Loneliness and Health Outcomes Among Malaysian Older Adults

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Abstract

Background: Loneliness is a major social problem among the elderly all over the world.

Methods: A community-based survey was conducted among 380 community-dwelling older adults residing in Malaysia. A proportional stratified random sampling method was used to examine the relationship between health factors and loneliness. Data were collected using the short-form Social and Emotional Loneliness Scale for Adults, Geriatric Depression Scale-15, and RAND SF-20. $p < 0.05$ was considered to be statistically significant, and data analysis was performed using Statistical Package for the Social Sciences Statistics 26.0 for Windows.

Results: Results revealed that 32.6% of the respondents had social loneliness, 39.9% had emotional loneliness, and 9.2% had family loneliness. Bivariate analyses showed that social and emotional loneliness are significantly related to depression. Moreover, emotional and social loneliness were significantly associated with chronic illness. The results of the multiple logistic regression indicated that depression was a significant predictor of social loneliness (OR = 2.5, 95% CI: 1.1–5.7; $p = 0.03$) and that chronic illness (OR = 0.4, 95% CI: 0.2–0.8; $p = 0.02$) remained a significant predictor of family loneliness.

Conclusions: The loneliness prevalence experienced by older adults is at a low level. The classification of loneliness in this study would be beneficial in the establishment of loneliness intervention strategies.

Keywords: depression, elderly, health, loneliness

INTRODUCTION

The phenomenon of loneliness is a growing international public health problem in modern society. Although loneliness occurs throughout one's life, individuals over the age of 60 years are at a relatively high risk of experiencing loneliness later in life. With the growth of an aging population, loneliness imposes high costs related to people's health and well-being, thereby putting a strain on social care resources and affecting clinical and public health practice.[1] In previous decades, loneliness was considered a hidden pathological state that greatly influenced the quality of life, especially that of older adults.[2–6]

Many adults aged 60 years and above experience loneliness that puts their health at risk. Loneliness among older adults is viewed to exert a negative impact on this population's mental state, cognitive function, and physical and psychosocial characteristics.[2,4,7–11] Previous studies have recognized that prolonged loneliness affects a significant number of older adults and puts them at risk for mental issues (e.g., depression) and chronic conditions (e.g., heart disease). Moreover, prolonged loneliness is

significantly associated with poor physical performance in older adults[12,13] and severe depressive symptoms.[14] Particularly concerning is the fact that loneliness can be related to unhealthy lifestyles, self-neglect (e.g., excessive alcohol consumption), poor hygiene, and undernourishment.[3,15]

The worst scenario is the increase in mortality rate in older people. The results of a longitudinal study revealed that feelings of loneliness for more than 6 years are associated with increased mortality risk among older adults.[12] In addition, past studies have shown that heart failure patients who experience loneliness face an increased risk of death and hospital readmission.[9,16]

Loneliness is generally viewed as a negative emotional expression resulting from a severance of a relationship, especially from a social network comprising family members, friends, or the community. However, it remains a taboo subject among older adults, especially in Southeast Asia. Therefore, older adults do not always express their feelings of loneliness. Meanwhile, numerous studies have stated that loneliness is a unique concept and leads to different forms of psychological depression.[3]

In an aging population, loneliness is costly for one's health and well-being, and it puts a strain on social care resources and affects clinical and public health practice. Loneliness has become a major scholarly, public, and policy concern. Therefore, the concern about the

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prevalence of loneliness has increased, and estimates vary according to study population, age, and the definitions utilized. However, knowledge about the relationship between types of loneliness (social, emotional, and family) and the health status of older adults is still limited. Few studies have examined functional status and loneliness among older adults, especially those living in Malaysia. The question usually asked is as follows: "Is the low level of health of older adults the cause of their loneliness?" or "Is the rise of loneliness the main reason for the deterioration of older adults' health?" Hence, the present study was conducted to investigate the relationship between the three main types of loneliness (social, emotional, and family loneliness) and health factors.

