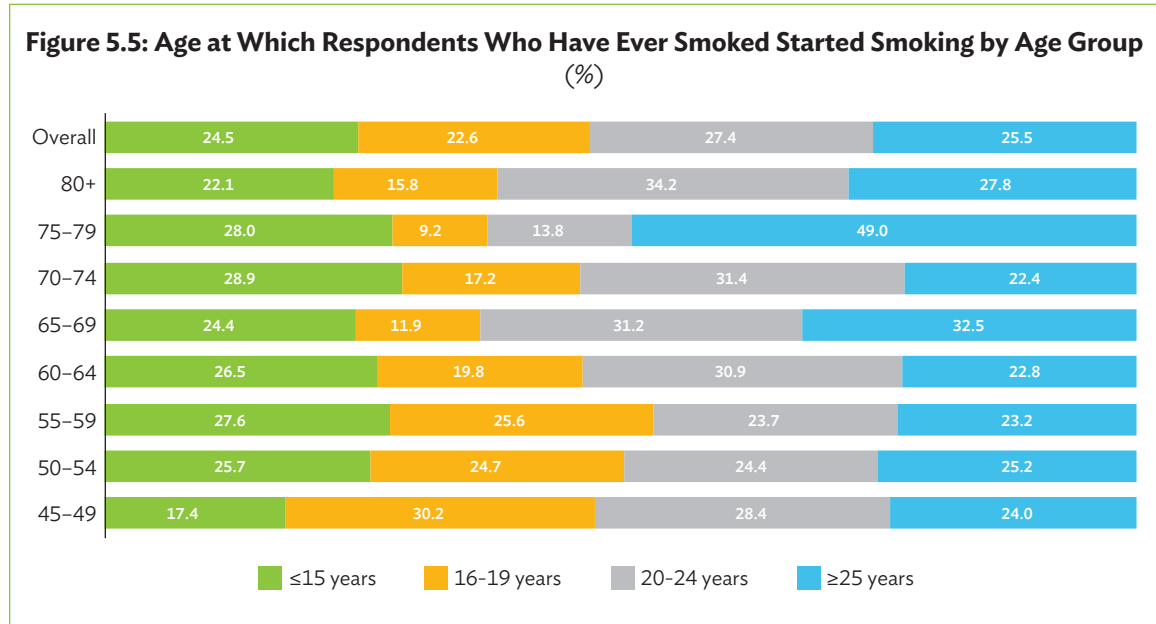
The ILAS results show that 41.5% of respondents reported smoking at some point in their lives, while 58.5% said they have never smoked (Figure 5.3).



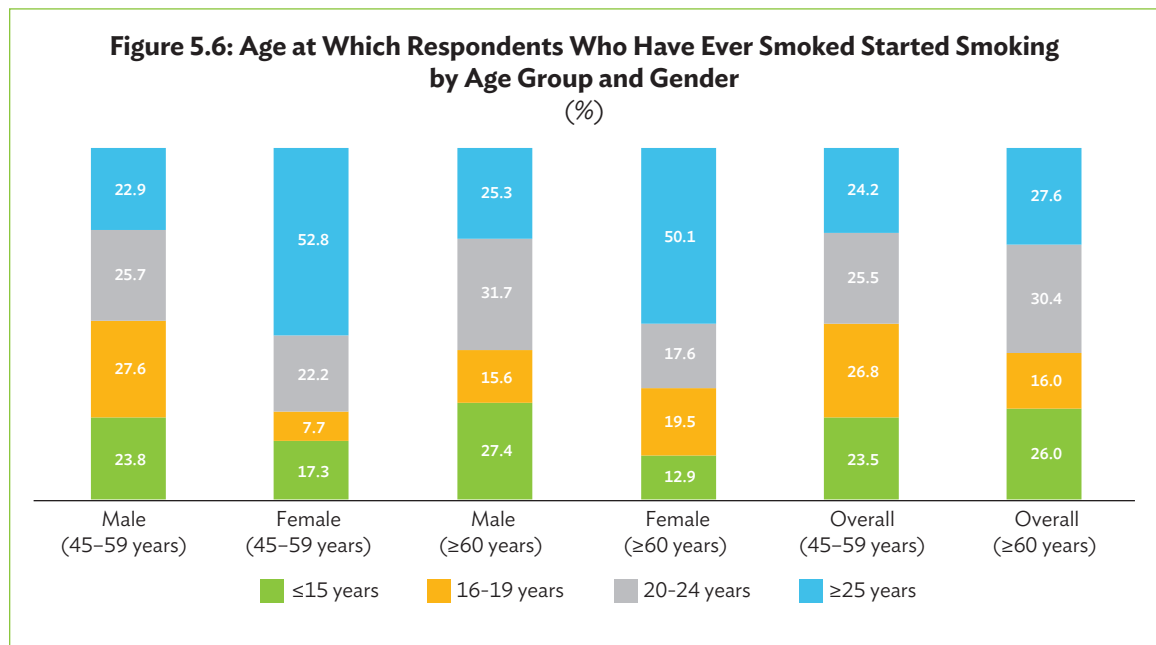
The proportion of people who have ever smoked is similar for pre-older and older people. The percentage of males who ever smoked is greater than that of females who ever smoked (Figure 5.4).



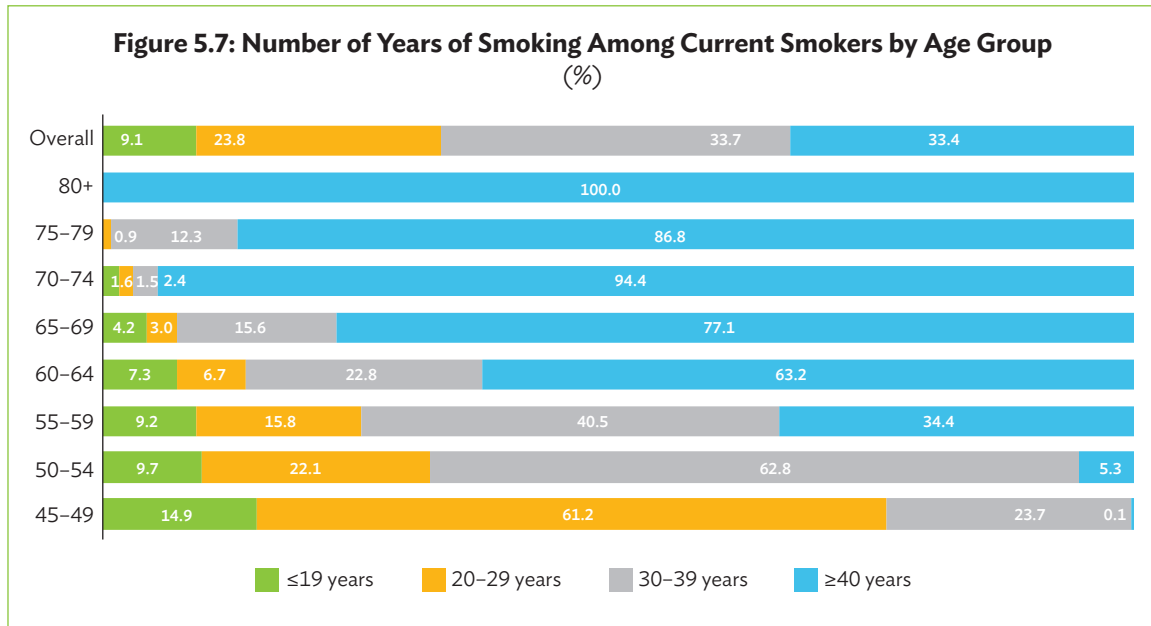
The pre-older respondents (45–59 years old) started smoking between the ages of 16 and 19, while the older respondents started smoking after 20 years old (Figure 5.5).



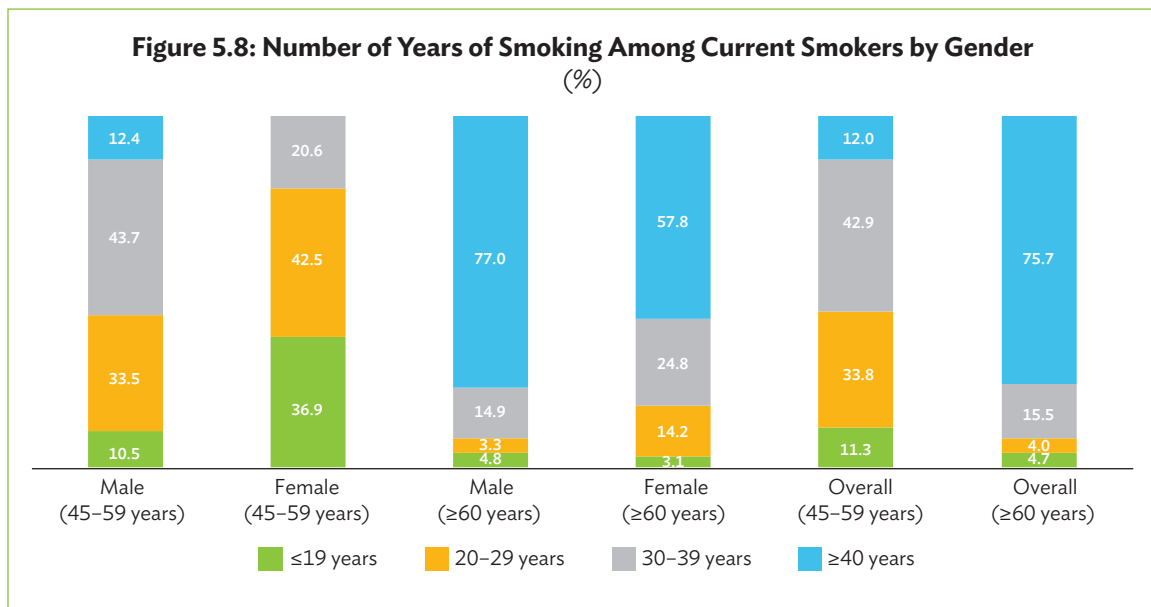
The majority of women who have ever smoked began after the age of 25, while men reported to have started smoking between 16 and 24 years old (Figure 5.6).



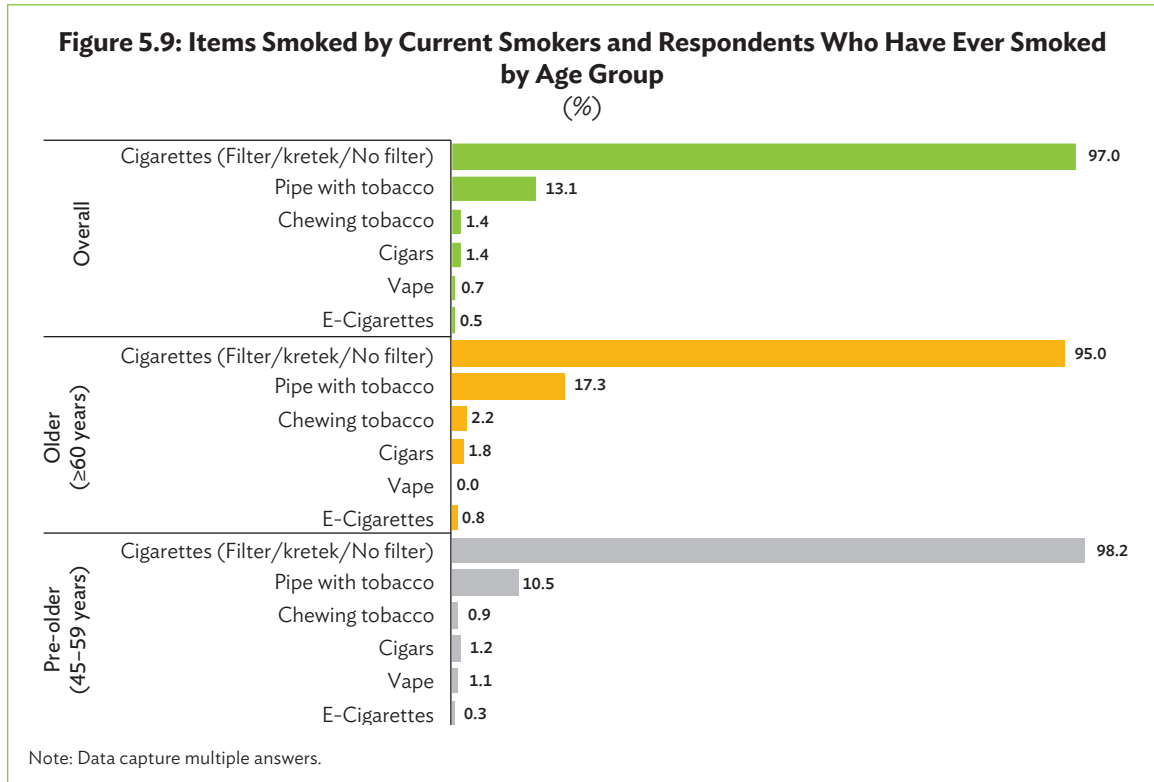
In general, most people have been smoking for at least 30 years (67.1%) (Figure 5.7).



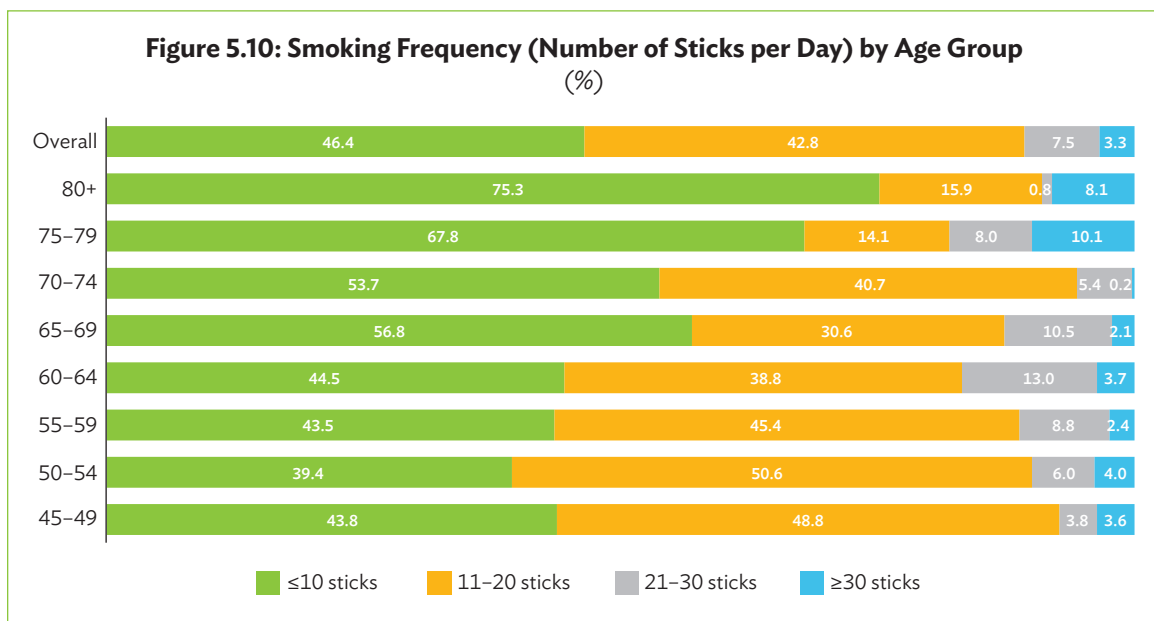
The majority of smokers in the older age group (60 years and older), have smoked for at least 40 years, while those in the pre-older age group (45-59 years) have smoked for 30-39 years (Figure 5.8).



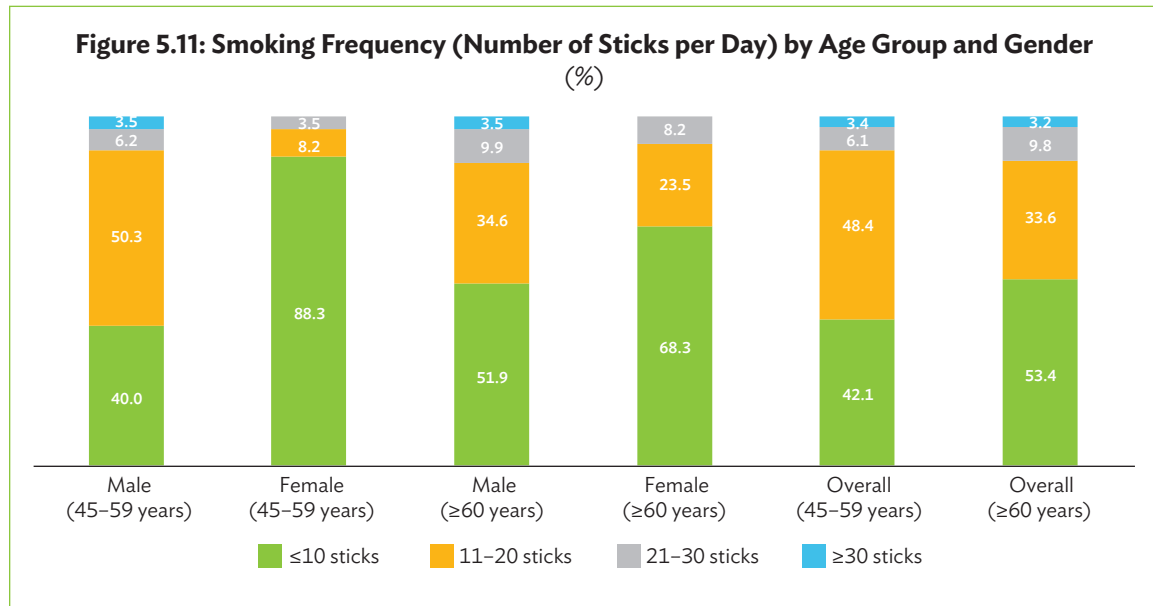
Cigarette smoking was prevalent among most pre-older and older people. Vaping was not a common habit among older people (Figure 5.9).



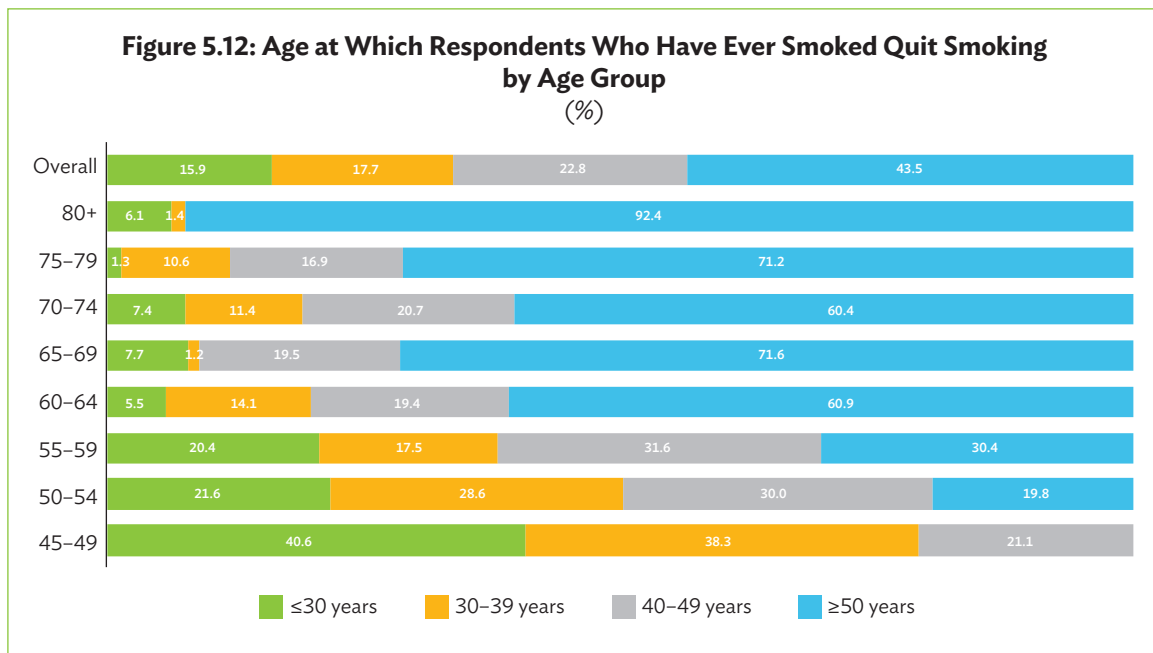
The older people who have a history of smoking (current and former) tend to smoke less frequently as they get older (Figure 5.10).



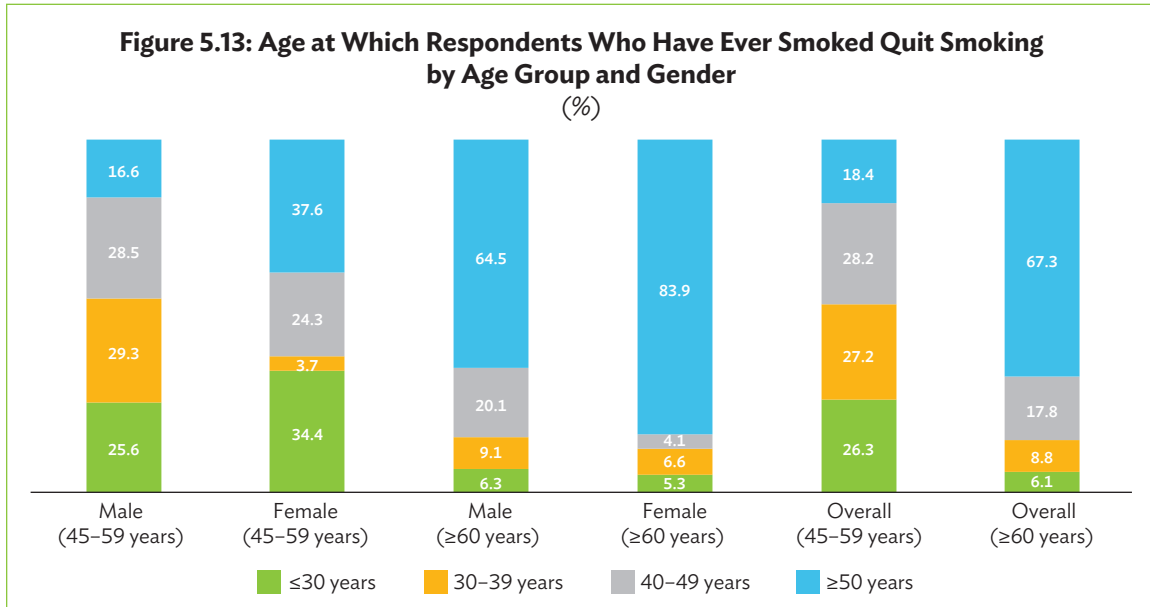
Pre-older people aged (45–59 years) typically smoke between 11 and 20 cigarettes a day, while older people (aged ≥ 60 years) smoke 10 or fewer cigarettes per day. The majority of women who have ever smoked finish up to 10 cigarettes per day (Figure 5.11).



Of those who have ever smoked, 66.3% stopped smoking after the age of 40, with 43.5% quitting after reaching at least 50 years old (Figure 5.12).

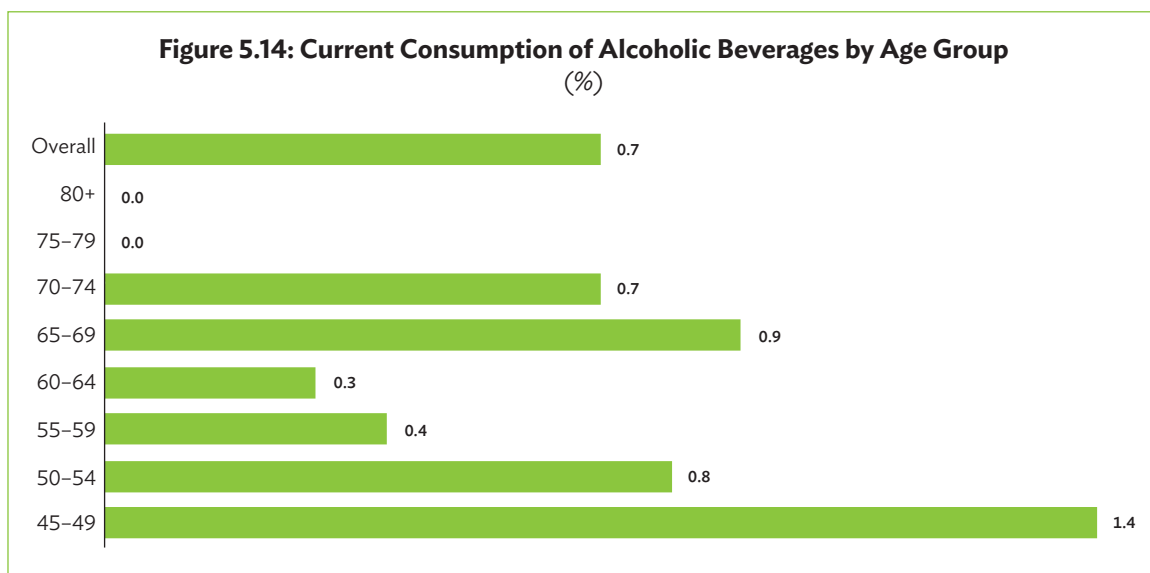


The majority of people in the pre-older age group (45–59 years) typically quit smoking before the age of 40, while those in the older age group (60 years and above) usually quit by the age of 50 (Figure 5.13).

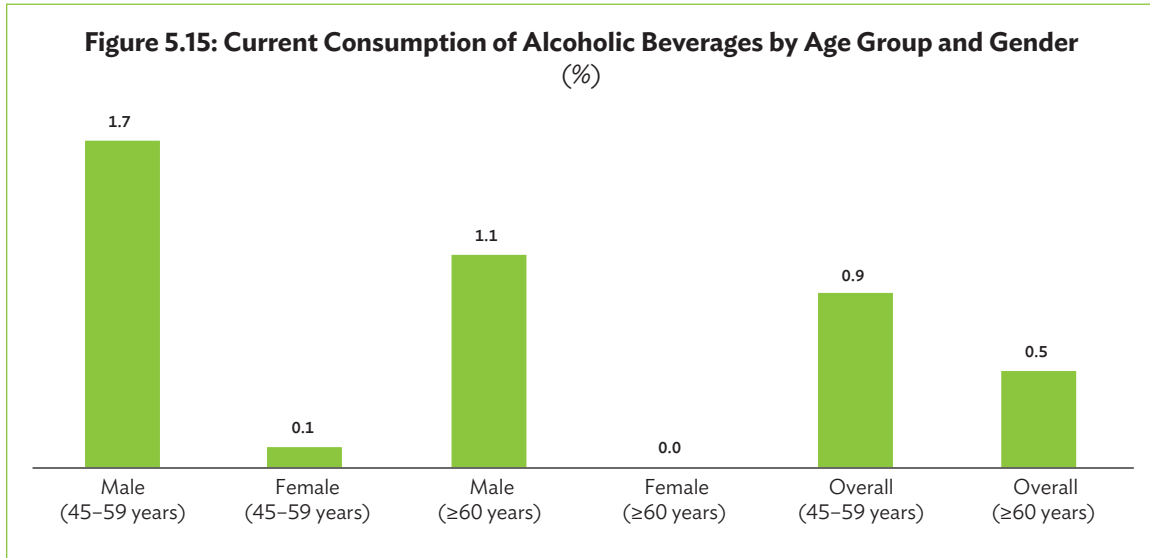


Alcohol Consumption

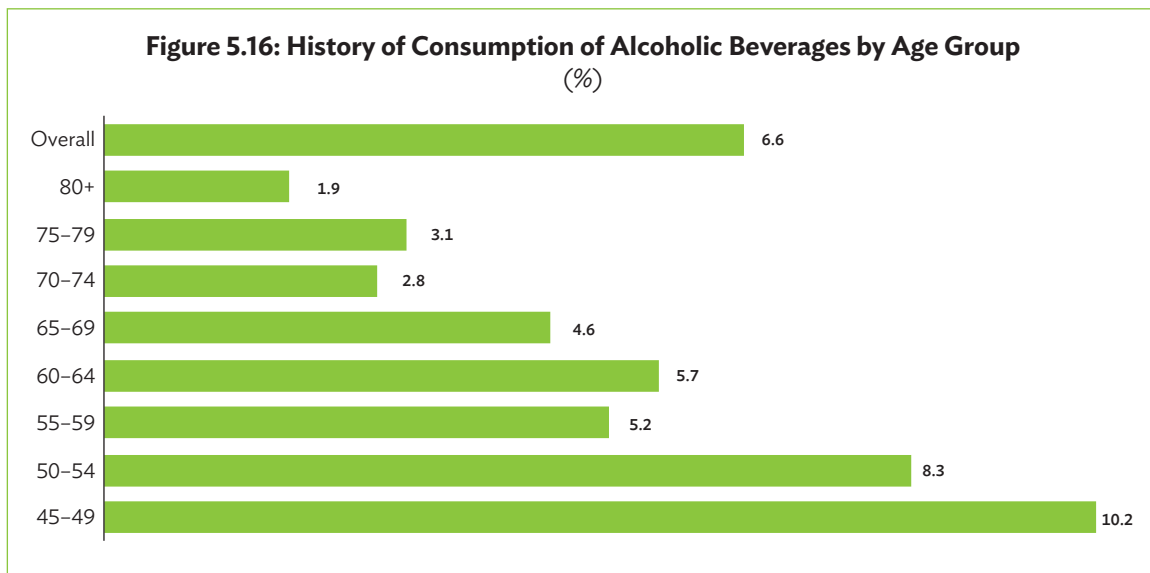
In addition to smoking, ILAS also asked about alcohol consumption. The survey asked about the age at which alcohol consumption began, the type of alcohol consumed (e.g., beer, wine, arrack or tuak), the age at which it began, and whether it was still ongoing. Of those respondents who have a history of alcohol consumption, only 0.7% continue to do so (Figure 5.14).

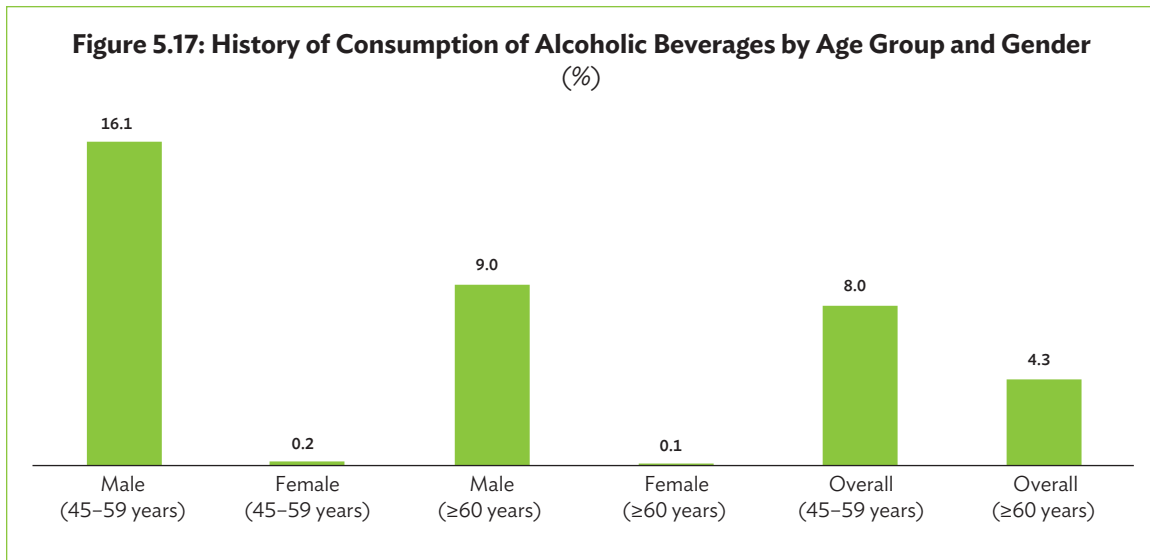


Among pre-older and older people, a marginally greater percentage of men drink alcohol compared to women (Figure 5.15).

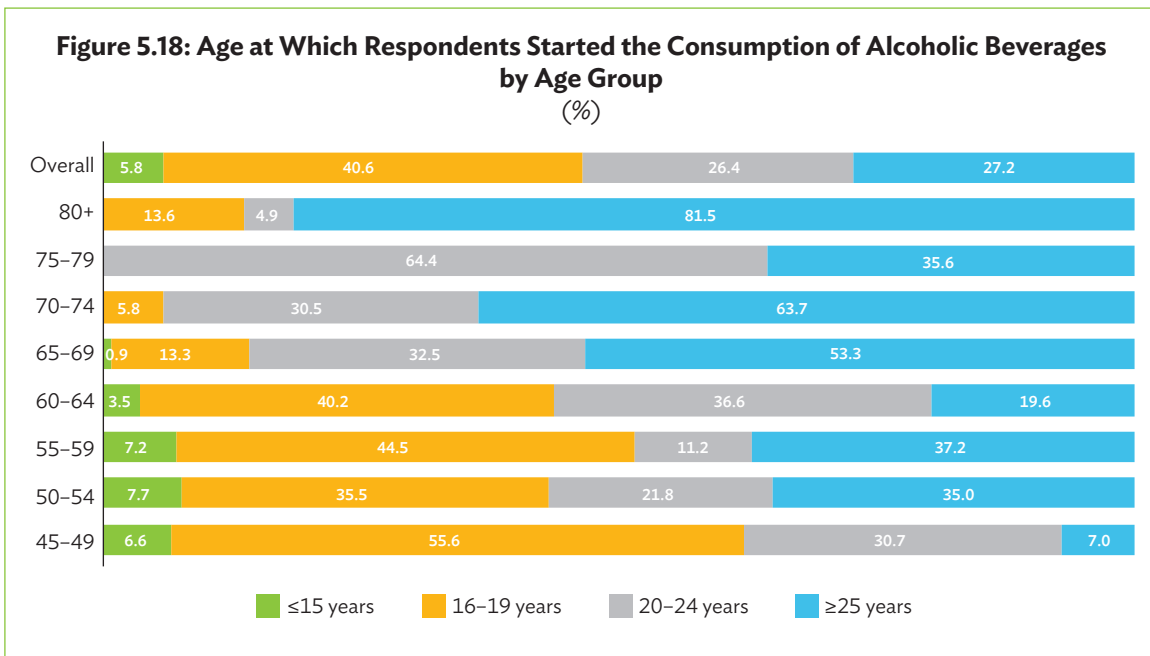


The percentage of respondents with a history of alcohol consumption is higher among younger people than older people, especially among the male group (Figure 5.16 and Figure 5.17).

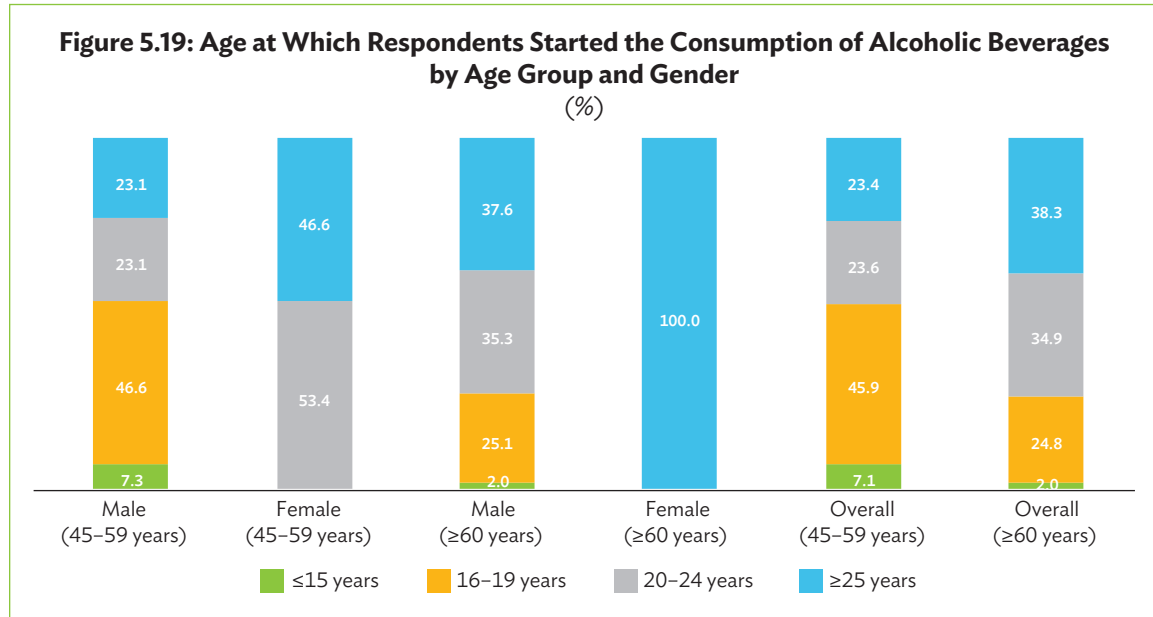




The majority of respondents started drinking between the ages of 16 and 19 years (40.6%), with only a few starting at a younger age (≤ 15 years) (Figure 5.18).



Pre-older people began consuming alcohol at a relatively young age (16–19 years), while older people started at a later age (≥ 25 years) (Figure 5.19).



Alcohol consumption in Indonesia is one of the lowest compared to other countries worldwide (WHO 2018). According to the National Health Research 2018, only 3.3% of people over 10 years old consumed alcohol in a month prior to the survey, and are predominantly men (6.1%) (Ministry of Health Indonesia 2019). Consistent with this result, ILAS also found a low prevalence of alcohol consumption in the pre-older and older population. Nevertheless, it is crucial to monitor this behavior as it is risky and can have a negative impact on health.

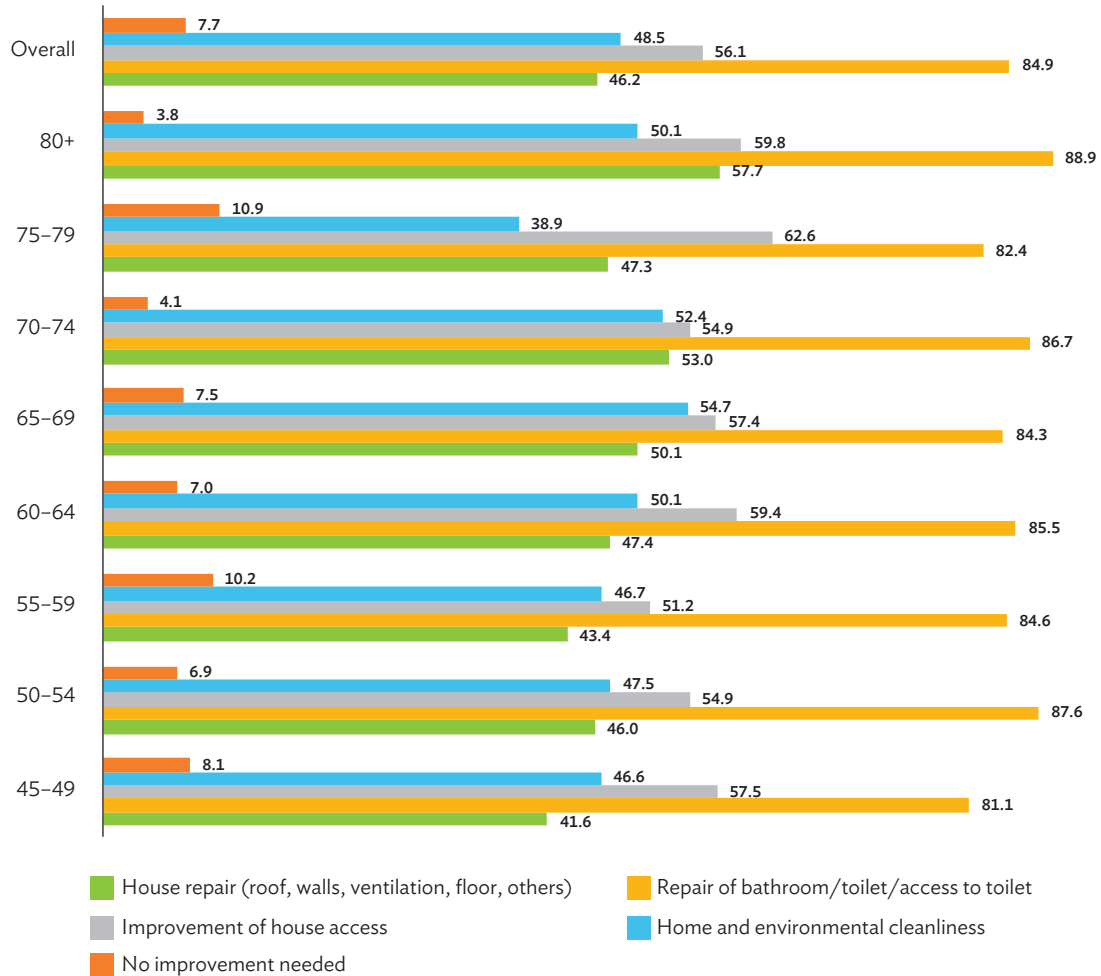
Living Conditions and Surroundings

Living Conditions and the Need for an Age-Friendly House

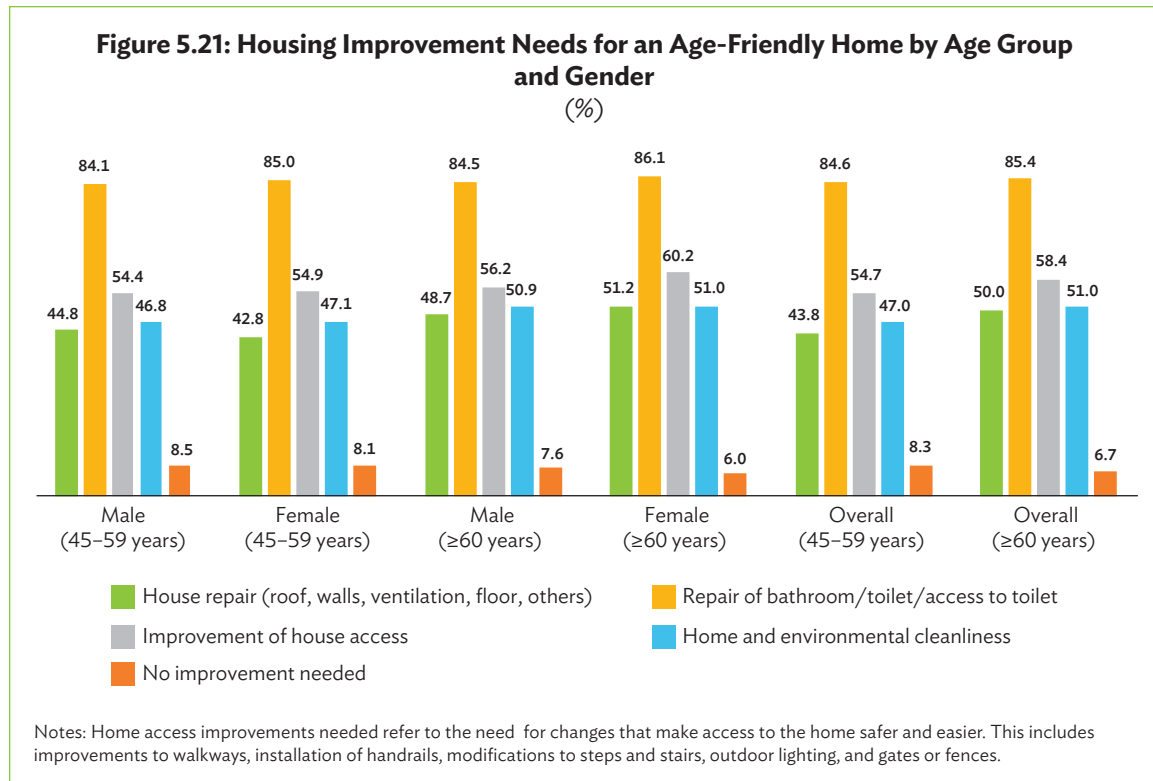
The WHO has developed a set of guidelines for age-friendly cities, which are detailed in the report, *Global Age-Friendly Cities: A Guide*, which covers eight dimensions, including housing. The guidelines are designed to ensure that all environmental factors contribute to the well-being of respondents, which include not only older adults but also other age groups and vulnerable populations. The design and building of a home can play a crucial role in the comfort of older people. For example, key elements such as a level floor, age-friendly bathrooms, and sufficient space for a wheelchair are essential for a good quality of life at home (WHO 2007).

ILAS surveyed the respondents' housing conditions to determine whether changes were needed to make them age-friendly. The majority of the respondents' homes are in need of maintenance, particularly in the bathroom, toilet, or toilet access area. The condition of and demand for age-friendly housing differ according to age group, life stage, and gender (Figure 5.20 and Figure 5.21).

Figure 5.20: Housing Improvement Needs for an Age-Friendly Home by Age Group (%)



Notes: Home access improvements needed refer to the need for changes that make access to the home safer and easier. This includes improvements to walkways, installation of handrails, modifications to steps and stairs, outdoor lighting, and gates or fences.



Perception of Abuse Among Older People

To navigate the sensitive topic of violence, ILAS took an indirect approach in the survey on abuse of older people by adopting a third-person perspective. ILAS collected data on cases of neglect or physical and verbal abuse in the respondents' environment. All respondents, with the exception of those acting as proxies were asked about these incidents and whether the older person who was abused received appropriate support.

