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Psychiatric Morbidity in Old Age Homes: A Cross Sectional Study

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Abstract:

Background: Inmates of old age homes have received less attention in research than those residing in community especially in India

Objectives: This study assesses the sociodemographic factors, physical illnesses, psychiatric morbidity, coping strategies, stressful life events of inmates residing in old age home.

Method: A cross-sectional study, elderly inmates of two branches of old age home in Saroor nagar in Hyderabad who fulfilled inclusion criteria, were given GHQ, MINI, MMSE, PSLES, CCL, and GDS and modified Kuppaswamy scale for socioeconomic status. The two groups were compared using appropriate statistical results.

Results: The prevalence of depression in current study was 26%, GAD was found in 2%, Psychosis in 2%, Cognitive impairment was found in 10%. The risk factors for depression in our study are female sex, widowed status, urban back ground, nuclear family, low socioeconomic status, lesser education. All inmates were found to have physical illness (100%). Subjects with mental illness used emotion focused, denial subtype coping strategy those without mental illness used more religious subtype. Subjects with mental illness used less of problem solving and problem and emotion solving coping than those without mental illness. Stressful life events are more in those with mental illness than those without mental illness. There was no association between medical and psychiatric morbidity. GDRS scores were significantly higher in depressed inmates rarely visited by family members.

Conclusion: This study highlights the need for more epidemiological studies to improve mental health care among this growing set of population. Nuclear family appears to be risk factor for depression.

Keywords: Old age homes, Psychiatric morbidity, coping strategy, Physical illness

1. Introduction

The geriatric population is defined as population aged 60 years and above (Elango, 1998). In India between 1981 to 2001 people aged 60 years and above increased from 43 million to 92 million and is likely to increase to 316 million by 2050 (James KS, 2011). The increase in life expectancy of an average Indian from 62.5 years in 2000 to 66.8 years in 2011 has further led to increase in ageing population (CIA World fact book, 2011)

Caring for aged is part of Indian tradition. Elderly persons are held in reverence, are consulted in matters of marriage, festivals, property and are given prominence in all family functions. But urbanization, modernization, industrialization, globalization have brought major transformation in family in the form of structural and functional changes (Vijaykumar, 1995). As a result of these changes elderly adults are forced to shift from their own place to old age homes (McConnel, 1984)

Prevalence of depression in residents of institutions as per one study in UK was 15% (Ames D, 1990). Martha et al found that 13.5% of newly admitted elderly home care suffered from major depression (Martha, 2002). Various studies have been carried out in India to estimate the prevalence of mental illness in elderly was found to be 2 to 43% (Dube, 1970) (Tiwari, 2013)

Multiple factors are known to affect mental health in old age. Female sex, low education, marital status, medical comorbidities, (Seby K, 2011) economic dependence, nuclear family are known to play a significant role in psychiatric illness among elderly (Rajkumar, 2009). Risk factors leading to development of late life depression are complex interactions among genetic vulnerabilities, cognitive diathesis, age associated neurobiological changes and stressful life events (Blazer DG, 2003).

Studies have noted that older people tend to cope with stressful events in different ways than do younger adults; older people rely on emotion focused forms of coping as opposed to active, problem solving approaches. However other research has pointed out that older people face problems that are less changeable than those of younger adults and when the type of problem is equated across the ages

,differences in coping styles are reduced or eliminated.(Staudinger 2010) The present study is carried out to determine the prevalence of psychiatric, physical morbidity ,coping factors, stressful life events in inmates of old age home.

1.1. Aims

- To study sociodemographic variables of inmates of old age home.
- To study prevalence of psychiatric morbidity among inmates of old age home.
- To study coping strategies of inmates of old age home.
- To assess relationship between coping strategies and variables of old age home.
- To study the physical morbidity in inmates of old age home

1.2. Type of Study

Cross sectional study

1.3. Type of Sample

Sample consists of elderly subjects of old age homes

1.4. Source of Data

Study subjects were inmates of two branches GOLD-AGE old age home in Saroornagar Hyderabad .subjects were selected by random sampling technique. In old age homes ,the subject on every alternate bed of dormitory was interviewed .When the candidate on a particular bed did not meet criteria to be included in the study, the candidate on the next alternate bed was assessed .Elderly people are defined as those aged 60 years and above.

