ORIGINAL ARTICLE

The role of social network, social support, religiosity and depression among elderly Malaysians who had experienced major life events

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ABSTRACT

Background: Research has found that social network, social support and religiosity are associated with depression in elderly people. However, these predictors of depression have not been fully explored among the high risk elderly population. This study aims to examine the prevalence and factors associated with depression among Malaysian elderly subjects who had experienced major life events.

Methods: This is a cross-section study of a subsample of 594 participants from the original sample of 2322 Malaysian elderly respondents, who had experienced major life events. Information on socio-demographic, social network, social support, religiosity and depression were collected through an interviewer-administered questionnaire. A multiple linear regression analysis was used to determine the factors associated with depression among elderly who experienced major life events.

Results: Overall prevalence of depression among subsample of Malaysian elderly facing major life events was 9.4%. The results showed that age (p≤0.01), income (p≤0.001) and social network (p≤0.05) were significant associated with depression. In other words, with increasing age, low income as well as small social network associated with high risk of developing depression among elderly who had experienced major life events

Conclusion: Other than age and income, social network were also associated with depression among elderly respondents who had experienced major life events. Therefore, professionals who are working with elderly with major life events should seek ways to enhance elderly networking as one of the strategies to prevent depression.

KEY WORDS:
Social Network, Social Support, Religiosity, Depression, Major life events

INTRODUCTION

Depression is a leading cause of disability worldwide and the major contributor to the overall global burden of diseases. The increase of aged population has been accompanied by a dramatic increase in the number of older adults suffering from depression. There is an 18% increase of depression over a 10-year period among 350 million people of all ages.[1] However, recently the prevalence rates for depression peaked among older adults, affecting more elderly women than men.[2] The prevalence of depression in Peninsular Malaysia has been shown to reach almost 8% in the rural[3] and 6% in the urban[4] communities.

Depression is linked to increased risk of cardiac morbidity, physical distress and health problems and thus decreased in quality of life among elderly.[5] These consequently may limit their daily activities, job insecurity, and increased risk of early mortality.[6]

Social network and social support have been shown to significantly affect depression among elderly.[7,8] Umberson, states that older adults will perceive feelings of belonging, love, value, tangible aids, and advice that can help them to stay healthy and adapt to stress when they have access to adequate social support network.[9]

Other than social factors, religiosity is also significantly linked to health, particularly depression as it acquire more positive emotions.[10] Elderly population who had experienced distressing life events are at high risk of depression.[1,11] In fact, major life events such as loss of a spouse, death of parents and friends, illnesses, physical changes and a change in residential area have been consistently high among older age population.[12] To date, no nationwide or local study looking at the characteristics depression among high risk group of elderly, particularly those who had experienced major life events.

Access to better social network, social support and religiosity all constitute important building block for healthy living among elderly people who are likely to experience losses such as loss of spouse, closed family members and other significant life events.[13] Although majority of depressed people identify stressful event precipitating their depression, only small number of people exposed to such distressing life events become depressed when they receive adequate social support and become involved in religion.[14] While coping resources might facilitate such adaptation, their effects on

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alleviating depression in the elderly who experienced major life events have been largely ignored, despite evidence suggesting their potential importance.

Studies had shown that social network, social support and religiosity were associated with depression in later life.[15] However, studies on the relationships among older adults who at high risk of depression remains scarce. Thus, this study was conducted to increase the understanding of whether social network, social support and religiosity are associated with depression among elderly who had experienced major life events. The hypothesis of this study was there is significant association between social network, social support, religiosity and depression.

MATERIALS AND METHODS

Design, Participants and Procedure

The data presented herein were obtained from the Malaysian national survey entitled 'Identifying Psychosocial and Identifying Economic Risk Factor of Cognitive Impairment among Elderly'. In brief, this study was a cross-sectional, face to face, interviewer-administered survey of community residents aged 60 years or older from Peninsular Malaysia. A multi-stage stratified random sampling technique was used to obtain a representative sample of the Malaysian population. A total of 2,322 older adults participated in this study, with a response rate of 90%.[16,17] Of this, a subsample of 594 respondents who had experienced major life events was selected for this study.

