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Health-related quality of life of elderly living in the rural community and homes for the elderly in a district of India

Application of the short form 36 (SF-36) health survey questionnaire

The increase in the absolute and relative numbers of elderly people is one of the major features of the world demographic transition [1]. India had a population of 77 million elderly in 2001 (7.5%), which is expected to be 137 million by 2021 [2]. The elderly comprise an important, vulnerable group having many physical and mental health problems; therefore, the social and physical well being of these people has become a challenging issue in India [3]. In Indian society, cultural values and traditional practices emphasize that the elderly members of the family be treated with honor and respect and they are expected to live in good health. The responsibility of the family for the care and support of the family is not only governed by blood or marital relations, but also by societal norms, values, and morals. However, the changing social scenario in terms of urbanization, modernization, globalization, and individualism have also resulted in some disorganization in the family and societal norms and values, which produce deprivations to the elderly in contemporary Indian society. The physical condition of elderly is perhaps another factor that contributes to feeling elderly as a burden. The elderly often maintain old traditions and cultural values, and the changes in the attitudes and treatment from their children makes them feel less honored; in addition, economic dependency leads to lower self-esteem. Though a large proportion of the elderly still live with their families, a considerable number of elderly choose to live separately amid their age-matched peers in homes for the elderly. Studies pertaining to the elderly are important because their population is increasing and because the traditional norms and values toward the elderly are changing. The demographic changes along with the developmental processes have resulted in changes and shifts in social and institutional factors, which also affect the lives of the elderly and their quality of life (QoL).

Due to the lack of studies on QoL among the elderly from India, the present study attempts to report the health-related QoL (HRQoL) using the Short Form 36 (SF-36) health survey questionnaire among two groups of elderly people, i.e., (i) elderly living in the community with their own family/community members in a rural area and (ii) elderly living in homes for the elderly.

Methods

Research settings

The Vizianagaram, a South Indian district, has a population of 2,245,103, of which the majority (82%) live in rural areas [4]. Agriculture continues to be the mainstay of livelihood for many rural people. The district is inhabited by several ethnic groups (castes and tribes). The Government of India has categorized certain ethnic groups into scheduled castes, scheduled tribes and backward castes, and these categories are socially and economically backward. Uncategorized forward castes enjoy socially superior status, are economically well off and often play a dominant role in socio-political authority.

The first setting was a rural community. The setting included the elderly living with their family and community members. For the present study, six villages from a rural administrative unit were selected randomly to represent community-dwelling elderly. Two homes for the elderly, where elderly are provided care on the basis of either payment or charity, were selected from the city of Vizianagaram (district headquarters) to represent elderly living in homes for the elderly.

Sample

The sample consisted of elderly aged 60 years and above of both genders. From the community, 71 elderly were selected randomly, while 40 elderly were selected

Tab. 1 Descriptive statistics of 8 domains, 2 summary scales, and total SF-36 score of individual and combined samples

Domain/ scale	Interpretation of score		Residents in the community		Residents living in homes for the elderly		Total sample	
	Lowest score	Highest score	Range	Mean ± SD	Range	Mean ± SD	Range	Mean ± SD
Physical function	Very limited in performing all physical activities, including bathing or dressing	Performs all types of physical activities including the vigorous without limitations due to health	10–80	43.8±17.1	15–90	60.9±17.0	10–90	50.0±18.9
Role physical	Problems with work or other daily activities as a result of physical health	No problems with work or other daily activities	0–100	72.8±23.4	0–100	61.2±27.1	0–100	68.6±25.3
Bodily pain	Very severe and extremely limiting pain	No pain or limitations due to pain	20–80	48.1±14.5	22–100	62.7±24.9	20–100	53.5±20.1
General health	Evaluates personal health as poor and believes it is likely to get worse	Evaluates personal health as excellent	10–77	35.7±14.2	20–97	55.7±27.1	10–97	43.0±22.1
Vitality	Feels tired and worn out all the time	Feels full of pep and energy all the time	5–90	45.3±16.7	10–100	68.7±24.5	5–100	53.9±22.0
Social functioning	Extreme and frequent interference with normal social activities due to physical and emotional problems	Performs normal social activities without interference due to physical or emotional problems	13–100	56.7±17.5	25–100	70.8±22.4	13–100	61.9±20.5
Role emotional	Problems with work or other daily activities as a result of emotional problems	No problems with work or other daily activities	0–100	67.3±24.0	0–100	60.9±22.6	0–100	64.9±23.6
Mental health	Feelings of nervousness and depression all the time	Feels peaceful, happy, and calm all the time	24–92	55.4±19.8	16–100	71.6±21.7	16–100	61.4±21.9
Total physical health	Limitations in self-care, physical, social, and role activities, severe bodily pain, frequent tiredness, health rated "poor"	No physical limitations, disabilities, or decrements in well-being, high energy level, health rated "excellent"	32–72	49.0±7.3	29–87	61.7±11.9	29–87	53.6±11.0
Total mental health	Frequent psychological distress, social and role disability due to emotional problems, health rated "poor"	Frequent positive affect, absence of psychological distress and limitations in usual social/role activities due to emotional problems, health rated "excellent"	33–75	52.0±10.1	29–93	65.5±16.0	29–93	57.0±14.1
Total SF-36 score			37–72	53.0±7.46	31–90	64.0±11.9	31–90	57.1±10.7

