Original Contribution

Prevalence, Lifestyle Correlates, and Psychosocial Functioning Among Multi-Ethnic Older Adults with Mild Cognitive Impairment in Singapore: Preliminary Findings from a 10/66 Population Study

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Asia, which has the highest increase in dementia prevalence, is unfortunately lacking recent up-to-date research, with regions of Southeast Asia being the most inadequate. Preventive approaches, such as the understanding of Mild Cognitive Impairment (MCI), are currently the most effective approach in reducing the risk or delaying the onset of dementia but are not adequately understood. Additionally, there is a paucity of research examining lifestyle and sociodemographic correlates of MCI that are relevant to the local population of Singapore. To address these gaps, this study aimed to explore: 1) the prevalence of MCI and Amnestic Mild Cognitive Impairment (aMCI), 2) the psychosocial and lifestyle correlates of MCI and aMCI. Data were drawn from the Well-being of the Singapore Elderly (WiSE) population study, which is a single-phase cross-sectional household survey conducted among older adult residents aged 60 years and above. Analyses revealed that the weighted MCI prevalence (1.2%) was lower than global figures. Few sociodemographic and lifestyle habits were related to MCI prevalence, as only age and physical activeness emerged as significant correlates. Despite the low prevalence of MCI, individuals with MCI experienced marked disability, clinical levels of depression and anxiety, which are all concerning finds. Due to the exploratory and cross-sectional nature of the study, future longitudinal research could further refine our understanding of MCI and confirm the present findings.

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INTRODUCTION

According to the World Health Organization (WHO), dementia is one of the greatest health challenges of the modern world [1]. The World Alzheimer Report published in 2015 estimates that 46.8 million people are living with dementia, and this figure is projected to grow by approximately 70% in 2050 [2]. Accompanying the figures are large projected increases in economic costs and burden due to greater demands of healthcare provisions for dementia among other geriatric conditions [3]. Asia, which has the highest increase in dementia prevalence and the highest proportion of incident dementia worldwide, are unfortunately lacking recent and up-to-date dementia-related research, with regions in Southeast Asia being the most inadequate [2].

Preventive approaches, such as targeting modifiable risk factors and detecting early signs of cognitive impairment, are currently the most effective approach in reducing the risk or delaying the onset of dementia [4-6]. Mild cognitive impairment (MCI), a heterogeneous concept that is defined as a transitional phase of cognitive decline between healthy aging and dementia [7], is a precursor to dementia and Alzheimer's Disease (AD). While a sizable proportion of individuals with MCI do not progress to dementia [8-11], studies have suggested that individuals with a history of MCI have a significantly heightened risk of developing dementia as compared to cognitively healthy individuals [12-14], with approximately 60% to 65% of them advancing on to develop dementia in their lifetimes [15].

According to several epidemiological studies, depending on the population studied and methodology used, the prevalence of MCI has been found to range from approximately 2.5% to 20.8% in the community [14,16-25]. Certain characteristics, such as old age and lower educational levels, increases the likelihood of MCI [14,19,23]. Unhealthy lifestyle habits, such as smoking, physical inactivity, and harmful levels of alcohol consumption have been shown in past studies to be associated with a heightened risk for various levels of cognitive decline and dementia [26-33].

Depression and anxiety are the two most common neuropsychiatric conditions associated with cognitive decline and dementia risk [34-36]. There is evidence which suggests that individuals with MCI who have depression or anxiety are at heightened dementia risk than those without [37]. When concerning specific neuropsychiatric conditions, biomarker research suggests that the presence of anxiety in MCI may predict conversions to AD [38,39] and the presence of depression is likely to exacerbate the risk of multimorbidity and health complications, compounding risks of mortality later in life. Additionally, less is known about the association between loneliness and MCI, despite having established links to increased dementia risk [40,41], which remains to be elucidated [42]. Loneliness is closely related to depression [43,44], and it can influence cognitive decline and functioning directly and indirectly via biological and emotional pathways [42].

Collectively, sociodemographic and lifestyle risk factors of MCI are multifarious in nature and an effective prevention strategy would thus require them to be multifaceted as well. Understanding unhealthy lifestyle habits and adverse affective states are important as they are highly modifiable or treatable as compared to sociodemographic factors which are more static in nature. To the best of our knowledge, there is a paucity in research examining the lifestyle and sociodemographic correlates of MCI that is relevant to the local population of Singapore.