The characteristics of the sample broadly represented the general population of older people living in the community in Peninsular Malaysia.

MEASURES

Socio-demographic Characteristics (Independent Variable)

The demographic characteristics were age, gender, ethnicity, education level, marital status, religion, employment, income, and living arrangement. All socio-demographic characteristics were measured as categorical variables, except for age and income which was measured as continuous variables.

Social Network (Independent Variable)

The Lubben Social Network-6 (LSNS-6)[18] was used to measure the size of the network (friendship network size, family network size, and total network size). This scale consists of six questions; three questions access family ties and three questions access friendship ties. Each question has score of 0 to 20 that will make range of each subscale from 0 to 60. Thus, to find the total score, the sum of these six questions ranged from 0 to 120. Higher scores represent a bigger family or friendship social networks. For the present study, the LSNS-6 showed acceptable internal consistency with Cronbach's alpha = 0.55.

Social Support (Independent Variable)

The Medical Outcome Study Social Support Survey (MOS-SSS)[19] was employed to measure social support of the respondents. It is a 19-item scale with four subscales, which were informational, tangible support, affective support and positive social interaction. In the MOS-SSS each item has scale of 0 to 3: (0) none of the times, (1) some of the time, (2) most of the time and (3) all of the time. Choosing (3) was equal in the full positive response and choosing (0) was equal to a full negative response. Based on the questionnaires, range scores of informational support was 0-24, affective support was 0-9, tangible support and positive social interaction support was 0-12. This has made a total score of social support 0-57. The higher score indicated the better function of social support. In this study, the MOS-SSS showed high internal consistency with Chronbach's alpha = 0.98.

Religiosity (Independent Variable)

Religiosity was measured using the Religiosity Intrinsic-Extrinsic Scale.[20] This scale contains of 14 items with six items measuring intrinsic religiosity and four items measuring each extrinsic personal and extrinsic social. Each of the items has Likert scale of 1 to 5; (1) strongly disagree, (2) disagree, (3) neutral, (4) agree, and (5) strongly agree. Then, both forms of religiosity are summed up individually and the score range of 6-30 for intrinsic scale, while 4-20 for each of extrinsic personal and extrinsic social. Then, a final score was summed up with range of 14-70. Higher scores indicate higher level of a specific religious orientation. In this study, the scale showed high internal consistency with Chronbach's alpha=0.76.

Depression (Dependent Variable)

Depression was assessed by 15-item Geriatric Depression Scale (GDS) [21] which scores ranging from 0 to 15. The cut-off point of 5/6 was used, where a GDS score of 0-5 indicated for normal/ no depression, meanwhile score of 6-15 indicated of depression. The GDS-15 is a reliable and valid screening tool among community-dwelling older adults.[22] For the present study, GDS-15 showed acceptable internal consistency with Cronbach's alpha = 0.64. The score of the Lubben Social Network-6, MOS-SSS, Religiosity Intrinsic-Extrinsic scale and GDS-15 were used as continuous variables.

Descriptive analysis was conducted to describe the socio-demographic characteristic. Mean and standard deviations were reported for continuous data such as depression, social network, social support and religiosity. In this study, bivariate analyses used were Chi-squared tests and Pearson correlation. Chi-square was used to test whether categorical variables was related to depression. Pearson correlation was used to test whether continuous variables was related to depression. For this study, a multiple linear regression was used to elucidate the various risk factors influencing depression.

Exploratory data analyses conducted to test for skewness, normality, linearity, homoscedasticity and multicollinearity of the variables showed acceptable level to run further analyses.