The majority of respondents indicated that there had been no neglect or physical/verbal abuse (96.1%). Conversely, 2.5% of respondents mentioned that abuse had occurred but that victims had not received the appropriate support (Figure 5.22).

In the pre-older group, fewer women than men reported instances of neglect or violence against older people, regardless of whether or not they received sufficient support (Figure 5.23). There are no notable variations in reporting behavior between men and women in the older people group.

Figure 5.22: Perspective on Neglect or Physical/Verbal Abuse Toward Older People in the Neighborhood by Age Group (%)

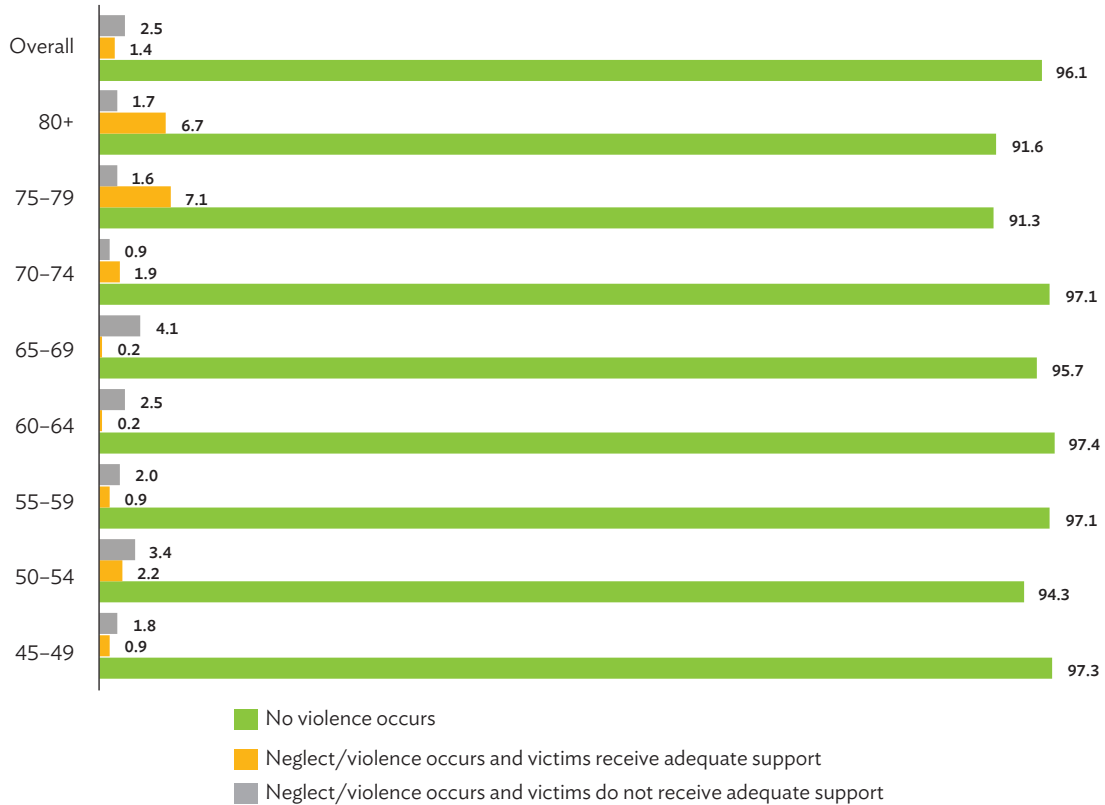


Figure 5.23: Perspective on Neglect or Physical/Verbal Abuse Toward Older People in the Neighborhood by Age Group and Gender (%)

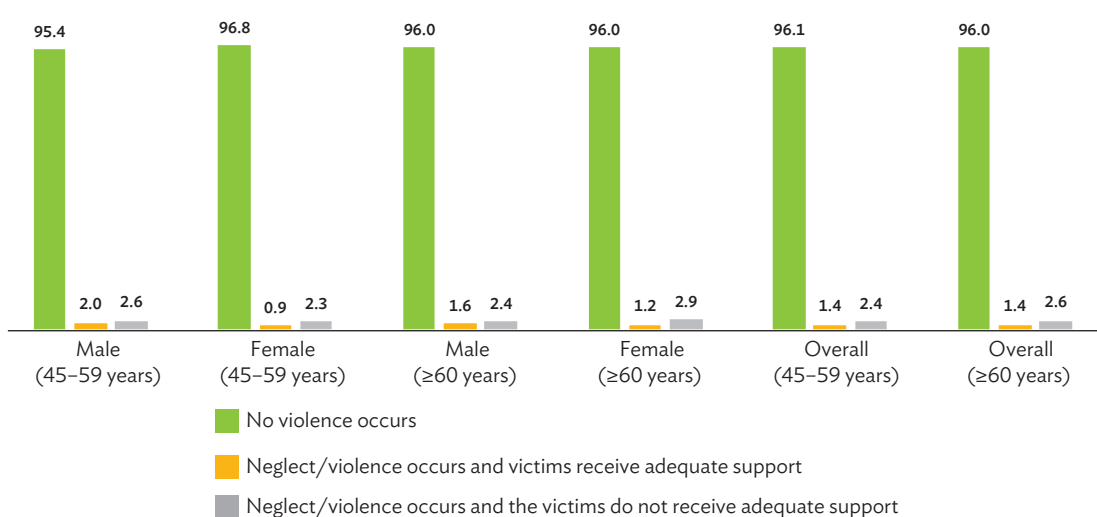


Table 5.1: Key Findings and Policy Recommendations

No.	Key Findings	Policy Recommendations
1.	The majority of male respondents are active smokers, including 52.7% of those aged 60 and above, having smoked for more than 40 years.	Develop and/or strengthen a community health campaign to raise awareness among pre-older and older people about the long-term risks of smoking and the advantages of quitting, taking into consideration the information access pattern and other behavioral insights on the target groups.
2.	Twenty-three to 26% of pre-older and older people start smoking before the age of 15, with over 50% smoking more than 11 cigarettes per day.	Offer a smoking cessation service as part of the home-based service for pre-older people (aged 45–59 years old) and older people (aged 60 years and older).
3.	Most homes are not yet age-friendly and need to be repaired, especially when it comes to bathrooms, toilets, or toilet access.	Provide education on age-friendly homes to ensure safety and accessibility for older people living in these homes.
		Provide support to families by offering help with renovation or providing tools to improve access and mobility for poor older people. The community can also support the families by developing a renovation service.
		Inform the Ministry of Public Works and Public Housing and its line ministries and other institutions, and companies, about the importance of age-friendly housing. Encourage them to incorporate the concept of age-friendly housing in their house renovation programs, particularly in cases where older people live, to ensure habitable living conditions for all.
		Develop a housing complex for older people with age-friendly facilities to reduce dependency and prevent social isolation.
4.	Overall, 2.5% of respondents reported that older people have been neglected or physically and/or verbally abused, but the victims have not received appropriate support from their community.	The initiatives implemented need to include more training for caregivers, health service professionals, and law enforcement officials to effectively detect and report abuse.
		Community leaders (religious leaders, village leaders, etc.) can be better informed and made aware of the fact that abuse toward older people occurs in their community. Their intervention and support are necessary to prevent future incidents and to ensure that victims receive the support they need.
		Awareness campaigns can educate the community about the signs of abuse toward older people and the importance of reporting such incidents.
		Provide comprehensive physical and psychological recovery services for victims, including counseling, therapy, and legal assistance. These services should be easily accessible and supported by government and nongovernment organizations.

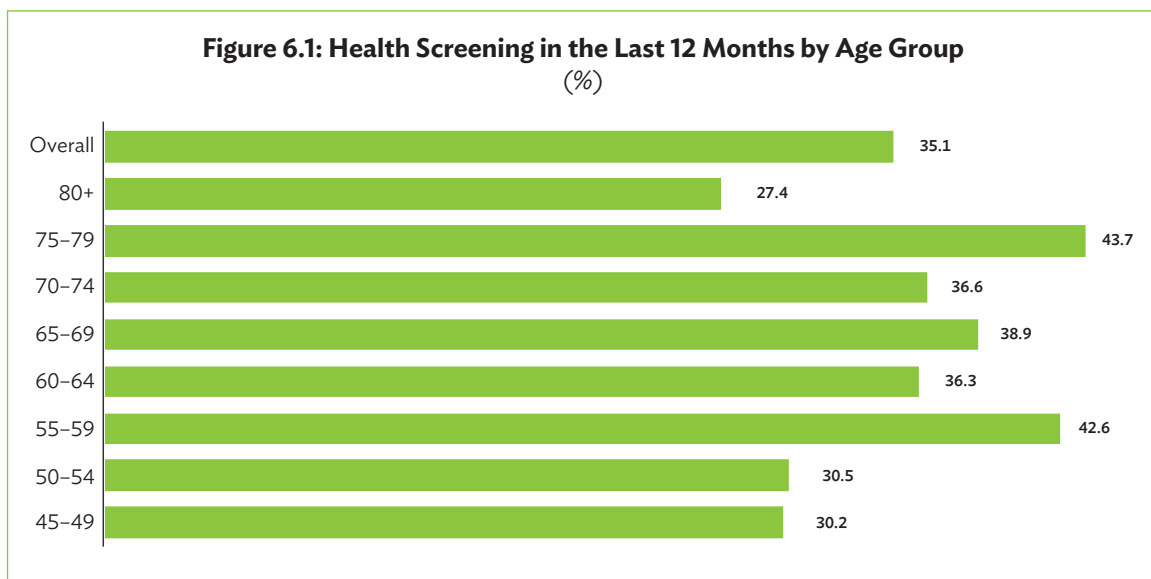
6. HEALTH AND AGED-CARE SERVICES

Utilization of Health Services

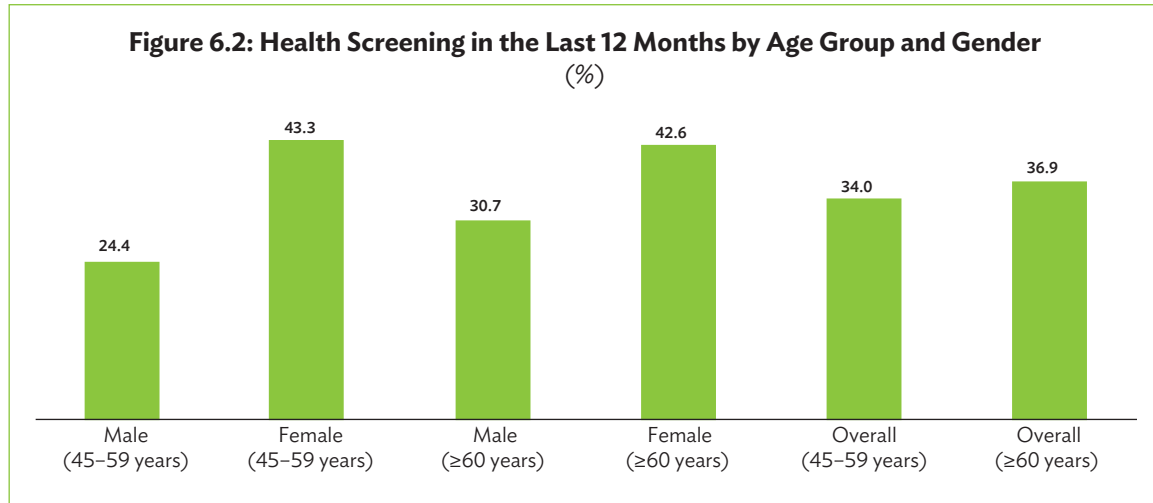
Health Screening

According to the Ministry of Health's Regulation No. 6 of 2024 on the Technical Standard for Fulfillment of Health Minimum Service Standard, older people are entitled to annual screening for risk factors. The standard screening service for risk factors for older people conducted by the Primary Health Care (Pusat Kesehatan Masyarakat [Puskesmas]) includes (i) measurement of height, weight, waist circumference, and upper arm circumference; (ii) blood pressure measurement; (iii) blood sugar test; (iv) cholesterol test; (v) a simple screening for older people (Skrining Lansia Sederhana) to measure intrinsic capacity decline (cognitive abilities, mobility limitations, malnutrition, visual and hearing impairment, and depression); (vi) independence; and (vii) a history of risk behaviors.

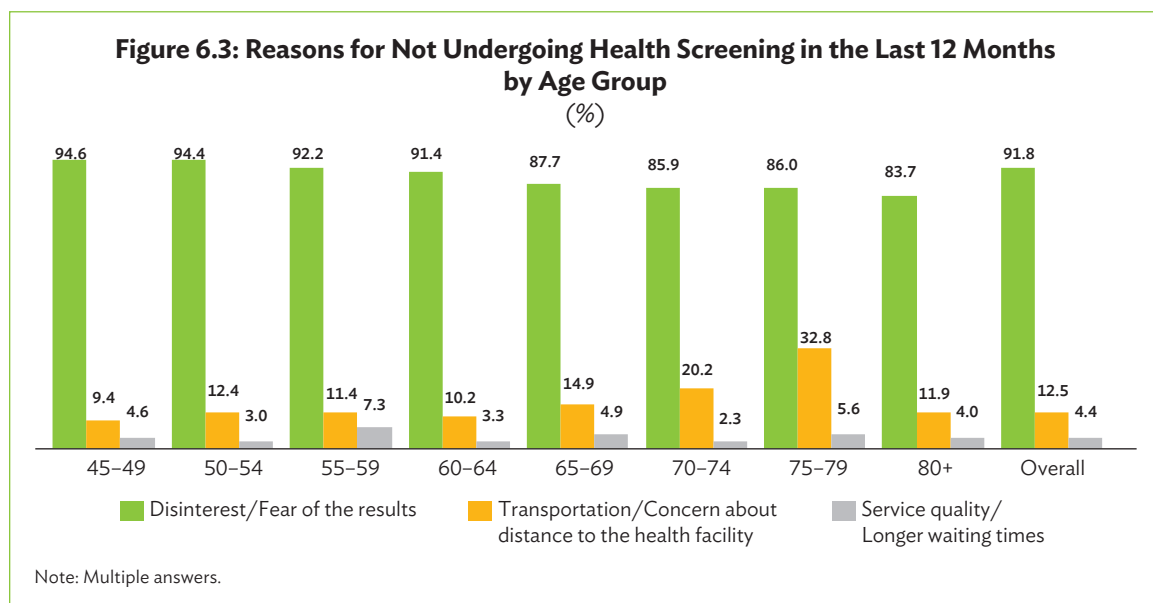
The ILAS study includes health screening questions such as blood sugar levels, cholesterol levels, and cognitive and mental health assessments over the past 12 months, with the exception of weight, height, and blood pressure measurements, as these are already included as part of regular check-ups at the Posyandu for Older People (Posyandu Lanjut Usia). Blood pressure measurement is a standard part of screening in all Puskesmas (Suriastini et al. 2023a). Of the ILAS respondents, only 35.1% mentioned that they had undergone health screening in the last year (Figure 6.1).



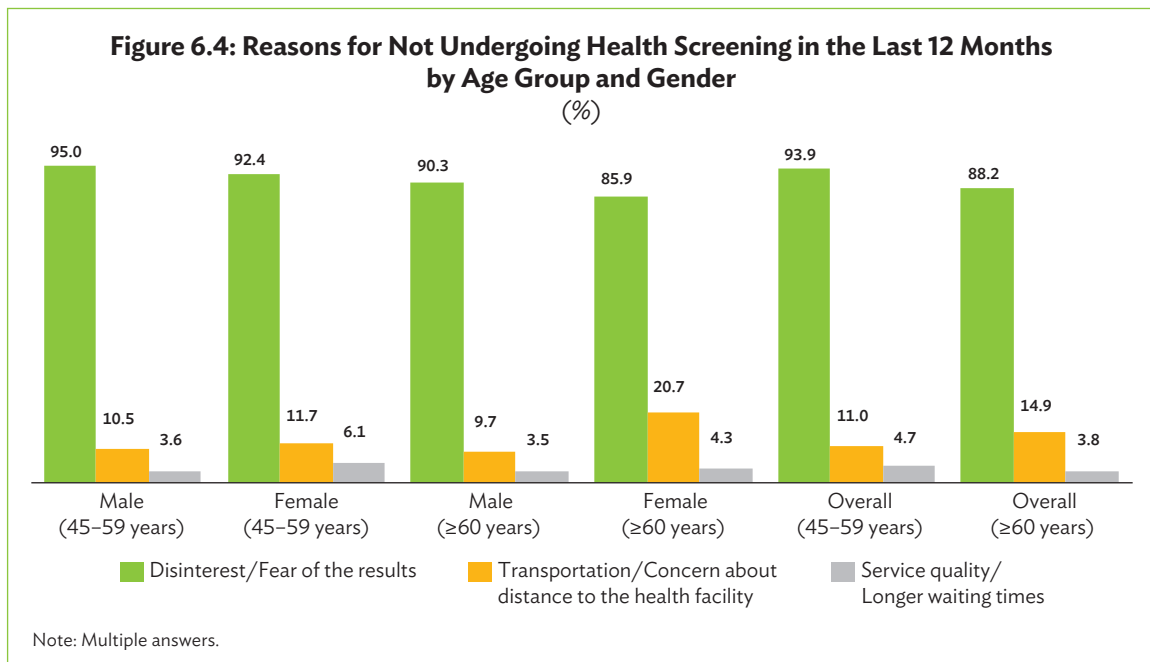
More respondents in the older age group (60 years and older) reported to have undergone health screening than people in the pre-older age group (45–59 years). Furthermore, more women than men, regardless of age, take part in health screening (Figure 6.2).



The ILAS study identified three main reasons why people do not undergo health screening: lack of perceived need, transportation problems, and concerns about the quality of services (Figure 6.3 and Figure 6.4). Respondents reveal that they did not see the need for screening for a variety of reasons: screening is not mandatory, they are too busy, no health issues were found during a previous screening, and/or fear of the outcome. Access issues can arise due to a few key factors: lack of money for transportation, lack of available transportation options, distance to the facility, and lack of a companion to assist. Longer waiting times at the screening venue and lack of money for the screening are additional constraints.



Only a small percentage (4%) reported service quality and extended waiting times as reasons for not undergoing health screening. A bigger share of respondents aged 70 to 79 (20% to 33%) reported transportation and distance to the health-care facility as the issue (Figure 6.3). Although the majority of female respondents cited disinterest and/or fear of the results as a reason, a larger proportion of female respondents reported transportation and distance as the issue (Figure 6.4).



The National Strategy for Aging envisions that 80% of older people will undergo a standard health examination by 2024. Additionally, the National Action Plan for Older Persons Health 2020–2024 (RAN Kesehatan Lanjut Usia 2020–2024) stipulates that 60% of pre-older people will take part in standard health screening by 2023. ILAS reports that 34% of pre-older people and 37% of older people take part in health screening. This means that the targets set by the National Action Plan for Older Persons Health 2020–2024 (RAN Kesehatan Lanjut Usia 2020–2024) have not been achieved. Improvements in effort and commitment are crucial to successfully achieve the goal set in the national strategy.

Outpatient Treatment

On average, 47.2% of ILAS respondents have visited a health facility for outpatient care or medical treatment in the last 12 months. (Figure 6.5). This includes all visits to different types of health service providers such as public, private, or traditional institutions.

In the past year, around 52% of older people aged 60 and older have undergone outpatient care or medical treatment at home in the past 12 months. Among pre-older people, more women than men received outpatient treatment, but there was no significant gender difference among older people (Figure 6.6). The incidence of outpatient care or medical treatment at home increases with age, with three or more cases in the last year (Figure 6.7).

Figure 6.5: Outpatient Care Visits or Medical Treatment at Home in the Last 12 Months by Age Group (%)

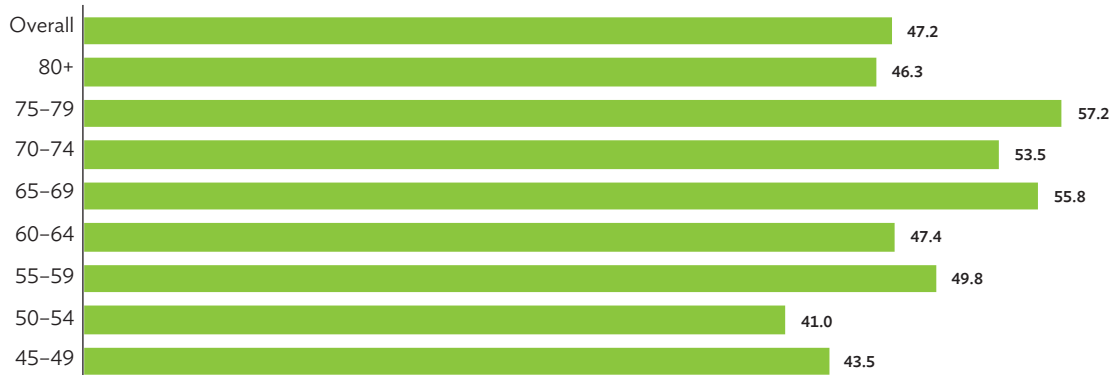


Figure 6.6: Outpatient Care Visits or Medical Treatment at Home in the Last 12 Months by Age Group and Gender (%)

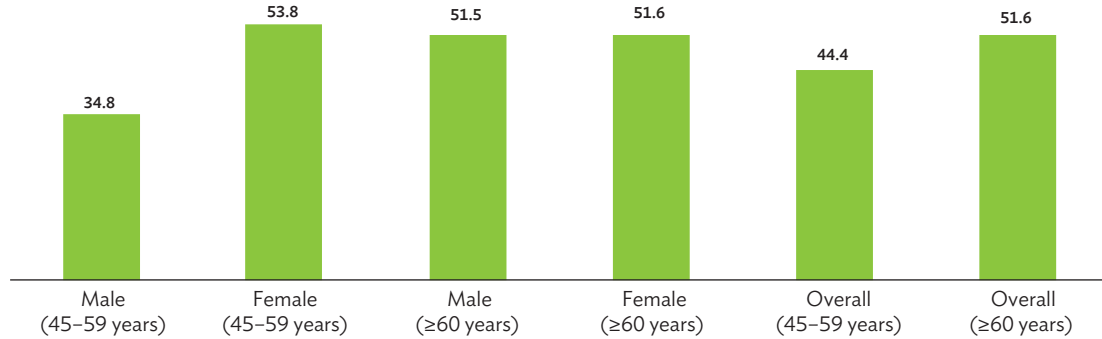
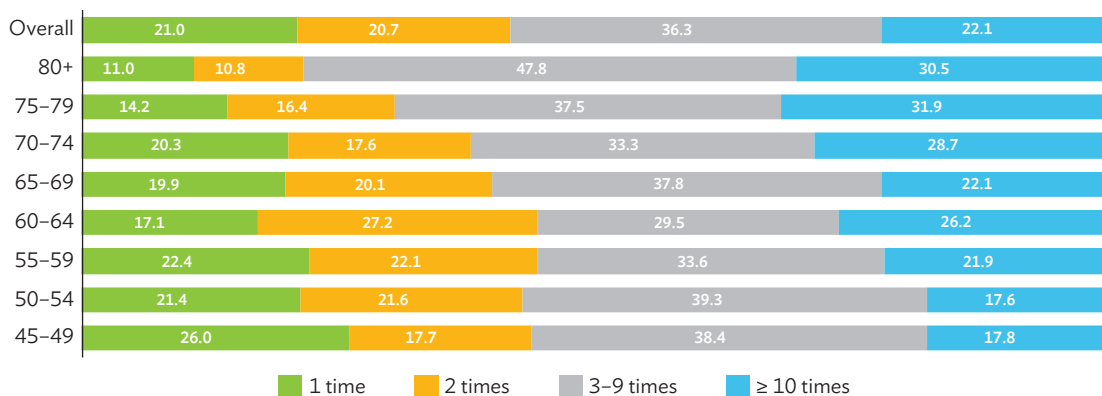
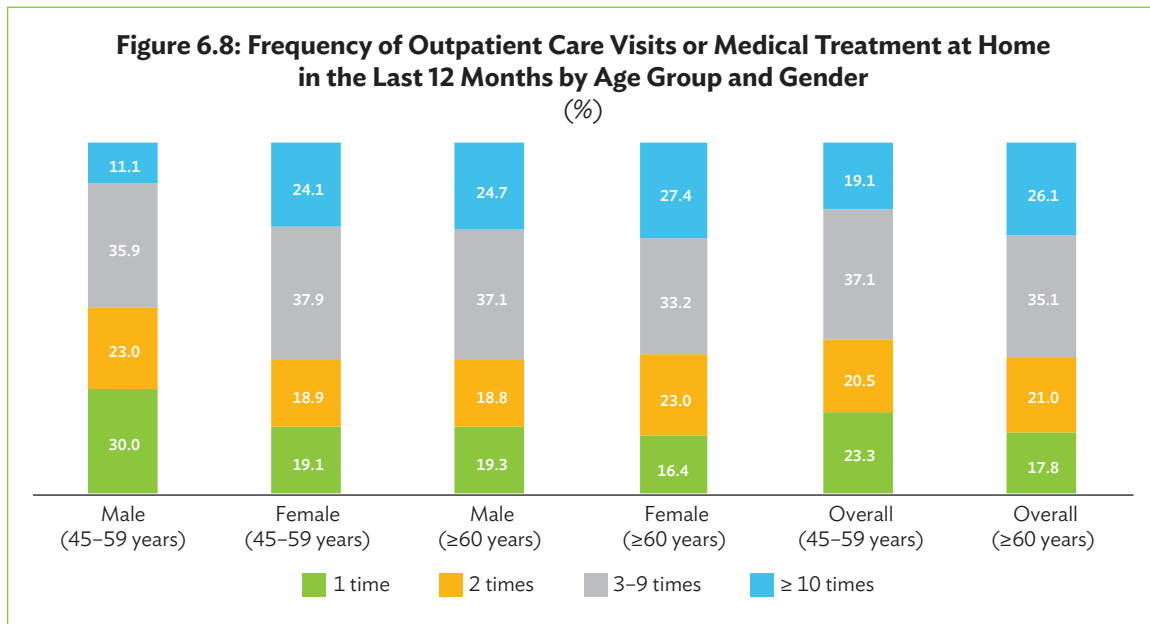


Figure 6.7: Frequency of Outpatient Care Visits or Medical Treatment at Home in the Last 12 Months by Age Group (%)



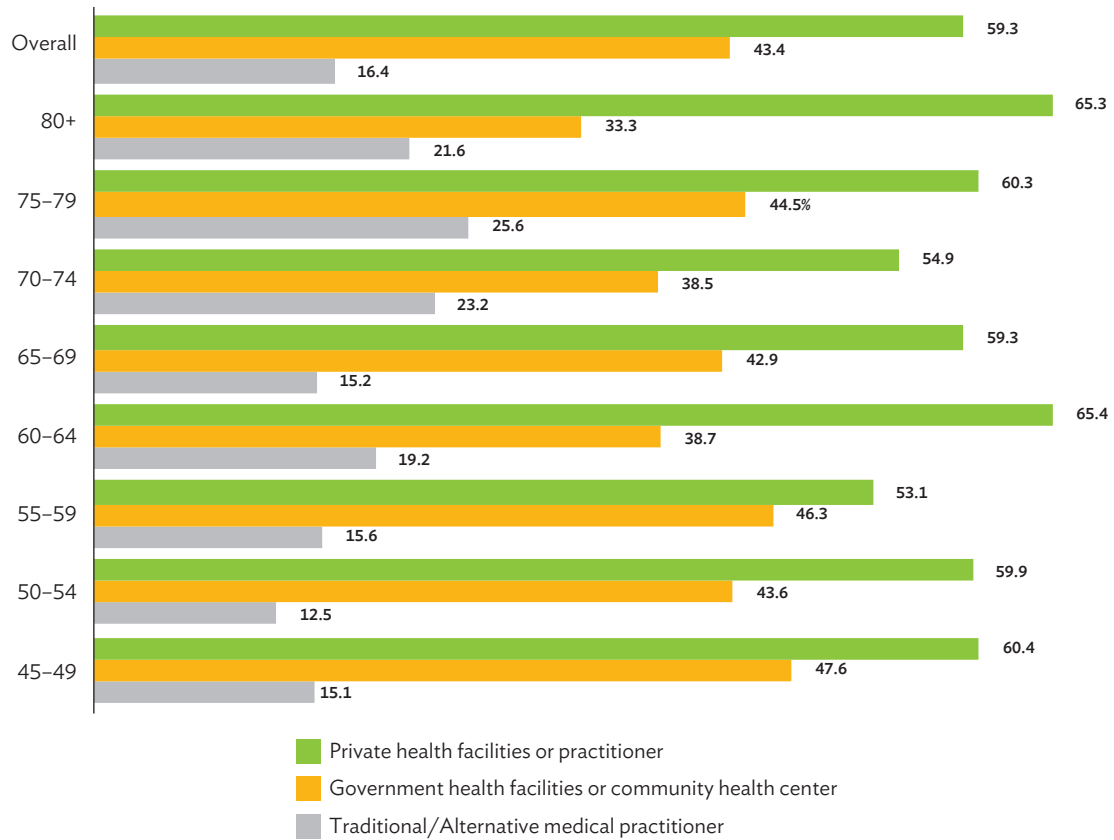
In the last 12 months, more pre-older women than men received outpatient care and/or medical treatment at home more frequently (≥ 10 times) (Figure 6.8). The reason for this could be the higher percentage of women medically diagnosed with at least one ailment, such as ulcers or other digestive problems, hypertension, or high cholesterol, which is 10%–14% higher than for men (see Chapter 4). Furthermore, women are more likely than men to be aware of using health-care facilities for degenerative diseases such as hypertension, particularly blood pressure screening, medication, and control (Rao Guthi et al. 2023).



On average, 59% of respondents reported seeking outpatient care from private health-care facilities (Figure 6.9). This proportion is particularly higher among respondents aged 60–64 years and 80 years and older (65%). Although a lower percentage than for private care facilities, a huge share of older respondents also seek care from government health-care facilities (40%). The share of respondents seeking traditional and alternative care is at least half that of respondents seeking care in public or private health facilities. Women tend to visit private health-care facilities more often than men (Figure 6.10).

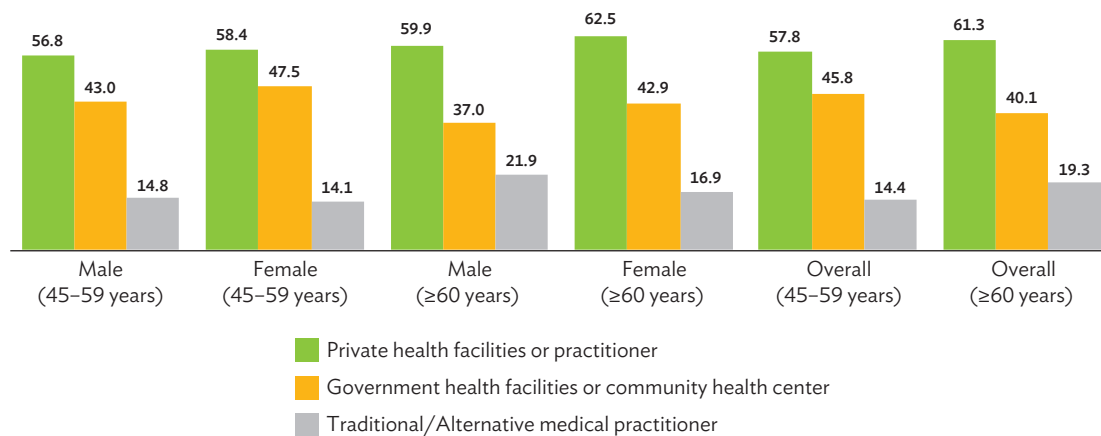
Older people with disease or illness often require a companion for their visit to health-care facilities. Overall, 82% of respondents had an accompanying person during their visit to the health-care facility. As age increases, the share of older people who are accompanied by their spouse during outpatient treatment decreases (Figure 6.11). Conversely, the share of older people who are accompanied by their sons and sons-in-law increases with age. The data also show that the share of respondents who do not have a companion increases with age.

Figure 6.9: Outpatient Care Visits in the Last 12 Months by Age Group and Type of Facility (%)



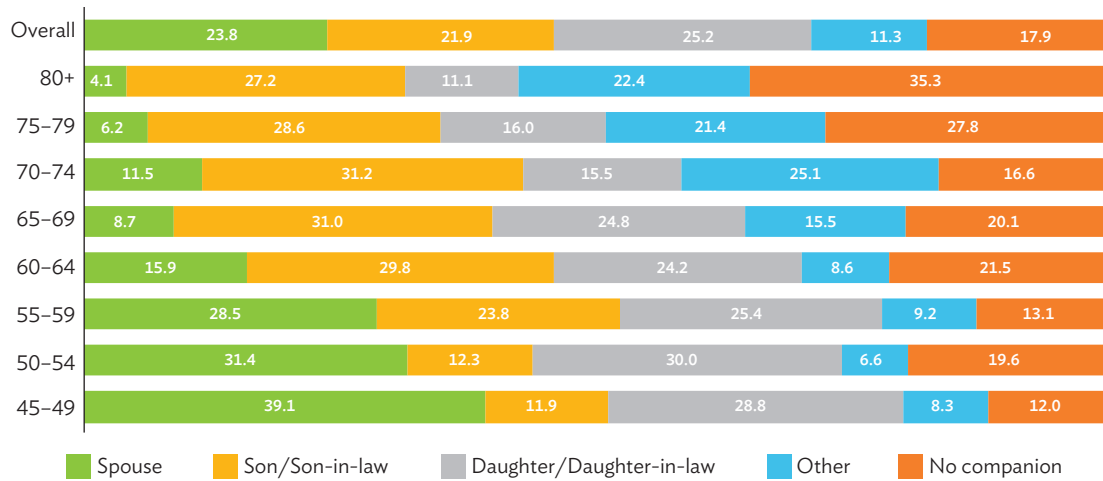
Note: Multiple answers.

Figure 6.10: Outpatient Care Visits in the Last 12 Months by Age Group, Gender, and Type of Facility (%)



Note: Multiple answers.

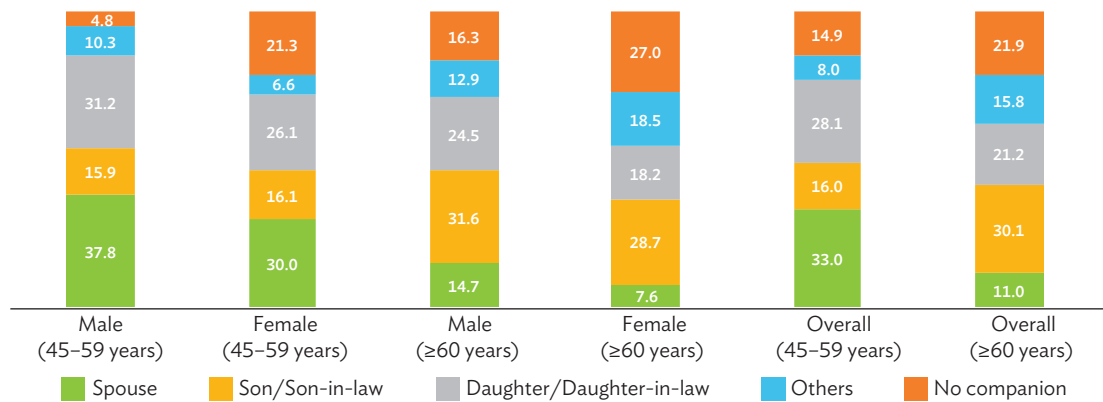
Figure 6.11: Primary Person Accompanying Outpatient Treatment in the Last 12 Months by Age Group (%)



Note: Other companions include grandson, granddaughter, nephew/niece, friend or neighbor, professional nurse.

Pre-older people (aged 45-59 years) are more likely to be accompanied by their spouses during outpatient treatment (Figure 6.12). Although a larger proportion of older respondents are accompanied by either child or child-in-law (51%), more older than pre-older respondents reported that they had sought outpatient care by themselves. Particularly, more women than men received outpatient treatment without a companion (Figure 6.12).

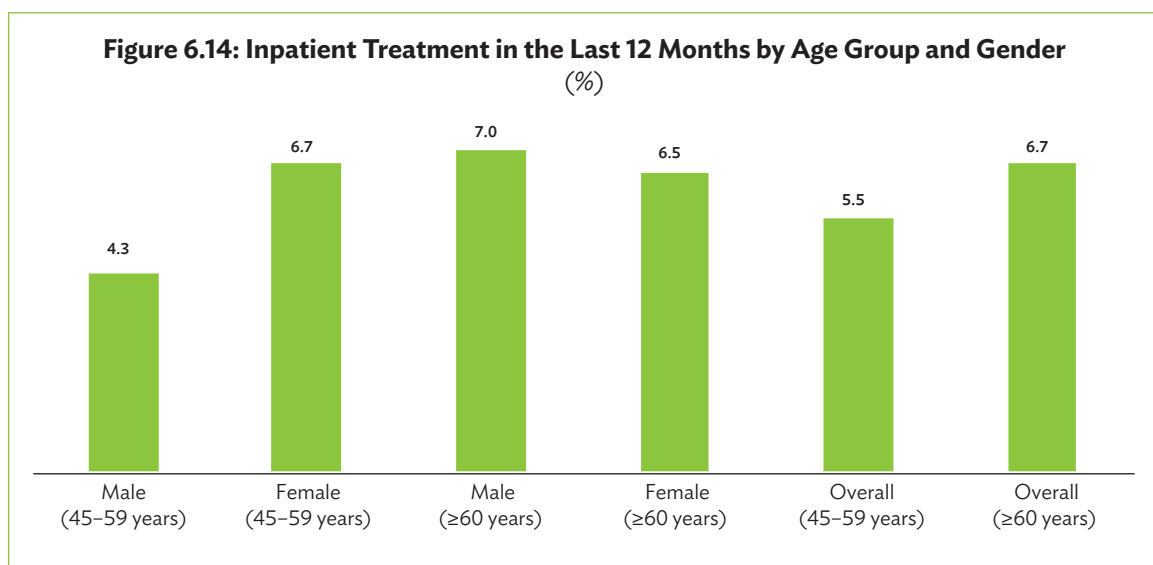
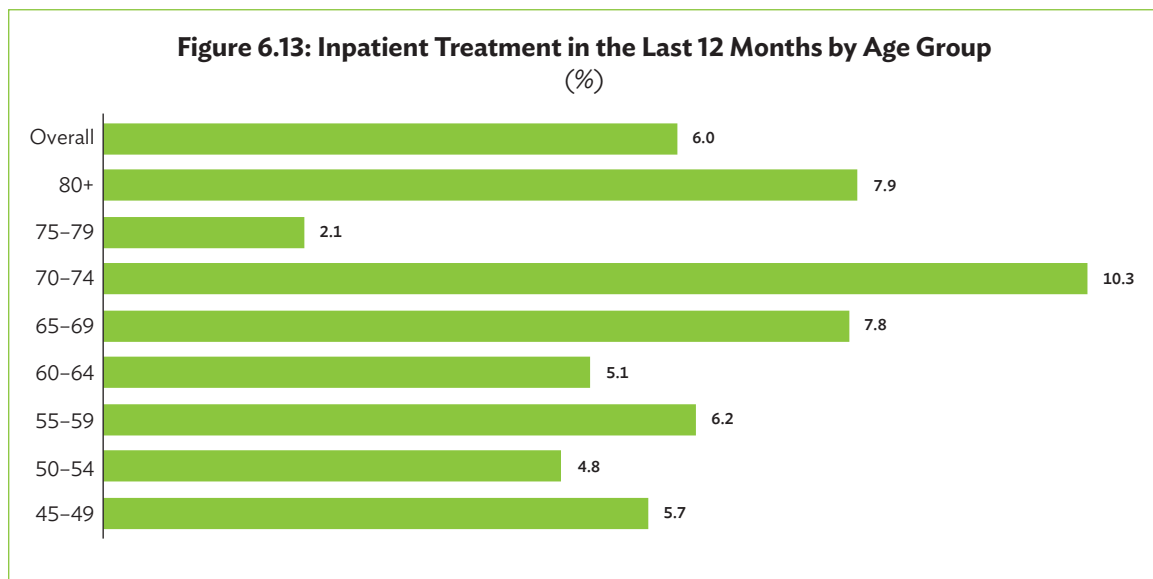
Figure 6.12: Primary Person Accompanying Outpatient Treatment in the Last 12 Months by Age Group and Gender (%)

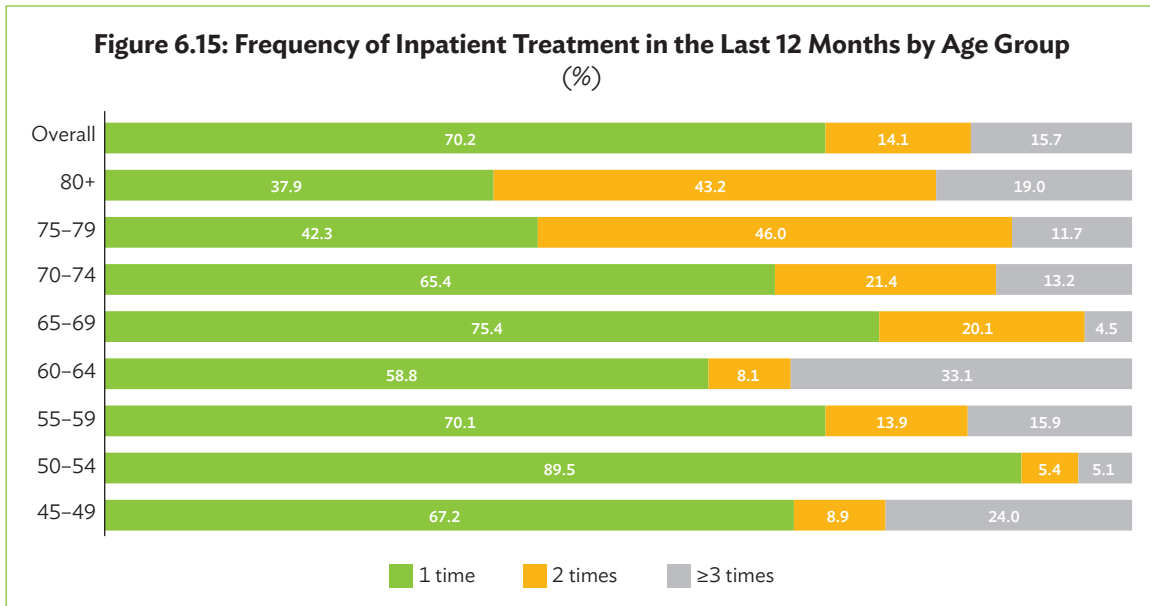


Note: Other companions include grandson, granddaughter, nephew/niece, friend or neighbor, professional nurse.

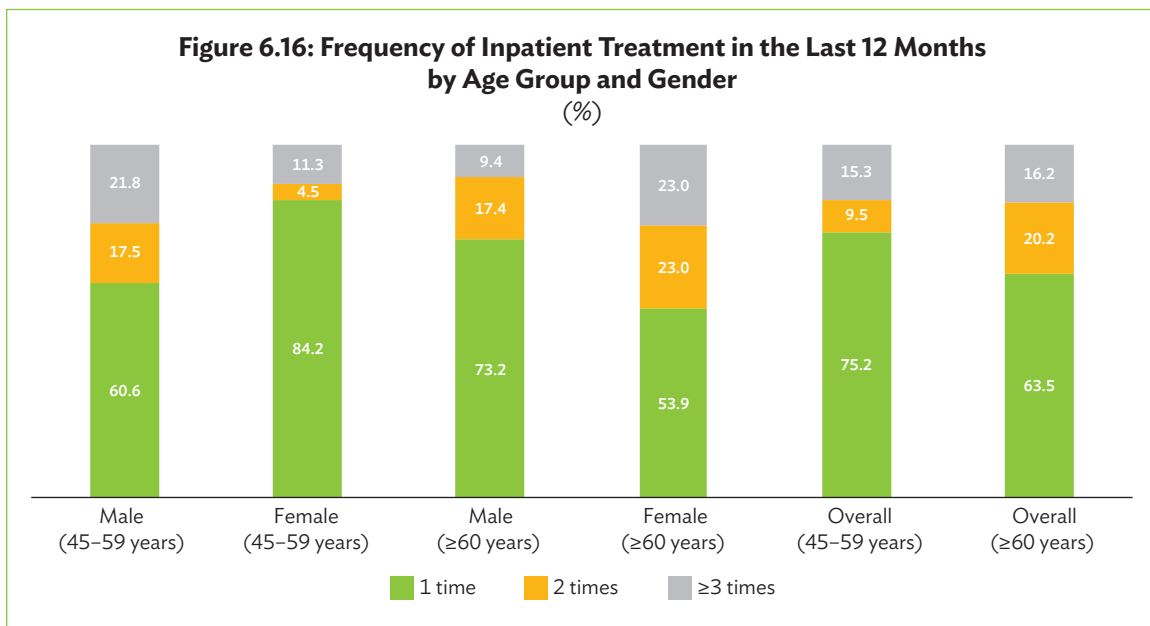
Hospitalization and/or Inpatient Treatment

ILAS inquired whether the respondents received any inpatient treatment in the last 12 months. Overall, 6% of the respondents received inpatient care/hospitalization in the last 12 months. Compared to other age groups, the 70–74 age group had the highest percentage of respondents receiving inpatient treatment at 10.3% in the last 12 months (Figure 6.13). Older respondents have a higher rate of inpatient treatment in the last 12 months than pre-older respondents. More pre-older women were hospitalized than pre-older men. Nevertheless, there is no notable contrast in inpatient treatment between older men and women (Figure 6.14). About 15.7% of people had received inpatient treatment more than 3 times in the last year (Figure 6.15).



