

An assessment on indoor residential hazards and occurrence of accidents amongst the elderly

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■ **ABSTRACT** : In the present study it was that majority of the elderly women and men were living in double storied own houses and only 14 per cent were living in single storied houses, considered as safe for elderly. Majority of women (62%) and men (50%) faced 4-6 health related problems. For maximum number of women as well as men accidents took place in the bathroom due toe slipping. Second most accident prone area for women was kitchen and wet floor was the main reason for occurrence of accidents. Primary consequences of the accidents varied from simple pain and sprain to fractures and dislocation of joints. The study also found the relationship between age and feeling of safety at home *i.e.* as the age increases the feeling of safety decreases in the elderly.

■ **KEY WORDS** : Occurrence of accidents, Residential hazards, Elderly person

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There is no doubt that men and women today are living to a ripe old age. The quiet years of old age, with almost certain physical disability and declining activities present new problems. It is important to give thought to the housing needs of the aged as their number is increasing in our population. The home can be made a safer place to live in by thoughtful design of both, the house or flat and the items we use in it. Safety is important for all individuals, more so for the old who may be more susceptible to risk. The elderly are at risk because of their failing powers and are not able to react as appropriately as younger people can. The major cause of concern is the accidents, which occur in the house. Home accidents appears to be the common cause of death and injury among elderly which can be easily avoided. Only in the last decade accidents inside the home have begun to be treated as seriously as accidents outside the home. The present study was undertaken with a view to throw some light on the existing indoor environmental hazards in the house of elderly people with following specific objectives:

–To study reasons for accidents amongst the elderly people in their houses, to assess the nature and occurrence

of accidents amongst the elderly people in their houses and to correlate the perceived sense of safety amongst the elderly with age.

■ RESEARCH METHODS

Present study was conducted in Ludhiana city. Snowball sampling technique was opted as the mode of selecting the sample of 50 women and 50 men above the age of 60 years. Especially designed intension schedule having three district parts was used for data collection. Part one comprised of information pertaining to baseline characteristics and health conditions of the respondents and details regarding their house, part two dealt with routine indoor activities carried out by the elderly, focusing upon the type, duration of the activities and specific areas where the activities are performed. This part also enabled the researchers to elicit data on occurrence of domestic accidents among the elderly in five selected areas of their houses *viz.*, entrance, living room, kitchen, bathroom and staircase during reference period of two years. A standardized scale to access the perceived sense of safety of the elderly in the existing indoor environment in the five selected areas of their residential

units constituted the third part of the interview schedule. Frequencies, percentages, co-efficient of co-relation and standard deviation were used to analyze the data statistically.

RESEARCH FINDINGS AND DISCUSSION

The results of the present study as well as relevant discussions have been presented under following sub heads:

Demographic profile of the elderly:

Regardless of the sex of the respondents 44 per cent respondents were between 60 to 65 years of age, 39 per cent belonged to the age group of 65-70 years and only 17 per cent respondents were above 70 years of age.

Family structure :

Majority of the respondents (64%) lived in joint families and rest in nuclear families. Family size in maximum number of respondents (54%) was 4-5 members and it was

six members and above in rest of the respondents.

Education:

It was significant to note that 74 per cent or above of men and 46 per cent women were graduates, 26 per cent men and 34 per cent women were matric and 20 per cent women were illiterate.

Types of house:

Regardless of sex of the respondents it was observed that majority of the respondents were living in double storied owned houses (54%). Nearly one third of the respondents occupied apartments (32%) and rest (14%) occupied the single storied houses.

Health related problems amongst the elderly:

It can be seen from Table 1 that majority of the women (62%) as well as men (50%) had 4-6 health related problems.

Table 1 : Health related problems amongst the elderly

Number of health related problems	Women		Men		Total	
	No.	Percentage	No.	Percentage	No.	Percentage
1-3	10	20.00	14	28.00	24	24.00
4-6	31	62.00	25	50.00	56	56.00
>6	9	18.00	11	22.00	20	20.00
Total	50	100	50	100	100	100

Table 2 : Type of accidents that occurred inside the house amongst elderly

Type of accidents	Women		Men	
	Number	Percentage	Number	Percentage
Bathroom				
Slipping	8	16.00	6	12.00
Falling from commode	2	4.00	3	6.00
Colliding with door	3	6.00	4	8.00
Electric shock	5	10.00	3	6.00
Total	18	36.00	16	32.00
Living room				
Colliding with furniture	3	6.00	4	8.00
Falling from sofa/ chair	1	2.00	2	4.00
Slipping due to rug	3	6.00	4	8.00
Total	7	14.00	10	20.00
Kitchen				
Slipping	4	8.00	2	4.00
Falling	-	-	2	4.00
Electric shock	4	8.00	-	-
Colliding with door	1	2.00	-	-
Total	9	18.00	4	8.00
Entrance				
Falling from steps	3	6.00	6	12.00
Slipping on ramp	5	10.00	2	4.00
Total	8	16.00	8	16.00
Total No. of accidents	42	84.00	38	76.00

While 20 per cent women and 28 per cent had faced 1-3 health related problems. Further, more than six health related problems were observed in 18 per cent of women and 22 per cent men. Overall majority of the elderly, 56 per cent, suffered from 4-6 health related problems.

