Psychiatric morbidity and perceived social support among elderly people living separately from their adult children in the community- a cross-sectional comparative study

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Abstract - *A community-based cross-sectional comparative study was carried out to assess and compare the prevalence of psychiatric morbidity and level of perceived social support between two groups of elderly people; 50 elderly people living with their adult children or family members and 50 elderly people living separately in the community. Elderly people aged 60 years and above, fulfilling the inclusion and exclusion criteria were screened with GHQ-12 (scored >3). Then all the screened respondents were interviewed using HAM-D, HAM-A, HMSE, and MSPSS. The mean age of the respondents in both study groups was approximately 67years and the majority of them belong to age group 60-75 years. Total 18 (36%) respondents in group-1 and 28 (56%) respondents in group-2 were found with psychiatric distress in screening. Elderly people living separately were found with two times higher risk of psychiatric distress (OR=2.3, 95% CI=1.01-5.05, p<0.05), depression (OR=2.3, 95% CI=1.02-5.19, p<0.05) and anxiety (OR=2.4, 95% CI=1.05-5.63, p<0.05) compared to elderly people living with their adult children and family members. Elderly people living with their adult children and family were found with a higher degree of perceived social support compared to elderly living separately. Perceived social support was found negatively correlated with depression, anxiety, and cognitive impairment. The present study shows that risk of psychiatric distress, depression and anxiety disorders are significantly higher in elderly people living separately from their adult children in the community. Improving social support among elderly people especially from their adult children can decrease the risk of psychiatric disorders among them.*

Keywords: *Aging, Depression, Anxiety, Cognitive impairment, Psychiatric distress*

INTRODUCTION

The population of elderly people aged 60 years and above is increasing faster than other age groups in all over the world. United Nations Division has reported that the population of older adults may increase in a dramatic way in India in upcoming decades. As per census 2011, the population of older adults aged 60 years above is near about 104 million in India And it is projected that the population elderly people in India will reach up to 300 million elderly by 2050 and elderly will form 19% of the total population[1]-[3]. In the recent few years a dramatic change has been seen in the living arrangement of elderly people in India due to decline in join family system, urbanization, industrialization and outmigration of young adult towards other cities or state in search of better carrier and employment [4]. According to National Family Health Survey (NFHS) 2005-06 report, there are about three fourth of the total population of elderly people living either alone or with their spouse only in India [5].

According to the World Health Organization (WHO) living alone in later life without family support increase the risk of decline quality of life of elderly people. Living alone or separately from their adult children and family members in old age for elderly people often becomes a result of undesirable state and as a risk for health and it required special attention [6]-[8]. And there are about 20% of the older adult's population aged 60 years and above suffering from a mental or neurological disorder and 6.6% of all disability (disability adjusted life years-DALY) this

population is attributed to mental and neurological disorder [9]. Some Previous studies have stated that the prevalence rate of psychiatric disorders among older adults is about 33.9% in India [10]. As per data from a Meta analysis social support is correlated to mental health of any individual [11]. But very few of the studies have been conducted to assess perceived social support among elderly people living separately from their adult children and its impact upon their mental health in comparison to elderly people living with their adult children and family members in the community.

Aim of the present study is to assess and compare the level of perceived social support and the prevalence of psychiatric disorder between elderly people living separately from their adult children and elderly people living with their adult children and other family members in the community.

METHODS AND MATERIALS

A community-based cross-sectional comparative study was carried out in some randomly selected areas of Varanasi district in Uttar Pradesh during the period of December 2018 to June 2019. The ethical approval for the present was taken from the ethical committee of the Institute of Medical Sciences, Banaras Hindu University, Varanasi. A total of 100 respondents (50 elderly people living with their adult children or other family members as group-1and 50 elderly people living separately as group-2) who fulfill the inclusion and exclusion criteria were selected for the interview from the selected areas.

Inclusion and exclusion criteria

The inclusion and exclusion criteria for the respondent's selection were as follows; the respondents aged 60 years and above, elderly people living with their adult children and elderly people living separately in the community, willing to participate and giving consent were included in the present study. The respondents who had hearing and visual impairment or any chronic disease, and were not present at their home during the data collection were excluded from the study.

Study Tools

A semi-structured questionnaire was prepared consisting of socio-demographic variables (such age, gender, marital status, education, residence, and family income), psychiatric history and mental status examination, General Health Questionnaire-12 (for screening), Hamilton Depression Rating Scale,

Hamilton Anxiety Scale, Mini Mental Status Examination Scale, and Multidimensional Scale of Perceived Social Support.

