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Original Research Article

Unmet health needs of elderly: a community based cross-sectional study in rural areas of Kancheepuram District, Tamil Nadu

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ABSTRACT

Background: The proportion of elderly population is on the increasing trend in India. Morbidity was found higher among the elderly population. About 10% increased risk of mortality was found among elderly people with unmet needs. The objective of the study was to assess the morbidity pattern and unmet health needs among elderly population in rural areas of Kancheepuram district, Tamil Nadu.
Methods: This community based cross-sectional study was conducted for a period of 18 months in four selected villages in Kancheepuram district, Tamil Nadu, among 390 participants. EASY care standard (2010) questionnaire was used for assessment of health care needs. Frequency distribution of study variables and association using chi-square test were done using SPSS software version 23.
Results: Out of 390 study participants, 51% were females. The most common morbidity was arthritis (40.5%), followed by diabetes and difficulty in hearing (29.5% each). Psycho-social issues such as loneliness (36.7%), little interest in doing things (30.8%), feeling hopelessness (30%) were noted among the study participants. The highest unmet health need was 11.8% for difficulty in hearing. The unmet health needs were associated with older age, widowhood, lower educational status, inability to work, low socio-economic status, absence of individual income, and absence of care taker of the study participants.
Conclusions: The health needs of elderly are multi-faceted viz., medical, psycho-social, financial, etc. Since, family characteristics play a major role in meeting the health needs of elderly population, community-oriented services mainly involving family members will help for addressing the unmet needs of the elderly.

Keywords: Elderly, Rural, Unmet needs

INTRODUCTION

The world is facing the phenomenon of ageing. The drastic hike of elderly people globally will be from 1 in 11 in the year 2019 to an expected level of 1 in 6 by 2050.[1] The population ageing phenomenon is fastest in Eastern and also in South-East Asian Region (SEAR) of World Health Organization (WHO). In SEAR region countries, the share of older people will rise to around 12% in the year 2025.[2] Similarly in India, the elderly population is projected to be around 19% by 2050. India is experiencing a transformation to an elder society with high share of older people. The southern states of India seemed to be contributing more to ageing.[3] Newer and unique issues regarding health arises with the phenomenon of increasing lifespan. Since the morbidities are of varied nature, the conventional approach with the existing health system is finding difficult to meet the needs of the elderly. Some of the morbidities which are of chronic in nature are also having an impact on the quality

aspects of life. For example, arthritis among elderly will have an impact on their mobility as well as access to health care facilities.[4] Although the elderly people are having physical disabilities as well as mental illness like dementia, they also have their own aspiration to lead a satisfactory life.[5] Many needs were perceived among the elderly like need for health care, need for individual income security, need towards aspects of safety and need of satisfaction in emotional aspects.[6] Unmet health care need is defined as the presence of a setting in which a person who is in need of essential health care but he is not able to receive it.[7] There seems an increased mortality level of over 10% when compared with elderly persons reporting met needs.[8] Also, psychological distress was found to be more among the elderly population in a study in south India. It was attributed to the low socio-economic status since it was a limiting factor for health care and they were unable to lead a life of dignity.[6] Hence, this study was undertaken among the elderly population living in the rural areas in Kancheepuram District, Tamil Nadu to assess the morbidity pattern and unmet health needs among elderly and also to study about the various associated factors.

METHODS

A community based cross-sectional study was conducted among the elderly population residing in the rural areas of Kancheepuram District during the period of 18 months (Jan 2018-June 2019). The sample size was calculated using the formula $n=4pq/d^2$, taking the prevalence of unmet needs for one or more physical disability of 32.5% as per the study in North India.[3] Taking 5% as allowable error, along with 95% confidence interval, the sample size came out as 351, and with non-responders assuming to be 10%, the required minimum sample size was 390.

Out of 13 blocks in Kancheepuram district, four blocks were selected randomly using lottery method. The selected blocks were Thirupporur, Kattankulathur, Thirukalukundram and Lathur. Four villages, one from each block was selected randomly from the list of villages in the selected blocks using the lottery method.

The sampling technique followed was probability proportional to size to meet the required sample size of 390 study participants from the selected four villages. The number of households selected from the villages namely Mullipakkam, Keerapakkam, Echur and Pavunjur were 120, 132, 53 and 85 respectively.

