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A COMPARATIVE CROSS-SECTIONAL STUDY ON THE PREVALENCE OF SELF-PERCEIVED USELESSNESS AND ITS DETERMINANTS AMONG ELDERLY IN RURAL AND URBAN FIELD PRACTICE AREA, CHENNAI

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Abstract

BACKGROUND : Self-perceived uselessness means an individual's own negative perception about his or her usefulness or importance to family, friends, and/or community. In developed Countries Self-perceived uselessness is associated with a higher risk of death, higher rates of functional impairment and disability, fewer rates of recovery from illness, and poorer cognition and mental health. It's unclear whether the findings hold true in developing countries like India, where research on the link between self-perceived usefulness and health is scarce.

AIMS : The aim of the present research was to determine the prevalence of self-perceived uselessness in community setting and its determinants among the study population.

SETTINGS AND DESIGN : This comparative cross-sectional study was conducted among eighty elderlies each in urban and rural field practice area (n=160) using simple random sampling.

METHODS AND MATERIAL : Data on self-perceived uselessness collected using pretested semi-structured interviewer administered questionnaire and functional status by Modified-Barthel-ADL Score. Results were analysed in SPSS version 16 using Chi square test

RESULTS : 31.5% of the respondents [Urban-35%, Rural-27.5%] had perceived themselves as useless and nearly 40.62 % had some form of dependency in day-to-day activities. Marital Status[p=0.00], Comorbidity duration[p=0.00], Residence[p=0.00] and Modified Barthel ADL Score[p=0.00] were all significantly associated.

CONCLUSIONS : More than 1/4th of the elderly population perceived themselves as useless when irrespective of their residence. To improve the quality of life in the elderly, functional status can be screened, and regular physiotherapy can be provided to individuals who require support with day-to-day activities. Similarly, Bereavement Support system needs to be developed to address self-perceived uselessness among Elderly widows.

KEYWORDS : "Elderly"; "Self-perceived"; "Uselessness"; "Dependency"; "Community"

INTRODUCTION

Self-perceived uselessness normally means an individual's own negative assessment or perception about his or her usefulness or importance to family, friends, community, and/ or the larger society and his or her general understanding of the aging process.[1] Self-perceived uselessness is seen as a main element of self-perception of ageing or self-ageism that influences one's thoughts and emotions and affects one's behavioural habits in the elderly, which could adversely affect one's psychological and physiological well-being in turn1. Plenty of evidence has consistently demonstrated that self-perceived uselessness is associated with higher risk of death[2], higher rates of functional impairment and disability[2], chronic conditions, lower rates of recovery from illness, poorer functions of cognition and mental health, and lower rates of self-rated good health and life satisfaction. In addition to it, many studies also reported that positive self-perceptions of aging (i.e., the absence of self-perceived uselessness) are linked with better overall survival, functional status, and life satisfaction[3]. Feelings of uselessness may also negatively influence self-care and engagement in health promotion behaviours[4]. An estimated population of 113377 aged persons are living alone or with spouse only, as per NSSO 60th round report, India. Out of these, in 19% elderlies, their child/grandchild/sibling is residing within the same building and 37% elderlies are so in which their child/grandchild/ sibling reside within the same village/town[5]. This declining social network size and decrease in social contacts results in health decline among older age, will reduce the performance of older adults and may cause self-perceived uselessness. In a Study done in North Bengaluru, nearly half (45%) of the elderly had agreed that they had perceived themselves as useless as they age, but main limitation is it was done in old age homes.[6] Another limitation in the existing literature

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of self-perceived uselessness is that the research has focused primarily on Western cultures and high-income countries. It is uncertain if the results in developed countries are true in developing countries, such as India, where the survival of older adults is more selective because of high mortality at younger ages, and where research is very few on the correlations between self-perceived inefficiency and health or mortality. In view of the above, the objective of the present research was to determine and compare the prevalence of self-perceived uselessness and its determinants among elderly in rural and urban Chennai in community setting. This will provide us avenues for intervention opportunities resulting in better Quality of Life among surviving elderly.

SUBJECTS AND METHODS

This Community-based Comparative Cross-sectional was done in rural and urban field practice area of Madras medical college over a period of 2 months in which data was collected over a period of one week among elderly [Age above 60 years] who were residents in that area for a minimum period of one year. Those suffering from mental illness/unable to comprehend/severe cognitive decline and those who were Bed ridden/terminally ill and those not willing for the study were excluded. The sample size was calculated based on Rural/Urban assuming +/- 15% of previous prevalence of 20% in a community-based study in China [CLHLS][7] with a 95% confidence and 10% excess sampling to account for non- response, sample size of 160 was derived i.e., 80 in each group.