SD standard deviation.

randomly from homes for the elderly. Thus, a total of 111 elderly were sampled; however, two were excluded during analysis due to incomplete data. All respondents were informed about the purpose of the study and their consent was obtained before initiating the interview.

The SF-36 questionnaire was modified to suit local culture, in terms of using appropriate terms which are used in the local culture and study settings. The questionnaire was translated into Telugu, the regional language of Andhra Pradesh and pre-tested before use. Information pertaining to socio-demographic characteristics of the respondents were obtained through another pre-tested questionnaire.

Data analysis

The data were analyzed for two data sets (community-dwelling elderly and the elderly living in homes for the elderly) separately. The eight subscales of the SF-36 and the total scores of total physical health, total mental health, and total SF-36 were calculated using scoring algorithms [5]. Both univariate and multivariate analyses, through analysis of variance and multiple linear regression analyses respectively, were done. Multiple linear regression analyses were performed by taking the total physical health, total mental health, and total SF-36 as dependent variables separately. Several socio-demographic variables and the variables indicating the perceptions of the elderly (gender, age, working status, education, community affiliation, livelihood, person not living alone, status of the spouse (marital status), existence of relatives, headship of the household, possession of property, self reported

role of decision making in the household, perceived health condition) were entered as independent variables.

Results

The results on average, lowest and highest scores of eight domains, total physical and total mental health summaries, as well as total SF-36 score are shown in **Tab. 1**. The average scores for several domains are around 50, which can be interpreted as a moderate level of HRQoL. However, there are no normative values of SF-36 for India, as available for several developed countries, to compare the present values. The descriptive statistics of total physical health, total mental health and overall health (total SF-36 score), appear better with averages nearer to 60. However, residents in a home for elderly scored better in all domains except for role-physical and role-emotional. For community elderly, general health yielded a lower score (35.7) followed by vitality. The differences between the community dwelling and elderly home residents are significant for all domains except for role-emotional.

Univariate analysis revealed the relation of different characteristics of the elderly with various SF-36 scores (**Tab. 2**). For the majority of domains, including totals, the elderly living in homes for the elderly scored higher than community dwelling elderly. This means residents living in a home for the elderly possessed better HRQoL than community dwellers. No significant gender differences were found for any of the domains. Age was associated with the domain of physical functioning, while educational status had a significant effect on many domains. The scores were higher among those having education greater than the primary level. Work status, i.e., livelihood, also seemed to influence the HRQoL of the community elderly. Those who were still working for a living had the lowest physical and mental health scores as well as total SF-36, followed by those who were dependent on family for a living. The mental health scores were considerably higher for the residents living in a home for the elderly and those with property in the community. These differences are indicative of the economic conditions that play a major role in the

Abstract · Zusammenfassung

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Health-related quality of life of elderly living in the rural community and homes for the elderly in a district of India. Application of the short form 36 (SF-36) health survey questionnaire

Abstract

The present investigation aimed to assess the health-related QoL (HRQoL) of elderly people living in two settings: (i) rural community and (ii) homes for the elderly in a district of South India. The data are drawn from elderly (>60 years of age) sampled from both settings. The short form 36-item health survey (SF-36) was administered to all respondents. The average scores for several domains, including total physical health, total mental health and overall health (total SF-36 score) were around 50, which can be interpreted as a moderate level of health-related QoL. Residents living in a home for the elderly scored better in all domains except for role-physical and role-emotional. Though univariate analysis revealed some associations between characteristics of elderly SF-36 scores, the multiple regression analysis indicated that working status yields a significant but negative coefficient for total SF-36 score among community dwelling elderly. The elderly report that their lives are better when they are staying in homes for the elderly. Hence, despite the socio-economic conditions, provision of a better and conducive environment by setting up more charity-based homes for the elderly may be one of the options for relative betterment of the QoL of the elderly, particularly those who are socially and economically deprived. Finally, the study warrants the need of normative values of SF-36 for various population groups in India.