METHODS

This study was conducted with the approval of the Universiti Kebangsaan Malaysia Research Ethics Committee. Prior to participation, the respondents gave written informed consent. This study is a cross-sectional community-based survey conducted among 380 community-dwelling older adults aged 60 years and over who live in the suburban community in Pontian, Johor, Malaysia. This study aimed to examine the relationship between loneliness (social, emotional, and family) and health perceptions, depression, physical health, and chronic diseases. The design was chosen to provide data that complement each method and to thus generate meaningful data. Pontian is the smallest district in Johor, and it is located at around 320 km from Kuala Lumpur and 60 km from Singapore. In Pontian, most of the elderly work in the fields of agriculture and fishery or are pensioners.

The proportionate stratified random sampling technique was utilized in this study, and the sample included senior citizens aged 65 years and older who reside in Pontian. The first stage involved selecting zones within the district on the basis of comparable elderly population proportions. The second stage of sampling entailed selecting townships while the third stage involved identifying the significant villages. The exclusion criteria included older persons who were in full-time care facilities and those with physical limitations. This study complied with the STROBE guidelines and is consistent with them.

For the data collection, the respondents were identified using a door-to-door census and were invited to participate voluntarily. The researchers made follow-up visits to potential older individuals who were not at home during the initial visit. This procedure was repeated until a sufficient number of samples were obtained. All data were acquired through the use of questionnaires. For potential participants who were not at home during the first visit, follow-up visits were conducted twice before their exclusion. This process was repeated until a sufficient number of samples were obtained. The respondents

completed the questionnaires independently. For those who had difficulty reading, the caregiver read the questionnaires aloud to them, and the respondents selected their own response choices. Most of the respondents required approximately 20–30 min to complete the questionnaire and return it to the researcher, although the researcher provided a postal return option.

In this study, the questionnaire was divided into two parts. The first part covered the participants' sociodemographic information, chronic illnesses, and health perceptions. The perceptions of their health status were assessed with one question prepared by the researcher on the basis of the literature review. The second part involved four survey instruments. First, the types of loneliness were measured using the short-form of the Social and Emotional Loneliness Scale for Adults (SELSA-S) developed by DiTommaso and Spinner (1993).[17] The scale consists of 15 items and was translated into Bahasa Malaysia for this work. The test–retest was 0.88 to 0.91 for the loneliness domains (social, romantic, and family loneliness). Meanwhile, the translated version had excellent internal consistencies of 0.87 and 0.90. The ceiling effect of the questionnaire was calculated when most of the respondents chose the upper scale (e.g., 95% of the questionnaire's total score). The floor effect was calculated when most of the participants chose responses that were at the lower limit of the scale (e.g., 5% of the questionnaire's total score).

In this study, the level of depression was measured using the Geriatric Depression Scale-15 (GDS-15). This scale consists of 15 items and was translated into Bahasa Malaysia. GDS-15 showed good internal reliability with a Cronbach α coefficient of 0.84 and test–retest of 0.84. RAND SF-20 was also chosen to measure the physical health of the respondents. This scale is a series of generic indicators and had good internal consistency with a Cronbach α coefficient value exceeding 0.81–0.87 and test–retest value of 0.96; all items were correlated above 0.7.

In this study, data were collected and then analyzed using the Statistical Package for the Social Sciences Statistics version 25.0 for Windows. The significance level was set at $p < 0.05$. A descriptive analysis was performed to identify the distributions of the sociodemographic factors and health status variables. Meanwhile, a Chi-square test and multiple regressions were performed to examine the relationship between the groups.

RESULTS

The response rate in this study was 100%. Table 1 shows the distribution of sociodemographic factors. Most of the respondents were female and had primary education.

In addition, more than 90% of the respondents had no physical health deterioration and perceived their health to be in good condition. Of the respondents, 37.6%, 40.3%,

TABLE 1. Distribution of sociodemographic factors (N = 380)