The required number of households to be visited for interviewing the elders in each village was calculated as above. The households were selected by systematic random sampling where every second household had the presence of elderly person, using the data available in family registers maintained by the village health nurses of concerned health sub-centers. All elderly people aged 6o years and above who gave informed consent were included in the study. Elderly people who were seriously ill and those not willing to give consent were excluded. The selected households were visited and the interview of the study participant was conducted face-to-face after obtaining written informed consent by the principal investigator. If more than one elderly person was present in the household, one of them was selected using the lottery method.

A pre-tested semi-structured schedule incorporating socio-demographic details such as name, age, gender, address, marital status, educational status, occupation, total family income, individual personal income, with whom they were living and availability of any caretaker, the morbidity details, the details of whether they consulted a doctor or other health care professional for their illnesses/health status as stated by the participants, the treatment taken facility and medical insurance coverage were included in the interview schedule. For assessment of health care needs of elderly people in primary care settings, EASY care standard (2010) questionnaire was used.[9]

Approval of Institutional Ethical Committee was obtained before the start of the study. Privacy and confidentiality of the study participants was maintained.

Operational definitions

Caretaker: A caretaker is anyone, including children and adults who looks after a family member, partner or friend who needs help because of their illness, fragility, disability, mental health problem or an addiction and cannot cope without their support.[10]

Met needs: Elderly people with any illness who consulted a doctor or other health care professional for their illnesses in the last one year.[11]

Unmet needs: Elderly people with any illness who had not consulted any doctor or other health care professional for their illnesses in the last one year.[7,11]

Statistical analysis

Data were entered into Microsoft Excel and analyzed using the Statistical package for social sciences (SPSS) version 23.0. Descriptive statistics such as frequency and percentage were calculated. Association between various study variables was calculated using the chi-square test and p value less than 0.05 was considered statistically significant.

RESULTS

Out of 390 study participants, 51% were females. The median age was 65 years. About 68.5% belonged to the age group of 60-69 years, 86.9% followed Hindu religion and 17.4% belonged to the lower socio-economic class. About 22.8% were illiterates, 24.6% were widows, 9% were widowers and 17.9% were living alone. About

26.4% were unable to work, 28.5% had no individual income, 23.3% had no care-taker and 75.6% had no addiction habits. About 60.8% had taken treatment in Government hospitals and 49.5% were covered with health insurance (Table 1).

Table 1: Socio demographic characteristics of the study population (n=390).

Socio demographic parameters		N (%)
Gender	Male	191 (49.0)
	Female	199 (51.0)
Religion	Hindu	339 (86.9)
	Muslim	12 (3.1)
	Christian	39 (10.0)
Marital status	Married	255 (65.4)
	Widow/widower	131 (33.6)
	Divorced/separated	4 (1.0)
Educational status	Illiterate	89 (22.8)
	Primary school	141 (36.2)
	Middle school	92 (23.6)
	High school and above	68 (17.4)
Occupation	Household works	95 (24.4)
	Agriculture	118 (30.3)
	Retired employee	39 (10.0)
	Business/self employed	35 (9.0)
	Unable to work	103 (26.4)
Socio economic classe	Upper class	39 (10.0)
	Upper middle class	85 (21.8)
	Middle class	100 (25.6)
	Lower middle class	98 (25.1)
	Lower class	68 (17.4)
Living arrangements	With sons family	136 (34.9)
	With daughter's family	44 (11.3)
	With spouse	138 (35.4)
	With other persons	2 (0.5)
	Alone	70 (17.9)
Availability of care taker	Yes	299 (76.7)
	No	91 (23.3)
Treatment facilities	Government hospitals	237 (60.8)
	Private practitioners	85 (21.8)
	Other systems of medicine	2 (0.5)
	Self-treatment/no treatment	66 (16.8)
Health insurance coverage	Yes	193 (49.5)
	No	197 (50.5)
Addiction habits	Alcohol	47 (12.1)
	Smoking	30 (7.7)
	Oral tobacco	18 (4.6)
	No addiction	295 (75.6)

The common reported morbidity in this study was arthritis (40.5%). Diabetes and difficulty in hearing were reported by 29.5% each. The other reported morbidities were dental problems (25.1%), problems in the foot (24.9%), constipation (23.6%), difficulty in vision (22.3%), breathing difficulties (19.6%), hypertension (18.7%), difficulty in speech (16.9%), urinary incontinence (14.4%) and skin diseases (12.1%). Heart diseases were reported by 4.9% and stroke by 2.3% of the study participants (Figure 1).

