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MINISTRY OF HEALTH MALAYSIA
INSTITUTE FOR PUBLIC HEALTH

Technical Report

NATIONAL HEALTH AND
MORBIDITY SURVEY (NHMS) 2025

OLDER PERSONS HEALTH

VOLUME II
OLDER PERSONS HEALTH FINDINGS

NHMS 2025

TECHNICAL REPORT

NATIONAL HEALTH AND MORBIDITY SURVEY (NHMS) 2025

OLDER PERSONS HEALTH

VOLUME TWO:

OLDER PERSONS HEALTH FINDINGS

NATIONAL HEALTH AND MORBIDITY SURVEY 2025

OLDER PERSONS HEALTH (NMRR ID-24-01679-LO7 (IIR))

VOLUME II
OLDER PERSONS HEALTH FINDINGS

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MESSAGE FROM THE DIRECTOR GENERAL OF HEALTH MALAYSIA

The National Health and Morbidity Survey (NHMS) 2025 is a vital national initiative that provides critical evidence to support the strengthening of healthcare policies and services for older persons in Malaysia. As the country progresses towards becoming an aged nation by 2036, understanding the health profile and needs of older persons is increasingly important to ensure responsive, equitable, and sustainable healthcare delivery.

The data generated through NHMS 2025 will support the implementation and monitoring of important national frameworks, including the *Pelan Tindakan Perkhidmatan Kesihatan Warga Emas 2023–2030* and the *Pelan Tindakan Dementia 2023–2030*. Furthermore, the findings will contribute towards monitoring key indicators related to Universal Health Coverage (UHC) and the Sustainable Development Goals (SDGs).

Addressing the needs of an ageing population requires strong collaboration across sectors. In addition to healthcare services, social and family support systems, particularly the role of informal caregivers, remain crucial in maintaining the well-being and quality of life of older persons. A coordinated multisectoral approach involving healthcare providers, communities, policymakers, families, and other stakeholders will therefore remain essential moving forward.

I would like to convey my sincere appreciation to all parties involved in the successful conduct of NHMS 2025, including the survey teams, State Health Departments, academic collaborators, partner agencies, and respondents. Their dedication and commitment have contributed greatly towards generating robust national evidence for policy and action. It is my sincere hope that the findings of NHMS 2025 will continue to guide evidence-based decision-making and strengthen Malaysia's efforts in ensuring healthy, active, and dignified ageing for all.

Thank you.

DATUK DR. MAHATHAR BIN ABD WAHAB
Director General of Health Malaysia
Chairman of NHMS Steering Committee
Ministry of Health Malaysia

MESSAGE FROM THE DEPUTY DIRECTOR GENERAL OF HEALTH MALAYSIA (RESEARCH & TECHNICAL SUPPORT)

The National Health and Morbidity Survey (NHMS) 2025 continues the long-standing tradition of generating high-quality national health evidence to support research, policy formulation, and healthcare planning in Malaysia. As Malaysia prepares to become an aged nation by 2036, the focus of NHMS 2025 on older persons provides timely and valuable epidemiological insights into one of the country's most pressing demographic transitions.

Conducted by the Institute for Public Health, NHMS has remained a cornerstone of population-based health research since 1986. Over the years, the survey has evolved into an important platform for monitoring health trends, identifying emerging public health challenges, and guiding strategic national responses. NHMS 2025 provides comprehensive data on the health status, functional ability, mental health, caregiving needs, and social support systems of older persons in Malaysia. These findings are essential for understanding the multidimensional aspects of ageing and for supporting evidence-based interventions that promote healthy ageing and improve quality of life.

The evidence generated through this survey will contribute significantly towards strengthening national policies and programmes for older persons. The successful implementation of NHMS 2025 also reflects the importance of collaborative research and multisectoral engagement involving the Institute for Public Health, State Health Departments, academic institutions, technical experts, and various stakeholders.

It is my hope that the findings from NHMS 2025 will continue to strengthen Malaysia's public health evidence ecosystem and guide the development of effective, inclusive, and sustainable interventions for older persons in the years ahead.

Thank you

DATUK DR. NOR FARIZA BINTI NGAH
Deputy Director General (Research & Technical Support)
Ministry of Health Malaysia

MESSAGE FROM THE DIRECTOR OF INSTITUTE FOR PUBLIC HEALTH

On behalf of the Institute for Public Health, I would like to express my sincere appreciation to everyone who contributed to the successful implementation of the National Health and Morbidity Survey (NHMS) 2025.

Since its establishment in 1986, the NHMS has remained one of Malaysia's most important public health research initiatives, generating comprehensive and reliable national data to support evidence-based policymaking and programme planning.

The successful conduct of this nationwide survey reflects the strong collaboration and commitment of many parties. I would like to extend my heartfelt thanks to the State Health Departments, healthcare personnel, academic institutions, technical experts, partner agencies, and survey teams for their dedication and professionalism throughout the planning and implementation process.

I would also like to convey my deepest gratitude to all respondents who generously shared their time, experiences, and valuable information. Their participation has enabled a better understanding of the health, well-being, functional status, social support, and caregiving needs of older persons in Malaysia.

The findings from NHMS 2025 will provide crucial evidence to strengthen healthcare services, community support systems, and long-term care initiatives, while supporting national action plans and international commitments related to healthy ageing.

As we move forward, continued collaboration among all stakeholders remains essential to ensure that older persons in Malaysia are supported to age healthily, actively, and with dignity. It is my sincere hope that the evidence generated from NHMS 2025 will guide impactful policies and programmes that contribute to a more inclusive and caring society.

Thank you to everyone who has made NHMS 2025 a success.

DR. NOOR ANI AHMAD
Director of Institute for Public Health (IKU)
Ministry of Health Malaysia

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The authors acknowledge with appreciation the Director-General of Health, Malaysia, for granting permission to publish this report and for his continued support and guidance throughout the implementation of the survey.

The authors further extend their sincere gratitude to the Deputy Director-General (Research and Technical Support) and the Director of the Institute for Public Health for their consistent support, confidence, and technical guidance throughout all phases of the survey, leading to its successful completion. The National Health and Morbidity Survey 2025 was funded by the Malaysian Ministry of Health Research grant. Appreciation is also extended to the Advisory Panel and Steering Committee, comprising executives and subject matter experts from within and outside the Ministry of Health, for their invaluable technical input and oversight.

The authors would also like to acknowledge all State Health Directors and State Liaison Officers for their key role in coordinating and mobilising resources during the data collection phase. Appreciation is likewise extended to all personnel involved in the execution of the survey, including field supervisors, data collectors, and drivers, whose commitment was essential to its successful implementation.

Finally, the authors sincerely thank all respondents for their time and cooperation in providing the information required for this survey. It is anticipated that the findings will inform programme planning and policy development aimed at strengthening healthcare management and related services for the ageing population in Malaysia.

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LIST OF ABBREVIATIONS

ADL	:	Activities of Daily Living
AWGS	:	Asian Working Group for Sarcopenia
CASP-19	:	Control, Autonomy, Self-realization and Pleasure, 19 items questionnaire
DSSI	:	Duku Social Support Index
GDS	:	Geriatric Depression Scale
GPAQ	:	Global Physical Activity Questionnaire
IADL	:	Instrumental Activities of Daily Living
IDEA	:	Identification and Intervention for Dementia in Elderly Africans
NGO	:	Non-Government Organization
NHMS	:	National Health and Morbidity Survey
QoL	:	Quality of Life
VCAT	:	Visual Cognitive Assessment Test
WG-ES	:	Washington Group Extended Set on Functioning
WHO	:	World Health Organization
ZBI	:	Zarit Burden Interview

OLDER PERSONS HEALTH

1.0 Ageing Well

Muhamad Khairul Nazrin Khalil[1], Mohd Ruhaizie Riyadzi[1], Noor Aliza Lodz[1], Noor ul-Aziha Muhammad[1], Filza Noor Asari[1], Noraliza Noordin Merican[2], Tunku Muzafar Shah Tunku Jaafar[3], Aniza Binti Abd Aziz [4]

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HIGHLIGHT

- The prevalence of ageing well in Malaysia was 14.7%.

INTRODUCTION

In line with the World Health Organization's Decade of Healthy Ageing (2021–2030), there is a growing emphasis on a multidimensional understanding of ageing that extends beyond disease-centred measures, utilising interchangeable terminology. Earlier studies in Malaysia documented two ageing constructs, particularly successful ageing and healthy ageing. Tengku Aizan et al reported a prevalence of successful ageing of 13.8% in 2011 [1], while Suriawati et al reported a prevalence of healthy ageing of 14.1% in 2023 [2]. In contrast, this module conceptualised ageing well as a key indicator of wellbeing among older persons in Malaysia.

Ageing well offers a distinct and more holistic perspective although it shares multidimensional conceptual similarities with other terminologies such as successful, healthy, active, and positive ageing. The concept of ageing well places greater emphasis on the ability of older persons to adapt to age-related changes, maintain psychological wellbeing, sustain social engagement, and function effectively within supportive physical and social environments [3, 4].

In this study, ageing well is operationalised with five dimensions: social function, cognitive function, psychological function, physical function, and optimal health. This multidimensional assessment provides an essential foundation for guiding policy, programmes and interventions aimed at promoting wellbeing in an ageing society.

OBJECTIVES

To determine the prevalence of ageing well among older persons aged 60 years and above in Malaysia.

METHODS

The ageing well construct in this survey was operationalised across five dimensions, each measured using validated instruments or clinical assessments:

- **Social Function:** Assessed using the Duke Social Support Index (DSSI).
- **Cognitive Function:** Measured using the Visual Cognitive Assessment Test (VCAT-S).
- **Psychological Function:** Assessed using the Geriatric Depression Scale – 14 items (GDS-14).
- **Physical Function:** Evaluated using the Barthel Index for Activities of Daily Living (ADL) and the Lawton Scale for Instrumental Activities of Daily Living (IADL).
- **Optimal Health:** Assessed using a combination of self-reported non-communicable disease (NCD) status, blood pressure measurements, and capillary blood glucose tests (fasting or random).

DEFINITIONS

Older persons **meeting all criteria across the five dimensions** were classified as well agers, while those who did not meet one or more criteria were classified as usual agers.

1. **Social function:** older persons with high social support (DSSI score of ≥ 27) were classified as well agers.
2. **Cognitive function:** older persons without cognitive impairment (VCATs score of >13) were classified as well agers.
3. **Psychological function:** older persons without depression (GDS-14 score <5) were classified as well agers.
4. **Physical function:** older persons with no limitations in ADL (Barthel Index score of 20) or IADL (Lawton IADL score of 8) were classified as well agers.
5. **Optimal health:** older persons with either absence of comorbidities or controlled comorbidities (hypertension, diabetes mellitus, heart disease, stroke, chronic lung disease, or cancer) were classified as well agers. Controlled comorbidities were defined as:
   - **Controlled hypertension:** Mean systolic BP <140 mmHg and mean diastolic BP <90 mmHg.

- **Controlled diabetes mellitus:** Fasting blood glucose ≤7.0 mmol/L or random blood glucose ≤8.5 mmol/L.
- **Stable heart disease, stroke, or chronic lung disease:** No hospitalisation within the past year due to these conditions.
- **Stable cancer:** No active clinical management (including palliative care) within the past year, excluding patients who were not receiving modern treatment or had defaulted on their treatment.

FINDINGS

The overall prevalence of ageing well among older persons aged 60 years and above in Malaysia was 14.7%. The prevalence was higher among urban dwellers (16.0%) than among those residing in rural areas (11.0%). Younger older persons aged 60–69 years had the highest prevalence of ageing well (18.0%) compared with the older age groups. Those who were married or living with a partner had a higher prevalence of ageing well (17.0%) than those who had never married, were separated or divorced, or were widowed (10.9%). The prevalence of ageing well was also higher among those with higher educational attainment, particularly those who had received primary, secondary, or tertiary education, compared with those who had never attended school or had not completed primary education. The prevalence of ageing well was similar among males (14.8%) and females (14.6%) **(Table 1.1)**.

CONCLUSION

The survey found that only 14.7% of older persons in Malaysia were ageing well. As Malaysia moves toward aged nation status, these findings underscore the urgency for policies and interventions that strengthen functional ability, promote social engagement and foster supportive environments.

RECOMMENDATIONS

Building a nation of older persons who age well demands a whole-of-government and whole-of-society approach that promotes healthy lifestyle and age-friendly supportive environment across the life course. This requires coordinated action among government agencies, the private sectors, NGOs, local community organisations, families and caregivers. The following recommendations translate this approach into priority actions to strengthen ageing well outcomes in Malaysia.

- Strengthen health literacy across the life course by delivering clear, age-appropriate health messages from early education, including primary school, to improve understanding and self-awareness of health, particularly in relation to non-communicable diseases.
- Normalise healthy lifestyles across the life course especially the mid-life individuals through sustained national and community-level health promotion initiatives that encourage regular physical activity, healthy diets and supportive age-friendly environments.
- Expand community-based healthy ageing activities through Senior Citizen Activity Centres (PAWE), non-governmental organisations, community committee, religious institutions and care services, to support functional independence, cognitive health and social engagement among older persons.
- Strengthen primary health care as the crucial platform for ageing well by intensifying preventive non-communicable disease screening with emphasis on mid-life adults aged 40 to 59 years and comprehensive care for older persons using the WHO Integrated Care of Older Person (ICOPE) approach to enable early risk identification and appropriate management.
- Strengthen long-term care systems for older persons by expanding caregiver training and support, and by diversifying home-based, community-based and institutional care options, supported by appropriate government incentives to ensure sustainability.
- Leverage digital health tools and behavioural nudges to reinforce healthy behaviours, regular health check-up and treatment adherence among pre-older persons and older persons, while engaging the private sector and civil society to expand scalable and supportive digital interventions.

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Table 1.1: The prevalence of ageing well among older person 60 years and above in Malaysia by sociodemographic characteristics (n = 7,267)

Sociodemographic Characteristic	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper
MALAYSIA	1,027	585,500	14.7	13.14	16.35
Location					
Urban	659	471,400	16.0	14.00	18.17
Rural	368	114,100	11.0	9.18	13.09
Sex					
Male	481	282,100	14.8	12.90	16.87
Female	546	303,400	14.6	12.76	16.62
Age group					
60 - 69	721	437,500	18.0	16.16	20.09
70 - 79	268	130,900	10.7	8.35	13.54
80 and above	38	17,100	5.1	2.93	8.58
Ethnicity					
Malay	372	253,900	12.8	10.83	15.09
Chinese	502	247,400	19.7	17.07	22.67
Indian	55	39,700	14.4	10.58	19.31
Bumiputera Sabah	47	11,100	7.5	4.67	11.87
Bumiputera Sarawak	40	14,300	8.7	5.11	14.30
Other Bumiputera / Others	11	-	-	-	-
Marital status					
Never married/ Separated / Divorced / Widowed	322	162,500	10.9	9.12	12.88
Married / Living with partner	705	423,100	17.0	15.07	19.04
Education level					
Never attended school / Did not complete primary education	102	40,000	5.3	4.05	6.94
Primary education	223	105,500	12.2	9.97	14.94
Secondary education	477	274,500	17.0	14.79	19.40
Tertiary education	224	165,400	22.0	19.07	25.29
Occupation					
Still working / retiree with pension	460	273,700	17.1	14.82	19.61
Not working (retiree without pension/ homemaker/ unpaid worker)	566	310,700	13.0	11.28	15.01

Sociodemographic Characteristic	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper
Household income category					
Bottom 40%	726	380,900	13.4	11.70	15.27
Middle 40%	214	142,300	18.4	15.41	21.86
Top 20%	86	62,200	16.8	12.48	22.17
Household income quintile					
Quintile 1 (<RM1,000)	119	54,500	9.3	7.28	11.86
Quintile 2 (RM1,000-1,999)	176	79,000	11.9	9.26	15.27
Quintile 3 (RM2,000-3,199)	226	122,500	15.4	13.03	18.09
Quintile 4 (RM3,200-5,999)	226	128,300	15.1	12.55	18.01
Quintile 5 (RM6,000 and above)	279	201,100	18.3	15.69	21.33

OLDER PERSONS HEALTH

2.0 Poor Social Support

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HIGHLIGHT

- A total of 33.1% of older persons reported poor social support in NHMS 2025, which is higher than the prevalence reported in 2018 (30.8%)

INTRODUCTION

Malaysia is experiencing a demographic transition towards an aged population, and social support is recognised as an important determinant of well-being among older persons. Social support refers to the exchange of resources intended to enhance the recipient's well-being [1]. Adequate social support has been shown to buffer stress and reduce psychological distress, while low social support is associated with poorer mental and physical health outcomes in older persons [2-4]. Recent systematic and longitudinal evidence also links social isolation with cognitive decline and increased frailty among older persons [5-6].

In Malaysia, the National Health and Morbidity Survey (NHMS) 2018 provided the first national estimates of social support among older persons, demonstrating that a proportion of older persons experience inadequate social support [7]. Local research further highlights the influence of living arrangements, marital status, and socioeconomic factors on social support levels among older persons [8]. Recent regional studies emphasise the role of community-based social engagement and digital social connection initiatives in enhancing well-being and reducing loneliness among older persons [9-10].

Given these implications for mental, social, and physical health, ongoing national monitoring is essential to inform healthy ageing strategies and targeted interventions. This report estimates the prevalence of poor social support, as well as the mean scores of social interaction and subjective support among older Malaysians aged 60 years and above.

OBJECTIVES

To determine the prevalence of poor social support among older persons aged 60 years and above in Malaysia.

METHODS

The 11-item Duke Social Support Index (DSSI) was employed in this module to assess participants' levels of social support. The DSSI is a concise, validated instrument originally developed for use among older persons and has been widely applied in health promotion and aged-care research to evaluate both structural and functional aspects of social support [11-13]. The Malay version of the 11-item DSSI has been validated among the Malaysian population, demonstrating satisfactory internal consistency with a Cronbach's alpha coefficient of 0.77, thereby supporting its reliability for use in Malaysian contexts [14].

The instrument comprises two subscales: the Social Interaction subscale (four items), which assesses the size and structure of an individual's social network, and the Subjective Support subscale (seven items), which measures perceived satisfaction with the emotional and behavioural support received from that network [11,12,15]. Total social support is obtained by summing the scores of all 11 items, with higher scores indicating greater levels of social support. For categorizing overall scores, this study adopted the cut-off points established by Strodl et al. (2003) [13] for the Australian population, which classify social support levels as poor (low to fair) for scores between 11–26 and high for scores between 27–33. These thresholds were considered the most appropriate reference for determining the prevalence of poor social support in this study [13].

DEFINITIONS

1. **Social support** refers to the overall perceived availability and adequacy of support received from people around an individual, measured using the 11-item Duke Social Support Index (DSSI), which combines social interaction and subjective support.
2. **Social interaction** measures the frequency and extent of social contact with people living nearby or those with close connections (e.g., meeting, visiting, phone contact, attending activities), as measured by DSSI items M01-M04.

3. **Subjective social support** reflects personal perception and satisfaction with emotional support, being understood, valued, having a role, being listened to and being able to share problems with family and friends, as measured by DSSI items M05-M11.

FINDINGS

Overall, 6,431 respondents were eligible to participate in the social support survey. The mean total social support score among respondents aged 60 years and above in Malaysia was 27.67. The national prevalence of poor social support was 33.1%, representing an estimated 120,000 older persons. This was higher than the prevalence reported in the 2018 survey (30.8%). Poor social support increased with age, with the highest prevalence observed among those aged 80 years and above (46.9%), compared with 30.0% among those aged 60–69 years. Poor social support was also more prevalent among those who had never married, were separated or divorced, or were widowed (40.7%) compared with those who were married or living with a partner (28.8%). By educational attainment, the prevalence of poor social support was highest among those who had never attended school or had not completed primary education (51.5%) and lowest among those with tertiary education (20.8%) **(Table 2.1)**.