Singapore has a multi-ethnic residential population of approximately 4 million [45]. The proportion of older adult residents who are 65 years and above has grown considerably, from 9% in 2010 to 14.4% in 2019, and it is expected to increase to approximately 19% by 2030 [45]. With a rapidly aging society, Singapore, too, faces a challenge of dementia. The prevalence of Diagnostic and Statistical Manual of Mental Disorders IV or DSM-IV dementia in Singapore was found to have increased to 4.6% in 2013 [46,47], from 1.26% in 2002 [48]. Due to low fertility rates and longer life expectancies, there are concerns over a lack of healthcare provisions to meet the demands of a rapidly aging demographic [49]. It is therefore important to understand the early signs of dementia and its correlates, yet few studies had been conducted to ascertain the prevalence of MCI at an epidemiological scale that is representative of the population in Singapore. Local epidemiological inquiry into MCI that is representative of the older population in Singapore is limited, with existing research dedicated to the Chinese population only [50], or on amnestic MCI only [51]. While Amnestic MCI (aMCI) is associated with a greater risk of developing AD [21,52-55], non-amnestic MCI (na-MCI) is associated with a higher risk of progressing to other forms of dementia, such as dementia with Lewy bodies [53,54,56]. Thus, investigating non-amnestic MCI has profound clinical implications [7,21]. Finally, the associated psychosocial and lifestyle correlates of MCI remain poorly studied, and therefore, the applicability and generalizability of past research to the local population remains unclear.

Identifying risk factors that are significantly relevant to Singapore allows for better preventive strategies for cognitive decline and dementia related illnesses. Given the lack of local research into the area of MCI, this study aims to explore: 1) the prevalence of MCI and aMCI (a subset of MCI), 2) the psychosocial and lifestyle cor-

relates of MCI and aMCI. To the best of our knowledge, this is the first study in Singapore that examines a broader concept of MCI that encompasses both amnestic and non-amnestic subtypes of MCI, in a sample cohort that is representative of older residents in Singapore.

METHODS

Data were drawn from the Well-being of the Singapore Elderly (WiSE) population study, which is a single-phase cross-sectional household survey that was conducted between October 2012 and December 2013. Residents who were 60 years old and above at the time of the survey, were randomly selected from a national household registry, and were interviewed at their homes by trained interviewers in one sitting after giving written informed consent. While residents who were institutionalized were included in the study, those who were uncontactable after multiple attempts (maximum 10) were excluded.

Participants and their informants were each administered culturally adapted sets of questionnaires from the 10/66 assessment [57], which was comprised of sociodemographic, health, and lifestyle questions, the Geriatric Mental State (GMS) examination, and a two-part cognitive test battery. The informant was defined as the individual who knew the participant best, which was determined by a criterion of the most time spent with the participant. Most informants were caregivers, some were co-residents or closely related contacts who did not provide a caregiving role. Informants answered questions related to cognitive and neuropsychiatric functioning of participants. Details of the methodology of the WiSE population study has been published elsewhere [46,58].

MATERIALS

The 10/66 protocol was originally designed to describe the prevalence and incidence of dementia, caregiver strain, the arrangements, and effectiveness of health provisions for individuals with dementia and their caregivers with a standardized methodology [57]. The decision to use the 10/66 protocol for the WiSE study was based on the cultural adaptability of the assessment to Asia and Southeast Asia [59]. The instruments that are relevant to the present study comprised of:

The Geriatric Mental State (GMS), which is a set of questionnaires that uses a computer algorithm (Automated Geriatric Examination for Computer Assisted Taxonomy; AGECAT) to identify the organicity of dementia, other psychiatric conditions, such as depression and anxiety, and subjective memory impairment [60]. In addition, participants responded "yes" or "no" to a single question, "Do you feel lonely?"

A widely used two-part cognitive test battery that consists of 1) a Community Screening Instrument for Dementia (CSI'D) which assesses global cognition comprising different aspects of cognition related to abstract thinking, memory, language, praxis, and orientation to time and space, and 2) a Modified Consortium to Establish a Registry of Alzheimer's Disease (CERAD) with two memory tasks: world list memory (WLM) and word list recall (WLR) [61] that assesses immediate as well as delayed recall, and non-memory tasks: verbal fluency and Boston naming test (language fluency), figure copy and the trail making test B and A (executive functions) were used to assess cognition. The composite score of CERAD has been found to be a valid measure of cognition in Singapore among older adults [62] and of aMCI and MCI in different countries [63,64].

