

Association of Age and sex with Episodes of Acute Illness in Geriatric population of Jaipur

Dr. Dharmesh K Sharma^{1§}, Dr. Rajeev Yadav², Dr. Suresh Kewalramani³,
Dr. B. N. Sharma⁴

^{1,3}Assistant Professor, Department of Community Medicine, SMS Medical College, Jaipur (Rajasthan) India
Email of Corresponding Author: dr.dharmesh2008@gmail.com

²Associate Professor, Department of Community Medicine, SMS Medical College, Jaipur (Rajasthan) India

⁴Professor and Head, Department of Community Medicine, MS Medical College, Jaipur (Rajasthan) India

Abstract— *Elderly population is increasing due to demographic shift in favor of geriatric population. This age group is susceptible for many health problems. So this cross-sectional study was carried out from September 2009 to August 2010 on 1620 elderly residing in Municipal corporation area of Jaipur city with the aim to study episodes of acute illness and its associating factors. Study population consist of 1620 elderly with M:F ratio 0.95. Mean age of elderly was 66.08 years with slight female predominance i.e. 1048 females for 1000 males in Jaipur city. It can be concluded from this study that 44.37% of elderly had one or more episodes of acute illness in last one month. These numbers of episodes of acute illness in last one month was found more in males and in older age groups.*

Key words- *Elderly, Geriatric, Acute Illness, Age & Sex association.*

I. INTRODUCTION

Old age is a normal, inevitable, biological phenomenon. The studies of physical and psychological changes which are incidental to old age are called gerontology. The care of the aged is called clinical gerontology or geriatrics

In India, percentage of persons above 60 years of age is 7.3% in which male and female percentage was 7.0 and 7.7 respectively. For urban area it was 6.9% in which male and female percentage was 6.6 and 7.3 and for rural area it was 7.5% in which male and female percentage was 7.1 and 7.8 respectively (N.H.P.2008).¹

In Rajasthan, population of elderly (60 years and above) were 6.5% in which male and female percentage was 5.9 and 7.1 respectively. For urban area it was 6.5 % in which male and female percentage was 5.9 and 7.2 and for rural area it was 6.4% in which male and female percentage was 5.9 and 7.1 respectively (N.H.P.2008).¹

Ageing involves two opposing types of changes, evolution or growth and involution or atrophy. Both go on concurrently throughout life but atrophy predominates in old age. So elderly suppose to have more episodes of illness. So this study was conducted to study the episodes of acute illnesses in elderly and association of these episodes with age and sex.

II. METHODOLOGY

A period prevalence cross-sectional study was conducted in department of Community Medicine of SMS Medical college, Jaipur Rajasthan India. After taking approval from Institutional Ethics committee, this community based cross sectional survey was conducted on 1620 elderly aged 60 years and above living in Municipal Corporation area of Jaipur city, Rajasthan, from September 2009 to August 2010.

Sample size was calculated 643 subjects at 95% confidence limit and absolute sampling error of 2% assuming 6.9% proportion of elderly (as per SRS 2008). As sampling technique used as 30 cluster so calculated sample size was multiplied by 2.² So sample size came out to 1286, which was again inflated 20% for contingency addition and came out to 1544. So, for the study purpose 1620 elderly was taken to have 54 elderly from each of 30 cluster.

To start with survey, list of all wards with their respective population was obtained from Municipal Corporation. Then 30 clusters had selected from all the wards of Municipal Corporation as per 30 cluster technique. After selecting the 30 clusters, in the second step colonies were selected within the cluster by lottery method. In case of selected colony not meeting sufficient subject criteria, adjoining colony had taken. To identify elderly included in study, a land mark was identified in the centre of ward/colony previously selected e.g. temple, school, and then survey was started from there to have 54 elderly from that selected colony. Likewise the procedure is followed for other clusters. After obtaining written informed consent and ensuring confidentiality and identity of gathered information house to house survey was conducted in identified 30 wards of Jaipur city. House to house survey was done in each identified ward to have 54 elderlies. Thorough personal interview was conducted of each of selected elderly to fill the semi-structured pre-designed and pre-tested performa.