The mean score of social interaction among respondents aged 60 years and above was 8.92, which is slightly higher compared to NHMS 2018 older person survey (8.35). Meanwhile, the mean score of subjective support among respondents aged 60 years and above was 18.75, lower than finding reported from NHMS 2018 older person survey (19.30) **(Table 2.2 and Table 2.3)**.

CONCLUSION

In conclusion, the prevalence of poor social support demonstrated a slight increase in 2025 (33.1%) compared to 2018 (30.8%) among older persons aged 60 years and above in Malaysia. These findings underscore the need for targeted interventions to strengthen social interaction and subjective support, particularly through community-based programs and policies that promote social inclusion and well-being intergenerationally.

RECOMMENDATIONS

- Strengthen community-based social infrastructure to support older persons interaction with community members, such as:
  - Establish 'Friendly Call Program' service where trained volunteers or community members make regular phone calls to older persons daily or weekly to check on their well-being, provide companionship and conversation, offer emotional support and to monitor for any safety or health concerns.
  - Encourage older persons to participate in positive community activities, *Pusat Aktiviti Warga Emas* (PAWE), *Kelab Warga Emas* and other associations.
- Older persons who often face mobility or health limitations, support to enhance accessibility of social engagement should be established, such as:
  - Empower routine home-based services such as home visitation programs (social workers, community health workers) and wellness checks.
  - Empower transportation assistance services with subsidized or volunteer driver programs, Senior-friendly ride-sharing with trained drivers and community shuttle services to clinics, senior centres, and grocery stores.
- Target digital inclusion for social connection for older persons by developing specialised "silver-tech" modules focusing specifically on using communication tools to maintain family ties, reducing the "social isolation" linked to digital exclusion.
- Prepare the older persons and community for any emergency or disaster, such as organising community activities to guide on how to respond effectively in an emergency or disastrous event, such as fall, fire or flood.

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Table 2.1: The prevalence of poor social support among older person 60 years and above in Malaysia by sociodemographic characteristics (n = 6,431)

Sociodemographic Characteristic	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper
MALAYSIA	2,341	1,196,800	33.1	30.49	35.78
Location					
Urban	1,237	860,400	31.7	28.49	35.09
Rural	1,104	336,400	37.2	33.76	40.83
Sex					
Male	972	557,200	31.7	28.29	35.25
Female	1,369	639,600	34.4	31.42	37.54
Age group					
60 - 69	1,233	694,300	30.0	27.16	32.98
70 - 79	848	396,400	36.8	33.12	40.65
80 and above	260	106,100	46.9	40.15	53.80
Ethnicity					
Malay	748	493,200	27.1	23.68	30.81
Chinese	981	425,000	37.3	34.08	40.71
Indian	156	90,500	36.3	29.80	43.38
Bumiputera Sabah	296	75,600	54.0	47.36	60.53
Bumiputera Sarawak	114	35,600	29.4	19.58	41.70
Other Bumiputera / Others	46	77,000	51.5	32.90	69.62
Marital status					
Never married/ Separated / Divorced / Widowed	1,041	531,800	40.7	37.29	44.27
Married / Living with partner	1,300	665,000	28.8	25.83	31.88
Education level					
Never attended school / Did not complete primary education	625	297,800	51.5	46.01	56.97
Primary education	685	296,600	38.7	34.90	42.55
Secondary education	808	448,600	29.2	26.14	32.52
Tertiary education	220	152,100	20.8	17.16	24.93
Occupation					
Still working / retiree with pension	718	408,700	26.9	23.16	31.01
Not working (retiree without pension/ homemaker/ unpaid worker)	1,622	787,900	37.6	34.90	40.37

Sociodemographic Characteristic	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper
Household income category					
Bottom 40%	1,877	923,600	36.2	33.34	39.10
Middle 40%	338	183,800	25.6	21.73	29.92
Top 20%	126	89,400	25.8	17.97	35.56
Household income quintile					
Quintile 1 (<RM1,000)	518	213,100	43.1	38.91	47.42
Quintile 2 (RM1,000-1,999)	494	241,300	40.9	33.70	48.53
Quintile 3 (RM2,000-3,199)	491	243,300	33.3	29.10	37.67
Quintile 4 (RM3,200-5,999)	467	243,100	31.1	27.39	35.17
Quintile 5 (RM6,000 and above)	371	256,100	25.1	20.92	29.73

Table 2.2: Social interaction among older person 60 years and above in Malaysia by sociodemographic characteristics (n = 6,431)

Sociodemographic Characteristic	Count	Mean Score	95% Confidence Interval	
			Lower	Upper
MALAYSIA	6,431	8.92	8.79	9.05
Location				
Urban	3,632	8.95	8.78	9.11
Rural	2,799	8.85	8.65	9.04
Sex				
Male	2,821	9.04	8.86	9.22
Female	3,610	8.81	8.68	8.94
Age group				
60 - 69	3,792	9.06	8.91	9.22
70 - 79	2,150	8.76	8.55	8.97
80 and above	489	8.24	7.95	8.53
Ethnicity				
Malay	2,615	9.28	9.09	9.47
Chinese	2,414	8.61	8.43	8.78
Indian	397	8.72	8.38	9.07
Bumiputera Sabah	521	8.72	8.44	9.00
Bumiputera Sarawak	372	8.67	8.14	9.21
Other Bumiputera / Others	112	7.63	6.81	8.46
Marital status				
Never married/ Separated / Divorced / Widowed	2,475	8.73	8.57	8.89
Married / Living with partner	3,956	9.03	8.87	9.18
Education level				
Never attended school / Did not complete primary education	1,281	8.07	7.79	8.35
Primary education	1,667	8.65	8.48	8.82
Secondary education	2,532	9.12	8.97	9.28
Tertiary education	946	9.45	9.25	9.64
Occupation				
Still working / retiree with pension	2,424	9.16	8.99	9.33
Not working (retiree without pension/ homemaker/ unpaid worker)	4,003	8.74	8.60	8.89

Sociodemographic Characteristic	Count	Mean Score	95% Confidence Interval	
			Lower	Upper
Household income category				
Bottom 40%	4,829	8.83	8.69	8.97
Middle 40%	1,138	9.10	8.88	9.32
Top 20%	462	9.22	8.68	9.76
Household income quintile				
Quintile 1 (<RM1,000)	1,099	8.72	8.53	8.90
Quintile 2 (RM1,000-1,999)	1,203	8.75	8.48	9.03
Quintile 3 (RM2,000-3,199)	1,406	8.93	8.70	9.17
Quintile 4 (RM3,200-5,999)	1,336	8.89	8.68	9.10
Quintile 5 (RM6,000 and above)	1,385	9.13	8.88	9.37

Table 2.3: Subjective support among older person 60 years and above in Malaysia by sociodemographic characteristics (n = 6,431)

Sociodemographic Characteristic	Count	Mean Score	95% Confidence Interval	
			Lower	Upper
MALAYSIA	6,431	18.75	18.57	18.94
Location				
Urban	3,632	18.83	18.59	19.07
Rural	2,799	18.52	18.33	18.70
Sex				
Male	2,821	18.81	18.59	19.03
Female	3,610	18.70	18.46	18.95
Age group				
60 - 69	3,792	18.93	18.74	19.12
70 - 79	2,150	18.46	18.15	18.77
80 and above	489	18.33	17.90	18.76
Ethnicity				
Malay	2,615	19.03	18.77	19.29
Chinese	2,414	18.64	18.41	18.87
Indian	397	18.63	18.25	19.02
Bumiputera Sabah	521	17.43	17.01	17.85
Bumiputera Sarawak	372	19.23	18.54	19.93
Other Bumiputera / Others	112	17.32	15.57	19.06
Marital status				
Never married/ Separated / Divorced / Widowed	2,475	18.21	17.92	18.50
Married / Living with partner	3,956	19.06	18.88	19.24

Sociodemographic Characteristic	Count	Mean Score	95% Confidence Interval	
			Lower	Upper
Education level				
Never attended school / Did not complete primary education	1,281	17.76	17.20	18.31
Primary education	1,667	18.39	18.16	18.61
Secondary education	2,532	19.00	18.82	19.18
Tertiary education	946	19.42	19.18	19.66
Occupation				
Still working / retiree with pension	2,424	19.08	18.83	19.34
Not working (retiree without pension/ homemaker/ unpaid worker)	4,003	18.51	18.30	18.73
Household income category				
Bottom 40%	4,829	8.83	8.69	8.97
Middle 40%	1,138	9.10	8.88	9.32
Top 20%	462	9.22	8.68	9.76
Household income quintile				
Quintile 1 (<RM1,000)	1,099	17.83	17.50	18.15
Quintile 2 (RM1,000-1,999)	1,203	18.27	17.82	18.72
Quintile 3 (RM2,000-3,199)	1,406	18.65	18.43	18.88
Quintile 4 (RM3,200-5,999)	1,336	19.09	18.91	19.27
Quintile 5 (RM6,000 and above)	1,385	19.30	18.95	19.65

OLDER PERSONS HEALTH

3.0 Quality of Life

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HIGHLIGHT

- The mean quality of life for older persons in Malaysia aged 60 years and above was 46.33 in NHMS 2025, compared to 46.76 in NHMS 2018.

INTRODUCTION

Quality of Life (QoL) is a multidimensional construct encompassing an individual's perception of their physical, psychological, social, and environmental well-being within their specific cultural and value systems [1]. Malaysia is currently undergoing a rapid demographic transition, with the population aged 60 years and above projected to exceed 15% by 2040 [2]. This shift highlights the critical need to enhance QoL among older Malaysians to promote healthy ageing and mitigate the societal burden of age-related morbidity and dependency.

The Control, Autonomy, Self-realisation and Pleasure (CASP-19) scale is a validated instrument for assessing QoL in older persons, with higher scores indicating better perceived QoL [3]. Findings from the National Health and Morbidity Survey (NHMS) 2018 reported a mean CASP-19 score of 46.76 among older Malaysians [4]. In comparison, the English Longitudinal Study of Ageing (ELSA) [5] and the British Household Panel Survey (BHPS) [6] reported mean scores of 42.5 and 40.2, respectively, while a hospital-based study in Taiwan reported a lower mean score of 38.2 [7].

While the NHMS 2018 established a vital national benchmark for Quality of Life (QoL), contemporary evidence regarding the factors influencing QoL among older Malaysians remains sparse. Identifying QOL of older adults across socio-demographic characteristics can provide insight into their overall well-being as it reflects not only physical health, but also captures psychological and social aspects. Consequently, the NHMS 2025 data will provide valuable insights into how these factors have evolved over the intervening period.

OBJECTIVES

To determine the mean quality of life score among older persons aged 60 years and above in Malaysia.

METHODS

Data were collected through face-to-face interviews using a validated Malay version of the CASP-19 questionnaire [8]. This instrument assesses four domains; Control, Autonomy, Pleasure, and Self-realization, using a 4-point Likert scale ("Never," "Not often," "Sometimes," and "Often") [2]. The 19 items consist of both positive and negative statements. For negative statements, scores range from 0 for "Often" to 3 for "Never." Conversely, positive statements are scored from 3 for "Often" to 0 for "Never," ensuring that higher values consistently reflect greater satisfaction. The maximum possible score is 57, derived from the sum of the four domains: Control (0–12), Autonomy (0–15), Pleasure (0–15), and Self-realization (0–15). A higher score signifies a greater level of perceived quality of life.

DEFINITIONS

1. **Quality of life** was defined as an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standard and concerns [1]. A higher mean score is indicative of a better quality of life.

FINDINGS

A total of 6,430 participants completed the CASP-19 assessment, with a mean Quality of Life (QoL) score of 46.33 among Malaysians aged 60 years and above. The mean QoL score declined progressively with age, from 47.06 among those aged 60–69 years to 44.08 among those aged 80 years and above. Participants who were married or living with a partner reported a higher mean QoL score (46.86) compared with those who had never married, were separated or divorced, or were widowed. Similarly, those who were still working or retired with a pension had a higher mean QoL score (47.67) than those who were not working, including retirees without a pension, homemakers, or unpaid workers **(Table 3.1)**.

CONCLUSION

In conclusion, the mean quality of life score of 46.33 among older persons in Malaysia, highlights that while marriage and financial security improve well-being, specific support is needed as quality of life significantly declines with increasing age.

RECOMMENDATIONS

- To improve the quality of life for the older persons, awareness programs should focus on preserving their independence by supporting their right to make personal choices and manage their own finances. In addition, community initiatives need to prioritize active social participation and lifelong learning to ensure older persons remain purposeful, connected, and emotionally fulfilled.
- For older persons who require support, support needs to be prioritised through integrated home-care and community outreach to promote Ageing in Place.
- Promote post-retirement engagement and employment as it reported higher QoL among the older persons.

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Table 3.1: The mean quality of life score among older person 60 years and above in Malaysia by sociodemographic characteristics (n = 6,430)

Sociodemographic Characteristic	Count	Mean	95% Confidence Interval	
			Lower	Upper
MALAYSIA	**6,430**	**46.33**	**45.91**	**46.74**
Location				
Urban	3,632	46.34	45.94	46.93
Rural	2,798	46.00	45.26	46.73
Sex				
Male	2,821	46.50	46.00	47.01
Female	3,609	46.16	45.67	46.65
Age group				
60 - 69	3,792	47.06	46.59	47.54
70 - 79	2,149	45.21	44.50	45.92
80 and above	489	44.08	43.09	45.06
Ethnicity				
Malay	2,614	46.81	46.28	47.34
Chinese	2,414	46.58	45.98	47.19
Indian	397	45.79	44.56	47.02
Bumiputera Sabah	521	41.17	39.62	42.72
Bumiputera Sarawak	372	46.48	44.51	48.45
Other Bumiputera / Others	112	44.07	40.25	47.89
Marital status				
Never married/ Separated / Divorced / Widowed	2,475	45.38	44.78	45.97
Married / Living with partner	3,955	46.86	46.41	47.32
Education level				
Never attended school / Did not complete primary education	1,280	43.74	42.58	44.90
Primary education	1,667	45.19	44.62	45.76
Secondary education	2,532	47.02	46.55	47.49
Tertiary education	946	48.08	47.36	48.80
Occupation				
Still working / retiree with pension	2,424	47.67	47.00	48.34
Not working (retiree without pension/ homemaker/ unpaid worker)	4,002	45.35	44.86	45.84

Sociodemographic Characteristic	Count	Mean	95% Confidence Interval	
			Lower	Upper
Household income category				
Bottom 40%	4,828	45.57	45.14	46.00
Middle 40%	1,138	48.27	47.64	48.90
Top 20%	462	47.85	46.11	49.58
Household income quintile				
Quintile 1 (<RM1,000)	1,100	44.37	43.72	45.03
Quintile 2 (RM1,000-1,999)	1,202	44.90	43.77	46.03
Quintile 3 (RM2,000-3,199)	1,405	46.08	45.47	46.70
Quintile 4 (RM3,200-5,999)	1,336	47.29	46.76	47.83
Quintile 5 (RM6,000 and above)	1,385	47.53	46.78	48.28

OLDER PERSONS HEALTH

4.0 Cognitive Impairment

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HIGHLIGHT

- The prevalence of probable cognitive impairment among older persons was 49.7%.

INTRODUCTION

Cognitive impairment among older persons is an increasing public health concern globally due to its adverse impact on quality of life and healthcare resources utilisations. Cognitive impairment refers to a measurable and observable deterioration or abnormality in cognitive abilities, including memory, attention, and higher-order functions such as language and reasoning [1]. It encompasses a spectrum of conditions ranging from mild cognitive impairment to severe forms such as dementia [2]. Cognitive impairment is associated with an increased risk of dementia and mortality and has profound social consequences, including loss of autonomy and greater dependence on caregivers and healthcare services [3]. Cognitive impairment screening is now considered an "intervention window" aimed to delay the progression to dementia [4]. Therefore, determining the prevalence of cognitive impairment is crucial for informing effective strategies to prevent or delay the onset of dementia.

Global evidence shows that cognitive impairment is common in older persons, with recent meta-analyses estimating prevalence at about 15% to 20% worldwide, and even higher (around 24%) in geriatric populations, reflecting variation in age structure, assessment tools, and study methodology [3-6]. In the ASEAN region and China, the prevalence of cognitive impairment among older persons is notably high, though reported figures vary significantly due to diverse assessment methodologies and population demographics [7-10]. While substantial data exists across several ASEAN nations, research in Malaysia remains limited and largely confined to residential care settings [11]. Despite the increasing global evidence on cognitive impairment among older persons, population-based studies estimating its prevalence in Malaysia remain scarce.

Recognising the importance of early detection and intervention, the Visual Cognitive Assessment Test (VCAT) has emerged as a brief, language-neutral screening tool that is particularly suitable for Malaysia's multiethnic ageing population [12]. Research in Southeast Asia indicates that the VCAT offers diagnostic accuracy comparable to the Mini-Mental State Examination (MMSE) and Montreal Cognitive Assessment (MoCA) while reducing bias related to language and education [13,14]. Furthermore, the short-for version of VCAT (VCAT-S) has been shown to maintain comparable diagnostic performance, making it highly practical for large-scale population surveys [15]. Implementing such systematic screening is crucial for facilitating timely intervention and preventive strategies to preserve functional independence among older persons.

OBJECTIVES

General Objective

To determine the prevalence of cognitive impairment among older persons aged 60 years and above in Malaysia.

Specific Objectives

To determine the prevalence of cognitive impairment among older persons aged 60 years and above by sociodemographic characteristics in Malaysia.

METHODS

The assessment of cognitive impairments was conducted among all respondents aged 60 years and above through face-to-face interviews by trained research assistants. Data was collected using two languages, either Malay or English versions, of VCAT-S. The VCAT-S questionnaire consists of five (5) questions to provide information on whether the respondents have cognitive impairment, incorporating the five highest item-domain correlations from the original VCAT: Cube (visual spatial), Cancellation (attention and working memory), Semantic Fluency,

Gears (executive function) and Object Memory (delayed memory: Object) [15]. Subsequent unpublished Malaysian studies suggested that a cut-off score of 13 or below (out of 17) was more suitable for individuals with lower literacy levels. A sensitivity analysis using literacy-specific cut-offs for urban and rural older persons showed that the overall prevalence remained consistent with the cut-off of ≤13, in line with expert consensus, including input from Prof. Tan Maw Pin.

DEFINITIONS

1. **Cognitive impairment** was defined as a decline in cognitive function that affects memory, thinking, orientation, comprehension, calculation, learning capacity, language, and judgment and may interfere with daily activities depending on its severity [2].

FINDINGS

A total of 7,252 respondents participated in the cognitive impairment screening module. Overall, 49.7% of older persons aged 60 years and above in Malaysia have probable cognitive impairment. The prevalence of cognitive impairment among those living in rural areas was 53.9%, compared to 48.3% in urban areas. The prevalence of cognitive impairment increased with age, with the highest prevalence among those aged 80 years and above (79.9%), followed by those aged 70–79 years and those aged 60–69 years (42.5%). The highest prevalence by ethnicity was in Bumiputera Sarawak (71.9%), followed by Indians (55.0%), Malays (50.3%), Bumiputera Sabah (49.0%), Chinese (45.4%) and Other Bumiputera/Others (45.3%). Older persons who had never attended school or had not completed primary education had a higher prevalence of cognitive impairment (53.6%) than those who had received primary, secondary, or tertiary education. Similarly, the prevalence was higher among older persons from B40 households (52.8%) compared with those from M40 and T20 households **(Table 4.1)**.

CONCLUSION

The overall prevalence of cognitive impairment shows that nearly half of the older persons in Malaysia (49.7%) screened positive for probable cognitive impairment, representing an estimated 1.98 million individuals aged 60 years and above. These findings demonstrate that cognitive impairment among Malaysian older persons is necessitating proactive, targeted, and equitable intervention approaches.