$n = (Z\alpha/2 + Z\beta)2 (p1q1 + p2q2), (p1 – p2)2$

$n = (0.84+1.96)2(20*80+5*95)/(20-05)2 = 72.3,$

10 % excess = 80 per group

Based on data available from Family Health Register in Puliyanthope PHC [i.e., Urban] and Medavakkam PHC [i.e., Rural], the number of elderlies in the area were enumerated alphabetically and using random number generator tool, 80 elderlies were selected [Only one elderly/Family]. The data was collected throughout the daytime to include as many elderlies as possible. If any elderly did not meet the inclusion criteria they were skipped, and the next name was chosen. After getting informed written consent, Interviewer administered Semi structured questionnaire which consisted of socio-demographic details and general health condition; Self-Perceived Uselessness was assessed by Philadelphia Geriatric Centre Morale Scale [8]; and Activities of Daily Living by Modified Barthel Index for Activities of Daily Living9 was collected. The questionnaire took less than 20 minutes to complete and was prepared in Tamil and English

to accommodate a participant's preference. Philadelphia Geriatric Centre Morale Scale8 guideline scores of 13 to17 would be considered high scores on the morale scale, 10 to 12 falls within the mid-range and scores under 9 are at the lower end. They provide assessment of individual's psychological disposition. Barthel[9] scores are that scores of 0-20 indicate "total" dependency, 21-60 indicate "severe" dependency, 61-90 indicate "moderate" dependency, and 91-99 indicates "slight" dependency. We analysed the data using the Statistical Package for Social Sciences (SPSS) software, version 16. The results are presented as means and standard deviations for normally distributed data, or as percentages for categorical data. Categorical variables were compared using Chi-square test. For all the analysis, p value of ≤ 0.05 was assumed to be statistically significant. We took ethical approval from the Institutional Ethics Committee of the Madras Medical College. Participation in this study was completely voluntary, and no incentive was provided to the participants. The respondents were informed about the potential scopes and implications of the findings of this study and were requested to participate voluntarily. Figure 1 shows the flowchart of sampling methodology.
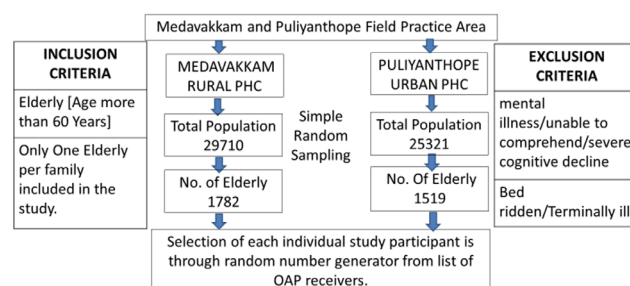

Figure 1: Knowledge scores of the participants about breastfeeding (n=110)

RESULTS

Most important thing is creating awareness in public to improve the quality control in healthcare Local health board should play main role in awareness programs. They must also know the role of municipalities and their approach towards such landfill sites(Swaroopanand, Mahavidyalya, and Bhilai 2015)

This study aims to assess the knowledge as well as attitude among general public living near an open landfill situated in a rural area of Tamil Nadu. Also, to assess the practice of these people regarding preventive measures against air pollution as well as regarding solid waste disposal. Thereby enabling them to take up an active role in the effective self-management of preventive measures against health hazards related to air pollution.

Table 1 : Distribution of socio-demographic variables across rural and urban (n=160).

Variables	Categories	Urban [80] n	Urban [80] %	Rural [80] n	Rural [80] %
Gender	Male	19	23.7	23	29
	Female	61	76.3	57	71
Education	Literate	57	71.3	52	65
	Illiterate	23	28.7	28	35
Marital status	Married	61	76.3	68	85
	Widow	19	23.7	12	15
Family type	Nuclear	68	85	47	59
	Joint family	12	15	33	41
Receiving old age pension	Yes	36	45	47	59
	No	44	55	33	41
Co-morbidities	Multiple	70	87.5	64	80
	Diabetes	34	48	27	42
	Hypertension	15	21	18	28
	Stroke	13	18	10	15
	Vision/hearing	6	8	3	5
	Cardiac	3	4	6	9
	Cancer	1	1	1	1
Recreational activities	Multi-media	34	42	30	38
	Outdoor [Park, Yoga]	6	8	10	12
	Peer gossip	26	33	33	41
	Others	14	17	7	9

Table 2 :Distribution of scores and stratification of Barthel's ADL and PGCS across Urban and Rural.