World Health Organization Disability Assessment Schedule (WHODAS) brief scale consists of 12 items from the 36-item version that measures overall functioning. Higher scores denote better functioning. The WHODAS 12-item version is reliable, valid locally, and cross-culturally adaptable [65,66].

The Sociodemographic information questionnaire, which consists of questions related to age, gender, ethnicity, highest education achieved, being physically active, and smoking history. For smoking history, participants were asked if there has ever been a period "when you smoked cigarettes, cigars, or a pipe, chewing tobacco, beedi or snuff nearly every day." Participants were characterized as current smokers, former smokers, and non-smokers. For physical exercise, participants were asked, "Taking into account both work and leisure, would you say that you are very, fairly, not very or not at all physically active." Participants who responded very/fairly/not very physically active were characterized as physically active, whereas those who responded "not at all physically active" were characterized as not physically active. Finally, participants were characterized as "Yes" or "No" to the question, "was there ever a period in your life when you drank at least 12 drinks in a year?"

Criteria for MCI and aMCI

The general criteria for MCI are: 1) objective cognitive impairment (which includes memory and non-memory components), and 2) subjective cognitive impairment, with 3) zero to minimal impairments in daily functioning, and 4) with no dementia. The criteria are further described below:

Objective cognitive impairment was determined if there were reports of disturbances in cognitive function. Impaired cognitive functioning was present when the composite score of the subscale of CSI'D and CERAD word list (related to memory or executive function), fell at least 1.5 standard deviation (SD) below the mean, ad-

justed for age and education levels.

Subjective cognitive impairment was determined by the following questions in the GMS, such as "Have you had any difficulty in your memory" (No/Yes), "Have you tended to forget things recently" (No/Noticed once a week/Noticed Daily), "Have you tended to forget names of your family or close friends" (No/Noticed once a week/Noticed Daily), and "Do you have to make more effort to remember things than you used to" (No/Yes). Subjective cognitive impairment was present in individuals who responded "Yes" to three or more of these questions [67].

The level of daily functioning was determined by the informants' responses to the questions on normal activities of daily living (IADLs) in the CSI'D informant adapted interview. Participants who had zero to minimal levels of impairment in daily functioning had informants reporting zero or very mild impairments in feeding, doing household chores, dressing, toileting, using money, or pursuing hobbies.

A diagnosis of dementia was determined by both 10/66 dementia and the Statistical Manual of Mental Disorders IV (DSM-IV) criteria for dementia, which were determined using logistic regression coefficients of AGECAT, an informant score of RELSCORE, and COGSCORE, which are CSI'D components of the 10/66 protocol. Participants who have either 10/66 or DSM-IV dementia were excluded from all analyses.

This report follows the conventional criteria recommended by Winblad et al. (2004) [21] for a broader definition of MCI that includes amnestic (aMCI) and non-amnestic (na-MCI) MCI, and by Petersen (2004) [53] for aMCI, which is a subset of MCI. Participants who meet the criteria 1) to 4) described will be classified as having MCI, or those who meet the criteria described for objective memory impairment only in 1) *and* fulfil 2) to 4) will be characterized as having aMCI.

Statistical Analyses

The prevalence of MCI was weighted to ensure that the findings are representative of the older adult population in Singapore. Means and standard deviations were calculated to understand the population statistical distribution at a descriptive level. Multiple chi-square tests of independence and multiple simple linear regression analyses were conducted to determine the associations between MCI (vs no MCI), or aMCI (vs na-MCI), and psychosocial variables: age groups (60-74 years, 75-84 years, 85 years and above), gender (male, female), highest education levels (none, primary, secondary, tertiary levels) smoking history (never smoked, current smokers, former smokers), problem drinking history (had at least 12 drinks in a year, none), experienced loneliness (yes, no), and physically active status (yes, no). Finally, separate multiple linear regression analyses were conducted

to find out the associations between MCI (and no MCI), or aMCI (and no aMCI), and GMS-AGECAT depression, anxiety, and WHODAS disability scores, while controlling for sociodemographic covariates of age groups, gender, and highest education levels. Associations were significant if p values were lower than $p < .05$.

RESULTS

Prevalence

The weighted prevalence of MCI, which comprised aMCI and na-MCI, was found to be 1.2% (n=32) in this population of adults aged 60 years and above. GMS-AGECAT subsyndromal depression, depression, and anxiety were present in 26.3%, 13.2%, and 0.8% of individuals with MCI.