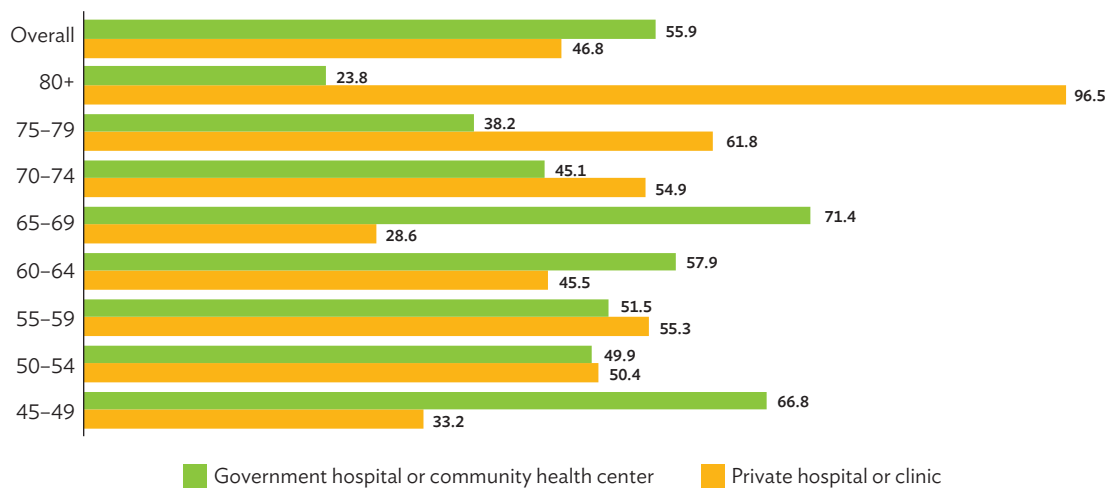


The likelihood of having had more than two hospitalizations in the last 12 months is greater among older people than pre-older people. The rate of hospitalization is more than twice as high among pre-older men as among women; the frequency of hospitalization among older women is more than twice that of men (Figure 6.16).



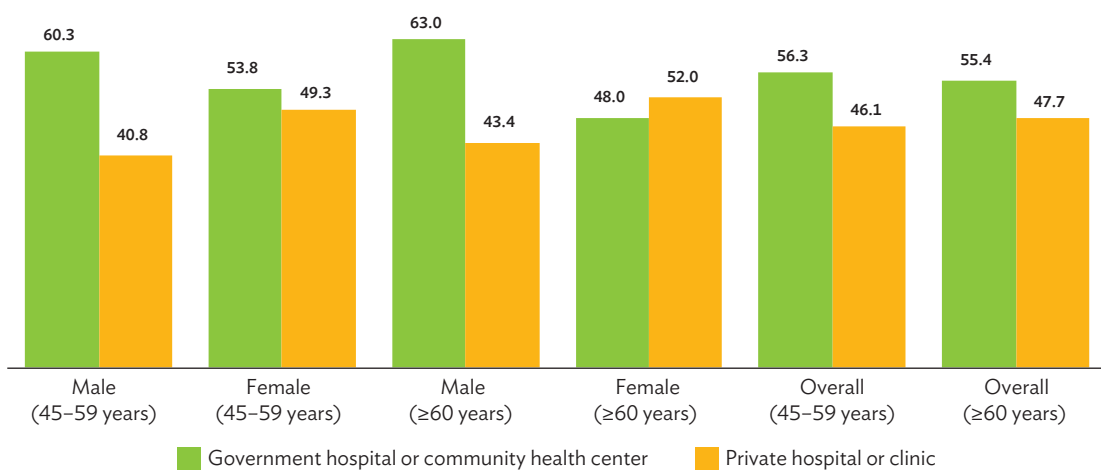
In general, more respondents received inpatient care in public hospitals than in private hospitals. But the proportion of inpatient treatment in private health-care facilities (hospitals or clinics) increased among older respondents aged 70 years and above (Figure 6.17), with 97% of respondents aged 80 and above receiving inpatient care in private hospitals. There is no notable difference in the use of health-care facilities for inpatient treatment between pre-older men and pre-older women. Older men commonly opt for public health-care facilities for hospitalization, while older women typically choose private facilities (Figure 6.18).

Figure 6.17: Type of Inpatient Treatment Facilities Used in the Last 12 Months by Age Group (%)



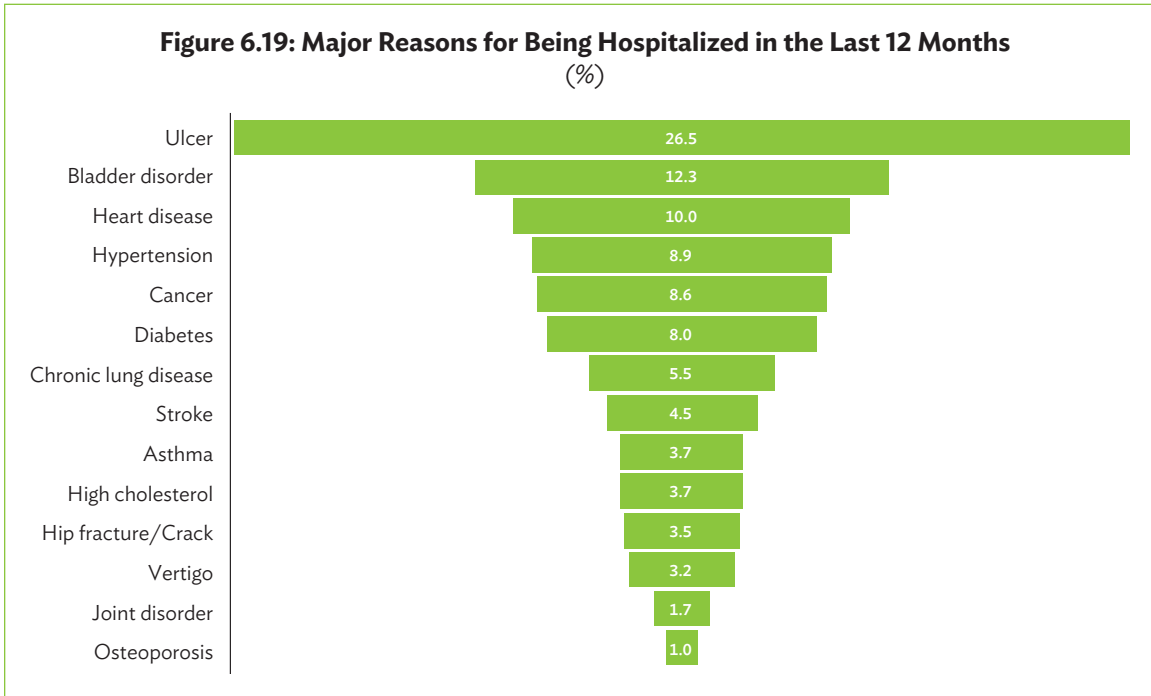
Note: Multiple answer question.

Figure 6.18: Type of Inpatient Treatment Facilities Used in the Last 12 Months by Age Group and Gender (%)



Note: Data capture multiple answers.

Among the respondents, the top reason for inpatient treatment is an ulcer and/or digestive problems (26.5%), followed by bladder disorders (12.3%), and heart problems (10.0%) (Figure 6.19).



The following analysis delves into three medical conditions—ulcer and/or gastrointestinal disorders, bladder disorders, and heart problems—categorized by age group and gender. Ulcers and gastrointestinal problems are the main reason for hospitalization among pre-older people, with more women than men requiring inpatient treatment for these conditions (Figure 6.20 and Figure 6.21) In the 60 and older age group, men are more likely to be hospitalized for bladder issues, while women are more likely to be hospitalized for ulcers and gastrointestinal problems (Figure 6.21).

Figure 6.20: Three Main Causes for Inpatient Treatment in the Last 12 Months by Age Group
(%)

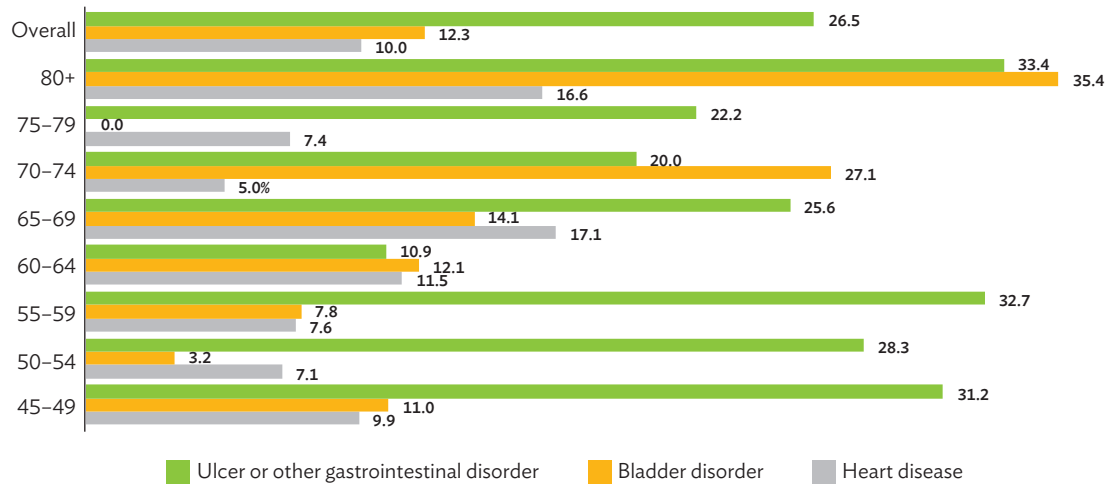
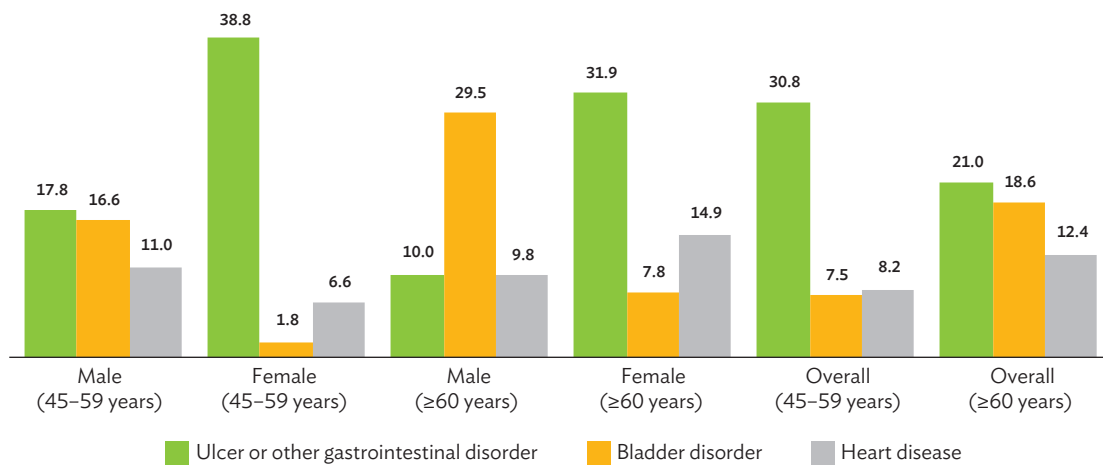
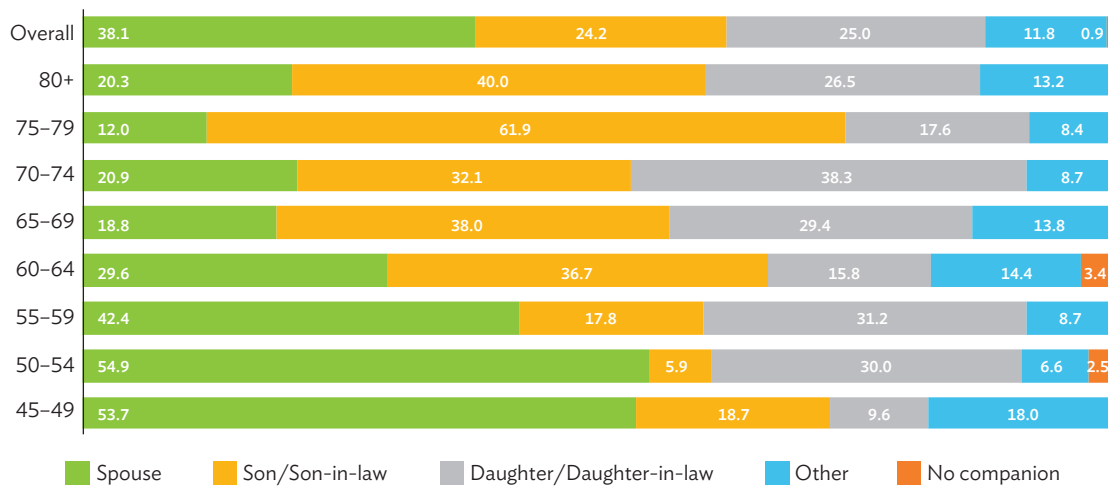


Figure 6.21: Three Main Causes for Inpatient Treatment in the Last 12 Months by Age Group and Gender
(%)



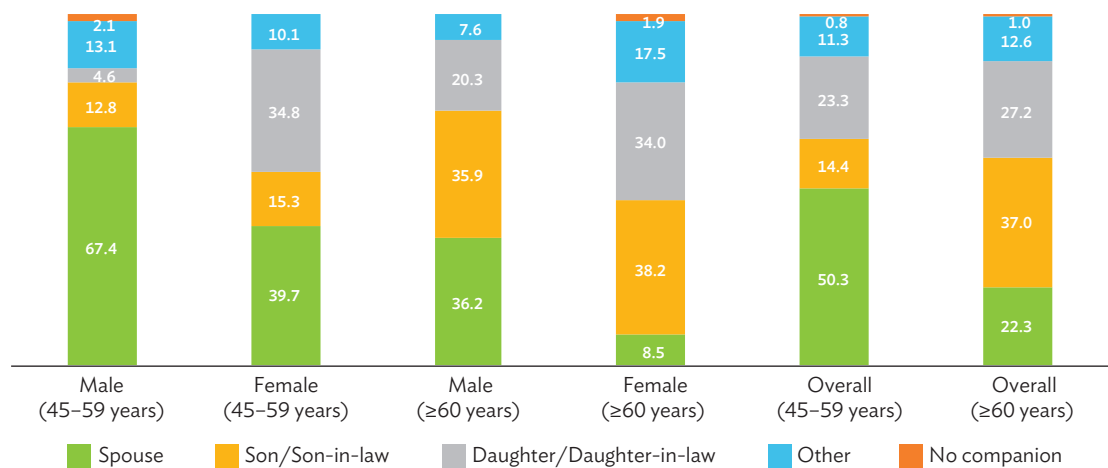
The majority of respondents who received inpatient treatment were accompanied by their spouse (38.1%), daughter/daughter-in-law (25.0%), or son/son-in-law (24.2%) (Figure 6.22). While half of pre-older respondents were accompanied by their spouse during hospitalization, older people usually had a son or son-in-law by their side. Men usually had their spouses as companions, while women were typically accompanied by a son or son-in-law or daughter or daughter-in-law (Figure 6.23).

Figure 6.22: Primary Person Accompanying Inpatient Treatment in the Last 12 Months by Age Group (%)



Note: Others include grandson, granddaughter, nephew or niece, family/relatives, friend, or neighbor.

Figure 6.23: Primary Person Accompanying Inpatient Treatment in the Last 12 Months by Age Group and Gender (%)



Note: Others include grandson, granddaughter, nephew or niece, family/relatives, friend, or neighbor.

Health-Related Expenditure

Health-related expenditure is defined here as the total health-care expenses borne by respondents, excluding outpatient and inpatient treatment. The questions on health-care expenditure ask for information on the respondent's monthly costs for therapies, medication, adult diapers, caregivers, or visits to alternative medicine practitioners, regardless of whether the funds come from purchases, gifts, or personal payments. The majority of respondents spend an average of Rp1,042,500 per month (about \$66) on a companion or caregiver to help them with their daily requirements. The lowest expenditure was on entertainment, including cable TV, internet, and data package, and amounted to Rp96,217 (about \$6) (Table 6.1). The use of social media has the potential to boost mental health, lessen depression, and promote greater happiness among older people compared to those who do not use social media (Madanih and Purnamasari 2021).

Table 6.1: Monthly Health-Related Expenses Excluding Outpatient and Inpatient Treatment

Health-Related Needs	Average (Rp)	Median (Rp)	Min (Rp)	Max (Rp)	N
Therapy or rehabilitation such as physiotherapy, speech therapy, etc.	276,060	140,000	5,000	4,500,000	87
Medicines/vitamins/traditional medicines/traditional mix (outpatient and inpatient treatment)	97,400	40,000	250	6,500,000	2,379
Diapers and the like	218,485	130,000	700	1,000,000	113
Entertainment (cable TV, internet, data package, etc.)	98,830	60,000	1,750	3,000,000	1,760
Companion/caregiver/help to meet daily needs	893,637	1,000,000	25,000	7,200,000	36
Visit to complementary medication or alternative such as massage, acupuncture, <i>bekam</i> , <i>gurah</i>	114,936	50,000	1,700	9,600,000	753
Other fitness, vacation, health screening	670,662	200,000	30,000	2,550,000	5

N = frequency.

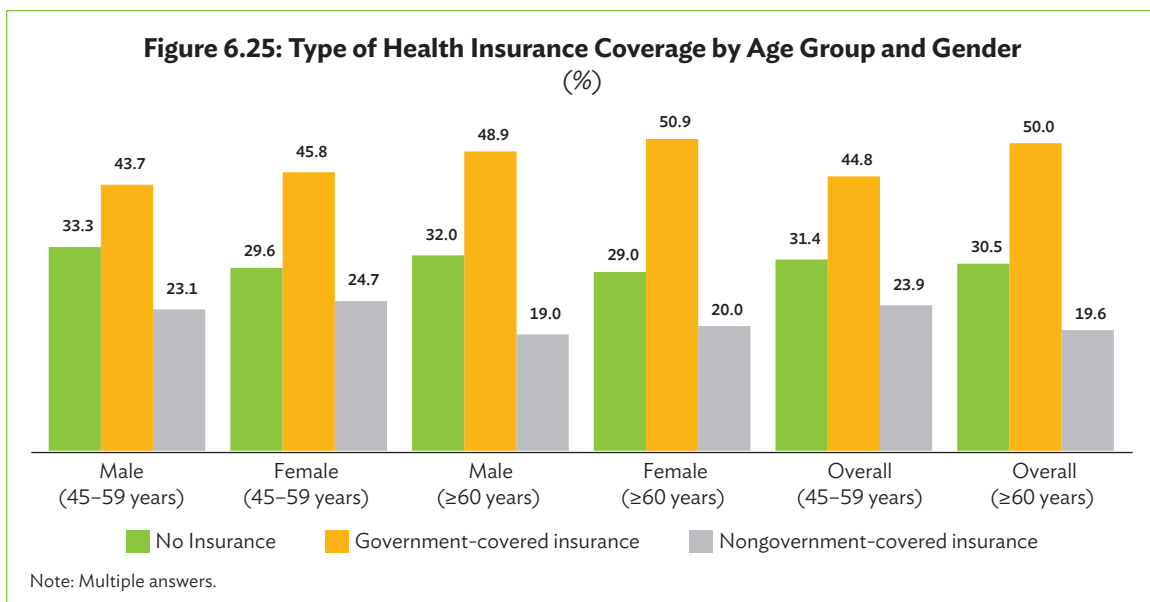
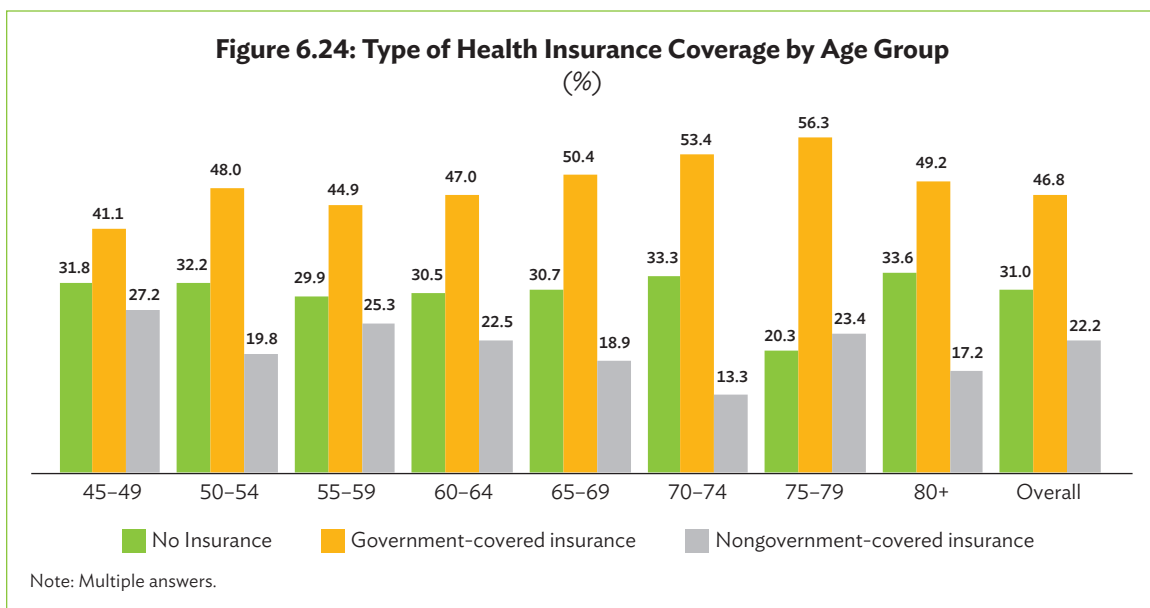
Health Insurance

Insurance Ownership

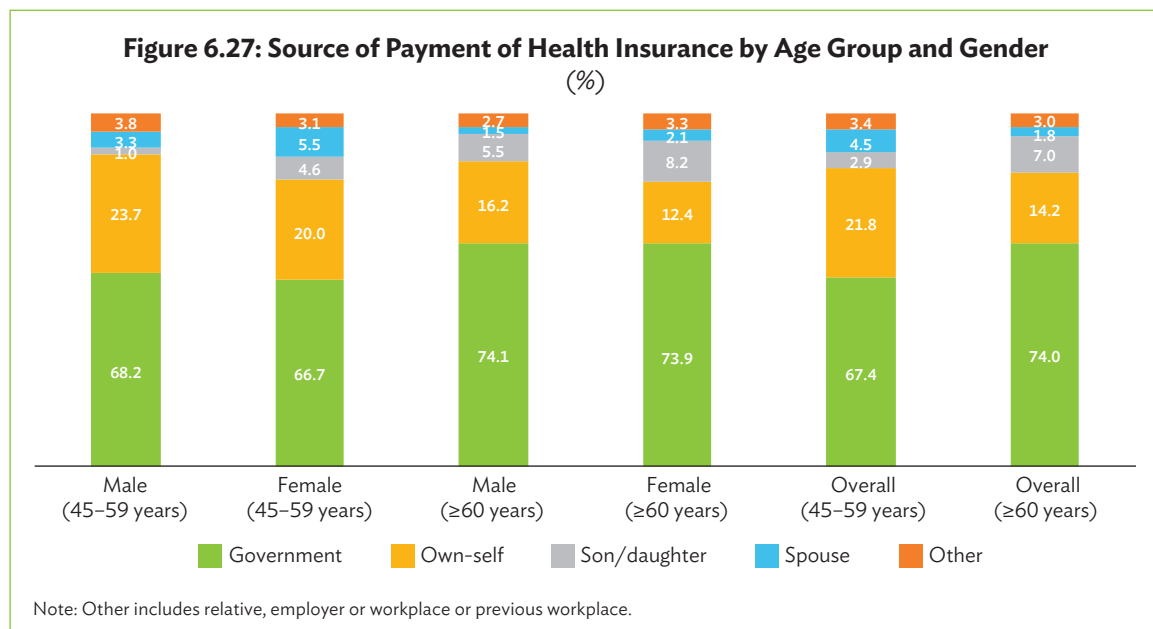
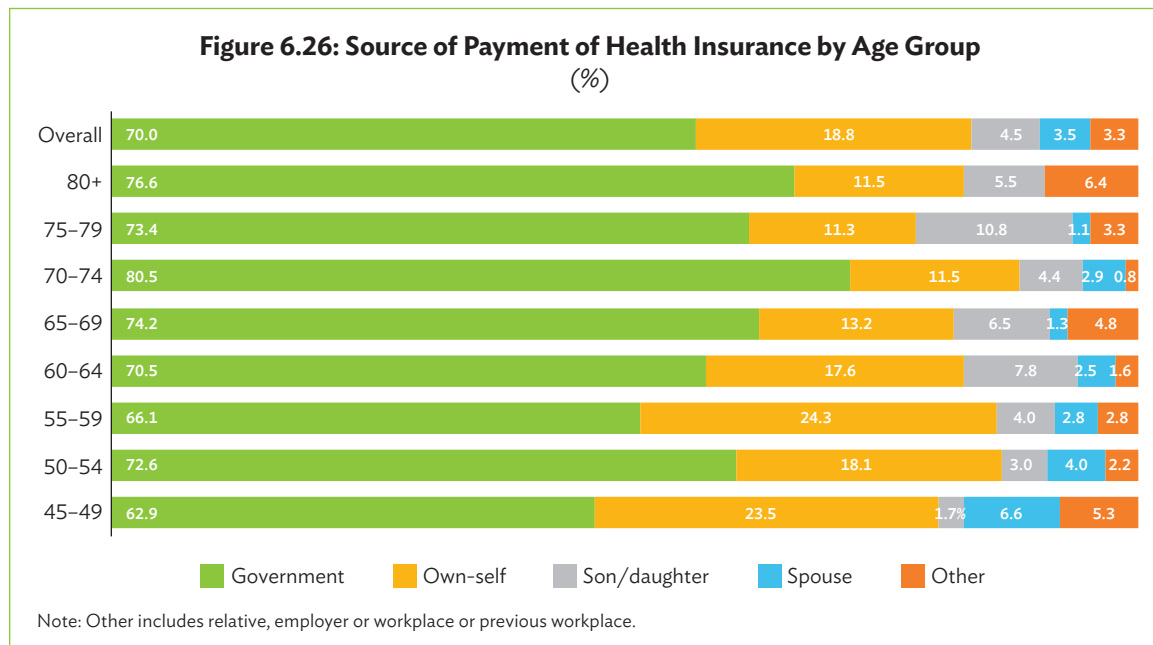
The insurance ownership of ILAS respondents is divided into the following categories: (i) government-covered insurance, such as Social Health Insurance Administration Body, non-contributory modality (Badan Penyelenggara Jaminan Sosial Penerima Bantuan Iuran [BPJS PBI]), and regional health security (Jaminan Kesehatan Daerah [Jamkesda]); and (ii) nongovernment-covered insurance such as the Social Health Insurance Administration Body, contributory modality (Badan Penyelenggara Jaminan Sosial Non Penerima Bantuan Iuran [BPJS Non PBI]), private insurance, and companies or offices.

The BPS 2022 data reveal that 74% of older people have health insurance. Among older people, PBI is the most prevalent national health insurance (Jaminan Kesehatan Nasional [JKN]) with 48%, while Jamkesda is the least common with only 8%. Private insurance ownership accounts for only 0.4%, while companies or offices account for only 1% of the total share (Statistics Indonesia 2022).

On average, 47% of the respondents have health insurance covered by government, while 22% were covered by private health insurance. One-third of pre-older people or older people have no health insurance, with a higher proportion of pre-older people than older people (Figure 6.24 and Figure 6.25). The percentage of uninsured people is higher among men than among women. Older people have a higher percentage of government-covered insurance compared to pre-older people (Figure 6.25).

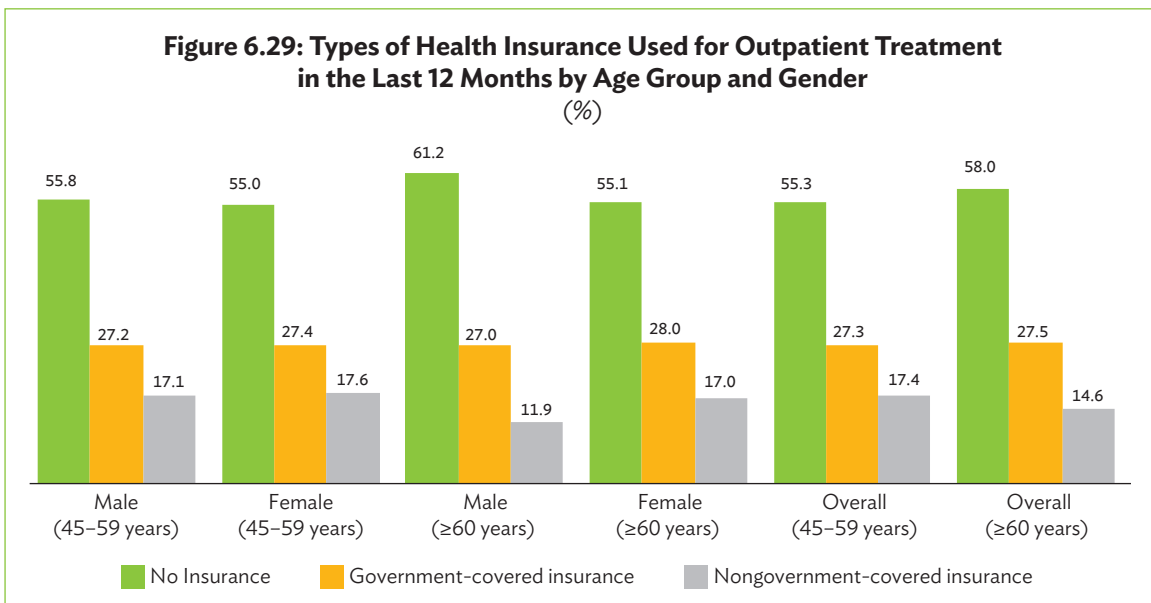
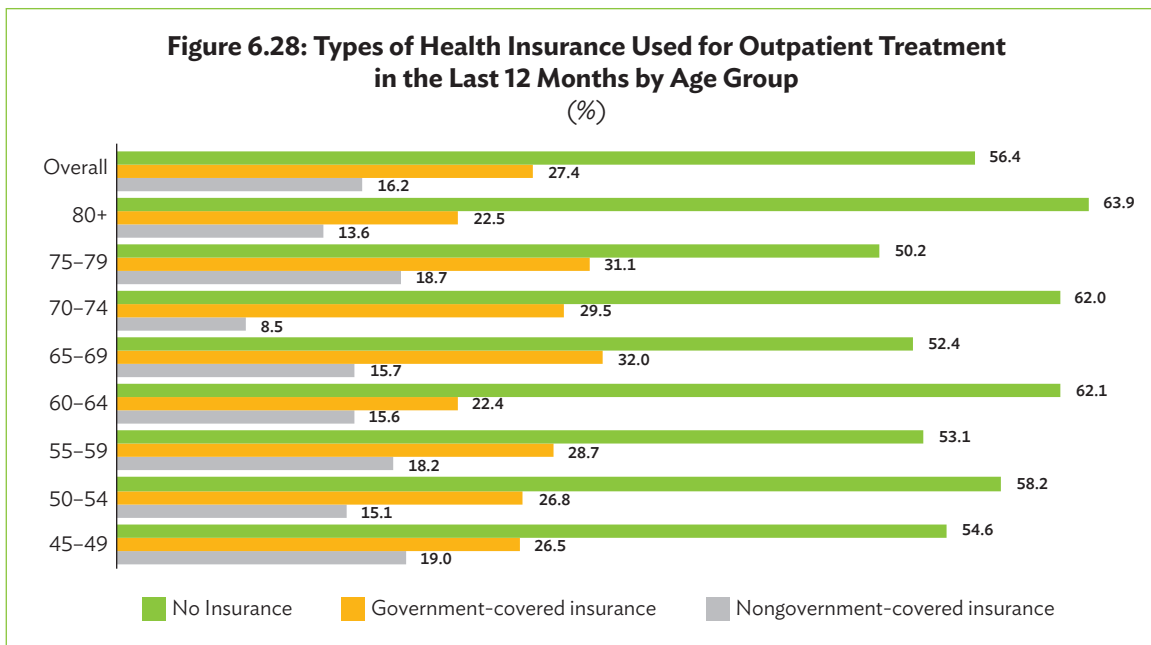


Of those who have insurance, a large majority (70%) are being financed by the government, while 18.8% of respondents are on self-paid scheme. Self-financed insurance is the predominant type of coverage for pre-older and older people with nongovernment-covered insurance (Figure 6.26 and Figure 6.27). However, a large number of older people are receiving support from their children (Figure 6.27).



Utilization of Health Insurance for Outpatient Treatment

In the ILAS study, respondents were asked about the insurance or social security provisions they use to pay for outpatient treatment expenses. The insurance classification remains the same as the categories mentioned earlier, which include (i) government-covered insurance (such as the Social Health Insurance Administration Body, non-contributory modality (BPJS PBI), and regional health security (Jamkesda); and (ii) nongovernment-covered insurance (including the Social Health Insurance Administration Body, contributory modality (BPJS Non PBI), private insurance, and company or office insurance). Among those who sought outpatient care, more than 50% did not use insurance coverage. Typically, pre-older and older people who seek outpatient treatment often lack insurance coverage for treatment expenses (Figure 6.28 and Figure 6.29).



Most pre-older and older people covered the cost for outpatient treatment from their personal funds, namely in 51.9% of cases, with an average cost of Rp114,694 (about \$7) and a maximum spending of Rp3,000,000 (about \$191). The highest expense for outpatient treatment was paid by other people and insurance, with an average amount of Rp399,960 (about \$24) (Table 6.2).

According to the data on insurance ownership in ILAS, a significant number of respondents (31.0%) remain without health insurance (see the Insurance Ownership section above or Figure 6.24), while the majority of pre-older and older respondents opted for outpatient treatment in private health-care facilities (see Figure 6.9 and Figure 6.10). Furthermore, half of the ILAS respondents paid for their outpatient treatment expenses using their own funds (Table 6.2). It is evident that health insurance utilization among outpatient respondents remains minimal. Even though out-of-pocket (OOP) expenses have decreased in Indonesia, it still accounted for one-third of the country's total health expenditure in 2020. The WHO recommends that OOP should ideally not exceed 20% of total health expenditure (Ministry of Health Indonesia 2022). The adverse effects of OOP worsens poverty levels, but having insurance safeguards against catastrophic spending (Fattah et al. 2023). This emphasizes the need for universal health insurance to ensure access to health-care services without the economic hurdles caused by health issues.

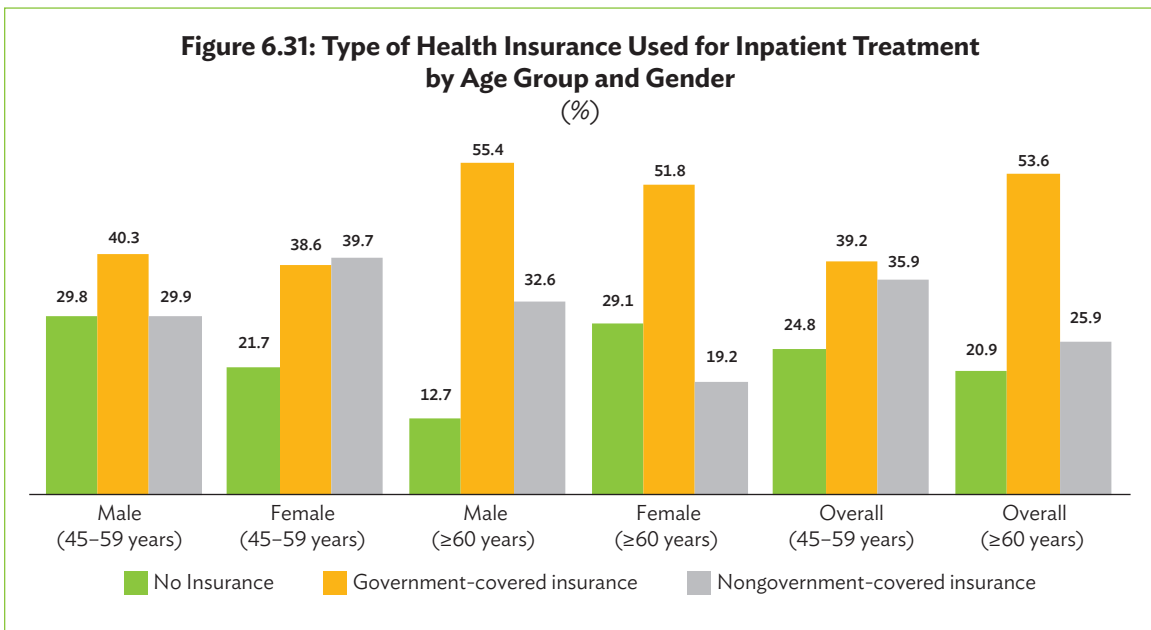
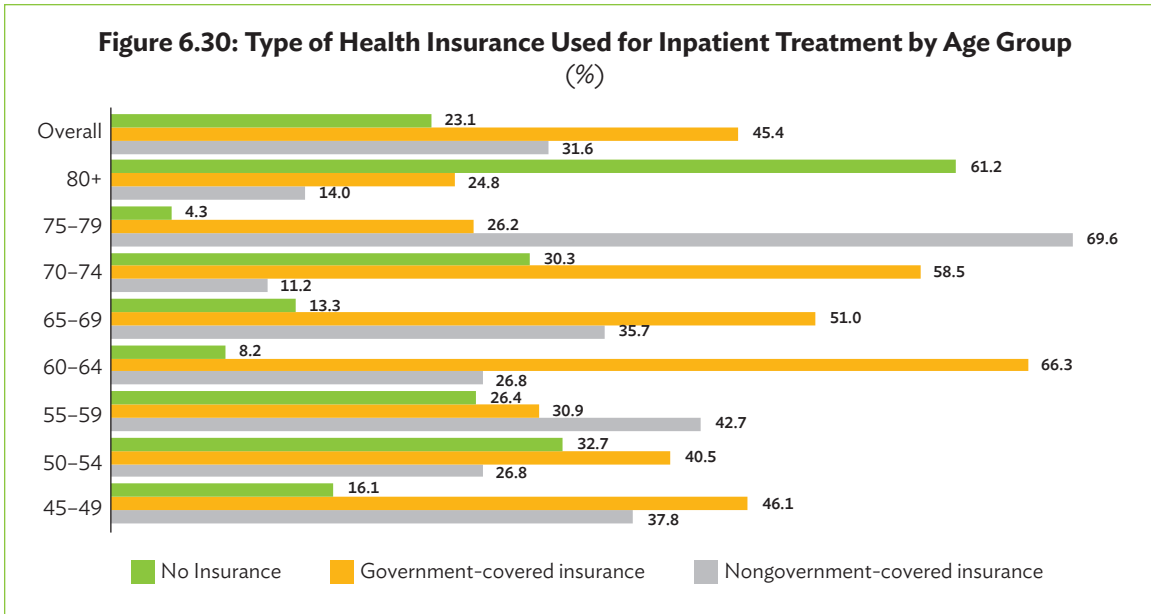
Table 6.2: Payments and Average/Median Costs for Outpatient Treatment in the Last 12 Months

Outpatient Payment	N	%	Min (Rp)	Max (Rp)	Average (Rp)	Median (Rp)
Own-paid	1,023	51.9	1,000	3,000,000	114,694	70,000
Paid by another person	119	6.0	25,000	4,000,000	157,510	70,000
Own-paid and insurance	208	10.5	2,500	1,500,000	136,199	75,000
Paid by other and insurance	18	0.9	20,000	1,500,000	399,960	120,000
Covered by insurance*	619	31.4				

*Used insurance, social security, or paid for by employer or office.

Utilization of Health Insurance for Inpatient Treatment

In addition to outpatient treatment costs, ILAS respondents were also asked about the insurance or social security benefits used for inpatient treatment. The insurance classification is unchanged: government-covered insurance (BPJS PBI and Jamkesda) and nongovernment-covered insurance (BPJS Non PBI, private insurance, company or office). Most pre-older and older people used government-covered insurance for inpatient treatment (BPJS PBI and Jamkesda) (Figure 6.30 and Figure 6.31). However, the majority of older people in the 75–79 age group had their inpatient treatment costs covered by nongovernment insurance, while most older people aged 80 and older did not use insurance (Figure 6.30). The proportion of older people who have used government-covered insurance for inpatient treatment is higher than that of pre-older people (Figure 6.31).



The most significant cost for inpatient treatment was attributed to payments made by other persons and insurance, averaging Rp7,053,349 (about \$449). Self-payment and insurance jointly covered the maximum cost of inpatient treatment of Rp27,500,000 (about \$1,751) (Table 6.3).

Table 6.3: Payments and Average/Median Costs for Inpatient Treatment in the Last 12 Months

Inpatient Payment	N	%	Min (Rp)	Max (Rp)	Average (Rp)	Median (Rp)
Own-paid	45	17.0	200,000	25,000,000	5,465,623	2,000,000
Paid by other person	25	9.6	300,000	20,000,000	3,440,986	1,750,000
Own-paid and insurance	23	8.7	160,000	27,500,000	2,931,754	1,500,000
Paid by other and insurance	5	2.1	250,000	15,000,000	7,053,349	5,000,000
Covered by insurance*	169	63.9				

* Used insurance, social security, or paid for by employer or office.

Notes: The average or median cost of inpatient treatment for older people paid by other person and insurance is Rp5,000,000 (about \$318), as two cases paid up to Rp15,000,000 (about \$955) for uterus myoma surgery and inpatient treatment for cancer.

Long-Term Care Needs

Long-Term Care Needs

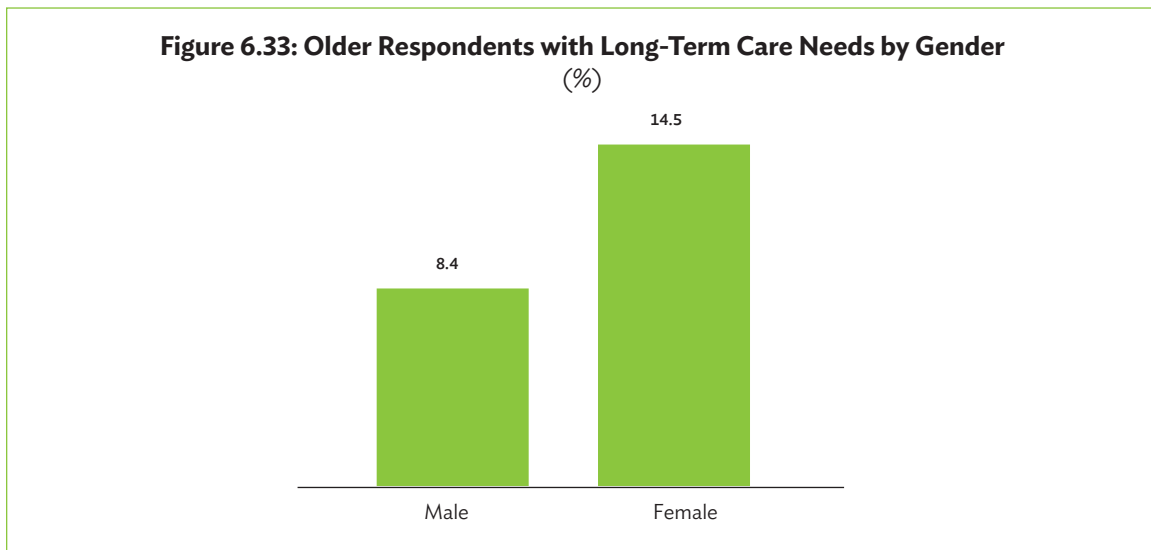
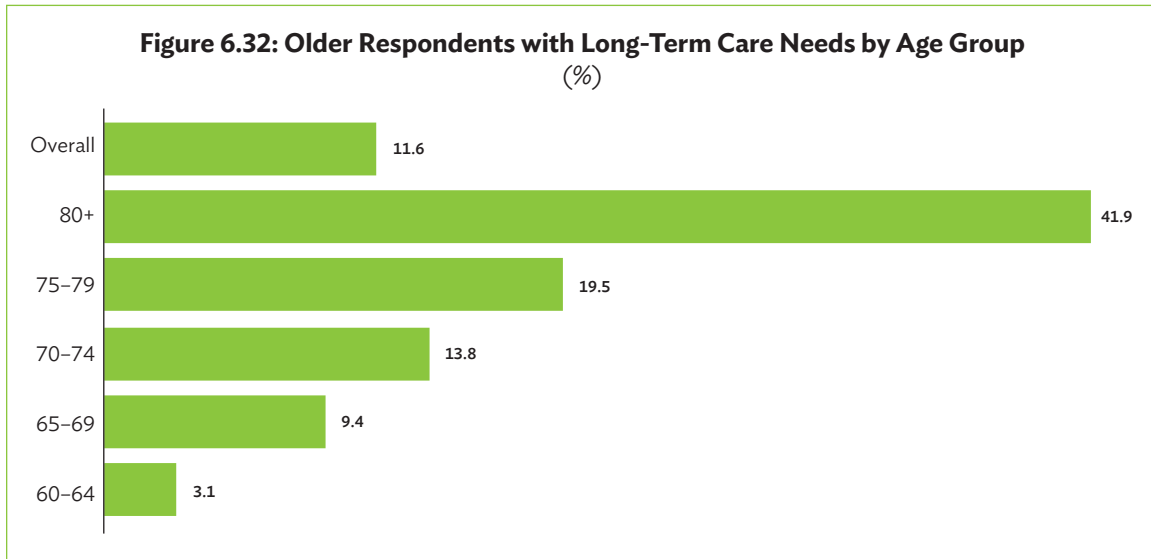
The classification of a person as a long-term care (LTC) patient is determined by assessing their ADLs and IADLs (Table 6.4). The ADL assessment shows moderate, severe, or total dependence and thus signals a varying degree of need for help with basic self-care activities. The IADL assessment indicates a need for assistance (either occasionally or constantly) or an inability to perform tasks such as handling finances, cooking, or transportation-related activities independently (Ministry of Health Indonesia 2018). The dependencies within these ADL and IADL categories underscore the importance of consistent, comprehensive care and support that is typically available in LTC facilities.