RESULTS

Among our 594 elderly respondents, their age ranged from 62 to 74 years, with a mean of 68.7±6.1 years. The majority of the respondents were females (54.2%), Malays (78.8%), married (58.6%), Muslim (79.1%) and retired (76.4%).

Table I: Socio-demographic characteristics of the study subject

Variables	Total (n)/	Percentage (%)	Mean	SD
Age ,year			68.65	6.08
60-69	355	59.80		
70-79	210	35.30		
>/80	29	4.90		
Gender				
Male	272	45.80		
Female	322	54.20		
Ethnicity				
Malay	468	78.80		
Chinese	90	15.20		
Indian	33	5.60		
Others	3	0.40		
Education				
Not Schooling	108	18.20		
Primary	327	55.10		
Secondary	120	20.20		
Tertiary	39	6.50		
Marital status				
Single	6	1.00		
Married	348	58.60		
Divorced	13	2.20		
Widowed	227	38.20		
Religion				
Islam	470	79.10		
Christian	14	2.40		
Buddha	75	12.60		
Hindu	27	4.50		
Others	8	1.40		
Employment Status				
Working	140	23.60		
Not Working	454	76.40		
Estimated Monthly Income (RM)			867.31	994.10
Living Arrangement				
Alone	74	12.50		
With Family Member	520	87.50		

Table II: Mean and standard deviation of the study variables

Variable	Mean	SD
Social Network		
Total social network	28.87	18.23
Family network	9.99	9.24
Friend network	18.88	12.97
Social Support		
Total social support	39.42	14.76
Emotional and informational support	16.07	7.07
Tangible support	8.22	3.51
Affectionate support	6.74	2.40
Positive social interaction support	8.40	3.32
Religiosity		
Total religiosity	54.57	6.76
Intrinsic religiosity	27.27	3.63
Extrinsic personal	13.62	2.88
Extrinsic social	13.68	3.40
Depression	2.66	2.14

Table III: Comparison of the socio-demographic factors (categorical variable) and depression

Variables	No depression (%)(n=538)	Depression (%) (n=56)	P-value
Age ,year			0.645
<62.57	94(90.4)	10(9.6)	
62.58-68.65	202(91.4)	19(8.6)	
68.66-74.73	144(91.7)	13(8.3)	
>74.74	98(87.5)	14(12.5)	
Gender			0.031
Male	254(93.4)	18(6.6)	
Female	284(88.2)	38(11.8)	
Ethnicity			0.740
Malay	426(91.0)	42(9.0)	
Chinese	79(87.8)	11(12.2)	
Indian	30(90.9)	3(9.1)	
Others	3(100.0)	0(0.0)	
Education			0.068
Not Schooling	89(82.4)	19(17.6)	
Primary	299(91.4)	28(8.6)	
Secondary	112(93.3)	8(6.7)	
Tertiary	38(97.4)	1(2.6)	
Marital status			0.063
Single	6(100.0)	0(0.0)	
Married	320(92.0)	28(8.0)	
Divorced	12(92.3)	1(7.7)	
Widowed	200(88.1)	27(11.9)	
Religion			0.298
Islam	428(91.1)	42(8.9)	
Christian	11(78.6)	3(21.4)	
Buddha	68(90.7)	7(9.3)	
Hindu	25(92.6)	2(7.4)	
Others	6(75.0)	2(25.0)	
Employment Status			0.290
Working	130(92.9)	10(7.1)	
Not Working	408(89.9)	46(10.1)	
Living Arrangement			0.390
Alone	65(87.8)	9(12.2)	
With Family Member	473(91.0)	47(9.0)	

Table IV: Correlation of the socio-demographic factors (continuous variables) social network, social support, religiosity and depression

Variables	Mean	±SD	Pearson correlation	p-value
Age (years)	68.7	6.1	0.163**	<0.001
Income (RM)	867.31	994.1	-0.234**	<0.001
Total social network	28.9	18.2	-0.154**	0.000
Total social support	39.4	14.8	-0.128**	0.002
Total religiosity	54.5	6.8	-0.119**	0.004

