Quality of Life and Its Determinants among Older People Living in the Rural Community in Sri Lanka

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ABSTRACT

In recent decades, the proportion of people aged 60 years and above has increased rapidly in Sri Lanka. With this unprecedented increase, Sri Lanka faces great challenges in meeting the health and social needs of the older people. There is a paucity of information related to quality of life (QOL) and related factors among elderly in Sri Lanka. Therefore, this study planned to examine quality of life and its determinants among older people living in a rural community in Sri Lanka. This community based cross-sectional survey was conducted among a random sample of 336 old people aged 60 years and above living in the community. Respondents were interviewed individually using a structured interview questionnaire. QOL was measured by the Older People QOL questionnaire (OPQOL). Univariate and multivariate logistic regression analysis were used to determine the factors influencing QOL. The most agreed/strongly agreed response in OPQOL items was "religious, belief or faith is important to my QOL" (96.5%) and the most disagreed/strongly disagreed response was "I do not have enough money to pay for household repairs or help needed in the house" (85.4%). The standardized QOL score based on OPQOL was 63.86. The highest and the lowest standardized domain scores

were reported by the domains of 'home and neighborhood' (71.4) and 'financial circumstances' (51.8), respectively. Determinants of poor QOL among older people were living alone, poor family income, presence of chronic kidney diseases and poor self-rated health. This study provides baseline data on QOL among older people in the rural community in Sri Lanka. It is concluded that older people experience a moderate level of QOL and religion, which is an important aspect of QOL. Health and social workers can use these findings to plan appropriate interventions to improve QOL in community dwelling older people.

Population ageing is a global phenomenon in light of the demographic consequences of falling fertility rates combined with increases in life expectancy (World Health Organization, 2011) and as a result of the improvements in living standards, better nutrition, and decreased deaths from communicable diseases (Luo & Hu, 2011). It is well recognized that the increasing number of older people worldwide has become a global challenge. Sri Lanka is among one of the fastest ageing country in the developing world (World Bank, 2008). According to the recent census data by Department of Census and Statistics-Sri Lanka (DCSSL) (2012a), the elderly population aged 60 and over in 2012 was reported at 2.52 million, representing 12.4 per cent of the total population. The projection of the elderly population in Sri Lanka will be 4.5 million and 6.3 million in 2031 and 2061 respectively (De Silva, 2007). Being a developing country, Sri Lanka faces great challenges in meeting the health and social needs of the ageing population.

Ageing is characterized by progressive loss of adaptability (Evans, 2002). Usually, older people face diverse problems in their later lives, such as declining physical functions, increasing disability and chronic illnesses, changes in socio-economic status, social isolation and neglect, and loneliness (Victor, *et al.*, 2000; Browning & Thomas, 2013). It is well recognized that these factors negatively influence QOL of the elderly. Longevity leads to increasing demands on health care. Hence,

QOL is a very important aspect to examine for the well being of older people.

QOL is a very complex concept. It is also a multi-dimensional concept (Farquhar, 1995; Bowling & Gabriel, 2004; Baernholdt, *et al.*, 2012) and has been used to mean health status, physical functioning, symptoms, psychosocial adjustment, well-being, life satisfaction, and happiness (Ferrans, *et al.*, 2005). Ferrans and Power (1992) defined QOL as a person's sense of well-bein

g that stems from satisfaction or dissatisfaction with the areas of life that are important to him/her. WHOQOL Group (1993) defined QOL as individuals' perceptions of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. Bowling and Gabriel (2004) postulates that QOL is a multi-dimensional collection of objective and subjective areas of life, the parts of which can affect each other as well as the sum.