1.5. Inclusion Criteria

- Aged 60years and above
- Give consent and cooperative
- Not having speech and communication defects
- Who have been staying in old age home for more than 6 months.

1.6. Exclusion Criteria

- Aged less than 60years
- Did not give consent and not cooperative
- Having speech and communication defects
- Who have staying in old age home for less than 6 months.
- Terminally ill.

The subjects having medical morbidities were also included in the study , provided it does not interfere them to participate in the study.

2. Materials and Method

The total sample size was 50. The authorities in charge of the old age home were contacted and prior permission was obtained. After obtaining consent, each subject was interviewed on sociodemographic data sheet. The study subjects were screened for psychiatric morbidity using GHQ-30 screening questionnaire .Those that scored more than 11 were administered MINI-plus for assessment of axis-1 disorders. GDRS to assess severity of depression. Mini mental status examination (MMSE)was used to assess cognitive impairment in all subjects. Presumptive stressful life events scale (PSLES) was used to assess stressful life events experienced by elderly adults one year before the date of assessment. Coping checklist (CCL) was administered to all subjects to know the coping methods commonly used in stressful situations.

Modified Kuppaswamy scale was used to assess socioeconomic status. All assessments were done in two or three sessions. For assessing physical morbidities in the inmates, qualitative information like prescriptions and test reports as well as their own explanations were taken in to account. All participants were categorized in to three sub groups:young-old:60-69years ;old-old : 70-79; oldest-old:80years and above. (Venkoba Rao ,1993) (Rajan SI, 2010).

3. Statistical Analysis

Data was analyzed using statistical package for Social Sciences(SPSS) version 10.0 for Windows. Intra group data are described as percentages. Qualitative data between groups was analysed using ANOVA and t-test. Qualitative data between groups was analysed using Chi-square test. Statistical significance was set at p value 0.05.

The correlations between the variables were measured using Pearson Correlation coefficient.

4. Rating Scales Used in this Study

General Health Questionnaire:(GHQ)Goldberg general health questionnaire is available in 60,30,24,12,6 and 5 items.It is widely used as screening tool for detection of non psychotic illness .For the current study 30 item version with a cut-off score 11 was used.

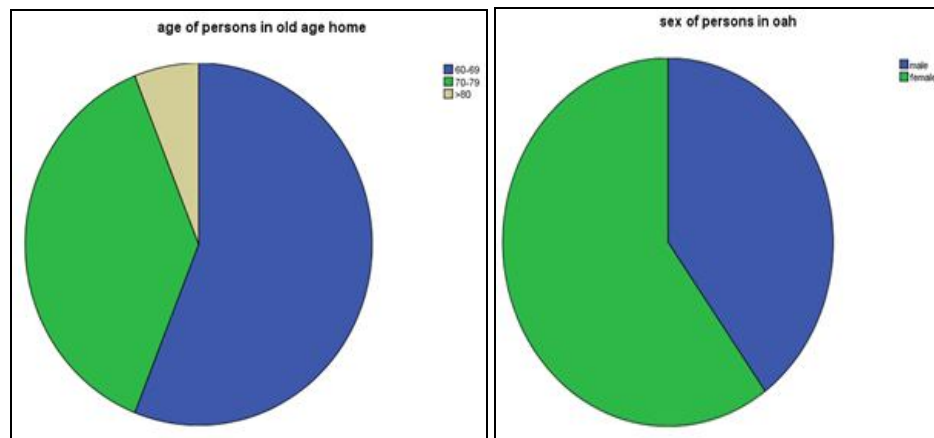
- **MINI:** MINI international Neuro Psychiatric interview: is a structured diagnostic interview developed by Sheehan for diagnosing psychiatric disorders as per DSM-IV and ICD-10 diagnostic criteria.
- **GDRS:** Geriatric depression rating scale developed by Yesavage is a 30 item scale that permits patients to rate items as either present or absent It is preferred by clinicians for its yes or no format. It has cognitive complaints, self image and losses.
- **MMSE:** Mini Mental Status Examination)is a 30 point cognitive test developed by Folstein to provide a bedside assessment of cognitive function, a cutoff of 24 for identifying cases of dementia has been suggested.
- **PSLES:** Presumptive stressful life events scale (PSLES) was developed by Gurmeet Singh, is an Indian adaptation of Social readjustment rating scale by Holmes Rahe. It was observed that an average individual experiences an average of ten stressful life events in lifetime, two stressful life events in a year without suffering any adverse psychological distress.
- **CCL:** Coping checks list was developed by Kiran Rao, has 7subscales developed on A priori basis and validated in a normal adult community sample. There is one problem focused scale (problem solving), five emotion focused scales (distraction positive, distraction negative methods, acceptance/ redefinition, religion/ faith, denial/blame) and problem and emotion focused(social support)The score for each sub scale is sum total of Yes responses (scored as 1) on that subscale.