Note: ** <0.01

Table V: Result of multiple regression to predict depression of older respondents with experienced life events

Predictor Variables	B	Std. Error	Sig.	β	Collinearity Statistics VIF
(Constant)	2.115	1.269		0.096	
Age	0.041	0.014	0.117	0.003	1.037
income	0.000	0.000	-0.196	<0.001	1.052
total social network	-0.001	0.005	-0.095	0.014	1.153
total social support	-0.005	0.007	-0.036	0.435	1.386
total religiosity	-0.026	0.014	-0.081	0.056	1.252

F=12.11 R2=0.64

Majority of respondents had low level of education (73.3%), with 55.1% with primary school level and 18.2% had no formal schooling. The estimated monthly income was RM867.31±994.10 with most of the respondent staying with family members (87.5%), and only 12.5% staying alone (Table I).

Table II summarises the mean and standard deviation (SD) of the social network, social support, religiosity and depression. Based on the mean value of social network, respondents have larger friendship network (18.88) as compared to family network (9.99), made a total social network of 28.87. The mean value of total social support was 39.42. The results showed that the respondents received more emotional and informational support (16.07), followed by positive social interaction (8.40) and tangible support (8.22) and the lowest was affectionate support (6.74). Whereas, the mean score of total religiosity was 54.48, where the study indicated that the highest form of religiosity practised by respondents were intrinsic religiosity (27.27), followed by extrinsic social (13.68) and intrinsic personal (13.62). The mean score of depression was 2.66.

Distribution of Depression of the Respondent

The result shows that 56 (9.4%) of the total respondents were probably depressed while 538 (90.6%) were non-depression.

Association between Socio-demographic Characteristics and Depression

Chi square test, as shown in Table III, indicates that there were statistically significant relationships between gender (p=0.031), level of education (p=0.063) and depression. Meanwhile, results of Pearson correlation test in Table IV indicated that age was positively correlated with depression (r=0.163; p<0.001), and income was negatively correlated with depression (r= -0.234; p<0.001). These findings suggest that elderly who had experienced major life events will be more likely to develop depression with an increase of age and having lower income.

Correlation of Social Network, Social Support, Religiosity and Depression

Pearson correlation test as showed in Table IV, showed that social network (r= -0.154; p<0.001), social support (r= -0.128, p=0.002) and religiosity (r= -0.119; p=0.004) were negatively correlated with depression among older respondents with experienced life events. These indicated that elderly who had smaller size of social network, lower social support and religiosity will have greater risk of depression.

The Predictors of Depression among Malaysian Elderly Subjects with Experienced Life Event

Table V shows the results of the enter method multiple regression analysis utilising depression as the dependent variable. This variable was measured as an interval scale of measurement. The independent variables included age, income, social network, social support and religiosity which were also measured as continuous variables on an interval scale.

The model (F=12.18; p<0.001) was significant, the null hypothesis was rejected. Based on the enter method multiple linear regression, three factors were found to be of significance in explaining the depression of the respondents. The three factors were age (β = 0.117, p=0.003), income (β = -0.196, p<0.001), and social network (β = -0.095, p=0.014).

DISCUSSION

This study investigated the role of social network, social support and religiosity in influencing depressive symptoms among Malaysian older adults who had experienced major life events. Less than ten percent of the respondents had depression (9.4%). The prevalence of depression in the general population in Malaysia is about 8 to 12%,[3,4,23] thus this finding indicated a moderate level of depression among study sample.