One of the major goals of the State Health Policy of Sri Lanka is improvement of QOL by advocating healthy lifestyle and reducing preventable diseases and disability (Ministry of Health Care and Nutrition-Sri Lanka, 2007). It further highlights elderly as the vulnerable group that need special attention. The government of Sri Lanka has launched several initiatives to improve QOL among the elderly. Among those are the establishment of a National Secretariat and a National Policy for older people, introducing an older person's identity card, establishment of elderly committees, establishment of day centres, and introducing a pension scheme for senior citizens aged 70 and over who do not get any kind of assistance and who have no family or relative to look after them (WHO, 2009). In addition, religious and cultural influences are being reinforced to treat older people respectfully and emphasizing the family's role in meeting their needs. However, the health care system faced different health-related problems like the high prevalence of non-communicable diseases (Wijesuriya, 1997; Nanayakkara, 2009; Rodrigo, *et al.*, 2013), lack of social security coverage, inadequacy in meeting the healthcare needs of the elderly, lack of resources and their inequitable distribution (World Bank, 2008), increasing old age dependency and poverty (Gaminiratne, 2004), and unavailability of geriatric care services at the hospital or at

the community level. The majority of population in Sri Lanka is in rural sector (77.4%) (DCSSL, 2012a) having comparatively poor facilities than urban parts in the country. Gaminrathna (2004) reported that poverty was more prevalent among older people in the rural sector. Moreover, the alteration of family structure from extended family to a nuclear family system reduces the traditional family support for older people (World Bank, 2008). Traditionally, females provide care for older people in Sri Lanka but this feature cannot be expected to continue because of the changing gender roles and female employment. Consequently, the health and well-being of older people in Sri Lanka has become a concern that directly impact on their QOL. However, QOL among older people living in the community in Sri Lanka is poorly examined.

Internationally, there are numerous studies on QOL and health-related QOL among older people. Studies have shown that different levels of QOL are experienced by elderly living in the community; poor QOL (Tajvar, *et al.*, 2008), moderate QOL (Naing, *et al.*, 2010; Devi & Roopa, 2013) and good QOL (Baernholdt *et al.*, 2012). As QOL is a multi-dimensional concept, it is determined by different factors. Recent studies conducted in different countries found that many socio-demographic characteristics were associated with QOL such as age, gender, marital status, education, living arrangement, working status and economic status (Hellstrom, *et al.*, 2004; Siop, *et al.*, 2008; De Belvis, *et al.*, 2008; Tajvar *et al.*, 2008; Naing *et al.*, 2010; Hoi, *et al.*, 2010; Dongre & Deshmukh, 2012). It is well recognized the negative impact of chronic illnesses on QOL among older people. Studies have shown that the number of chronic illnesses is associated with QOL (Lee, *et al.*, 2006; Luo & Hu, 2011) and hypertension, cardiac disease, neurological diseases, musculoskeletal problems, gastro-intestinal problems, arthritis, diabetes mellitus, asthma, chronic bronchitis, chronic obstructive pulmonary disease, cataract, chronic kidney diseases, liver diseases and hearing impairment have significant impact on QOL in older individuals (Dalton *et al.*, 2003; Arif, *et al.*, 2005; Hu, 2007; Sobhonslidsuk, *et al.*, 2008; Nanayakkara, 2009; Fujikawa, *et al.*, 2011; Liu, *et al.*, 2013;). Moreover, deterioration of functional abilities leads to dependency in old age and lowers QOL (Siop *et al.*, 2008). Studies have shown that

the differences in QOL and its influences between disabled and non-disabled older people (Avolio *et al.,* 2013) and disability is associated with poor QOL in older people (Groessl *et al.,* 2007; Baernholdt, 2012 *et al*). Self-rated health (SRH) is another important indicator associated with QOL and studies have shown that poor SRH is associated with poor QOL in the elderly (Gureje, *et al.,* 2008; Siop, *et al.,* 2008).

However, there are no studies conducted to investigate QOL and its related factors among older people living the community in Sri Lanka. Evidence is much needed to plan for interventions and to develop policies that promote health and well-being of older people. Therefore, this study aims to examine QOL and its determinants among older people residing in the rural community in Sri Lanka.