Modified Kuppuswamy scale is most widely used scale for assessment of socioeconomic status. It is a composite score of education and occupation of the head of the family ,along with monthly income of the family which yields a total score of 3-29.This scale classifies the study population in to high, middle , low, socio economic status.

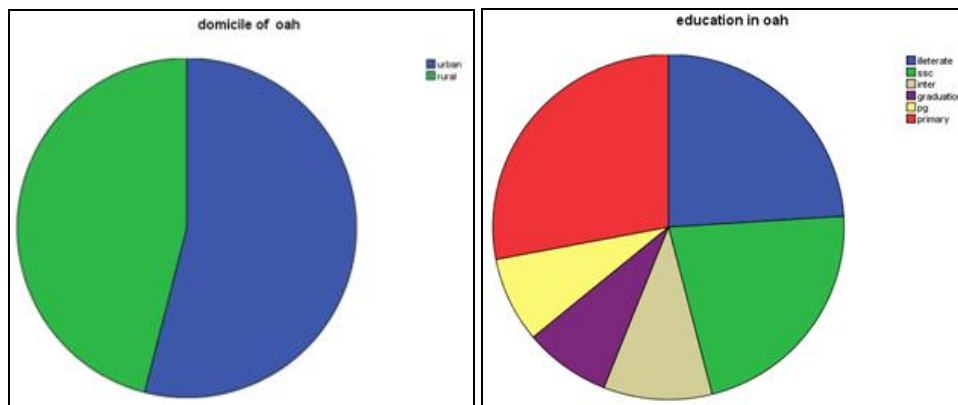
5. Results and Discussion

In our study most of inmates of old age home(56%) are aged 60-69years This is in line with a study that young old age group accounted for highest sample size(Seby K,2011).Females (62%)are more in number than males (38%) .Most of the elderly subjects were from urban background (54%).The predominance of urban elderly subjects in current study may be due to location of old age home in urban area. Majority of elderly subjects had primary education (28%) or not educated at all (24%)..Majority of subjects were widowed ,unmarried,(70%).Females (40%) outnumbered males (30%) in terms of widow status .This is in line with findings of an epidemiological study(Tiwari SC ,2010) .80% of elderly subjects were Hindus,18% Christians,2%Muslims .35% of inmates had family of origin as nuclear,15% joint families, indicating that elderly adults living in nuclear family are forced to join old age home if there is nobody to look after them.

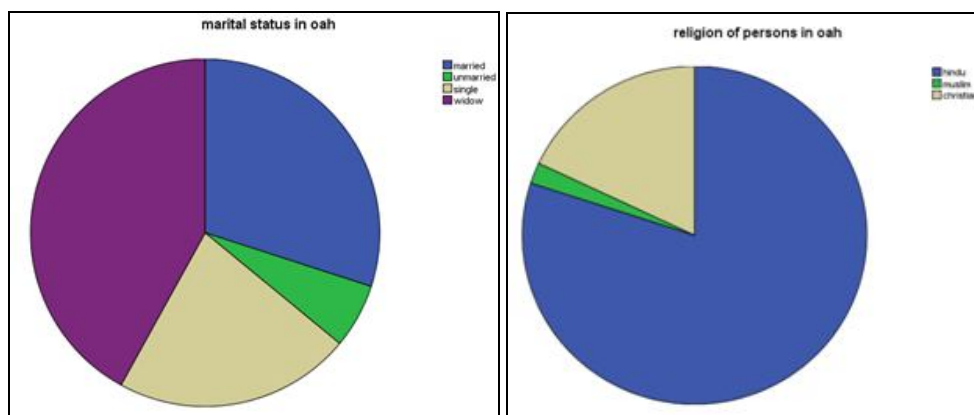
6. Socio Demographic Factors of Inmates of Old Age Home



