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The Relationship Between Functional Status and Social, Emotional, and Family Loneliness among Older Adults in Pontian

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ABSTRACT

Life at mature ages is perceived to be very challenging and mostly influenced by the aging process and negative changes which increase the risk of functional abilities. The most enormous thing to achieve is to live independently with less help from others to achieve optimum quality of life. Methods: This is a community-based cross-sectional survey conducted among 414 community-dwelling older adults in Pontian District aiming to identify the functional status and to examine the relationship between functional status and three types of loneliness. The Pfeffer Functional Activities Questionnaire was used to measure the level of functional status. Loneliness was measured with the short form of Social and Emotional Loneliness Scale for Adults. All data were analyzed using Statistical Package for Social Science Ver.26 for windows. The results of this study show that the mean (+SD) age is 71.4(+2.0). The majority of respondents perceived good health status and no deterioration of functional status. 8.2% of respondents experienced deterioration in functional status. Of these, 32.6% of respondents experienced social loneliness; 39.9% experienced emotional loneliness, and 9.2% experienced family loneliness. The results also revealed a significant relationship between functional status and social loneliness ($p = 0.02$). In conclusion, the majority of respondents are independent to perform functional activities and less than half of them are experienced with social, emotional and family loneliness. Deterioration of functional in the older adults was associated with social loneliness. This study may help in improving the care of older adults to live independently and freely in the community.

Keywords: Functional Status, Loneliness, Older Adults, Elderly

INTRODUCTION

Living independently and freely in the community remains a goal of successful aging. The essential part that allows living independently is when the older adults are capable of performing necessary or desirable basics and instrumental tasks in their daily living (Singh *et al.*, 2014). In this regard, functional status is one of the most important indicators of optimum quality of life among older adults (Sharma 2020; Singh *et al.*, 2014; Burman 2019; Pinto *et al.*, 2016). A previous study reported the majority of older adults who live in the community to have high functional status and are able to live independently (Pinto *et al.*, 2016). They are able to perform several self-care tasks of daily living such as feeding, walking or dressing and able to perform the instrument activities for their living included performing the housework as well as managing finances (Singh *et al.*, 2014). In other words, older adults are classified as totally independent.

In recent years, there has been significant growth in the number of older people all over the world. This trend is expected to affect the physical, psychological, social issues of life that in turn will have a negative impact on their quality of life (Abou El-Soud *et al.*, 2020). Nevertheless, the result of Ajayi *et al.*, (2015) study was in contrast to previous studies. Almost 88% of older adults in their study had functional disabilities which they needed assistance to perform basic activities of daily living. Besides that, lack of personal hygiene and grooming are the highest functional impairment experienced by Nigeria older adults (Ajayi *et al.*, 2015). The study showed a significant association between the deterioration of functional disability and increasing age, polygamous families, and lack of formal education (Ajayi *et al.*, 2015). In the Burman *et al.*, (2019) study, about fifty percent of Indian elderly were dependent on others to do at least one of the activity daily living and out of that a quarter were greatly dependent for instrumental functional

activities. Also, nutrition is a major aspect in healthcare. Poor nutritional status may affect elderly particularly during the aging process. It becomes the challenge for older population to maintain their health with good nutritional level (Hui & Cheng 2021).

Currently, many studies have been conducted focusing on the influence of functional status, physical activity, and quality of life among older adults. A study carried out by Parra-rizo and Sanchis-Soler (2020) reported autonomy in functional and subjective well -being is closely related to the practice of physical activity among the older adults. As yet, Sharma (2020) and Burman (2019) have identified the functional status is negatively correlated with old age, female, depression, and chronic illness. With regard to the quality of life, the higher levels of functional disability are associated with mobility and quality of life in older adults (Baptista *et al.*, 2018). Indeed, older adults who had chronic diseases are prone to have a lower functional status in which the main problem is a restriction of mobility, decreased physical health, and fragility.

