Original Article

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Public Health Section

Assessment of Depression and Social Support in Elderly Subjects Residing in an Old Age Home: A Pilot Study

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ABSTRACT

Introduction: Depression and lack of social support, particularly in institutionalised elderly population forms a major cause of concern. The problem statement of which in the current scenario, if precisely assessed could ensure adoption of effective policies to protect and promote the health of elderly.

Aim: To assess the depression status and satisfaction with social support in elderly subjects residing in old age home and then investigate the possible association between depression and social support in them.

Materials and Methods: The cross-sectional, questionnaire-based pilot study interviewed 60 elderly subjects of either gender aged >60 years in a selected old age home in northern Kerala, India utilising standard tools like Geriatric Depression Scale-Short Form (GDS-SF) for assessment of depression and Multidimensional Scale for Perceived Social Support (MSPSS) for satisfaction with social support. Chi-square test and Pearson Correlation Coefficient tested relation between GDS and MSPSS score groups. Intergroup analysis of percent parameters was done by one sample t-test of percent/proportion.

Results: GDS scores indicated that the percentage of subjects with depression (25%) was significantly low {t (59)=4.47, p=0.001} as compared to normal subjects (75%). GDS scores showed significant negative Pearson's correlation with MSPSS scores (r=-0.268, p=0.038). MSPSS scores indicated that a significantly higher percentage of subjects (63.3%) showed low satisfaction with family support {t(59)=2.85, p=0.006}. General satisfaction with social support was perceived only as moderate by majority (45%) of subjects.

Conclusion: Although the depression status is low, it certainly varies inversely as the satisfaction with social support. However the satisfaction with family support perceived in the old age home is poor. Thus, the need for improvement of family relationships of inmates with modification of social support system arises at institutional level.

Keywords: Aged, Depressive disorder, Family relations, Friends, Personal satisfaction

INTRODUCTION

India like many other developing countries in the world is witnessing the rapid ageing of its population [1]. According to the report of Government of India elderly population (aged 60 years and above) was 7.4% of the total population in 2011. It is projected to rise up to 12.4% of the total population in 2026 [2].

One of the frequent mental disorders in the elderly population is depression [3]. Although depression commonly occurs in old age it is not a concomitant condition with the ageing process. Failure of recognition of the condition at the earliest and interventions for its prevention is a common occurrence particularly in the elderly within the institutions most often due to the lack of caretakers who are adequately skilled enough to identify the depression status of the individuals at the earliest [4]. Also, depression is associated with poor food intake and weight loss and is an important psychological component for becoming malnourished in late life [2]. Depression, particularly when institutionalisation occurs, is often linked to the risk or to the actual separation of emotional bonds and support.

In old age, social support comes mainly from the family and friends. Social support is the existence or availability of people who care, appreciate and whom one can trust [5]. The role of social withdrawal is predominantly striking among populations with greater predisposition to morbidity and mortality such as older adults [6]. Depression, particularly when institutionalisation occurs, is often linked to the risk or to the actual separation of emotional bonds and support [5]. Social support is also one of the factors that influence dietary habits in general population [7]. As institutionalisation of the elderly can be a potentiating condition of depression and by living in this new environment, isolated from their social life and away from their families, the elderly need to adapt to all these changes [4]. With expected future increase in elderly population and longevity, there may be a corresponding increase in institutionalised elderly population as well as higher projected prevalence of depression in institutional settings in future [8]. Thus, problems related to elderly such as depression and lack of social support is a cause of concern, particularly in institutionalised elderly population which is expected to increase in future. Precise knowledge of the status of these problems in the current scenario helps to develop measures, plans and policies such as formation of organisations for social, cultural and recreational activities and educational programmes [9] to protect and promote the health of this vulnerable elderly population.

On considering the increase of the elderly population in India and worldwide, there arises the need for similar studies on a larger scale involving multiple regions and different environmental set up including varied parameters. This helps to identify the changes and possible differences in the dynamics of ageing thus enabling improvements in the life condition of the elderly [4]. Hence, the current study has been conducted to assess the depression status and satisfaction with social support in elderly subjects residing in old age home and then investigate the possible association between depression and social support in them.