General Health Questionnaire-12 (GHQ-12): The General Health Questionnaire-12 is the most common self-administrated screening tool to detect mental disorders in non-psychiatric clinical and community settings. It was developed by British scholar Goldberg in 1972 [12]. There are various versions of GHQ, such as GHQ-60, GHQ-30, GHQ-28, and GHQ-12. The GHQ-12 consists of 12 items and easy administrate, having high reliability and validity according to previous studies.[13]

Hamilton Depression Rating Scale: Hamilton Depression Rating Scale (also known as HAM-D) was developed by Max Hamilton in 1960 [14]. It is a 17 items rating scale to assess the severity of depression. It is the most widely used tool in clinical and research areas. The subjects were graded as normal (0-7), Mild (8-13), Moderate (14-18), Severe Depression (19-22) and Very Severe (≥23). It has good reliability and validity according to the finding of the previous studies.[15]

Hamilton Anxiety Scale: Hamilton Anxiety Scale (also known as HAM-A) was developed by Max Hamilton in 1959 [16]. It is a 14 items rating scale to assess the severity of anxiety which is the most widely used clinical and research areas like HAM-D. It includes 14 items, each consist of a series of symptoms of anxiety disorders. All the items are rated on a 5 point Likert scale; 0 (not present) to 4 (severe). The subjects are assessed and graded as normal (0-13), mild severity (14-17), mild to moderate (18-24), moderate to severe (25-30) based on the maximum score 56. It is very good scale, having high reliability and validity according to the previous studies.[17]

Hindi Mini Mental Status Examination scale (HMSE): Hindi Mini Mental Status Examination Scale was developed by Ganguli M et al [18]. It is modified Hindi version of Mini-Mental Status Examination (MMSE) scale. Originally, MMSE was developed by Folstein et al [19] in 1975. It is used extensively in clinical and research settings to examine cognitive functions such as orientation, attention, memory, and literary and to assess cognitive impairment. The subjects are assessed and graded as normal (≥24), mild (20−23), moderate (10−19), and severely impaired (<10) based on maximum score 30. It has good reliability (0.89) and validity (0.82) and takes around 15 minutes to administrate.

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Multi-Dimensional Social Support Perceived Questionnaire (MSPSS) It was developed by Zimet et al [20]. This questionnaire has three subscales of family, friends and significant others subscale. It consists of 12 items, each item is consisted of seven Likert type options (very strongly disagree=1 to very strongly agree=7). Scoring of each subscales are as follows; (1) family support-adding items 1, 2, 5, and 10 then divide total by 4, (2) friends support- adding 3, 4, 8, and 11, then divide total by 4, and (3) significant other subscale- adding 6, 7, 9, and 12 then divide total by 4. For overall perceived social support-adding each item score (1 to 12) then divide total by 12. A mean score ranging 1 to 2.9 is considered low support, a score 3 to 5 is considered as moderate support and a score from 5.1 to 7 is considered as high support.

Procedure

First, a list of elderly people living was prepared with the help of some volunteers (Parsad of wards and booth level officers) from the selected areas. The respondents who fulfilled the inclusion and exclusion criteria were selected and then they were screened by General Health Questionnaire (GHQ)-12 for caseness (score >3) and normal. The respondent who found with caseness (mental disorder) in the screening, they further interviewed and assessed for depression, anxiety and cognitive impairment using ICD-10 criteria, HDRS, HAM-A and HMSE. Perceived social support was assessed after the screening and assessment of the respondents. Each interview was done in maximum 30 minutes.

Statistical Analysis

The data was entered in MS Excel and then export in SPSS version 20 to analyze. Descriptive analysis was done using frequency, percentage, mean and stander deviation. Association and risk factor was assessed using chi squire test. Comparison between groups was assessed using students independent t test. Correlation between variables was assessed using bivariate Pearson Correlation test.

RESULTS

In Table 1, the mean age of the respondents in both study groups was approximately 67 years and the majority of the respondents belong to age group 60-75 years. Most of the respondents (54% in group-1 and 52% in group-2) were female in both study groups and most of them were married (58% in group-1 and 54% in group-2). Majority of respondents were literate and

belongs to the urban area in both study groups. Most of the respondents belong to low socioeconomic status in both study groups. Both study groups were matched on each socio-demographic variable.

In Table 2, majority of the respondent 18 (36%) in group-1 and 28 (56%) in group-2 were found with psychiatric distress in GHQ-12 screening >3. And there was significance difference in the risk of psychiatric distress between both study groups. Most of the respondents 16 (32%) in group-1 and 26 (52%) of the respondents in group-2 were found depressed. And there was a significant difference found in the risk of depression in both study groups. Like depression 13 (26%) of the respondents in group-1 and 23 (46%) of the respondents in group-2 were found with anxiety disorder. There was a significant difference found in the risk of anxiety disorder in both study groups. Elderly living separately had two time risks to experience psychiatric distress (OR=2.3, 95% CI=1.01-5.05, p<0.05), depression (OR=2.3, 95% CI=1.02-5.19, p<0.05) and anxiety (OR=2.4, 95% CI=1.05-5.63, p<0.05) compared to elderly people living with their adult children and family members in the community. Most of the respondents 37 (74%) in group-1 and 31 (62%) in group-2 were found without cognitive impairment, also there was no significant difference in prevalence of cognitive impairment between the study groups.