Variables		Percentage %		Stratification
Barthel ADL	Score	Urban	Rural	Dependency
Slight	91-99	58.9	59.85	No
Moderate	61-90	21.4	21.5	Yes
Severe	21-60	14.3	14.3	
Total	0-20	5.4	4.35	
PGCS*	Score	Urban	Rural	Self-perceived Uselessness
High morale	13-17	43	47	No
Mid	12-10	22	25.5	
Low morale	< 9	35	27.5	Yes
*Philadelphia Geriatric centre Morale Scale				

Table 3 : Prevalence of Self-perceived uselessness

Prevalence of Self-perceived Uselessness	Overall n=160	Urban n=80	Rural n=80
n	50	28	22
% (95% C.I)	31.25% (24.17% - 39.04%)	35% (24.67% - 46.48%)	27.5% (18.10% - 38.62%)

Table 4 : Association between self-perceived uselessness and Dependency in Activities of Daily Living [Chi-square]

			Self-perceived Uselessness Yes	No	OR [95% C.I.]	p-Value
Dependency in Activities of Daily Living	Overall	Yes	38	27	9.7 [4.5-21.3]	0.00
		No	12	83		
	Urban	Yes	22	10	15.4 [4.9-48]	0.00
		No	6	42		
	Rural	Yes	16	17	6.43 [2.2-19.2]	0.00
		No	6	41		

Table 5 : Association between study variables and Overall Self-perceived Uselessness

S.no	Variables		Self-perceived uselessness (n=160) Yes	No	OR (95%C.I.)	p-Value
1	Age-group	> 75 years	22	46	NA	0.80
		< 75 years	28	64		
2	Gender	Male	11	31	NA	0.41
		Female	39	79		
3	Education	Illiterate	18	33	NA	0.45
		Literate	32	77		
4	Marital status	Widow	24	7	13.5 [5.3-35]	0.00*
		Married	26	103		
5	Type of family	Extended	18	27	NA	0.14
		Nuclear	32	83		
6	Co-morbidity	Nil	11	15	NA	0.18
		At least One	39	95		
7	Duration of co-morbidity	> 10 years	28	9	18.4 [7.2-47.2]	0.00*
		< 10 years	14	83		
8	Recreational activity	< 1 hour /day	25	45	NA	0.34
		≥ 1 hour /day	25	65		
9	Residence	Urban	45	35	5.5 [2.7-11.4]	0.00*
		Rural	15	65		
*Chi-square test p-value<0.05 taken as significant						

Table 6 : Association between study variables and Self-perceived Uselessness for Urban study population

S.no	Variables		Urban Self-perceived Uselessness (n=80) Yes	No	OR	95% CI		p-Value
1	Age group	> 75 Years	14	13	3.00	1.1	7.9	0.024*
		≤75 Years	14	39				
2	Gender	Male	6	13	NA	NA	NA	0.720
		Female	22	39				
3	Education	Illiterate	12	11	2.80	1.0	7.6	0.041*
		Literate	16	41				
4	Marital Status	Widow	15	4	13.85	3.9	48.9	0.000#
		Married	13	48				
5	Type of Family	Extended	5	7	NA	NA	NA	0.744
		Nuclear	23	45				
6	Co-morbidity	Nil	4	8	NA	NA	NA	1.000
		At least one	24	44				
7	Duration of Co-morbidity	> 10 years	15	3	22.78	5.4	95.6	0.000#
		≤10 Years	9	41				
8	Recreational Activity	< 1 hour /day	18	17	3.71	1.4	9.7	0.000*
		≥ 1 hour /day	10	35				
*Chi-square test p-value <0.05 taken as significant								
#Fischer's exact test p-value <0.05 taken as significant								

Table 4 shows the association between dependency as scored by Barthel's activities of daily living index and Self-perceived uselessness as measured by the Philadelphia Geriatric centre morale scale. It was found that they were significant for overall and for urban and rural areas separately. As shown in Table 5, Determinants found to be significantly associated [p<0.05] with Overall Self-perceived uselessness

were loss of spouse, and duration of co-morbidity more than 10 years and residence in urban area. Factors exclusively significant for urban area, in-addition to previously stated, were age above 75 years, illiteracy, and participation in re-creational activities less than 1 hour/day. Factors significant only for rural areas were living in nuclear family and having any one co-morbidity. Individual factors found to be significant for Urban and Rural self-perceived uselessness are given separately in Table 6 and Table 7 respectively.

