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## Perceived Social Support and Depression Level among Elderly Living in Institution

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### Abstract

The Elderly is commonly withdrawn and live alone due to a lack of social support, which impacts psychological issues. This study was conducted to identify the relationship between perceived social support and the level of depression among the elderly. This cross-sectional study enrolled 92 older people who lived at Rumah Seri Kenangan Cheng, Malacca. They completed the Multidimensional Scale for Perceived Social Support and Geriatric Depression Scale, which measured levels of social support and levels of depression, respectively. Findings indicated the elderly received moderate social support from family and friends, that affecting the level of depression in the elderly population.

Keywords: Elderly, institutionalization, social support, depression.

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### 1.0 Introduction

Social support is defined as information or feelings that lead the subject to believe that he is loved and cared for by others (Cobb, 1976). It is one of the contributing factors to one's overall health performance (Wilkinson & Warmot, 2003). A previous study has indicated that the older adults living alone potentially have limited social support (Wang, 2012). Due to these, the lack of social support among older adults will reduce their positive psychological well-being (Cheng et al., 2008) and damage their physical functions, especially among older patients. They are with medical conditions (Bostrom et al., 2012). On the other aspects, various types of social support also have some relationship between social support and depression. Some studies have shown the importance of instrumental social support for older people besides the benefits of emotional and social support (Leung et al., 2007) in managing the associated depression.

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-V), major depression disorder is the presence of the following symptoms during two weeks and represents a change from previous functioning. At least one of the symptoms presented is (Cobb, 1976) depressed mood or (Wilkinson & Warmot, 2003) loss of interest or pleasure. Depression among the elderly is a worldwide condition, especially among elderly who experience empty-nest syndrome; loneliness due to the migration of their children from rural hometowns to the urban to grab for employment chances (Su et al., 2012). Loss of family members, loss of a spouse, a decline in physical abilities, loss of home that one has lived in for an extended period, loss of health, loss of employment, sensory losses, and difficulties driving at night can cause depression. Based on Owen (2014), the suicide rate of the elderly accounted for almost 15.6%. There was one elderly suicide every 90 minutes.

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The next issue is about the non-meaningful relationship between older adults and people surrounding them, for example, with the institution's staff; it is due to the often formal communications that affect the perceived social support (Wilson & Davies, 2009). In addition, visits from family members and friends usually decline over time (Cheng, Lee & Chow, 2010). Older people have never been linked with their children, resulting in feeling abandoned (Cheng & Pickler, 2009). Lack of autonomy and individuality is also counted as an issue. Lack of ability to independently engage in tasks due to the strict rules and regulations imposed in the institutional policy, rigidity of general routine and the hierarchical structure of the institution as influencing factors of insufficient social support.

### 1.1 Background of Study

Studies have indicated that some health-related behaviors including social support, social activity and perceived stress may be related to a favorable depression outcome (Lee et al., 2012). However, they did not point out which items of health behaviors could promote further health care. The previous study showed that social support and depression differ between people living alone and those living with a spouse. Single person households got less social support and suffered more depression (Su et al., 2012). However, there is also risk of depression in the married couple as shown in a study done by Su et al. (2012); problem in family functioning also leads to depression problems due to lack of social support given to each other.

Thus, to support the above findings, this study has been carried out which its objectives to identify the relationship between demographic characteristics and perceived social support, to identify the relationship between demographic characteristics and level of depression and to determine the association between levels of significant others support, family support and friend support with the depression level.

In social support systems, perceived social support is the most frequently constructed in the literature. It can be assessed concerning a specific support provider: family, friends and significant others/ spouse. As cited in Tadayon et al. (2015), the past research indicated that perceived social support is significantly more related to well-being than other social support structures (Ibarra-Rovillard & Kuiper, 2011). Perceived social support is the individual's understanding of love and the support received from family, friends, and significant others. Plus, perceived social support is a predicting factor for healthy well-being (Tadayon et al., 2015).

### 1.2 Objectives of the Study

This study aims to identify the relationship between demographic characteristics and perceived social support among the elderly, to identify the relationship between demographic characteristics and level of depression and to determine the association between levels of significant others support, family support and friend support with the depression level.

