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Role of Social Dynamism on health of Elderly- A study in Urban Slum of Meerut

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Abstract:
Background: *With aging, individuals often decline in physical and cognitive functions, and social networks may narrow. Social relationships are positively associated with health status across the life, the narrowing of social networks may be problematic for health in older age and lessen subjective well-being, life satisfaction, and quality of life. With emerging changes in our social and cultural values, the aged who are economically unproductive are thus neglected. Due to this, the elderly experience loneliness and this has detrimental influence on their mental health.* ***Aims:*** *To study the prevalence of morbidity, social dynamics of elderly, and its effect on their morbidity profile.* ***Methodology:*** *A community based cross-sectional study conducted at UHTC, Suraj Kund, Meerut, from June 2019 to September 2020. A total of 220 elderly aged 60 years and above were included and selected by Simple Random Sampling technique, by taking prevalence of morbidity as 87.6%. Elderly were interviewed using predesigned and pretested questionnaire. Data was collected, compiled and tabulated using Epi info software version 7.0.*
Results: *A majority of the elderly (69.09%) had company at home compared to 30.91% who had no company. In all, 33.18% had no social contacts, and 39.09% do not attend any social gatherings. The prevalence of morbidity was significantly higher in those elderly who had contacts with only their relatives (86.27%) followed by those who had no contacts (80.82%). Morbidity was significantly more in those who had no company at home (91.18%) and who do not attend any social function (83.72%).*
Keywords: *Social dynamism, Elderly, Morbidity, Simple Random Sampling*

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I. Introduction

Aging is a biological process which is associated with deterioration of health status of elderly people, often decline in physical and cognitive functions, and social networks may narrow. Social relationships are positively associated with health status across the life, the narrowing of social networks (as one measure of social relationships) may be problematic for health, especially in older age, also associated with lessen subjective well-being, life satisfaction, and quality of life.[1] With rapid urbanization and modernization of society and changes in our social and cultural values, has led to the increase in social isolation and morbidity among elderly population. Aims & Objectives: To find out the Prevalence of morbidity in elderly, and to study the effect of social dynamism on morbidity profile of elderly.

Material and Methods

This is a Community based Cross-Sectional study conducted at Urban Health and training Centre, Suraj Kund, Meerut, which is the Urban practice area of Department of Community Medicine, L.L.R.M. Medical College, Meerut. The study was conducted in 10 localities of Suraj Kund area, which are registered at the urban health and training centre from June 2019 to September 2020. Elderly aged 60 years and above residing in the study area were included as study population.

Sample size was calculated taking the prevalence of morbidity in elderly population as 87.6% [2] with 5% relative precision at 95% confidence interval, to be 220 by using the formula: $n= (1.96)^2 p q/ d^2$

Methodology for data collection:

This area comprised of population of approximately 11,101 inhabiting in 1962 families registered in Urban Health Training Centre, Suraj Kund. The number of persons 60 and above are about 1142 (10.28% of the population) as per UHTC record, residing in the 10 localities. For the purpose of studying the sample of 220,

from each locality,22 registered elderly were selected by Simple Random Sampling technique using Random number tables. If that elderly according to the random number table was not present, or did not give verbal consent or sick, then elderly who was next in the random selection was taken till the entire sample size was covered. A detailed information about the prevalence and pattern of morbidity and Social dynamics of geriatric population was collected with the help of predesigned and pretested oral questionnaire.

Inclusion and Exclusion criteria: Elderly aged 60 years and above and all those who gave verbal consent were included and all those who were seriously ill or was not able to follow the commands/ interview on their own were excluded from the study.

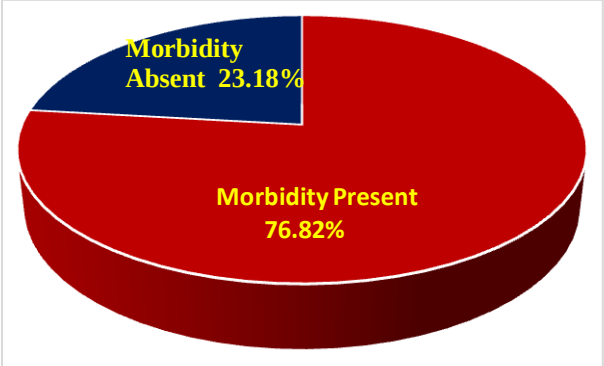
Statistical analysis: Data was analysed using Epi Info software, version 7.2.3.1. Pearson's Chi Square test was applied to find out significant association between the two characteristics which are in the form of frequency. P < 0.05 was considered statistically significant, whereas p < 0.01 was considered highly significant.