In Table 3, after screening of the respondents in both study groups, 18 (36%) respondents in group 1 and 28 (56%) respondents group-2 found with psychiatric distress (GHQ-12 score >3). They further interviewed with HAM-D, HAM-A, and HMSE for assessment of psychiatric morbidity among them. The result was that majority of the respondents 6 (33.3%) in group-1 and 12 (42.9%) in group-2 were found with moderate level of depression. Most of the respondents in both study groups; 6 (33.3%) in group-1 and 15 (53.3%) in group-2 were found with mild level of anxiety. And Cognitive Impairment was also common in both study groups majority of the respondents in both study groups; 7 (38.9%) in group-1 and 12 (42.9) in group-2 were found with moderate level of cognitive impairment.

In Table 4, there was a significant difference found in overall perceived social support (p<0.05) including its each dimension like other significant social support (p<0.05), family support (p<0.05) and friends support (p<0.05) between the both study groups.

In Table 5, the overall perceived social support among the respondents was strongly correlated with

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depression, anxiety disorders, and cognitive impairment. There was a negative relationship between social support and psychiatric disorders (depression and anxiety disorders and cognitive impairment). The results also indicate that depression and anxiety were positively correlated to each other but on the other hand, cognition was negatively correlated with depression and anxiety disorders.

DISCUSSION

The present study attempted to assess and compare the level of perceived social support and prevalence of psychiatric disorders between two groups of the respondents (first group; 50 elderly people living with their adult children or other family members and second group; 50 elderly people living separately from their adult children or alone) in the community. According to the finding of the study revealed that the mean age of the all respondents was 67 year and majority of the respondents belonged to age groups 60-75 years consistent to the previous studies conducted by Munaf et al [21] and Datta et al [22]. Majority of the respondents in the present study were married, literate and belong to urban areas and low socioeconomic status.

Majority of the respondents in both study groups were found with psychiatric disorders based upon GHQ-12 (score >3) screening, that is similar to study conducted by Nair et al [10], Stone et al [23], Chowdhury and Rasania [24]. The prevalence of psychiatric disorders was found significantly high among elderly people living separately from their adult children compared to elderly people living with their adult children or other family members in the community in the present study. Michael et al. [25] found in their study that living indecently or alone in later life had high risk of mental health related problems. Stone et al. [23] found in their study that transition to living with children and family to alone in later life increase the risk of psychiatric distress among older adults.

The prevalence of depression and anxiety disorders was found significantly higher among elderly people living separately from their adult children compare to elderly people living with their adult children or other family members in the present findings. But there was no significance difference in the prevalence of cognitive impairment between the study groups. Majority of the respondents were found with moderate level of depression and mild level of anxiety in the both study groups. But the risk of depression and anxiety disorders was found two times higher in elderly people living separately in the community. There were similar findings found in some previous studies in some previous studies conducted by Chowdhury and Rasania [24] and Stahl et al [26]. In contrast to the finding of the present study, Manaf et al [21] found in their study that the risk of depression (five times) and anxiety disorders (three times) is high among elderly people living with their children and family members compared to elderly living alone in the community.

In the present findings, the result indicates that the living condition of elderly people in the community has a significant influence on their demands for perceived social support. And there was a significant difference in each dimension of multi-dimensional scale of perceived social support between the both study groups. Elderly people living with their adult children and family members received high perceived social support compared to elderly people living alone in the community. Similarly Kooshiar et al [27], Mao and Han [28] in their study also found that living condition of elderly people is significantly associated with better social support, life satisfaction and well being.

Finding of the present study also indicates that perceived social support has strong negative correlation with depression and anxiety and it has also a strong relationship with cognitive impairment among elderly people. Anxiety and depression both are strongly positively correlated to each other. And cognition has negative relation with anxiety and depression. These findings are similar to the result of some previously done studies [29]-[34].

LIMITATIONS

We acknowledge that there is certain weakness in research methodology. The major shortcoming was that samples were collected from only some selected areas and also the small sample size was small. A larger sample size would have required for result to be more generalisable. The research design was cross-sectional; data were collected at one point in time. A longitudinal and interventional study would be more precise to measure phenomena that change over time. The main focus of the present research was on the common psychiatric disorders; depression, anxiety, and cognitive impairment, other psychiatric disorders were not assessed.