Variables	Frequency (N)	Percentage (%)
Age		
65 – 74 years	274	72.1
75 – 84 years	85	22.4
85 years and above	21	5.5
Gender		
Male	145	38.2
Female	235	61.8
Ethnic		
Malay	289	76.1
Chinese	88	23.2
India	3	0.7
Level of education		
Not schooling	66	17.4
Primary education	170	44.7
Secondary education	84	22.1
Tertiary education	60	15.8
Marital status		
Single	7	1.8
Married	252	66.3
Divorce/ separate	17	4.5
Widow	104	27.4
Living arrangement		
Alone	95	25.0
With partner only	155	40.8
With others	130	34.2
Physical health		
No deterioration	362	95.2
Deterioration	18	4.8
Depression		
No	241	63.3
Yes	139	36.7
Chronic illness		
No	164	43.2
Yes	216	56.8
Health perceptions		
Bad	32	8.4
Good	348	91.6
Experience of social loneliness		
No	237	62.4
Yes	143	37.6
Experience of emotional loneliness		
No	227	59.7
Yes	153	40.3
Experience of family loneliness		
No	339	89.2
Yes	41	10.8

and 10.8% reported social loneliness, emotional loneliness, and family loneliness, respectively.

Table 2 reveals that social loneliness was experienced by 62.2% of the respondents with depression, 41.9% of those with physical health deterioration, and 46.9% of those who had good health perceptions. A significant relationship was thus noted between social loneliness and depression (p = 0.001).

As for emotional loneliness, it was experienced by the respondents who had depression (37.9%) and bad health perceptions (37.4%). The respondents with no history of chronic illness (45.7%) and no deterioration of physical health (39.8%) also experienced emotional loneliness. Emotional loneliness was associated significantly with depression (p = 0.004) and chronic illness (p = 0.01).

Family loneliness was experienced by the respondents with depression (13.5%), those who did not report any physical health deterioration (8.9%), those without any chronic illness, and those with good health perceptions. A significant relationship was noted between family loneliness and chronic illness (p = 0.03).

Table 3 shows the results of the multiple logistic regression analysis for Models II and Model III to identify the factors influencing social, emotional, and family loneliness. This study found that depression influenced social loneliness (OR = 3.02, 95% CI: 1.49–6.11; p = 0.002). In the final analysis, depression was a significant predictor of social loneliness (OR = 2.52, 95% CI: 1.12–5.66; p = 0.03). The Cox and Snell R square for Model III was 0.21.

For emotional loneliness, the results of the multiple logistic regression tests showed that depression (OR = 2.68, 95% CI: 1.31–5.48, p = 0.01), chronic illness (OR = 0.59, 95% CI: 0.38–0.91; p = 0.02) and health perception (OR = 2.96, 95% CI: 1.19–7.34; p = 0.02) influenced emotional loneliness but were not related in the final analysis.

The results of the multiple logistic regression analysis also indicated that family loneliness was influenced by chronic diseases (OR = 0.50, 95% CI: 0.25–1.01; p = 0.05) and health perceptions (OR = 6.37, 95% CI: 1.98–20.49; p = 0.002). For Model III, the results showed that chronic disease (OR = 0.43, 95% CI: 0.21–0.88; p = 0.02) remained a significant predictor of family loneliness. The Cox and Snell R square for Model III was 0.08.

DISCUSSION

This study aimed to identify the prevalence of loneliness and its influencing factors among the elderly in the Pontian district. One-third of the older adults in this work reported experiencing social or emotional loneliness

TABLE 2. Distribution of social, emotional, and family loneliness and health status (N = 380)

	N	Social Loneliness		Emotional Loneliness		Family Loneliness	
		No N (%)	Yes N (%)	No N (%)	Yes N (%)	No N (%)	Yes N (%)
Depression							
No	343	223 (65.0)	120 (35.0)	213 (62.1)	130 (37.9)	307 (89.5)	36 (10.5)
Yes	37	14 (37.8)	23 (62.2)	14 (37.8)	23 (62.2)	32 (86.5)	5 (13.5)
		p = 0.001*		*p* = 0.004*		*p* = 0.57	
Deterioration of physical health							
No	337	213 (63.2)	124 (36.8)	203 (60.2)	134 (39.8)	307 (91.1)	30 (8.9)
Yes	43	25 (58.1)	18 (41.9)	30 (69.8)	13 (30.2)	40 (93.0)	3 (7.0)
		p = 0.52		*p*=0.23		*p* = 0.67	
Chronic illness							
No	164	104 (63.4)	60 (36.6)	89 (54.3)	75 (45.7)	144 (87.8)	20 (12.2)
Yes	216	134 (63.0)	82 (37.0)	144 (66.7)	72 (33.3)	203 (94.0)	13 (6.0)
		p = 0.78		*p* = 0.01*		*p* = 0.03*	
Health Perceptions							
Bad	348	221 (63.5)	127 (36.5)	218 (62.6)	130 (37.4)	320 (92.0)	28 (8.0)
Good	32	17 (53.1)	15 (46.9)	15 (46.9)	17 (53.1)	27 (84.4)	5 (15.6)
		p = 0.24		*p* = 0.08		*p* = 0.14	