About 29.2% of study participants felt that they were discriminated for some reasons. About 41.8% reported that they were unable to manage their money and financial affairs. About 16.4% were not feeling happy with their accommodation. Majority 63.3% felt that they were not able to pursue leisure activities that they were interested in. Loneliness was felt by 36.7% of study participants.

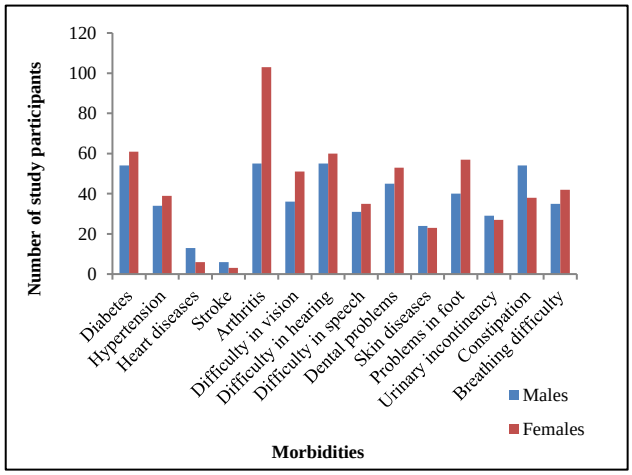

Figure 1: Prevalence of morbidity among the study participants (n=390).

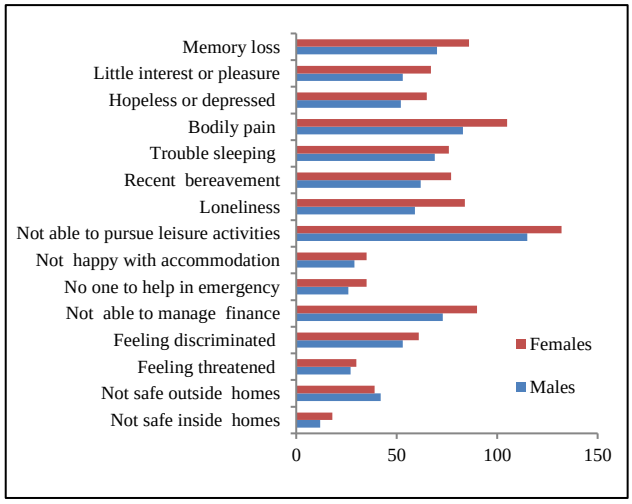

Figure 2: Prevalence of psychosocial issues among the study participants (n=390).

About 34.9% reported to have suffered from recent loss or bereavement. About 15.6% felt that there was no one to help them in case of any illnesses or emergencies. About 37.2% of study participants reported to have sleeping trouble and 48.2% to have bodily pain in the past

month. About 30% of the study participants reported to have been bothered by feeling down, hopeless or depressed and 30.8% were bothered by having little interest or pleasure in doing things in the past month. Memory loss or forgetfulness was found as the concern for 40% of study participants (Figure 2).

The highest unmet health need was found as difficulty in hearing (11.8%) among the study participants. The unmet need for other illnesses were dental problems (8.5%), difficulty in vision (6.4%), arthritis and difficulty in speech (4.9%), problems in the foot (3.8%), urinary incontinency (1.5%), skin diseases and hypertension (1.3% each), diabetes and constipation (0.8% each) and breathing difficulty (0.5%). The unmet health need was found as nil for stroke and heart diseases (Figure 3).