### 1.3 Significance of the research

The findings of this study will benefit the Social Welfare Department of Malaysia in providing psychological health-related programs on the prevention of depression among the elderly, specifically towards offering various types of social support for the elderly living in an institution. The study's result, which measures the categories of social support, may also provide valuable information to the respective institution and higher authorities about the importance of social support to overcome the depression issue among those elderly groups. Providing appropriate and sufficient social support might potentially influence better life satisfaction and quality of life. The results of the study are also helpful as it highlights the awareness of the importance of social support for the elderly population, thus decreasing the mental health issues, especially depression among those elderly group (Grav et al., 2011).

## 2.0 Literature Review

### 2.1 Elderly in Malaysia and Depression

World Bank predicted Malaysia will become an ageing society (with 7% of its total population aged above 65 years) in 2020 and will hit an increased number in 2044 (with 14% of its population aged above 65), and a super-aged status by 2056 (with 20% of its population aged above 65) (Department of Statistics Malaysia, 2016). Malaysia's ageing rate increased due to a low birth rate, decline in fertility rate, and increased life expectancy among the elderly. Due to this situation, Malaysia is urged to prepare to ensure a better living for the elderly.

Due to this increased number of elderly in Malaysia, this population is a synonym for some forms of disability or influenced by health conditions. Data from the Ministry of Health (2017) indicated an increase in health expenditure, from RM32,909 in 2010 to RM52,609 in 2015. The disability can include a form of psychological issues affecting the elderly. For example, intellectual impairment is classified as mental health issues such as dementia (deterioration of intellectual abilities), delirium and depression, social isolation, loneliness and substance abuse. Meanwhile, the triggering factor includes social issues that relate to receiving emotional support neither from the family, friends or spouse. These may cause a social decline in the elderly as supported by Travis (1973), who said that neglect and abuse (physical, verbal, psychological (emotional) and financial) cause premature death in the elderly.

Issues related to the elderly living in institutions are occupational deprivation which is a state of disengagement in occupations due to factors that stands outside the immediate control of the individual (Whiteford, 2000). Besides a situation known as disfranchisement in which the organization provides unnecessary needs to the residents in order to offer ideal services and meet the responsibility of employers (French, 2002) and alienation that defined as the sense of frustration and loss of control from society or self as a result of engagement in an occupation that does not satisfy inner needs (Wilcock, 2006). The Elderly usually spend a high proportion of their daily life being inactive, alone or immobile and spending many hours in bed and frequently taking a nap during the day which may also affect their sleeping pattern. They rarely engage in occupation mostly due to activities organized by the institution often infrequent, incidental type of activities, non-meaningful, unnecessary activities or conducted by a non-professional for passing the time (Kolanowski & Litaker, 2006).

## 2.2 Social Support of the Elderly

Social support is defined as any type of communication that can help individuals to reduce the feeling of uncertainty about a situation and makes them believe that they have control over it (Albrecht & Adelman, 1987). In addition, based on Sivandani, Ebrahimi and Vahidi (2013), social support is defined as the present or availability of people whom we can rely on and people who pay attention to, take care of, and love us (Najafabadi, Kalhori, Javadifar, & Haghizadeh, 2015).

Emotional, instrumental, informational and appraisal are four important components in social support systems. Emotional social support includes expressions of empathy, trust and caring, meanwhile instrumental support, includes tangible aid or service. The appraisal support, including information that is used for self-evaluation, and informational support, includes advice, suggestions and information given to the individuals (Fleury, 2009). Based on previous study done by Penninx et al. (1999), the result showed that instrumental support was generally protective against the worsening performance on instrumental abilities of daily living among an elderly population with recurrent unipolar depression. Subjective and structural dimensions of social support also protected the most severely depressed elderly patients against the loss of basic maintenance abilities.

As cited in Tadayon et al. (2015), the past research indicated that perceived social support is significantly more related to well-being than other structures of social support (Ibarra-Rovillard & Kuiper, 2011). Plus, perceived social support act as a predicting factor for the healthy well-being (Najafabadi et al., 2015). Current finding reported that the elderly individuals living in a nursing home scored the lowest social support compared to elderly of day care centers which obtained the highest score (Seddigh et al., 2020). The reasons of the conditions that they received care and meaningful relationship becomes influencing factors to perceive the social support that elderly received (Cloutier-Fisher, Kobayashi & Smith, 2011).