MATERIALS AND METHODS

Study Site

The study was carried out in an old age home in Taliparamba in the northern district of Kerala, India. It is an Institution funded by Orphanage Development Board of Kerala and is run by Christian missionaries. The home allows admission to elderly inmates of both genders as well as to the adults of all ages including the

disabled subjects. The institution is located in a calm and peaceful surrounding with adequate accommodation space for the inmates; with adequate maintenance of cleanliness and hygiene; adequately staffed by trained caregivers. There is provision for recreational, mind-engaging and skilled activities to the inmates like gardening, farming, prayer service, organising cultural programs during festivals and other relevant days. Study was carried out after obtaining approval from the Institutional Ethics Committee of the researcher's college (Registration No. G1.2747/12/ACME, dated 13.05.2016) after obtaining written informed consent from the study subjects.

Study Design

The study was carried out as a cross-sectional, questionnaire-based study for a period of six months from May-October 2016. The following were the inclusion criteria for the study: subjects of either gender, age 60 years and above, residing in old age home, ability to communicate understand and answer the questions, ability to recognise at least a few people from their environment and willing to participate in the study. By convenience sampling, a total of 60 participants (n=60) who fulfilled the eligibility criteria were enrolled for the study. The participants were interviewed face-to-face utilising standard tools like GDS-SF [10], MSPSS [11,12] and a self-developed, pre-validated demographic details questionnaire for the purpose of collection of data.

Depression Status Assessment

Depression was assessed using GDS-SF which is a standard, 15-item self-report, dichotomous response, screening scale for depression where the participants respond to closed-end questions according to how they felt in the previous two weeks; based on which they were categorised as 'normal' and 'depressed' for scores <5 and >5 points respectively [10].

Assessment of Satisfaction with Social Support

MSPSS, a 12-item questionnaire used as a brief measure of satisfaction with social support which assesses both the perceived availability and adequacy of emotional and instrumental social support, across the three factors relating to the source of support (i.e., family, friends or significant others). Respondents with MSPSS mean scores <3; between 3 to 5 and >5 were considered to have perceived as low, moderate and high support respectively [11,12].

Ethical Approval

Ethical Approval was issued by the Institutional Research and Ethics Committee. (Reference No.G1.2747/12/ACME, dated 13.05.2016)

STATISTICAL ANALYSIS

Descriptive statistical analysis was carried out using SPSS version 16 and stat-calculator. Results were expressed as Mean±SD for continuous variables and as percentages for categorical measurements. Relationship between depression profile and satisfaction with social support was analysed using inferential statistics like chi-square test and Pearson Correlation Coefficient. One sample t-test of percent/proportion was used to find the significance of percent parameters on a continuous scale between two groups (Intergroup analysis). The p-value was fixed at 5% level of significance.

RESULTS

Socio-demographic Profile

The socio-demographic profile showed that males constituted 60% and females constituted 40% of the total sample size of 60. Majority of the elderly were in the age group 60-69 years (58.3%). Most of the subjects lived as single-unmarried (66.7%) and most of them had living family (61.7%). Most common reasons for admission were difficulty taking care of themselves (56.7%) and unavailability of children to provide special care (30%). A 95% of the subjects suffered from medical or surgical illnesses and 90% of the subjects were on regular medications. Neuropsychiatric illness (65%) and its medications (59%) were the most common illness and medication use respectively. Most subjects (53.3%) were illiterate by education and most of them (73.3%) had been unemployed in their previous life [Table/Fig-1].