Ethical clearance: The study was ethically approved by the ethical committee of the institute. The protocol and importance of the study was explained to the participants before recruitment into the study, followed by their informed verbal consent.

II. Results

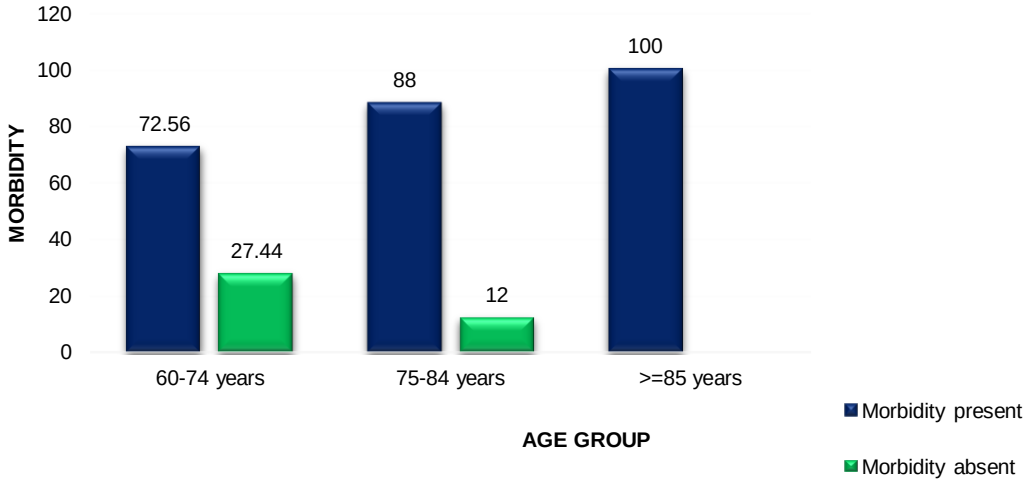
Out of total 220 elderly in the present study, 169 had one or the other morbidity at the time of survey, whereas 51 were free from any morbidity, accounting for a sickness rate of 76.82% as shown in figure-1.

Figure-1: Prevalence of Morbidity in elderly



In the present study, the common morbidities in elderly were found to be Hypertension (57.73%), Osteo-arthritis (45.91%), Chronic Gastritis (45.45%), Obesity (44.54%), Anaemia (43.64%),hearing impairment (34.09%),Chronic constipation (28.64%), Diabetes Mellitus (26.36%), Low vision for Near (26.36%), Low vision for Far (24.55%),Eye discharge (21.82%), Urinary tract infection (18.18%) ,Cataract (16.36%), Benign prostatic hyperplasia in males (15.78%), Ear discharge (13.64%), Leucorrhoea in females (12.80%), Thyroid disorders (11.36%), Skin problems such as fungal infections, eczema and scabies (8.63%), Haemorrhoids (7.27%), Chronic diarrhoea (6.36%), Ischaemic heart disease (5.90%), Respiratory problems(COPD and bronchial asthma) account for 4.09%, Hernia in 2.27%, whereas least common morbidity found was Mental and Behavioral disorders (1.82%).

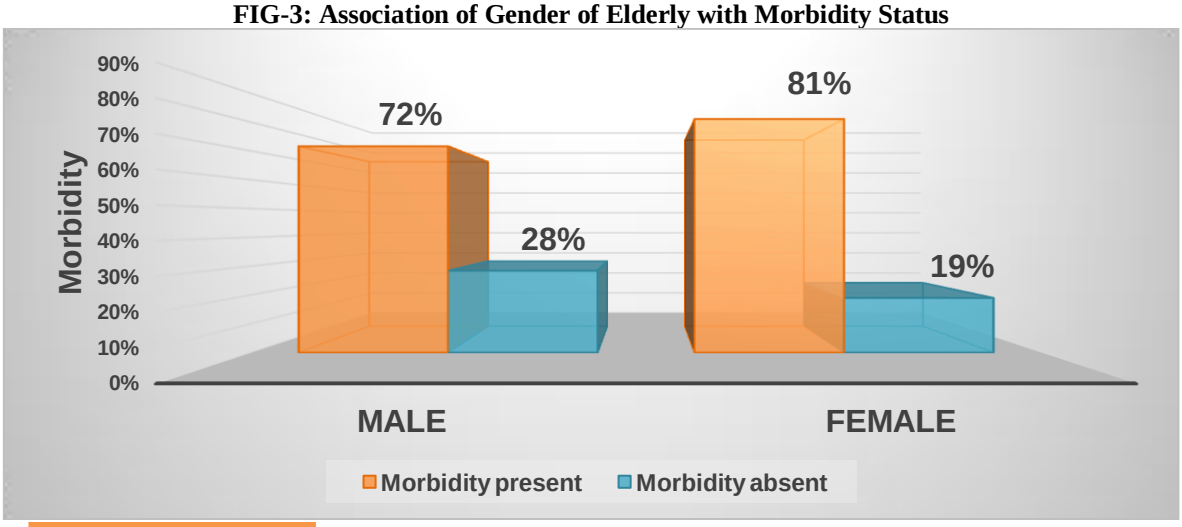
Fig-2: Distribution and Association of Age Group with Morbidity Status