The weighted prevalence of aMCI, which is a subset of MCI, was found to be 0.9% (n=25) in the population sample studied. GMS-AGECAT subsyndromal depression, depression, and anxiety were present in 19.3%, 2.6%, 1% of individuals with aMCI respectively. Chi-square analyses indicated that depression and anxiety were associated with MCI. Additionally, anxiety but not depression was associated with aMCI only. The summary of results is presented in Tables 1 and 2.

Associations

Multiple Chi-Square Tests of Independence indicated that older age and those who were physically inactive, had significantly higher proportions of having MCI or aMCI. Neither MCI nor aMCI were significantly associated with gender, education levels, smoking history, having at least 12 drinks a year, or loneliness.

Disability

Multiple linear regression analyses revealed that having MCI or aMCI were significantly and positively associated with WHODAS disability scores, after controlling for sociodemographic covariates (Table 3). Calculation of effect sizes using the means and standard deviation between groups suggests that the differences in disability scores between the two groups (MCI vs non-MCI or aMCI vs na-MCI) were both equally large (cohen's $d = 0.77$).

DISCUSSION

Given that preventive measures are currently the most effective approach in delaying the onset of dementia, it is thus vital to investigate individuals with MCI as they may be at risk of progressing to dementia. To fill the local knowledge gap in this area, this study aimed to determine the prevalence and correlates of MCI among

Table 1. Weighted proportions of MCI, non-MCI, aMCI, na-MCI groups, and the associations with psychosocial and lifestyle factors.

	weighted prevalence		associations			weighted prevalence		associations		
	MCI (n=32)	non-MCI (n=2133)	chi-square	df	p value	aMCI (n=25)	na-MCI (n=2140)	chi-square	df	p value
Age groups			9.64	2	**0.0232**			8.2483	2	**0.0359**
60-74 years old	0.85% (13)	99.15% (1435)				0.7% (9)	99.3% (1439)			
75-84 years old	2.42% (12)	97.58% (523)				1.6% (9)	98.4% (526)			
85 years and above	3.70% (7)	96.30% (175)				3.7% (7)	96.3% (175)			
Gender			0.16	1	0.7634			0.9554	1	0.4696
Male	1.3% (19)	98.70% (974)				1.1% (17)	98.9% (976)			
Female	1.12% (13)	98.89% (1159)				0.7% (8)	99.3% (1164)			
Education levels			4.42	3	0.5269			1.4039	3	0.8541
None	2.19% (6)	97.81% (336)				0.8% (3)	99.2% (339)			
Primary	1.29% (20)	98.71% (1072)				1.1% (18)	98.9% (1074)			
Secondary	0.58% (4)	99.42% (479)				0.5% (3)	99.5% (480)			
Tertiary	0.95% (2)	99.05% (242)				0.9% (1)	99.1% (243)			
Smoking history			3.40	2	0.3044			7.07	2	0.0606
Never smoked	1.09% (20)	98.91% (1566)				0.79% (14)	99.21% (1572)			
Current smokers	2.49% (5)	97.51% (212)				2.49% (5)	97.51% (212)			
Former smokers	0.89% (7)	99.11% (355)				0.43% (6)	99.57% (356)			
Had at least 12 drinks in a year			3.02	1	0.1771			0.48	1	0.1639
Yes	0.82% (13)	99.18% (1257)				0.5% (10)	99.5% (879)			
No	1.64% (19)	98.36% (876)				1.3% (15)	98.7% (1261)			
Experienced loneliness			1.41	1	0.289			3.11	1	0.1275
Yes	1.94% (10)	98.04% (329)				1.88% (9)	98.12% (330)			
No	1.10% (22)	98.9% (1804)				0.77% (16)	99.23% (1810)			
Physically active			12.96	1	**0.0075**			15.95	1	**0.0024**
Yes	0.78% (20)	99.22% (1583)				0.50% (14)	99.50% (1589)			
No	2.91% (12)	97.09% (550)				2.55% (11)	97.45% (551)			

note: the results of two sets of analyses between MCI and non-MCI, and between aMCI and na-MCI are reported in this table; the associations reported refer to results from chi-square test of independence between various categorical variables; cases of 10/66 and DSM-IV dementia were removed from all analyses; values in bold indicate significance at *p* <.05.