Likewise the procedure is followed for other clusters.

The list of wards and colonies were selected are as follows:-

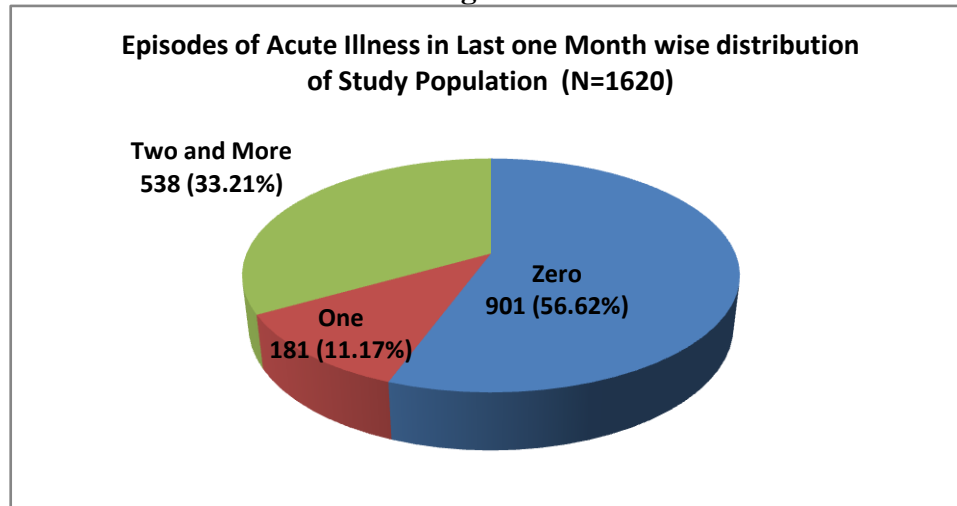
S. No.	Ward no.	Colonies	Serial no.	Ward no.	Colonies
1	1	Dadi ka Phatak	16	30	Jawahar nagar
2	3	Ashok Nagar and modi nagar	17	34	Fateh Tiba
3	4	SushilPura	18	37-	Chand pole gate
4	6	C-Scheme	19	41	Chokdi Topkhana Hujuri
5	9	Sri Ram nagar Vistar	20	45-	Moti Singh bhomia ka rasta
6	11	Dharm Park	21	47	Guljar Masjid
7	12	Rajiv Nagar(hasanpura)	22	50	Hida Ki Mori
8	13	Man Sarovar sector 10	23	52	Anand Puri
9	15	Jetpuri(Mahesh nagar)	24	54	Pratap nagar sector 8
10	17	Sitaram colony	25	57	Foota Khurra
11	21	Durgapura	26	60	Uniaro Ka Rasta
12	23	Jagannath Puri	27	62	Nahri ka Naka
13	24	Jagdish Colony	28	65	Sanjay nagar bhatta basti
14	27	Jhalana Basti	29	68	Saket Colony and tirth nagar
15	28	Prem Nagar	30	70	Shyam nagar

Data thus collected were compiled in the form of master chart in MS Excel 2007 worksheet. Parametric and Non Parametric statistical techniques were used with the help of statistical software Primer (version 6). 'p' value <0.05 was taken significant for inferences. Chi-Square Test was used to find associations. 'p' value <0.05 was taken as significant.

Psychiatric illnesses and restriction of daily activities of life in these elderly were published elsewhere.

III. RESULTS

Out of 1620 elderly, 11.17 % of the respondents were have one episode of acute illness while 33.20% were had two or more than two episodes. 55.61% elderly had no episodes of illness in last one month preceding the survey. (Figure 1).