Gender, age and income were significantly associated with depression. Risk of depression was more prevalent among elderly women (11.8%) compared to elderly men (6.6%). This result was in line with other local studies, that showed the prevalence of depression among Malaysian women were higher than men, where the ranged for women was from 8.3%3 to 12.1%.[24]

The correlation analysis showed that the social network, social support and religiosity of older adults had significant negative correlation with depression, suggesting that these variables could be the important factors in influencing depression. The same results were found in previous research which reported social network,[25] social support[26] and religiosity[15] are associated with depression in older adults. To the best of our knowledge, this is the first study to examine the relationships of social network, social support, religiosity and depression among Malaysian elderly who had experienced major life events.

Social network, social support and religiosity as protective factors of mental health among adult population.[27] Through social networking and social support, older persons are able to attain their social identity, new social contacts and material aids that will help serve their emotional needs.[28] This significantly allows an older person to get better social support that integrates supportive relationships which help older people to stay healthy and adapt better to stress.[29] Studies among older persons, indicate that religious beliefs contribute to the development of personal balance, in addition to providing better conditions for individuals to cope with their dependency and tendency towards isolation. In fact, Wilkinson and Marmot,[30] established that access to better social network, social support and religiosity[13] constitute an important building block for healthy living among older persons who experienced losses of their loved ones.

The major findings indicated that social network, income and age were found to be the predictors depression. Even though social support and religiosity were correlated with depression, however, when covariates were added in the regression model, the estimated effect of these variables decreased and become non-significant, thus social support and religiosity did not improve the overall prediction. This is

because other variables in the model did not uniquely explain depression as it overlaps in variance explained with social support and religiosity. Therefore, social support and religiosity were not predictors of depression among older persons. This is consistent with former studies that identified social network,[31] age,[32] and income[33] as keys indicators of depression. The possible reason for social network as predictor of depression was because older respondents in this study had larger network size of friend as compared with family network size. As majority of older people who had experience major life events have experienced losses. Thus, the smaller family network size has given the great impact in increasing the risk of developing depression among respondents. Income showed the strongest association with depression in the model. After retirement, most of elderly people will lose their main financial resources, thus increase the likelihood of depression. Older Malaysians depends on their pension, savings, investments or even money from their children to meet their financial needs.[34] Thus, unemployment gives rise to elderly's financial problems as in this study; respondents who are not working have highest prevalence of depression as compared with those who are working.

In spite of social network and income, this study also found age as the predictor of depression among older adults. Older people will most likely to experience chronic illnesses,[35-38] and physical disabilities[39,40] which increase the risk of depression. Tiemeier[35] found that depression is elevated in hyperthyroidism as well as hypothyroidism, suggesting that endocrine dysregulation may cause late life depression. In spite of thyroid diseases, older adults who have associated chronic illnesses such as cardiovascular diseases,[36] diabetes[37] and dementia[38] also greatly predisposed to experience depression in late life.

There are several limitations in this study. Firstly, the instruments used in this study only measure the available support and structure of social network, thus limit the researcher to capture the quality of relationships. Secondly this study is a cross-sectional study; therefore, statements about causality are not possible. Finally the respondents of this study were community-dwelling elderly in Peninsular Malaysia. Thus, the results of this study were not able to generalise to the elderly living in institutions and the states of Sabah and Sarawak.

CONCLUSION

We found that less than ten percent of the respondents who had experience major life events had depression. Age, income and social network were found to be predictors of depression. Income had the strongest association with depression among elderly who had experience life events. Older persons who had experienced life events require certain adjustments in their life including better income and larger social network size in order to reduce the likelihood of depression.

The findings of the present study is limited to community dwelling older adults in Peninsula Malaysia only. Future investigation should measure the support received, reciprocity of support as well as duration of each support. While in social network, other studies need to consider respondent's contact frequency and quality of social network, which can create higher accuracy in measuring social network size.

DECLARATION OF CONFLICT OF INTEREST

The authors declare no conflict of interests.

ETHICAL CONSIDERATION

Ethics approval was obtained prior to the study [project number LRGS/BU/2012/UKM-UKM/K01] from the national Medical Research Register, Ministry of Health Malaysia Information sheets and consent were obtained from the respondents.

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