Keywords

Elderly · Homes for the elderly · Quality of life · SF-36 · Andhra Pradesh

Gesundheitsbezogene Lebensqualität älterer in der bäuerlichen Gemeinschaft und im Altenwohnheim lebender Personen in einem Bezirk Indiens. Anwendung der Kurzform des SF-36-Fragebogens zum Gesundheitszustand

Zusammenfassung

Ziel dieser Untersuchung war es, die gesundheitsbezogene Lebensqualität („health-related quality of life", HRQoL) älterer Personen in zwei Lebensumfeldern zu erfassen: (i) in der eigenen bäuerlichen Gemeinschaft und (ii) in Altenheimen eines Bezirks in Südindien. Die Daten stammen von älteren Personen (>60 Jahre) aus beiden Umgebungen. Zur Erhebung war allen Teilnehmern der „short form 36-item health survey" (SF-36) zugestellt worden. Die durchschnittlichen Scores für mehrere Dimensionen, einschließlich der physischen, der mentalen und der alle Befindlichkeiten umfassenden Gesundheit (Gesamt-SF-36-Score) lagen bei ca. 50; dies kann als mittelmäßiger Grad der gesundheitsbezogenen Lebensqualität interpretiert werden. Menschen in Altenheimen erreichten höhere Werte in allen Dimensionen, mit Ausnahme der körperlichen und emotionalen Rollenfunktionen. Obwohl durch Varianzanalyse einige Beziehungen zwischen den bestimmte Eigenschaften der Älteren betreffenden SF-36-Scores hergestellt werden konnten, deuten die Ergebnisse der multiplen Regressionsanalyse darauf hin, dass der Arbeitsstatus der Befragten einen signifikanten, aber negativen Faktor für den Gesamt-SF-36-Score der in bäuerlicher Umgebung wohnenden Älteren darstellt. Das Leben der älteren Menschen in Altenheimen ist besser. Deswegen könnte die Bereitstellung einer besseren und förderlicheren Umgebung, trotz der sozioökomischen Bedingungen, in durch Wohltätigkeitseinrichtungen finanzierten Altenheimen eine der Optionen für eine relative Verbesserung der Lebensqualität älterer Menschen sein, insbesondere für solche, die sozial und finanziell benachteiligt sind. Ebenso rechtfertigt diese Studie die Notwendigkeit der Erhebung von Richtwerten des SF-36 für einzelne Populationsgruppen Indiens.

Schlüsselwörter

Ältere · Altenheime · Lebensqualität · SF-36 · Andhra Pradesh

Tab. 2 Details of multiple regression analysis of various respondents' characteristics on total physical health, total mental health, and total SF-36 score

	Total physical health coefficient ± SE	Total mental health coefficient ± SE	Total SF-36 score coefficient ± SE
Community dwellers			
Constant	52.06±14.14*	72.48±19.04*	61.59±14.27*
Gender	−4.55±3.07	−6.12±4.13	−4.06±3.09
Age	0.09±0.17	−0.15±0.23	0.04±0.17
Working status	−2.94±2.09	−5.04±2.81	−4.57±2.11*
Education	0.32±0.54	−0.01±0.73	0.27±0.55
Community	−0.80±1.18	1.76±1.59	−0.08±1.19
Livelihood	0.21±0.57	−0.85±0.77	−0.29±0.58
Not living alone	−1.12±1.58	−2.42±2.12	−1.84±1.59
Spouse status	−1.06±1.24	−0.71±1.67	−1.07±1.25
Relatives' status	−1.38±1.79	−3.07±2.42	−1.95±1.81
Head of the household	6.50±6.22	10.96±8.38	5.49±6.28
Possession of property	1.42±3.16	0.27±4.25	2.27±3.19
Decision making role	−2.01±3.54	−2.17±4.76	−0.64±3.57
Perceived disease status	0.10±2.17	−3.35±2.92	−1.93±2.19
R^2 (adjusted) of the model	−0.068	−0.008	−0.034
Residents in a home for the elderly			
Constant	46.64±26.84	116.26±33.51*	69.39±27.04*
Gender	−3.05±5.20	−4.46±6.49	−2.10±5.24
Age	0.17±0.24	−0.48±0.30	−0.03±0.24
Education	0.23±0.61	0.66±0.77	0.42±0.62
Community	1.28±5.69	−3.39±7.11	−0.75±5.74
Spouse status	−1.25±2.37	−3.66±2.96	−2.39±2.39
Relatives' status	−1.38±1.79	−3.07±2.42	−1.95±1.81
Possession of property	3.90±4.92	4.10±6.15	2.23±4.96
Perceived disease status	2.42±4.35	−0.80±5.42	−0.51±4.38
R^2 (adjusted) of the model	−0.144	0.010	−0.156

*Significant at 5% level; **SE** standard error.