## 3.0 Methodology

This study conducted a cross-sectional study design to identify perceived social support and depression levels among older adults living in institutions. This study had its ethical approval from the University Technology of MARA (UiTM) Research Ethics Committee and the Social Welfare Department of Malaysia. There were 92 older residents (n=92) who stayed in Rumah Seri Kenangan (RSK) Cheng, Melaka, enrolled in this study through a purposive sampling technique. There were some inclusion criteria for enrolling the respondents such as older adults aged 65 and above who are living in the institution, Rumah Seri Kenangan (RSK) Cheng, Melaka, and older adults with a normal mental state (with Mini Mental State Examination (MMSE) score above 23 (high level of cognitive function) and able to give informed consent in order to be selected. At the same time, there were some respondents excluded from participating in the study such as the older adults who have cognitive problems either mild and moderate cognitive problems or dementia. Older adults who have difficulties in reading and understanding Bahasa Melayu were also excluded from the study. There were two instruments used in this study, the Malay version of the Multidimensional Scale of Perceived Social Support (MSPSS) and the Geriatric Depression Scale (GDS). MSPSS was used to assess an individual's perception of the social support that the one receives from family, friends and significant others, while the Geriatric Depression Scale (GDS) is an assessment designed to evaluate the severity of depression among the older adult group.

## 4.0 Findings

A total of 112 questionnaires were distributed to the participants. However, there were only 92 responses collected since the remaining numbers were unable to count in due to missing data and refusal among the respondents. The data were analyzed using SPSS-23 to test the descriptive and inferential statistics.

The participants are almost equal number in gender with males 56.5% (n=52) and females 43.5% (n=40). Majority of the older people were aged between 65 to 74 years old (70.7%, n=65), single status (45.7%, n=42), have attended to primary school (52.2%, n=48), self-employed (43.5%, n=40) and supported by Bantuan Orang Tua (93.5%, n=86). The detailed descriptive data are illustrated in Table 1.

Table 1. Demographic characteristics of respondents

Independent Variable	Frequency (n)	Percent (%)	Mean (M)	St. Deviation (SD)
Gender				
Male	52	56.5	0.43	0.498
Female	40	43.5		
Age				
65-74	65	70.7	1.36	0.604
75-84	21	22.8		
>85	6	6.5		
Marital status				
Single	42	45.7	1.90	0.902
Married	17	18.5		
Widowed	33	35.9		
Educational background				
Illiterate	25	27.2	1.93	0.692
Primary school	48	52.2		
Secondary school	19	20.7		
Occupation				
Unemployed	23	25.0	2.34	1.132
Self-employed	40	43.5		
Work in governmental sector	4	4.3		

Work in private sector	25	27.2		
Financial support				
Family	2	2.2	2.91	0.352
EPF/SOCSO	4	4.3		
Bantuan Orang Tua (BOT)	86	93.5		

Findings of this study also reported older adults who lived in government institutions received significant support from friends with the highest mean score (M= 4.49, SD= 1.75), followed by family support (M= 3.79, SD= 2.00) and significant others (M= 2.05, SD= 1.63) as illustrated in Table 2, the mean score for the three different groups of social support received by the older adults.

Table 2. Mean score of social support

Types of social support	n	Mean	SD.
Significant others	92	2.05	1.63
Family support	92	3.79	2.00
Friends support	92	4.49	1.75

Meanwhile, Table 3 shows the results of the Pearson correlation between demographic characteristics and social support. Gender, age and marital status of the older adults showed a weak positive correlation towards social support compared to educational background, working history and financial support. However, these demographical variables indicated no significant correlations with social support with  $p > 0.05$ .