Table 7 : Association between study variables and Self-perceived Uselessness for Rural study population

S.no	Variables		Rural Self-perceived Uselessness (n=80)					
			Yes	No	OR	95% CI		p-Value
1	Age-group	> 75 years	8	33	NA	NA	NA	0.101
		≤ 75 years	14	25				
2	Gender	Male	5	18	NA	NA	NA	0.464
		Female	17	40				
3	Education	No	6	22	NA	NA	NA	0.372
		Yes	16	36				
4	**Marital Status**	**Widow**	**9**	**3**	12.69	3.0	53.6	**0.001#**
		Married	13	55				
5	**Type of family**	**Extended**	**13**	**20**	2.74	1.0	7.5	**0.046***
		Nuclear	9	38				
6	Co-morbid	No	7	7	NA	NA	NA	0.051
		Yes	15	51				
7	**Duration of co-morbidity**	**> 10 years**	**13**	**6**	18.20	4.8	69.5	**0.000#**
		≤ 10 years	5	42				
8	Recreational Activity	< 1 hour /day	7	28	NA	NA	NA	0.180
		≥ 1 hour /day	15	30				
*Chi-square test p-value <0.05 taken as significant								
#Fischer's exact test p-value <0.05 taken as significant								

DISCUSSION

In a previous study done in old age homes in North Bengaluru by Rangra et.al6, nearly half (45%) of the elderly had agreed that they had perceived themselves as useless as they age. In our study, the prevalence was found to be 31.25% [95%CI: 24.3 to 38.6] overall [Urban-35%/Rural-27.5%]. This difference may be due to Urban/Rural divide and that the previous study was done in a non-community setting.

In the same study by Rangra et.al6, significant association was seen between self-perceived uselessness and functional dependency, gender, education, and having some form of activities during their leisure time. In our study too those factors were found to be significant. In our study the prevalence of co-morbidities was 83.75% which agree with various studies in India where health problems, especially cardiovascular illnesses and diabetes are widely prevalent[10]. Previous history of Covid was only 8.1% hence unlikely to be bias our interview on self-perceived uselessness. In our study, nearly half of the elderlies were receiving old age pension, yet it was not found to be significant for self-perceived uselessness.

It was seen that older age groups (age >75 Years) experienced more self-perceived uselessness in urban locality. This agrees with Zhao et al.1 study in which compared to younger ages 65–79, octogenarians (ages 80–89), nonagenarians (ages 90–99), and centenarians (ages 100+) experienced increased risk of high frequency of self-perceived uselessness relative to low frequency by 69%, 76%, and 76%, respectively. This conclusion is reasonable since as people age, their health deteriorates and their activities decrease, leaving them with fewer opportunity to participate in other activities.

In our study, married persons felt less useless than bereaved people. Zhao et al. discovered similar results1. Married couples benefit from their spouse's emotional support. Confiding in family, friends, and relatives, as well as among themselves, is a significant component linked to a self-perceived uselessness. Zhao et al.1came at the same conclusion. People who had more than one chronic condition and were reliant on others for their ADL felt less useful than those who were functionally independent and had no chronic morbidity. This discovery was in line with the findings of Rangra et.al6 which was that Majority of those who perceived uselessness had one or >1 chronic morbidities and were functionally dependent (81.2%). And that there was significant association between self-perceived uselessness and functional dependency.

LIMITATIONS

Because this was a cross-sectional study, temporal association between factors could not be assessed, which could have shed light on the onset and potential factors influencing the onset of self-perceived uselessness. Where records of co-morbid conditions were not available, the participants' self-reporting of morbidities were not taken into consideration. Similarly, as this study was conducted on a house-to-house survey basis, number of males in the study group was less [25% only] this was because most of them were either employed in menial works or had gone for health/ social visits.

CONCLUSION

From this study, we conclude that more than 1/4th of the elderly population perceived themselves as useless when irrespective of their residence. There was a significant association between self-perceived uselessness and variables such as gender, education, leisure activities, and functional status (ADL). In India, there are few studies on the social health of the senior age group. Self-perception of uselessness, which has been researched in a few other nations, has been

proven to have an impact on the health of the elderly. In India, more research on the self-perception of uselessness in the elderly age group is recommended.

RECOMMENDATIONS

Being functionally independent and having familial support may have an impact on Self-perceived uselessness. To improve the quality of life in the elderly, functional status can be screened, and regular physiotherapy can be provided to individuals who require support with day-to-day activities. Similarly, Bereavement Support system needs to be developed to address self-perceived uselessness among Elderly widows.

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