Method

Sample and Setting

This was a community based cross-sectional study[1] conducted in Talawa Divisional Secretariat Division, Sri Lanka. Thalawa is a rural Divisional Secretariat Division (sub-administrative units) located in Anuradhapura District in North Central Province, Sri Lanka. According to the census data by DCSSL (2012b), 94.1 per cent of people in Anuradhapura District live in the rural areas. The total elderly population aged 60 and over in Anuradhapura District was 78,820 representing 9.1 per cent of its total population. Sinhalese made up a majority ethnic group in the District (91%) and 90.1 per cent of people are Buddhists.

The sample size for this study was determined to measure mean score of QOL and the calculated sample size based on Birchall (2013) formula was 385. Non-responses in this study were assumed at 10 per cent, thus the required sample size was 424. The sampling method was based on a two-stage simple random sampling approach. In the first stage, six Grama Niladari divisions (smallest administrative units within Divisional Secretariat Division) were randomly selected from the list of Grama Niladari divisions in Thalawa Divisional Secretariat Division that consisted of 12 villages. In the second stage, 424 Sinhalese older people aged 60 and over were randomly selected using the 2013

electoral registers. The older people who were hospitalized or institutionalized, those with communication difficulties, those who were previously diagnosed with cognitive impairment or severe psychiatric disorders and those who refused to participate in the study were excluded. Out of the sampling size of 424, 402 older people were eligible for the interview. Twenty two people were excluded; 15 people were dead, six people had moved out of the area and one person was hospitalized. Moreover, 29 older people were not at home during the two home visits and three older people did not give their consent. Thus 370 people agreed to participate in the study. Out of 370 older people, 14 people were excluded; 12 older people had cognitive impairment or major psychiatric problems and two older people presented with communication difficulties. Finally, 356 respondents were interviewed.

Measurement

In the study, QOL was measured by the OPQOL (Bowling, 2009; Bowling & Stenner, 2010). This instrument has been validated in ethnically diverse community-dwelling older people in England. The OPQOL comprised 35 statements related to QOL under eight domains such as "life overall" (four items), "health" (four items), "social relationships" (five items), "independence, control over life and freedom" (four items), "home and neighborhood" (four items), "psychological and emotional well being" (four items), "financial circumstances" (four items) and "leisure, activities and religion" (six items). The participants were asked to indicate their response by choosing 1–5 possible options from the Likert Scale that range from strongly disagree to strongly agree. OPQOL items were coded as "1" for strongly agree, "2" for agree, "3" for neither agree nor disagree, "4" for disagree and "5" for strongly disagree. In scoring, reversed coding was accorded for positively worded items. The total score ranges from 35-worst possible QOL to 175-best possible QOL. OPQOL validity and reliability have been properly established (Bowling, 2009; Bowling & Stenner, 2010). Cronbach's alpha coefficient ranged from 0.748 to 0.901 across the sub-groups and a four-week test-retest reliability coefficient ranged from 0.403 to 0.782. The construct validity was indicated by moderate to strong correlations among OPQOL, WHOQOL-OLD and CASP–19 with a Spearman's rank correlation

ranging from 0.380 to 0.732. The Cronbach's alpha coefficient of modified Chinese version of OPQOL was 0.90 (Chen, *et al.*, 2014). In this study, Cronbach's alpha reliability showed 0.862.