Referring to previous studies, it was found that high scores of loneliness among Turkish older adults who require dependence on daily activities either in need of full or partial assistance to meet the needs of daily activities (Hacihasanog˘lu & Karakurt 2011). Furthermore, loneliness and functional status were reported to have a statistically significant relationship. Nonetheless, Perissinotto, Stijacic, and Kenneth (2012) found the percentage of older adults who are dependent on daily activities also had experienced loneliness. Meanwhile, Guo *et al.* (2020) highlighted those older women who experienced social isolation significantly have deteriorating functional status. However, Guo *et al*., (2020) reported loneliness had no significant relationship with functional status deterioration.

Due to the continuing growth of the older adult population in contemporary society, the concern on how to continue and improve functional abilities has become a crucial public health issue. The key reason is to encourage them to live independently in the community. However, there is a limited published study examining the functional status among the older adults residing in Pontian. Therefore, this study was conducted to identify the functional status of older adults in the Pontian district.

METHODOLOGY

This study is a cross-sectional community-based survey of 414 community-dwelling older adults living in the Pontian District. This design was selected in accordance with the provision of data that complements each type of method that was used which can generate more meaningful data. A proportional stratified random sampling method was utilized in this study, and all information was collected through questionnaires. All the older adults were identified by a door-to-door census and participated voluntarily in the study.

Instruments

In this study, the level of functional status was measured with Pfeffer Functional Activities Questionnaire (PFAQ) developed by Pfeffer *et al.* (1982)-passive voice. This instrument maintained a good validity with Cronbach Alpha values between 0.72 and 0.74. This instrument consists of 10 items, ranging from scale 0 (independent) and scale 3 (dependent) which assess the functional status of the older adult in carrying out their daily activities. The cut-off point is 9 and if the total score exceeds nine or the person is fully dependent on performing three (or more) daily activities; it indicates deterioration in the functional status. Level of loneliness was measured by the Short Version of Social and Emotional Loneliness Scale for Adults (SELSA-S) that was developed by DiTommaso and Spinner (1993). The SELSA-S had good validity with the test-retest of was 0.88 for the social loneliness, 0.83 for emotional loneliness and 0.91 for family loneliness domain. The SELSA-S consists of 15 items and was translated into the Malay language in this study. The translated version has a good internal consistency of 0.87 and 0.90. The scoring for loneliness was categorized to 'Yes' and 'No'.

Statistical Analysis

The data were analyzed using SPSS Statistics 26.0 for Windows in accordance with the purpose of the study and the characteristics of the variables. The significant level was set at $P<0.05$. Descriptive statistics like frequency tests and inferential analyses such as chi-square were used.

RESULTS

Demographic characteristics

The socio-demographic characteristics of the respondents in this study are displayed in Table 1. The result of this study showed the majority of respondents were Malays (77.1%) followed by Chinese (22.2%) and Indian (6%). A total of 257 (62.1%) of the respondents was women. The majority of respondents are at the age of 65 to 75 olds (71.7%). The mean (+SD) of age was 71.4 (+2.0). The level of education of 44.4% of respondents attend primary education, 22.2% secondary school, 15.3% tertiary level education and only 75 (18.2%) are not in school. Furthermore, 65.9% of respondents were married, 27.1% widowed and only 8% were single. Over 40.3% of respondents living with a partner, 36% lived with their children and grandchildren, and 23.7% lived alone.

The results also revealed 57% of respondents did not have chronic diseases, and 90.8% perceived they had good health status. Meanwhile, 32.6% of respondents had social loneliness; 39.9% had emotional loneliness and 9.2% had family loneliness.

Table 1: Distribution of socio demographic factors, health status and level of loneliness (N = 414)

Variables	Frequency (n)	Percentage (%)	Mean (+SD)
Age 60 - 74 years 75 - 84 years 85 years and above	297 92 25	71.7 22.2 6.0	71.4 (+2.0).
Gender Male Female	157 257	37.9 62.1	
Ethnic Malay Chinese India	319 92 3	77.1 22.2 0.7	
Level of education Not schooling Primary education Secondary education Tertiary education	75 184 92 63	18.1 44.4 22.2 15.3	
Marital status Single Married Divorce/ separate Widower	5 273 21 112	1.9 65.9 5.1 27.1	