Table 6.4: Classification of People with Long-Term Care Needs

Activity of Daily Living (ADL) <ul style="list-style-type: none"> Moderate dependency Severe dependency Total dependency 	AND	Instrumental Activity of Daily Living (IADL) <ul style="list-style-type: none"> Need assistance (sometimes) Need assistance (always) Inability to independently perform tasks 	OLDER PEOPLE IN NEED OF LONG-TERM CARE
ADL <ul style="list-style-type: none"> Independent Mildly dependent 	AND	IADL <ul style="list-style-type: none"> Independent 	

Source: Ministry of Health Indonesia. 2018. Guidelines for Primary Health Care in Older People's Long-Term Care (Pedoman untuk Puskesmas dalam Perawatan Jangka Panjang bagi Lanjut Usia) (in Bahasa Indonesia).

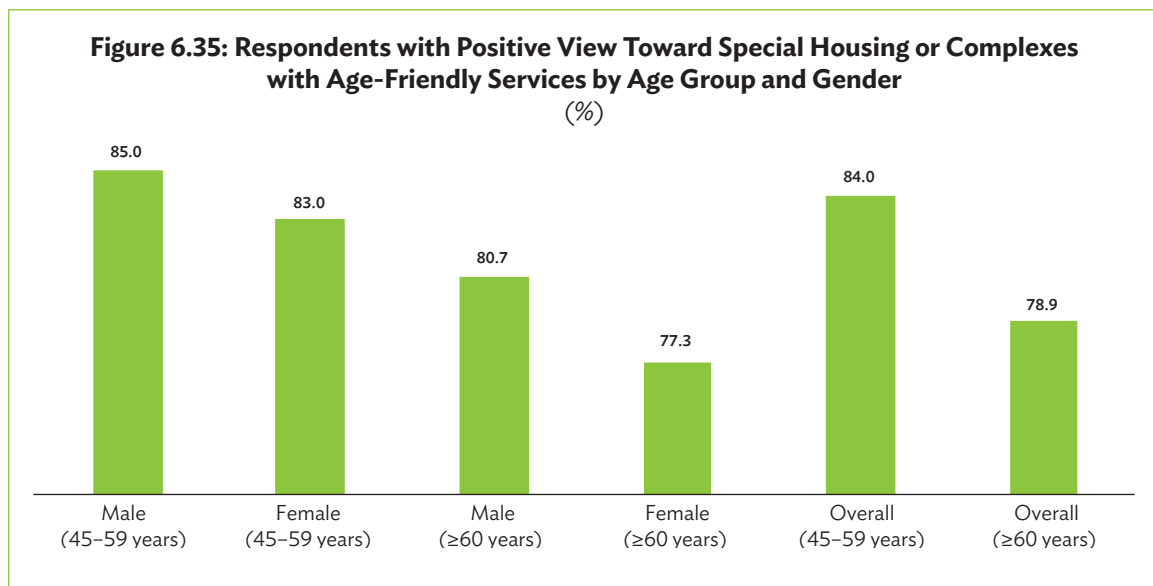
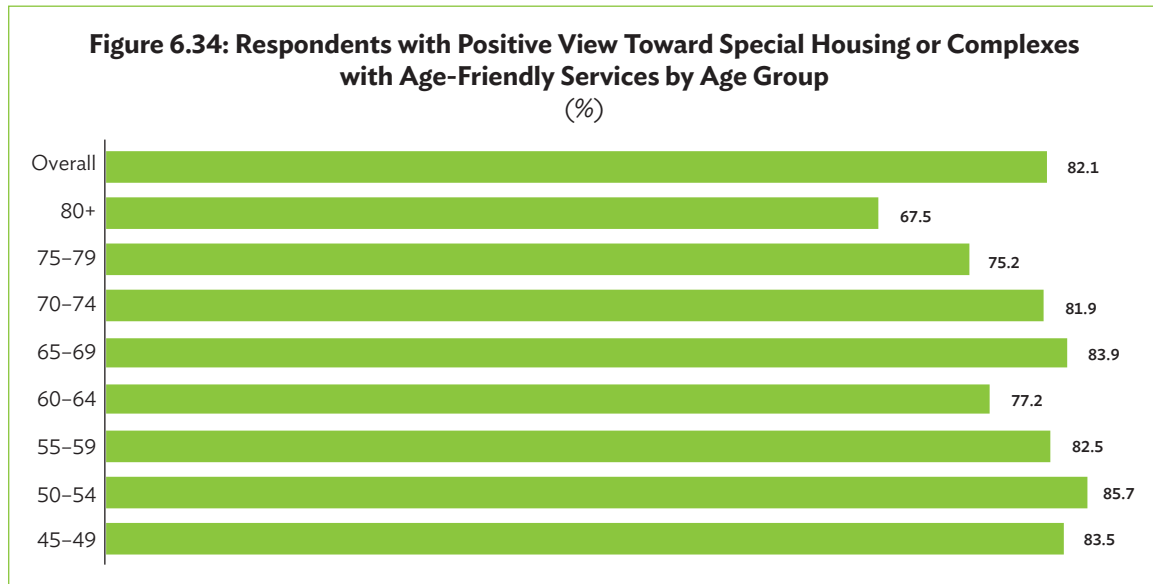
ILAS found that 11.6% of older people require LTC services and that this proportion increases with age (Figure 6.32). Forty-two percent of those who are 80 and above are classified to have LTC needs. Older females almost twice as much as older males need LTC. According to the ILAS data, women rely more on LTC than men do (Figure 6.33).



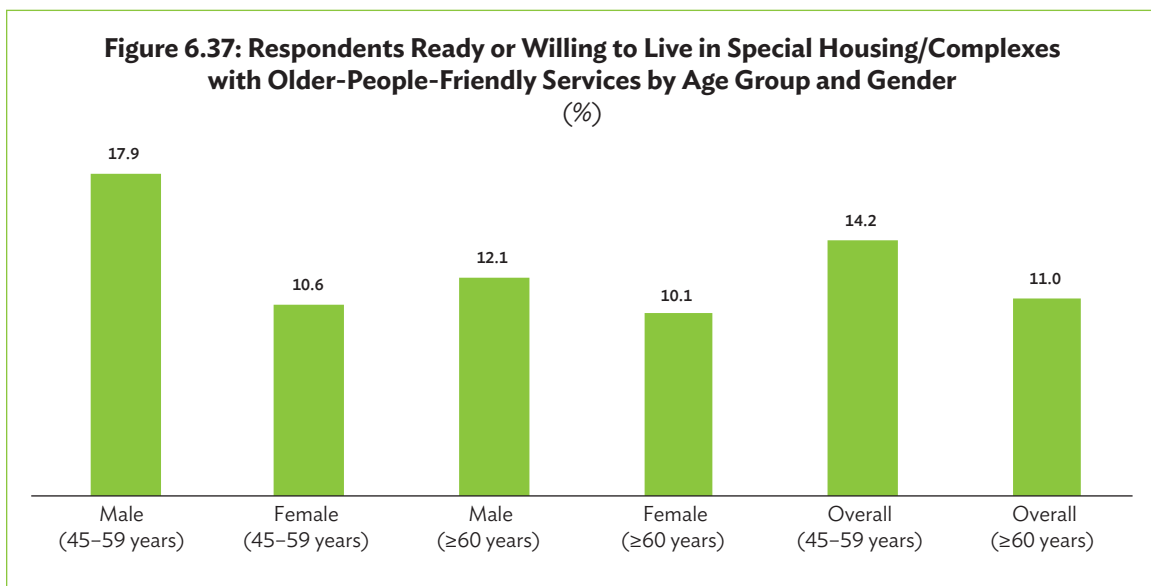
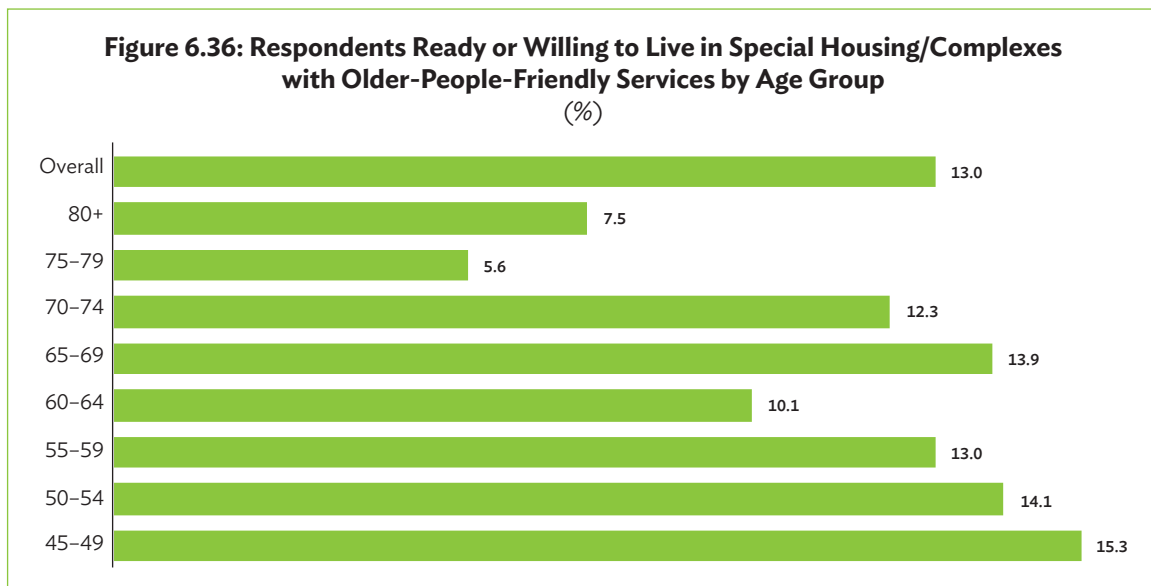
Respondents' Perspectives on Facilities and Services for Older People

ILAS asked respondents their opinion on the availability of facilities for older people by asking the question, "Do you consider it good to have special housing/complexes for older persons with age-friendly services (like service centers for older people, both government and private, housing/special complexes for older people, nursing homes, etc.)?"

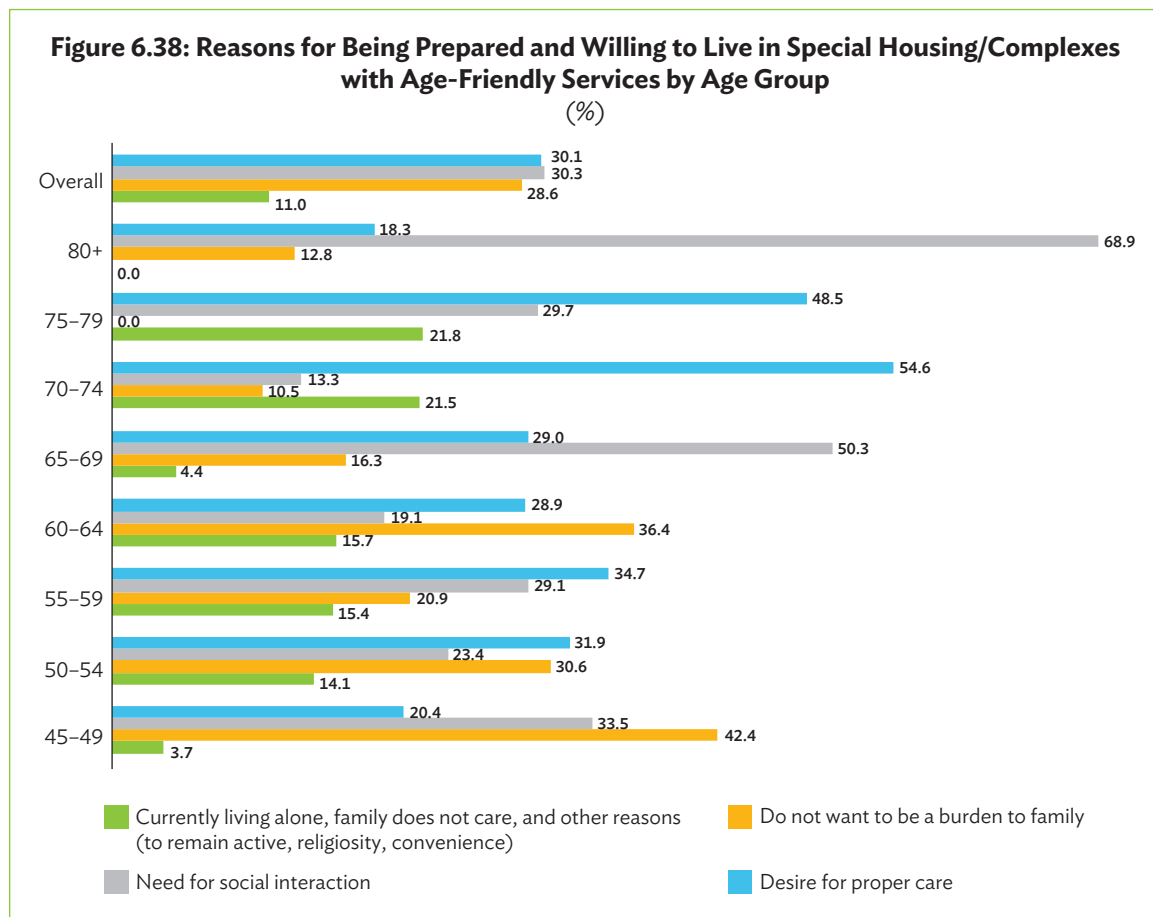
Overall, 82.1% of respondents aged 45 and older supported the concept of having special housing/complexes for older people with age-friendly services (Figure 6.34). The proportion of pre-older respondents who view age-friendly service complexes positively exceeds that of the older respondents (Figure 6.34 and Figure 6.35).



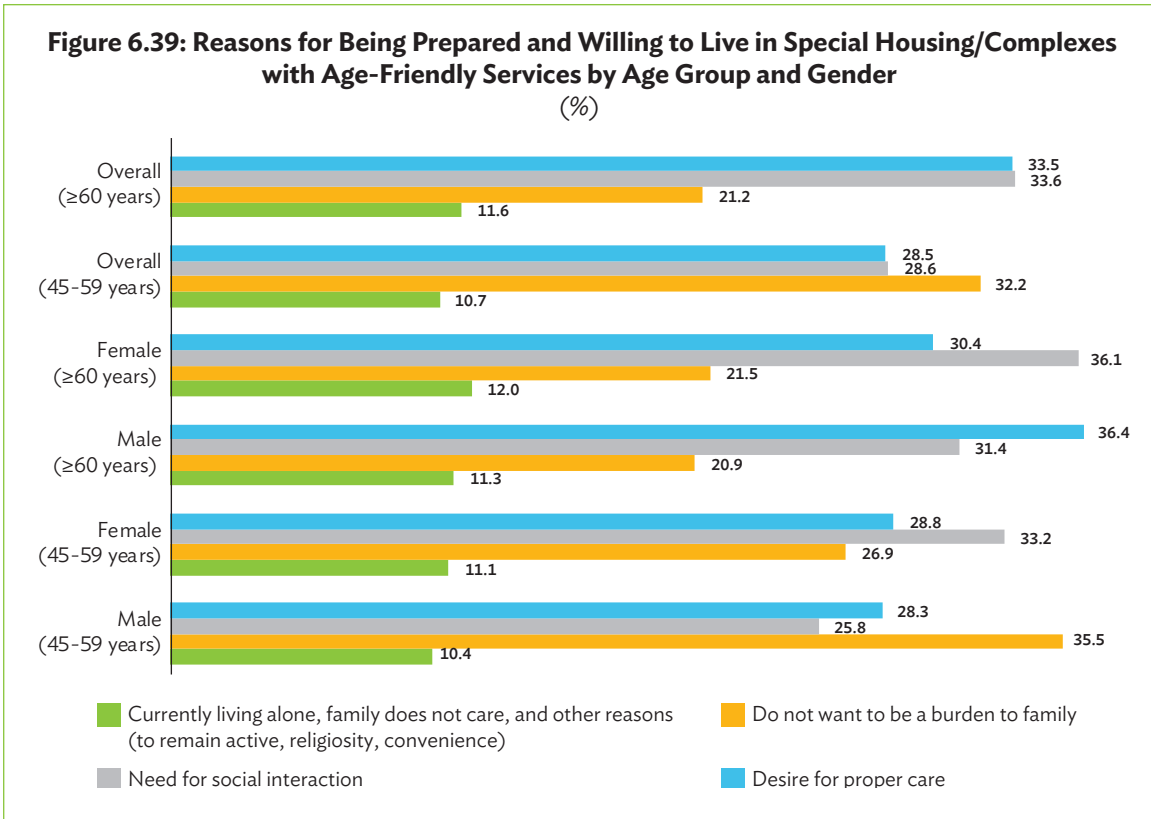
ILAS also asked about the respondents' readiness to stay in a special facility for older people with the question, "Are you prepared/willing to live in a special housing/complex for older people that provides age-friendly services (like a service center for older care, both government and private, special housing/complexes for older people, nursing homes, etc.)?" Only a small number of respondents were ready or willing to live in special housing/complexes for older people (13.0%) (Figure 6.36). The willingness of the next generation of older people (currently aged 45–59) to live in a complex with age-friendly services exceeds that of the older respondents (60 years and older) at 14.2%, although this percentage is still considered low (Figure 6.37). The percentage of men willing to live in such a complex is higher than that of women (Figure 6.37).



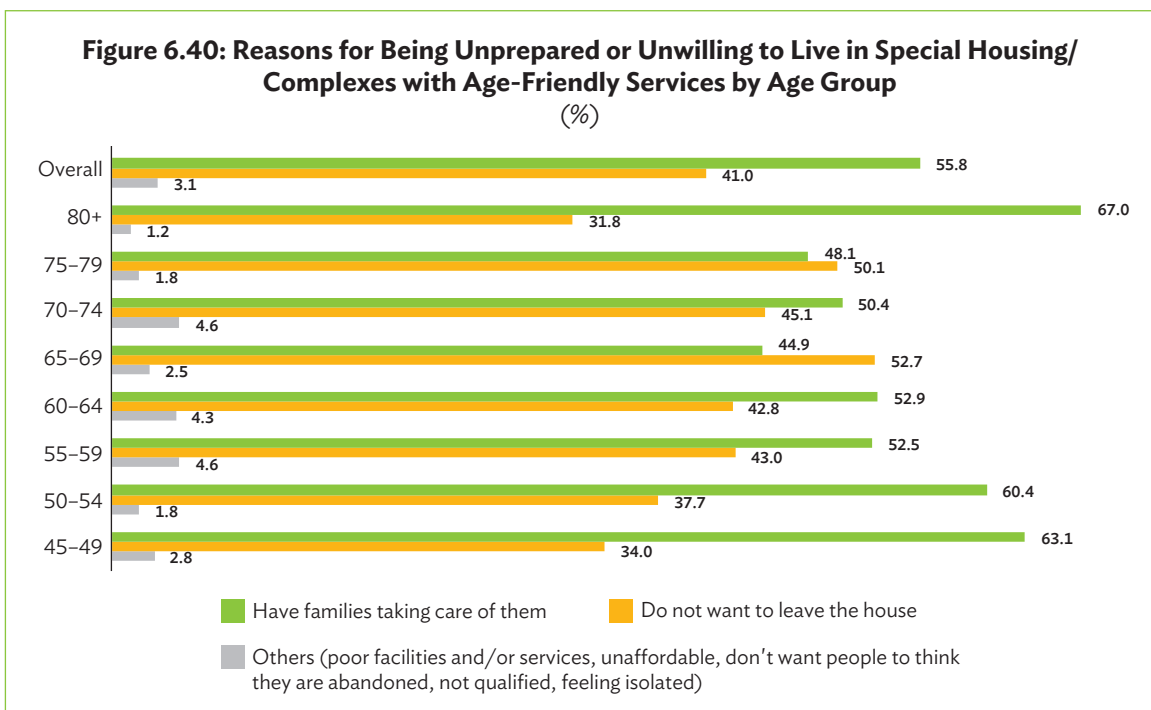
The desire for proper care (30%) and the need for social interaction and companionship (30%) are the primary reasons why people choose to live in age-friendly housing with specialized services (Figure 6.38). More respondents aged 65 and above cited the need for social interaction as a reason for being prepared and willing to stay in special housing, with 69% of respondents aged 80 and above stating this.

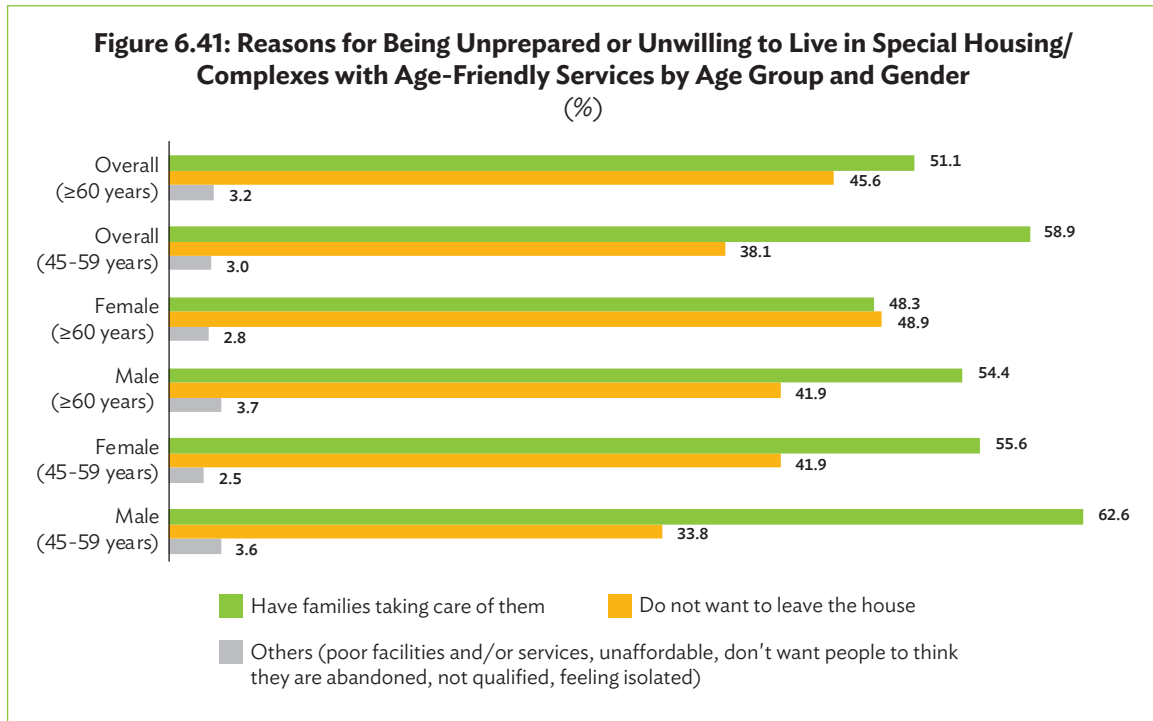


Older people are interested in age-friendly complexes/housing mainly because of the “need for social interaction.” In contrast, people between the ages of 45 and 59 are motivated by the goal of not being a burden on their families (Figure 6.39). In addition, women are drawn to age-friendly housing/complexes because of their desire to for social contact. Men between the ages of 45 and 59 are primarily motivated by the desire not to be a burden on their families. For older people, it is the desire for proper care (Figure 6.39).

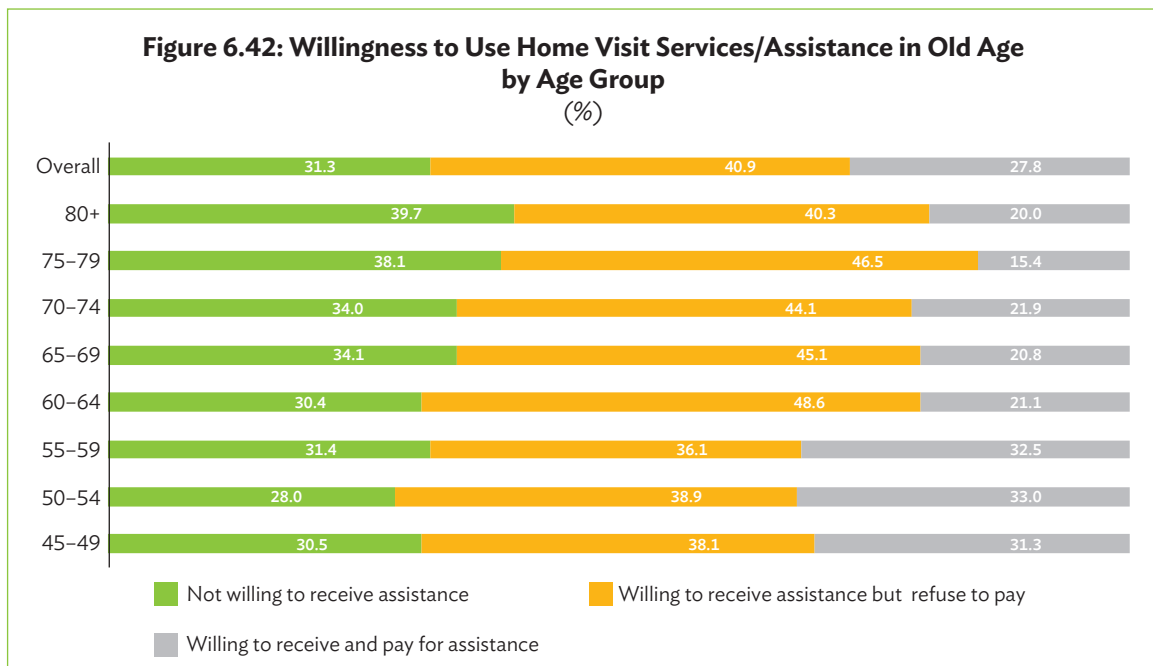


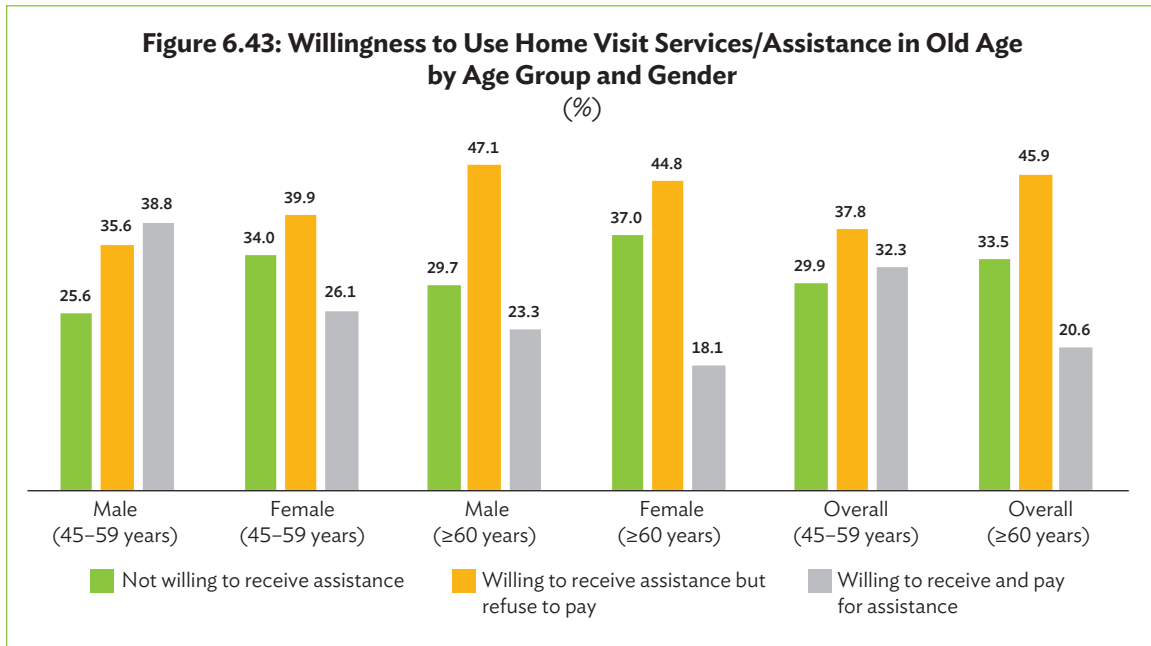
Meanwhile, among those who said they are not prepared or willing to live in special housing, 56% reported that they have families taking care of them, while 41% said they do not want to leave their house (Figure 6.40 and Figure 6.41). The main reason why the women (particularly among those older) are unwilling to live in the complex is because they “do not want to leave/move house.”





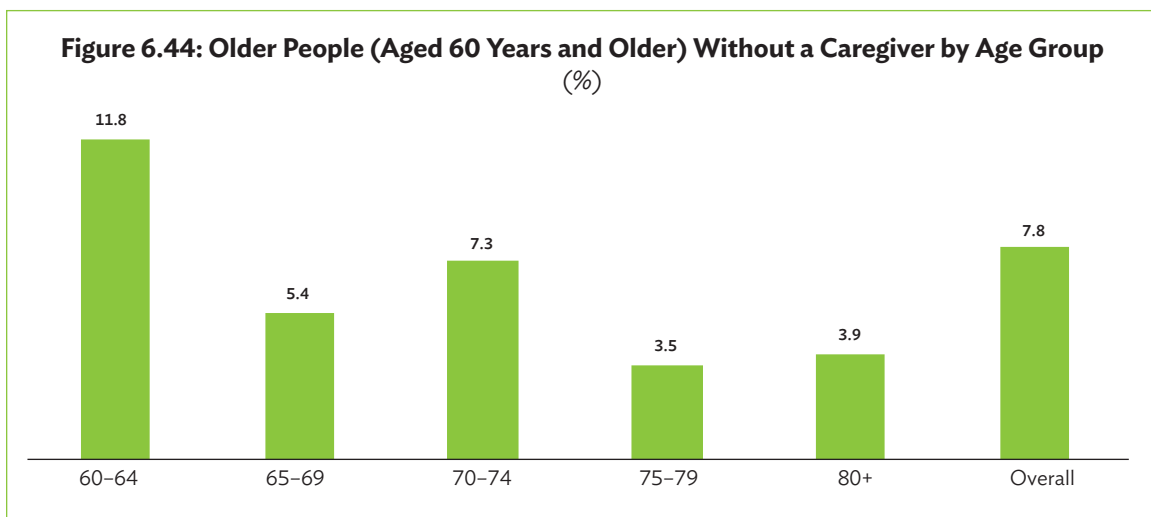
ILAS inquired about the willingness of respondents to make use of home visiting services/assistance in their later years. Those who agreed to accept the service were asked about their willingness to pay for it. The future generation of older people (aged 45–59 years) is more willing to use and pay for home visiting services than the current older people (aged 60 and above) (Figure 6.42 and Figure 6.43). Compared to women, men are more willing to use the service and pay for it.

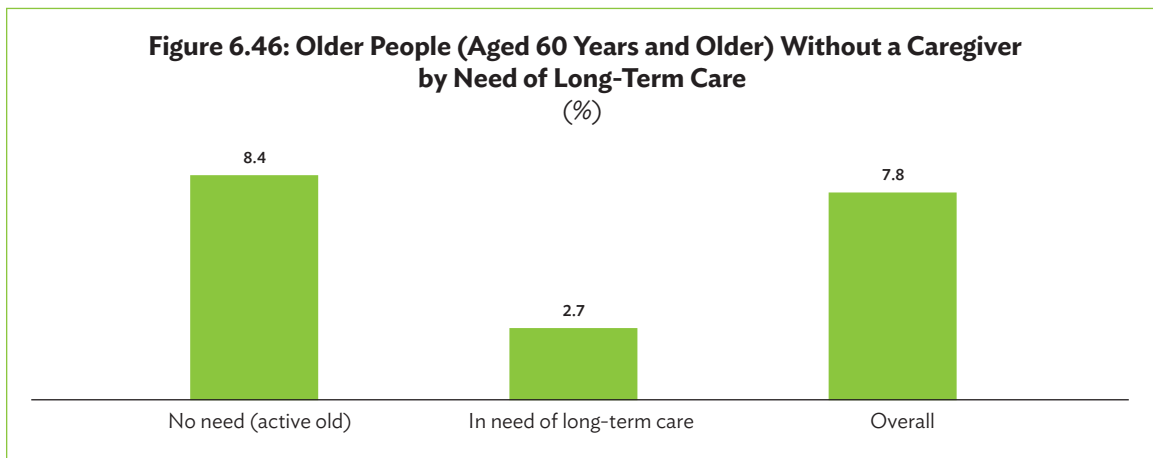
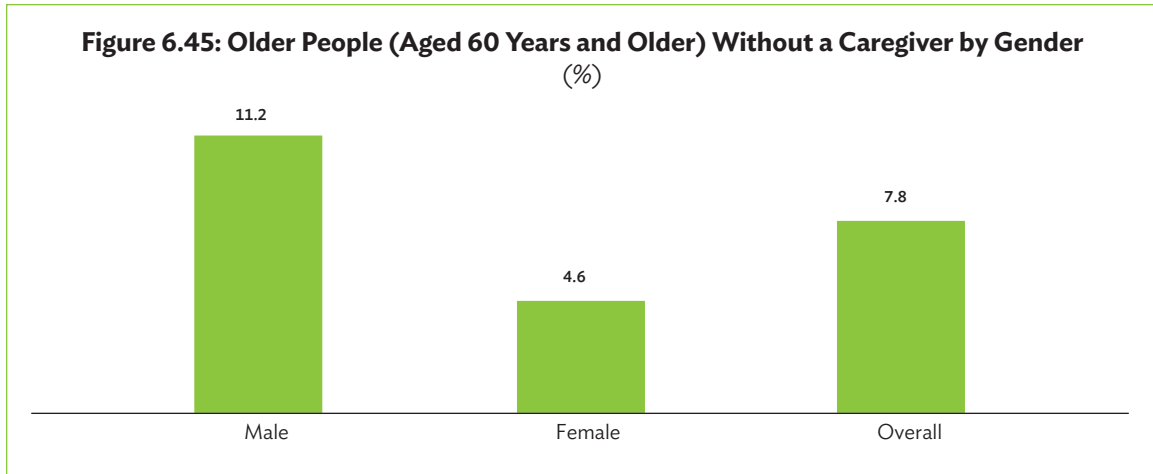




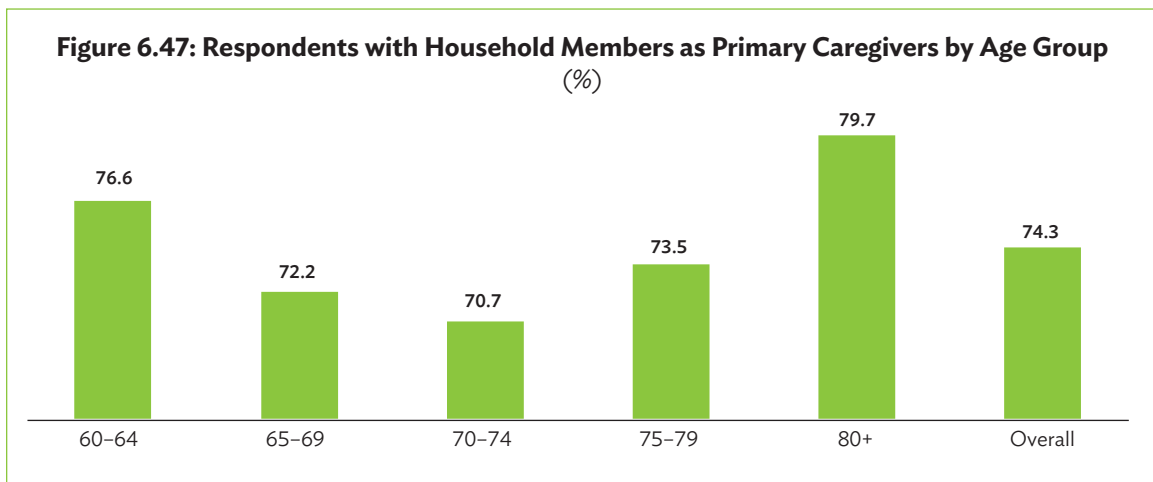
Profile of Older People’s Caregivers

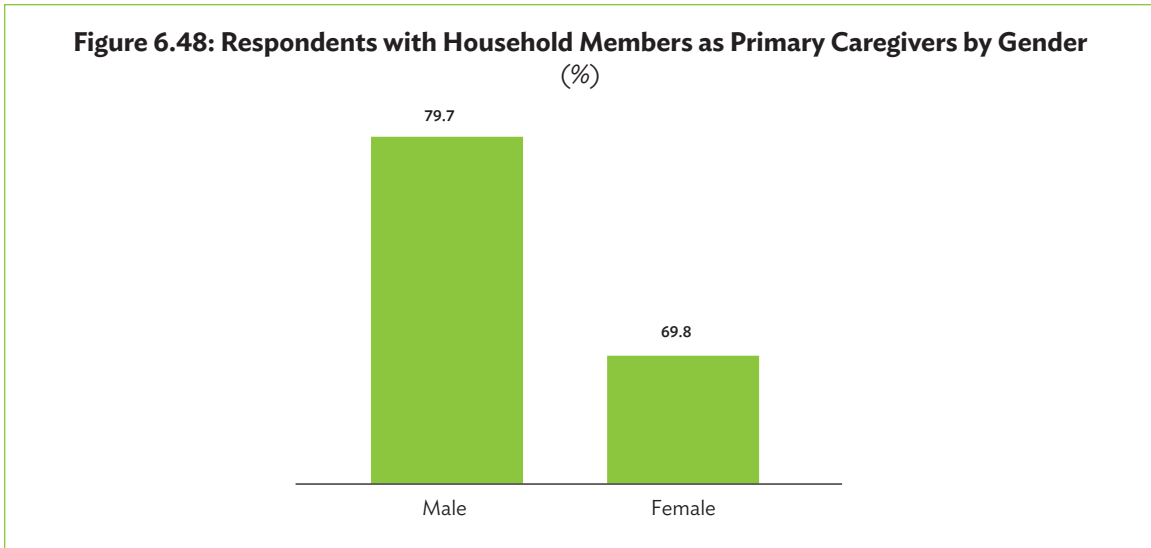
ILAS collected data on people who care for people aged 60 and above (with or without care needs). The results show that 7.8% of older people do not have a caregiver (Figure 6.44), with a higher percentage for men (11.2%) than for women (4.6%) and among respondents who are aged 60 to 64 (12%) (Figure 6.45). Further data disaggregation shows that some 2.7% of those in need of LTC do not have a caregiver (Figure 6.46).





Household members make up the majority of caregivers for older people, regardless of the older person's age (Figure 6.47). The percentage of caregivers who are household members is greater for men than for women (Figure 6.48).





The majority of respondents have female caregivers, and their proportion is higher among male older people than among female older people (Figure 6.49). The majority of caregivers are under 45 years old, with the percentage declining as age increases (Figure 6.50). Most of the caregivers have completed elementary and high school and are married (Figure 6.51 and Figure 6.52).

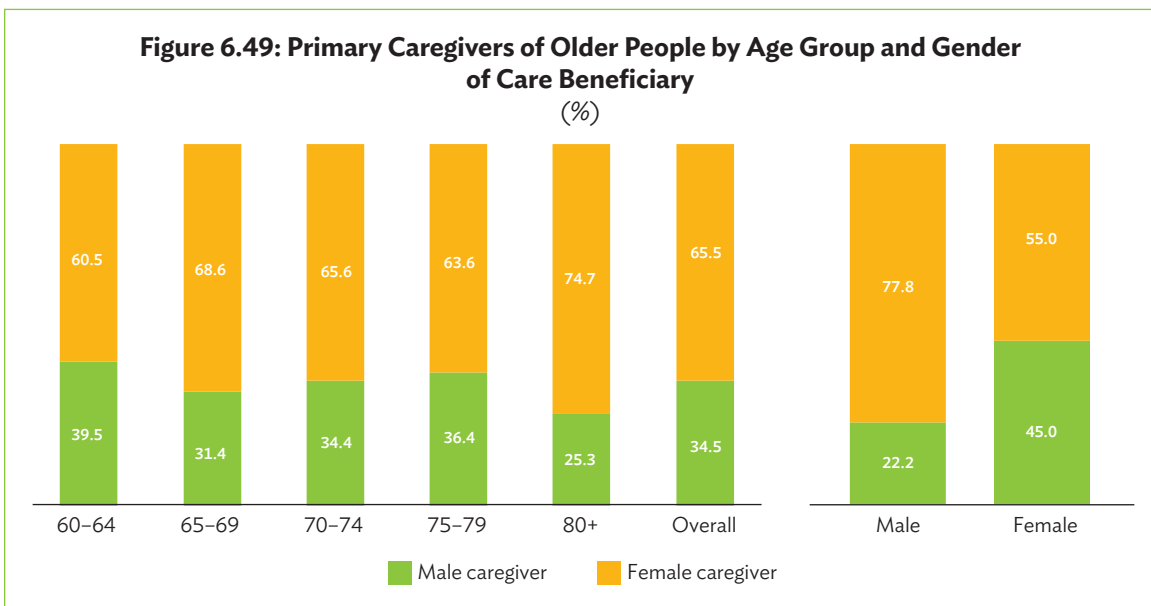


Figure 6.50: Primary Caregivers of Older People by Age Group and Gender of Care Beneficiary
(%)

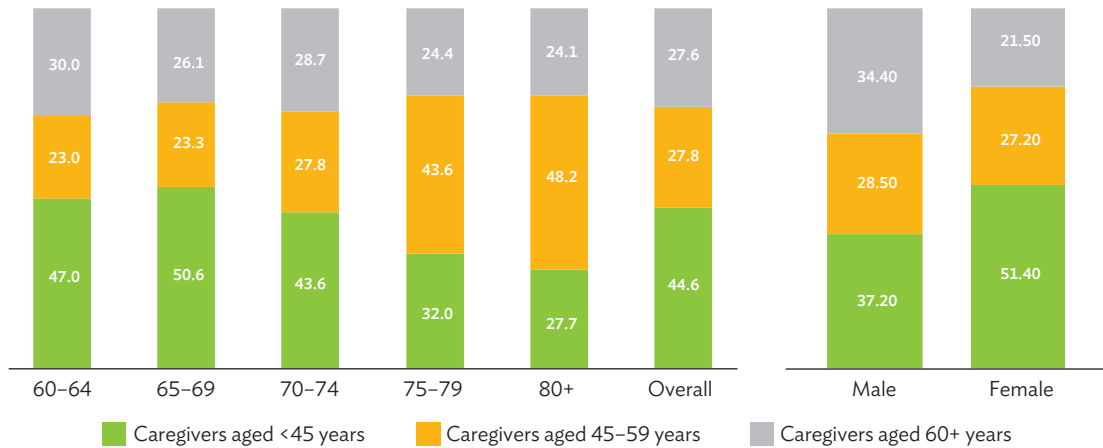


Figure 6.51: Education Level of Primary Caregivers
(%)

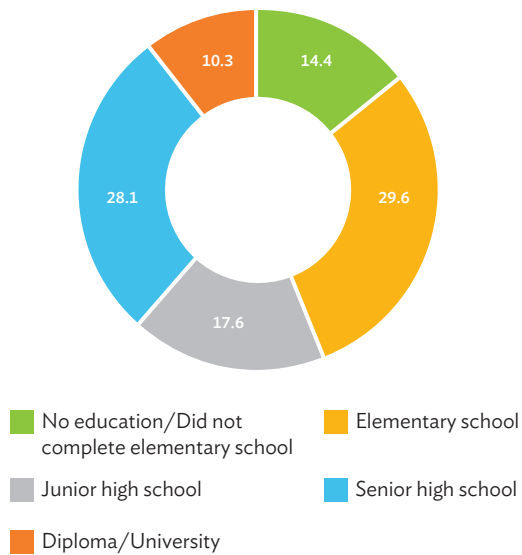
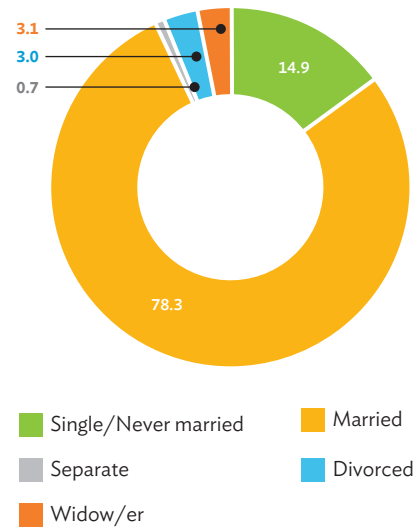
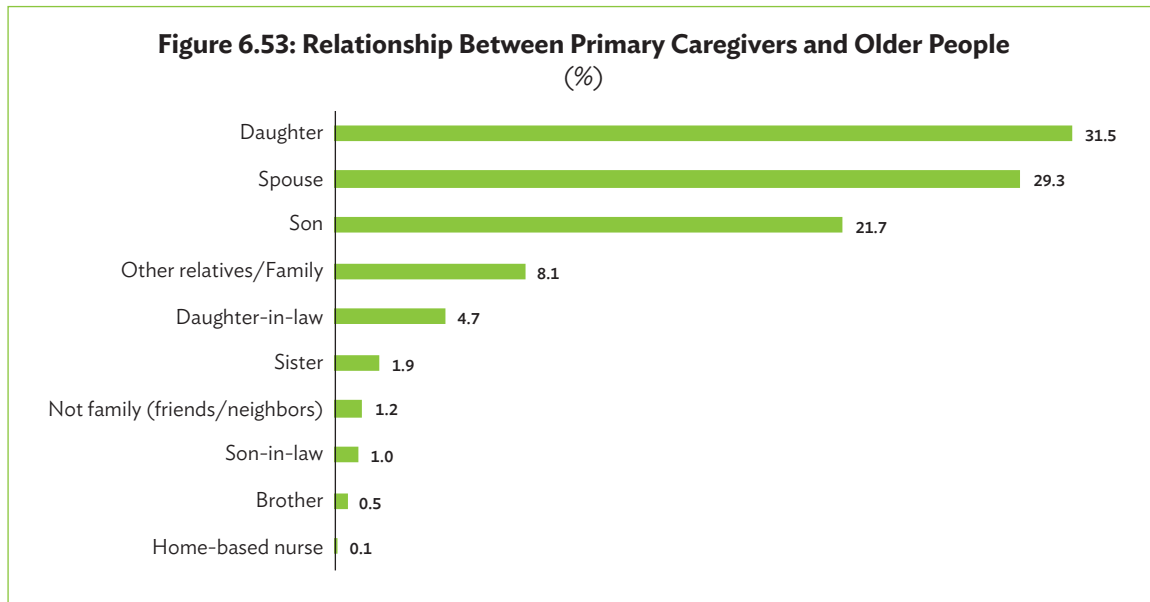


Figure 6.52: Marital Status of Primary Caregivers
(%)



Most caregivers of older people are family members, with daughters (31.5%), spouses (29.3%), and sons (21.7%) being the most common (Figure 6.53). The number of older people being cared for by formal caregivers is extremely low, with only 0.1% being assisted by caregivers in their own homes.