RECOMMENDATIONS

- Invest in community awareness initiatives that encourage independence, volunteerism, flexible employment beyond retirement age, and the reduction of ageism.
- Strengthen cognitive impairment screening by prioritizing early detection as part of national efforts under Malaysia's Dementia Action Plan 2023–2030. This includes systematic screening of targeted high-risk groups, such as individuals with non-communicable diseases (NCDs), as well as functional capacity assessments for older persons, including evaluation of hearing and visual function.
- Integrate multimodal interventions for patients with cognitive impairment, including physical exercise, cognitive training, nutritional counselling, social engagement, and vascular risk factor management, to address the multiple contributors to cognitive decline.

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Table 4.1: The prevalence of probable cognitive impairment among older persons 60 years and above in Malaysia by sociodemographic characteristics (n = 7,252)

Sociodemographic Characteristic	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper
MALAYSIA	**3,633**	**1,981,700**	**49.7**	**46.29**	**53.17**
Location					
Urban	1,861	1,423,600	48.3	43.98	52.58
Rural	1,772	558,100	53.9	48.70	58.97
Sex					
Male	1,528	966,400	50.7	46.69	54.67
Female	2,105	1,015,300	48.9	45.29	52.43
Age group					
60 - 69	1,659	1,029,800	42.5	38.78	46.31
70 - 79	1,395	683,200	55.7	51.06	60.32
80 and above	579	268,800	79.9	73.84	84.83
Ethnicity					
Malay	1,378	996,600	50.3	44.98	55.62
Chinese	1,288	568,800	45.4	41.03	49.87
Indian	231	151,500	55.0	48.08	61.78
Bumiputera Sabah	272	72,400	49.0	38.33	59.80
Bumiputera Sarawak	384	118,200	71.9	60.50	81.01
Other Bumiputera / Others	80	74,300	45.3	27.51	64.30
Marital status					
Never married/ Separated / Divorced / Widowed	1,616	801,100	53.6	49.20	58.02
Married / Living with partner	2,016	1,180,300	47.4	43.71	51.07
Education level					
Never attended school / Did not complete primary education	1,220	515,700	68.6	63.11	73.60
Primary education	957	446,900	52.0	47.17	56.70
Secondary education	1,117	720,300	44.6	40.38	48.83
Tertiary education	336	298,000	39.7	34.84	44.75
Occupation					
Still working / retiree with pension	1,066	722,000	45.1	41.00	49.22
Not working (retiree without pension/ homemaker/ unpaid worker)	2,563	1,257,300	52.8	49.13	56.51

Sociodemographic Characteristic	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper
Household income category					
Bottom 40%	2,882	1,501,500	52.8	49.07	56.57
Middle 40%	543	337,300	43.6	39.50	47.88
Top 20%	207	142,700	38.6	31.90	45.71
Household income quintile					
Quintile 1 (<RM1,000)	806	346,600	59.4	54.15	64.47
Quintile 2 (RM1,000-1,999)	748	359,800	54.5	49.09	59.84
Quintile 3 (RM2,000-3,199)	739	382,200	48.0	43.75	52.36
Quintile 4 (RM3,200-5,999)	691	420,400	49.5	44.96	53.95
Quintile 5 (RM6,000 and above)	648	472,600	43.1	38.59	47.78

OLDER PERSONS HEALTH

5.0 Dementia

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HIGHLIGHT

- The prevalence of probable dementia among older persons was 9.8%, representing an increase from 8.5% in 2018.

INTRODUCTION

Dementia is a complex syndrome, typically chronic and progressive in nature, characterised by the deterioration of cognitive function, including memory, thinking, orientation, comprehension, calculation, learning capacity, language, and judgment to an extent that interferes with activities of daily living [1]. As a major cause of disability and dependency among older persons worldwide, the condition's impact extends far beyond the affected individual, severely affecting the physical and psychological well-being of caregivers, families, and society as a whole [2].

Globally, the prevalence of dementia has reached critical levels, with an estimated 55 million people living with the condition worldwide, a figure projected to nearly triple by 2050 [2]. This surge has placed an immense economic burden on healthcare systems, with the global cost of dementia care estimated to exceed US$1.3 trillion in 2023 and expected to rise further in the coming decades [3]. Recognising the growing public health challenge posed by dementia, the World Health Organization (WHO) identified dementia as a public health priority through the Global Action Plan on the Public Health Response to Dementia 2017–2025 [4]. In Malaysia, the overall prevalence of probable dementia among older persons in 2018 was 8.5%. A national-level dementia task force was established in 2024 to monitor the effectiveness of the Dementia Action Plan activities being implemented in the community. In addition, Malaysia's Dementia Action Plan 2023–2030 outlines a strategic framework for addressing dementia as a critical public health concern and focuses on public awareness, integrated healthcare, research, and support systems for caregivers and individuals living with dementia.

OBJECTIVES

General Objective

To determine the prevalence of probable dementia among older persons aged 60 years and above in Malaysia.

Specific Objectives

To determine the prevalence of probable dementia among older persons aged 60 years and above by sociodemographic characteristics in Malaysia.

METHODS

The Identification and Intervention for Dementia in Elderly Africans (IDEA) Cognitive Screen, validated in Malaysia, was used to screen for dementia [5]. The previous NHMS 2018 was conducted using IDEA as the tool to determine probable dementia, with a score of 10 or lower indicated as a cut-off for probable dementia [6]. In this study, the criteria for dementia selection were applied such that only respondents who did not pass the initial cognitive impairment screening were eligible to complete the IDEA dementia screening.

DEFINITIONS

1. **Dementia** is a term for several diseases that affect memory, thinking, and the ability to perform daily activities [7].

FINDINGS

The overall prevalence of probable dementia among older persons in Malaysia was 9.8%. Probable dementia prevalence was higher among older persons in rural areas (14.0%) compared to those in urban areas (8.4%). The prevalence of probable dementia among females and males was 11.0% and 8.6%, respectively. A strong age-related gradient was observed, with prevalence increasing from 5.0% among individuals aged 60–69 years to 12.6% among those aged 70–79 years and reaching 34.9% among those aged 80 years and above. Married or partnered individuals had a lower prevalence (7.5%) compared to those separated, divorced, or widowed (13.7%). Dementia prevalence decreased with increasing educational

level, from 24.9% among those with no formal or incomplete primary education to 2.9% among those with tertiary education. The prevalence of dementia was higher among older persons who were not working (12.9%) compared with those who were still working (5.4%) **(Table 5.1)**.

CONCLUSION

The findings suggest that the burden of probable dementia in Malaysia, with an overall prevalence of 9.8% among older persons, varies across socio-demographic groups and is concentrated among vulnerable populations. Probable dementia is a major public health concern requiring the urgent, targeted implementation of the Dementia Action Plan 2023–2030 to address the underlying cause through early screening and enhanced support in the most affected populations.

RECOMMENDATIONS

- Enhance the integrated care pathways across all levels of healthcare, including community, primary care, and hospital-based services, to foster a more coordinated and patient-centred experience across the continuum of care.
- Establish accessible local caregiver support systems and provide structured “burnout breaks” to enable caregivers to rest, recharge, and sustain their caregiving responsibilities.
- Strengthen early detection programmes, community-based dementia care services, caregiver support systems, and public awareness initiatives to address the rising burden of dementia and improve the quality of life of older persons.

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Table 5.1: The prevalence of probable dementia among older persons 60 years and above in Malaysia by sociodemographic characteristics (n = 7,237)

Sociodemographic Characteristic	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper
MALAYSIA	**867**	**390,800**	**9.8**	**8.82**	**10.98**
Location					
Urban	369	245,400	8.4	7.17	9.74
Rural	498	145,400	14.0	12.25	16.01
Sex					
Male	335	162,900	8.6	7.28	10.05
Female	532	227,900	11.0	9.63	12.58
Age group					
60 - 69	224	121,400	5.0	4.17	6.02
70 - 79	357	153,400	12.6	10.65	14.85
80 and above	286	116,000	34.9	29.53	40.71
Ethnicity					
Malay	283	181,600	9.2	7.69	11.01
Chinese	303	110,700	8.9	7.29	10.75
Indian	48	27,800	10.1	6.80	14.82
Bumiputera Sabah	43	10,800	7.3	3.83	13.53
Bumiputera Sarawak	153	44,000	26.7	21.77	32.36
Other Bumiputera / Others	37	-	-	-	-
Marital status					
Never married/ Separated / Divorced / Widowed	477	203,900	13.7	11.85	15.81
Married / Living with partner	390	186,800	7.5	6.52	8.67
Education level					
Never attended school / Did not complete primary education	490	185,700	24.9	21.70	28.30
Primary education	219	98,600	11.5	9.73	13.55
Secondary education	130	84,000	5.2	4.02	6.76
Tertiary education	25	21,500	2.9	1.81	4.55
Occupation					
Still working / retiree with pension	139	85,900	5.4	4.07	7.07
Not working (retiree without pension/ homemaker/ unpaid worker)	727	304,600	12.9	11.51	14.33

Sociodemographic Characteristic	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper
Household income category					
Bottom 40%	709	306,900	10.8	9.62	12.21
Middle 40%	119	59,100	7.7	6.02	9.70
Top 20%	39	24,800	6.7	3.91	11.34
Household income quintile					
Quintile 1 (<RM1,000)	253	93,400	16.0	13.90	18.44
Quintile 2 (RM1,000-1,999)	181	78,900	12.0	9.72	14.70
Quintile 3 (RM2,000-3,199)	157	69,500	8.8	7.19	10.64
Quintile 4 (RM3,200-5,999)	146	73,600	8.7	6.82	11.08
Quintile 5 (RM6,000 and above)	130	75,300	6.9	5.21	9.08

OLDER PERSONS HEALTH

6.0 Geriatric Depression

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HIGHLIGHT

- In 2025, the estimated prevalence of clinically significant depression among older persons was 8.0%, compared with 11.2% in 2018.
- The estimated prevalence of probable major depression among older persons was 2.2% in 2025, compared with 5.3% in 2018.

INTRODUCTION

Depression in older-aged populations is a significant and growing public health challenge. WHO reports that about 14% of adults aged 70 years and above are living with a mental disorder [2], while findings from a global meta-analysis indicate that roughly 28% of older persons worldwide experience depression [3].

Emerging evidence shows that late-life depression carries substantial clinical and social consequences, including significant functional impairment, chronic morbidity, and reduced quality of life. Systematic reviews and clinical studies indicate that depressive symptoms in late life are common, yet remain often underdiagnosed and undertreated [4,5]. Furthermore, social isolation and loneliness, which affect about a quarter of older people, are key risk factors for mental health conditions in later life [2].

Therefore, it is important to strengthen population-based surveillance to monitor trends and guide policy responses tailored to ageing populations. Recognising the need for updated national data, the NHMS 2025 chapter on "Geriatric Depression" provides the prevalence of clinically significant depression and probable major depression among the ageing population. The following findings aim to inform public health policy, clinical practice, resource allocations and future research in the field of geriatric mental health.

OBJECTIVES

General Objective

To determine the overall prevalence of clinically significant depression and probable major depression among older persons aged 60 years and above in Malaysia.

Specific Objectives

1. To determine the prevalence of clinically significant depression among older persons aged 60 years and above by sociodemographic characteristics.
2. To determine the prevalence of probable major depression among older persons aged 60 years and above by sociodemographic characteristics.

METHODS

Data were collected through face-to-face interviews using the validated Malay version of the 14-item Geriatric Depression Scale (GDS-14). The GDS-14 is a brief self-report instrument designed to screen for depressive symptoms among older persons. It was translated and validated in Malaysia in 2004 based on the original English GDS-15 and has demonstrated good reliability and validity [6].

One point was assigned for each response indicating the presence of depression, and the total score was used to determine the presence of depression and its severity level. This tool was also employed in the NHMS 2018: Elderly Health Survey, ensuring methodological consistency and comparability of findings across survey cycles.

Only respondents who screened negative for dementia in the cognitive assessment module were included in the depression analysis.

DEFINITIONS

1. **Clinically significant depression** was defined as presence of depressive symptoms based on screening using the Malay version of GDS-14 with a total score of 6 or more [6].
2. **Probable major depression** was defined as presence of depressive symptoms based on screening using the Malay version of GDS-14 with a total score of 8 or more [6].

FINDINGS

The prevalence of clinically significant depression among the older persons was 8.0%. The prevalence of clinically significant depression was 11.1% among older persons in rural areas compared with 7.0% among those in urban areas. The prevalence of clinically significant depression among females and males was 8.5% and 7.6%, respectively **(Table 6.1)**.

The overall prevalence of probable major depression was 2.2%. The prevalence of probable major depression was 3.5% among older persons in rural areas, compared with 1.8% among those in urban areas. Male and female older persons have a similar prevalence of probable major depression, at 2.2% **(Table 6.2)**.

CONCLUSION

NHMS 2025 found a lower prevalence of depression among older persons compared with the previous survey cycle. Nevertheless, sustained and responsive efforts are needed to maintain this progress, address current and emerging challenges, and to further reduce the burden of depression among older persons.

RECOMMENDATIONS

- Strengthen community-based initiatives that promote social connectedness, intergenerational engagement, and supportive family participation, thereby fostering protective environments that reduce the risk of depression among older persons.
- Enhance integration between primary care and hospital-based geriatric mental health services through multidisciplinary management, coordinated referral pathways, medication review, and structured follow-up to optimize treatment outcomes for older persons with depression.
- Develop technology-based approaches, such as digital counselling and teleconsultation, to cater for current and future older populations who are increasingly digitally literate. This will improve accessibility, continuity of care, and long-term management for older persons with depression.

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Table 6.1: The prevalence of clinically significant depression among older persons 60 years and above in Malaysia by sociodemographic characteristics (n = 6,432)

Sociodemographic Characteristic	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper
MALAYSIA	**520**	**290,900**	**8.0**	**6.52**	**9.88**
Location					
Urban	192	190,800	7.0	5.19	9.47
Rural	328	100,100	11.1	8.93	13.63
Sex					
Male	204	133,000	7.6	5.68	10.01
Female	316	157,900	8.5	6.60	10.86
Age group					
60 - 69	280	172,300	7.4	5.54	9.93
70 - 79	182	96,700	9.0	6.05	13.14
80 and above	58	21,900	9.7	6.01	15.21
Ethnicity					
Malay	202	133,000	7.3	5.93	8.98
Chinese	113	55,700	4.9	3.80	6.28
Indian	33	20,800	8.4	5.04	13.54
Bumiputera Sabah	89	21,000	15.0	10.93	20.18
Bumiputera Sarawak	66	-	-	-	-
Other Bumiputera / Others	17	-	-	-	-
Marital status					
Never married/ Separated / Divorced / Widowed	232	126,800	9.7	7.15	13.06
Married / Living with partner	288	164,100	7.1	5.53	9.06
Education level					
Never attended school / Did not complete primary education	164	93,900	16.2	9.90	25.50
Primary education	160	68,000	8.9	7.41	10.57
Secondary education	160	101,600	6.6	5.28	8.27
Tertiary education	36	27,300	3.7	2.41	5.73
Occupation					
Still working / retiree with pension	149	101,100	6.7	4.18	10.45
Not working (retiree without pension/ homemaker/ unpaid worker)	371	189,800	9.1	7.23	11.29

Sociodemographic Characteristic	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper
Household income category					
Bottom 40%	428	219,000	8.6	6.82	10.74
Middle 40%	72	43,800	6.1	4.41	8.39
Top 20%	20	-	-	-	-
Household income quintile					
Quintile 1 (<RM1,000)	152	61,600	12.5	9.71	15.85
Quintile 2 (RM1,000-1,999)	118	72,100	12.2	6.78	21.10
Quintile 3 (RM2,000-3,199)	95	44,500	6.1	4.61	7.98
Quintile 4 (RM3,200-5,999)	82	43,200	5.5	4.06	7.49
Quintile 5 (RM6,000 and above)	73	69,500	6.8	4.05	11.23

Table 6.2: The prevalence of probable major depression among older persons 60 years and above in Malaysia by sociodemographic characteristics (n = 6,432)

Sociodemographic Characteristic	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper
MALAYSIA	**156**	**80,300**	**2.2**	**1.70**	**2.90**
Location					
Urban	57	48,300	1.8	1.29	2.46
Rural	99	32,000	3.5	2.23	5.56
Sex					
Male	62	39,100	2.2	1.51	3.28
Female	94	41,100	2.2	1.62	3.01
Age group					
60 - 69	94	50,900	2.2	1.64	2.94
70 - 79	44	19,700	1.8	1.19	2.79
80 and above	18	-	-	-	-
Ethnicity					
Malay	65	43,300	2.4	1.63	3.46
Chinese	31	17,500	1.5	1.03	2.29
Indian	12	7,600	3.1	1.57	5.85
Bumiputera Sabah	14	-	-	-	-
Bumiputera Sarawak	30	-	-	-	-
Other Bumiputera / Others	4	-	-	-	-

Sociodemographic Characteristic	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper
Marital status					
Never married/ Separated / Divorced / Widowed	64	28,900	2.2	1.48	3.29
Married / Living with partner	92	51,400	2.2	1.61	3.06
Education level					
Never attended school / Did not complete primary education	53	20,900	3.6	2.12	6.12
Primary education	41	20,400	2.7	1.84	3.83
Secondary education	55	34,600	2.3	1.55	3.27
Tertiary education	7	-	-	-	-
Occupation					
Still working / retiree with pension	35	22,100	1.5	0.84	2.49
Not working (retiree without pension/ homemaker/ unpaid worker)	121	58,200	2.8	2.14	3.60
Household income category					
Bottom 40%	126	62,800	2.5	1.80	3.36
Middle 40%	24	13,100	1.8	1.10	3.01
Top 20%	6	-	-	-	-
Household income quintile					
Quintile 1 (<RM1,000)	36	15,400	3.1	1.96	4.92
Quintile 2 (RM1,000-1,999)	41	22,500	3.8	2.22	6.47
Quintile 3 (RM2,000-3,199)	27	11,300	1.5	1.00	2.40
Quintile 4 (RM3,200-5,999)	25	11,400	1.5	0.80	2.67
Quintile 5 (RM6,000 and above)	27	19,700	1.9	1.25	2.95

OLDER PERSONS HEALTH

7.0 Limitations in Instrumental Activities of Daily Living (IADL) and Activities of Daily Living (ADL)

INTRODUCTION

Functional status is a fundamental indicator of health, independence, and well-being among older persons. It is commonly assessed using Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL). ADL refers to basic self-care activities such as bathing, feeding, toileting, and mobility, whereas IADL involves more complex tasks required for independent living in the community, including managing finances, shopping, using transportation, meal preparation, and medication management [1]. These activities require higher levels of cognitive and physical functioning, and impairments in IADL often precede declines in ADL, making IADL an early indicator of functional vulnerability [2].

Age-related physiological changes and the increasing burden of chronic diseases heighten the risk of functional limitations. These limitations are associated with greater care dependency, increased healthcare utilisation, reduced quality of life, and higher mortality [3-5]. Evidence indicates that reduced IADL performance is linked to accelerated cognitive decline and a higher likelihood of subsequent ADL impairment, underscoring the importance of early detection from a public health perspective.

Data from the National Health and Morbidity Survey (NHMS) 2018 reported that 32.7% of older persons experienced IADL limitations, while 17.0% had limitations in ADL [6]. Globally, the prevalence of ADL disability among older persons is estimated at 15.1% [7], with a higher pooled prevalence of 21.5% reported in the ASEAN region [8]. Sociodemographic factors such as age, sex, education level, income, marital status, and place of residence have been consistently associated with functional status [9–12].

Understanding the burden of ADL and IADL limitations is essential for informing public health policies, guiding resource allocation, and designing targeted interventions to promote healthy ageing and functional independence among older populations.

7.1 Limitations in Instrumental Activities of Daily Living (IADL)

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HIGHLIGHT

- The prevalence of limitations in Instrumental Activities of Daily Living (IADL) among older persons aged 60 years and above in Malaysia was 27.3% in 2025, representing a decrease from 32.7% in 2018.