Table 3. Correlation between demographic characteristics and social support

	Correlation coefficient (r)	P-value
Gender	0.05	0.65
Age	0.16	0.12
Marital status	0.13	0.23
Educational background	-0.09	0.38
Working history	-0.02	0.87
Financial support	-0.19	0.07

\*. Correlation is significant at the level 0.05 level (2-tailed)

Similar results were also indicated by the correlation between demographic characteristics (gender, age, marital status) and depression level of older adults with a weak positive correlation compared to educational background, working history and financial support. Nevertheless, there was no significant correlation for all of these variables  $p$ -value  $> .05$  as shown in Table 4.

Table 4: Correlation between demographic variables and depression level

	Correlation coefficient (r)	P-value
Gender	0.20	0.05
Age	0.15	0.16
Marital status	0.05	0.65
Educational background	-0.10	0.34
Working history	-0.14	0.18
Financial support	0.12	0.27

\*. Correlation is significant at the level 0.05 level (2-tailed)

Nevertheless, while analyzing the correlation between categories of social support and depression level, the results indicated the significant others' category of social support had a significant correlation with depression level ( $r = -0.207$ ,  $p = 0.048$ ), compared to the other two categories of social support perceived by the older adults; family and friends support that shown a weak correlation towards depression level,  $r$  value= 0.003 and -0.003,  $p$ -value = 0.977 and 0.975 respectively. ( $p > 0.05$ ) as presented in Table 5.

Table 5. Correlation between different categories of social support and depression level

		Significant others support	Family support	Friends support	Depression level
Significant others support	Correlation coefficient (r)		0.155	0.269	-0.207
	P-value		0.140	0.010	*0.048
Family support	Correlation coefficient (r)	0.155		0.339	0.003
	P value	0.140		0.001	0.977
Friends support	Correlation coefficient (r)	0.269	0.339		-0.003
	P value	0.010	0.001		0.975
Depression level	Correlation coefficient (r)	-0.207	0.003	-0.003	
	P value	0.048	0.977	0.975	

\*. Correlation is significant at the level 0.05 level (2-tailed)

## 5.0 Discussion

The finding of this study indicated that demographic characteristics of the older adults (gender, age, marital status, educational background, working history and financial support) have a lack of relationship with the perceived social support they received while in the institution. Contrary to previous research by Koizumi et al. (2005) which found that gender is associated with social support, where female older

adults did not receive social support compared to male older adults. While a study by Tadayon et al. (2015) found that age, educational level and marital status are associated with social support which highlighted that older adults with high education levels have a better understanding of social support.

Other than that, this study also indicated that demographic characteristics have a lack of relationship towards a level of depression among the older adults. It has been a contra finding from the previous studies that addressed a relationship between marital status and level of depression (Koizumi et al., 2005 & Xie et al., 2010). Xie et al. (2010) revealed that single, divorced or widowed was related to a higher level of depression among older adults. While other studies by Papadopoulos et al. (2013) reported age and education level to have a relationship with the level of depression, and the frequency of depression increased significantly with age (Bostrom, 2012).

The finding showed that significant other and friends' support show a negative relationship with depression levels compared to family support which is related positively. Results also indicated types of support are not associated with depression levels of the older people. However, it was a contra finding by Wang and Zhao (2012) found that older adult patients with severe depression were found to have worse family functioning and lower social support from family, friends and significant others ( $p < 0.01$ ) than those with mild depression. They found that older adults who received family support tend to have less psychological distress based on Leung et al. (2007). Their study findings also indicated that unhealthy family support among depressed older adult patients, therefore, they suggest that the treatment of geriatric depression should include the involvement of family interventions. In addition, according to them, the most important source of social support from family for older adult patients is often the spouse. Based on their observation, spouses of older adults often losing interest in each other due to the long-term burden in order to take care of their partner. Thus, it will lead to poor family support and contribute to the high number of geriatric depression.

## 6.0 Conclusion, Limitations & Recommendations

In conclusion, findings of this study indicated older adults who live in government institutions received major support from friends, followed by family support and significant others. This study also reported that the social support perceived by older people is not associated with any demographic factors. Furthermore, the depression level was also not associated with the demographic characteristics and social support of the older adults. Nevertheless, it is still very important to ensure the older adult group receives adequate and continuous social support from surrounding people in order to prevent depressive symptoms and increase functionality of the folks. This study has potential to expand in the future by taking into account the elderly groups who lives in other non-government or private institutions instead of single setting, enrolling larger size to obtain a significant outcome and to consider the health background that may be possibly influencing the depression level.