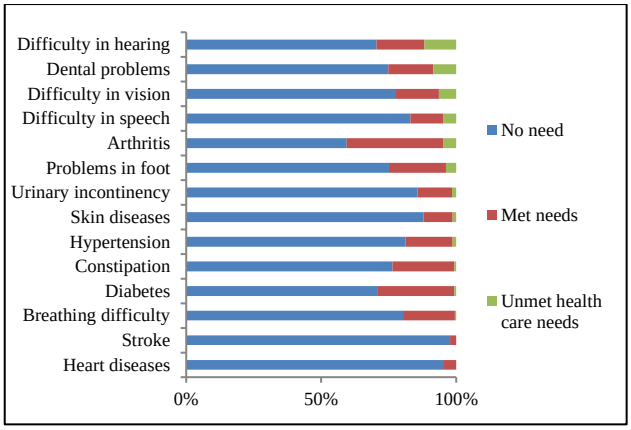

Figure 3: Prevalence of unmet health needs among the study participants (n=390).

Table 2: Association between health care needs for difficulty in hearing and characteristics of the study participants.

Study variables		Met needs N (%)	Unmet needs N (%)	χ^2 (p value)
Gender	Male	37 (9.5)	18 (4.6)	2.406 (0.304)
	Female	32 (8.2)	28 (7.2)	
Age group (in years)	60 to 69	39 (10.0)	13 (3.3)	55.135 (0.000)*
	70 to 79	25 (6.4)	24 (6.2)	
	80 and above	5 (1.3)	9 (2.3)	
Marital status	Married	35 (9.0)	22 (5.6)	18.953 (0.000)*
	Widow/widower	33 (8.5)	24 (6.2)	
	Divorced/separated	1 (0.3)	0 (0.0)	
Availability of care taker	Yes	53 (13.6)	25 (6.4)	14.911 (0.001)*
	No	16 (4.1)	21 (5.4)	
Socio economic classes	Upper class	9 (2.3)	1 (0.3)	27.209 (0.001)*
	Upper middle class	15 (3.8)	6 (1.5)	
	Middle class	16 (4.1)	9 (2.3)	
	Lower middle class	19 (4.9)	10 (2.6)	
	Lower class	10 (2.6)	20 (5.1)	
Individual income	Yes	46 (11.8)	26 (6.7)	8.199 (0.016)*
	No	23 (5.9)	20 (5.1)	

The unmet health need for difficulty in hearing was the highest in this study, and it was found to be associated with older age, widowhood, lower educational status, status of inability to work, low socio economic status, no individual income, absence of care taker of the study participants. It was also found that gender was not associated with unmet health need (Table 2).

DISCUSSION

This study was conducted to assess the unmet needs for health care, morbidity pattern and to find out the associated factors.

In this study, nearly half of the respondents were males. Age group of 60-69 comprise the majority (68.5%). Similar findings were reported in a study in Coimbatore among elderly where the proportion of widows and widowers were 24.6% and 9% respectively.[12] In few other studies, more or less, a similar proportion of widows/widowers was reported among the elderly people.[13,14] The higher proportion of widows in this study needs evaluation with further studies. In the present study, 17.9% of study participants were living alone. Similarly, a study in Manipur showed that 32% of elderly were living alone.[15] Also, in Spain it was reported as 34%.[16] Different social and cultural factors may be the reason for this variations.

Inability to work was reported by about 26.4% of elderly. In North India, 32.7% of elderly reported their inability to work, while in another study, 15% of the elderly reported

their inability to work.[17,18] The inability status of elderly to work is a physiological phenomenon, but the consequences may lead to a state of financial dependency. Also, lack of individual income as reported by males (8%) and females (20%) could be taken as financial dependency. It was reported in the Manipur study, that 60.8% were financially dependent and in a similar study, financial dependency was found among 27.3% males and 63.6% females.[12,17] In another study, it was 58.5% for financially dependency of elderly.[19]

Regarding addiction habits, most (75.6%) had stated nil in this study. The addiction habits were alcohol (12.1%), smoking (7.7%) and oral forms of tobacco (4.6%). In contrast, a study in North India reported 56% of elderly had any of the addiction habits.[20] This may be attributed to the socio-cultural differences.