Table 2. Weighted proportions and associations between MCI, aMCI groups, GMS-AGECAT depression and anxiety.

	weighted proportions		associations			weighted proportions		associations		
	MCI (n=32)	non-MCI (n=2133)	chi-square	df	p value	aMCI (n=25)	na-MCI (n=2140)	chi-square	df	p value
Depression			14.34	2	**0.0098**			0.7546	2	0.5166
none	60.0% (15)	84.2% (1681)				78.1% (13)	84.0% (1683)			
subsyndromal	26.3% (12)	12.6% (321)				19.3% (9)	12.7% (324)			
present	13.2% (5)	3.2% (131)				2.6% (3)	3.3% (133)			
Anxiety			1.01	1	**0.0317**			1.4624	1	**0.0105**
none	99.2% (31)	99.9% (2122)				99.0% (24)	99.9% (2129)			
present	0.8% (1)	0.1% (11)				1.0% (1)	0.1% (11)			

note: depression and anxiety categories were derived from AGECAT algorithm of the GMS questionnaire; df is degrees of freedom; cases of 10/66 and DSM-IV dementia were removed from all analyses; values in bold indicate significance at *p* <0.05.

the older adults in Singapore.

Prevalence and Sociodemographic Correlates of MCI and aMCI

The prevalence of MCI (1.2%) in Singapore is one of the lowest reported as compared to elsewhere [14,17,24]. It is lower than that reported in Mexico (6.45%; [20]), Germany (7.8%; [23]), Japan (18.8%; [19]), China (20.1%; [68]), and South Korea (24.1%; [18]). Unsurprisingly, these differences are due to the high heterogeneity in sample characteristics and methodology used, and thus, comparing between countries is substantively limiting. When compared to studies using similar methodology concerning aMCI (ie, aMCI is derived using an algorithm), the prevalence found in this study (0.9%) is slightly higher than China (0.6%), similar to Venezuela (1.0%), but lower than Mexico, Puerto Rico, or India [67]. Approximately 75% of MCI is reportedly aMCI, which was similarly described in various other studies which found that aMCI is more common [16,18,20,68,69].

The prevalence of MCI is largely influenced by sample and methodological characteristics [14,17]. One reason contributing to the vast differences in prevalence figures of total MCI is the understanding that there is no one single gold standard measurement for objective or subjective cognitive impairment. Therefore, despite using a published criteria of MCI, the operationalization of objective and subjective memory impairment can still vary extensively between studies due to the heterogeneity of cognitive screening tests utilized. Sample characteristics, such as increasing age, lower education, and marital status, are significantly associated with higher MCI prevalence [14]. However, the results of this study partially corroborated past findings, as only age emerged as a significant correlate of MCI or aMCI prevalence. Gender, which previous studies had shown mixed evidence of association [14,16,19,25,70], was not found to be a significant correlate presently. Additionally, associations between education and MCI or aMCI prevalence did not emerge as significant in this study. As explained by Sosa et al. (2012) [67], the lack of association is due to the algorithm used to determine MCI and aMCI, which was adjusted for education levels. Finally, our results support past research indicating that MCI/aMCI prevalence is unaffected by ethnic groups, regardless of kinds of ethnic groups studied [14].

Prevalence of GMS-AGECAT Anxiety, Depression, and WHODAS Disability in MCI and aMCI

aMCI was associated with GMS-AGECAT anxiety, but not depression in this study, which corroborated findings by Sosa et al. in 2012 [67], where anxiety, but not depressive symptoms were significantly associated with

Table 3. Associations between MCI, aMCI, and WHO-DAS disability scores.

	Mean	SD	Coefft	SE	95% CI lower	95% CI upper	p value
MCI (n=32)	19.46	20.20	12.06	3.53	5.14	18.98	**0.001**
non-MCI	6.54	12.40					
aMCI (n=25)	19.46	20.01	12.86	4.50	4.04	21.68	**0.004**
na-MCI	6.60	12.47					

note: SD is standard deviation; Coefft is coefficient; SE is standard error; CI is confidence interval; cases of 10/66 and DSM-IV dementia were removed from all analyses; analyses were controlled for covariates of age group, gender, and education; values in bold indicate significance at *p* <.05

aMCI. MCI on the other hand, was significantly associated with both GMS-AGECAT anxiety and depression, suggesting that non-amnestic aspects of MCI contributed to the significance. Additionally, individuals with MCI or aMCI had significantly higher disability scores than those without. A calculation of Cohen's *d* based on group means and SD indicated that these differences in disability scores were substantively large (*d*=0.77). In sum, older adults with MCI in this study experienced marked disability, clinical levels of anxiety, depression, and subsyndromal depression.