Figure 1

Two and more illnesses were more often found in 75-79yrs (47.53%) followed by 80 and above (74.07%) age group. There was significant association ($p < 0.001$) between age of elderly and acute illnesses. (Table 1)

Table 1**Association of Age with number of episodes of Acute Illness in last month in Study Population**

No. of Episodes	60-64 Years No. (%)	65-69 Years No. (%)	70-74 Years No. (%)	75-79 Years No. (%)	≥80 Years No. (%)	Total
Zero	395 (59.57%)	316 (55.43%)	156 (62.65%)	34 (40.47%)	00 (0.00%)	901 (55.61%)
One	101 (15.23%)	33 (5.18%)	23 (9.23%)	10 (11.90%)	14 (25.92%)	181 (11.17%)
Two and More	167 (33.32%)	221 (38.76%)	70 (28.10%)	40 (47.53%)	40 (74.07%)	538 (33.20%)
Total	663 (100%)	570 (100%)	249 (100%)	84 (100%)	54 (100%)	1620 (100%)

Chi-square = 103.664 with 6 degrees of freedom; P < 0.001

Likewise, when association of number of episodes of Acute Illness in last month in elderly with sex was explored, it was found that proportion of males having two and more acute illnesses was more (37.54%) than female (29.07%). There was significant association ($p < 0.001$) between sex of elderly and acute illnesses. (Table 2)

Table 2**Association of Sex with number of episodes of Acute Illness in last month in Study Population**

No. of Episodes	Male (N=791)	Female (N=829)	Total (N=1620)
Zero	414 (52.33%)	487 (58.74%)	901 (55.61%)
One	80 (10.11%)	101 (12.18%)	181 (11.17%)
Two & More	297 (37.54%)	241 (29.07%)	538 (33.20%)
Total	791 (100%)	829 (100%)	1620 (100%)

Chi-square = 13.296 with 2 degrees of freedom; P < 0.001

IV. DISCUSSION

In this study episodes of acute illness in last one month was also inquired where it was found that majority of the study population (44.37%) had one or more episodes of acute illness. Out of these 44.37% who had some kind of acute illness, 11.17% of the respondents were having one episode of acute illness while 33.20% had two or more than two episodes. This finding gets substantial support from a number of studies from India as well as abroad namely Valderrama et al³, K Joshi et al,⁴ Ibrahim

T Marouf et al⁵, S P S Bhatia et al.⁶ All these studies found the prevalence of morbidity in elderly age group ranging from 78% to 96%.

It was also revealed from this study that two and more episodes of illnesses were found significantly more in 75 and above age group. There was significant association ($p < 0.001$) between age of elderly and acute illnesses i.e. as age increases number of acute episodes also increases.

Likewise it was also revealed from this study that two and more episodes of illnesses were significantly more in males than males i.e. 37.54% v/s 29.07%.

Morbidity load was 2.67 illnesses per person in the present study which are commensurate with the findings by R. Shankar et al⁷ (2.18 illnesses per person), Padda et al⁸ (2.55 illnesses per person) and Sharma et al⁹ (2.5 to 3.5 illness per person).

Females preponderance in psychiatric problems have been documented in a number of studies like Shaji S et al¹⁰, Nandi P S¹¹ and Reddy M V¹². The overall prevalence of psychiatric morbidity was found to be 54.32% and was more common in females (63.33%) in comparison to males (44.88%). Jai Prakash Indira (1999)¹³ has stated in her study that when it comes to mental ill health in the old a minimum of 2-3 diagnosis is the rule.

Observations of present study regarding higher prevalence of psychiatric morbidity in women is also supported by a number of studies like Nandi P S et al¹¹, Reddy MV¹² and Minicuci Nadia (2002)¹⁴. There are several factors underlying the greater prevalence of psychiatric morbidity in women. The constant movement from strength to passivity of women with their second grade status leads to enormous stress, putting their mental health in a tenuous balance. Postmenopausal changes create an added emotional burden and women suddenly begin to feel aged. Widowhood is far more common in females than in males and the social financial and personal burden placed by widowhood are enormous.

V. CONCLUSION

It can be concluded that about 50% of elderly had one or more episodes of acute illness in last one month. These number of episodes of acute illness in last one month was found significantly more in males and in older age groups than their counterparts. So geriatric services should be more focused towards increasing age.

CONFLICT OF INTEREST

None declared till now.

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