Morbidities among elderly population

About 40.5% among the study group had arthritis, similar to other studies, where it was found as the common morbidity. In Karnataka a study reported 56% had arthritis.[14] In Chandigarh, 97.7% of elderly who aged above 84 years had arthritis.[21] Difficulty in hearing was found out in 29.5% of elderly. Another study in Tamil Nadu also showed similar results that 28.7% of females and 16.4% of males reported difficulty in hearing.[12] Also in Haryana it was 25.4% for difficulty in hearing, while in Manipur, it was only 2.1%.[22,23]

About 29.5% of elderly had diabetes. In North India, prevalence of Diabetes among elderly was 12.2%.[20] Diabetes in elderly was reported by 19.7% of study participants in Karnataka and 20.9% in Manipur.[14,23] The high level of diabetes prevalence reported needs further studies.

Diminished vision was seen among 25.1% of study participants. In North India 78.8% had reported ocular problems in old age.[20] In Karnataka, the prevalence of diminished vision was 62.9%.[14] The prevalence of hypertension was 18.7%. It was found higher in other studies. In Manipur, hypertension prevalence among elderly was 41.7%.[23] In Himachal Pradesh, the reported prevalence of hypertension was 40.5%.[24] A study in Karnataka, reported prevalence of hypertension as 56.8%.[14] Different cultural practices may be attributed to this low prevalence of hypertension.

Psychosocial issues among the elderly people

"Not feeling safe" was reported by about 7.7% within their homes and 20.8% outside their homes. Similar findings regarding feeling of insecurity was stated in a study in Gujarat.[25]

A study reported that 11% elderly had any of abuses. The main person causing abuse was the son and the protective factor noticed was the education among elderly people.[26] Threatening and harassing was reported by about 14.6%. Similarly, in a study it was reported that mistreatment was reported by 14% of elderly in Chennai.[27]

Loneliness among elderly was associated with higher mortality among elderly.[28] Loneliness was reported by 36.7% of elderly. In North India, about 55.4% of elderly had feeling of loneliness.[29] Neglect and discrimination towards elderly were also reported by 29.2% of study participants. In Gujarat, feeling neglected was reported by 55% and the feeling that they were not consulted by their family members was reported among 41% of elderly.[25]

Not satisfied with their accommodation was reported by 16.4% of elderly. Inability of involving in leisure activities was felt by 63.3%. Feeling of hopelessness was reported by 30% of elderly and 30.8% of elderly reported to have little interest in day to day activities. Similar results were reported in Gujarat that 56% of elderly felt unhappy towards life.[25] In Meerut, 55% of elderly reported feeling sad attitude towards their life.[19] In contrast 84% of elderly women in Kerala reported satisfied with their life since 86% had involvement in family activities and 74% in spiritual related activities.[30]

Unmet health needs and the associated factors

The unmet health need was seen highest as 11.8% for hearing difficulties in this study. The other unmet needs were for dental problems (8.5%), difficulty in vision (6.4%) and arthritis (4.9%). No unmet health need was reported for stroke and cardiac illnesses. In France, the unmet needs were about 88% for hearing difficulties, 44.2% for diminished vision, 76.4% for dental problems and 1.5% for management of chronic diseases.[7]

The unmet health needs were associated with older age, widowhood, lower educational status, status of inability to work, low socio economic status, having no individual income, and absence of care taker of the study participants.

The unmet need was reported as 32.8% among the elderly study population in a study in Coimbatore. Living alone, older ages, marital status and multiple morbidities were found to be associated with the unmet health needs in that study.[12]

Strengths and limitations of this study

It was a community based cross sectional study, conducted among elderly people living in rural areas of Kancheepuram district. It lists out the morbidities and unmet needs of health among them.This study has some limitations. Since it was based on self-reported morbidities, psychosocial issues and unmet needs of the participants during the interview by the investigator, recall bias may be a limitation since cognitive impairment is not uncommon among elderly population. As this study

was done in rural area the results may not be generalized to elderly population residing in urban areas.

CONCLUSION

The elderly are having morbidities of varied types. The health needs of elderly are multi-faceted viz., medical, psycho-social, financial, etc. It is recommended to strengthen the comprehensive health care delivery system for elderly at primary health centre level. Also family characteristics were noticed to play a major role in the health needs of elderly population. Hence community oriented services mainly involving family members will help for addressing the needs of the elderly.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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