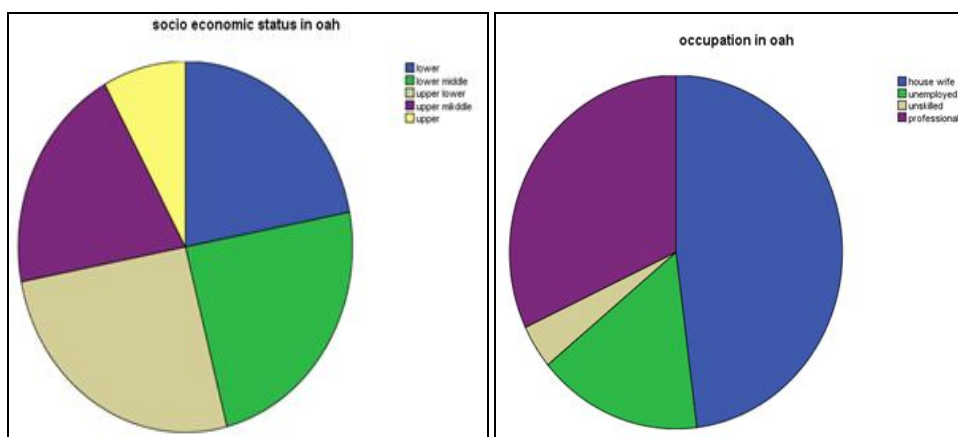
Age – 60 – 69 = 28 (56%), 70 – 79 = 19 (38%), > 80 = 3 (6%)
Males – 19 (38%), Females 31 (62%)



Urban – 27 (54%), Rural – 23 (46%)
 Illiterates – 12 (24%), S.S.C. – 11 (22%), Inter 5 (10%), Degree 4 (8%), PG – 4 (8%), Primary 14 (28%)



Married 15 (30%), unmarried 3 (6%), Single and widow 32 (64%)
 Hindu – 40 (80%), Christian – 9 (18%), Muslim – 1 (2%)



Lower – 11 (22%), Lower Middle – 12 (24%), Upper lower 13 (26%), Upper Middle – 10(20%) Upper – 4 (8%)
 Housewife – 24 (48%), Unemployed 8 (16%), Unskilled – 2 (4%), Professional – 16 (32%)

Psychiatric morbidity among inmates of old age home as per our study was found to be 30%. Tiwari SC et al found a prevalence of 55% of psychiatric morbidity among inmates of old age home (Tiwari SC, 2012). Prevalence of depression in current study was 26%. In institutionalized elderly Djernes found a prevalence of 14-42% (Djernes 2006). The variation in prevalence is largely due to sample size, sample location and diagnostic criteria. In our study seven patients were found to have mild depression (53.76%), 6 subjects were found to have severe depression (46.24%) as per GDRS. 2% of inmates had anxiety disorder, 2% had psychosis. 20% of inmates scored less than 24 on MMSE.

Grading	Score	n (number of inmates)
None	0 – 9	0
Mild	10 – 19	7 (53.73%)
Severe	20 – 30	6 (46.24%)

Table 1: showing GDRS Scores and number of inmates

MMSE Score	Score	n (number of inmates)	%
<10	Severe	0	0
11 – 19	Moderate	2	20%
20 – 24	Mild	8	16%

Table 2: showing severity cognitive impairment and inmates of old age home

- Mild cognitive impairment was seen in 8 (80%)
- Moderate cognitive impairment was seen in 2 (20%).