OBJECTIVES

General Objective

To determine the prevalence of limitations in IADL among older persons aged 60 years and above in Malaysia.

Specific Objectives

To determine the prevalence of limitations in IADL among older persons aged 60 years and above in Malaysia by sociodemographic characteristics.

METHODS

Face-to-face interviews were conducted using the Lawton and Brody Instrumental Activities of Daily Living Scale to assess older persons' ability to live independently in their communities. This validated scale encompasses eight key domains reflecting higher-level functional abilities: telephone use, shopping, food preparation, housekeeping, laundry, transportation, medication management, and handling finances [13]. The IADL scale evaluates more complex behaviours that may not be performed daily but require higher-order cognitive, organisational, and social skills. These domains collectively offer a comprehensive picture of an individual's capacity to manage community living and maintain autonomy.

DEFINITIONS

1. Total IADL scores range from 0 to 8. Scores of 7 and lower were classified as dependent, while a score of 8 was classified as independent [13].

FINDINGS

A total of 7,205 older persons aged 60 years and above responded to this module. Overall, an estimated 27.3% of the older persons had limitations in IADL. The prevalence of IADL limitations was higher among those living in rural areas (36.5%), females (35.5%), individuals aged 80 years and above (59.9%), those who were never married, separated, divorced, or widowed (37.0%), individuals who had never attended school or did not complete primary education (51.5%), and those not working (including retirees without a pension, homemakers, and unpaid workers) (35.3%) **(Table 7.1.1)**.

7.2 Limitations in Activities of Daily Living (ADL)

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HIGHLIGHT

- The prevalence of limitations in Activities of Daily Living (ADL) among older persons aged 60 years and above in Malaysia was 10.0% in 2025, representing a decrease from 17.0% in 2018.

OBJECTIVES

General Objective

To determine the prevalence of limitations in ADL among older persons aged 60 years and above in Malaysia.

Specific Objectives

To determine the prevalence of limitations in ADL among older persons aged 60 years and above in Malaysia by sociodemographic characteristics.

METHODS

Face-to-face interviews were conducted using the Barthel Index of Activities of Daily Living [14]. The Barthel Index has 10 items and measures independence in basic activities, including feeding, bathing, grooming, dressing, bowel and bladder control, toileting, chair transfers, and stair climbing.

DEFINITIONS

1. Total ADL scores range from 0 to 20, with a score of less than 20 classified as a limitation in ADL.

FINDINGS

Our findings showed that 10.0% of older persons had functional limitations in ADL. By age group, the prevalence increased with advancing age, reaching 33.2% among those aged 80 years and above, compared with 4.8% among those aged 60-69 years. The prevalence was also higher among older persons who were not working (12.7%) compared with those who were still working (6.1%). A higher prevalence was also observed among those who had never attended

school or did not complete primary education (20.4%) and those who were separated, divorced, or widowed (13.8%) **(Table 7.2.1)**.

CONCLUSION

The prevalence of functional limitations among older persons in Malaysia has decreased since NHMS 2018, with IADL limitations declining from 32.7% to 27.3% and ADL limitations declining from 17.0% to 10.0%. These findings highlight persistent socioeconomic and demographic disparities in functional health among older Malaysians and emphasise the importance of targeted strategies to maintain independence and support healthy ageing.

RECOMMENDATIONS

- Promote age-friendly environments (housing, transport, public spaces) and reduce age-biased service barriers to support independence.
- Support research on technology-enabled IADL solutions and cultural factors influencing independence to improve adoption, digital literacy and scale-up.
- Refine financial assistance schemes to better reach vulnerable older persons (e.g., strengthening targeted eligibility and linkage to functional support services).
- Strengthen Integrated Care for Older People (ICOPE) implementation through individualised care plans, improved referral pathways, and multidisciplinary rehabilitation support, including occupational therapy-led functional training.

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Table 7.1.1: The prevalence of limitations in Instrumental Activities of Daily Living (IADL) among older persons 60 years and above in Malaysia by sociodemographic characteristics (n = 7,205)

Sociodemographic Characteristic	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper
MALAYSIA	**2,208**	**1,085,100**	**27.3**	**24.93**	**29.84**
Location					
Urban	947	704,000	24.0	21.29	27.00
Rural	1,261	381,100	36.5	32.18	41.13
Sex					
Male	649	353,800	18.5	16.28	20.94
Female	1,559	731,300	35.5	32.31	38.81
Age group					
60 - 69	806	449,800	18.7	16.40	21.15
70 - 79	907	425,500	35.1	30.83	39.65
80 and above	495	209,800	59.9	53.24	66.24
Ethnicity					
Malay	979	597,000	30.0	26.59	33.74
Chinese	587	228,900	18.6	16.38	21.15
Indian	132	83,100	30.6	24.58	37.36
Bumiputera Sabah	241	68,000	40.0	32.55	47.97
Bumiputera Sarawak	214	62,600	42.3	30.29	55.33
Other Bumiputera / Others	55	-	-	-	-
Marital status					
Never married/ Separated / Divorced / Widowed	1,157	554,500	37.0	33.59	40.61
Married / Living with partner	1,051	530,600	21.4	19.31	23.72
Education level					
Never attended school / Did not complete primary education	942	381,800	51.5	45.17	57.70
Primary education	625	284,000	33.3	29.53	37.26
Secondary education	512	323,400	20.0	17.65	22.47
Tertiary education	125	94,100	12.5	9.98	15.63
Occupation					
Still working / retiree with pension	396	246,700	15.4	13.26	17.90
Not working (retiree without pension/ homemaker/ unpaid worker)	1,810	838,100	35.3	32.12	38.70

Sociodemographic Characteristic	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper
Household income category					
Bottom 40%	1,777	826,500	29.4	26.71	32.17
Middle 40%	331	177,900	22.7	19.26	26.61
Top 20%	99	80,500	21.5	13.66	32.11
Household income quintile					
Quintile 1 (<RM1,000)	467	195,000	34.8	30.33	39.56
Quintile 2 (RM1,000-1,999)	442	187,700	28.6	24.36	33.32
Quintile 3 (RM2,000-3,199)	496	222,800	27.8	24.42	31.45
Quintile 4 (RM3,200-5,999)	430	218,900	25.6	22.15	29.36
Quintile 5 (RM6,000 and above)	372	260,600	23.7	19.71	28.20

Table 7.2.1: The prevalence of functional limitation in Activities of Daily Living (ADL) among older person 60 years and above in Malaysia by sociodemographic characteristics (n = 7,205)

Sociodemographic Characteristic	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper
MALAYSIA	**773**	**399,100**	**10.0**	**8.55**	**11.77**
Location					
Urban	340	266,100	9.1	7.25	11.32
Rural	433	132,900	12.7	10.77	15.02
Sex					
Male	290	164,300	8.6	7.24	10.17
Female	483	234,800	11.4	9.23	13.99
Age group					
60 - 69	198	115,000	4.8	3.68	6.16
70 - 79	310	167,600	13.8	10.79	17.57
80 and above	265	116,400	33.2	27.32	39.74
Ethnicity					
Malay	352	219,800	11.1	9.19	13.26
Chinese	235	79,900	6.5	5.48	7.71
Indian	35	20,500	7.5	4.31	12.86
Bumiputera Sabah	77	27,000	15.9	10.19	23.92
Bumiputera Sarawak	58	16,600	11.2	7.56	16.24
Other Bumiputera / Others	16	-	-	-	-

Sociodemographic Characteristic	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper
Marital status					
Never married/ Separated / Divorced / Widowed	410	206,700	13.8	10.99	17.20
Married / Living with partner	363	192,400	7.8	6.50	9.26
Education level					
Never attended school / Did not complete primary education	342	151,200	20.4	15.30	26.60
Primary education	208	94,800	11.1	9.24	13.32
Secondary education	164	108,100	6.7	5.18	8.54
Tertiary education	56	43,300	5.8	4.11	8.03
Occupation					
Still working / retiree with pension	134	98,000	6.1	4.75	7.88
Not working (retiree without pension/ homemaker/ unpaid worker)	638	300,800	12.7	10.62	15.09
Household income category					
Bottom 40%	606	287,800	10.2	8.79	11.86
Middle 40%	122	65,400	8.4	6.31	10.99
Top 20%	45	-	-	-	-
Household income quintile					
Quintile 1 (<RM1,000)	134	52,900	9.4	6.31	13.91
Quintile 2 (RM1,000-1,999)	157	67,800	10.3	8.21	12.94
Quintile 3 (RM2,000-3,199)	183	83,200	10.4	8.08	13.24
Quintile 4 (RM3,200-5,999)	150	85,500	10.0	7.85	12.66
Quintile 5 (RM6,000 and above)	149	109,600	10.0	6.74	14.50

OLDER PERSONS HEALTH

8.0 Falls and Injuries

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HIGHLIGHT

- A total of 14.3% of older persons reported at least one fall in the past 12 months, comparable to the prevalence reported in the NHMS 2018 (14.1%).

INTRODUCTION

Falls among older persons aged ≥ 60 years constitute an important and growing public health problem worldwide. Age-related physiological changes including loss of muscle strength, impaired balance and gait, reduced reaction times, and sensory decline together with extrinsic contributors such as environmental hazards, visual impairment (visual impairment is physiological factor rather than environmental factor), and polypharmacy, increase susceptibility to falls [1,2]. A recent systematic review and meta-analysis reported a global pooled prevalence of falls among older persons of approximately 26.5%, highlighting the substantial magnitude of the problem across diverse settings [3]. Falls are a leading cause of injury, disability, and mortality in older populations and frequently precipitate fractures, traumatic brain injury, prolonged hospitalisation, and loss of independence [2,3].

In Malaysia, falls similarly represent a substantial health concern among older persons, particularly in the context of rapid population ageing and increasing multimorbidity. Findings from the National Health and Morbidity Survey (NHMS) 2018 showed that 14.1% of Malaysians aged more than 60 years reported experiencing at least one fall in the preceding 12 months, equivalent to approximately one in seven older persons [4]. Local evidence has also identified impaired turning performance, reduced visual acuity, and other physical and functional factors as important contributors to fall risk among community-dwelling older Malaysians [5]. These findings underscore the need for continued population-level surveillance and multifactorial fall-prevention strategies in Malaysia, particularly as the proportion of older persons continues to increase and the burden of functional limitations and chronic diseases becomes more prominent.

OBJECTIVES

General Objective

To determine the prevalence of falls among older persons aged 60 years and above in Malaysia.

Specific Objectives

1. To determine the prevalence of falls among older persons aged 60 years and above by sociodemographic characteristics.
2. To determine frequency of falls, types of injury sustained due to fall, medical treatment received due to falls, and locations of the last falls among older persons aged 60 and above in Malaysia.

METHODS

The questionnaire used for this module was adapted from the NHMS 2018 and consisted of six questions related to falls and fall characteristics.

DEFINITIONS

1. **Fall** was defined as a situation where a person accidentally falls to a lower level usually the floor other than because of a strong blow.
   - **Minor injuries** refer to conditions such as bruises, swelling, cuts, or other superficial open wounds.
   - **Severe injuries** refer to more serious conditions, including sprains, fractures, back injuries, or intracranial bleeding.

FINDINGS

The overall prevalence of falls among older persons aged 60 years and above in the past 12 months was 14.3%. By locality, the prevalence was almost similar between urban areas 14.2% and rural areas 14.5%. The prevalence of falls was higher among female older persons compared with male older persons. Falls were reported most prevalent among the eldest age group (22.1% in those aged 80 years and above), followed by older persons aged 70-79 years (15.1%), and those aged 60-69 years (12.7%) **(Table 8.1)**.

In terms of fall frequency in the past 12 months, 63.5% of older persons experienced only one fall, while 36.5% reported two or more falls. Among those who fell, 45.1% sustained minor injuries, 12.7% had severe

injuries, and 42.2% were uninjured. Among those who sustained injuries, self-treatment was the most common response 50.8%, followed by outpatient treatment 36.8% and hospitalisation 12.4%. Regarding the location of the last fall, almost half occurred indoors 43.1%, followed by outdoors 36.7% and outside the house 15.2%. A smaller proportion 5.0% reported falling in the bathroom or toilet **(Table 8.2)**.

CONCLUSION

The prevalence of falls among older Malaysians remains stagnant since 2018 (14.1%) until 2025 (14.3%), with a notable escalation to 22.1% for those aged 80 and above. This finding highlights potential gaps in home safety and access to formal medical intervention, which may reflect underlying health-seeking behaviours as well as barriers to healthcare access among older adults.

RECOMMENDATIONS

- Strengthen awareness and health education among older persons and caregivers on fall risk factors, safe home practices and complications of self-treatment for “minor” injuries such as missed fractures and chronic injury.
- Integrate routine fall risk screening/ assessment and interventions into primary healthcare and community health services.
- Support the implementation of safe home modification initiatives to reduce indoor hazards such as handrail installation, lighting improvement, and provision of non-slip flooring.

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Table 8.1: The prevalence of falls in the past 12 months among older person aged 60 years and above in Malaysia by sociodemographic characteristics (n = 7,189)

Sociodemographic Characteristic	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper
MALAYSIA	989	566,200	14.3	13.19	15.44
Location					
Urban	538	415,800	14.2	12.83	15.71
Rural	451	150,400	14.5	13.13	15.91
Sex					
Male	365	225,300	11.8	10.36	13.39
Female	624	340,900	16.6	14.93	18.37
Age group					
60 - 69	489	306,000	12.7	11.56	13.96
70 - 79	348	183,300	15.1	13.21	17.29
80 and above	152	77,000	22.1	17.03	28.11
Ethnicity					
Malay	396	280,300	14.1	12.63	15.76
Chinese	338	158,000	12.9	11.18	14.84
Indian	77	54,400	20.1	14.80	26.60
Bumiputera Sabah	107	34,400	20.2	13.99	28.31
Bumiputera Sarawak	53	16,700	11.4	8.85	14.63
Other Bumiputera / Others	18	-	-	-	-
Marital status					
Never married/ Separated / Divorced / Widowed	412	218,400	14.6	12.95	16.45
Married / Living with partner	577	347,800	14.1	12.71	15.55
Education level					
Never attended school / Did not complete primary education	276	111,300	15.0	12.81	17.60
Primary education	247	127,000	14.9	12.55	17.64
Secondary education	338	225,700	13.9	12.19	15.89
Tertiary education	126	101,800	13.6	10.34	17.60
Occupation					
Still working / retiree with pension	315	211,100	13.2	10.99	15.82
Not working (retiree without pension/ homemaker/ unpaid worker)	674	355,100	15.0	13.72	16.40

Sociodemographic Characteristic	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper
Household income category					
Bottom 40%	764	416,900	14.8	13.62	16.14
Middle 40%	156	108,800	13.9	10.23	18.65
Top 20%	69	40,600	10.8	8.65	13.5
Household income quintile					
Quintile 1 (<RM1,000)	204	86,800	15.5	13.34	18.05
Quintile 2 (RM1,000-1,999)	173	95,100	14.5	12.08	17.41
Quintile 3 (RM2,000-3,199)	208	107,500	13.4	11.20	16.02
Quintile 4 (RM3,200-5,999)	205	120,800	14.1	11.58	17.13
Quintile 5 (RM6,000 and above)	199	156,000	14.2	11.96	16.79

Table 8.2: Characteristics of falls in the past 12 months among older person aged 60 years and above in Malaysia by characteristics (n = 989)

Characteristic	Count	Percentage (%)	95% Confidence Interval	
			Lower	Upper
Frequency of falls				
1	626	63.5	58.99	67.79
≥ 2	363	36.5	32.21	41.01
Types of injury				
Uninjured	403	42.2	36.90	47.62
Minor injury	459	45.1	39.73	50.55
Severe injury	125	12.7	9.85	16.34
Medical treatment (n=584)				
Outpatient	192	36.8	31.46	42.47
Hospitalised	73	12.4	9.27	16.37
Self-treated	318	50.8	45.27	56.34
Place of last fall				
Indoors (not include toilet/ bathroom)	407	43.1	38.28	47.98
Outside the house (within house compound)	157	15.2	12.49	18.31
Outdoors (not include toilet/ bathroom)	373	36.7	32.68	40.99
In the bathroom/toilet	52	5.0	3.38	7.41

OLDER PERSONS HEALTH

9.0 Visual Limitations

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HIGHLIGHT

- Self-reported visual limitations among older Malaysians remains stable, with a prevalence of 4.1% in NHMS 2025, comparable to 4.5% in NHMS 2018.

INTRODUCTION

Visual limitations reflect a reduced ability to see or use vision effectively due to disorders of the eyes or visual system, limiting daily activities and participation [1]. Among older persons, visual limitations include visual impairment or blindness that affects physical and mental health, independence, and overall quality of life. Globally, visual limitations remain a pressing public health concern. In 2020, an estimated 596 million people had distance vision impairment including 43 million who were blind and another 510 million had uncorrected near vision impairment due to the lack of reading spectacles [2]. In total, at least 2.2 billion people worldwide live with near or distance vision impairment, nearly half of which could have been prevented or remain unaddressed. The leading causes of distance vision impairment or blindness include cataract (94 million), refractive error (88.4 million), age-related macular degeneration (8 million), glaucoma (7.7 million), and diabetic retinopathy (3.9 million) [3], while presbyopia continues to dominate near vision impairment, affecting around 826 million people [4].

In Malaysia, the 2018 national survey reported visual limitations of 4.5% among adults aged 60 and above [5]. While the Global Burden of Disease (GBD) estimates rely heavily on standardised visual acuity testing, self-reported measures such as the Washington Group Extended Set on Functioning (WG-ESF) are often used where clinical assessments are unavailable [6], reflecting the understanding that disability arises from an interplay between health conditions and environmental or personal factors [7]. As Malaysia undergoes rapid population ageing, updated and nationally representative data on visual limitations are essential for planning equitable, age-friendly eye care services.

OBJECTIVES

To determine the prevalence of self-reported visual limitations among older persons aged 60 years and above in Malaysia.

METHODS

Visual limitations were assessed using the Washington Group Extended Set on Functioning (WG-ESF) questionnaire, which was developed based on the International Classification of Functioning, Disability and Health (ICF) framework by the World Health Organization (WHO) to enable internationally comparable data [5,6]. The WG-ESF is a self-reported functional assessment tool that evaluates difficulties in seeing, even when corrective devices are used. Four items were included to measure vision functioning whether the respondent wears glasses or contact lenses, difficulty seeing in general, difficulty clearly seeing someone's face at a distance of six meters or 20 feet and difficulty clearly seeing the picture on a coin. Each functional question offered response options of "no difficulty", "some difficulty", a lot of difficulty" and "cannot see at all", Respondents were classified as having vision limitations if they reported "a lot of difficulty" or "cannot see at all" in any of the items even when using corrective devices.

DEFINITIONS

1. **Visual limitations** are defined as older persons aged 60 years and above, or their proxy, who reported "a lot of difficulty" or "cannot see at all" in response to any questions, even when using corrective devices where applicable.

FINDINGS

The overall prevalence of self-reported visual limitations among older persons in Malaysia was 4.1%. The prevalence was comparable between sexes, at 4.5% among males and 3.6% among females. Older persons residing in rural areas had a prevalence of self-reported visual limitations 5.8% compared with those in urban areas, 3.5%. The prevalence was highest among older persons aged 80 years and above (14.2%) compared with those aged 60–69 and 70–79 years. In addition, older persons who had never attended school or had not completed primary education had a higher prevalence of self-reported

visual limitations than those who had received at least primary education **(Table 9.1)**.

CONCLUSION

The NHMS 2025 findings indicate that the prevalence of self-reported visual limitations among older persons remains largely unchanged at 4.1% compared to 4.5% in 2018. This statistical plateau underscores the persistent public health challenge, highlighting the urgent need for targeted interventions and equitable eye health services, particularly for socioeconomically vulnerable populations.