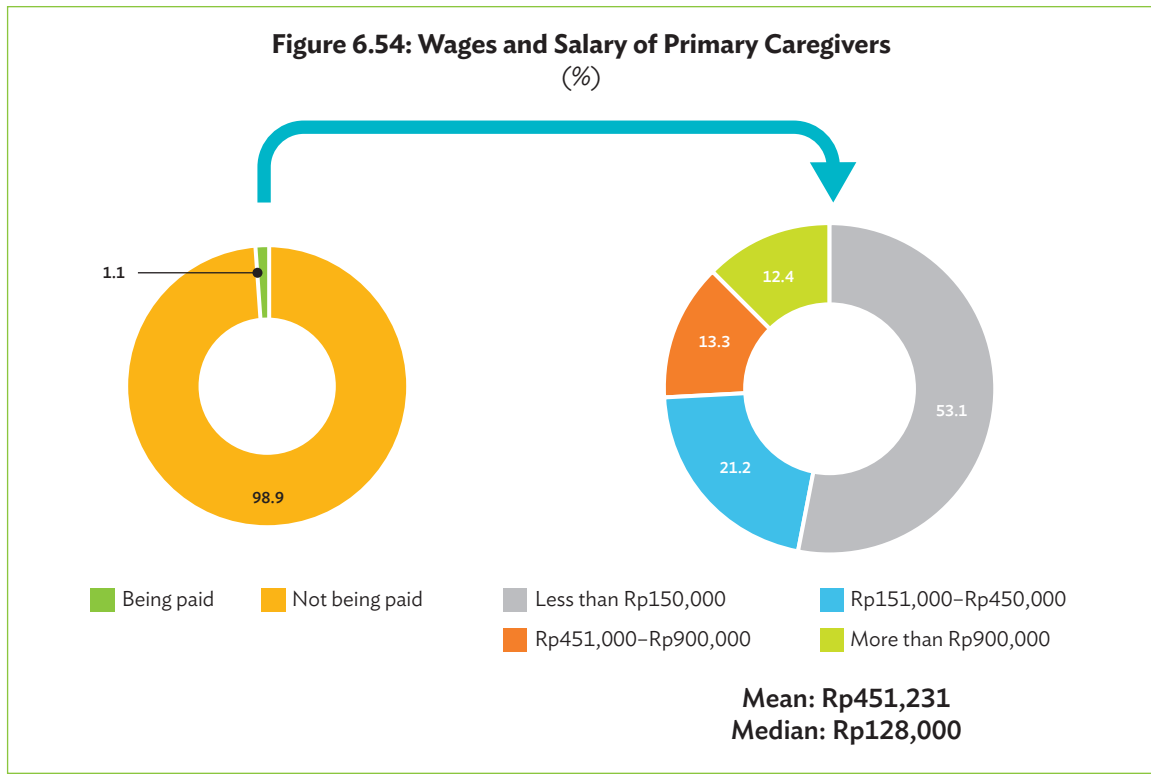


The time spent caring for older people is divided into routine caregivers (daily) and nonroutine caregivers (occasionally) (Table 6.5). On a regular basis, routine caregivers spend an average of 3.3 hours per day caring for older people, while nonroutine caregivers typically spend around 3.9 hours per week.

Table 6.5: Time Spent by Primary Caregivers in Helping or Caring for Older People

Frequency of Caregivers in Helping/ Caring for Older People	%	Average Hours
Routine caregiver (daily)	39.2	3.3 hours/day
Nonroutine (occasionally)	60.8	3.9 hours/week

In the ILAS study, almost all caregivers (98.9%) provided their services without receiving payment. Of the minority of paid caregivers who made up 1.1% of the total, more than half, 53.1%, reported that their monthly income was less than Rp150,000 (about \$9) (Figure 6.54).

**Table 6.6: Key Findings and Policy Directions**

No.	Key Findings	Policy Direction
1	Only about 35% of respondents undergo a health screening, with a slight difference between the pre-older (34%) and older (36.9%) groups, and women are more inclined to undergo a health screening than men.	Provide convenient and easily accessible screening facilities, such as mobile clinics or Puskesmas, to reduce obstacles to participation.
2	Most people in the pre-older and older age groups who forgo health screenings stated that they do not see the importance of health screening (91.8%). In addition to the reasons “unimportant/necessary,” more women cited a lack of transportation as a reason for not undergoing health screenings.	Puskesmas staff or community health workers (Posyandu cadres) can emphasize the benefits of early detection and prevention of disease and other health risks and then explain how health screening work, to pre-older and older people and to family or caregivers. The Ministry of Health may also spread relevant information through mobile or television networks to increase the community awareness of the importance of screening.
3	For outpatient care, the percentage of people aged 60 and over (21.9%) receiving outpatient care in a health-care facility without a companion is higher than for those aged 45–59 (14.9%) and for women (21%–27%) compared to men (5%–16%).	Expand the options and availability of affordable home-visiting services, particularly for older people lacking caregivers and requiring outpatient care, to ensure they receive care from trained medical professionals.

continued on next page

Table 6.6 continued

No.	Key Findings	Policy Direction
4.	One-third (31.0%) of pre-older and older people have no insurance, with a higher proportion of pre-older people lacking insurance compared to older people.	Improve the promotion of BPJS insurance for pre-older and older people by offering comprehensive information on administrative processes and benefits. Also, simplify the administrative process, particularly for people living independently (living alone).
5.	The majority of pre-older and older people (56.4%) who receive outpatient care pay for their medical expenses out of pocket because they do not have insurance.	Review insurance coverage for pre-older and older people who are currently uninsured and involve family members or caregivers to help with the insurance registration process.
6.	Almost half, 45.4%, of people in the pre-older age group and the older age group utilize government-sponsored insurance, such as BPJS PBI and Jamkesda, to cover hospitalization expenses.	Increase the BPJS PBI rate or quota and review data to ensure that PBI coverage is adequately helping individuals facing financial constraints.
7.	The proportion of older people requiring long-term care (LTC) is 11.6%. This percentage is 41.9% among those aged 80+ and 14.5% among older women.	<p>Facilitating and establishing the mechanism for coordination among LTC service providers at all levels (local, regional, and national) is an essential step toward creating an integrated LTC system.</p> <p>Expanding the coverage of LTC to wider areas to reach all individuals who need the service.</p> <p>Increasing the locations of pilot projects that replicate the BAPPENAS' integrated LTC system.</p>
8.	Most pre-older and older people have a positive view of age-friendly housing and complexes with age-friendly services (82.1%) and some are willing to live in these facilities (13.0%). Among those who are willing, 30% cite desire to receive proper care and socialization opportunities as the reason, while 11% are willing to live in the facility for other reasons such as not having family members that take care of them.	<p>All stakeholders, Ministry of Public Works and Housing, Ministry of Health, Ministry of Social Affairs, Ministry of Economic Affairs, and the private sector need to collaborate to provide age-friendly housing or special complexes at affordable and reasonable prices to meet the demand.</p> <p>Develop age-friendly areas and facilities to improve the quality of life for older people, such as transportation, open areas, housing, social participation, and more. This can be initiated from the smallest community unit rather than reducing the cost of preparing these facilities.</p> <p>Increase the number of age-friendly cities to improve the quality of life for older people.</p>
9.	The percentage of pre-older and older people who are willing to use and pay for home visit services is high (27.8%).	<p>To meet the demand for home visit services, community-based services at reasonable prices that are supported by all stakeholders are urgently needed.</p> <p>Expand the scope of LTC to reach all people who need it.</p>

continued on next page

Table 6.6 continued

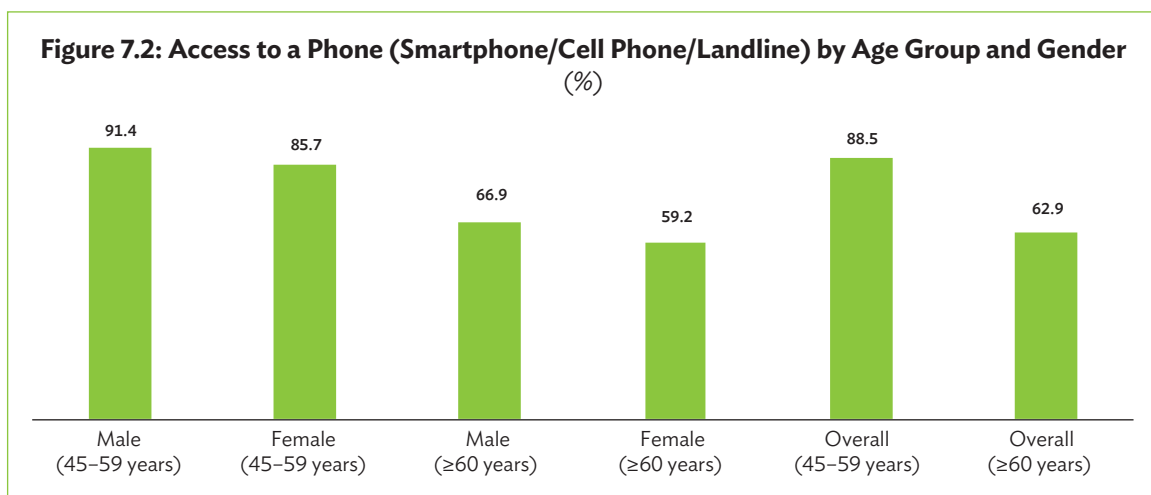
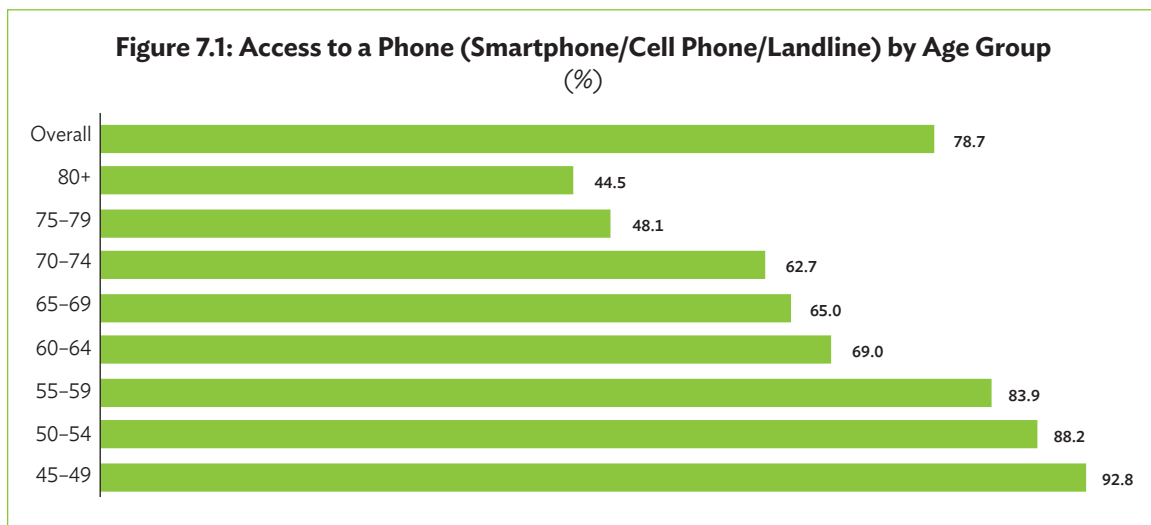
No.	Key Findings	Policy Direction
10.	Among the older people who reported needing care, 2.7% do not live with a caregiver and do not have adequate support.	<p>Regular monitoring or health screening through home visits should be provided to ensure the physical and mental health of the older people, regardless of whether they are dependent or healthy).</p> <p>Older people who live alone and have health issues should be considered candidates for receiving public provision of LTC.</p>
11.	Around 40% of caregivers have a low level of education, with 29.6% having completed elementary school and 14.4% not attending school or not having completed elementary school.	<p>Many caregivers do not have sufficient knowledge and skills on how to care for older people. Caregivers will benefit from education and training provided by primary health facilities or community organizations such as BKL, Posyandu Lansia, LKS, and Community Care Hub Pilot.</p> <p>Provide incentives to support caregivers, especially as people with lower levels of education often have limited income, and their ability to work and earn is limited when they are responsible for caring for older people.</p>

BKL = Bina Keluarga Lansia, BPJS = Badan Penyelenggara Jaminan Sosial (Social Security Agency), LTC = long-term care, LKS = Lembaga Kesejahteraan Sosial (Social Welfare Institution), PBI = penerima bantuan iuran (government contribution beneficiaries).

7. USE OF TECHNOLOGY, APPS, AND FINANCIAL INCLUSION

Access to and Use of Communication Devices

Older people, particularly those aged 75 and older, reported to have very limited access to and use of phones and digital technology. It is clear from the ILAS data that the proportion of people under the age of 60 who have access to a phone is consistently substantially greater than that of older age cohorts (Figure 7.1). This data indicate that a large share of older people in the coming decades will access mobile phones and possibly other communication tools. At the same time it also implies that alternative modes of communication are required to reach out to the current group of older people. In general, men tend to have more access to phones than women across age groups (Figure 7.2).



People with a higher level of education are more likely to have access to a phone, as shown by 99.7% of diploma or university degree holders having the highest access, compared to 60.7% of people with no education or incomplete elementary schooling (Figure 7.3). With regards to the location of residence, 82.6% of people in urban areas have access to a phone compared to 72.5% in rural areas (Figure 7.4).

Figure 7.3: Access to a Phone (Smartphone/Cell Phone/Landline) by Education Level (%)

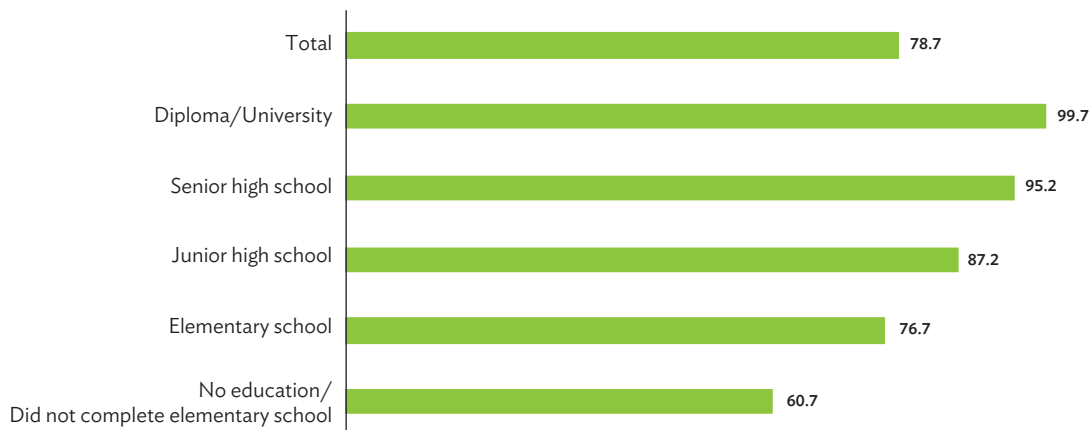
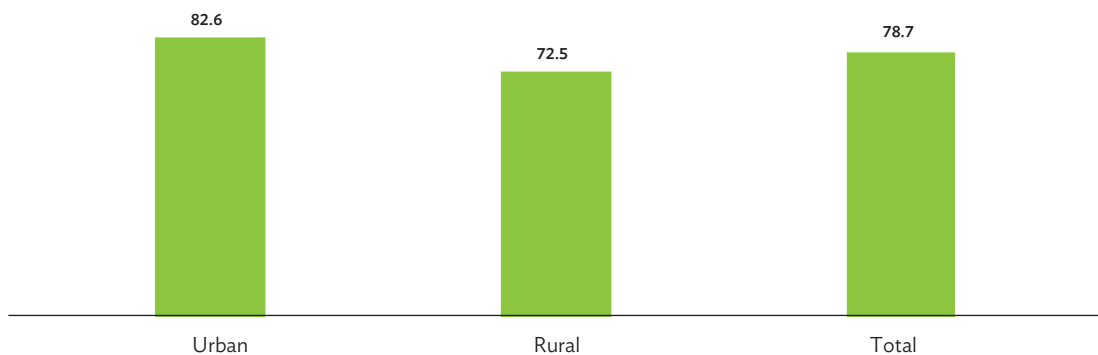


Figure 7.4: Access to a Phone (Smartphone/Cell Phone/Landline) by Place of Residence (%)



In general, more than half of the respondents reported to be capable of using a phone (smartphone/cell phone/landline) independently (Figure 7.5). However, a large variation can be observed across age groups with very low share of respondents above 70 years old who reported to be capable of using a phone. Among respondents aged 80 and above, barely 10% reported to be able to use a phone. It is mostly the pre-older group that reported their ability to use a phone at 72% (Figure 7.6). Additionally, men more than women reported to be able to use a phone.

Figure 7.5: Able to Use a Phone (Smartphone/Cell Phone/Landline) Independently by Age Group (%)

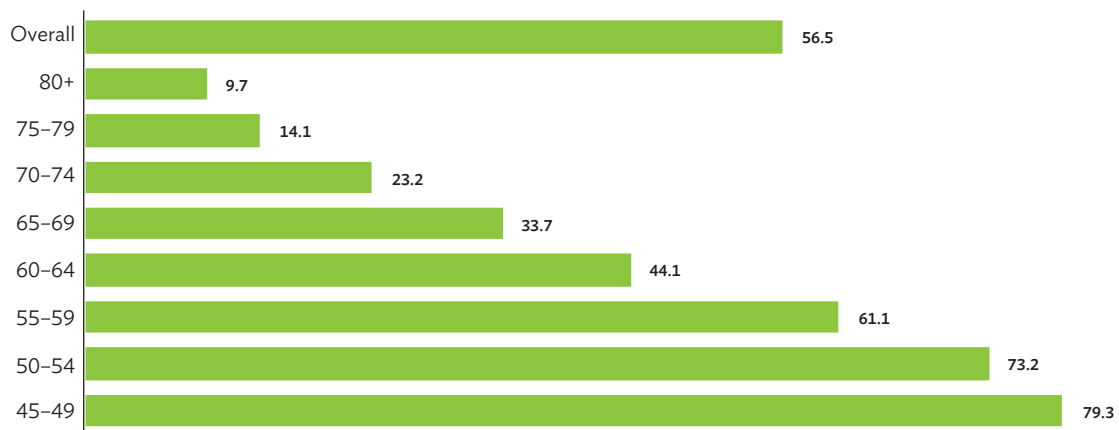
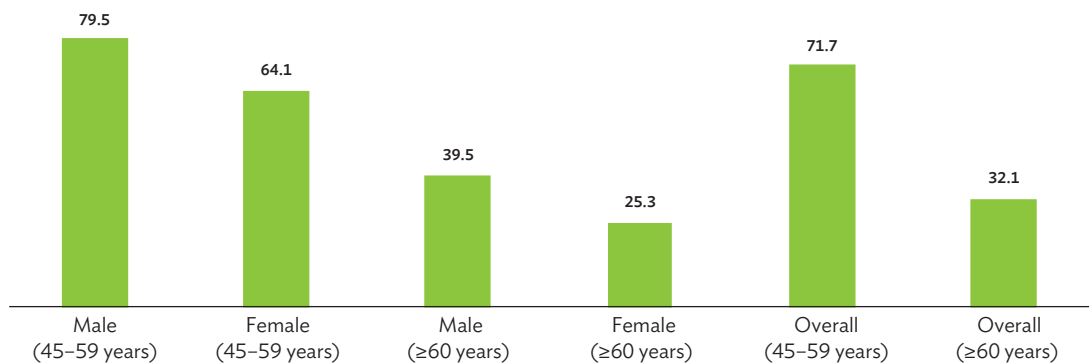


Figure 7.6: Able to Use a Phone (Smartphone/Cell Phone/Landline) Independently by Age Group and Gender (%)



Similar to access, the level of education also plays a role in whether someone is able to use a phone independently. More than 90% of respondents with a college or university degree are able to use a phone independently, while only 26.5% of respondents with the lowest level of education are able to do so (Figure 7.7). In urban areas, 63.1% of people are able to use a phone compared to 46% in rural areas (Figure 7.8).

Figure 7.7: Able to Use a Phone (Smartphone/Cell Phone/Landline) by Education Level (%)

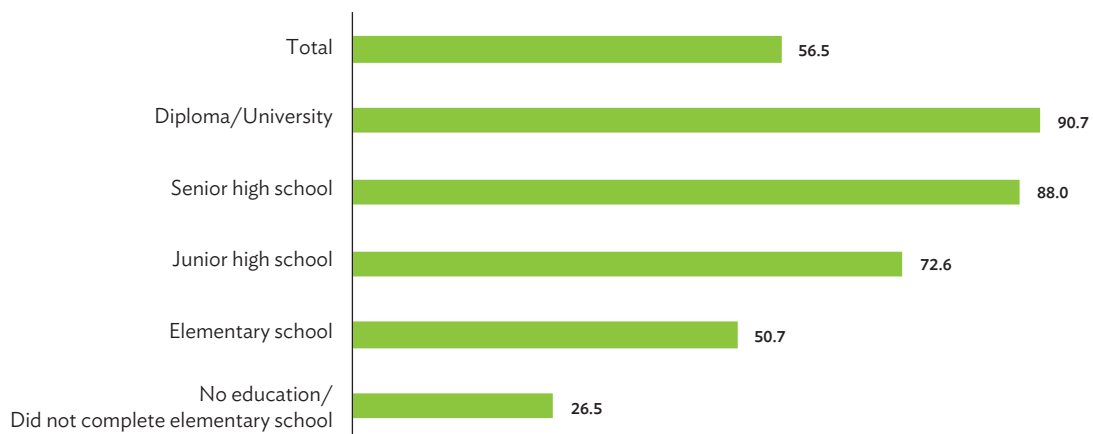
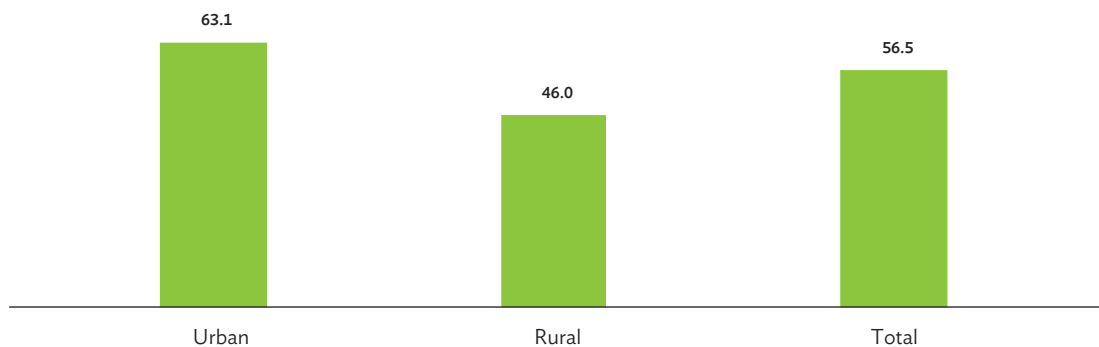
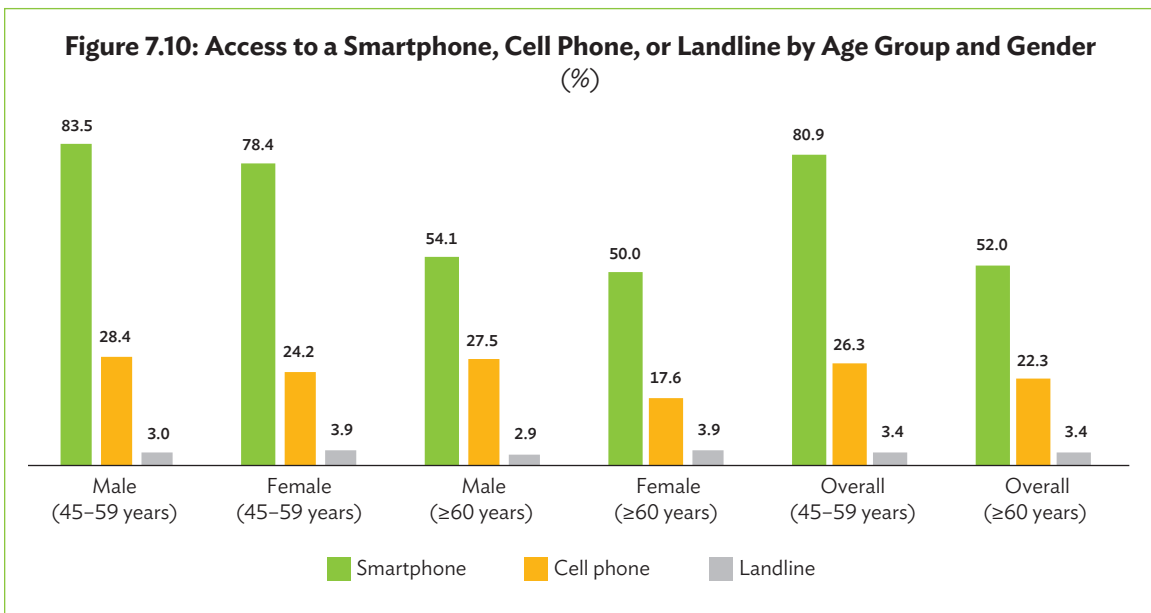
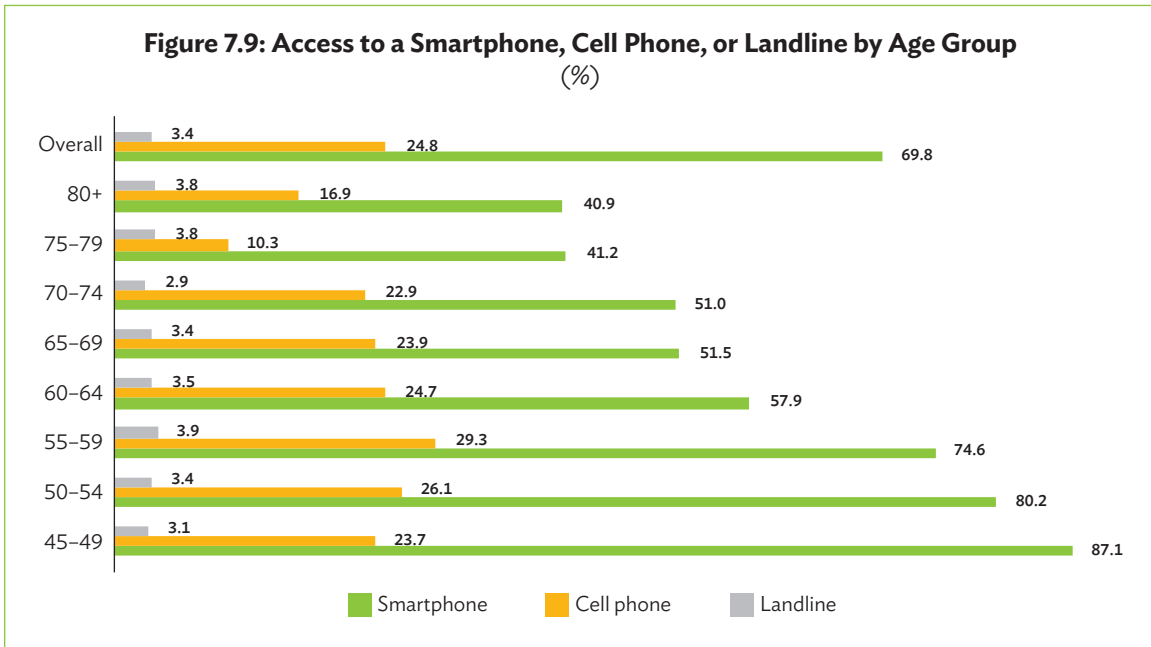


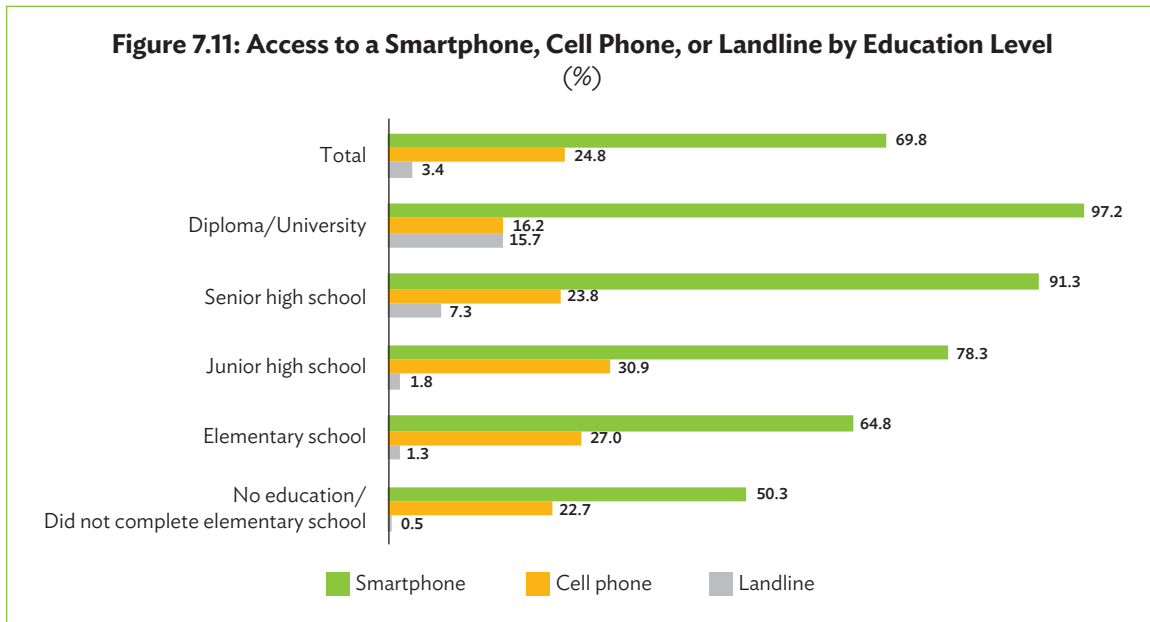
Figure 7.8: Able to Use a Phone (Smartphone/Cell Phone/Landline) by Place of Residence (%)



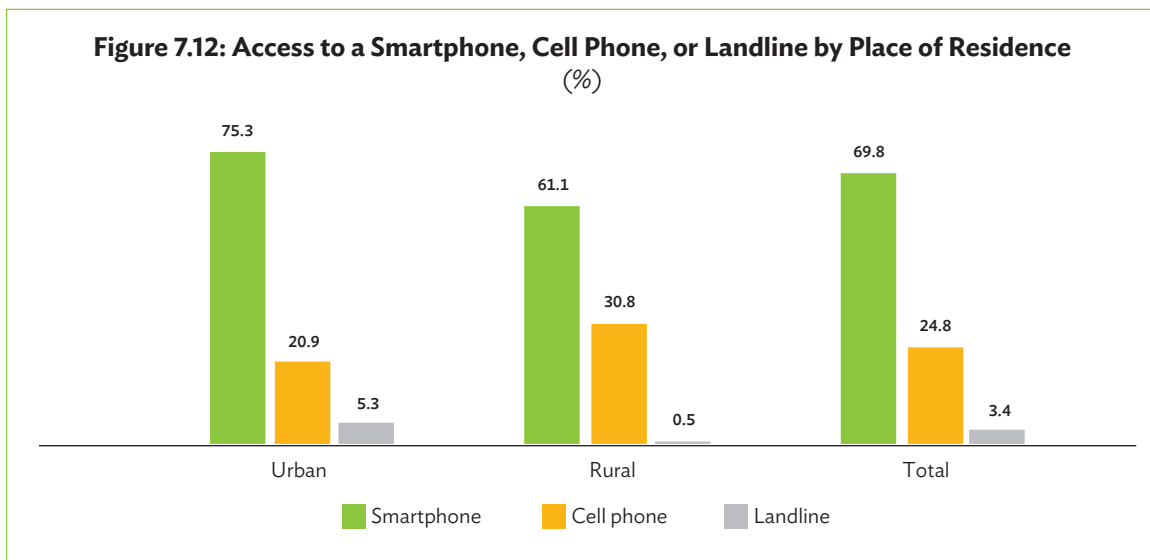
The majority of respondents reported that they have access to a smartphone. Only very few of the respondents have access to a landline, showing that smartphones are now more accessible than other forms of telecommunication device. (Figure 7.9). In ILAS, access means that people own it or, although they do not own it, they have access to use it. A greater proportion of the pre-older group reported to have access to smartphones and cell phones compared to the older group. Men have a higher percentage of access to smartphones and cell phones compared to women. However, more women reported to have access to landlines, although access remains very low at 4% (Figure 7.10).



Access to different modes of telecommunication generally increases with level of education. Respondents with a diploma or university degree are highly likely to own a smartphone (97.2%), while the likelihood for other education groups ranges from 91.3% (senior high school) to 50.3% (no education) (Figure 7.11). In contrast, the use of older models of mobile phones (cell phone) was more common among respondents who have not completed senior high school. For example, 22.7% of respondents who lack education or have not finished elementary school used an older model phone, compared to 16.2% of those with a diploma or university degree.



Urban respondents have greater access to landlines and smartphones while rural respondents have more access to cell phones (Figure 7.12).



The findings suggest that the use of smartphones for communication is more common among pre-older and older people than cell phones or landlines. Smartphones provide advanced functionality through a range of features and apps that simplify users' access to essential services. On the other hand, older people have less access to phones, particularly smartphones, compared to pre-older people.

As a result of the COVID-19 pandemic, the use of telemedicine has increased significantly, with face-to-face health-care services being replaced by remote alternatives (Shaver 2022). In Indonesia, the use of health-care apps such as Halodoc and Alodokter, together with hospital or clinic telemedicine services, has risen during the pandemic. They allow patients to register, consult doctors, and order medication online. Given the convenience and advantages they offer, it is important to improve phone accessibility, especially for older people.

Skillful use of communication devices is crucial for their optimal use. ILAS findings indicate that older people are less adept at using phones, particularly smartphones and cell phones. This underscores the importance of older people acquiring information technology skills in order to be able to use devices independently. In addition, the ILAS study findings indicate that older people will find it easier to use smartphones and cell phones to access information and services such as health care, leading to enhanced health and quality of life in the long run. It is vital to address the issue of equitable device ownership among pre-older people.

Access to and Use of Tablet Devices or Computers

Access to digital devices such as tablets and computers is reported only by 13% of all respondents, with even lower access among older group, particularly those aged 75 and above, at barely 5% (Figure 7.13). However, a greater percentage of the pre-older group has access to tablets and computers (16%), indicating that a greater share of older people will have access to tablet devices or computers in the future (Figure 7.14). Among the pre-older and older groups, men have greater access to tablet devices or computers than women (Figure 7.14). As expected, the higher the respondent's level of education, the more likely they are to have access to a tablet or a computer, with the largest percentage of access to those with a diploma or university degree (Figure 7.15). A bigger share of respondents residing in the urban areas have access to a tablet device or a computer than those in rural areas (Figure 7.16).

Figure 7.13: Access to a Tablet Device or Computer by Age Group
(%)

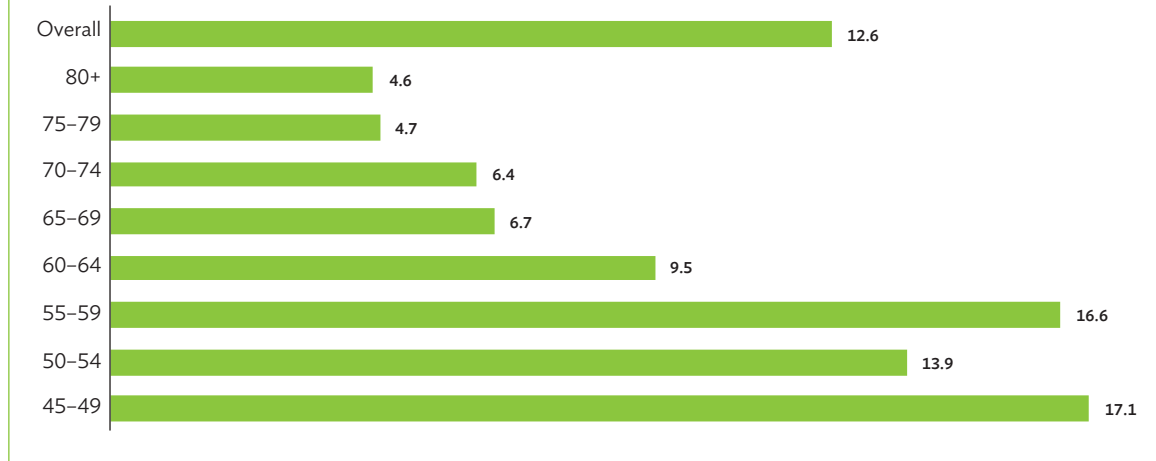


Figure 7.14: Access to a Tablet Device or Computer by Age Group and Gender
(%)

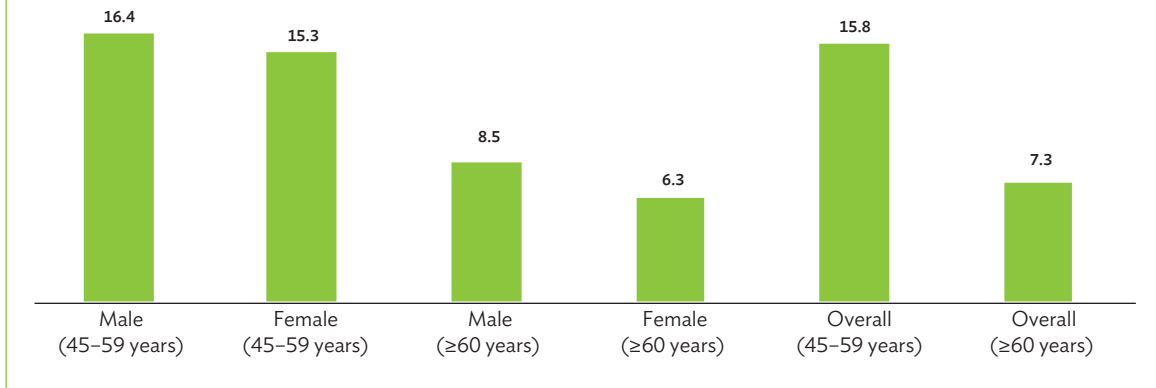
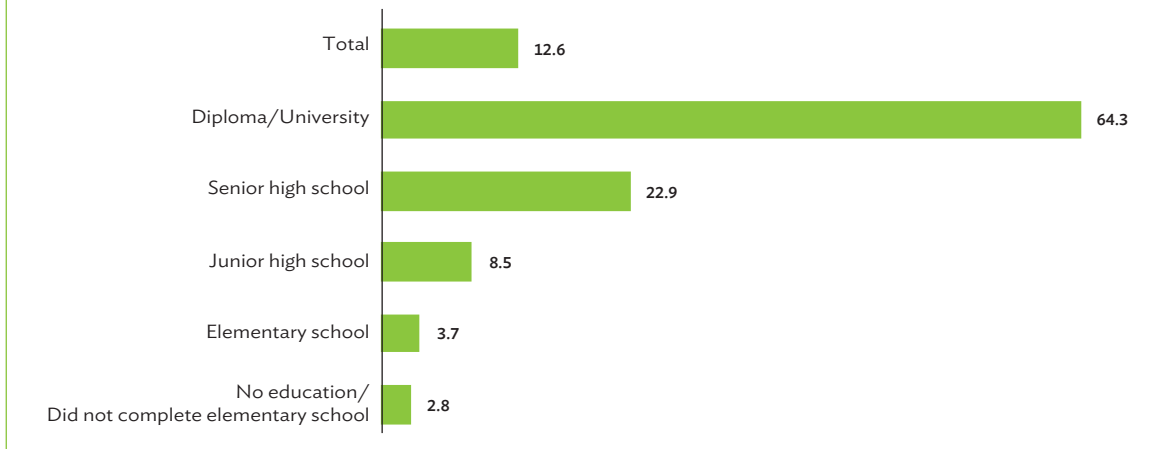
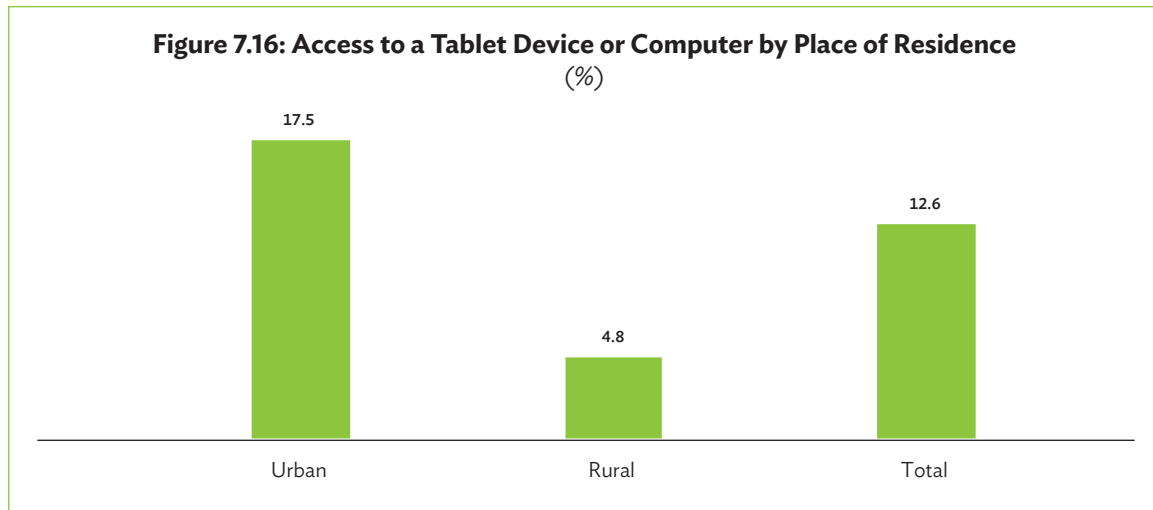


Figure 7.15: Access to a Tablet Device or Computer by Education Level
(%)





It is anticipated that the future cohort of older people will become increasingly proficient in using tablet devices or computers, as the percentage of people under 60 who can operate these devices is greater than that of the current older people (Figure 7.17). In addition, more men than women are proficient in using tablet devices or computers (Figure 7.18). Nearly 60% of diploma or university holders are able to use a tablet device or computer independently, highlighting a large variation and gap in device use skills compared to other educational levels (Figure 7.19). People living in urban areas are close to five times better able to use a tablet devices or computer on their own compared to people in rural areas (Figure 7.20).