CONCLUSION

The finding of the present study suggests that living condition of elderly people influence the demand

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for social support. Elderly people living with their adult children and family members received more social support compared to elderly people living separately or alone. Resulting this, the risk of psychiatric disorders such as depression, anxiety disorders and cognitive impairment etc among elderly people living separately from their adult children is two times higher compared to elderly people living with their adult children and family members in the community. Perceived social support has a significant negative correlation with psychiatric disorders. Therefore increasing social support among older adults especially support from their adult children can improve their quality of life and wellbeing and decrease the risk of psychiatric disorders among them.

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Appendix

Table-1 Socio-demographic distribution of the respondents

	Variables	Living with adult children or family members Group-1 N=50, F (%)	Living separately Group-2 N=50, F (%)	df	Chi-squire value	P value
Age (Years)	60-75	42 (84.0)	43 (86.0)		0.078	0.779
	76-85	8 (16.0)	7 (14.0)	1		
	Mean & SD	**66.76 ±6.86**	**67.08±5.81**			
Gender	Female	27 (54.0)	26 (52.0)		0.040	0.841
	Male	23 (46.0)	24 (48.0)	1		
Marital Status	Married	29 (58.0)	27 (54.0)			
	Unmarried	21 (42.0)	23 (46.0)	1	0.162	0.687
Education	Illiterate	23 (46.0)	19 (38.0)		0.657	0.418
	Literate	27 (54.0)	31 (62.0)	1		
Residence	Rural	20 (40.0)	14 (28.0)		1.604	0.205
	Urban	30 (60.0)	36 (72.0)	1		
Family Income (RS)	Below 5000	14 (28.0)	19 (38.0)		2.050	0.562
	5001-15000	19 (38.0)	15 (30.0)			
	15001-25000	8 (16.0)	10 (20.0)	3		
	25001-35000 & above	9 (18.0)	6 (12.0)			

Table-2 Comparison of Psychiatric morbidity between the study groups

	Psychiatric Morbidity	Living with adult children or family members Group-1 N=50, F (%)	Living Separately Group-2 N=50, F (%)	χ2 Value, (p value)	Odds Ratio	95% Confidence Interval
Caseness	Absent	32 (64.0)	22 (44.0)	4.026	2.263	1.013-5.052
	Present	18 (36.0)	28 (56.0)	(0.045)*		
Depression	Absent	34 (68.0)	24 (48.0)	4.0105	2.302	1.021-5.190
	Present	16 (32.0)	26 (52.0)	(0.043)*		
Anxiety	Absent	37 (74.0)	27 (54.0)	4.340	2.425	1.045-5.626
	Present	13 (26.0)	23 (46.0)	(0.037)*		
Cognitive Impairment	Absent	37 (74.0)	31 (62.0)	1.654	1.744	0.744-4.088
	Present	13 (26.0)	19 (38.0)	(0.198)		

*Significant at 0.05, Caseness =(GHQ12 Score >3), Cognitive Impairment =(HMSE Score <24)

Table-3 Psychiatric Disorder present after screening (GHQ-12 Score >3) among respondents

		Elderly living with their adult children or family members Group-1 N=18; F (%)	Elderly living Separately Group-2 N=28; F (%)
Depression (HAM-D)	Normal (0-7)	3 (16.7)	2 (7.1)
	Mild (8-13)	4 (22.2)	7 (25.0)
	Moderate (14-18)	6 (33.3)	12 (42.9)
	Severe (19-22)	4 (22.2)	6 (21.4)
	Very Severe (≥23)	1 (5.6)	1 (3.6)
Anxiety (HAM-A)	Normal (0-13)	4 (22.2)	6 (21.4)
	Mild (14-17)	6 (33.3)	15 (53.6)
	Moderate (18-24)	5 (27.8)	5 (17.9)
	Severe (25-30)	3 (16.7)	2 (7.1)
Cognitive Impairment (HMSE)	Normal (≥24)	5 (27.8)	10 (35.7)
	Mild (20−23)	4 (22.2)	5 (17.9)
	Moderate (10−19)	7 (38.9)	12 (42.9)
	Severe (<10)	2 (11.1)	1 (3.6)

Table-4 Comparison of Previewed Social Support between study groups

Perceived Social Support	Living with adult children or family members Group-1; N=50		Living Separately Group-2; N=50			
	Mean	SD	Mean	SD	t value	P value
Other Significant	4.70	1.44	3.80	1.51	3.057	0.003*
Family Support	4.96	1.53	3.87	1.60	3.501	0.001*
Friend Support	4.41	1.63	3.45	1.72	2.849	0.005*
Overall Support	4.71	1.48	3.71	1.54	3.300	0.001*

*Significant at 0.05

Table-5 Correlation between psychiatric morbidity and perceived social support among elderly people

	HDRS	HAM-A	HMSE	Overall Support
HDRS	1	.835**	-.612**	-.622**
HAM-A	.835**	1	.543**	.632**
HMSE	-.612**	.543**	1	.538**
Overall Support	-.622**	.632**	.538**	1

** Correlation is significant at the 0.01 level (2-tailed)