RECOMMENDATIONS

- Institutionalise Integrated Sensory Health Awareness: Leverage the WHO 2025 Integrated Care for Older People (ICOPE) framework to launch a "National Sensory Health" campaign. This initiative should normalise regular geriatric eye screenings and the proactive use of corrective devices as essential components of healthy aging.
- Empower Primary Healthcare (PHC) for early detection: Strengthen the frontline diagnostic pipeline by training and empowering PHC workers to performs basic vision screenings. This includes establishing a seamless digital referral and follow up system to ensure patients with refractive errors or cataracts are tracked from initial screening to surgical or optical intervention.
- Address Social Determinants and Health Equity: Implement targeted outreach programs for older persons with low educational attainment and socio-economic barriers. By focusing on these high-risk cohorts, the health systems can mitigate the disproportionate burden of preventable blindness caused by limited health literacy and geographical isolation.
- Establish a Multi-Sectoral Vision Care Coalition: Formalise inter-agency collaborations between federal, private and non-profit sectors to optimise resource sharing and achieve the following:
  - Universal Access to Assistive Technology: Expand the availability of affordable spectacles, low vision-aids and essential eye medications through government-backed incentives and priced caps for intraocular treatments (e.g. for macular degeneration).
  - Decentralised Cataract Surgical Services: Scale up high-volume, low-cost cataract surgical units by decentralising services to community hubs, thereby reducing patient travel costs and clearing surgical backlogs.

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Table 9.1: The prevalence of visual limitations among older person 60 years and above in Malaysia by sociodemographic characteristics (n = 7,189)

Sociodemographic Characteristic	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper
MALAYSIA	**307**	**161,100**	**4.1**	**3.25**	**5.06**
Location					
Urban	106	101,000	3.5	2.47	4.81
Rural	201	60,200	5.8	4.70	7.10
Sex					
Male	141	86,100	4.5	3.41	5.94
Female	166	75,000	3.6	2.71	4.89
Age group					
60 - 69	71	49,500	2.1	1.43	2.94
70 - 79	116	62,000	5.1	3.75	6.99
80 and above	120	49,600	14.2	10.47	19.00
Ethnicity					
Malay	134	97,700	4.9	3.71	6.52
Chinese	58	18,900	1.5	1.11	2.13
Indian	9	-	-	-	-
Bumiputera Sabah	76	24,200	14.3	9.63	20.59
Bumiputera Sarawak	22	5,900	4.0	2.40	6.65
Other Bumiputera / Others	8	-	-	-	-
Marital status					
Never married/ Separated / Divorced / Widowed	169	81,100	5.4	4.13	7.11
Married / Living with partner	138	80,100	3.2	2.43	4.30
Education level					
Never attended school / Did not complete primary education	168	69,500	9.4	7.14	12.22
Primary education	68	29,100	3.4	2.40	4.84
Secondary education	52	40,800	2.5	1.70	3.73
Tertiary education	19	21,700	2.9	1.45	5.69
Occupation					
Still working / retiree with pension	62	44,300	2.8	1.87	4.10
Not working (retiree without pension/ homemaker/ unpaid worker)	243	116,500	4.9	3.80	6.35

Sociodemographic Characteristic	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper
Household income category					
Bottom 40%	256	130,800	4.7	3.70	5.85
Middle 40%	44	23,500	3.0	1.81	4.93
Top 20%	7	-	-	-	-
Household income quintile					
Quintile 1 (<RM1,000)	79	28,600	5.1	3.22	8.04
Quintile 2 (RM1,000-1,999)	63	32,600	5.0	3.16	7.80
Quintile 3 (RM2,000-3,199)	65	35,400	4.4	2.99	6.52
Quintile 4 (RM3,200-5,999)	59	36,100	4.2	2.98	5.94
Quintile 5 (RM6,000 and above)	41	28,300	2.6	1.72	3.86

OLDER PERSONS HEALTH

10.0 Hearing Limitations

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HIGHLIGHT

- Self-reported hearing limitations among older Malaysians was 3.3% in NHMS 2025, showing a decrease compared with 6.4% reported in NHMS 2018.

INTRODUCTION

Hearing limitations refers to reduced hearing ability caused by disorders of the ear or auditory system, leading to functional impairments, activity limitations, and restrictions in daily participation. Clinically, hearing disability is defined as hearing thresholds poorer than 40 decibels (dB) in both ears and can range from mild to profound, arising from factors such as presbycusis, long-term noise exposure, infections, genetics, ototoxic medications, and chronic conditions like diabetes or hypertension. Among older persons, hearing limitations include hearing impairment and deafness that affects communication, physical and mental well-being, independence, and overall quality of life [1].

Globally, hearing loss is a growing public health concern, with projections indicating that by 2050, nearly 2.5 billion people will have some degree of hearing loss and over 700 million will require hearing rehabilitation [2]. The prevalence of hearing limitations increases sharply with age, affecting more than one-quarter of older persons aged 60 years and above. In situations where clinical or audiological data are unavailable, national disability surveys often rely on self-reported functional tools such as the Washington Group Extended Set on Functioning (WG-ESF) to identify individuals reporting "a lot of difficulty" or "cannot hear at all" even when using hearing aids [3]. In Malaysia, the NHMS 2018 reported a prevalence of 6.4% for hearing limitations among older persons, while only 1.5% used hearing aids [4]. A study in the Philippines reported that 5.6% of older persons had hearing limitations despite using hearing aids [5]. These impairments, compounded by environmental and social barriers, may limit full and effective participation in society on an equal basis with others [6].

OBJECTIVE

To determine the prevalence of self-reported hearing limitations among older persons aged 60 years and above.

METHODS

Hearing limitations were assessed using the Washington Group Extended Set on Functioning (WG-ESF) questionnaire, which was developed based on the International Classification of Functioning, Disability and Health (ICF) framework by the World Health Organization (WHO) to produce internationally comparable data [3,4]. The WG-ESF is a self-reported functional tool designed to evaluate difficulties in hearing, even when hearing aids are used. Six items were included to assess hearing functioning: whether the respondent uses a hearing aid, the source of the hearing aid, frequency of hearing aid use, difficulty hearing in general difficulty hearing in a one-to-one conversation in a quiet room and difficulty hearing in a one-to-one conversation in a noisier environment. Each functional item offered response options: "no difficulty", "some difficulty", "a lot of difficulty" and "cannot hear at all". Respondents were classified as having hearing limitations if they reported "a lot of difficulty" or "cannot hear at all" on any of the item, even when using hearing aids.

DEFINITIONS

1. **Hearing limitations** are defined as older persons aged 60 years and above, or their proxy, who reported having "a lot of difficulty" or "cannot hear at all" in response to any question, even when using hearing aids where applicable.

FINDINGS

The overall prevalence of self-reported hearing limitations among older persons aged 60 years and above was 3.3%. The prevalence was similar between sexes, with 3.2% among males and 3.3% among females. Older persons residing in rural areas recorded a higher prevalence of self-reported hearing limitations (5.2%) compared with those in urban areas (2.6%). Across age groups, the prevalence was highest among those aged 80 years and above (17.6%). The prevalence of self-reported hearing limitations was higher among older persons who had never attended

school or had not completed primary education compared with those who had received primary or secondary education **(Table 10.1)**.

CONCLUSION

The NHMS 2025 findings indicate a decline in the prevalence of self-reported hearing limitations among older persons to 3.3% compared with 6.4% in 2018. However, these findings should be interpreted with caution due to the characteristics of WG-ESF, which identifies functional hearing limitations in social participation rather than physiological clinical auditory impairment.

RECOMMENDATIONS

- Institutionalise Standardised Screening Protocols: Scale up the use of cost-effective clinical screening such as the Whisper Voice Test, which is validated and more sensitive questionnaires such as the Hearing Handicap Inventory for Elderly (HHIE) as mandatory components of the Integrated Care for Older People (ICOPE) framework at the primary healthcare level.
- Establish a Biennial Screening Programme: Implement a standardised biennial (every two years) hearing assessment schedule for all individuals aged 60 and above to ensure early identification and intervention, maintaining a longitudinal record of auditory health.
- Expand the Primary Care Audiology Workforce: Create and fill designated audiologist positions within primary healthcare settings to decentralise specialised screening, provide immediate diagnostic validation and manage community-based rehabilitation.
- Enhance Affordability through Inter- Agency Synergy: Foster strategic partnerships between the Ministry of Health, non-governmental organisation (NGOs), and social security agencies (e.g., PERKESO/KWSP) to develop subsidised hearing aid programs, ensuring assistive technology is accessible and financially viable for the B40 and M40 ageing population.

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Table 10.1: The prevalence of hearing disability among older person 60 years and above in Malaysia by sociodemographic characteristics (n = 7,189)

Sociodemographic Characteristic	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				LOWER	UPPER
MALAYSIA	**282**	**130,200**	**3.3**	**2.63**	**4.08**
Location					
Urban	103	76,200	2.6	1.84	3.67
Rural	179	54,000	5.2	4.19	6.39
Sex					
Male	133	61,300	3.2	2.48	4.14
Female	149	68,900	3.3	2.56	4.37
Age group					
60 - 69	53	27,800	1.2	0.80	1.67
70 - 79	99	40,900	3.4	2.51	4.52
80 and above	130	61,600	17.6	13.42	22.71
Ethnicity					
Malay	106	68,400	3.4	2.40	4.91
Chinese	79	25,200	2.1	1.52	2.77
Indian	6	-	-	-	-
Bumiputera Sabah	62	19,300	11.4	7.15	17.69
Bumiputera Sarawak	22	6,300	4.3	2.63	6.89
Other Bumiputera / Others	7	-	-	-	-
Marital status					
Never married/ Separated / Divorced / Widowed	163	76,000	5.1	3.86	6.66
Married / Living with partner	119	54,300	2.2	1.65	2.91
Education level					
Never attended school / Did not complete primary education	150	59,900	8.1	6.15	10.55
Primary education	69	24,800	2.9	2.06	4.08
Secondary education	50	38,500	2.4	1.50	3.75
Tertiary education	13	-	-	-	-
Occupation					
Still working / retiree with pension	47	32,100	2.0	1.19	3.37
Not working (retiree without pension/ homemaker/ unpaid worker)	234	98,100	4.1	3.39	5.05

Sociodemographic Characteristic	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				LOWER	UPPER
Household income category					
Bottom 40%	237	100,100	3.6	2.77	4.56
Middle 40%	36	21,200	2.7	1.75	4.18
Top 20%	9	-	-	-	-
Household income quintile					
Quintile 1 (<RM1,000)	80	25,000	4.5	3.23	6.16
Quintile 2 (RM1,000-1,999)	59	26,500	4.0	2.13	7.53
Quintile 3 (RM2,000-3,199)	58	24,500	3.1	1.95	4.75
Quintile 4 (RM3,200-5,999)	51	26,500	3.1	2.09	4.56
Quintile 5 (RM6,000 and above)	34	27,800	2.5	1.59	4.02

OLDER PERSONS HEALTH

11.0 Physical Inactivity, Sedentary Behaviour and Insufficient Sleep

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HIGHLIGHT

- 30.6% of older persons were physically inactive in NHMS 2025, comparable to 29.8% reported in NHMS 2018.
- 12.8% of older persons engaged in high sedentary behaviour in NHMS 2025, showing a substantial reduction from 23.2% in NHMS 2018.
- 39.6% of older persons reported insufficient sleep in NHMS 2025.

INTRODUCTION

Physical activity refers to any bodily movement produced by skeletal muscles that requires energy expenditure, including activities performed during leisure time, transportation, work or domestic chores [1]. According to the World Health Organization (WHO), physical inactivity is defined as not meeting the recommended level of at least 150 minutes of moderate-intensity activity, 75 minutes of vigorous-intensity activity, or an equivalent combination of both per week [2]. Physical inactivity is a major risk factor for noncommunicable diseases (NCDs) and the fourth leading cause of premature mortality worldwide [3]. Globally, nearly one-third (31%) of adults are physically inactive, with the prevalence increasing after the age of 60 years among both men and women [1].

Findings from NHMS 2018 showed that approximately 30% of older persons aged 60 years and above in Malaysia were physically inactive [4]. With the rapid growth of ageing populations in many countries, including Malaysia, the burden of illness related to physical inactivity among older persons is expected to rise substantially. In addition, sedentary behaviour and insufficient sleep are increasingly recognised as important lifestyle determinants associated with higher risks of chronic diseases, multimorbidity, and mortality among older persons [5,6]. In view of these trends, it is essential to determine the prevalence of physical inactivity, sedentary behaviour, and insufficient sleep among older persons to provide insights into their movement behaviours and to guide strategies that promote active living and healthy ageing. Additionally, it is important to develop preventive strategies to preserve functional independence among older persons.

OBJECTIVES

General Objective

To determine the prevalence of physical inactivity, sedentary behaviour, and insufficient sleep among older persons aged 60 years and above in Malaysia.

Specific Objectives

1. To determine the prevalence of physical inactivity among older persons aged 60 years and above by sociodemographic characteristics.
2. To determine the prevalence of sedentary behaviour among older persons aged 60 years and above by sociodemographic characteristics.
3. To determine the prevalence of insufficient sleep among older persons aged 60 years and above by sociodemographic characteristics.

METHODS

Data on physical activity and sedentary behaviour were obtained from older persons aged 60 years and above through face-to-face interviews using the locally validated Global Physical Activity Questionnaire (GPAQ) [7]. The total amount of physical activity in three different domains (work-related, travel-related, and recreation-related) in a typical week was calculated using the Metabolic Equivalent of Task (MET) minutes per week [8]. Sedentary behaviour was measured based on a single-item question asking about the total time usually spent on sitting or reclining on a typical day, exclusive of sleeping. Data on short sleep duration was based on responses to an additional question: "On average, how many hours of sleep do you get in a 24-hour period?". This single-item question was adopted from the Behavioural Risk Factor Surveillance System (BRFSS) by the Centers for Disease Control and Prevention (CDC) [9].

DEFINITIONS

1. According to the GPAQ analysis guidelines [8], the overall physical activity from all three domains was calculated, and an older person is considered "**physically active**" if they engage in at least:

    - 150 minutes of moderate-intensity physical activity per week or,
    - 75 minutes of vigorous-intensity physical activity per week or,
    - an equivalent combination of moderate- and vigorous-intensity physical activity that achieves at least 600 MET-minutes per week.

    Physical inactivity refers to those who did not meet the PA recommendations.

2. **Sedentary behaviour** refers to any waking behaviour characterised by an energy expenditure of 1.5 METS or lower while sitting, reclining or lying [2]. High sedentary behaviour was defined as spending eight hours or more of total sedentary time per typical day, following a previous classification for all-time mortality risk [10].

3. **Insufficient sleep** was defined as having less than seven hours of sleep on average within a 24-hour period, based on the American Academy of Sleep Medicine, the Sleep Research Society, and the National Sleep Foundation [11,12].

FINDINGS

The overall prevalence of physical inactivity among older persons aged 60 years and above was 30.6%. As age increased, the prevalence of physical inactivity increased from 23.9% among the 60-69 years age group, to 35.1% among the 70-79 years age group, and 61.6% among those aged 80 years and above. The prevalence was higher among older persons who were never married, separated, divorced or widowed (35.6%), those who have never attended school or did not complete primary education (40.9%), and those not working (34.0%) **(Table 11.1)**.

The overall prevalences for different levels of sedentary activity at two hours and below, more than two hours to four hours, and more than four hours were 33.4%, 31.5%, and 35.1%, respectively **(Table 11.2)**. The overall prevalence of high sedentary behaviour among older persons aged 60 years and above was 12.8%. The prevalence increased with increasing age from 9.4% among the 60-69 years age group to 15.6% among the 70-79 years age group, and 27.0% among those aged 80 years and above. The prevalence was also higher among older persons who were never married, separated, divorced or widowed (16.9%), those who have never attended school or did not complete primary education (22.9%), and those who were not working (15.2%) **(Table 11.3)**.

The overall prevalence of insufficient sleep among older persons aged 60 years and above was 39.6%, with 39.8% among males and 39.5% among females. By occupation, the prevalence of insufficient sleep was higher among older persons who were still working or retirees with pension (45.2%), compared to those who were not working (35.8%) **(Table 11.4)**.

CONCLUSION

Overall, 30.6% of older persons aged 60 years and above in Malaysia were physically inactive, while 12.8% of older persons engaged in high sedentary behaviour. Insufficient sleep is also a common issue among older persons in Malaysia; with 39.6% of older persons reporting insufficient sleep. Taken together, these unhealthy lifestyle behaviours warrant equal attention owing to their associated risks of non-communicable diseases, and increased risk of frailty and all-cause mortality among the growing older population.

RECOMMENDATIONS

- Implement best practice communication campaigns, integrated with community-based programmes, to enhance older persons' literacy on regular physical activity, strengthen skills that support an active lifestyle, reduce sedentary behaviour and promote healthy sleep practices.
- Enhance the intervention package offered through the Wellness Hub (one-stop community centre) to empower older persons with the skills and motivation required to support behaviour modification and sustained active living.
- Increase awareness among older persons on behaviours that reduce sedentary lifestyles in daily routines by applying behaviour insights strategies and nudging.
- Develop effective and feasible routine physical activity among the older population such as walking behaviour; as walking is observed as the most cost-effective and accessible form of exercise for older persons.
- Improve accessibility to safe, high-quality public and green open spaces, recreational areas and exercise facilities to optimise the utilisation of those spaces and facilities by older persons for health benefits.
- Strengthen the integration of urban planning and transportation management that promote walking, cycling, and other forms of active mobility, including age-friendly public transport systems.

- Enhance policies and promotional efforts to support the reduction of sedentary behaviour especially to break up prolonged sitting hours with light physical activities among older persons.
- Encourage older persons to try to be as physically active as possible to meet the recommended level of physical activity for optimal health benefits, or to remain as active as their abilities and health conditions allow, while minimising sedentary time and obtaining sufficient sleep.

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Table 11.1: The prevalence of physical inactivity among older person 60 years and above in Malaysia by sociodemographic characteristics (n = 7,193)

Sociodemographic Characteristic	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper
MALAYSIA	**2,217**	**1,216,000**	**30.6**	**28.76**	**32.60**
Location					
Urban	1,143	872,300	29.8	27.43	32.28
Rural	1,074	343,700	33.0	30.23	35.95
Sex					
Male	962	574,300	30.1	27.62	32.62
Female	1,255	641,700	31.2	28.76	33.74
Age group					
60 - 69	916	576,600	23.9	21.90	26.09
70 - 79	830	424,000	35.1	31.50	38.84
80 and above	471	215,500	61.6	55.58	67.21
Ethnicity					
Malay	1,020	718,700	36.2	33.67	38.84
Chinese	759	301,000	24.6	22.16	27.14
Indian	96	56,100	20.6	16.44	25.58
Bumiputera Sabah	176	56,300	33.1	23.22	44.73
Bumiputera Sarawak	121	35,800	24.2	17.21	32.97
Other Bumiputera / Others	45	-	-	-	-
Marital status					
Never married/ Separated / Divorced / Widowed	1,196	683,500	27.6	25.52	29.88
Married / Living with partner	1,021	532,500	35.6	32.66	38.67
Education level					
Never attended school / Did not complete primary education	707	302,900	40.9	35.54	46.47
Primary education	616	278,700	32.7	30.05	35.47
Secondary education	681	458,100	28.3	25.73	31.01
Tertiary education	208	173,900	23.2	19.26	27.67
Occupation					
Still working / retiree with pension	563	411,100	25.7	23.58	28.04
Not working (retiree without pension/ homemaker/ unpaid worker)	1,652	804,600	34.0	31.48	36.58

Sociodemographic Characteristic	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper
Household income category					
Bottom 40%	1,730	893,400	31.8	29.72	33.90
Middle 40%	363	223,900	28.7	25.42	32.17
Top 20%	124	98,700	26.3	18.40	36.20
Household income quintile					
Quintile 1 (<RM1,000)	429	190,800	34.1	30.17	38.36
Quintile 2 (RM1,000-1,999)	444	214,400	32.7	28.46	37.27
Quintile 3 (RM2,000-3,199)	485	247,200	30.9	27.73	34.22
Quintile 4 (RM3,200-5,999)	448	259,700	30.4	27.22	33.87
Quintile 5 (RM6,000 and above)	411	303,900	27.6	23.87	31.75

Table 11.2: The prevalence for different levels of sedentary activity (total sedentary time per day) among older person 60 years and above in Malaysia by sociodemographic characteristics (n = 7,184)

Sedentary Activity (Total Sedentary Time Per Day)	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper
Time spent sedentary per day					
2 hours and below	2,468	1,322,700	33.4	30.48	36.40
More than 2 hours to 4 hours	2,309	1,248,600	31.5	29.37	33.72
More than 4 hours	2,407	1,391,700	35.1	31.84	38.54
High sedentary behaviour[a]					
8 hours or more	841	508,800	12.8	10.58	15.50

[a]High sedentary behaviour is defined as spending 8 hours or more of total sedentary time (except sleeping) per typical day.