Living Arrangement Alone With husband/wife/partner With children/grandchildren	98 167 149	23.7 40.3 36.0	
Chronic Diseases No Yes	178 236	43.0 57.0	
Perception on health status Bad Good	38 376	9.2 90.8	
Social loneliness No Yes	279 135	67.4 32.6	3.4 (+1.3)
Emotional loneliness No Yes	249 165	60.1 39.9	3.6 (+ 1.2)
Family loneliness No Yes	376 38	90.8 9.2	(+1.2)

Functional Activities and Status

In this study, the result showed more than 80% of respondents are independent to perform basic daily living activities. The results of the study also showed 25(6%) of respondents need full assistance for traveling out to the neighborhoods, driving, arranging to take buses and 4.8% of respondents also require full assistance in remembering appointments, family occasions, holidays, medications. Meanwhile, 10.1% of respondents need a partial assistant to perform writing checks, paying bills, or balancing a checkbook and 9.7% of respondents need partial assistance to perform shopping alone for clothes, household necessities, or groceries.

Furthermore, the results of this study showed 34(8.2%) respondents experienced deterioration in the functional status.

Table 2: Distribution of Functional Status according to Pfeffer Functional Activities Questionnaires (N=414)

Functional abilities	**Independent**	***Has difficulty, but does by self***	**Partial Assistance**	**Full Assistance /dependent**
	n(%)	**n(%)**	**n(%)**	**n(%)**
Writing checks, paying bills, or balancing a checkbook	337(81.4)	25 (6.0)	42(10.1)	10(2.4)
Assembling tax records, business affairs, and other papers	373(90.1)	12 (2.9)	19(4.6)	10(2.4)
Shopping alone for clothes, household necessities, or groceries	331(80.0)	16 (3.9)	40(9.7)	27(6.5)
Playing a game of skill such as checkers or chess, working on a hobby	368(88.9)	34 (8.2)	5(1.2)	7(1.7)
Heating water, making a cup of tea, turning off the stove	392(94.7)	8 (1.9)	8(1.9)	6(1.4)
Preparing a balanced meal	335(85.7)	27 (6.5)	24(5.8)	8(1.9)

Keeping track of current events	369(89.1)	25 (6.0)	8(1.9)	12(2.9)
Paying attention to and understanding a TV program, book, magazine	371(89.6)	26 (6.3)	4(1.0)	13(3.1)
Remembering appointments, family occasions, holidays, medications	334(80.7)	42 (10.1)	18(4.3)	20(4.8)
Travelling out to neighborhood, driving, arranging to take buses	337(81.4)	38 (9.2)	14(3.4)	25(6.0)
Deterioration of Functional Status No Yes	380 (91.8%) 34 (8.2%)	2.49 (±3.82)		

Relationship Functional Status and Lonelines

The results of this study revealed the social loneliness experienced by 17 (50%) respondents with a deterioration of functional status while 52.9% of respondents experienced emotional loneliness. The result showed a significant relationship between social loneliness with functional status ($\chi^2 = 5.10$, df1; p=0.02).

Table 3: Relationship Functional Status and Loneliness (N = 414)

Types of Loneliness	**Functional status**		**χ^2**	**P Values**
	No Deterioration n (%)	**Yes, Deterioration n (%)**		
Social Loneliness			$\chi^2 = 5.10$	**p=0.02**
No	262(69.0)	17(50.0)		
Yes	118(31.0)	17(50.0)		
Emotional Loneliness			$\chi^2 = 2.65$	p =0.10
No	233(61.3)	16(47.1)		
Yes	147(38.7)	18(52.9)		
Family Loneliness			$\chi^2 = 1.36$	p =0.24
No	347(61.3)	29(85.3)		
Yes	33(08.7)	5(14.7)		

df1; p<0.05

DISCUSSION

This study was conducted to identify the level of functional status and its relationship among the dwelling older adults in Pontian District. The overall result showed the majority of respondents were Malays and at the age of 65 to 75 old, married and only 23.7% lived alone. Meantime, the majority of respondents had no deterioration of functional status. This means that most of older adults in this study are able to live independently and productively in the community.