There are several limitations have been identified. The smaller sample size enrolled in this study did not allow for generalizing the population. Besides that, enrolling one specific government institution in Melaka which is Rumah Seri Kenangan (RSK) Cheng without involving elderly persons from other non-government or private institutions was restricting the generalizing of population. Some demographic information also needed to be reported such as health status, duration of living in the institution that may probably influence the social support and depression level.

Thus, there are some recommendations required for future research. There should be wider range of participants' population that include elderly who lives in non-government or private institutions and obtain more enrollment to enable generalizing the data. Elderly who lives in government institution mostly get their financial support from government social welfare department which differ to private elderly settings. In addition, the facilities and activities are all being provided in government institution compared to the non-governmental institutions. In terms of social support, elderly living in private institution usually being supported financially by their family and relatives. Thus, it influences towards better psychological status and well-being. Besides that, for further research recommendations, such study can be done using qualitative method to control the external factor that may influence the study result and obtain wider prospect of data. Observation of participants' surrounding, attitude, well-being and some demographic factors such as health status and duration of institutionalized could be considered to explore influencing factors lead to association between social support and depression of the elderly.

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## Paper Contribution to Related Field of Study

This paper contributes to the field of occupational therapy and elderly management in the geriatric institutions.

## References

Albrecht, T. L., & Adelman, M. B. (1987). *Communicating social support*. Sage Publications, Inc.