HRQoL of the elderly. The influence of an individual's affiliation to the community was significant in five scores and all the total scores. The forward caste people possessed better HRQoL scores than others. Except for two domains viz., role-physical and role-emotional, for all others the influence was significant for present working status of elderly. The health status in terms of HRQoL was better among those not working for their livelihood. Source of livelihood had an influence on HRQoL.

In addition, significant associations were noted for several domains with whom the elderly were living. Of the elderly living in the community, no uniform trend was observed. Some scores were good in those living alone; some were good for those living with their spouse. The scores of role physical and social functioning were significantly associated with the presence of the spouse. The role physical was lowest among those whose spouse was living separately, but the social functioning was highest. The elderly person's status as head of the household and his/her decision-making role in the family had no influence on the HRQoL. Scores of general health and total physical health and mental health were significantly higher among those owning property. We could not find an association for the presence of chronic diseases with HRQoL, which indicates that the HRQoL is determined by several factors rather than by the presence of diseases alone. Multivariate analysis did not yield any significant predictors for total physical health and total mental health except that working status showed a significant but negative coefficient for total SF-36 score among community dwelling elderly.

Discussion

The residents living in a home for the elderly possessed better scores of HRQoL compared to their counterparts living in the community. Most of the community-dwelling elderly were dependent on work for a livelihood and mainly constituted the backward and scheduled caste population who belong to the lower socio-economic section of the society, whereas a greater proportion of the residents in a home for the elderly belong to the forward castes. Perhaps working for a living for the community dwelling elders is an inevitable condition to live and addresses the issue raised by Irudaya Rajan et al. [6]: 'for the poor there is only one retirement not from work, but from the world'. This study inferred the role of socio-economic conditions determining the QoL of the elderly. Thus, the routine and regular care available in the homes for the elderly along with living among age-matched peers may provide some explanation for the better scores among the residents living in a home for the elderly. It appears to us that in the community, the care takers (generally children or family members) have their own priorities, which sometimes resulted in neglecting the simple but important daily needs of the elderly. We found education as a significant positive contributor to the overall QoL, but it does not appear to influence role-physical and role-emotional positively. Tsai et al. [7] reported that higher education was significantly associated with increased scores in all scales except for vitality and mental health. Deeply imbibed cultural values and norms rather than formal education, and unmet expectations from the care givers perhaps lead to emotional deprivation. Gene et al. [8] found relatively better scores for emotional role or social function compared to the residents living in a home for the elderly and inferred that the community-dwelling elderly received support from relatives, friends and primary care services and mentioned the further need to improve and strengthen

formal care in the community and reorienting health services both in the community and homes for the elderly. Huang and Lin [9] identified medical services, financial subsidy and arrangement of leisure activities important for the community elderly living alone. Shu et al. [10] felt that there is a need to design programs to increase elderly people's interaction with others and established social networks for them and opined that these may enhance a sense of positive self-concept among the elderly.

The inevitability of working in order to live in the later ages of life was one factor contributing to lower QoL. In general, old age in this specific cultural setting is regarded as a period to rest and relax, while being able to give advice to the younger generations and receive respect in view of their chronological age as well as life experiences that gives an insight into the odds and realities of human life. However, the pre- and currently existing economic deprivation makes work for some of the elderly inevitable. However, in the present rural setting, it is still observed that if the parents enter a home for the elderly, it means that they are to a certain extent abandoned by their children. Therefore, it hinders some of the elderly from choosing a home for the elderly as an option in view of the (partial) loss of reputation; however, those who can afford this care and dare to break this tradition are choosing homes for the elderly for a better life.

Conclusions

The overall HRQoL was higher in those living in homes for the elderly than in those living in the community. However, the domains of role-physical and role-emotional were better for elderly living in the community. In the community, these elderly perform social obligations; hence, these domains were higher among community dwellers. The study warrants the need of normative values of SF-36, to determine whether a group or an individual is below or above the average for their state/country for a particular age group or gender. The study results are indicative of the importance of a more conducive environment for the elderly. Provision of a better and conducive environment by setting up more charity-based homes for the elderly may be one option for relative betterment of the QoL of the elderly, particularly those who are socially and economically deprived. Since emotional health is as important as physical condition, rejuvenation of the traditional norms and values is equally important during this transition period of shifting values vs. priorities.

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