Occurrence of type of accidents:

Data presented in Table 2 show type of accidents that occurred amongst the elderly in their home. For maximum number of women as well as men (36 and 32 %, respectively) accidents took place in the bathroom. Further, it was observed that majority of the accidents occurred due to slipping in the bathroom (16% women and 12% men). Second, most accident prone area in the house was kitchen for women as 18 per cent reported accidents in it against 8 per cent men.

It is obvious from the reason that men hardly work in the kitchen that too in the old age. Living room accidents were reported by 14 per cent women and 20 per cent of men. Slipping due to rug and colliding with furniture being main reasons. Equal number of women as well as men (16%) had accidents at entrance of the house either due to falling from steps as slipping on ramp.

Reasons for occurrence of accidents:

Table 3 clearly indicates that 84 per cent of women and 76 per cent of men reported accidents of one sort or another during reference period of two years. Among women wet floor was the main reason for occurrence of accidents (16%) followed by obstruction in view 10 per cent whereas for men it was uneven height of steps (12%) followed by improper

Table 3 : Reasons for occurrence of accidents

Reasons	Women		Men	
	Number	Percentage	Number	Percentage
Wet floor	8	16.00	4	8.00
Improper furniture arrangement	3	6.00	5	10.00
Slippery/ glossy floor	4	8.00	4	8.00
Uneven height of steps	3	6.00	6	12.00
Body imbalance	4	8.00	3	6.00
Uneven floor level	4	8.00	4	8.00
Foot entangled in carpet	3	6.00	3	6.00
Tension/stress	4	8.00	4	8.00
Obstruction in view	5	10.00	3	6.00
Improper light	4	8.00	2	4.00
Total	42	84.00	38	76.00

Table 4 : Consequences of accidents

Consequences of accidents	Women		Men	
	Number	Percentage	Number	Percentage
Pain in legs/back/hand/arm	23	46.00	27	54.00
Fracture in hand/leg	4	8.00	2	4.00
Dislocation of joint	3	6.00	2	4.00
Sprain in hands/feet	12	24.00	7	14.00
Total	42	84.00	38	76.0

Table 5 : Perceived sense of safety in the house amongst the elderly

Perceived sense of Safety (Score range)	Women		Men	
	Number	Percentage	Number	Percentage
Poor (109-195)	0	0	0	0
Fair (196-282)	6	12.00	3	6.00
Good (>283)	44	88.00	47	94.00
Total	50	100.00	50	100.00
Mean		279.00		280.07
S.D.		12.59		57.84

arrangement of furniture. Other reasons for accidents, renewed by elderly women and men were slipping or glossy floor, uneven floor level and improper light.

Consequences of accidents:

Data incorporated in Table 4 show consequences of accidents. It was found that nearly half of women (46%) as well as men (54%) suffered from pain in legs/back/hand or arm after accidents. Different indoor accidents also resulted in serious consequences as fracture in hand/leg for 8 per cent women and 4 per cent men followed by dislocation of joint for 6 per cent women and 4 per cent men. Sprain in hands/ feet were reported by 24 per cent women and 14 per cent of men.

Perceived sense of safety in the house amongst the elderly:

Table 5 clearly indicates that 88 per cent of elderly women and 94 per cent of elderly men had good sense of safety in the entire home. Only 12 per cent of the elderly women and 6 per cent of the elderly men had fair sense of safety in the entire home. The mean and S.D. for the perceived sense of safety in the entire house was computed for women and men, respectively to be 279, 12.59 and 280.07, 57.84, respectively.

Co-efficient of correlation between age groups of elderly and sense of safety:

Table 6 shows co-efficient of correlation between different age groups of elderly women and men and their sense of safety in various areas of the house. Table six revealed that the age groups between 60-65 years did not show significant correlation between various areas of home and sense of safety except in stair case ($r= 0.39$ significant

at 0.01%). The elderly women between the age range 65-70 years showed significant correlation between sense of safety in living room and staircase ($r= 0.40$ and 0.32 , respectively at 0.05%). The eldest group of women who were more than 70 years of age showed significant correlation between sense of safety and kitchen safety ($r=0.71$) and living room safety ($r=0.47$) with overall safety of ($r=0.59$) at 0.01 per cent.

Table 6 further shows the co-efficient of correlation between different age groups of elderly men and their sense of safety in various areas of the house. The age groups between 60-65 years and 65-70 years did not show any significant correlation between various areas of house and sense of safety. In the eldest group of men who were more than 70 years of age showed the entrance safety ($r=0.55$), kitchen safety ($r=0.82$) living room safety ($r=0.59$), bathroom safety ($r=0.67$) and observed significant at 0.01 per cent and staircase safety ($r=0.42$) was found to be significant at 0.05 per cent. It can be concluded that, for women as well as men, as the age increases the feeling of safety decreases. Dhillon (1977) and Kaur (1996) have also made investigation related the present study.

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