		Depression as per MINI			
		Present	Absent	Chisqaure	p value
Marital Status of inmates of OAH	Married n = 15	0	15 (100%)	8.465	0.037
	Unmarried Single/widow n=35	13 (37.14%)	22 (61.86%)		
	TOTAL	13	37		

Table 3: showing association between marital status and depression

- Depression was significantly associated with unmarried/single/widow inmates of old age home (p=0.037)

6.1. Relationship of Psychiatric morbidities and socio demographic factors

The risk factors for depression in our study are female sex, (33.3%) (p=0.148),widows(p=0.037) ,urban background ,nuclear family(p=0.442)and low socioeconomic status(p=0.986).In a meta analytic study greater vulnerability to psychiatric illness was found amongst elderly belonging to nuclear family.(Sethi and Manchanda 1978).This indicates that being part of joint family is partially protective against mental illness. This is in line with several studies that mental illness was more among female gender and illiterate population (Singh AP, 2012, Jain and Aras2007, Seby,2011)

6.2. Relationship between Psychiatric morbidity and Coping skills

In this study elderly adults with psychiatric morbidity used less problem focused and problem and emotion focused coping strategy, more emotion focused coping strategy than subjects with psychiatric morbidity. Among inmates who used emotion focused coping, those with mental illness have used denial, (p=0.009) and those without mental illness have used religion (p=0.96).Elderly adults using religion to cope were less likely to be depressed and experience improvement in depressive symptoms over time.(Koenig HG,1992)

Emotional focused	With mental illness	Without mental illness	Chi-square	p value
Denial	11	5	6.912	0.009
Religion	7	20	0.002	0.96
Acceptance	-	2		
Distraction +ve	2	-		
Distraction -ve	3	4		
Problem focused	-	2		
Problem and emotion focused	1	3		

Table 4: showing association between depressed inmates of old age home and type of coping strategy used

Depressed inmates of OAH used denial subtype of emotion focused coping strategy (p value 0.009). Most of the non depressed use used problem focused d religion subtype of emotion focused coping strategy. None of the depressed coping strategy.

Relationship between Psychiatric morbidity and variables of old age home (OAH)

The mean duration of stay of inmates in old age home is 1.56 years. As duration of stay in old age home increases psychological distress decreases. This may be due to elderly getting adjusted to new environment. In a study it was found that residents living for more than 10 years in OAH, had increased prevalence of psychiatric morbidity. (Saibal Guha and Valdiya, 2000) This was not found in our study.

	n=50	Mean GHQ	F	p value
< 1 year	19	11.894	0.071	0.791
>1 year	31	10.903		

Table 5: showing relationship between GHQ and duration of stay

- Inmates of old age home who are rarely visited by their family members were found to have high GDRS scores (p=0.007), high GHQ scores (p=0.016).

Variables of OAH (visit by family members)	With mental illness n=16	Without mental illness n=34	Chi-square	p value
<1 month	8	13	12.23	0.016*
1 – 6 months	2	15		
6 months – 1 yr	1	5		
> 1 year	2	1		
Rare	3	0		

Variables of OAH	n=50	GDRS	F	p value
<1 month	21	9.33	4.068	0.007*
1 – 6 months	17	7.82		
6 months – 1 yr	6	9.33		
> 1 year	3	13.3		
Rare	3	20.0		

Variables of OAH	n=50	GHQ	F	p value
<1 month	21	11.142	3.42	0.016*
1 – 6 months	17	9.294		
6 months – 1 yr	6	11.3		
> 1 year	3	16.00		
Rare	3	18.67		

Table 6: shows association with visit by family members and mental illness, GHQ, GDRS

- Inmates of old age home who are rarely visited by their children are depressed (p=0.016), high GDRS (p=0.007) and increased GHQ scores (p=0.016)
- Elderly inmates who were feeling sad about their stay in old age home had high GHQ scores (p=0.000).

	n=50	Mean GHQ	F	p value
Happy (absent staying in OAH)	29	8.54	4.295	0.000*
Sad (absent staying in OAH)	21	15.27		

Table 7: showing association between variables of OAH and GHQ scores variables of OAH (old age home)

- Inmates of OAH who were happy about their stay at old age home had lesser GHQ scores. Average 8.54 than those who are sad (average 15.27) and the association was significant (p=0.000).

- Elderly inmates coming from low, middle economic status were happy about their stay in OAH .They may be enjoying the organized routine of rest, entertainment ,hobbies, adequate food ,shelter and clothing.