Additionally, they practice self-care and independently to perform basic routine activities as well as instrumentally functional activities in the community. This situation is expected because the majorities of respondents at the age of 65-75 are still active and can achieve anything they desire. This result is similar to previous studies where the middle-old person is capable of performing the activities of routine life without

outside help (Baptista *et al.* 2018, Pinto et al., 2020; Parra-rizo & Sanchis-Soler 2020). Pinto *et al.,* (2020) stated that most respondents at the age of middle-old categories are independent in carrying out the activities of daily living. In contrast, Ajayi *et al*. (2020) reported that older adults aged 60 and above who are attending the primary health care clinic are experienced functional disabilities. The functional problems experienced by the elderly have caused them to need full support in meeting daily needs. For example they needs support in performing at least one of the components of basic activity of daily living like transferring from bed to chair and preparing meals.

The result of this study stated that few of the respondents need full assistance in several activities such as shopping alone for clothes, doing household necessities or groceries and traveling out to the neighborhoods. In the researcher's opinion, this situation may be influenced by whether they did not own reliable transport, or they cannot drive due to obscuring vision. Indeed, the public transport in Pontian is not efficient. Another reason it may be because older adults are not particular to go shopping or grooming. Studies show older adults, who perform a high level of physical activities, are able to perform daily life activities with little difficulty. Hence, this situation increases the satisfaction of life apart from optimizing the level of autonomy for older adults. Studies highlighting the highest level of functional status are among the older adults (Parra-rizo & Sanchis-Soler 2020, Baptista *et al.* 2018). Parra-rhizo & Sanchis-Soler (2020), emphasized those with high functional status are able to perform physical activities without the help of others and this situation provides optimal self-satisfaction in elderly individuals. Moreover, individuals with high life satisfaction are associated with better health and longevity. Indeed, it could lower risk of mortality. However, this relationship was not statistically significant. Meantime, Baptista et al. (2018) explained that higher levels of functional disability are among older adults with limited mobility or in a state of mobility. Indeed, this ability can lower their quality of life.

The result of this study showed barely 40% of respondents' experienced emotional loneliness and less than 33% of respondents experienced social loneliness. Out of that, respondents who had deterioration in functionality experienced more emotional loneliness followed by social loneliness and family loneliness. However, merely social loneliness is significant with functional status. This situation is predicted due to people who had deterioration in functional status who is physically not capable or had limited physical health. Hacihasanog˘lu and Karakurt (2011) pointed out that the older adults who need fully assistant in performing basic routine activities were state precisely as factors that increase the level of loneliness. Furthermore, loneliness associated with a reduced level of functionality including basic activities and activities instrumental function (Perissinotto, Stijacic & Kenneth 2012). Based on this result, Perissinotto, Stijacic, and Kenneth (2012) concluded the deterioration of functional status among older adults had an impact on the increasing level of loneliness. A previous study reported the functional disability was significantly associated with loneliness at the primary analysis only but not significant at the logistic regression analyses (Guo *et al.* 2020). In Guo *et al.* (2002) study, the functional disability was significantly associated with loneliness among the elderly person but was not for women. Anyhow, previous longitudinal studies show that there is no significant relationship between loneliness and functional status even after adjusting for all variables control (Stessman *et al.* 2014). The researchers highlighted that the potential impact of loneliness on functional status and optimal health may be overrated if the study does not take into account the social relationships (Guo *et al.* 2020).

CONCLUSIONS

In conclusion, a sufficient number of vulnerable elderly in Pontian do not experience deterioration in functional status. A functional status only had a significant relationship with social loneliness.

This study undoubtedly had its own strength and may help in improving the care of older adults. Moreover, this study was community-based, and the respondent was selected from a study population of several villages in the Pontian district.

The limitations of this study are related to a limited sample of older adults living in certain districts in Malaysia. In addition, the design of the cross-section in this study is only provided information about the current state of experience, but cannot explore more in-depth about loneliness. Therefore, the results of this study could be generalized to the elderly in Malaysia. For suggestions, more studies should be implemented in large populations within a varied environment with several types of functional status among older adults. The longitudinal study was recommended for further study to examine whether functional status affects loneliness and vice versa.

Conflict of Interest

The authors declare that they have no competing interests in writing this article.

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