Research on mental health literacy and stigma in Singapore suggests that the subject of mental health and illness remains obscure to the lay person [71-73]. Older adults are more likely to endorse stigmatizing attitudes toward mental illness [74], and thus, they may resist psychiatric help due to stigma or those already seeking help for other conditions, such as dementia-related illnesses, may not be adequately screened for common neuropsychiatric conditions. Inculcating awareness can reduce stigma and improve mental health literacy in the country. However existing local anti-stigma campaigns are only at its infancy targeting a younger demographic. For instance, the first nation-wide anti-stigma campaign, "beyond the label," was launched in 2018 by the National Council of Social Services (NCSS), to improve public perceptions of mental illness. Meanwhile, our results suggest that there are vulnerable groups of older adults, such as those with MCI or dementia related illnesses, who may be at a greater risk of developing depression or anxiety that needs to be urgently targeted, screened, and addressed, which can be challenging in a stigmatized society. Late-life depression has not been adequately addressed at a macro level, and while national campaigns try to address this gap, the outreach is currently limited to a younger demographic, which is concerning given an aging Singapore.

Physical Activity, Smoking, Alcohol Use, and Loneliness

Past research had shown that having ever smoked [26], high levels of alcohol use [28], and physical inactivity [32], were significantly associated with various levels of cognitive decline. The results of our study partially supported past findings. Those who self-reported to be physically inactive were positively associated with MCI/aMCI prevalence but not self-reported smoking statuses or having at least 12 alcoholic drinks a year. Past epidemiological research had suggested that the lack of or conflicting association between smoking status and MCI or dementia could reflect competing mortality risks of smoking and dementia. That is, individuals who smoke were more likely to face cognitive decline younger, but were more likely to die before being diagnosed with dementia [36,75]. Historically, the association between alcohol consumption and cognitive decline have been inconsistent due to the understanding that alcohol consumption can be both protective and harmful, depending on the dosage and beverage type [76,77]. Lastly, the association between loneliness and MCI/aMCI was not found to be significant in this study either, corroborating past cross-sectional research [78].

Being physically active, limiting alcohol consumption, and smoking cessation are some of the important health promoting behaviors that are in line with the objectives of promoting healthy living by the Health Promotion Board (HPB) and Ministry of Health (MOH) in Singapore. The results of our study suggest that inculcating an active lifestyle in the community is advantageous not only for physical aspects (eg, bone health, frailty [79]) but cognitive and mental aspects [80] of health as well. Promoting physical activity at old age, and more importantly among those at risk of chronic conditions, and at a national scale, can be challenging. While there are many national programs promoting physical activity at the community level targeting healthy adults (eg, National Steps Challenge, ActiveSG initiatives), older adults who are at risk of dementia, such as those with MCI, may be less involved in these programs but are more likely to be in greater need of such interventions. Exercise interventions have shown promise at improving cognition [81,82]

and at delaying dementia in a growing population of older adults with MCI [83]. Thus, having exercise interventions targeting at-risk populations locally should be initiated and encouraged to bolster the efforts of preventing the onset of dementia and promoting a healthy living in an aging population.

Limitations

This study is not without limitations. Firstly, the algorithm used to determine MCI utilizes composite cognition scores with no clear delineation of single-domain or multiple-domain subtypes, which could further add to our understanding if such cross-tabulation were feasible. Secondly, due to the small number of those with MCI, there is a concern over a lack of statistical power to detect significance. Thus, the results of the study should be taken as preliminary until its confirmation by longitudinal-designed studies with a larger MCI cohort sample.

CONCLUSIONS

The prevalence of MCI in Singapore among community-dwelling older adults are among the lowest recorded globally. Few sociodemographic and lifestyle habits are related to MCI prevalence, as only age and physical active status emerged as significant correlates. Despite the low prevalence of MCI, individuals with MCI experienced marked disability, subsyndromal levels of depression, and clinical levels of depression and anxiety which are concerning finds. Our results emphasize the need to promote physical activity and awareness of depression among older adults with MCI. Due to the exploratory and cross-sectional nature of the study, future research that is longitudinal in nature could further refine our understanding of MCI and confirm the present findings.

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