Socioeconomic status	Emotion of stay	Number of inmates
Upper	Happy	4 (8%)
	Sad	2 (4%)
Middle (includes upper middle and lower middle)	Happy	13 (26%)
	Sad	7 (14%)
Lower (includes Upper lower and lower)	Happy	15(30%)
	Sad	9 (18%)

Table 8: showing socioeconomic status and how inmates feel about their stay

- 56% of inmates belonging to middle and low socio economic status feel happy about their stay in Old Age home. Elderly adults who used to stay in nuclear family before joining old age home used emotion focused coping strategy (p value =0.00) had high GHQ scores,(p value=0.017), high GDRS scores (p value =0.212).Coping strategies which are involved with emotions are defensive in nature, increase the stress.

	Type of family	n	Mean	F	p value
CCLEF	Nuclear	35	1.8542	2.838	0.00*
	Joint	15	0.00		
GHQ	Nuclear	35	11.3125	6.103	0.017*
	Joint	15	10.5		
GDRS	Nuclear	35	9.833	1.602	0.212
	Joint	15	6.5		

Table 9: showing association between type of family and coping strategies, GDRS scores, GHQ

- Inmates of old age home whose family of origin was nuclear type used emotion focused coping strategies (p=0.00) have high GHQ scores (0.017), high GDRS scores (p=0.212).

Relationship between Psychiatric morbidity and physical morbidity: In our study all inmates (100%) were found to have some form or other medical morbidity .None of them reported healthy. This is in line with recent study.(Tiwari SC 2012) Most common illness was hypertension, diabetes, arthritis. Most of them reported multiple morbidities (2-3 morbidities in 70%).No association was found between physical illness and psychiatric morbidity. This is in contrast to a study which says that elderly hypertensives are associated with depression (Joshi 2003)

		n Members of inmates having medical morbidity
1. Cardiovascular	CAO	2 (2%)
	HTN	25 (25%)
2. Endocrine	Diabetes	22 (22%)
	Thyroid	3 (3%)
3. Musculoskeletal	Arthritis	14(14%)
	Fractures	2 (2%)
4. Eye	Cataract	12 (12%)
5. Dental problems	Caries	3 (3%)
6. Excrelogy system	Renal	2 (2%)
	Bladder problems	2 (2%)
	Prostate-BPH	2 (2%)
7. Gynecological problems	Prolapse uterus	2 (2%)
8. Oncological problems	Carcinoma esophagus	2 (2%)

	Ca breast	2 (2%)
9. Neurological	Paraplegia, Hemiplegic	5(5%)
		100(100%)

Table 10: showing medical morbidities in Old Age Home

	N	%
1 Morbidity	13	26%
2 – 3 morbidities	35	70%
4 – 6 morbidities	2	4%

Table 11: showing medical morbidity among inmates of old age home

70% of inmates had 2 – 3 morbidities In our study depressed inmates experienced more number of stressful life events as shown by PSLES (average 3.08) than non depressed (average score 2.108) .This is in consonance with study which says that depressed elderly in OAH experienced more number of stressful life events than non-depressed (Agarwal N, 2002)

7. Conclusion

- Psychiatric morbidity was found in 30% of inmates of old age home, Depression was the most common morbidity found in 26% of inmates
- Depression was found in 60-69years age group(young old),female sex, unmarried /widow/divorced, nuclear family, low socioeconomic status, primary education, urban domicile .
- Depressed inmates used denial subtype of emotion focused coping strategy.
- GDRS (geriatric depression rating scale) scores were significantly higher in depressed inmates who were rarely visited by children.
- No association was found between medical illness and psychiatric morbidity
- As duration of stay in oldage home increases psychological distress decreases .This means when elderly adults join old age home they need psychological help to smoothen the adjustment in the new environment.

8. Drawbacks

- Small sample size ,cannot be generalized
- Subjects with speech, vision and hearing problems were excluded .A number of psychiatric cases could have been missed.

9. Future Research

The rapid urbanization and societal modernization has brought in its wake a breakdown of family values and the framework of family support leading to an increase in number of old age homes .Therefore more epidemiological studies are needed to identify the cases and reveal the distribution of psychiatric disorders in the inmates of old age home.

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