- Boström, A. M., Squires, J. E., Mitchell, A., Sales, A. E., & Estabrooks, C. A. (2012). Workplace aggression experienced by frontline staff in dementia care. *Journal of clinical nursing*, 21(9-10), 1453-1465.
- Cheng, C. Y., & Pickler, R. H. (2009). Effects of stress and social support on postpartum health of Chinese mothers in the United States. *Research in nursing & health*, 32(6), 582-591.
- Cheng, S. T., Lee, C. K. L., & Chow, P. K. Y. (2010). Social support and psychological well-being of nursing home residents in Hong Kong. *International Psychogeriatrics*, 22(7), 1185-1190.
- Cheng, Y., Liu, C., Mao, C., Qian, J., Liu, K., & Ke, G. (2008). Social support plays a role in depression in Parkinson's disease: a cross-section study in a Chinese cohort. *Parkinsonism & Related Disorders*, 14(1), 43-45.
- Cloutier-Fisher, D., Kobayashi, K., & Smith, A. (2011). The subjective dimension of social isolation: A qualitative investigation of older adults' experiences in small social support networks. *Journal of aging studies*, 25(4), 407-414.
- Cobb, S. (1976). Social support as a moderator of life stress. *Psychosomatic medicine*.
- Dack, C. R. J. P. C. S. D. B. L., Ross, J., Papadopoulos, C., Stewart, D., & Bowers, L. (2013). A review and meta-analysis of the patient factors associated with psychiatric in-patient aggression. *Acta Psychiatrica Scandinavica*, 127(4), 255-268.
- Fleury, J., Keller, C., & Perez, A. (2009). Social support theoretical perspective. *Geriatric Nursing (New York, NY)*, 30(2 0), 11.
- French, G. (2002). Occupational disfranchisement in the dependency culture of a nursing home. *Journal of Occupational Science*, 9(1), 28-37.
- Ibarra-Rovillard, M. S., & Kuiper, N. A. (2011). Social support and social negativity findings in depression: Perceived responsiveness to basic psychological needs. *Clinical psychology review*, 31(3), 342-352.
- Gray, M., De Vaus, D., Qu, L., & Stanton, D. (2011). Divorce and the well-being of older Australians. *Ageing & Society*, 31(3), 475-498.
- Kikuchi, H., Inoue, S., Sugiyama, T., Owen, N., Oka, K., Nakaya, T., & Shimomitsu, T. (2014). Distinct associations of different sedentary behaviors with health-related attributes among older adults. *Preventive medicine*, 67, 335-339.
- Koizumi, Y., Awata, S., Kuriyama, S., Ohmori, K., Hozawa, A., Seki, T., ... & Tsuji, I. (2005). Association between social support and depression status in the elderly: results of a 1-year community-based prospective cohort study in Japan. *Psychiatry and clinical neurosciences*, 59(5), 563-569.
- Lee, C. T., Yeh, C. J., Lee, M. C., Lin, H. S., Chen, V. C. H., Hsieh, M. H., ... & Lai, T. J. (2012). Social support and mobility limitation as modifiable predictors of improvement in depressive symptoms in the elderly: results of a national longitudinal study. *Archives of Gerontology and Geriatrics*, 55(3), 530-538.
- Leung, K. K., Chen, C. Y., Lue, B. H., & Hsu, S. T. (2007). Social support and family functioning on psychological symptoms in elderly Chinese. *Archives of gerontology and geriatrics*, 44(2), 203-213.
- Najafabadi, M. T., Kalhori, H., Javadifar, N., & Haghighizadeh, M. H. (2015). Association between perceived social support and depression in postmenopausal women. *Jundishapur Journal of Chronic Disease Care*, 4(4).
- Omar, M., Asmuni, N., & Shima, S. (2019). Healthy life expectancy vs health expenditure by Sullivan method in Malaysia. *Indones J Elect Eng Comput Sci*, 14, 402-406.
- Penninx, B. W., Leveille, S., Ferrucci, L., Van Eijk, J. T., & Guralnik, J. M. (1999). Exploring the effect of depression on physical disability: longitudinal evidence from the established populations for epidemiologic studies of the elderly. *American journal of public health*, 89(9), 1346-1352.
- SABRI, S. (2016). Department of Statistics, Malaysia.
- Seddigh, M., Hazrati, M., Jokar, M., Mansouri, A., Bazrafshan, M. R., Rasti, M., & Kavi, E. (2020). A comparative study of perceived social support and depression among elderly members of senior day centers, elderly residents in nursing homes, and elderly living at home. *Iranian journal of nursing and midwifery research*, 25(2), 160.
- Sivandani, A., Koohbanani, S. E., & Vahidi, T. (2013). The relation between social support and self-efficacy with academic achievement and school satisfaction among female junior high school students in Birjand. *Procedia-Social and Behavioral Sciences*, 84, 668-673.
- Su, D., Wu, X. N., Zhang, Y. X., Li, H. P., Wang, W. L., Zhang, J. P., & Zhou, L. S. (2012). Depression and social support between China rural and urban empty-nest elderly. *Archives of gerontology and geriatrics*, 55(3), 564-569.
- TADAYON, N. M., Kalhori, H., Javadifar, N., & HAGHIGHIZADEH, M. H. (2015). Association between perceived social support and depression in postmenopausal women.
- Travis, R. W. (1973). *PLACE UTILITY AND SOCIAL CHANGE IN INNER-CITY HISTORIC SPACE: A CASE STUDY OF GERMAN VILLAGE, COLUMBUS, OHIO*. University of Illinois at Urbana-Champaign.
- Wang, J., & Zhao, X. (2012). Family functioning and social support for older patients with depression in an urban area of Shanghai, China. *Archives of gerontology and geriatrics*, 55(3), 574-579.
- Whiteford, G. (2000). Occupational deprivation: Global challenge in the new millennium. *British journal of occupational therapy*, 63(5), 200-204.
- Wilcock, A. A. (2006). *An occupational perspective of health*. Slack Incorporated.
- Wilkinson, R. G., & Marmot, M. (Eds.). (2003). *Social determinants of health: the solid facts*. World Health Organization.
- Wilson, C. B., & Davies, S. (2009). Developing relationships in long term care environments: the contribution of staff. *Journal of clinical nursing*, 18(12), 1746-1755.

Xie, L. Q., Zhang, J. P., Peng, F., & Jiao, N. N. (2010). Prevalence and related influencing factors of depressive symptoms for empty-nest elderly living in the rural area of YongZhou, China. *Archives of gerontology and geriatrics*, 50(1), 24-29.