Table 11.3: The prevalence of high sedentary behaviour (8 hours or more per day) among older person 60 years and above in Malaysia by sociodemographic characteristics (n = 7,184)

Sociodemographic Characteristic	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper
MALAYSIA	**841**	**508,800**	**12.8**	**10.58**	**15.50**
Location					
Urban	457	390,500	13.4	10.46	16.92
Rural	384	118,400	11.4	9.31	13.85
Sex					
Male	346	229,600	12.0	9.37	15.33
Female	495	279,200	13.6	10.98	16.69

Sociodemographic Characteristic	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper
Age group					
60 - 69	310	226,100	9.4	7.05	12.42
70 - 79	330	189,100	15.6	12.11	19.92
80 and above	201	93,700	27.0	22.14	32.54
Ethnicity					
Malay	318	255,700	12.9	9.77	16.88
Chinese	332	132,000	10.8	8.64	13.35
Indian	48	31,500	11.6	7.01	18.53
Bumiputera Sabah	96	30,200	17.8	12.93	23.97
Bumiputera Sarawak	25	6,800	4.6	2.82	7.51
Other Bumiputera / Others	22	-	-	-	-
Marital status					
Never married/ Separated / Divorced / Widowed	411	256,800	10.4	8.20	13.08
Married / Living with partner	430	252,100	16.9	13.54	20.87
Education level					
Never attended school / Did not complete primary education	289	168,800	22.9	16.92	30.14
Primary education	216	105,900	12.4	9.68	15.82
Secondary education	261	178,900	11.1	8.65	14.04
Tertiary education	73	54,700	7.3	4.96	10.64
Occupation					
Still working / retiree with pension	192	147,900	9.3	6.76	12.59
Not working (retiree without pension/ homemaker/ unpaid worker)	646	358,500	15.2	12.33	18.51
Household income category					
Bottom 40%	670	381,200	13.6	10.89	16.80
Middle 40%	120	73,100	9.4	7.19	12.08
Top 20%	51	54,600	14.6	7.20	27.30
Household income quintile					
Quintile 1 (<RM1,000)	195	101,400	18.2	13.52	23.94
Quintile 2 (RM1,000-1,999)	167	106,500	16.3	11.43	22.68
Quintile 3 (RM2,000-3,199)	179	86,400	10.8	8.64	13.4
Quintile 4 (RM3,200-5,999)	151	89,600	10.5	8.17	13.37
Quintile 5 (RM6,000 and above)	149	125,000	11.4	7.78	16.41

Table 11.4: The prevalence of insufficient sleep (less than 7 hours per day) among older person 60 years and above in Malaysia by sociodemographic characteristics (n = 7,197)

Sociodemographic Characteristic	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper
MALAYSIA	**2,468**	**1,573,500**	**39.6**	**36.52**	**42.82**
Location					
Urban	1,410	1,214,700	41.5	37.57	45.51
Rural	1,058	358,800	34.4	30.83	38.22
Sex					
Male	1,072	761,500	39.8	35.96	43.84
Female	1,396	812,000	39.4	36.36	42.62
Age group					
60 - 69	1,465	988,000	41.0	37.53	44.55
70 - 79	799	469,500	38.8	35.20	42.50
80 and above	204	116,100	33.2	26.65	40.37
Ethnicity					
Malay	1,294	980,700	49.4	45.40	53.31
Chinese	690	345,100	28.2	24.92	31.65
Indian	122	79,700	29.4	24.60	34.61
Bumiputera Sabah	212	62,900	37.0	28.57	46.33
Bumiputera Sarawak	121	39,300	26.6	20.72	33.42
Other Bumiputera / Others	29	65,800	39.0	19.99	62.16
Marital status					
Never married/ Separated / Divorced / Widowed	1,492	1,023,800	41.4	37.70	45.16
Married / Living with partner	976	549,700	36.7	33.47	40.13
Education level					
Never attended school / Did not complete primary education	498	238,100	32.1	26.45	38.35
Primary education	566	280,300	32.9	29.20	36.73
Secondary education	950	656,600	40.5	36.97	44.17
Tertiary education	453	398,200	53.1	46.76	59.38
Occupation					
Still working / retiree with pension	1,012	722,800	45.2	41.24	49.30
Not working (retiree without pension/ homemaker/ unpaid worker)	1,453	848,700	35.8	32.81	38.95

Sociodemographic Characteristic	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper
Household income category					
Bottom 40%	1,826	1,116,300	39.7	36.59	42.87
Middle 40%	447	311,800	39.8	33.99	45.97
Top 20%	194	145,300	38.8	31.08	47.09
Household income quintile					
Quintile 1 (<RM1,000)	416	203,200	36.3	31.87	40.98
Quintile 2 (RM1,000-1,999)	399	244,800	37.3	31.95	43.06
Quintile 3 (RM2,000-3,199)	520	301,400	37.7	33.33	42.19
Quintile 4 (RM3,200-5,999)	569	376,100	44.0	40.05	48.00
Quintile 5 (RM6,000 and above)	563	448,000	40.7	34.23	47.58

OLDER PERSONS HEALTH

12.0 Diabetes, Hypertension and Hypercholesterolaemia

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HIGHLIGHT

- 39.1% of older persons in Malaysia had raised blood glucose; 32.3% were known to have diabetes, while 6.8% were unaware of having raised blood glucose in NHMS 2025.
- 73.1% of older persons in Malaysia had raised blood pressure; 57.6% were known to have hypertension, while 15.5% were unaware of having raised blood pressure in NHMS 2025.
- 76.2% of older persons in Malaysia had raised total blood cholesterol; 55.3% were known to have hypercholesterolaemia, while 20.9% were unaware of having raised total blood cholesterol in NHMS 2025.
- Between NHMS 2018 and NHMS 2025, known diabetes, hypertension, and hypercholesterolaemia among older persons in Malaysia increased from 27.7% to 32.3%, 51.1% to 57.6%, and 41.8% to 55.3%, respectively.

INTRODUCTION

Diabetes in older persons arises from age-related declines in insulin secretion and pancreatic β-cell function [1]. These changes increase susceptibility to hyperglycaemia and complicate glucose management due to comorbidities such as frailty [2]. Hypertension in older persons is largely driven by age-related arterial stiffening, resulting in rising systolic blood pressure (SBP) and declining diastolic blood pressure (DBP) [3]. Yet, it often remains undiagnosed in this population despite being treatable. Hypercholesterolaemia is another modifiable cardiovascular risk factor in ageing populations. Impaired cholesterol homeostasis and reduced hepatic clearance contribute to progressive atherogenesis, making undiagnosed cases a silent threat [4].

This year's national survey differs from the National Health and Morbidity Survey 2018: Elderly Health study [5]. It incorporates field-based capillary blood testing and direct blood pressure measurements. These allow objective assessment of glucose, total cholesterol, SBP, and DBP. In contrast, the 2018 study relied mainly on self-reported data. Therefore, the current survey provides a more robust evaluation of diabetes, hypertension, and hypercholesterolaemia among older persons in Malaysia.

OBJECTIVES

General Objective

To determine the prevalence of diabetes, hypertension, and hypercholesterolaemia among older persons aged 60 years and above in Malaysia.

Specific Objectives

1. To determine the prevalence of **overall raised blood glucose, known diabetes** and **undiagnosed diabetes** among older persons aged 60 years and above in Malaysia by sociodemographic characteristics.
2. To determine the prevalence of **overall raised blood pressure, known hypertension** and **undiagnosed hypertension** among older persons aged 60 years and above in Malaysia by sociodemographic characteristics.
3. To determine the prevalence of **overall raised total blood cholesterol, known hypercholesterolaemia** and **undiagnosed hypercholesterolaemia** among older persons aged 60 years and above in Malaysia by sociodemographic characteristics.

METHODS

Face-to-face interviews were conducted using questions adapted from the WHO STEPwise approach to non-communicable disease risk factor surveillance (STEPS) Instrument [6].

Capillary blood glucose was measured using the Accu-Chek® portable blood testing system.

Blood pressure was measured using the Omron Digital Automatic Blood Pressure Monitor, Model HEM-907. The study protocol required three blood pressure measurements to be taken at 3-minute intervals for

each respondent. A diagnosis of hypertension was made if the average of the second and third readings was ≥ 140 mmHg for SBP and/or ≥ 90 mmHg for DBP.

Total cholesterol was measured using finger-prick capillary blood with the CardioChek® PA analyser.

DEFINITIONS

1. **Overall raised blood glucose** was defined as the sum of older persons with known diabetes and raised blood glucose among those not known to have diabetes.
   - **Known diabetes** was self-reported by a respondent who was told to have diabetes by a doctor or an assistant medical officer.
   - **Raised blood glucose** among those not known to have diabetes (undiagnosed diabetes) was defined as a respondent who was not known to have diabetes but had a fasting blood sugar (FBS) of ≥7.0 mmol/L or random blood sugar (RBS) of ≥11.1 mmol/L during the field survey.

2. **Overall raised blood pressure** was defined as the sum of older persons with known hypertension and raised blood pressure among those not known to have hypertension.
   - **Known hypertension** was self-reported by a respondent who was told to have hypertension by a doctor or an assistant medical officer.
   - **Raised blood pressure** among those not known to have hypertension (undiagnosed hypertension) was defined as a respondent who was not known to have hypertension but had an average SBP measurement of ≥ 140 mmHg and/or ≥90 mmHg for the DBP reading during the field survey.

3. **Overall raised total blood cholesterol** was defined as the sum of older persons with known hypercholesterolaemia and raised total cholesterol among those not known to have hypercholesterolaemia.
   - **Known hypercholesterolaemia** was self-reported by a respondent who was told to have hypercholesterolaemia by a doctor or an assistant medical officer.
   - **Raised total blood cholesterol** among those not known to have hypercholesterolaemia (undiagnosed hypercholesterolaemia) was defined as a respondent who was not known to have hypercholesterolaemia and had a total cholesterol of ≥5.2 mmol/L during the field survey.

FINDINGS

Diabetes

The overall prevalence of raised blood glucose among older persons was 39.1%, with similar estimates by locality and sex. By age group, prevalence ranged from 37.2% to 43.1%, while estimates were 52.3% among individuals of Indian ethnicity. Prevalence was 39.5% among those married or living with a partner, 40.4% among those with secondary education, and 39.5% among unpaid workers, homemakers, or retirees without a pension **(Table 12.1).**

The prevalence of known diabetes among older persons was 32.3%. By age group, prevalence ranged from 28.8% to 37.3%, while estimates were 43.3% among individuals of Indian ethnicity **(Table 12.1)**. Among those with known diabetes, treatment was most commonly received at government clinics (75.1%), followed by government hospitals (11.4%) and private hospitals and clinics (6.1% each).

The prevalence of undiagnosed diabetes among older persons was 6.8%. Prevalence was 8.4% among those aged 80 years and above and 9.0% among individuals of Indian ethnicity. Estimates were 7.7% among males, 7.4% among those with secondary education, and 7.4% among those who were still working or retirees receiving a pension **(Table 12.1)**.

Hypertension

The overall prevalence of raised blood pressure among older persons was 73.1%, with higher prevalence of 78.1% in rural areas. Sex estimates were relatively similar: 74.9% among females and 71.2% among males. By age group, prevalence ranged from 69.4% to 78.9%. Prevalence was 87.4% among Bumiputera Sarawak, 76.0% among those with no formal schooling or incomplete primary education, and 75.0% among unpaid workers, homemakers, or those not currently working **(Table 12.2)**.

The prevalence of known hypertension among older persons was 57.6%. By age group, prevalence ranged from 53.4% to 65.0%, while the estimate was 76.5% among other Bumiputera Sarawak **(Table 12.2)**. Among those with known hypertension, treatment was most commonly received at government clinics (73.3%), followed by government hospitals (11.2%), private clinics (7.5%), and private hospitals (6.1%).

The prevalence of undiagnosed hypertension among older persons was 15.5%, with estimates of 17.7% in rural areas and 15.6% among males. By age group, prevalence ranged from 13.8% to 16.0%. Estimates were 18.0% among other Bumiputera or others. Prevalence

was 17.0% among those who never attended school or did not complete primary education and 16.8% among those who were still working or retirees receiving a pension **(Table 12.2)**.

Hypercholesterolaemia

The prevalence of raised total cholesterol was 76.2%, with higher prevalence of 81.4% among females. Estimates were similar between urban and rural areas, while estimates across age groups ranged from 74.1% to 76.7%. Prevalence was 82.6% among Bumiputera Sarawak **(Table 12.3)**.

The prevalence of known hypercholesterolaemia among older persons was 55.3%, with higher prevalence among females (58.1%). Estimate was 59.5% among those aged 80 years and above and 68.1% among Bumiputera Sarawak was **(Table 12.3)**. Among those with known hypercholesterolaemia, treatment was most commonly received at government clinics (74.3%), followed by government hospitals (11.5%), private clinics (6.7%), and private hospitals (5.7%).

The prevalence of undiagnosed hypercholesterolaemia among older persons was 20.9%, with higher prevalence among females (23.3%). Estimates across age groups ranged from 14.6% to 24.0%. Prevalence was 38.8% among other Bumiputera or others. Estimates were 22.7% among those who never attended school or did not complete primary education and 22.8% among those who were still working or retirees receiving a pension **(Table 12.3)**.

CONCLUSION

Older persons in Malaysia experience a substantial burden of NCDs, with markedly high prevalence of overall raised total cholesterol (76.2%), blood pressure (73.1%), and blood glucose (39.1%). The proportions of older persons with undiagnosed hypercholesterolaemia (20.9%), undiagnosed hypertension (15.5%), and undiagnosed diabetes (6.8%) suggest that a considerable number of older persons in Malaysia remain unaware of their health status, thereby increasing their risk of acquiring preventable micro- or macrovascular complications.

RECOMMENDATIONS

- **Optimize treatment to reduce NCDs' complications**
  - Emphasize guideline-directed medical therapy for older persons with diabetes, including appropriate use of insulin and high-intensity statins.
  - Strengthen blood pressure control, guided by Clinical Practice Guideline Management of Hypertension.
  - Improve access to more cost-effective medications in primary care settings, such as sodium-glucose cotransporter (SGLT)-2 inhibitors.
  - Embed a locally validated Framingham Risk Score into the MySejahtera app during the National Health Screening Initiative (NHSI).
- **Expand and outsource NCDs management to private settings following diagnosis**
  - Leverage the Skim Perubatan Madani (SPM) to support long-term NCDs management in general practice, with specific inclusion of older persons beyond acute care. This should be supported by a formal costing analysis and aligned with the Health White Paper.
- **Adopt a whole-of-society approach to NCDs care**
  - Strengthen collaboration with non-governmental organizations (NGOs) and advocacy groups (Eg: Diabetes Malaysia), enhance caregiver support mechanisms, and draw lessons from older persons day-care and community-based programmes in countries such as Korea and Taiwan to promote social engagement among older persons.
  - Incorporate dedicated NCDs care components (to measure capillary blood glucose/ blood pressure) for older persons within Wellness Hub and Pusat Aktiviti Warga Emas (PAWE).
- **Increase promotion of using MySejahtera app for NCDs follow-up**
  - Enhance public awareness and uptake of MySejahtera functions for managing NHSI and PeKa B40 NCDs screening appointments. Communication efforts should emphasize that screening services are readily accessible at Klinik Kesihatan, with only a nominal registration fee required, while subsequent diagnostic, treatment, and follow-up services are subsidized for Malaysian citizens.

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Table 12.1: The prevalence of raised blood glucose among older person 60 years and above in Malaysia by sociodemographic characteristics (n = 7,215)

Sociodemographic Characteristic	Overall Raised Blood Glucose					Known Diabetes					Undiagnosed Diabetes				
	Count	Estimated Population	Prevalence (%)	95% Confidence Interval		Count	Estimated Population	Prevalence (%)	95% Confidence Interval		Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper				Lower	Upper				Lower	Upper
MALAYSIA	**2,648**	**1,555,000**	**39.1**	**37.04**	**41.18**	**2,207**	**1,283,400**	**32.3**	**30.46**	**34.12**	**441**	**271,600**	**6.8**	**5.93**	**7.85**
Location															
Urban	1,417	1,141,200	38.9	36.28	41.61	1,175	939,200	32.0	29.75	34.39	242	202,000	6.9	5.77	8.21
Rural	1,231	413,800	39.6	37.09	42.16	1,032	344,200	32.9	30.51	35.46	199	69,600	6.7	5.53	8.01
Sex															
Male	1,146	743,100	38.8	35.85	41.89	929	595,000	31.1	28.57	33.72	217	148,100	7.7	6.29	9.49
Female	1,502	811,900	39.3	36.70	42.03	1,278	688,400	33.4	30.70	36.11	224	123,500	6.0	5.08	7.03
Age group															
60 - 69	1,442	901,200	37.4	34.77	40.01	1,177	728,800	30.2	27.92	32.60	265	172,400	7.1	6.14	8.31
70 - 79	944	523,300	43.1	39.81	46.43	812	453,600	37.3	34.00	40.82	132	69,700	5.7	4.51	7.29
80 and above	262	130,500	37.2	31.16	43.61	218	101,000	28.8	23.93	34.18	44	29,400	8.4	5.08	13.53
Ethnicity															
Malay	1,286	904,800	45.5	42.90	48.12	1,069	747,000	37.6	35.15	40.04	217	157,700	7.9	6.49	9.65
Chinese	756	345,900	28.1	25.74	30.60	622	280,900	22.8	20.64	25.16	134	65,000	5.3	4.24	6.56
Indian	227	142,200	52.3	46.02	58.50	193	117,800	43.3	37.10	49.81	34	24,300	9.0	5.69	13.80
Bumiputera Sabah	152	48,600	28.6	21.83	36.45	127	41,400	24.4	17.75	32.48	25	7,200	4.2	3.37	5.26
Bumiputera Sarawak	188	60,200	40.7	35.81	45.77	161	51,500	34.8	30.28	39.59	27	8,700	5.9	4.48	7.75
Other Bumiputera / Others	39	53,300	31.6	16.43	52.17	35	-	-	-	-	4	-	-	-	-
Marital status															
Never married/ separated / Divorced / Widowed	1,050	577,000	38.4	35.35	41.62	870	473,100	31.5	28.82	34.35	180	103,800	6.9	5.62	8.49
Married/ Living with partner	1,598	978,000	39.5	37.16	41.86	1,337	810,300	32.7	30.40	35.11	261	167,800	6.8	5.75	7.96

Sociodemographic Characteristic	Overall Raised Blood Glucose					Known Diabetes					Undiagnosed Diabetes				
	Count	Estimated Population	Prevalence (%)	95% Confidence Interval		Count	Estimated Population	Prevalence (%)	95% Confidence Interval		Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper				Lower	Upper				Lower	Upper
Education level															
Never attended school / Did not complete primary education	602	276,100	37.1	32.33	42.20	499	234,500	31.5	26.93	36.53	103	41,600	5.6	4.35	7.18
Primary education	704	341,300	39.9	37.12	42.74	592	286,100	33.5	30.59	36.45	112	55,100	6.4	5.12	8.09
Secondary education	1,021	654,800	40.4	37.36	43.49	859	535,400	33.0	30.35	35.81	162	119,400	7.4	6.19	8.75
Tertiary education	317	278,400	37.1	31.82	42.69	255	226,300	30.2	25.79	34.91	62	52,100	6.9	4.65	10.24
Occupation															
Still working / retiree with pension	908	615,000	38.5	35.81	41.20	744	496,600	31.1	28.86	33.35	164	118,400	7.4	5.94	9.19
Not working (retiree without pension/ homemaker/ unpaid worker)	1,738	938,900	39.5	37.01	42.09	1,461	785,700	33.1	30.61	35.63	277	153,200	6.4	5.51	7.54
Household income category															
Bottom 40%	2,010	1,107,100	39.3	36.94	41.63	1,670	917,100	32.5	30.42	34.70	340	190,000	6.7	5.85	7.75
Middle 40%	453	289,300	36.9	33.05	40.98	383	235,000	30.0	25.91	34.44	70	54,300	6.9	5.02	9.49
Top 20%	185	158,700	42.4	35.82	49.21	154	131,300	35.1	29.04	41.62	31	27,400	7.3	4.43	11.84
Household income quintile															
Quintile 1 (<RM1,000)	434	198,100	35.3	31.51	39.32	358	159,500	28.4	25.26	31.86	76	38,500	6.9	4.87	9.61
Quintile 2 (RM1,000-1,999)	525	264,300	40.2	36.19	44.39	443	217,500	33.1	28.97	37.52	82	46,800	7.1	5.33	9.44
Quintile 3 (RM2,000-3,199)	576	315,000	39.2	35.15	43.41	468	257,700	32.1	28.41	35.98	108	57,300	7.1	5.43	9.31
Quintile 4 (RM3,200-5,999)	565	341,200	39.9	36.12	43.73	474	288,000	33.7	30.08	37.42	91	53,200	6.2	4.87	7.89
Quintile 5 (RM6,000 and above	548	436,500	39.7	36.26	43.18	464	360,600	32.8	29.62	36.09	84	75,900	6.9	4.96	9.51

Table 12.2: The prevalence of raised blood pressure among older person 60 years and above in Malaysia by sociodemographic characteristics (n = 7,215).