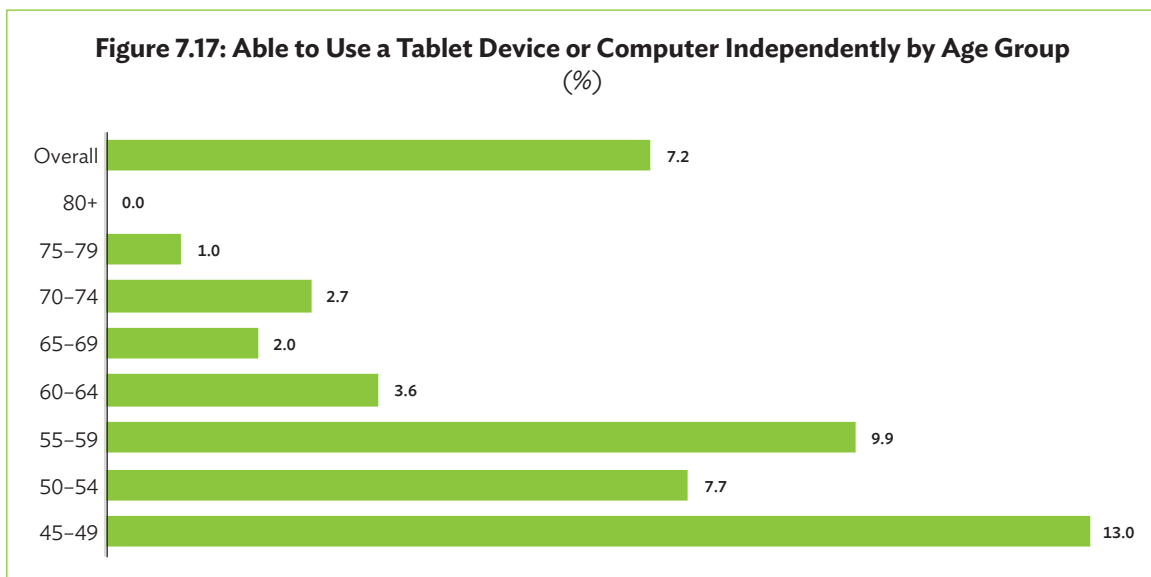


Figure 7.18: Able to Use a Tablet Device or Computer Independently by Age Group and Gender
(%)

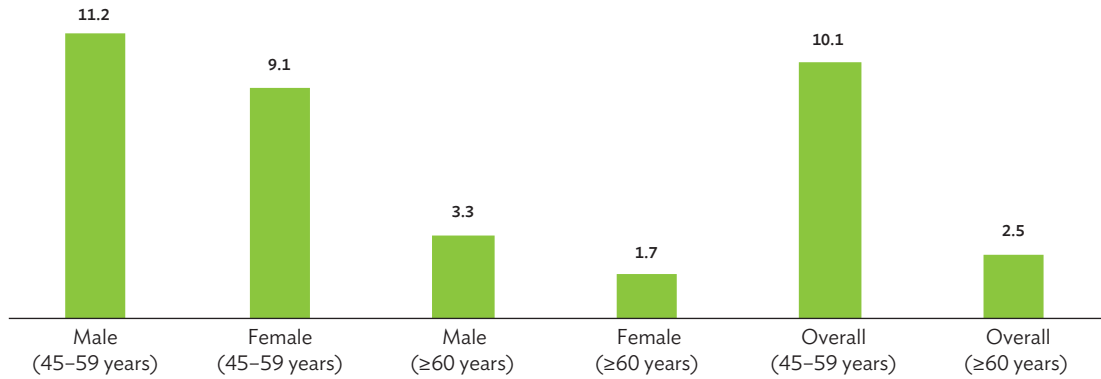


Figure 7.19: Able to Use a Tablet Device or Computer by Education Level
(%)

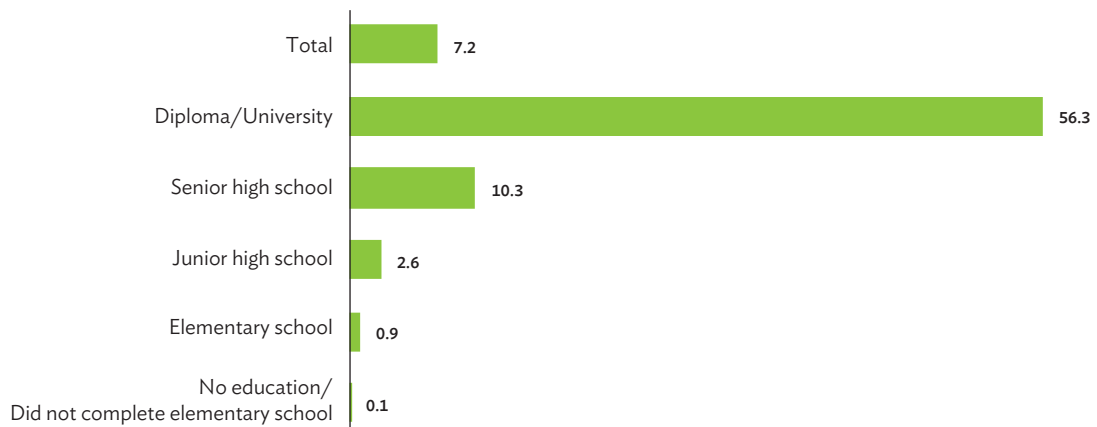
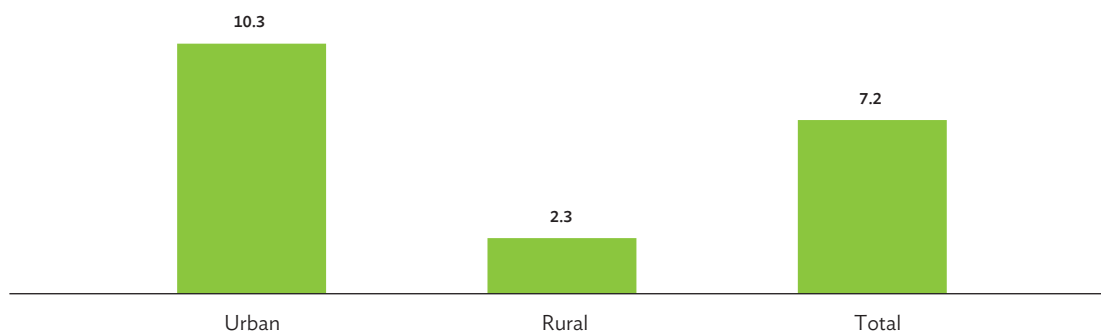


Figure 7.20: Able to Use a Tablet Device or Computer by Place of Residence
(%)



Use of Mobile Apps

ILAS asked respondents with smartphone or tablet/computer access about their use of mobile apps such as Gojek or Grab, Tokopedia or Shopee, and mobile banking (m-banking). Gojek and Grab offer vehicle or motorbike ride sharing, delivery, and multiple logistics services, while Shopee and Tokopedia are online shopping or marketplaces. M-banking offers online banking services from banks allowing customers to conduct financial transactions via mobile devices. It is projected that older people will improve in their ability to use these apps over time (Figure 7.21 and Figure 7.22). This finding shows that the usage in the youngest group is greater than other groups but still modest (around 30% in the youngest group). The low usage could be primarily an urban phenomenon, with even lower adoption in rural areas. In urban areas, 25.5% of people can use these apps, compared to only 8.3% in rural areas. This low percentage in the rural areas may also be explained by the limited availability of some of these services in the rural market. Overall, the ability to use mobile apps is higher among men in both age groups, but the gender gap is smaller compared to the age gap (Figure 7.22).

Figure 7.21: Able to Use Apps (such as Gojek or Grab, Tokopedia or Shopee, and M-Banking) by Age Group (%)

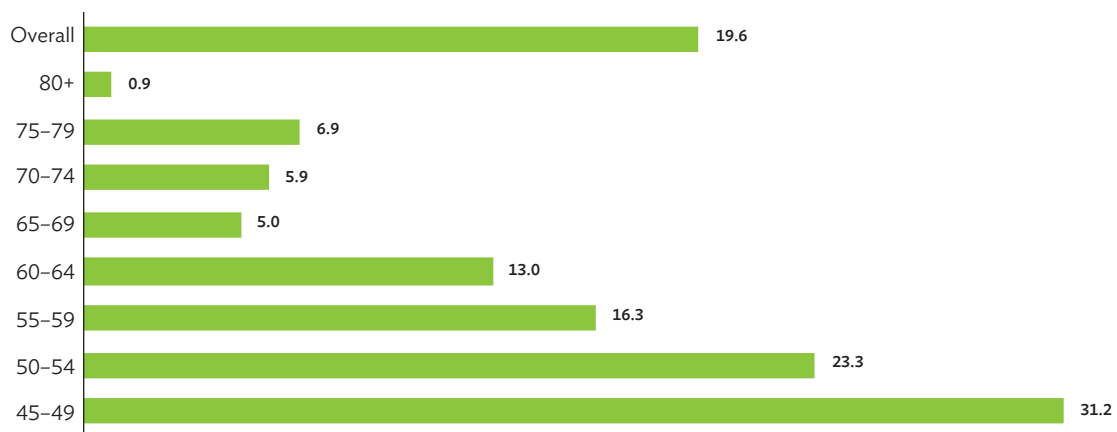
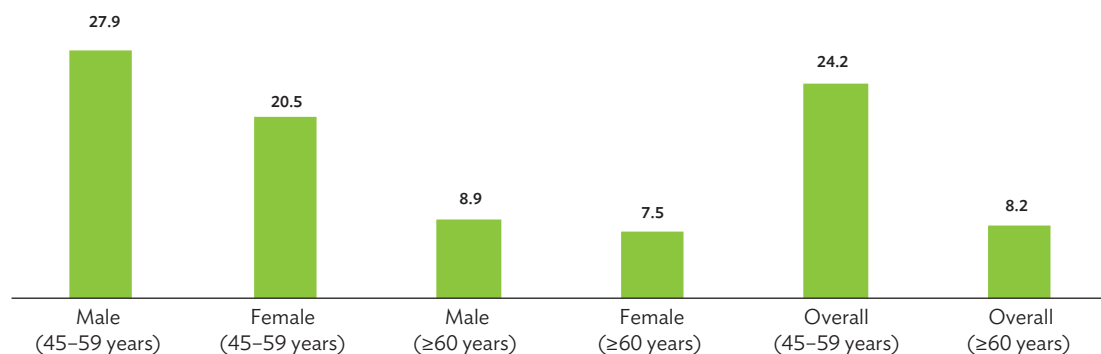


Figure 7.22: Able to Use Apps (such as Gojek or Grab, Tokopedia or Shopee, and M-Banking) by Age Group and Gender (%)



The digital economy is experiencing rapid growth with the emergence of numerous online shopping platforms. The platforms allow consumers and producers to conveniently trade goods and services without having to meet in person. This convenience enables consumers to make better use of their time. Both current and future older people need to adapt to technological advancements to ensure that their needs are met. For example, older people with limited mobility can shop online or carry out financial transactions without having to visit a physical store. The ILAS study results indicate that a greater number of pre-older people are able to use e-commerce apps than older people, even if the percentage is relatively small. Improving the digital skills of pre-older and older people, and creating age-friendly application interfaces can improve their quality of life.

Access to Digital Payments and Finance

ILAS asked respondents about their access to digital payments and finance, specifically whether they had used a debit or ATM card, cell phone, or the internet to make purchases, payments, or transfers in the last 12 months. The access rate to these services among older people is very low (5%), with a larger percentage of younger people (aged 45–59) having used a debit or ATM card in the last 12 months (Figure 7.23 and Figure 7.24). Furthermore, twice as many older men as older women have used debit or ATM cards for purchases, payments, or transfers in the last 12 months. The proportion of pre-older people (aged 45–59) who have used smartphones and/or the internet for financial transactions in the past year is substantially higher at 7%–16% than the proportion of older people (aged ≥ 60) (Figure 7.25).

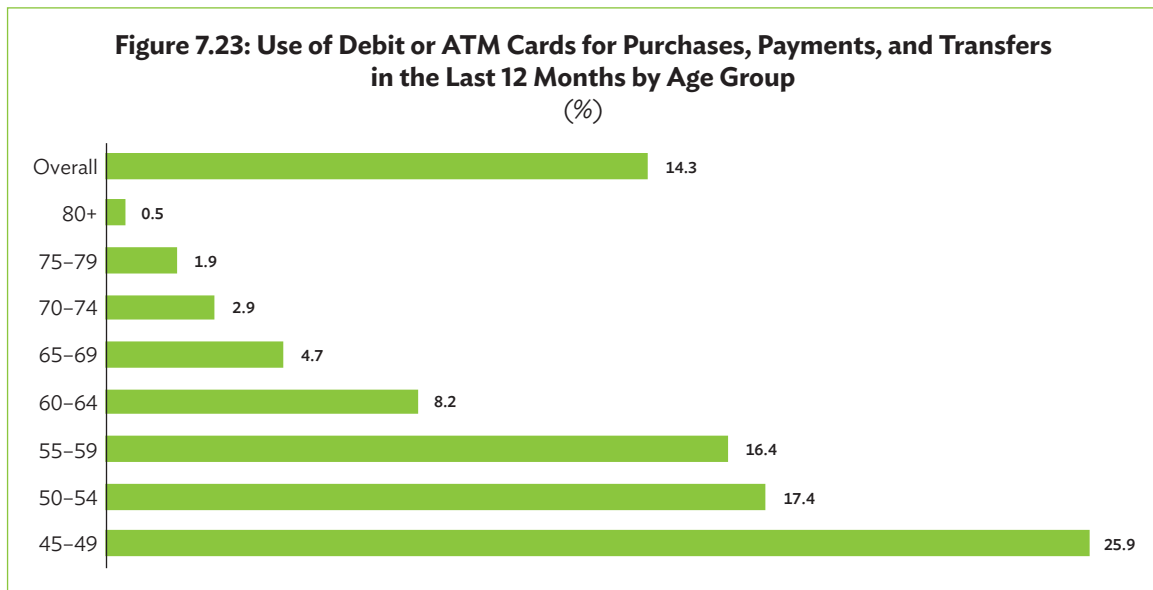


Figure 7.24: Use of Debit or ATM Cards for Purchases, Payments, or Transfers in the Last 12 Months by Age Group and Gender (%)

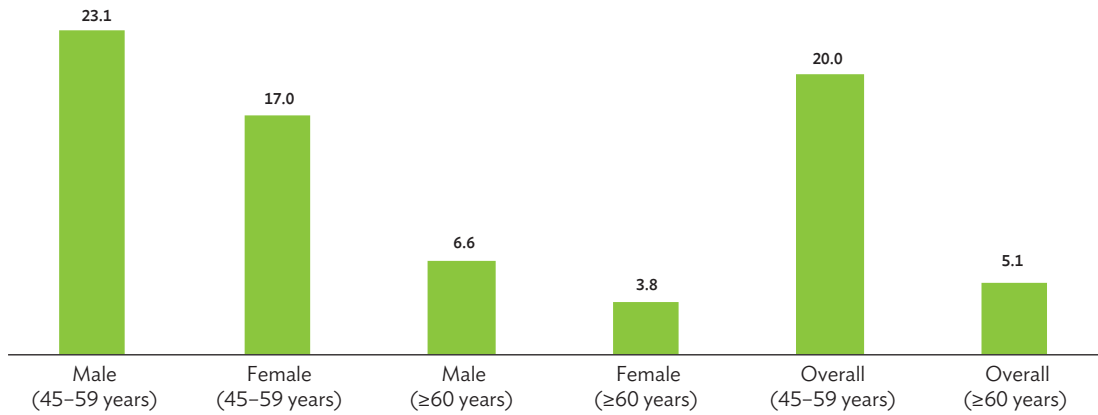
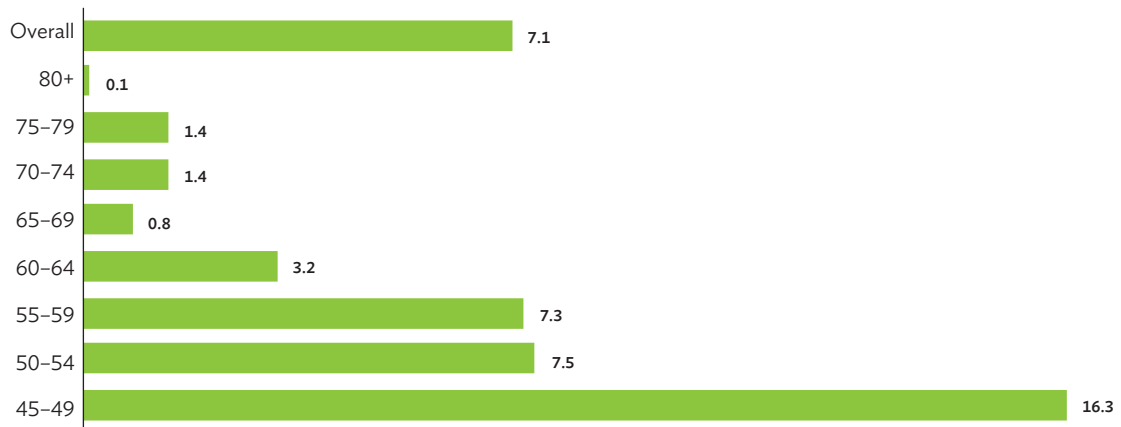
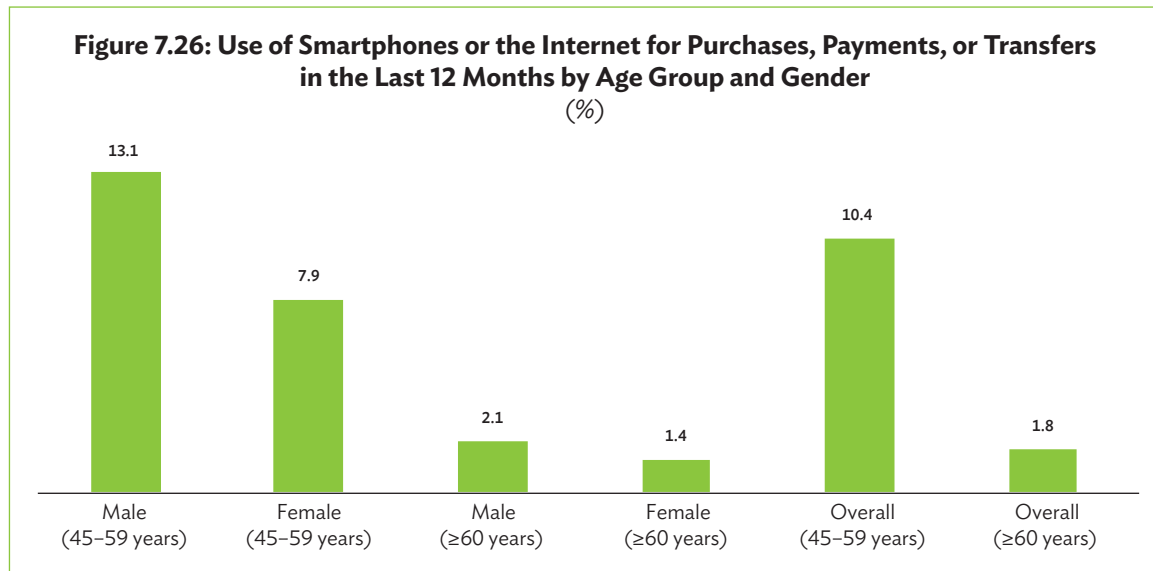


Figure 7.25: Use of Smartphones and/or the Internet for Purchases, Payments, or Transfers in the Last 12 Months by Age Group (%)



As with many other digital adoption and financial inclusion indicators, men and young groups outnumber female and older groups as far as the use of digital financial transaction is concerned. That said, there is a persistent and large gender gap even among pre-older respondents in the adoption of this technology (Figure 7.26).



Regulation No. 76/POJK.07/2016 issued by Indonesia’s Financial Service Authority (Otoritas Jasa Keuangan [OJK]) in 2016, defines financial inclusion as the “availability of access to various institutions, products and financial services in accordance with community needs and capabilities in order to improve community welfare.” Improving financial inclusion can reduce the number of unbanked people who lack access to basic financial services such as savings. By having a bank account, consumers have access to a range of financial products such as insurance and pension programs.

In early 2019, the transaction rate for smartphone payments in Indonesia was 47%, behind other Asian countries such as Viet Nam (61%) or Thailand (67%) (PwC 2019). According to a survey by Katadata Insight Center in late 2022, 81% of 2,209 respondents aged 17–55 in Indonesia were in favor of electronic wallets as a cashless payment method. Nevertheless, the use of cashless payment methods such as Quick Response Code Indonesian Standard (QRIS) (31%), instant debit (12%), and credit card (9%) is still relatively low (Annur n.d.). This is in line with the results of ILAS 2023, which indicate a low percentage of cashless payments among people aged 45–59 (pre-older people), particularly with only 20% using debit or ATM cards and 10.4% using smartphones or the internet.

The ILAS data show that a greater percentage of pre-older people use debit or ATM cards for financial transactions than older people, although the adoption rate is not wide in coverage. This finding suggests that not all pre-older or older people seem to have access to essential financial services. The National Survey on Financial Literacy and Inclusion 2022 revealed a rise in the financial inclusion index from 76.19% in 2019 to 85.1% in 2022 (OJK 2022). Respondents with no schooling or only elementary education have the lowest level of financial inclusion at 64.74%, while respondents with university education have the highest at 96.51%.

Table 7.1: Key Findings and Policy Recommendations

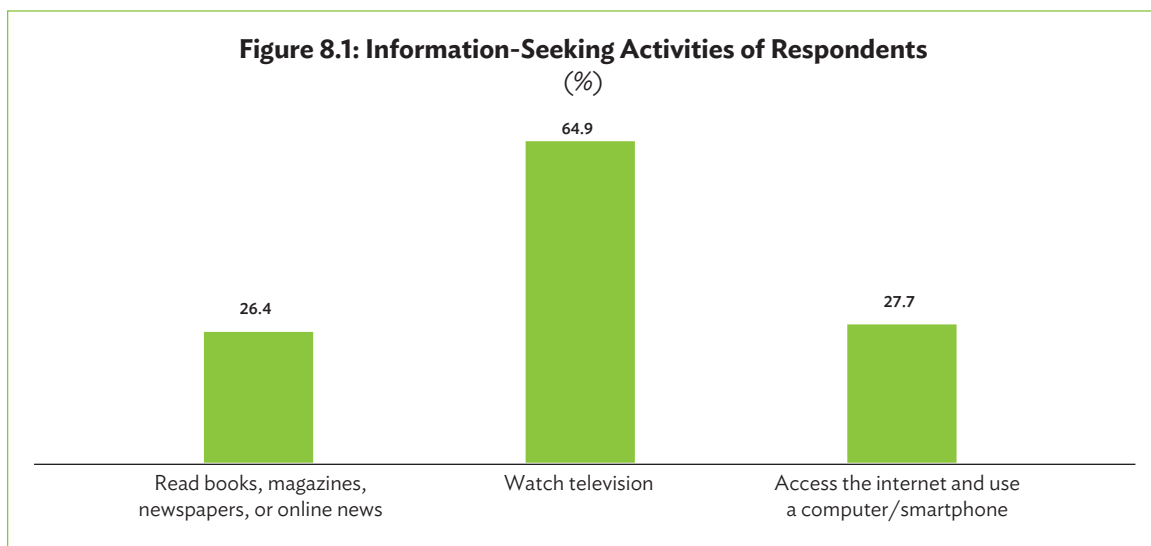
No.	Key Findings	Policy Recommendations
1.	<p>In the future, older people will increasingly surpass current older people in their ability to use smartphones, tablets, and computers for communication. For example, 71.7% of people in the pre-older group can use a phone (including smartphones) independently, compared to 32.1% of older people. In addition, 80.9% of the pre-older group and 52% of the older group have access to a smartphone.</p>	<p>The results suggest that although a higher number of pre-older people use technology (like e-commerce apps) compared to older people, the percentage is still quite low. In addition to improving digital literacy and skills, it is crucial to develop user-friendly technologies that are tailored to older users and those who are new to technology.</p> <p>Despite the predicted increase, the use of financial products among pre-older and older people remains low. To achieve the Indonesian government's goal of reaching 90% financial inclusion by 2024, policies and programs should prioritize low-income people, women, and residents of underprivileged and remote areas. Several national banks allow new customers to open a bank account online. Policymakers should consider expanding broadband internet access, especially in areas where internet is limited or unavailable. Outreach officers should also be made available to support people who have no or limited access to financial services.</p>
2.	<p>The capability of future older people to use debit or ATM cards, smartphones, and the internet for financial transactions (including accessing Gojek or Grab, Tokopedia or Shopee, M-banking, etc.) is expected to grow and surpass the ability of current older people. According to ILAS, 20% of pre-older people use debit or ATM cards for financial purposes, compared to 10.4% who use smartphones or the internet. In contrast, only 5.1% of older people use debit or ATM cards, and 1.8% use smartphones or the internet.</p>	<p>Improve financial literacy among pre-older and older people by utilizing information and communication technology, promoting the use of financial products, and emphasizing the importance of financial services. Financial literacy highlights the significance of managing finances effectively for daily expenses and the importance of entrepreneurship for both pre-older and older people.</p> <p>Simplify the use of financial tools like e-wallets and mobile banking, enabling users to carry out transactions and manage their business finances. This is particularly beneficial for those engaged in micro, small, and medium-sized enterprises.</p> <p>The growing use of cell phones and smartphones by older people in the future should be supported by providing easy access to health information, reservation information, and even direct consultations with doctors (such as Halodoc, Alodokter, KlikDokter, etc.) through the internet.</p>

8. INFORMATION ACCESS AND SOCIAL ENGAGEMENT

Information Access

ILAS inquired about respondents' pattern and access to information and participation in social activities. The discussion covered topics such as source of information accessed and interactions with family members including children, which constitutes an important element of social engagement in old age.

Respondents engage in a wide range of activities that involve information access such as "reading books, magazines, newspapers, or online news" (26.4%); "watching television" (64.9%); and "accessing the internet and using a computer or smartphone" (27.7%) to get information (Figure 8.1).



Television viewing is the top information-seeking activity for respondents across all age groups, but the pre-older group have access to a greater variety of sources. The youngest cohort (45-49 years old) have the highest access rate to internet-based information at 47% and this access decreases with age to as low as 0.4% among 80 years old and above (Figure 8.2). It is expected that in the future, more and more older people will rely on the internet and modern technologies such as computers and smartphones to obtain information than by reading books, magazines, newspapers, or online news. The percentage of men who use their computer or smartphone to access the internet is slightly higher than that of women in both age groups, and notably higher in the pre-older group (43.6% for men and 31.9% for women) (Figure 8.3).

Figure 8.2: Information-Seeking Activities by Age Group (%)

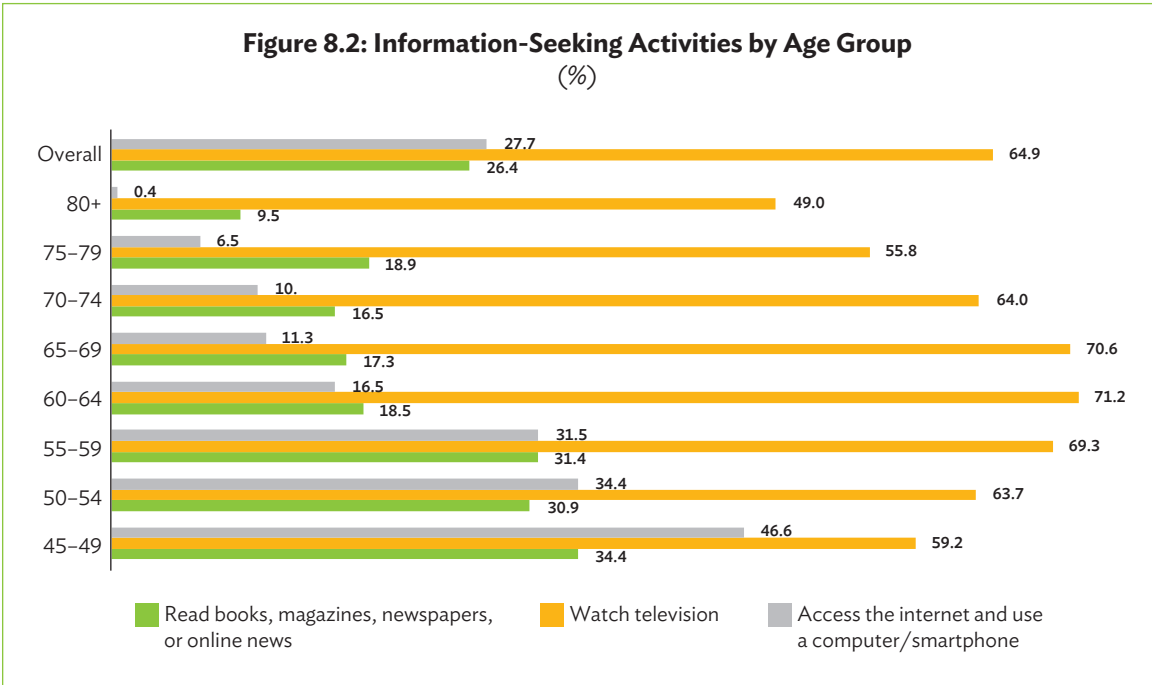
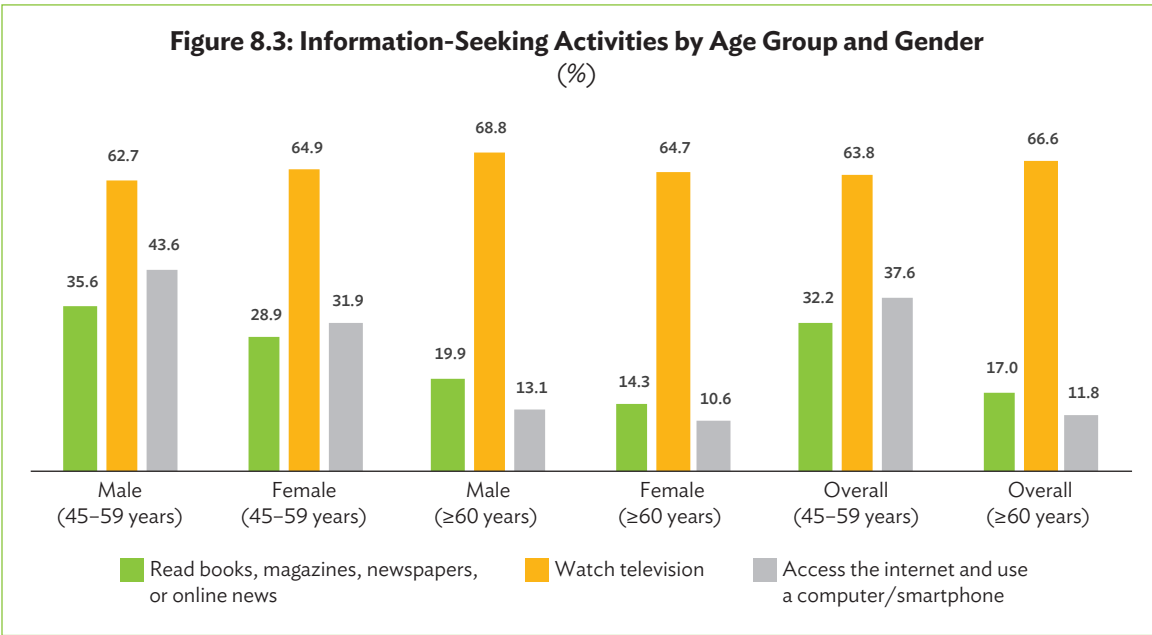
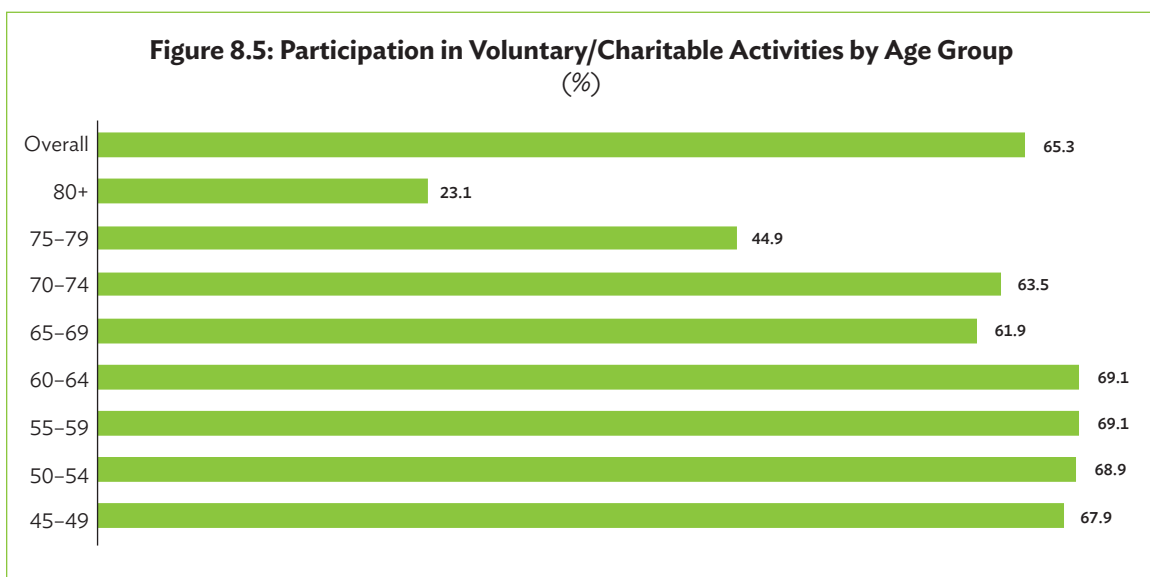
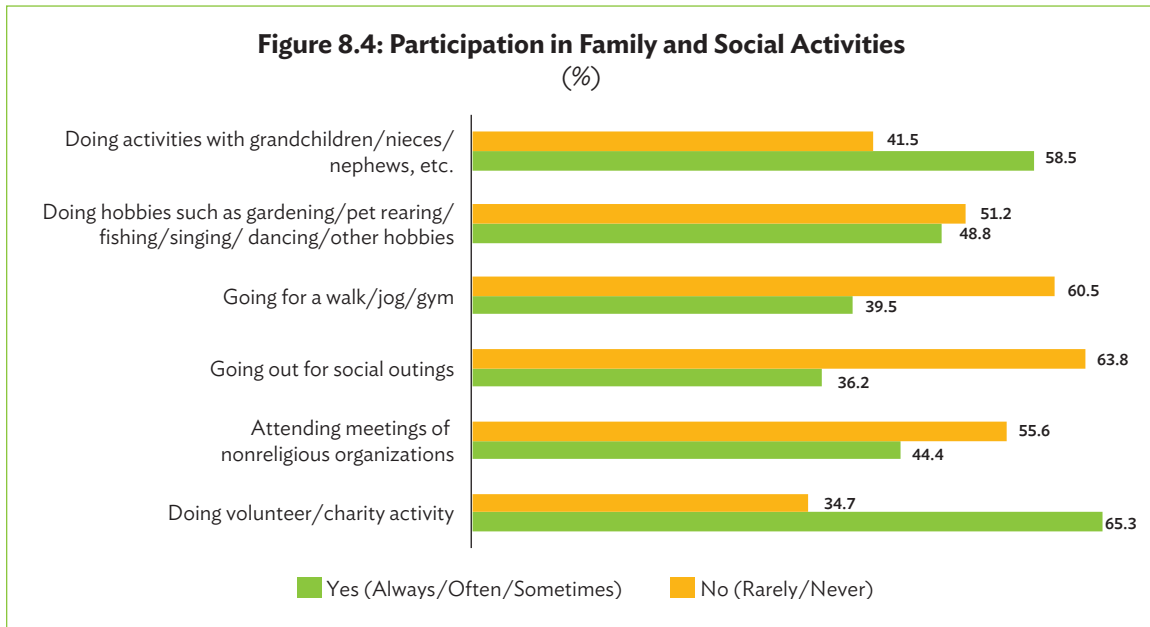
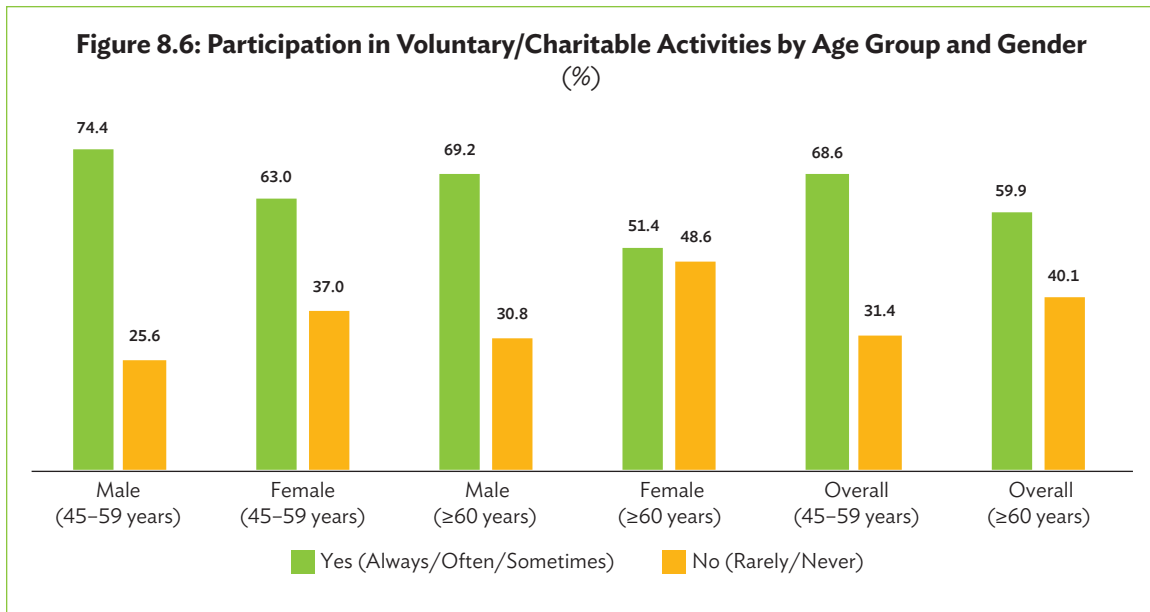


Figure 8.3: Information-Seeking Activities by Age Group and Gender (%)

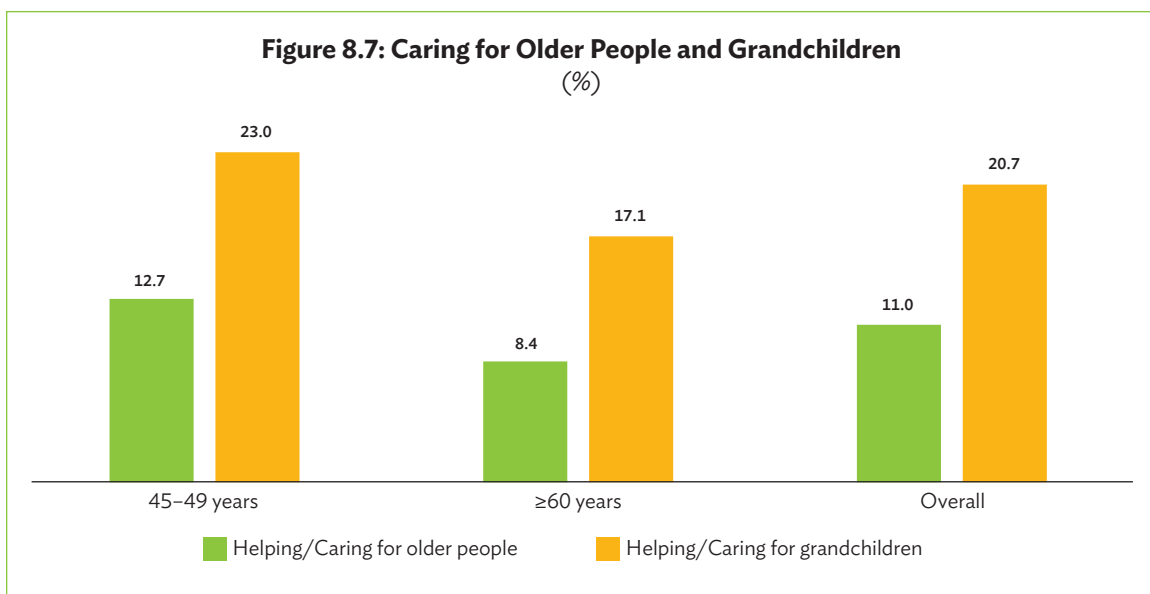


Volunteering in charity activities and engaging in activities with young family members are among the most common social activities in which the majority of respondents frequently participate (Figure 8.4). The participation rate in voluntary/charitable activities is higher among pre-older people (aged 45–59) than among current older people aged 60 and over, at 68% to 69% (Figure 8.5 and Figure 8.6). Notably, participation decreases significantly from the late 70s. More men than women frequently engaged in voluntary/charitable activities.

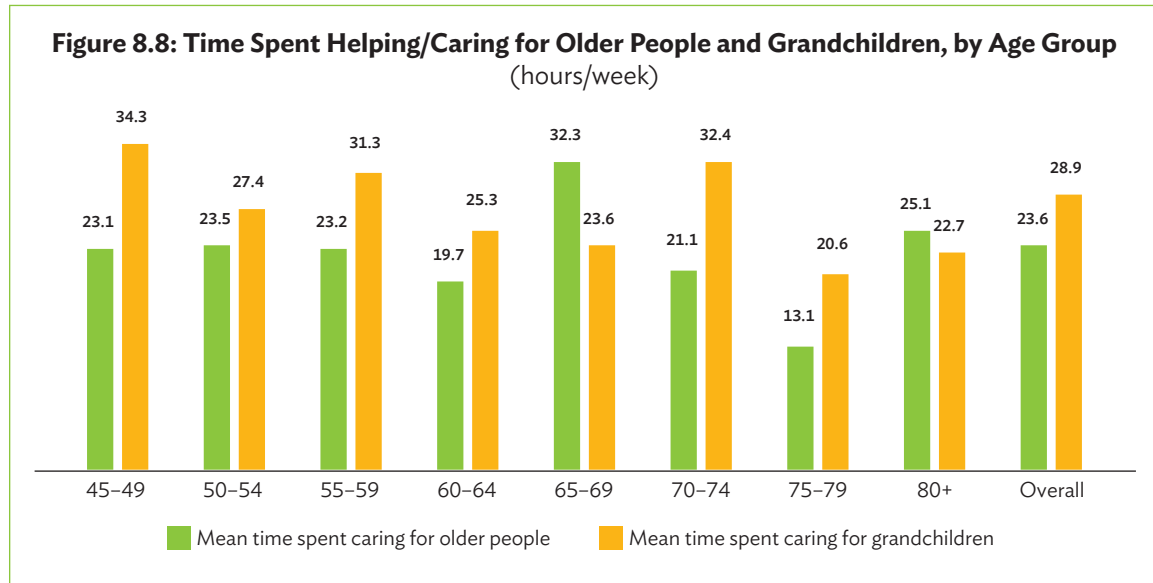




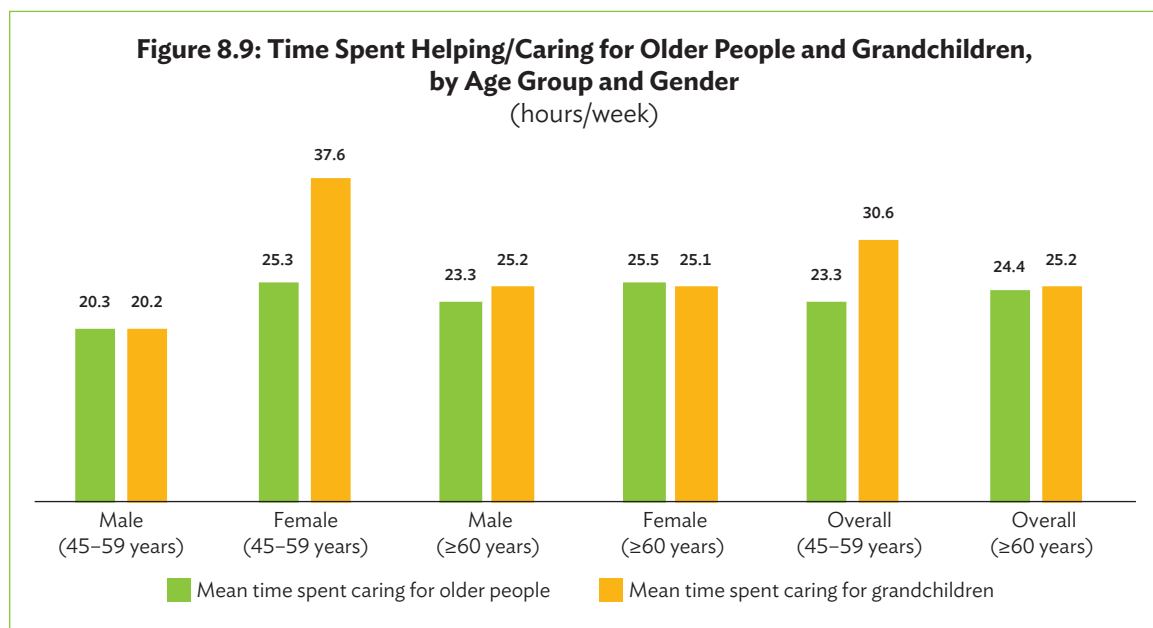
ILAS asked about time spent assisting or taking care of older people and grandchildren (aged 0–5), whether this is inside or outside their home. The percentage of those providing care or helping care for older people was 12.7% among pre-older respondents and 8.4% among older people. A greater number of them take care of grandchildren than older people (Figure 8.7).