*p < 0.05

TABLE 3. Logistic regression within types of loneliness and health status (N = 380)

Health Status	MODEL II					MODEL III				
	Wald	Sig.	OR	95% C.I Lower	Upper	Wald	Sig.	OR	95% C.I Lower	Upper
Social Loneliness										
Physical health (yes)	1.66	0.20	1.64	0.77	3.50	-	-	-	-	-
Depression (yes)	9.45	**0.002**	3.02	1.49	6.11	**5.02**	**0.03**	**2.52**	**1.12**	**5.66**
Chronic disease (yes)	0.13	0.71	1.09	0.70	1.69	-	-	-	-	-
Health Perceptions (yes)	0.05	0.83	0.91	0.38	2.16	-	-	-	-	-
Cox & Snell R square [Model 2b]	[0.03]	-	-	-	-	-	-	-	-	-
Cox & Snell R square [Model 3]	-	-	-	-	-	[0.21]	-	-	-	-
Emotional Loneliness										
Physical health (yes)	2.29	0.13	0.53	0.23	1.21	-	-	-	-	-
Depression (yes)	7.32	**0.01**	2.68	1.31	5.48	2.40	0.12	2.05	0.83	5.10
Chronic disease (yes)	5.66	**0.02**	0.59	0.38	0.91	1.42	0.23	0.72	0.42	1.24
Health Perceptions (yes)	5.46	**0.02**	2.96	1.19	7.34	0.01	0.97	1.02	0.36	2.87
Cox & Snell R square [Model 2b]	[0.05]	-	-	-	-	-	-	-	-	-
Cox & Snell R square [Model 3]	-	-	-	-	-	[0.36]				
Family Loneliness										
Physical health (yes)	3.08	0.08	0.26	0.06	1.17	-	-	-	-	-
Depression (yes)	0.09	0.76	1.18	0.41	3.37	-	-	-	-	-
Chronic disease (yes)	3.78	**0.05**	0.50	0.25	1.01	**5.29**	**0.02**	**0.43**	**0.21**	**0.88**
Health Perceptions (yes)	9.65	**0.002**	6.37	1.98	20.49	1.52	0.22	1.94	0.68	5.54
Cox & Snell R square [Model 2b]	[0.03]	-	-	-	-	-	-	-	-	-
Cox & Snell R square [Model 3]	-	-	-	-	-	[0.08]				

while less than 11% experienced family loneliness. This result was found to be similar to that of the study conducted by Nor and Ghazali.[18] In their work, most of the respondents suffered more from emotional loneliness than from social and family loneliness. Moreover, about 43% of the participating Malaysian older adults reported experiencing loneliness.[18] The prevalence of loneliness in the current study is higher than that reported by Teh, Tey, and Ng[19], but their work only examined loneliness in general. In the current study, loneliness was categorized into social, emotional, and family loneliness. The older adults in the community reported experiencing more social and emotional loneliness than family loneliness.