X^2=6.99, df=2, p<0.05, FE=0.03

As shown in Figure-2, maximum population of the aged belong to 60-74 years (74.54%) age group, followed by 75-84 years age group (22.73%) and 2.73% of the aged were 85 years and above. Morbidity was assessed in different age groups which reveals that all of the elderly aged 85 years and above were morbid, followed by 88% of elderly falling in 75-84 years age group. This increase in morbidity was found to be significantly associated with increasing age of the elderly with a p-value of <0.05.

FIG-3: Association of Gender of Elderly with Morbidity Status



X^2=2.57, df=1, p>0.05

Figure- 3 also shows that more than half of the study population was female (56.82%) compared to males (43.18%). When association of morbidity with gender was analyzed, more females were found morbid (80.80%), while 71.58% of males were having one or other type of morbidity. This association of gender with morbidity was statistically not significant.

Table- 1: Distribution and Association of Social Dynamics of the elderly with their Morbidity Status

Social Interactions:	Morbidity				Total		p-value x^2, df
	Absent		Present		No.	%	
	No.	%	No.	%			
Neighbors/ Friends	30	31.25	66	68.75	**96**	**43.64**	
Only relatives	7	13.73	**44**	**86.27**	51	23.18	**X^2=6.72 df= 2 p<0.05**
No contacts	14	19.18	**59**	**80.82**	**73**	**33.18**	
Total	**51**	**23.18**	**169**	**76.82**	**220**	**100**	
Company at home:							
Available	45	29.61	107	70.39	**152**	**69.09**	**X^2=11.39 df=1 p<0.001**
Not Available	6	8.82	**62**	**91.18**	68	30.91	
TOTAL	**51**	**23.18**	**169**	**76.82**	**220**	**100**	
Attending Social Gatherings:							
Usually attend gatherings	37	27.62	97	72.39	**134**	**60.91**	**X^2 = 3.77 df =1 P=0.05**
Do not attend	14	16.28	**72**	**83.72**	86	39.09	
TOTAL	**51**	**23.18**	**169**	**76.82**	**220**	**100**	

As shown in table-1, out of total 220 elderly, 43.64% were having frequent social interaction with their neighbors and friends, 23.18% were interacting with their relatives only while 33.18% had no social contacts. Elderly who were socially active were observed to be less ill (68.75%), whereas those who were partly active or inactive were more ill (86.27% and 80.82% respectively) and this association of social interaction with morbidity was statistically significant($p<0.05$). It also reveals that about 70% elderly have someone from their family to accompany them most of the time while 30% were lonely. When the association of company of family member with morbidity was analyzed, it was observed that 91.18% of elderly who were lonely most of the time were sick, whereas those who had some company with them were less morbid (70%) and this association was found to be highly significant.

Table-1 shows that more than half of the elderly (60.91%) used to attend social functions while 39.09% usually do not attend. Maximum morbidity (83.72%) was seen in those elderly who used to live aloof whereas morbidity was slightly less in those who were socially active (72.39%). Insignificant association of morbidity was observed with elderly attending the social functions.

Multiple binary logistic regression analysis of correlates of morbidity profile of elderly is shown in Table-2. All the factors found to be statistically significant($p<0.05$) on chi square test were evaluated using multiple logistic regression analysis.

Table-2: Correlates of Morbidity: Multiple Binary Logistic Regression Analysis

Risk Factors	Odds Ratio	95% CI	Coefficient	S.E	p-value
Age group	3.39	1.38-8.36	1.22	0.45	**<0.01**
Company at home	2.20	1.38-3.51	0.79	0.23	**<0.01**
Social interactions	1.06	0.80-1.40	0.06	0.14	>0.05

As shown in table-2, on Multiple logistic regression analysis, Age group, and company at home came out to be statistically significant, i.e. the odds of increasing age (OR=3.39, 95%CI= 1.38-8.36, $p<0.01$), and absence of others company at home (OR=2.20, 95%CI= 1.38-3.51, $p<0.01$) affects the prevalence of morbidity in elderly, whereas association of social interactions of the elderly with morbidity profile was found to be statistically insignificant($p>0.05$).