Socio-demographic profile	Category	Frequency (N=60)*	Sample Percentage (%)
Gender	Male	36	60
	Female	24	40
Age	60-69 years	35	58.3
	70-79 years	23	38.3
	>80 years	2	3.3
Family status	Family present	37	61.7
	Family absent	18	30
	Do not Know	5	8.3
Marital status	Single	40	66.7
	Married	8	13.3
	Divorced	3	5
	Widower	9	15
Reason for admission	Lived Alone	1	1.7
	Difficulty taking Care of himself	34	56.7
	Unavailability of children to provide special care	18	30
	Spouse needs special care	3	5
	Without family/children	2	3.3
	Other reasons	2	3.3
Illnesses	With Illness (medical or surgical)	57	95
	Without illness	3	5
	Neuropsychiatric illness	39	65
Use of medicines	Taking Medications	54	90
	Not taking medications	6	10
	Neuropsychiatric medications use	35	59
Education completion	Illiterate	32	53.3
	Primary School	8	13.3
	Middle School	4	6.7
	High School	10	16.7
	Diploma	4	6.7
	Graduate	2	3.3
Previous occupation	Unemployed	44	73.3
	Household/Housewife	9	15
	Irregular income job	2	3.3
	Regular Income job	4	6.7
	Agricultural worker	1	1.7

[Table/Fig-1]: Socio-demographic profile of subjects.
*N: Number of sample size

Disease and Medication Profile

Disease profile of subjects shows that epilepsy (30%) and bipolar disorder (28%) are the two most common medical illnesses followed by diabetes (23%), hypertension (15%) and surgical illnesses (13%). Valproate (38%) and carbamazepine (32%) form the most commonly used antiepileptics followed by the antidiabetic (metformin-23%) and neuroleptic (aripiprazole-18%) [Table/Fig-2].

Serial Order	Illnesses (Medical and Surgical)	Frequency (N=60)*	Sample Percent
1	Schizophrenia	4	7%
2	Epilepsy	18	30%
3	Bipolar Disorder	17	28%
4	Diabetes	14	23%
5	Hypertension	9	15%
6	Asthma	4	7%
7	Rheumatoid arthritis	1	2%
8	Physical Deformities	2	3%
9	Surgery undergone	8	13%
	Drug Class and Medications Used	**Frequency (N=60)***	**Percentage Encounter**
1	Antiepileptics		
	• Valproate	23	38%
	• Carbamazepine	19	32%
	• Phenytoin	8	13%
	• Phenobarbitone	1	2%
2	Neuroleptics		
	• Aripiprazole	11	18%
	• Chlorpromazine	1	2%
	• Haloperidol	1	2%
3	Antimanics		
	• Lithium	1	2%
4	Antidiabetics		
	• Glimipride	7	12%
	• Glibenclamide	5	8%
	• Metformin	14	23%
	• Insulin	2	3%
5	Anti-hypertensives		
	• Amlodipine	7	12%
	• Frusemide	2	3%
6	Antiasthmatics		
	• Theophylline	4	7%
7	NSAID**		
	• Aceclofenac	1	2%

[Table/Fig-2]: Disease and medication profile of subjects.
*N: Number of sample size; **NSAID: Non steroid anti-inflammatory drugs

Comparison of GDS versus MSPSS Categories

GDS categories: The percentage of subjects with depression (25%) was significantly low {t (59)=4.47, p=0.001} when compared to those who were normal (75%).

MSPSS (Total scale and subscale) categories: The higher satisfaction with general social support for the subjects (31.7%) did not differ significantly {t(59)=0.88, p=0.381} from the subjects (23.3%) with lower satisfaction for the same. Satisfaction with the general social support was only moderate as perceived by majority of the subjects (45%). Majority of the subjects (63.3%) who had low satisfaction with family support significantly differed when compared to subjects (30%) with high satisfaction for the same {t (59)=2.85, p=0.006}. Friends support perceived as good support (68.3%) was significantly high {t (59)=4.94, p=0.001} when compared to subjects (18.3%) with perception as poor support. Special person support perceived as good support (66.7%) was significantly high {t (59)=4.49, p=0.001} when compared to subjects (20%) with perception as poor support [Table/Fig-3].

One Sample t-test between Percent (t)

(A1 vs. A2), (C1 vs. C2), (C1 vs. C3), (E1 vs. E2), (E1 vs. E3): Highly significant difference (p<0.001) on comparison between these were found.