Among respondents who reported spending time caring for other older people or for grandchildren, the average time both pre-older and older people spend helping or caring for grandchildren surpasses the time they spend caring for other dependent older people (Figure 8.8).



Women spend more time caring for grandchildren and other older people than men (Figure 8.9), indicating that women bear a heavier caregiving load than men, especially among the pre-older women caring for grandchildren.



Welfare Programs for Older People

ILAS inquired about the availability of various activities or services offered for older people in the village. In addition to religious activities, which are available to the majority (61.1%), the Integrated Service Post (Pos Pelayanan Terpadu [Posyandu]) service and exercise programs were the most common activities offered to respondents, with Posyandu for older people at 53.4% and exercise for older people at 31.4% (Figure 8.10). Other programs were only reported as available by less than 20% of respondents (Figure 8.10 and Figure 8.11).

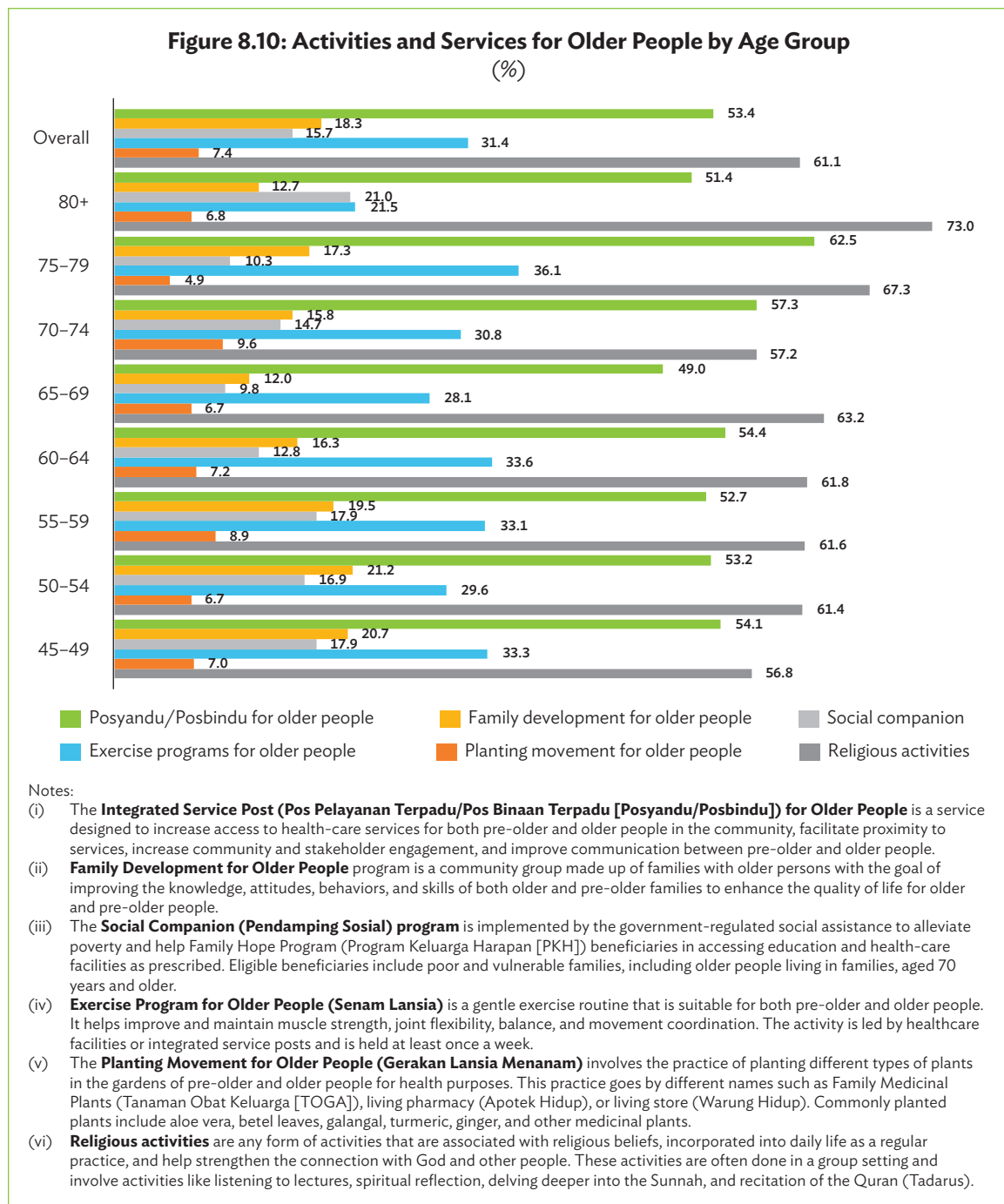
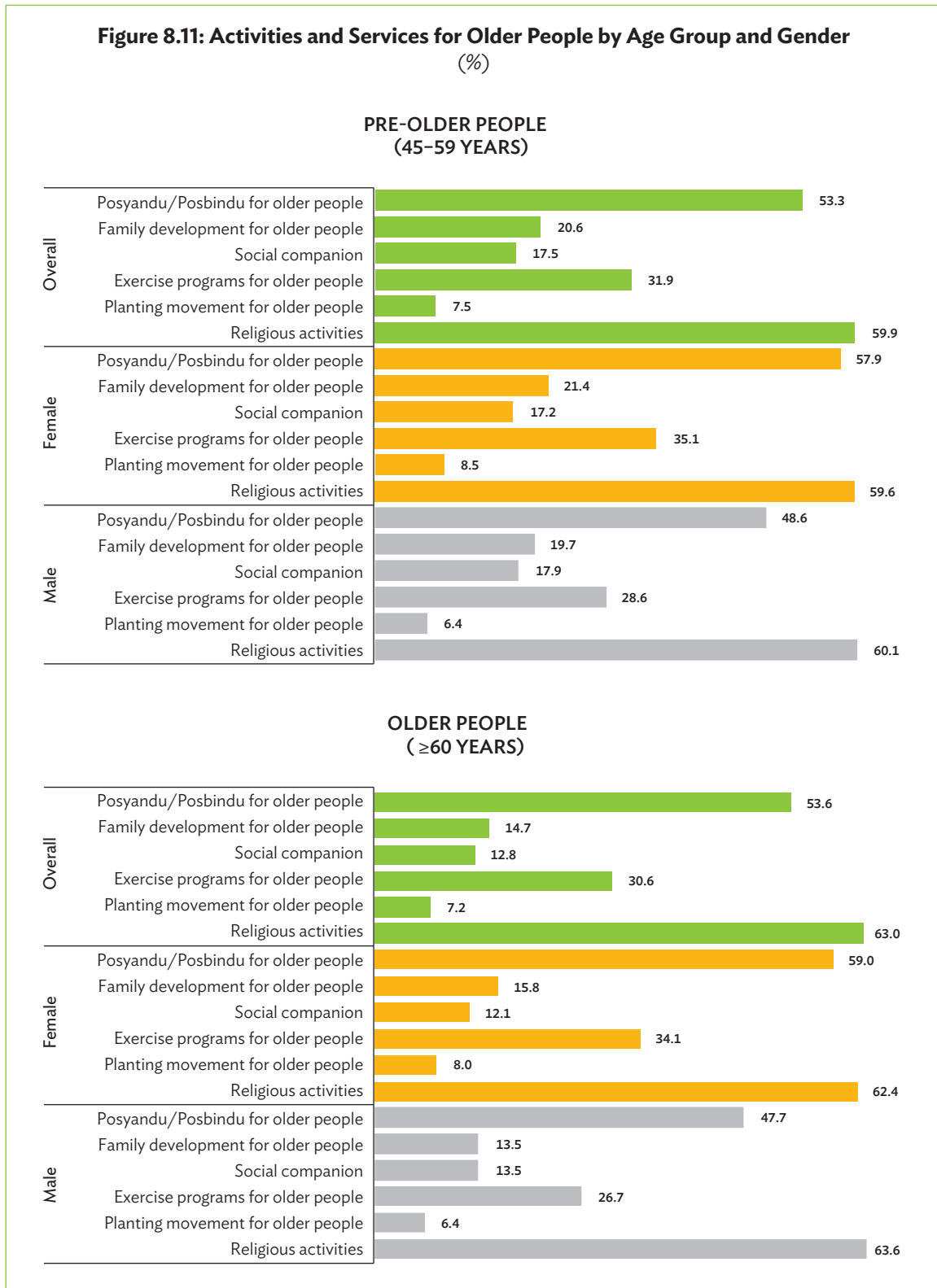
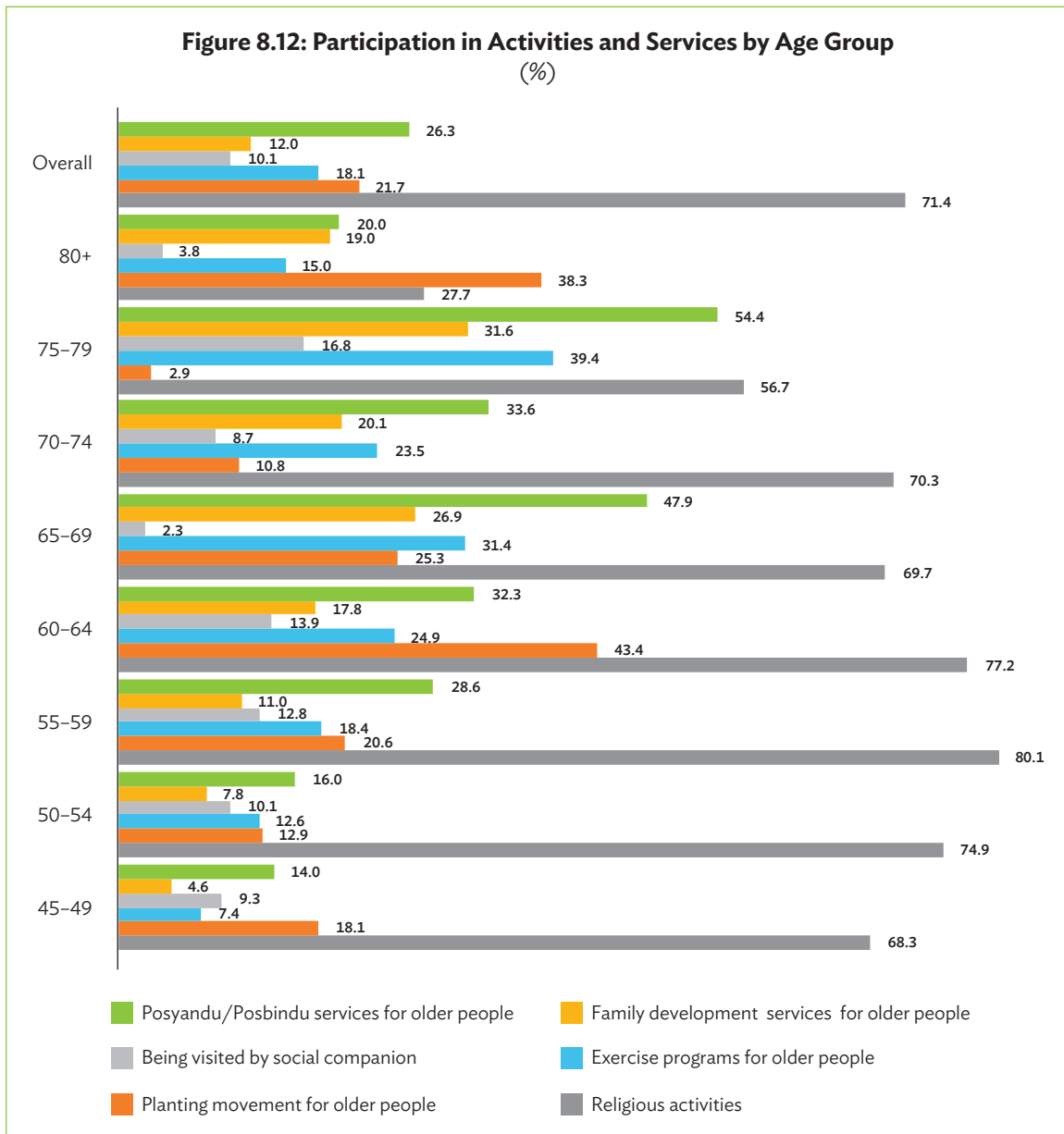


Figure 8.11: Activities and Services for Older People by Age Group and Gender
(%)

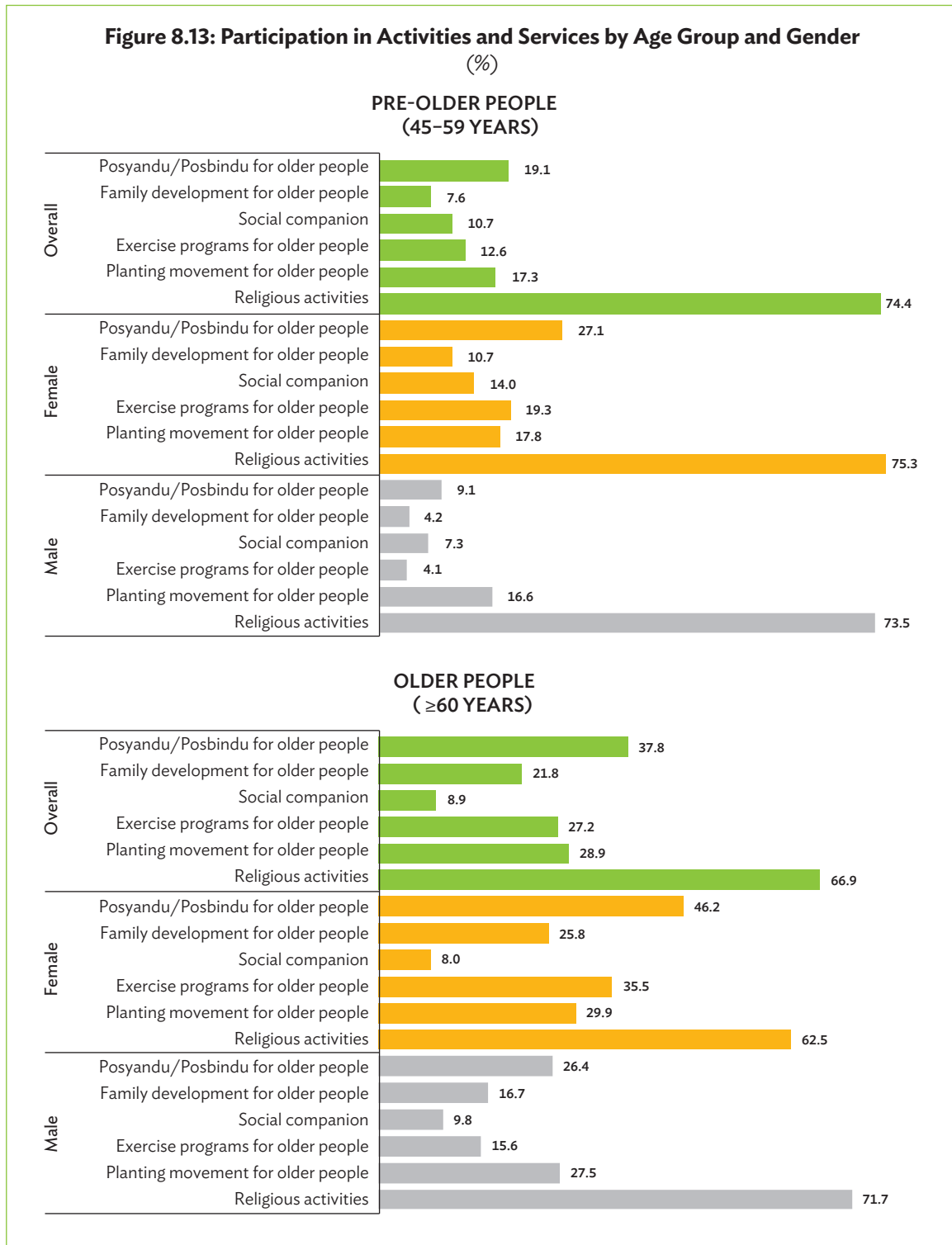


The majority of respondents attend religious activities in their village (71.4%) (Figure 8.12). The attendance rates at the integrated post (Pos Pelayanan Terpadu/Pos Binaan Terpadu [Posyandu/Posbindu]) are relatively lower among respondents aged 45–59 (ranging from 14% to 28.6%) compared to older people (ranging from 20% to 54.4%) (Figure 8.12).



Women report greater attendance than men in participating in Posyandu/Posbindu, family development for older people (Bina Keluarga Lansia [BKL]), exercise programs for older people, and the planting movement for older people. The social companion was more likely to visit pre-older women and older men than their counterparts (Figure 8.13).

Figure 8.13: Participation in Activities and Services by Age Group and Gender
(%)



ILAS asked respondents how often they took part in activities or programs for older people in their village in the last 12 months. Besides religious activities, the exercise program is the most frequently attended activity by pre-older and older people, with an average frequency of 22 times per year (approximately twice a month) (Figure 8.14 and Figure 8.15).

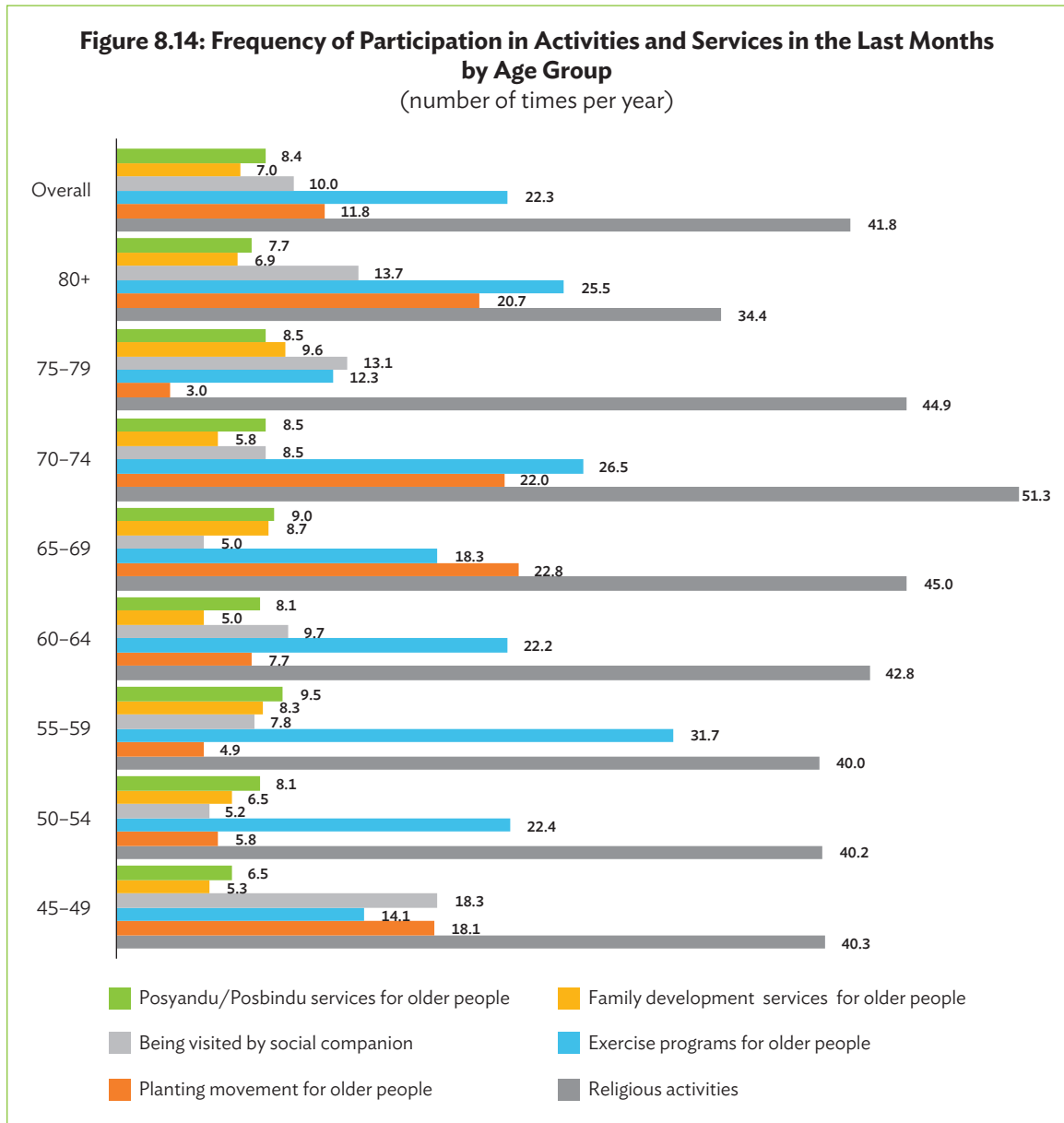
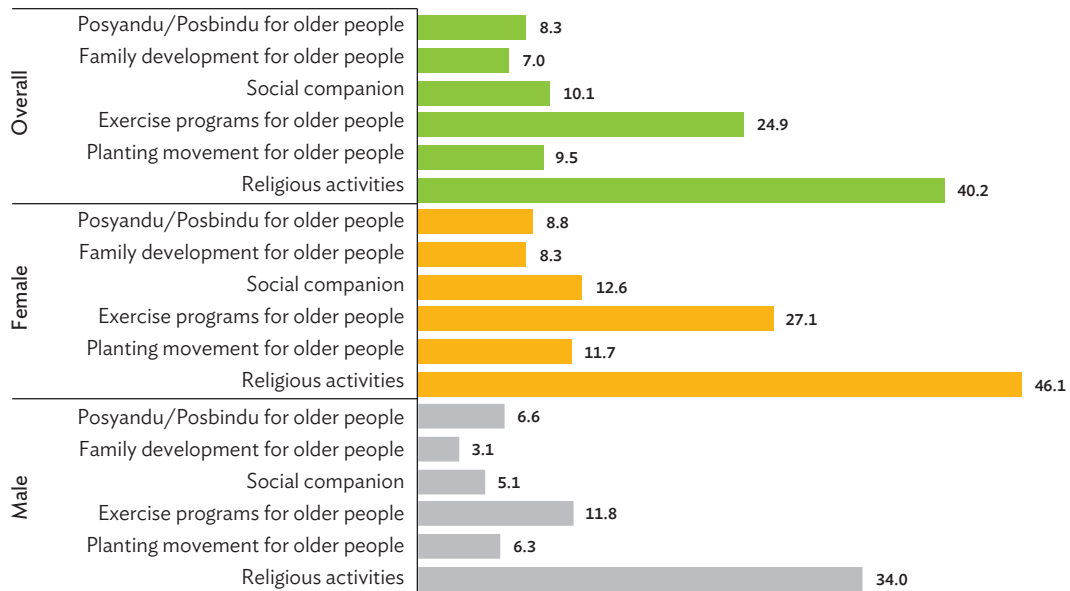
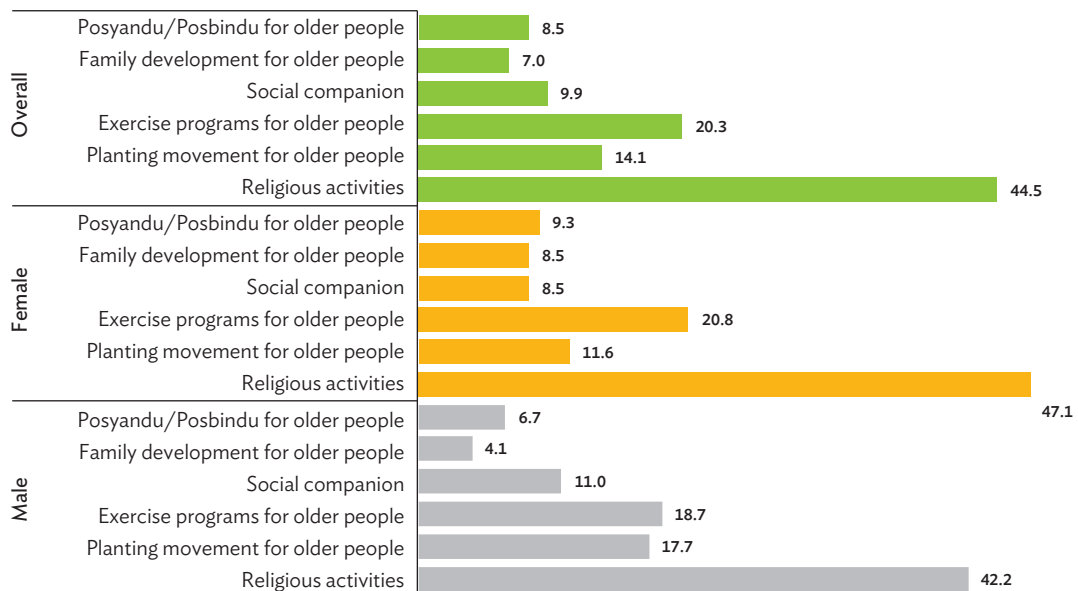


Figure 8.15: Frequency of Participation in Activities and Services in the Last 12 Months by Age Group and Gender
(number of times per year)

**PRE-OLDER PEOPLE
(45-59 YEARS)**



**OLDER PEOPLE
(≥60 YEARS)**



Older people participate more frequently in the planting movement, averaging 14.1 times per year or once a month, compared to 9.5 times per year for pre-older people (Figure 8.15). The ILAS results indicate the presence of community activities. Nonetheless, participation in these activities is low among pre-older and older people, particularly men. The well-being of older people can be promoted through social interaction and the availability of support systems, such as social networks and a supportive environment. Social support, such as in the form of government assistance, has the potential to reduce the impact of loneliness and improve the quality of life of older people. In summary, it is important to maintain community activities that encourage social interaction by all members of the community. Furthermore, it is essential to strengthen the support system to ensure the well-being of pre-older and older people.

Box 8.1: Comparison of National Strategy for Aging Indicator and Indonesia Longitudinal Aging Survey Findings

NATIONAL STRATEGY FOR AGING

VISION 3: Dignified: Improving the social status of and respect for older people

Indicator: Participation of older people in religious activities (%)

Baseline data 2015 (Susenas): 65.4%

Target for 2024: 70%

ILAS 2023: 66.9%

The participation of older people in religious activities is one of the indicators for realizing the vision of the National Strategy for Aging, which aims to “achieve an independent, prosperous, and dignified life for the older person in Indonesia.” The vision is for 70% of older people to actively participate in religious activities by 2024. In ILAS 2023, 66.9% of older people participated in religious activities, attending an average of 44.5 times in the last 12 months, which is about 4 times per month. This recent data indicate that although not all older people take part in religious activities, a significant number are actively engaging in them. It is essential to understand that older people may face different health challenges that impact their participation in community activities. For example, people with mobility impairments may find themselves spending a greater amount of time at home, resulting in fewer opportunities for socializing and fulfilling their spiritual needs outside the home. To ensure that older people retain their role and dignity without feeling isolated, religious activities can be carried out in their homes to foster comfort and sustain their social connections.

ILAS = Indonesia Longitudinal Aging Survey, Susenas = Survey Sosial Ekonomi Nasional (National Socioeconomic Survey).
Source: Presidential Regulation No. 88 of 2021 concerning the National Strategy for Aging.

In summary, the ILAS 2023 provides insights into important aspects of the demographic, health, and socioeconomic status of Indonesia’s aging population, based on the information obtained from various regions and age groups. As the share and number of older people increases, it is crucial to address their growing issues such as affordable housing, financial security, and health care. Increase of educational attainment among the pre-older population is promising but there are still disparities that require targeted interventions to ensure equal access to quality education. Health issues such as chronic diseases and cognitive impairment highlight the need to improve access to health care and social support networks. In addition, promoting social engagement and participation of older people through volunteering and community activities is crucial for their well-being and social contribution. Inclusion in the labor market, improving government transfer programs, and supporting the sandwich generation are crucial measures to achieve aging with dignity and security for all Indonesians. This study serves as a basis for informed evidence-based policymaking to promote healthy aging and social resilience in response to demographic shifts.

Table 8.1: Key Findings and Policy Recommendations

No.	Key Findings	Policy Recommendations
1.	In the future, more older people will use the internet and technologies such as computers and smartphones to obtain information. The usage among pre-older people (37.6%) is higher than among the older people (11.8%).	<p>Policies should consider using the internet or modern technologies to promote healthy lifestyles or implement educational measures to improve the quality of life of older people when sharing information, such as size of font and length of content.</p> <p>Conduct a digital literacy training program with interactive exercises to improve technology skills among pre-older and older people. Instructors should be familiar with older people.</p> <p>Strengthen a supportive social network (family members or friends) that provides informal support to maintain digital inclusion and ensure that these people are adequately skilled.</p>
2.	The participation rate in volunteering or charitable activities is the highest among all activities (65.3%), with pre-older people participating more than older people (68.6% compared to 59.9%), especially men more than women (74.4% compared to 63.0%). However, participation dropped with the increasing age.	<p>This finding emphasizes the necessity of implementing policies that encourage and assist the social involvement of older people.</p> <p>The initiative should prioritize creating opportunities for older people that are easily accessible for social interaction and involve community participation. Encourage older people to become mentors or participate in cross-generational programs that can also benefit them in return.</p> <p>The policy developed must take into account potential barriers like limited transportation or health to ensure continued participation as people age. These efforts can help to prevent social isolation, increase well-being, prevent cognitive impairment, and use the skills and experience of older people for the benefit of the community.</p>
3.	On average, respondents spend substantial time caring for grandchildren and other dependent older people (28.9 and 23.6 hours per week, respectively). Hours spent on care is substantially longer among women than men (37.6 versus 20.2 hours per week for grandchildren's care and 25.3 versus 20.3 hours per week for older people's care).	Policy should consider flexible work schedules for caregivers or caregiver support programs, such as saving financial incentives or other support programs, to maintain the caregiver's continuous commitment to the family without compromising their well-being or personal needs, particularly for female caregivers. Flexible work schedules can allow caregivers to participate in the labor market or take time off from work.
4.	The older group (21%–37%) and older women (25%–46%) are more actively involved in integrated health services (Posyandu), Family Development for Older People (BKL), Exercise Program for Older People (Senam Lansia), and Planting Movement for Older People (Gerakan Lansia Menanam) compared to men (pre-older: 4%–17%; older: 15%–27%).	<p>Raise awareness among people about the benefits of programs and activities designed for older people by involving community leaders to increase participation, particularly among men.</p> <p>Offer activities with more flexible hours for men.</p>

Appendixes

Appendix 1: Sample Size Calculation

When determining the sample size in each province, a non-response rate (NRR) of 10% and a margin of error (MoE) of 9.0% were taken into account. The confidence interval used in the sample calculation is 95%, with a Z value of 1.96. The design effect (DEFF) used in the calculation is 2, which is typically applied to surveys conducted for the first time. The percentage of the population aged 15–59 is also taken into account, with the average number of household members aged 15–59 being 1.95. The formula for calculating the sample size is as follows:

$$n = \frac{Z_{\alpha/2}^2 * \frac{\% Prutalansia}{100} * \left(1 - \frac{\% Prutalansia}{100}\right) * DEFF * (1+NRR)}{\left(MoE * \frac{\% Prutalansia}{100}\right)^2 * rerata P_{15-59}}$$

Based on the calculations using the formula above, the sample size for the Indonesia Longitudinal Aging Survey (ILAS) 2023 is 1,394 and has been adjusted to 1,440 households. By taking 10 household samples in each enumeration area (the smallest environmental unit at the neighbourhood unit (Rukun Tetangga [RT]) level), the total ILAS household sample is spread across 144 enumeration areas (EAs).

The sample size of districts depends on the population size in a province, following the probability proportional to size (PPS) method. The number of sample districts in each province ranges from one to three districts. In each selected district, three subdistricts and two villages in each subdistrict were chosen as samples. The household samples in each local neighborhood unit (satuan lingkungan setempat) were selected using a systematic random sampling approach.

Appendix 2: List of Enumerators

A. West Sumatera			B. Lampung		
Team			Team		
Supervisor	Fajar Kurniawan	M	Supervisor	Bahrudin	M
Enumerator	Nuraida	F	Enumerator	Desi Ayu Prabawati	F
Enumerator	Andri Setianingsih	F	Enumerator	Rahayu	F
Enumerator	Muh. Satrywansyah	M	Enumerator	Anton Pandapotan	M
Enumerator	Okti Wiji Wahyuni	F	Enumerator	Dheby Pangestuningati	F
Enumerator	Fajar Kumala	M	Enumerator	Febriyan Rizki Kurniawan	M

C. West Java			D. Special Region of Yogyakarta		
Team			Team		
Supervisor	Subagiyo	M	Supervisor	Agus Lesmana	M
Enumerator	Santa Maria Gultom	F	Enumerator	Anggraini Puspa Wardhani	F
Enumerator	Novita	F	Enumerator	Anisah Nurul Khasanah	F
Enumerator	Agung Tri Prabowo	M	Enumerator	Arif Yulianto	M
Enumerator	Romadhoni Feby Indriani	F	Enumerator	Haningtya Widiasworo	F
Enumerator	Tundiyati	F	Enumerator	Elyna Puspita Rahayu	F

E. East Java 1			F. East Java 2		
Team			Team		
Supervisor	Naryanta	M	Supervisor	Arief Gunawan	M
Enumerator	Nur Isnaini Ulfah Fauzi	F	Enumerator	Ega Wisnu Selia	F
Enumerator	Raras Paramasari	F	Enumerator	Sutianik Romadhoni	F
Enumerator	Tommy Setiawan	M	Enumerator	Imam Hanafi	M
Enumerator	Atika Sugiyanto	F	Enumerator	Trisniana Pertiwi	F
Enumerator	Laelafitrianisahronie	F	Enumerator	Nugroho Dwi Saputro	M

G. Bali – South Kalimantan			H. South Sulawesi – Mollucas		
Team			Team		
Supervisor	Januar Kurniawan	M	Supervisor	Amirul Arifin	M
Enumerator	Ummu Hasanah	F	Enumerator	Rissa Nurashri Habibu	F
Enumerator	Ni Ketut Savitri Pramitha Dewi	F	Enumerator	Anis Isti Rahayu Puspita Sari	F
Enumerator	Muhamad Lin Abdul Azis Akbar	M	Enumerator	Arham Ichwardani S	M
Enumerator	Ika Bhineka Lestari Pertiwi	F	Enumerator	Sumami	F
Enumerator	Hendra Priyantoro	M	Enumerator	Dimas Pandu Pranata	M

Appendix 3: National Strategy for Aging

Vision (1)	Vision Indicators (2)	Data Source (3)	Reference Data (Year) (4)	2024 Target (5)	Description
1. Independent: Improve older people's economic capacity and functional capability	a. Older person poverty rate (%)	National Socio-economic Survey	11.24 (2020)	<10	ILAS has a consumption section to measure household expenditure. However, the survey captures fewer items than the National Socio-economic Survey.
	b. Mobility of the older people population (older people who have no difficulty walking/climbing stairs and/or moving/using their hands and fingers)	Intercensal Population Survey	92.1 (2015)	94	ILAS uses six questions from the Washington Group Questions to measure disability, including questions to measure population mobility as used in the national strategy's vision indicators, such as older people who do not have difficulty walking or climbing stairs. However, ILAS does not include questions about the ability to move/use hands and fingers. In ILAS, 70.6% of older people have no difficulty walking or climbing stairs.
	c. Capacity of older people population (older people who do not have difficulty seeing, hearing, speaking/communicating, remembering/concentrating, controlling emotions or caring for themselves)	Intercensal Population Survey	88.6 (2015)	90	<p>ILAS uses six questions from the Washington Group Questions to measure disability: difficulty seeing, hearing, walking or climbing stairs, remembering/concentrating, and caring for themselves. The percentage of older people experiencing these difficulties is higher than pre-older people and increases with age.</p> <p>ILAS does not include all the questions used in the national strategy to measure older people population capacity, i.e., older people who do not have difficulty controlling their emotions.</p> <p>Older people without difficulty: Seeing: 76.9% Hearing: 76.2% Speaking/communication: 88.7% Remembering/concentrating: 80.7% Self-care: 91.3%</p>

continued on next page

Appendix 3 continued

Vision	Vision Indicators	Data Source	Reference Data (Year)	2024 Target	Description
2. Prosperous: Improve health, productivity, and comfort	a. Life expectancy	Statistics Indonesia	71 (2017)	75	No data available in ILAS
	b. Healthy life expectancy	Statistics Indonesia	62 (2017)	70	No data available in ILAS
	c. Older people working in formal sector (%)	Labor Force Survey	13.93 (2020)	50	Based on the definition of formal jobs from the BPS, a formal job exists if the person works as an employer with permanent paid workers and employees. In the employment section, ILAS records the employment status of individuals, which makes it possible to calculate the indicator.
	d. Age-friendly areas (Number of age-friendly districts and cities)	Ministry of Public Works and Public Housing	(2020)	5	ILAS provides data at the micro/individual level and therefore cannot provide direct answers to specific vision indicators. However, ILAS can provide an overview of pre-older and older people's perceptions of housing complexes designed for older people, which include age-friendly facilities. The ILAS results show that the majority of respondents believe that housing complexes for older people with age-friendly facilities are a good idea. However, not everyone wants to live in such a complex, especially women, because they still have family members to care for them. This suggests that the concept of age-friendly facilities might be accepted in society, but in practice there is still some reluctance in actually leaving home. Older people tend to want to age in place, where they live, so that the burden of care remains within the family or community. Convenience and comfort should be provided to help older people age well at home and decrease reliance on others. For example, constructing age-friendly homes or developing age-friendly facilities in the area where they live—a concept that closely resembles age-friendly environments.

continued on next page

Appendix 3 continued

Vision	Vision Indicators	Data Source	Reference Data (Year)	2024 Target	Description
	e. Age-friendly services covering seven dimensions: spiritual, intellectual, emotional, physical, social, vocational, and environmental (number of age-friendly systems covering seven dimensions)	National Population and Family Planning Board	(2017)	1	<p>ILAS explains the participation of pre-older and older people in the Older Person Family Development (Bina Keluarga Lansia [BKL]) and the information provided about caregivers.</p> <p>ILAS discusses the participation and frequency of participation of male and female older people in BKL.</p>
3. Dignity: Enhancing social status and reverence for older people	a. Active participation of older people in social activities	National Socio-economic Survey	85.4 (2015)	90	<p>ILAS includes data on the accessibility and engagement of pre-older and older people in social activities within the village, including the Older Person Integrated Service Post (Pos Pelayanan Terpadu/ Pos Binaan Terpadu [Posyandu/ Posbindu]), the BKL, Older Person Exercise (Senam Lansia) program, Older Person Planting Movement (Gerakan Lansia Menanam), and religious activities.</p> <p>Participation of the Older Person in Social Activities: Posyandu/Posbindu (37.8%) Older Person Family Development (21.8%) Social Companion (8.9%) Older Person Exercise (27.2%) Older Person Planting Movement (28.9%) Religious activities (66.9%)</p> <p>In addition to these data, ILAS also inquired about the participation of pre-older and older people in nonreligious organizational meetings, with a participation rate of 44.4%.</p>

continued on next page

Appendix 3 continued

Vision	Vision Indicators	Data Source	Reference Data (Year)	2024 Target	Description
	b. Percentage of older people unaffected by violence/crime (%)	National Socio-economic Survey	99.03 (2020)	99.5	<p>Violence is a delicate issue. ILAS does not ask direct questions about specific incidents of violence that respondents may have experienced. Instead, it investigates cases of violence or neglect in their environment and assesses whether older people who have been victims of violence received the necessary support.</p> <p>Most respondents stated that there was no violence or neglect against older people in their environment. However, there are still people who admit to cases of violence (about 4% overall), and it was found that 2.5% of older people are victims and have not received adequate support.</p>
	c. Percentage of older people actively engaged in religious activities (%)	National Socio-economic Survey	65.4 (2015)	70	Attendance of older people in religious activities: 66.9%

National Strategies for Aging

No.	Indicator	Target	ILAS Results 2023
STRATEGY 1: Enhanced Social Protection, Income Security, and Individual Capacity			
Policy Direction 1.1: Augmenting social protection for older people			
1.1.1	The proportion of the older population covered by comprehensive social security programs	Baseline data 2017: 12.5% Target 2024: 30%	<p>Law No. 24 of 2011 defines social security as health and social employment. The ILAS questionnaire does not include questions on employment-related social security. Instead, ILAS focuses on health insurance ownership, divided into (i) government-covered insurance (BPJS PBI, Jamkesda); (ii) nongovernment-covered insurance (BPJS non-PBI/Mandiri, private, and company or office insurance); and (iii) no health insurance.</p> <p>Health insurance ownership: No health insurance: 31.0% (overall) Pre-older people without health insurance: 31.4% Older people without health insurance: 30.5%</p> <p>Government-covered insurance (BPJS PBI, Jamkesda): 46.8% (overall) Pre-older people: 44.8% Older people: 50.0%</p> <p>Nongovernment-covered insurance (BPJS non-PBI, private or office): 22.2% (overall) Pre-older people: 23.9% Older people: 19.6%</p>
1.1.2	Percentage of households with older people receiving social assistance	Baseline data 2020: 18.99% Target 2024: 25%	<p>ILAS 2023 includes questions about government assistance for older people: Older people (aged 60 and over): 41% Pre-older people: 24%</p>
Policy Direction 1.2: Develop lifelong education and skills for older people			
1.2.1	Number of special education programs for older people	Baseline data 2020: 0 Target 2024: 1	No available data in ILAS
1.2.2	Percentage of older people proficient in information and communication technology	Baseline data 2020: 46.68% Target 2024: 60%	<p>Ability to independently use a smartphone/cell phone/landline telephone: Older people (aged 60 and over): 32.1% Pre-older people: 71.7%</p> <p>Ability to independently use tablet devices/computers: Older people (aged 60 and over): 2.5% Pre-older people: 10.1%</p>

No.	Indicator	Target	ILAS Results 2023
Policy Direction 1.3: Develop older people empowerment programs based on abilities and interests			
1.3.1	Number of policies that are being developed to promote skills and entrepreneurship in preparation for retirement and for older people	Baseline Data 2018: 0 Target 2024: 1	No available data in ILAS
1.3.2	Number of policies that utilize the skills and experience of older people in retirement	Baseline Data 2018: 0 Target 2024: 1 Policy	No available data in ILAS
Policy Direction 1.4: Implementing integrated older people empowerment programs			
1.4	Number of Integrated Service Post (Pos Pelayanan Terpadu/ Pos Binaan Terpadu [Posyandu/ Posbindu]) for older people developed by village or subdistrict government as part of the Older People Empowerment Program	Baseline Data 2017: 80,759 older people Posyandu target 2024: 100,000 Posyandu for older people or 100% of villages/districts with Posyandu for older people	Availability of Posyandu for older people in the village: 53.4%
STRATEGY 2: Enhancing the Health Level and Quality of Life of Older People			
Policy Direction 2.1: Enhance nutritional status and promote healthy lifestyles			
2.1.1	Prevalence of malnutrition in older people	Baseline data 2018: 41% Target 2024: 40%	Underweight: 15.5% Overweight: 10.6% Obese: 18.4% Total: 44.5%
2.1.2	Percentage of dependent older people	Baseline data 2018: 74.3% Target in 2024: 80%	ADL Independent: 82.0%
Policy Direction 2.2: Expand health-care services for older people			
2.2	Percentage of older people who undergo a health checkup according to the standards	Baseline data 2018: 44.8% Target in 2024: 80%	Health screening in the last 12 months includes examinations for blood sugar, cholesterol, cognitive health, and mental well-being, with the exception of measurements of body weight, height, and blood pressure, as these are part of the screening procedures in the Integrated Service Post (Posyandu/Posbindu) and Primary Health Care (Pusat Kesehatan Masyarakat [Puskesmas]). Pre-older people 34.0% Older people: 36.9%
Policy Direction 2.3: Reducing the morbidity rates among older people			
2.3.1	Percentage of older people with noncommunicable disease	Baseline data 2018: 65% Target in 2024: 64%	Diagnosed with at least one noncommunicable disease Pre-older people: 64.2% Older people: 69.8%
2.3.2	Percentage of older people with behavior/mental disorder	Baseline data 2018: 12.8% Target in 2024: 12%	Depression: Aged 60 and over: 6.6% Pre-older people: 10.9%

No.	Indicator	Target	ILAS Results 2023
Policy Direction 2.4: Increasing the coverage of long-term care for older people			
2.4.1	The number of guidelines for comprehensive long-term care	Baseline data 2020: 0 Target in 2024: 1	Not available in ILAS 2023
2.4.2	Number of participants in the Older Person Family Development (Bina Keluarga Lansia [BKL]) group that have implemented long-term care	Baseline data 2018: 34 Target in 2024: 50.841	<p>ILAS does not have information on the number of BKL groups that have implemented long-term care. However, there is data on the participation of pre-older people and older people in BKL, which are 7.6% and 21.8%, respectively.</p> <p>The BKL program targets both older people and their families, aiming to help them become more resilient across seven dimensions. Families play a central role as informal caregivers in the care of older people. ILAS reports:</p> <p>Older people without a caregiver: 7.8% Male older people without caregivers: 11.2% Female older people without caregivers: 4.6%</p>
2.4.3	Number of Primary Health Care (Puskesmas) developing long-term care programs for older people	Baseline data 2018: 0% Target in 2024: 20%	Not available in ILAS 2023
2.4.4	Number of home-care services institutions developing long-term care programs for older people	Baseline data 2018: 0% Target in 2024: 10%	Not available in ILAS 2023
2.4.5	Number of developed “integrated long-term care systems” for older people	Baseline data 2020: 0 Target in 2024: 1	Not available in ILAS 2023
2.4.6	Number of districts/cities that have an “integrated long-term care system” (as location of Integrated Services for Older People)	Baseline data 2020: 5 Target in 2024: 10	Not available in ILAS 2023
STRATEGY 3: Developing Age-Friendly Society and Environment			
Policy Direction 3.1: Increasing society’s knowledge about aging issues			
3.1.1	The percentage of individuals in the community whose understanding of aging issues has improved	Baseline data 2018: 0 Target in 2024: 20%	<p>The question in ILAS 2023 about individuals’ positive view of age-friendly facilities (“agree” or “good idea” answers)</p> <p>Older people: 78.9% Pre-older people: 84%</p> <p>Same as for Vision 2.d above</p>

No.	Indicator	Target	ILAS Results 2023
3.1.2	The percentage of families of older people who have improved their understanding of assisting and caring for older people within their family	Baseline data 2018: 4.3% Target in 2024: 10%	The question in ILAS 2023 about the willingness to use home-support services ("Yes" answer) Aged 60 and over: 66.5% Pre-older people: 70.1%
Policy Direction 3.2: Improving age-friendly facilities for older people			
3.2.1	Number of age-friendly districts or cities	Baseline data 2018: 0 Target in 2024: 5	Same as for Vision 2.d above
3.2.2	The percentage of service providers (land, sea, air, and rail transport) that have enabled access to public transportation for older people	Baseline data 2018: NA Target in 2024: 10%	Not available in ILAS 2023
STRATEGY 4: Institutional Strengthening for Age-Related Program Implementation			
Policy Direction 4.1: Developing standard and increasing quality of aging-related institutions			
4.1	The number of standard service guidelines, accreditations, and certifications in aging institutions	Baseline data 2018: 0 Target in 2024: 1 guideline	Not available in ILAS 2023
Policy Direction 4.2: Strengthening accreditation system for aging institutions			
4.2.1	Percentage of aging facilities that have completed accreditation and certification and implemented activities in accordance with the standards	Baseline data 2018: 0% Target in 2024: 5% (505 institutions related to older people's well-being)	Not available in ILAS 2023
4.2.2	Number of older people social welfare institutions developed by the community per 1,000 older individuals in the area	Data in 2017: 0 Target in 2024: 280 institutions related to older people's well-being	Not available in ILAS 2023
Policy Direction 4.3: Developing education, training, and certification system for older people's caregivers			
4.3	Number of standardization systems and certifications for older people's caregivers	Baseline data 2018: 0 Target in 2024: 1	ILAS shows that the majority of caregivers are household members, female, and have no formal education or elementary school. Informal caregivers often have limited knowledge, so it is important to provide them with adequate information to effectively support the needs of older people. Adequate knowledge can also reduce caregivers' physical, emotional, and mental fatigue from caregiving. Information about older people without caregivers can be found in item 2.4.2.