Sociodemographic Characteristic	Overall Raised Blood Pressure					Known Hypertension					Undiagnosed Hypertension				
	Count	Estimated Population	Prevalence (%)	95% Confidence Interval		Count	Estimated Population	Prevalence (%)	95% Confidence Interval		Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper				Lower	Upper				Lower	Upper
MALAYSIA	**5,336**	**2,909,800**	**73.1**	**71.00**	**75.19**	**4,236**	**2,292,000**	**57.6**	**55.51**	**59.70**	**1,100**	**617,800**	**15.5**	**14.34**	**16.80**
Location															
Urban	2,786	2,093,700	71.4	68.61	74.00	2,235	1,660,800	56.6	53.93	59.28	551	432,900	14.8	13.31	16.34
Rural	2,550	816,100	78.1	75.68	80.35	2,001	631,200	60.4	57.79	62.97	549	184,900	17.7	15.86	19.69
Sex															
Male	2,259	1,363,000	71.2	68.16	74.08	1,763	1,064,200	55.6	52.48	58.67	496	298,800	15.6	13.83	17.58
Female	3,077	1,546,800	74.9	72.68	77.07	2,473	1,227,900	59.5	56.93	62.00	604	318,900	15.5	14.00	17.03
Age group															
60 - 69	2,821	1,675,000	69.4	66.68	72.05	2,172	1,289,000	53.4	50.93	55.92	649	386,100	16.0	14.62	17.49
70 - 79	1,899	958,300	78.9	75.94	81.60	1,543	775,000	63.8	60.48	67.02	356	183,300	15.1	13.15	17.27
80 and above	616	276,500	78.8	73.17	83.44	521	228,100	65.0	59.47	70.10	95	48,400	13.8	10.04	18.63
Ethnicity															
Malay	2,247	1,524,300	76.6	73.24	79.74	1,723	1,179,500	59.3	55.74	62.78	524	344,800	17.3	15.36	19.52
Chinese	1,751	806,800	65.5	62.69	68.30	1,422	641,000	52.1	49.11	55.04	329	165,800	13.5	11.91	15.19
Indian	332	203,000	74.7	69.50	79.20	272	169,000	62.1	55.97	67.95	60	34,000	12.5	9.40	16.45
Bumiputera Sabah	488	129,800	76.4	68.91	82.54	375	103,000	60.6	53.13	67.66	113	26,800	15.8	13.11	18.84
Bumiputera Sarawak	410	129,300	87.4	83.60	90.38	359	113,200	76.5	72.32	80.24	51	16,100	10.9	9.03	13.02
Other Bumiputera / Others	108	116,600	69.2	48.18	84.40	85	86,300	51.2	30.24	71.73	23	30,300	18.0	9.44	31.52
Marital status															
Never married/ separated / Divorced / Widowed	2,195	1,134,700	75.6	72.69	78.27	1,751	886,600	59.1	55.98	62.07	444	248,100	16.5	14.45	18.83
Married/ Living with partner	3,141	1,775,100	71.7	69.12	74.09	2,485	1,405,400	56.7	54.29	59.16	656	369,700	14.9	13.45	16.54

Sociodemographic Characteristic	Overall Raised Blood Pressure					Known Hypertension					Undiagnosed Hypertension				
	Count	Estimated Population	Prevalence (%)	95% Confidence Interval		Count	Estimated Population	Prevalence (%)	95% Confidence Interval		Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper				Lower	Upper				Lower	Upper
Education level															
Never attended school / Did not complete primary education	1,334	564,900	76.0	70.16	80.94	1,064	438,200	58.9	52.65	64.91	270	126,700	17.0	14.34	20.13
Primary education	1,426	647,400	75.7	72.90	78.27	1,145	516,500	60.4	57.41	63.30	281	130,800	15.3	13.32	17.50
Secondary education	1,916	1,167,000	72.0	68.86	74.90	1,535	923,100	56.9	53.76	60.05	381	243,900	15.0	12.94	17.41
Tertiary education	652	524,100	69.8	64.87	74.37	487	409,300	54.5	49.40	59.56	165	114,800	15.3	12.67	18.37
Occupation															
Still working / retiree with pension	1,795	1,126,400	70.5	67.11	73.59	1,350	857,800	53.7	50.52	56.76	445	268,600	16.8	15.10	18.65
Not working (retiree without pension/ homemaker/ unpaid worker)	3,536	1,780,900	75.0	72.61	77.19	2,883	1,433,000	60.3	57.80	62.80	653	347,900	14.6	13.12	16.32
Household Income Category															
Bottom 40%	4,042	2,060,300	73.1	70.50	75.48	3,218	1,628,900	57.8	55.30	60.19	824	431,400	15.3	13.82	16.91
Middle 40%	939	581,000	74.2	70.16	77.81	749	464,300	59.3	54.83	63.56	190	116,700	14.9	12.27	17.98
Top 20%	354	268,300	71.7	65.38	77.22	268	198,700	53.1	46.73	59.34	86	69,600	18.6	14.26	23.87
Household income quintile															
Quintile 1 (<RM1,000)	945	394,500	70.3	66.21	74.16	780	310,100	55.3	51.46	59.06	165	84,400	15.0	12.48	18.04
Quintile 2 (RM1,000-1,999)	1,016	484,600	73.7	69.11	77.92	796	376,100	57.2	52.79	61.56	220	108,500	16.5	14.18	19.15
Quintile 3 (RM2,000-3,199)	1,176	598,300	74.5	70.96	77.69	920	478,600	59.6	55.56	63.46	256	119,700	14.9	12.65	17.47
Quintile 4 (RM3,200-5,999)	1,112	635,400	74.3	70.72	77.49	874	497,300	58.1	54.05	62.07	238	138,100	16.1	13.83	18.75
Quintile 5 (RM6,000 and above	1,086	796,800	72.4	68.82	75.72	865	629,800	57.2	53.80	60.59	221	167,000	15.2	12.72	18.00

Table 12.3: The prevalence of raised total cholesterol among older person 60 years and above in Malaysia by sociodemographic characteristics (n = 7,214)

Sociodemographic Characteristic	Overall Raised Total Cholesterol					Known Hypercholesterolaemia					Undiagnosed Hypercholesterolaemia				
	Count	Estimated Population	Prevalence (%)	95% Confidence Interval		Count	Estimated Population	Prevalence (%)	95% Confidence Interval		Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper				Lower	Upper				Lower	Upper
MALAYSIA	**5,441**	**3,031,600**	**76.2**	**74.39**	**77.96**	**4,027**	**2,201,200**	**55.3**	**53.36**	**57.31**	**1,414**	**830,500**	**20.9**	**19.23**	**22.63**
Location															
Urban	2,947	2,235,100	76.2	73.94	78.34	2,163	1,610,400	54.9	52.43	57.36	784	624,800	21.3	19.21	23.56
Rural	2,494	796,500	76.2	73.29	78.97	1,864	590,800	56.6	53.62	59.45	630	205,700	19.7	17.66	21.90
Sex															
Male	2,192	1,351,800	70.6	67.60	73.49	1,641	1,003,000	52.4	49.46	55.33	551	348,800	18.2	16.16	20.49
Female	3,249	1,679,800	81.4	79.40	83.24	2,386	1,198,200	58.1	55.84	60.25	863	481,600	23.3	21.42	25.38
Age group															
60 - 69	3,056	1,850,800	76.7	74.55	78.76	2,146	1,271,700	52.7	50.19	55.23	910	579,100	24.0	21.63	26.55
70 - 79	1,835	920,700	75.8	73.06	78.40	1,435	720,500	59.3	56.31	62.31	400	200,200	16.5	14.10	19.19
80 and above	550	260,100	74.1	68.64	78.90	446	209,000	59.5	53.50	65.27	104	51,200	14.6	11.00	19.06
Ethnicity															
Malay	2,307	1,576,900	79.3	76.64	81.71	1,676	1,171,500	58.9	56.02	61.74	631	405,300	20.4	18.61	22.27
Chinese	1,894	883,900	71.8	68.93	74.53	1,384	619,000	50.3	47.31	53.26	510	265,000	21.5	18.82	24.50
Indian	321	202,700	74.6	68.61	79.86	261	161,400	59.5	52.69	65.87	60	41,200	15.2	11.18	20.31
Bumiputera Sabah	436	117,500	69.2	61.37	75.99	319	85,400	50.2	41.99	58.47	117	32,200	18.9	15.64	22.71
Bumiputera Sarawak	383	122,300	82.6	79.20	85.57	317	100,800	68.1	65.22	70.89	66	21,400	14.5	12.82	16.34
Other Bumiputera / Others	100	128,300	76.2	58.79	87.74	70	63,000	37.4	18.02	61.89	30	65,300	38.8	17.17	65.89
Marital status															
Never married/ separated / Divorced / Widowed	2,191	1,143,300	76.2	73.84	78.36	1,604	817,600	54.5	51.36	57.55	587	325,700	21.7	19.48	24.11
Married/ Living with partner	3,250	1,888,400	76.2	73.75	78.57	2,423	1,383,600	55.9	53.39	58.31	827	504,700	20.4	18.28	22.65

Sociodemographic Characteristic	Overall Raised Total Cholesterol					Known Hypercholesterolaemia					Undiagnosed Hypercholesterolaemia				
	Count	Estimated Population	Prevalence (%)	95% Confidence Interval		Count	Estimated Population	Prevalence (%)	95% Confidence Interval		Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper				Lower	Upper				Lower	Upper
Education level															
Never attended school / Did not complete primary education	1,284	574,300	77.2	73.69	80.40	954	405,100	54.5	48.50	60.32	330	169,200	22.7	17.00	29.74
Primary education	1,404	631,300	73.8	70.86	76.61	1,063	469,200	54.9	51.69	58.03	341	162,100	19.0	16.64	21.53
Secondary education	2,018	1,252,800	77.3	74.76	79.59	1,492	908,500	56.0	53.52	58.52	526	344,200	21.2	18.97	23.68
Tertiary education	730	570,600	76.0	70.27	80.96	515	416,700	55.5	50.79	60.14	215	153,900	20.5	16.76	24.84
Occupation															
Still working / retiree with pension	1,879	1,192,500	74.6	71.21	77.68	1,329	828,100	51.8	48.94	54.64	550	364,300	22.8	19.99	25.85
Not working (retiree without pension/ homemaker/ unpaid worker)	3,557	1,836,600	77.3	75.46	79.08	2,695	1,370,700	57.7	55.29	60.10	862	465,900	19.6	17.94	21.41
Household income category															
Bottom 40%	4,075	2,132,200	75.6	73.65	77.49	3,022	1,554,100	55.1	52.77	57.44	1,053	578,100	20.5	18.57	22.59
Middle 40%	986	618,200	78.9	75.48	81.98	723	433,700	55.4	49.97	60.62	263	184,500	23.6	19.80	27.77
Top 20%	378	280,900	75.0	68.10	80.88	280	213,100	56.9	50.49	63.13	98	67,800	18.1	13.62	23.68
Household income quintile															
Quintile 1 (<RM1,000)	936	411,700	73.4	70.21	76.44	724	310,100	55.3	51.90	58.71	212	101,500	18.1	14.99	21.71
Quintile 2 (RM1,000-1,999)	1,001	491,100	74.7	70.90	78.22	738	346,800	52.8	47.50	58.00	263	144,300	22.0	17.27	27.49
Quintile 3 (RM2,000-3,199)	1,194	615,800	76.6	73.20	79.77	864	449,000	55.9	52.14	59.56	330	166,800	20.8	17.90	23.95
Quintile 4 (RM3,200-5,999)	1,129	651,700	76.1	72.83	79.18	824	463,400	54.2	50.43	57.83	305	188,200	22.0	19.30	24.96
Quintile 5 (RM6,000 and above	1,179	861,100	78.2	74.96	81.21	875	631,500	57.4	53.92	60.78	304	229,600	20.9	17.81	24.29

OLDER PERSONS HEALTH

13.0 Sarcopenia

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HIGHLIGHT

- The prevalence of sarcopenia among older persons in Malaysia was 45.3%.

INTRODUCTION

Sarcopenia is a progressive and generalised skeletal muscle disorder characterised by the loss of muscle mass, muscle strength, and physical performance. It is increasingly recognised as a major determinant of functional decline in ageing populations due to its strong association with frailty, falls, disability, loss of independence, institutionalisation, and mortality [1]. As countries undergo rapid demographic transition, sarcopenia has emerged as a critical public health concern, particularly in Asia where population ageing is accelerating.

Globally, the prevalence of sarcopenia among older persons varies widely, ranging from below 10% to over 50%, reflecting the differences in population characteristics. [2-5]. In Malaysia, a study among community-dwelling elderly in Klang Valley reported that the prevalence of sarcopenia was 33.6% [6], with risk factors including older age and poor nutritional status. However, this study findings were not nationally representative.

The inclusion of sarcopenia assessment in the National Health and Morbidity Survey (NHMS) 2025 provides the first nationally representative estimate of sarcopenia among adults aged 60 years and above residing in Malaysia. These findings offer important population-level evidence to inform healthy ageing strategies, functional health services planning, preventive interventions across the life course and subjective support among older Malaysians aged 60 years and above.

OBJECTIVES

To determine the prevalence of sarcopenia among older persons aged 60 and above in Malaysia.

METHODS

Respondents with pacemakers, metallic implants, or medical conditions that could interfere with body composition or physical performance testing were excluded. Sarcopenia assessment followed the Asian Working Group for Sarcopenia (AWGS) 2019 diagnostic framework, which incorporates three components: muscle mass, muscle strength, and physical performance [1].

1. **Muscle Mass Measurement:** Skeletal muscle mass was assessed using the Omron Karada Scan HBF-375 Bioelectrical Impedance Analyzer (BIA). Skeletal Muscle Index (SMI) was calculated as muscle mass (kg) divided by height squared (m^2). Height was measured using a stadiometer; when not feasible, it was estimated as twice the semi-arm span.
2. **Muscle Strength Measurement:** Handgrip strength was measured using the JAMAR Plus+ Digital Hand Dynamometer, a validated instrument for assessing muscle strength in clinical and population settings. Respondents stood upright with the dominant arm extended at a 90° angle from the body. Two readings were taken, and the average was used.
3. **Physical Performance Measurement:** Physical performance was assessed using the Chair Stand Test, a functional test commonly used to evaluate lower-limb strength and physical performance among older persons. Respondents were instructed to stand up and sit down from a 45-cm height chair as many times as possible within 30 seconds, without arm support. Two trials were conducted, and the higher number of complete stands was used.

DEFINITIONS

1. **Sarcopenia** is a progressive and generalised skeletal muscle disorder characterised by reduced muscle mass, strength, and physical performance. Following AWGS 2019, sarcopenia is defined as low skeletal muscle mass in combination with either low muscle strength or low physical performance [1].

2. **Low SMI** cut-off points were:
   - Male: <7.0 kg/m²
   - Female: <5.7 kg/m²

3. **Low handgrip strength** was defined as:
   - Male: <28 kg
   - Female: <18 kg

4. **Low physical performance** is defined as requiring ≥12 seconds to complete five chair stands.

FINDINGS

The national prevalence of sarcopenia among older persons aged 60 years and above was 45.3%. Prevalence increased with advancing age, from 35.4% among those aged 60–69 years to 58.1% among those aged 70–79 years, and 82.2% among those aged 80 years and above. By marital status, the prevalence of sarcopenia was higher among older persons who were never married, separated, divorced, or widowed (52.3%), compare to those who were married and living with a partner (41.3%). By occupational status, the prevalence was higher among older persons who were not working (50.4%), compared to those who were still working or retired with a pension (38.1%) **(Table 13.1)**.

CONCLUSION

Sarcopenia was identified in 45.3% of older persons aged 60 years and above residing in Malaysia. These findings highlight the need for targeted prevention and intervention strategies focusing on the oldest age groups and socially or economically vulnerable older adults.

RECOMMENDATIONS

- Include promotion of muscle health and healthy weight across the life course
  - Promote muscle-strengthening physical activity, healthy weight management, and adequate calories, protein and vitamin D intake through existing community and workplace platforms. This includes incorporating simple resistance exercises (e.g. chair stand, squats, resistance band exercises) into routine community sessions and providing standardised health education materials on muscle health and nutrition to prevent sarcopenia.
- Integrate early detection and risk stratification in healthcare and community settings
  - Standardise and coordinate sarcopenia screening and assessment, particularly among high-risk groups, including opportunistic screening among pre-older persons. This may include introducing opportunistic screening for pre-older persons aged 40–59 years and ensuring consistent use of existing assessment tools through a coordinated screening pathway.
- Coordinate sarcopenia interventions within healthcare and community settings
  - Integrate coordinated nutrition and physical function interventions within healthcare and community settings through a multidisciplinary approach. This includes aligning dietary counselling, exercise guidance, and functional rehabilitation to support maintenance of muscle function, independence, and quality of life among older persons.