(D1 vs. D2), (D1 vs. D3): Significant difference (p<0.01) on comparison between these were found.

(B1 vs. B2), (B1 vs. B3): No significant difference (p>0.05) on comparison between these were found.

		Mean Scores	SD	Number (N=60)	Percentage of sample (%)	t-value	p-value
1	**GDS**						
A1	Normal	2.2	1.19	45	75		
A2	Depression	7.87	2.1	15	25	4.47	0.001a
2	**MSPSS (Total Scale)**						
B1	High Support	6.7	0.51	19	31.7		
B2	Moderate Support	4.67	0.53	27	45	1.19	0.239
B3	Low Support	1.65	0.82	14	23.3	0.88	0.381
3	**MSPSS (Subscale)**						
	Friends Support						
C1	High Support	6.9	0.33	41	68.3		
C2	Moderate Support	4.1	0.95	8	13.3	5.95	0.001[a]
C3	Low Support	1.1	0.3	11	18.3	4.94	0.001[a]
	Family Support						
D1	High Support	6.78	0.46	18	30		
D2	Moderate Support	4.75	0.29	4	6.7	3.23	0.002[b]
D3	Low Support	1.15	0.40	38	63.3	2.85	0.006[b]
	Special Person						
E1	High Support	6.68	0.54	40	66.7		
E2	Moderate Support	4.13	0.96	8	13.3	8.99	0.001[a]
E3	Low Support	1.21	0.53	12	20	4.49	0.001[a]

[Table/Fig-3]: Descriptive statistics of GDS and MSPSS scores with comparison of sample percentage.
N: Number of sample size; SD: Standard deviation; GDS: Geriatric depression scale, MSPSS: Multidimensional scale of perceived social support.
[a]Highly Significant p-value (p<0.001), [b]Significant p-value (p<0.01)

Association between GDS and MSPSS Scores

GDS scores showed a weak but significant negative Pearson correlation with MSPSS scores (r=-0.268, p=0.038). Chi-square value showed that there was no significant association either between depression and satisfaction with social support {$\chi^2(2)=1.308$, p=0.52} in elderly subjects in old age home [Table/Fig-4].

Variables tested for Correlation and Chi-square association	Pearson Correlation		Chi-square association		
	'r' value	p-value	χ^2	df	p-value
GDS versus MSPSS	-0.268	0.038[a]	1.308	2	0.52

[Table/Fig-4]: Pearson correlation and Chi-Square values between depression and satisfaction with social Support.
GDS: Geriatric depression scale; MSPSS: Multidimensional scale of perceived social support; 'r': Correlation coefficient.
[a]Significant p-value (p<0.05)

DISCUSSION

The present study was done in elderly individuals in old age home with the purpose to assess their depression status and the

level of social support received by them during their stay in old age home and also to find out whether any relationship existed between those variables.

The results indicated that the percentage of subjects with depression (25%) was significantly low {t (59)=4.47, p=0.001} when compared to those who were normal (75%). This finding might appear contrary to the findings of most of the studies in old age homes. Few cross-sectional studies carried out in old age homes in India [13,14] utilising Geriatric Depression Rating Scale (GDS) with sample size up to 330 have shown the prevalence of depression to be ranging from 27.7% to 82.73%. Similar studies in Nepal [15,16] in elderly subjects with sample size up to 185 in old age homes have shown the prevalence of depression to be as high as 47.3% and 57.8% respectively. Lesser percentage of depression in the current study may be investigated further with respect to the possibility of interventions that have been undertaken in the institution and the use of medications. Studies have shown that interventions that are spiritual or religious in nature; cognitive, behaviour and music therapy contribute to decrease in depression [17] while risk factors for depression arise from sources like death of a spouse or friend, physical impairment, loss of independence and includes genetic factors [18].