No.	Indicator	Target	ILAS Results 2023
STRATEGY 5: Respect, Protection, and Fulfillment of the Rights of the Older People			
Policy Direction 5.1: Strengthening legislation for the older people			
5.1	Number of legal regulations related to aging	Baseline data 2020: 0 Target in 2024: 1	Not available in ILAS 2023
Policy Direction 5.2: Increasing the fulfillment of older people's rights			
5.2.1	Percentage of provinces implementing legislation on the rights of older people in the region	Baseline data 2018: 0 Target in 2024: 100%	Not available in ILAS 2023
5.2.2	Percentage of older people with national identification numbers (Nomor Induk Kependudukan)	Baseline data 2018: 97.89% Target in 2024: 100%	Not available in ILAS 2023
5.2.3	Percentage of older people registered in the Permanent Voter Data for General Elections and Regional Head Elections	Baseline data 2018: NA Target in 2024: 90%	Not available in ILAS 2023
5.2.4	Number of systems developed to provide priority access to public services for older people, such as public transportation, tourist attractions, and sports facilities	Baseline data 2018: 0 Target in 2024: 1	Not available in ILAS 2023
Policy Direction 5.3: Increasing older people's active involvement in society			
5.3.1	Number of provinces that have received socialization/ dissemination of laws on the rights of older people	Baseline data 2018: 0 Target in 2024: 34	Not available in ILAS 2023
5.3.2	Number of older people participating in the Older People Family Development (BKL)	Baseline data 2018: 1 million Target in 2024: 2 million	In ILAS, there is data available on the availability of BKL programs in the areas where older people live, as well as their participation in these programs. This includes information on the frequency of attendance in BKL activities in the past year. Availability of BKL activities/services: 14.7% Attendance of older people in BKL: Total: 21.8% Men: 16.7% Women: 25.8% Average of frequency of older people's participation in BKL activities in 1 year: Total: 7 times in a year Men: 4.1 times in a year Women: 8.5 times in a year
Policy Direction 5.4: Protecting older people from abuse			
5.4	Percentage of older people who have not experienced violence/ crime	Baseline data 2020: 99.03% Target in 2024: 99.5%	Same as for Vision 3.b above

References

- Acosta, A., F. Nicolli, and P. Karfakis. 2021. Coping with Climate Shocks: The Complex Role of Livestock Portfolios. *World Development*. 146. 105546.
- Adioetomo, S. M. et al. 2018. Becoming an Older Adult: Between Grace and Challenges. In S. M. Adioetomo and E. L. Pardede. *Reaping the Demographic Bonus: Building People Early*. Depok: PT Raja Grafindo Persada.
- Administration on Aging (AoA), United States Department of Health and Human Services. 2009. *A Profile of Older Americans: 2009*. https://acl.gov/sites/default/files/Aging%20and%20Disability%20in%20America/2009profile_508.pdf.
- Alharbi, T. A. et al. 2022. The Association of Weight Loss, Weight Status, and Abdominal Obesity with All-Cause Mortality in Older Adults. *Gerontology*. 68 (12). pp. 1366–1374. <https://doi.org/10.1159/000522040>.
- Ambaw Kassie, G. et al. 2023. Undiagnosed Hypertension and Associated Factors among Adults in Ethiopia: A Systematic Review and Meta-Analysis. *BMC Cardiovascular Disorders*. 23 (278). <https://doi.org/10.1186/s12872-023-03300-0>.
- Annur, C. M. n.d. Survei KIC: Dompot Digital Jadi Metode Pembayaran yang Paling Banyak Digunakan di Aplikasi Digital (in Bahasa Indonesia). <https://databoks.katadata.co.id/datapublish/2023/04/14/survei-kic-dompot-digital-jadi-metode-pembayaran-yang-paling-banyak-digunakan-di-aplikasi-digital>.
- Azizabadi Farahani, M. and S. Assari. 2010. Relationship Between Pain and Quality of Life. In V. R. Preedy and R. R. Watson. *Handbook of Disease Burdens and Quality of Life Measures*. pp. 3933–3953. doi:10.1007/978-0-387-78665-0_229.
- Bloom, G. 2019. Service Delivery Transformation for UHC in Asia and the Pacific. *Health Systems & Reform*. 5 (1). pp. 7–17. 10.1080/23288604.2018.1541498.
- Bohannon, R. W. 2019. Grip Strength: An Indispensable Biomarker For Older Adults. *Clinical Interventions in Aging*. 14. pp. 1681–1691. <https://doi.org/10.2147/CIA.S194543>.
- Budiarti, N. and B. Kharisma. 2022. The Labor Force Participation of Individuals Age 50 Years and Over in Indonesia. *AIP Conference Proceedings*. 2662 (1). pp. 1–5. AIP. <https://www.researchgate.net/publication/366523168>.
- Bueno de Souza, R. O. et al. 2018. Effects of Mat Pilates on Physical Functional Performance of Older Adults: A Meta-Analysis of Randomized Controlled Trials. *American Journal of Physical Medicine & Rehabilitation*. 97 (6). pp. 414–25.
- Callahan, C. M. et al. 2002. Six-Item Screener to Identify Cognitive Impairment Among Potential Subjects for Clinical Research. *Medical Care*. 40 (9). pp. 771–781. <https://doi.org/10.1097/00005650-200209000-00007>.
- Carr, D. and S. Bodnar-Deren. 2009. Gender, Aging and Widowhood. In P. Uhlenberg, ed. *International Handbook of Population Aging*. International Handbooks of Population, Vol. 1. Springer. https://doi.org/10.1007/978-1-4020-8356-3_32.

- Caspersen, C. J. et al. 1985. Physical Activity, Exercise, and Physical Fitness: Definitions and Distinctions for Health-Related Research. *Public Health Reports*. 100 (2). pp. 126–131.
- Chen, L.-K. et al. 2014. Sarcopenia in Asia: Consensus Report of the Asian Working Group for Sarcopenia. *Journal of the American Medical Directors Association*. 15 (2). pp. 95–101. <https://doi.org/10.1016/j.jamda.2013.11.025>.
- Chen, M.-R. et al. 2010. A Preliminary Study of the Six-Item Screener in Detecting Cognitive Impairment. *Neuroscience Bulletin*. 26 (4). pp. 317–321. <https://doi.org/10.1007/s12264-010-0106-1>.
- Cheng, S. T., H. Fung, and A. Chan. 2007. Maintaining Self-Rated Health through Social Comparison in Old Age. *The Journals of Gerontology Series B, Psychological Sciences and Social Sciences*. 62 (5). pp. P277–P285. <https://doi.org/10.1093/geronb/62.5.p277>.
- Cleveland, W. P. and D. T. Gianturco. 1976. Remarriage Probability after Widowhood: A Retrospective Method. *Journal of Gerontology*. 31 (1). pp. 99–103. <https://doi.org/10.1093/geronj/31.1.99>.
- Collin, C., D. T. Wade, S. Davies, and V. Horne. 1988. The Barthel ADL Index: A Reliability Study. *International Disability Studies*. 10 (2). pp. 61–63. <https://doi.org/10.3109/09638288809164103>.
- Contzen, S. et al. 2017. Retirement as a Discrete Life-Stage of Farming Men and Women's Biography?. *Sociologia Ruralis*. 57. pp. 730–751.
- Cravino, J., A. Levchenko, and M. Rojas. 2022. Population Aging and Structural Transformation. *American Economic Journal: Macroeconomics*. 14 (4). pp. 479–498.
- Doll, R. et al. 2004. Mortality in Relation to Smoking: 50 Years' Observations on Male British Doctors. *BMJ (Clinical Research ed.)*. 328 (7455). p. 1519. <https://doi.org/10.1136/bmj.38142.554479.AE>.
- Du, F., X.-Y. Dong, and Y. Zhang. 2019. Grandparent-Provided Childcare and Labor Force Participation of Mothers with Preschool Children in Urban China. *China Population and Development Studies*. 2 (4). pp. 347–368.
- Eckstrom, E. et al. 2020. Physical Activity and Healthy Aging. *Clinics in Geriatric Medicine*. 36 (4). pp. 671–683. <https://doi.org/10.1016/j.cger.2020.06.009>.
- Edemekong, P. F. et al. 2023. Activities of Daily Living. StatPearls [Internet]. <https://www.ncbi.nlm.nih.gov/books/NBK470404/>.
- Fasel, N. et al. 2021. The Relative Importance of Personal Beliefs, Meta-Stereotypes and Societal Stereotypes of Age for the Wellbeing of Older People. *Ageing & Society*. 41 (12). pp. 2768–2791. doi:10.1017/S0144686X20000537.
- Fattah, R. A. et al. 2023. Incidence of Catastrophic Health Spending in Indonesia: Insights from a Household Panel Study 2018–2019. *International Journal for Equity in Health*. 22 (1). p. 185. <https://doi.org/10.1186/s12939-023-01980-w>.
- Frankenberg, E., M. Saputra, and V. Beard. 1999. The Kindred Spirit: the Ties that Bind Indonesian Children and Their Parents. *Asian Journal of Social Science*. 27 (2). pp. 65–85.
- Garcia-Moran, E. and Z. Kuehn. 2017. With Strings Attached: Grandparent-Provided Childcare and Female Labor Market Outcomes. *Review of Economic Dynamics*. 23. pp. 80–98.
- Germain, C. M. et al. 2016. Sex, Race and Age Differences in Muscle Strength and Limitations in Community Dwelling Older Adults: Data from the Health and Retirement Survey (HRS). *Archives of Gerontology and Geriatrics*. 65. pp. 98–103. <https://doi.org/10.1016/j.archger.2016.03.007>.

- Goldberg, P. et al. 2001. Longitudinal Study of Associations between Perceived Health Status and Self-Reported Diseases in the French Gazel Cohort. *Journal of Epidemiology and Community Health*. 55 (4). pp. 233–238. <https://doi.org/10.1136/jech.55.4.233>.
- Government of Indonesia. 2021. Presidential Regulation of the Republic of Indonesia No. 88 concerning the National Strategy of Aging. <https://peraturan.bpk.go.id/Details/178090/perpres-no-88-tahun-2021>.
- Government of Indonesia. 2022. Regulation of the Minister of National Development Planning/Head of the National Development Planning Agency of the Republic of Indonesia No. 4 concerning the Draft Government Work Plan, 2023.
- Gupta S. et al. 2021. Underweight, Overweight, and Anemia among Elderly Persons in a Rural Area of Ballabgarh, Haryana. *Indian Journal of Community Medicine*. 46 (3). pp. 511–514. doi: 10.4103/ijcm.IJCM_688_20.
- Holt-Lunstad, J., T. B. Smith, and J. B. Layton. 2010. Social Relationships and Mortality Risk: A Meta-Analytic Review. *PLoS Medicine*. 7. pp. 1–20. <https://doi.org/10.1371/journal.pmed.1000316>.
- Hussain M. A. et al. 2016. Prevalence, Awareness, Treatment and Control of Hypertension in Indonesian Adults Aged ≥ 40 Years: Findings from the Indonesia Family Life Survey (IFLS). *PLoS One*. 11 (8). e0160922. <https://doi.org/10.1371/journal.pone.0160922>.
- IFG Progress Financial Research. 2021. Progress Weekly Digest. Dana Pensiun Indonesia: Kondisi & Tantangan (in Bahasa Indonesia). 10 November 2021 (Issue 5).
- Jamir, L. et al. 2015. Anthropometric Characteristics and Undernutrition among Older Persons in a Rural Area of Northern India. *Asia-Pacific Journal of Public Health*. 27 (2). NP2246–58. doi: 10.1177/1010539513490191.
- Jiang, R. et al. 2022. Associations between Grip Strength, Brain Structure, and Mental Health in >40,000 Participants from the UK Biobank. *BMC Medicine*. 20 (286). <https://doi.org/10.1186/s12916-022-02490-2>.
- Jiao, K. 2019. Inequality of Healthy Life Expectancy for the Chinese Elderly and Its Trend. *The Journal of Chinese Sociology*. 6 (1). p. 22. <https://doi.org/10.1186/s40711-019-0111-3>.
- Jin, X. et al. 2023. Pathophysiology of Obesity and Its Associated Diseases. *Acta Pharmaceutica Sinica B*. <https://doi.org/10.1016/j.apsb.2023.01.012>.
- Johansson, M. M. et al. 2021. Pain Characteristics and Quality of Life in Older People at High Risk of Future Hospitalization. *International Journal of Environmental Research and Public Health*. 18 (3).
- Johar, M. and S. Maruyama. 2014. Does Coresidence Improve an Elderly Parent's Health?. *Journal of Applied Econometrics*. 29 (6). pp. 965–983.
- Jylhä, M. 2009. What Is Self-Rated Health and Why Does It Predict Mortality? Towards a Unified Conceptual Model. *Social Science & Medicine*. 69 (3). pp. 307–316. <https://doi.org/10.1016/j.socscimed.2009.05.013>.
- Kalousová, L. 2020. Tobacco Control Policy and Smoking Among Older Americans: An Analysis of a Nationally-Representative Longitudinal Sample (1992–2014). *Preventive Medicine*. 137. 106127. <https://doi.org/10.1016/j.ypmed.2020.106127>.
- Kaye, A. D., A. Baluch, and J. T. Scott. 2010. Pain Management in the Elderly Population: A Review. *Ochsner Journal*. 10 (3). pp. 79–87.

- Khanna, A. and C. Metgud. 2020. Prevalence of Cognitive Impairment in Elderly Population Residing in an Urban Area of Belagavi. *Journal of Family Medicine and Primary Care*. 9 (6). pp. 2699–2703. DOI: 10.4103/jfmpc.jfmpc_240_20.
- Kim, M., C. W. Won, and M. Kim. 2018. Muscular Grip Strength Normative Values for a Korean Population from the Korea National Health and Nutrition Examination Survey, 2014–2015. *PLoS One*. 13 (8). e0201275. doi: 10.1371/journal.pone.0201275.
- Kjeldsen S. E. 2018. Hypertension and Cardiovascular Risk: General Aspects. *Pharmacological Research*. 129. pp. 95–99. <https://doi.org/10.1016/j.phrs.2017.11.003>.
- Knox-Vydymanov, C. 2016. *Work, Family and Social Protection. Old Age Income Security in Bangladesh, Nepal, the Philippines, Thailand and Vietnam*. HelpAge International, East Asia/Pacific Regional Office.
- Kosen, S. et al. 2017. *Health and Economic Cost of Tobacco in Indonesia: Review of Evidence Series*. Jakarta: Lembaga Penerbit Badan Penelitian dan Pengembangan Kesehatan.
- Kristina, S. A. et al. 2018. Health Care Cost of Noncommunicable Diseases Related to Smoking in Indonesia, 2015. *Asia Pacific Journal of Public Health*. 30 (1). pp. 29–35. doi:10.1177/1010539517751311.
- Kumar, S. 2021. Offspring's Labor Migration and Its Implications for Elderly Parents' Emotional Wellbeing in Indonesia. *Social Science & Medicine*. 276. 113832.
- Langhammer, B., A. Bergland, and E. Rydwick. 2018. The Importance of Physical Activity Exercise among Older People. *BioMed Research International*. 7856823. <https://doi.org/10.1155/2018/7856823>.
- Lawton, M. P. and E. M. Brody. 1969. Assessment of Older People: Self-Maintaining and Instrumental Activities of Daily Living. *The Gerontologist*. 9 (3). pp. 179–186.
- Lee, S. Y. 2021. Handgrip Strength: An Irreplaceable Indicator of Muscle Function. *Annals of Rehabilitation Medicine*. 45 (3). pp. 167–169. <https://doi.org/10.5535/arm.21106>.
- Levine, D. A. et al. 2021. Sex Differences in Cognitive Decline among US Adults. *JAMA Network Open*. 4 (2). e210169. <https://doi.org/10.1001/jamanetworkopen.2021.0169>.
- Levine, D. and M. Kevane. 2003. Are Investments in Daughters Lower When Daughters Move Away? Evidence from Indonesia. *World Development*. 31 (6). pp. 1065–1084.
- Liao, Q. et al. 2018. Waist Circumference Is a Better Predictor of Risk for Frailty than BMI in the Community-Dwelling Elderly in Beijing. *Aging Clinical and Experimental Research*. 30 (11). pp. 1319–1325. <https://doi.org/10.1007/s40520-018-0933-x>.
- Liu, J. and S. Xu. 2023. Retirement Policy, Employment Status, and Gender Pay Gap in Urban China. *Journal of Asian Economics*. 85. p. 101587.
- Madanih, R. and O. Purnamasari. 2021. Hubungan Penggunaan Media Sosial Sebagai Alat Komunikasi Dengan Kebahagiaan Lanjut Usia di Indonesia. *Perspektif Komunikasi: Jurnal Ilmu Komunikasi Politik dan Komunikasi Bisnis (in Bahasa Indonesia)*. 5 (1). pp. 99–109.
- Majnarić, L. T. et al. 2021. Low Psychological Resilience in Older Individuals: An Association with Increased Inflammation, Oxidative Stress and the Presence of Chronic Medical Conditions. *International Journal of Molecular Sciences*. 22 (16). p. 8970. doi: 10.3390/ijms22168970.
- Margolis, R. 2013. Educational Differences in Healthy Behavior Changes and Adherence among Middle-Aged Americans. *Journal of Health and Social Behavior*. 54 (3). pp. 353–368. <https://doi.org/10.1177/0022146513489312>.

- Matsukura, R. et al. 2018. Untapped Work Capacity among Old Persons and Their Potential Contributions to the “Silver Dividend” in Japan. *The Journal of the Economics of Ageing*. 12. pp. 236–249. <https://doi.org/10.1016/j.jeoa.2017.01.002>.
- Meilissa, Y. et al. 2022. The 2019 Economic Cost of Smoking – Attributable Diseases in Indonesia Tobacco Control. 31. pp. s133–s139.
- Millán-Calenti, J. C. et al. 2010. Prevalence of Functional Disability in Activities of Daily Living (ADL), Instrumental Activities of Daily Living (IADL) and Associated Factors, as Predictors of Morbidity and Mortality. *Archives of Gerontology and Geriatrics*. 50 (3). pp. 306–310. <https://doi.org/10.1016/j.archger.2009.04.017>.
- Miller, C. A. 2012. *Nursing Care of Older Adults: Theory and Practice*. 2nd Edition. J. B. Lippincott Company.
- Miller, W. C., H. A. Anton, and A. F. Townson. 2008. Measurement Properties of the CESD Scale among Individuals with Spinal Cord Injury. *Spinal Cord*. 46. pp. 287–292.
- Ministry of Health Indonesia. 2018. Guidelines for Primary Health Care in Older People’s Long-Term Care (Pedoman untuk Puskesmas dalam Perawatan Jangka Panjang bagi Lanjut Usia) (in Bahasa Indonesia).
- Ministry of Health Indonesia. 2019. National Report of Riskesdas 2018 (Laporan Nasional Riskesdas 2018) (in Bahasa Indonesia). Publishing Institution of the Health and Development Research Agency.
- Ministry of Health Indonesia. 2021. The Decision of Minister of Health Indonesia No. HK.01.07/MENKES/4634/2021 on National Guidelines for Adult Hypertension (Keputusan Menteri Kesehatan Republik Indonesia No. HK.01.07/MENKES/4634/2021 tentang Pedoman Nasional Pelayanan Kedokteran Tata Laksana Hipertensi Dewasa) https://yankes.kemkes.go.id/unduh/fileunduh_1660186120_529286.pdf.
- Ministry of Health Indonesia. 2022. National Health Accounts Indonesia 2020 (in Bahasa Indonesia). <https://repository.badankebijakan.kemkes.go.id/id/eprint/4357/1/National%20Health%20Accounts%20Indonesia%20Tahun%202020.pdf>.
- Mlinac, M. E. and M. C. Feng. 2016. Assessment of Activities of Daily Living, Self-Care, and Independence. *Archives of Clinical Neuropsychology*. 31 (6). pp. 506–516. <https://doi.org/10.1093/arclin/acw049>.
- Modigliani, F. and R. Brumberg. 1954. Utility Analysis and the Consumption Function: An Interpretation of Cross-Section Data. In K. Kurihara, ed. *Post Keynesian Economics*. Rutgers University Press.
- Mogues, T. 2011. Shocks and Asset Dynamics in Ethiopia. *Economic Development and Cultural Change*. 60 (1). pp. 91–120.
- Morera Á., J. Calatayud, J. Casaña, R. Núñez-Cortés, L. L. Andersen, and R. López-Bueno. 2023. Handgrip Strength and Work Limitations: A Prospective Cohort Study of 70,820 Adults Aged 50 and Older. *Maturitas*. 177 (107798). <https://doi.org/10.1016/j.maturitas.2023.107798>.
- Morey, B. N., C. Valencia, and S. Lee. 2022. Correlates of Undiagnosed Hypertension among Chinese and Korean American Immigrants. *Journal of Community Health*. 47 (3). pp. 425–436. doi: 10.1007/s10900-022-01069-5.
- Murman D. L. 2015. The Impact of Age on Cognition. *Seminars in Hearing*. 36 (3). pp. 111–121. <https://doi.org/10.1055/s-0035-1555115>.

- Murray, C. J. L. et al., eds. 2002. *Summary Measures of Population Health: Concepts, Ethics, Measurement and Applications*. World Health Organization.
- Nieman, D. C. 2019. *Nutritional Assessment*. McGraw-Hill.
- Nitter, A. and K. Forseth. 2013. Mortality Rate and Causes of Death in Women with Self-Reported Musculoskeletal Pain: Results from a 17-Year Follow-Up Study. *Scandinavian Journal of Pain*. 4 (2). pp. 86–92. <https://doi.org/10.1016/j.sjpain.2012.12.002>.
- Norman, K., U. Haß, and M. Pirlich. 2021. Malnutrition in Older Adults—Recent Advances and Remaining Challenges. *Nutrients*. 13 (8). p. 2764. <https://doi.org/10.3390/nu13082764>.
- O’ Sullivan, K. et al. 2017. Understanding Pain among Older Persons: Part 1—The Development of Novel Pain Profiles and Their Association with Disability and Quality of Life. *Age and Ageing*. 46 (1). pp. 46–51. <https://doi.org/10.1093/ageing/afw131>.
- Oddo, V. M., M. Maehara, and J. H. Rah. 2019. Overweight in Indonesia: An Observational Study of Trends and Risk Factors among Adults and Children. *BMJ Open*. 9 (9). p. e031198. doi: 10.1136/bmjopen-2019-031198.
- Okamoto, S. et al. 2021. Decomposition of Gender Differences in Cognitive Functioning: National Survey of the Japanese Elderly. *BMC Geriatrics*. 21 (1). p. 38. <https://doi.org/10.1186/s12877-020-01990-1>.
- Ong, P. A. et al. 2021. Dementia Prevalence, Comorbidities, and Lifestyle Among Jatinangor Elders. *Frontiers in Neurology*. 12. p. 643480. <https://doi.org/10.3389/fneur.2021.643480>.
- Organisation for Economic Co-operation and Development (OECD). 2018. *Working Better with Age: Japan. Ageing and Employment Policies*.
- _____. 2022. *OECD Reviews of Pension Systems: Korea*. OECD Reviews of Pension Systems.
- Osmani, N., H. Matlabi, and M. Rezaei. 2018. Barriers to Remarriage Among Older People: Viewpoints of Widows and Widowers. *Journal of Divorce & Remarriage*. 59 (1). pp. 51–68. doi: 10.1080/10502556.2017.1375331.
- Ostchega, Y. et al. 2020. Hypertension Prevalence among Adults Aged 18 and Over: United States, 2017–2018. NCHS Data Brief. No. 364. National Center for Health Statistics.
- Otoritas Jasa Keuangan (OJK). 2021. Laporan Keuangan OJK (in Bahasa Indonesia). <https://ojk.go.id/id/data-dan-statistik/laporan-tahunan/Documents/Laporan%20Tahunan%20OJK%202021.pdf>.
- _____. 2022. Infografis Hasil Survei Nasional Literasi dan Inklusi Keuangan Tahun 2022 (in Bahasa Indonesia). <https://ojk.go.id/id/berita-dan-kegiatan/info-terkini/Pages/Infografis-Survei-Nasional-Literasi-dan-Inklusi-Kuangan-Tahun-2022.aspx>.
- Pardede, E. L., P. McCann, and V. A. Venhorst. 2020. Internal Migration in Indonesia: New Insights from Longitudinal Data. *Asian Population Studies*. 16 (3). pp. 287–309. <https://doi.org/10.1080/17441730.2020.1774139>.
- Park, C. 2003. Interhousehold Transfers between Relatives in Indonesia: Determinants and Motives. *Economic Development and Cultural Change*. 51 (4). pp. 929–944.
- Paweenawat, S. W. and L. Liao. 2021. Labor Supply of Older Workers in Thailand: The Role of Co-Residence, Health, and Pensions. *ADB Working Paper Series*. No. 1224. ADBI.
- Pengpid, S. and K. Peltzer. 2018. Hand Grip Strength and Its Sociodemographic and Health Correlates among Older Adult Men and Women (50 Years and Older) in Indonesia. *Current Gerontology and Geriatrics Research*. 3265041. <https://doi.org/10.1155/2018/3265041>.

- _____. 2022. Prevalence and Associated Factors of Undiagnosed Hypertension among Adults in the Central African Republic. *Scientific Reports*. 12. 19007. <https://doi.org/10.1038/s41598-022-23868-5>.
- Pesau, H., A. Immanuel, A. Sulastri, and G. Van Luijtelaaar. 2023. The Role of Daily Spoken Language on the Performance of Language Tests: The Indonesian Experience. *Bilingualism: Language and Cognition*. 26 (3). pp. 538–549. doi:10.1017/S136672892200075X.
- Phyo, A. Z. Z. et al. 2020. Quality of Life and Mortality in the General Population: A Systematic Review and Meta-Analysis. *BMC Public Health*. 20. p. 1596. <https://doi.org/10.1186/s12889-020-09639-9>.
- Posadas, J. and M. Vidal-Fernandez. 2013. Grandparents' Childcare and Female Labor Force Participation. *IZA Journal of Labor Policy*. 2. pp. 1–20.
- Pujilestari, C. U., L. Nyström, M. Norberg, L. Weinehall, M. Hakimi, and N. Ng. 2017. Socioeconomic Inequality in Abdominal Obesity among Older People in Purworejo District, Central Java, Indonesia: A Decomposition Analysis Approach. *International Journal for Equity in Health*. 16 (1). p. 214. doi: 10.1186/s12939-017-0708-6.
- Pulok, M. H. and M. Hajizadeh. 2022. Equity in the Use of Physician Services in Canada's Universal Health System: A Longitudinal Analysis of Older Adults. *Social Science & Medicine*. 307. 115186. <https://doi.org/10.1016/j.socscimed.2022.115186>.
- PwC. 2019. *Global Consumer Insights Survey*. <https://www.pwc.com/cl/es/publicaciones/assets/2019/report.pdf>.
- RAND Social and Economic Well-Being. n.d. The Indonesia Family Life Survey (IFLS). <https://www.rand.org/well-being/social-and-behavioral-policy/data/FLS/IFLS.html>.
- Rao Guthi, V. et al. 2023. Hypertension Treatment Cascade among Men and Women of Reproductive Age Group in India: Analysis of National Family Health Survey-5 (2019–2021). *The Lancet Regional Health – Southeast Asia*. 100271. <https://doi.org/10.1016/j.lansea.2023.100271>.
- Rijk J. M. et al. 2016. Prognostic Value of Handgrip Strength in People Aged 60 Years and Older: A Systematic Review and Meta-Analysis. *Geriatrics & Gerontology International*. 16 (1). pp. 5–20. doi: 10.1111/ggi.12508.
- Robine, J.-M., Y. Saito, and C. Jagger. 2009. The Relationship between Longevity and Healthy Life Expectancy. *Quality in Ageing and Older Adults*. 10. pp. 5–14.
- Rogers, W. A. and T. L. Mitzner. 2017. Envisioning the Future for Older Adults: Autonomy, Health, Well-Being, and Social Connectedness with Technology Support. *Futures*. 87. pp. 133–139. <https://doi.org/10.1016/j.futures.2016.07.002>.
- Rukmini, R. et al. 2021. Non-Communicable Diseases among the Elderly in Indonesia in 2018. *Indian Journal of Forensic Medicine & Toxicology*. 16 (1). pp. 1026–1036. <https://doi.org/10.37506/ijfmt.v16i1.17631>.
- Sait, N. and S. Jivraj. 2022. Assessing Changes in Neighbourhood Satisfaction Among Older Age Adults in England Using the English Longitudinal Study of Ageing. *Wellbeing, Space, and Society*. 3. 100107. <https://doi.org/10.1016/j.wss.2022.100107>.
- Salive, M. E. 2013. Multimorbidity in Older Adults. *Epidemiologic Reviews*. 35 (1). pp. 75–83. <https://doi.org/10.1093/epirev/mxs009>.

- Shahbabu, B. et al. 2016. Which Is More Accurate in Measuring the Blood Pressure? A Digital or an Aneroid Sphygmomanometer. *Journal of Clinical and Diagnostic Research*. 10 (3). pp. LC11–LC14. <https://doi.org/10.7860/JCDR/2016/14351.7458>.
- Shaver, J. 2022. The State of Telehealth Before and After the COVID-19 Pandemic. *Primary Care*. 49 (4). pp. 517–530. <https://doi.org/10.1016/j.pop.2022.04.002>.
- Shetty, P. 2012. Grey Matter: Ageing in Developing Countries. *The Lancet*. 379 (9823). pp. 1285–1287. doi: [https://doi.org/10.1016/S0140-6736\(12\)60541-8](https://doi.org/10.1016/S0140-6736(12)60541-8).
- Siliverstovs, B., K. A. Kholodilin and U. Thiessen. 2011. Does Aging Influence Structural Change? Evidence from Panel Data. *Economic Systems* 35 (2). pp. 244–260.
- Smith, D. et al. 2014. Chronic Pain and Mortality: A Systematic Review. *PLoS One*. 9 (6). e99048. <https://doi.org/10.1371/journal.pone.0099048>.
- Statistics Indonesia. 2018. Indonesia Population Projection 2015–2045 Result of SUPAS 2015 (Proyeksi Penduduk Indonesia 2015–2045 Hasil SUPAS 2015).
- _____. 2022. Older People Statistics 2022 (Statistik Penduduk Lanjut Usia 2022). Publishing Institution of Health and Development Research Agency.
- _____. 2023. Indonesian Population Projection 2020–2050, Results of the 2020 Population Census (Proyeksi Penduduk Indonesia 2020 2050 Hasil Sensus Penduduk 2020).
- Suriastini, N. W., I. Y. Wijayanti, and D. Oktarina. 2024. Older People's Capacity to Work: The Case of Indonesia. *Asian Development Review*. 41 (1).
- Suriastini, N. W. et al. 2020. Prevalence and Risk Factors of Dementia and Caregiver's Knowledge of the Early Symptoms of Alzheimer's Disease. *Aging Medicine and Healthcare*. 11 (2). pp. 60–66. doi:10.33879/AMH.2020.065-1811.032.
- _____. 2021. Depression among Older People in Bali. *Asian Journal of Gerontology & Geriatrics*. 16 (1). pp. 22–29. <https://doi.org/10.12809/ajgg-2020-400-0a>.
- _____. 2023a. Mewujudkan Lanjut Usia SMART: Pembelajaran dari Studi Lanjut Usia Berbasis Komunitas. D.I Yogyakarta, Indonesia: SurveyMETER (in Bahasa Indonesia).
- _____. 2023b. Examining Decent Work in Indonesia: Study of Rural Women Entrepreneurs in Central Java. HelpAge International. <https://www.helpage.org/news/addressing-barriers-to-decent-work-in-indonesia/>.
- _____. 2023c. Community Health Centers Response to the Need of Dementia Care. *Journal of Public Health Research*. 12 (1). pp. 1–10. <https://doi.org/10.1177/22799036231161972>.
- Takahashi, S. et al. 2020. Poor Self-Rated Health Predicts the Incidence of Functional Disability in Elderly Community Dwellers in Japan: A Prospective Cohort Study. *BMC Geriatrics*. 20. p. 328. <https://doi.org/10.1186/s12877-020-01743-0>.
- Takahashi, Y. et al. 2021. Diverse Values of Urban-to-Rural Migration: A Case Study of Hokuto City, Japan. *Journal of Rural Studies*. 87. pp. 292–299. <https://doi.org/10.1016/j.jrurstud.2021.09.013>.
- Tamayo-Fonseca, N. et al. 2015. Self-Rated Health and Hospital Services Use in the Spanish National Health System: A Longitudinal Study. *BMC Health Services Research*. 15. p. 492. <https://doi.org/10.1186/s12913-015-1158-8>.
- Tchernof, A. and J.-P. Després. 2013. Pathophysiology of Human Visceral Obesity: An Update. *Physiological Reviews*. 93 (1). pp. 359–404. doi:10.1152/physrev.00033.2011.

- Thomas, D. et al. 2012. Cutting the Costs of Attrition: Results from the Indonesia Family Life Survey. *Journal of Development Economics*. 98 (1). pp. 108–123. <https://doi.org/10.1016/j.jdeveco.2010.08.015>.
- Tianyi, F. L. et al. 2019. Factors Associated with the Prevalence of Cognitive Impairment in a Rural Elderly Cameroonian Population: A Community-Based Study in sub-Saharan Africa. *Dementia and Geriatric Cognitive Disorders*. 47. pp. 104–113.
- Torrance, N. et al. 2010. Severe Chronic Pain Is Associated with Increased 10 Year Mortality. A Cohort Record Linkage Study. *European Journal of Pain*. 14 (4). pp. 380–386. <https://doi.org/10.1016/j.ejpain.2009.07.006>.
- Tucker, A. M. and Y. Stern. 2011. Cognitive Reserve in Aging. *Current Alzheimer Research*. 8. pp. 354–360. doi: 10.2174/156720511795745320.
- United Nations (UN). 2006. United Nations Convention on the Rights of Persons with Disabilities. https://www.un.org/disabilities/documents/convention/convention_accessible_pdf.pdf.
- _____. 2022. *Asia-Pacific Report on Population Ageing 2022*.
- United Nations Department of Economic and Social Affairs, Population Division (UN DESA). 2022. *World Population Prospects 2022*. Online Edition.
- van Belle, G. et al. 2004. *Biostatistics: A Methodology for the Health Sciences*. John Wiley and Sons.
- van Blijswijk, S. C. E. et al. 2015. Self-Reported Hindering Health Complaints of Community-Dwelling Older Persons: A Cross-Sectional Study. *PLoS One*. 10 (11). p. e0142416. <https://doi.org/10.1371/journal.pone.0142416>.
- Washington Group on Disability Statistics. 2020. Analytic Guidelines: Creating Disability Identifiers Using the Washington Group Short Set on Functioning (WG-SS) Stata Syntax. https://www.washingtongroup-disability.com/fileadmin/uploads/wg/Documents/WG_Document__5B_-_Analytic_Guidelines_for_the_WG-SS__SAS_.pdf.
- The Washington Group Short Set on Functioning (WG-SS) https://www.washingtongroup-disability.com/fileadmin/uploads/wg/Washington_Group_Questionnaire__1_-_WG_Short_Set_on_Functioning__October_2022_.pdf.
- Watts, P. N. and G. S. Netuveli. 2022. Costs of Healthy Living for Older Adults: The Need for Dynamic Measures of Health-Related Poverty to Support Evidence-Informed Policy-Making and Real-Time Decision-Making. *Public Health*. 212. pp. 1–3. <https://doi.org/10.1016/j.puhe.2022.08.001>.
- Whitmore C. et al. 2022. Self-Reported Health and the Well-Being Paradox among Community-Dwelling Older Adults: A Cross-Sectional Study Using Baseline Data from the Canadian Longitudinal Study on Aging (CLSA). *BMC Geriatrics*. 22 (1). p. 112. doi: 10.1186/s12877-022-02807-z.
- Williams, B. et al. 2018. ESC Scientific Document Group. 2018 ESC/ESH Guidelines for the Management of Arterial Hypertension. *European Heart Journal*. 39. pp. 3021–104. doi:10.1097/HJH.0000000000001940.
- Wister, A. V. et al. 2016. A Lifecourse Model of Multimorbidity Resilience: Theoretical and Research Developments. *The International Journal of Aging and Human Development*. 82 (4). pp. 290–313. doi:10.1177/0091415016641686.
- World Bank. 2018. The World Bank in Indonesia. <http://www.worldbank.org/en/country/indonesia>.

- World Health Organization (WHO). 2007. *Global Age-Friendly Cities: A Guide*. <https://iris.who.int/handle/10665/43755>.
- _____. 2015. *World Report on Ageing and Health*.
- _____. 2017. *Integrated Care for Older People: Guidelines on Community-Level Interventions to Manage Declines in Intrinsic Capacity*.
- _____. 2018. *Global Status Report on Alcohol and Health 2018*. <https://www.who.int/data/gho/data/themes/global-information-system-on-alcohol-and-health>.
- _____. 2020. *Global Health Estimates 2019: Death by Cause, Age, Sex, by Country and by Region, 2000–2019*.
- _____. 2022. Mental Disorders. <https://www.who.int/news-room/fact-sheets/detail/mental-disorders>.
- _____. 2023a. Hypertension. Fact Sheet. <https://www.who.int/news-room/fact-sheets/detail/hypertension>.
- _____. 2023b. *World Health Statistics 2023: Monitoring Health for the SDGs, Sustainable Development Goals*.
- _____. 2023c. Noncommunicable Diseases. Key Facts. <https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases>.
- Zhao, B. et al. 2018. Social Engagement and Subjective Health Among Older Adults in South Korea: Evidence from the Korean Longitudinal Study of Aging (2006–2018). *SSM-Population Health*. 21. 101341. <https://doi.org/10.1016/j.ssmph.2023.101341>.
- Zickuhr, K. and M. Madden. 2012. Older Adults and Internet Use. Pew Internet & American Life Project. <http://www.pewinternet.org/Reports/2012/Older-adults-and-internet-use/Main-Report/Internetadoption.aspx>.
- Zimmer, Z. et al. 2022. A Global Study of Pain Prevalence across 52 Countries: Examining the Role of Country-Level Contextual Factors. *Pain*. 163 (9). pp. 1740–1750. <https://doi.org/10.1097/j.pain.0000000000002557>.

Indonesia Longitudinal Aging Survey 2023

To generate data and insights needed to inform health care and social security reforms in Indonesia, more than 4,000 people aged over 45 were interviewed in nine regions under the country's first longitudinal aging survey. This report provides a summary of findings and key data from the survey, with a focus on the profile of older people. The report reveals that more than half of older people live in multigenerational households and it discusses the common health issues they face. Highlighting the increased vulnerability of older women and the financial pressures that impact older people, the report discusses how improving social protection, promoting preventative health care, and developing a care economy will help people age better.

About SurveyMETER

SurveyMETER, established in 2002, was named after Survey, Measurement, Training, and Research. It was created to address the increasing need for accurate information crucial for developing effective public policies. SurveyMETER assists policymakers and the public in understanding the factors that influence policy decisions and recommendations through high-quality data collection. SurveyMETER has developed into a research organization that focuses on providing data for panel studies and conducting research on health, aging, education, economy, and disasters.

About Lembaga Demografi Faculty of Economics and Business Universitas Indonesia

The Lembaga Demografi Faculty of Economics and Business Universitas Indonesia was established in 1964 by prominent Indonesian economists to integrate demographic analysis into economic and development planning in Indonesia. Lembaga Demografi (LD) has been the leading research institute in Indonesia focusing on population-related development and its impact on national development. In 2016, LD adopted demographic-based development to highlight the significance of people in development analysis. LD specializes in conducting surveys, monitoring progress, analyzing data, and creating models.

About the Asian Development Bank

ADB is committed to achieving a prosperous, inclusive, resilient, and sustainable Asia and the Pacific, while sustaining its efforts to eradicate extreme poverty. Established in 1966, it is owned by 68 members—49 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.



ASIAN DEVELOPMENT BANK
6 ADB Avenue, Mandaluyong City
1550 Metro Manila, Philippines
www.adb.org