III. Discussion

The basic philosophy of geriatric research is neither the prevention of old age nor a mere addition of years, but to "add life to years", by early screening, diagnosing and treating correctly their illnesses.

In the present study, out of 220, 76.82% of the study population were found to be morbid while 23.18% were free from any morbidity, which is less than the morbidity noted in North India (87.6%) [2], and urban Agra (89.2%).[3] The present study reveals that more than 2/3rd of the elderly population had one or more diseases which recommends very high need of developing geriatric health care centres.

In this study, the top leading causes were found to be hypertension (57.73%), Osteoarthritis (45.91%), Chronic gastritis (45.45%), Obesity (44.54%), anaemia (43.64%) and hearing impairment (34.09%), and the least frequent in the present study area was mental & behavioral disorders (1.82%) which is comparable to a study done in Urban areas of Shimla hills in North India[4], which also reported that hypertension (56%) to be the most frequent health problem, followed by musculoskeletal problems (53.5%), Dental problems (27%) and

Cataract (23%), Acid peptic disorders(17.5%) and the least frequent health problems were pulmonary TB and stroke comprising 0.5% and 1% respectively [4], in contrast to a study done in urban Agra[3] where most common morbidity found was anaemia(38.43%) followed by cataract(29.80%),hypertension(17.96%),arthritis(24.31%),hearing impairments (21.57%), dental caries(23.92%), chronic pain(16.07%) and COPD(17.65%).[3]

In this study, 100% of the elderly aged 85 years and above were found to be morbid, showing significantly rising trend with increase in age, similar to a study in Uttarakhand[5] and in urban Agra[3]. It may be because with increasing age, degenerative processes cause higher prevalence of disease of various organ systems which is well proven in the present study.

The prevalence of morbidity was insignificantly higher in females (80.80%), similar to a study in Uttarakhand (54.87%)[5], probably because of they always take care of the family and retire very lately from household works which leads to ignorance of health by herself and by their family members. Other medical causes may be menopause, hormonal imbalances, mood disorders, etc.

In this study, social interaction of elderly was assessed, out of total 220 , 43.64% were usually in contact with their neighbors and friends, 23.18% were partly social only with their relatives while 33.18% had no social contacts which is found to be less than a study done in urban slums of Davangere City, Karnataka [6] which reveals that around 57% were socially inactive or no contacts outside home whereas 43% were socially active[6] , 68.5% of the respondents had friends and social contacts outside the home in Udupi Taluk, Karnataka.[7]

In this study, about 70% elderly mostly have someone from the family to accompany them at home while 30% were lonely most of the time, in comparison to a study done in urban slums of Davangere City, Karnataka [6], 61% elderly always had availability of company at home (64% females and 52% males), compared to 18% elderly who felt lonely at home (29% males and 14% females). [6]

In this study, more than half of the elderly (60.91%) attend social functions while 39.09% do not attend, in comparison to, 60% of the elderly who were active outside home and 40% were not, in urban slums of Davangere City, Karnataka.

The prevalence of morbidity was significantly higher in those elderly who were either selectively social with only their relatives (86.27%) or not at all social (80.82%) and also in those who had no company at home (91.18%) or who do not attend any social function (83.72%), because "Staying in company of family could be the best stress-buster", and this quote is rightly proven in the present study.

IV. Conclusion

The present study shows high prevalence of morbidity (76.82%) in aged group of urban slums which creates need for more better equipped and accessible geriatric health care services at the doorsteps of geriatric age group. This study shows 80% morbidity in females as compared to males, which recommends the need of more trained grassroot health workers like medico-social worker, who should be sensitized and motivated enough to focus more on taking details of females and screen them more cautiously because females do not self-report their illnesses, especially those who stay at home or usually do not socialize much.To keep them occupied, home-based light occupations for example, shopkeeping, mat making, opening a tiffin system, taking tuitions, tailoring, etc. should be promoted to help elderly become financially independent and they can "Age with Wage".Recreational Community Centres can also be developed and should be promoted among the elderly where they can involve in some recreational activities, like, completing a puzzle, playing games, watching fun movies together, offering their respective religious activities, etc. in the daytime.

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