A notable finding of this study was that a majority of subjects (63.3%) showed a lack of satisfaction with the family support in the old age home {t(59)=2.85, p=0.006}. A critical review of literatures related to family involvement in long-term residents' care [19] and a quasi-experimental study in elderly residents (N=90) in nursing homes in Taiwan [20] which respectively explored the role of family and video conferencing in elderly care identified that family members with active involvement of the staff can alleviate loneliness in elderly either by telecommunication and video conferencing [20] or more importantly by the staff coordinating with the family members in causing frequent family visits to the old age home and in jointly addressing the necessities or concerns of elderly for developing appropriate care plan [19].

Since, the subjects feeling poor satisfaction (23%) or good satisfaction (31.7%) with the general social support did not reach statistical significance {t(59)=0.88, p=0.381}, the adequacy of the social support in the old age home could neither be supported nor the inadequacy of the same could be ruled out. The above findings together necessitate the need to further investigate into the social support actually received and the cause of the poor family support in the old age home. Factors related to poor psychological wellbeings like inadequate government or agency funding, inadequate personnel to provide information, emotional and companionship support, lack of qualified personnel with psychopathology and social work background, retirement from work are the likely contributing factors for poor social support system [21]. A cross-sectional survey in old age homes in Chandigarh by Joseph J et al., makes reference to few other studies which both support as well as refute the hypothesis that life satisfaction is high in non-institutionalised elderly subjects as compared to those who are institutionalised; the study finally concluding that whether or not the institutionalisation occurs, it is the social support that is more important for psychological well being than the area of caring [22]. The current study showed that although the perceived satisfaction with general social support by elderly subjects was moderately good but still the perception as poor social support could not be ruled out altogether in the institution that was studied.

The current study could establish a relationship between depression and satisfaction with social support. There was a significant negative correlation (r=-0.268, p=0.038) between depression and satisfaction with social support in the subjects indicating towards the decrease in depression with increased social support. Pointing towards the two categories of definitions of social support; one being 'objective social support' where people have actually received or report to have received support; and the other being 'perceived social support' which subjectively captures an individual's beliefs about the available support, and which is more powerfully related to health and well being [18]; the current study has captured the subjective perception of social support from the elderly subjects. However, further investigation is necessary to assess the objective social support actually received by them in the old age home to verify the conclusion drawn by Patil B et al., that no significant relationship exists between the received (objective) social support and the depression [23].

Several authors in their studies also have strongly concluded the existence of association between depression and perceived social support in the elderly subjects in old age homes with negative correlation between them [5,23]. The current study also has established the same relationship indicating a decreasing trend in depression with the rise in the perception of social support as good and vice versa. Generalisation of this concept requires a large scale study as multicentre study to overcome few limitations in the current study.

Some of the measures that may be undertaken to overcome depression and improve social support from the friends and families in the current context include interventions related to the social support system at the institutional level such as, communications with the family through telecommunication and video conferencing [20]; more frequent family visits and involvement of family members in decision making of elderly [19]; promoting networking with people outside family by facilitating access to shops, attend church services, visit friends [21]; empowering by creating self awareness; educating and training them to make adjustments in life to make an active, productive and successful life; evaluating the system of functioning and engaging multidisciplinary team to monitor the depression status periodically [9,24]; keeping appointments with doctors and dentists [21]. Such interventions are likely to improve the quality of living among the elderly population in old age homes.

LIMITATION

The current study has limitations such as the study being carried out in a single centre with a small sample size and convenience sampling. The possibility of diseases, drugs and their adverse effects as confounding factors influencing the perception of subjects has not been investigated in this study. Experimental design by use of a control group will add greater strength to the study.

CONCLUSION

Though the findings in the study suggest significantly lesser number of subjects with depression, an indication pointing towards significant lack of family support and less adequate general social support becomes a compelling reason to implement strategies to revisit the existing structure; revise the plan and modify the social support system in the old age home. Interventions to improve interpersonal and family relations by engaging family members coordinated and facilitated by qualified and trained staff personnel for provision of care and decision making for the elderly subjects would upgrade the quality of social support given to the inmates of the institution. Initiated as a pilot project the current study has helped to identify the feasibility for the study to be translated into a large scale or multi-centric study.

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