Herein, a significant association was observed between depression and social and emotional loneliness; the same was not found for family loneliness. After controlling for the demographic variables in the multivariate analysis, depression was still a significant predictor of social loneliness. Furthermore, this study confirmed the findings of past studies that reported the positive and significant relationship between loneliness and depression.[1,2,7,20–22] Plezter and Pengpid explained that the strong relationship between loneliness and depressive symptoms could be explained by loneliness being a symptom of depression.[20] Previous study also reported that loneliness is a significant predictor of depression among older adults.[22] Lim and Eh found that the loneliness factor among older adults contributes to a consistent increase in depression scores.[21]

Depression and loneliness are believed to be strongly related. For example, Choi *et al.* stated that the association between depression and loneliness has been highlighted in several studies.[23] Moreover, a large-scale study identified that loneliness is significantly associated with depression and anxiety, as well as suicidal ideation.[24] According to Park *et al.*, loneliness has a moderate to large effect on overall health outcomes, but its effect is particularly great on the mental health of older adults.[25] Nonetheless, these results may be confused by the large number of studies linking the relationship between loneliness and mental health relative to other health outcomes.[25] Thus, health professionals need to know how to differentiate the signs and symptoms of loneliness and depression experienced by older adults.

In the current work, less than 10% of the respondents had a bad perception of their health as most of them rated their health to be in good condition. Nevertheless, these respondents still reported experiencing emotional, social, and family loneliness. The results of the multiple logistic regression showed that emotional and family loneliness were associated significantly with health perceptions. However, health perceptions were not found to be a significant predictor of loneliness (social, emotional, and family). These results are similar to the findings in a study conducted in the 1900s.[26] Fees *et al.* stated that low self-

perception of health has a consistent relationship with high levels of loneliness.[26]

Chronic illness is often associated with the aging process and the elderly population. The health of older adults is affected when they suffer from chronic diseases, and if they are not treated regularly, their well-being may be put at risk. Furthermore, this study showed that the respondents with and without chronic illnesses experienced social, emotional, and family loneliness. Chronic diseases are significantly associated with family and emotional loneliness. After controlling for the demographic variables, the multiple logistic regression analysis for Model III revealed that chronic disease remained a significant predictor of family loneliness. The results of this study are similar to those of previous research that reported chronic diseases to be significantly related to loneliness.[1,20,27] Peltzer and Pengpid found that loneliness is significantly associated with physical and mental variables, including having one or more chronic medical conditions.[20] A positive association indeed exists between recent physician visits for a chronic illness and hospitalization rate.[1] Teh, Tey, and Ng also reported a similar result that indicated chronic diseases to be correlated positively with loneliness.[19] Loneliness has also been related to a high risk of multiple chronic diseases and poor self-rated health.[2,28]

The impact of loneliness evolves gradually over time. Hence, this situation can reduce individuals' physiological defenses and thus make them vulnerable to health problems. Such a statement is reasonable. Many reviews have found that loneliness is a significant factor in determining an older adult's well-being.[2–4,7] Berg–Weger and Morley highlighted that loneliness significantly negatively affects older adults, particularly those who have chronic loneliness.[3] Chronic loneliness can be particularly destructive, particularly for those suffering from coronary heart disease, cognitive impairment, and insomnia. In addition, individuals who experience loneliness are at a high risk for developing a mental illness across their life span.[4] Therefore, this study highlights the need for healthcare providers to define the relationship between loneliness and health factors in older adults.

This study offers various strengths. For example, the classification of loneliness into social, emotional, and family loneliness would be beneficial in the establishment of intervention strategies that are focused on the types of loneliness. Thus, the findings may help build evidence-based data for strengthening health promotion activities, especially those related to loneliness among older adults. In addition, this study could help the community design a specific nursing care program for older adults according to the types of loneliness.

The limitation of this study is related to the low participation of certain groups. For example, the elderly

participants in this work were minimal in number. Moreover, the study employed a cross-sectional design, which does provide information about the current state of experience but is not useful in exploring loneliness in depth. Thus, the results of this study cannot be generalized to all older persons in Malaysia.

CONCLUSIONS

Most Malaysian older adults in this work had low levels of social, emotional, and family loneliness. The findings from this study contribute to the knowledge about the relationship between health factors and the three types of loneliness (social, emotional, and family loneliness). Social and emotional loneliness were found to be significantly associated with depression, chronic diseases, and health perceptions. This study is important to healthcare institutions in Malaysia that aim to understand and develop ways to reduce loneliness among the growing population of older adults. Other extensive studies on loneliness among older adults should be conducted in large populations within a varied environment. In addition, a longitudinal study is recommended to identify the incidence of loneliness in several stages and in different time frames.

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CONFLICT OF INTEREST

None declared.

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