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Table 13.1: The prevalence of sarcopenia among older person 60 years and above in Malaysia by sociodemographic characteristics (n = 6,582)

Sociodemographic Characteristic	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper
MALAYSIA	**3,154**	**1,623,900**	**45.3**	**42.88**	**47.76**
Location					
Urban	1,650	1,158,500	44.2	41.12	47.39
Rural	1,504	465,400	48.2	45.10	51.39
Sex					
Male	1,377	766,900	43.8	40.56	47.12
Female	1,777	857,000	46.7	44.16	49.35
Age group					
60 - 69	1,343	803,900	35.4	32.97	37.86
70 - 79	1,339	622,800	58.1	54.26	61.86
80 and above	472	197,200	82.2	77.62	86.06
Ethnicity					
Malay	1,107	752,000	42.6	38.51	46.76
Chinese	1,241	517,900	46.1	42.92	49.36
Indian	225	132,700	53.7	47.52	59.71
Bumiputera Sabah	230	62,700	40.9	32.43	49.87
Bumiputera Sarawak	286	85,300	53.3	48.00	58.59
Other Bumiputera / Others	65	73,200	54.5	33.42	74.10
Marital status					
Never married/ Separated / Divorced / Widowed	1,413	683,700	52.3	48.85	55.71
Married / Living with partner	1,741	940,200	41.3	38.53	44.13
Education level					
Never attended school / Did not complete primary education	931	392,900	60.0	55.90	64.02
Primary education	856	372,100	49.0	45.24	52.79
Secondary education	1,045	603,400	40.9	37.64	44.32
Tertiary education	318	254,200	36.8	31.51	42.41
Occupation					
Still working / retiree with pension	937	566,200	38.1	34.51	41.78
Not working (retiree without pension/ homemaker/ unpaid worker)	2,213	1,054,500	50.4	47.79	52.94

Sociodemographic Characteristic	Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper
Household income category					
Bottom 40%	2,512	1,236,600	48.5	45.46	51.50
Middle 40%	466	272,900	37.8	33.84	41.94
Top 20%	175	114,200	36.8	31.52	42.31
Household income quintile					
Quintile 1 (<RM1,000)	704	301,500	57.0	52.96	60.97
Quintile 2 (RM1,000-1,999)	670	312,600	51.8	46.44	57.10
Quintile 3 (RM2,000-3,199)	672	348,600	48.1	44.20	51.95
Quintile 4 (RM3,200-5,999)	577	297,900	39.2	35.50	43.04
Quintile 5 (RM6,000 and above)	530	363,100	37.6	34.20	41.10

OLDER PERSONS HEALTH

14.0 Pre-Frail and Frailty

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HIGHLIGHT

- Overall, 60.0% of older persons in Malaysia were pre-frail, and 10.7% were frail.

INTRODUCTION

Frailty is a multidimensional geriatric syndrome characterised by a decline in physiological reserves, rendering older persons vulnerable to stressors [1]. This heightened vulnerability precipitates a cascade of adverse health outcomes, including an increased risk of falls, dependence in activities of daily living, hospitalisation, disability, and mortality [2–4]. Frailty arises from an accumulation of deficits across multiple physiological systems, progressively compromising an individual's ability to maintain homeostasis and respond effectively to perturbations [5,6].

In the context of rapid global population ageing, frailty has emerged as a major public health concern. Malaysia is projected to become an ageing nation by 2030 [7]. The rising proportion of older persons presents substantial challenges to the healthcare system and social support structures, compounded by frailty-related complications. These include increased hospital admissions, prolonged recovery periods, accelerated functional decline, and higher mortality, all contributing to a substantial healthcare burden [8]. A recent local study reported a pre-frailty prevalence of 56.2% and a frailty prevalence of 38.6% [9]. The frailty index (FI) is a commonly used method to identify and classify pre-frailty and frailty in older persons by quantifying the accumulation of deficits across multiple physiological systems [10].

OBJECTIVES

General Objective

To determine the prevalence of pre-frail and frailty among older persons aged 60 and above in Malaysia.

Specific Objectives

1. To determine the prevalence of pre-frail among older persons aged 60 and above by sociodemographic characteristics.
2. To determine the prevalence of frailty among older persons aged 60 and above by sociodemographic characteristics.

METHODS

Construction of the Frailty Index (FI)

A frailty index (FI) was constructed based on the deficit accumulation model, adhering to the established standard procedures [10]. Using the National Health and Morbidity Survey (NHMS) for older persons dataset, an initial list of potential health deficits was screened. Health deficits were selected for inclusion based on the following criteria: i) associated with health status, ii) increasing prevalence with age, iii) absence of early-life saturation, iv) reported prevalence of at least 1% and not more than 80 % in the study population, and v) less than 5% missing values at the variable level [10,11]. These health deficits covered several key domains, including cognitive impairment (one health deficit), dementia (one health deficit), overall depression (one health deficit), chronic diseases (hypertension, diabetes, and hypercholesterolaemia) (three health deficits), activities daily living (ten health deficits), instrumental of activities daily living (eight health deficits), vision or hearing impairment (seven health deficits), verified heart attack, verified heart failure and verified stroke and sarcopenia (four health deficits).

Each deficit variable was coded to contribute a value between 0 (indicating no deficit) and 1 (indicating the full presence or maximal severity of the deficit) to the individual's FI score. For dichotomous variables, a score of '1' was assigned for the presence of a deficit and '0' for its absence. For variables with polytomous or graded responses (Likert scales reflecting frequency or severity, with some scales extending up to 5 points), scores were proportionally mapped onto the 0 to 1 interval. For instance, a 5-point scale originally coded 0-1-2-3-4 could be recoded to deficit values of 0, 0.25, 0.5, 0.75, and 1.0, respectively. The FI score for each individual was calculated by summing all deficit scores and dividing by the total number of deficits considered, resulting in a continuous score ranging from 0 to 1 (FI = ([sum of individual deficit scores]/

total health deficits). For individuals with one or two missing deficit items, the FI was calculated as the sum of observed deficits divided by the number of non-missing items for that individual [10].

DEFINITIONS

1. The standard interpretation of **FI scores**, as proposed by Rockwood et al., defines non-frailty as FI < 0.08, pre-frailty as FI 0.08-0.24, and frailty as FI ≥ 0.25, offering a graded measure of an individual's vulnerability [12].

FINDINGS

The overall prevalence of pre-frailty was 60.0%. The prevalence was highest among older persons aged 70–79 years (66.7%), followed by those aged 60–69 years (58.0%) and those aged 80 years and above (50.2%) **(Table 14.1)**.

The overall prevalence of frailty among older persons in Malaysia was 10.7%. Frailty prevalence was higher in rural areas (14.6%) than in urban areas (9.2%). By sex, the prevalence of frailty was higher among females (12.5%) than males (8.7%). Frailty increased markedly with advancing age, with the highest prevalence observed among those aged 80 years and above (42.3%). Individuals who were never married, separated, divorced, or widowed had the highest prevalence of frailty (16.7%). The prevalence of frailty was higher among those who never attended school or did not complete primary education (25.2%), followed by those with primary education (11.1%), secondary education (6.3%), and tertiary education (5.2%). In terms of occupation, individuals who were not working had a frailty prevalence of 14.1% **(Table 14.1)**.

CONCLUSION

This study revealed a significant geriatric challenge, with a staggering 60.0% of older persons in Malaysia being pre-frail, while 10.7% are frail. The data reveal a pronounced age- and education-related gradient, with frailty reaching its highest levels among individuals aged 80 years and above and those with the lowest levels of formal education.

RECOMMENDATIONS

- Raise life-course awareness of frailty and healthy ageing across all age groups by highlighting key behavioural and social risk factors (physical inactivity, poor nutrition, multimorbidity, social isolation, and low health literacy) through targeted health promotion and education activities in schools, workplaces, and communities.
- Encourage local authorities to invest in, develop, maintain, and create age-friendly environments and facilities that support and promote active ageing, specifically physical activity, social participation, and accessibility, to walking-friendly neighbourhoods and safe parks.
- Implement and scale up community-based, multi-component health promotion programmes for healthy and pre-frail older persons, with a strong emphasis on structured physical exercise (particularly resistance and balance training), nutrition optimisation, and social engagement.
- Increase awareness and competencies among healthcare providers in primary care and hospital settings regarding frailty and provide training to support early identification and screening of frailty in older persons.
- Strengthen the implementation of the Integrated Care for Older People (ICOPE) approach to support early screening, identification, and timely management of frailty among older persons.
- Implement integrated and comprehensive care pathways for pre-frail and frail older persons involving a multidisciplinary team and allied health professionals, including physiotherapists, occupational therapists, dietitians, and pharmacists, which align with the WHO ICOPE models.
- Provide accessible and goal-oriented rehabilitation services (e.g. multi-component exercise, functional training, assistive devices, home modifications) to minimise functional decline, reduce long-term care hospitalisations, and improve quality of life among older persons with frailty.

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Table 14.1: The prevalence of frailty and prefrail among older person 60 years and above in Malaysia by sociodemographic characteristics (n = 7,197)

Sociodemographic Characteristic	Pre-Frail					Frail				
	Count	Estimated Population	Prevalence (%)	95% Confidence Interval		Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper				Lower	Upper
MALAYSIA	**4,279**	**2,381,700**	**60.0**	**57.87**	**62.05**	**843**	**423,000**	**10.7**	**9.32**	**12.15**
Location										
Urban	2,272	1,739,800	59.4	56.69	62.07	348	270,800	9.2	7.64	11.15
Rural	2,007	641,900	61.6	58.92	64.18	495	152,200	14.6	12.67	16.77
Sex										
Male	1,831	1,151,000	60.2	57.51	62.83	309	166,600	8.7	7.38	10.26
Female	2,448	1,230,700	59.8	56.92	62.57	534	256,400	12.5	10.38	14.87
Age group										
60 - 69	2,285	1,398,400	58.0	55.25	60.75	185	108,700	4.5	3.62	5.61
70 - 79	1,624	807,600	66.7	63.38	69.86	316	166,300	13.7	10.89	17.19
80 and above	370	175,700	50.2	45.42	54.96	342	148,000	42.3	37.10	47.64
Ethnicity										
Malay	1,798	1,251,300	63.0	60.14	65.72	352	233,700	11.8	10.04	13.72
Chinese	1,430	658,500	53.7	51.12	56.29	230	77,200	6.3	5.19	7.61
Indian	308	191,100	70.4	64.47	75.65	37	20,900	7.7	5.14	11.40
Bumiputera Sabah	347	93,600	55.2	50.84	59.44	112	32,700	19.3	15.21	24.12
Bumiputera Sarawak	320	103,700	70.0	66.38	73.47	90	25,100	16.9	11.78	23.76
Other Bumiputera/Others	76	83,500	49.5	26.19	73.08	22	-	-	-	-
Marital status										
Never married/ separated / Divorced / Widowed	1,700	884,100	59.1	55.61	62.45	497	250,300	16.7	13.75	20.19
Married/ Living with partner	2,579	1,497,600	60.5	58.19	62.82	346	172,700	7.0	6.00	8.10

Sociodemographic Characteristic	Pre-Frail					Frail				
	Count	Estimated Population	Prevalence (%)	95% Confidence Interval		Count	Estimated Population	Prevalence (%)	95% Confidence Interval	
				Lower	Upper				Lower	Upper
Education level										
Never attended school / Did not complete primary education	1,020	444,500	59.9	54.60	65.06	438	187,000	25.2	19.83	31.50
Primary education	1,170	534,800	62.7	59.90	65.42	213	94,600	11.1	9.17	13.35
Secondary education	1,581	989,600	61.1	58.32	63.77	144	101,600	6.3	5.03	7.79
Tertiary education	505	410,900	54.8	50.65	58.86	45	38,900	5.2	3.45	7.72
Occupation										
Still working / retiree with pension	1,447	938,200	58.7	55.51	61.84	112	89,300	5.6	4.25	7.33
Not working (retiree without pension/ homemaker/ unpaid worker)	2,829	1,441,300	60.8	58.43	63.20	729	333,300	14.1	12.11	16.28
Household income category										
Bottom 40%	3,270	1,723,300	61.3	59.14	63.34	665	303,700	10.8	9.57	12.16
Middle 40%	729	456,300	58.3	53.12	63.31	138	76,200	9.7	7.95	11.88
Top 20%	279	201,900	53.9	44.09	63.43	40	-	-	-	-
Household income quintile										
Quintile 1 (<RM1,000)	830	359,400	64.2	60.34	67.94	166	64,700	11.6	8.95	14.84
Quintile 2 (RM1,000-1,999)	835	423,000	64.5	59.62	69.18	157	64,500	9.8	7.75	12.42
Quintile 3 (RM2,000-3,199)	919	485,900	60.7	57.19	64.07	191	80,100	10.0	8.23	12.11
Quintile 4 (RM3,200-5,999)	845	492,800	57.6	54.01	61.18	181	94,300	11.0	9.11	13.30
Quintile 5 (RM3,200-5,999)	849	620,400	56.4	52.59	60.17	148	119,300	10.9	7.70	15.08

OLDER PERSONS HEALTH

15.0 Informal Caregiver Burden

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HIGHLIGHT

- 32.2% of primary informal caregivers of older persons reported experiencing caregiver burden.

INTRODUCTION

As Malaysians live longer, many older adults would eventually require assistance with daily activities such as bathing, dressing, eating, transportation, shopping, and medication management. As most older persons prefer to age in place, this care is often provided by family members in line with cultural values and filial responsibilities [1]. National policies, including National Family Policy and Malaysia Care Strategic Framework and Action Plan 2026-2030 [2], highlight the important role of families in caregiving. Caregivers, particularly unpaid family members living in the same household (informal caregivers), often face the challenge of balancing caregiving responsibilities with their own well-being, employment, household obligations, and personal commitments [3].

Local studies have reported caregiver burden ranging from 19.0% among informal caregiver to 69.4% among caregivers of older persons with dementia [4-6], reflecting diverse impacts due to varying health conditions and methodologies. Despite their critical role, the burden experienced by caregivers of older persons remains inadequately understood, highlighting the need for a national study focused on this issue. This report addresses this gap by presenting national findings on informal caregiver burden to support caregivers through the development of policies and support initiatives.

OBJECTIVES

To determine the percentage of primary informal caregivers of dependent older persons experiencing caregiver burden in Malaysia.

METHODS

Caregivers were asked to indicate their relationship to the older person, categorised as spouse, child, child-in-law, sibling, or other. Caregivers were also asked whether they had provided assistance during the past month with activities of daily living (ADL), healthcare-related tasks, or other activities. Based on their responses, the care provided was categorised into ADL-related care and instrumental activities of daily living (IADL)-related care. ADL-related care included assistance with eating, bathing, dressing, toileting, and mobility. IADL-related care included managing medications, accompanying older persons to medical appointments, doing laundry, shopping for groceries or personal items, preparing meals, handling bills and banking matters, and providing transportation.

In this study, caregiver burden was assessed using the 22-item Zarit Burden Interview (ZBI), which has been locally validated in Malaysia [7]. The ZBI is a self-administered questionnaire that caregivers completed independently. The ZBI covers areas most frequently reported by caregivers as problematic, including the caregiver's health, psychological well-being, financial strain, social life, and the relationship between the caregiver and the care recipient [8].

DEFINITIONS

1. **Caregiver burden** was defined as the extent to which caregivers of older persons with functional limitations perceived their emotional or physical health, social life, or financial status to be negatively affected by their caregiving responsibilities. Respondents with a ZBI score of 22 or higher were categorised as experiencing caregiver burden [7].

FINDINGS

The percentage of primary informal caregivers experiencing caregiver burden in Malaysia was 32.2%, corresponding to 307 caregivers. When examined by sex, the percentage of caregiver burden was higher among female caregivers (36.4%) compared to male caregivers (25.6%). Caregiver burden was highest among caregivers aged 50-59 years (48.9%), followed by caregivers aged 60-69 years (34.8%) and caregivers aged 40-49 years (34.7%). Regarding the type of care provided by primary informal caregivers,

46.1% of caregivers who provided care for both ADL and IADL reported experiencing caregiver burden, compared to 25.5% of caregivers who provided care for IADL only. In terms of relationship to the older person, siblings reported the highest percentage of caregiver burden (54.5%), followed by other caregivers (e.g., other relatives, non-relatives, or those with multiple relationships) at 47.2%. In contrast, spouses reported the lowest caregiver burden (26.6%) **(Table 15.1)**.

CONCLUSION

One-third of primary informal caregivers reported caregiver burden in Malaysia, which was more common among female, middle-aged, and sibling caregivers. Burden was highest among those providing both ADL and IADL care, reflecting the multidimensional demands of caregiving.

RECOMMENDATIONS

- Implement preventive psychosocial support programmes for informal caregivers
  - Increase public awareness of the physical, emotional, and psychological burden faced by informal caregivers through public talks, forums, and social media.
  - Implement routine caregiver burden assessments by healthcare providers and social welfare officers to identify caregiver needs and guide appropriate support.
  - Implement preventive strategies to reduce caregiver burden by expanding access to private respite care services, home-based care support, and geriatric care programmes.
- Establish financial assistance schemes for informal caregivers, including tax incentives and targeted support for lower-income households. Social protection for unemployed caregivers should also be expanded through Employees Provident Fund (KWSP).
- Increase employer awareness of caregiver burden and promote supportive workplace environments through caregiver-friendly working policies, such as flexible work arrangements and workforce retention strategies.
- Develop capacity-building initiatives for informal caregivers
  - Develop community-based caregiver programmes in collaboration with the private sector and NGOs
  - Develop an informal caregiver training module that combines practical caregiving skills and psychosocial coping skills.

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Table 15.1: The percentage of primary informal caregivers with caregiver burden in Malaysia by sociodemographic characteristics (n = 952).

Sociodemographic Characteristic	Count	Percentage (%)	95% Confidence Interval	
			Lower	Upper
MALAYSIA	**307**	**32.2**	**29.35**	**35.28**
Location				
Urban	152	35.0	30.68	39.63
Rural	155	29.9	26.14	34.00
Sex				
Male	94	25.6	21.41	30.32
Female	213	36.4	32.61	40.39
Age group				
18-29	17	23.0	14.78	33.84
30-39	43	22.5	17.14	28.97
40-49	68	34.7	28.38	41.60
50-59	85	48.9	41.53	56.22
60-69	69	34.8	28.55	41.72
70-and above	25	21.0	14.60	29.23
Ethnicity				
Malay	108	25.4	21.50	29.76
Chinese	114	43.2	37.35	49.21
Indian	17	25.4	16.41	37.01
Bumiputera Sabah	26	31.0	22.05	41.52
Bumiputera Sarawak	34	42.5	32.25	53.44
Other Bumiputera / Others	8	25.0	13.03	42.33
Marital status				
Never married/ Separated / Divorced / Widowed	121	36.7	31.65	41.99
Married / Living with partner	186	30.0	26.52	33.72
Education level				
Never attended school / Did not complete primary education	27	36.0	26.04	47.32
Primary education	45	35.2	27.42	43.76
Secondary education	158	31.2	27.34	35.39
Tertiary education	77	31.7	26.15	37.79
Occupation				
Still working / retiree with pension	88	29.8	24.89	35.29
Not working (retiree without pension/ homemaker/ unpaid worker)	219	33.4	29.93	37.14

Sociodemographic Characteristic	Count	Percentage (%)	95% Confidence Interval	
			Lower	Upper
Household income category				
Bottom 40%	217	31.7	28.30	35.26
Middle 40%	76	36.9	30.60	43.67
Top 20%	14	23.0	14.08	35.03
Household income quintile				
Quintile 1 (<RM1,000)	29	32.2	23.44	42.46
Quintile 2 (RM1,000-1,999)	55	34.0	27.10	41.55
Quintile 3 (RM2,000-3,199)	63	26.9	21.63	32.96
Quintile 4 (RM3,200-5,999)	83	33.5	27.88	39.56
Quintile 5 (RM6,000 and above)	77	35.3	29.28	41.88
Type of care provided				
ADL only	-	-	-	-
IADL Only	162	25.5	22.24	29.00
ADL and IADL	143	46.1	40.66	51.69
Relationship with older person				
Spouse	68	26.6	21.52	32.30
Son/ daughter	164	32.7	28.77	36.96
Son-in-law/ daughter-in-law	33	34.4	25.62	44.33
Sibling	12	54.5	34.65	73.09
Grandchild	13	31.7	19.48	47.07
Others*	17	47.2	31.98	63.00

*Other relative, non-relatives and multiple relationships.

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