The independent variables consisted of socio-demographic characteristics, self-reported chronic medical problems, functional status and SRH. Age, gender, marital status, educational level, living arrangement, employment status and monthly family income were included under the socio-demographic variables. For chronic medical problems, hypertension, cardiac diseases, diabetes mellitus, arthritis, neurologic problems, asthma, chronic bronchitis, chronic obstructive pulmonary diseases, cataract and vision problems, chronic kidney diseases, chronic liver diseases, hearing impairment and cancers were included. Functional status was determined by two scales: activities of daily living (ADL) scale and instrumental activities of daily living (IADL) scale. The ADL scale consisted of six items: bathing, dressing, toileting, transferring, continence, and feeding, which were originally included in the Katz Index of ADL scale (Katz, *et al.*, 1963). The IADL scale consisted of eight items: ability to use the telephone, shopping, food preparation, housekeeping, doing laundry, mode of transportation, responsibility of own medication and ability to handle finances which were originally included in the Lawton IADL scale (Lawton & Brody, 1969). In this study, the older people who did not receive any help in performing ADL or IADL were classified as "independent" while those who received partial help from others were classified as "need assistance". Older people who were totally dependent on performing any ADL or IADL functions were classified as "totally dependent". Disability is defined as any difficulty in performing ADL or IADL in this study. To assess the level of disabilities, "need assistance" and "totally dependent" were merged and coded into "disability" and zero mark was allocated to disability category. The "independent" category was retained and corresponded score was one. Maximum score in the combined scale was 14 that indicated independence in ADL and IADL (ADL/IADL independency). SRH was measured by the single global question "How would you rate your current health?" on a five point scale from very poor to excellent.

Instrument

The research instrument was a structured questionnaire designed with five sections based on the extensive literature review consisting of independent and dependents variables namely (1) socio-demographic questionnaire, (2) self-reported medical problems, (3) functional status, (4) SRH and (5) QOL. This structured questionnaire was assessed for content validity by two experts. The questionnaire originally designed in English was translated into Sinhala (local language of Sinhalese) and followed by back-to-back translation. Translations were done by two university lecturers who are native Sinhalese speakers fluent in English. The questionnaire was tested for reliability and cultural sensitivity by pretesting in the pilot study among 30 older people who had similar characteristics with those of the study population. Based on the results of the study, minor changes were done for the items in the questionnaire. Cronbach's Alpha reliability test was performed and Cronbach's Alpha coefficient for OPQOL was 0.834, which indicated good internal consistency. In addition, ADL and IADL scales showed Cronbach's Alpha coefficients 0.910 and 0.870 respectively. The Sinhala version of the instrument was used in this study.

Data Collection

Data collection was conducted over a period of three months between April to July in 2014. The participants who fulfill the inclusion criteria and consented to the study were interviewed by the principal investigator and two trained interviewers. After explaining the purpose and procedure of data collection, older people were invited to participate in this study. Once agreed, they were asked to sign the consent form. Upon consent form was signed, the participants were interviewed at their homes. For those who were not available for interview during the first home visit, a second visit was done.

Data Analysis

All the data collected were analysed using Statistical Package for Social Sciences version 20 for windows. In the analysis, 336 responses were included. Twenty respondents were excluded due to the missing data on monthly family income. Descriptive statistics were used to characterize the sample based on socio-demographic data, self-reported

medical problems, functional status, SRH and QOL. The findings were described using frequencies and percentages, mean, standard deviation and standardized scores (mean score/the highest total possible score x 100). The determinants of QOL were identified by univariate and multivariate logistic regression. Univariate logistic regression was performed to evaluate the statistically significant effects (p-value < 0.05) of study variables on QOL. In the determination of QOL, the mean score was considered as the cut-off point and it was transformed to a dichotomous category as "good QOL" (had a score above mean score) and "poor QOL" (had a score below mean score). All independent variables statistically significant in univariate analysis were entered simultaneously into a binary logistic regression model. Reference category in QOL was poor QOL. All covariates were binary coded. Alpha level of significance was set at < 0.05.

For analytical purposes, arthritis and musculoskeletal diseases were combined into one category as "arthritis/musculoskeletal problems" while asthma, chronic bronchitis and chronic obstructive pulmonary diseases were combined into one category as "respiratory problems". Due to the small number of respondents for cancer, it was combined with gastrointestinal problems.

Results

The total sample consisted of 336 older people aged 60 and over, ranging in age from 60 years to 98 years. The mean age of the sample was 68.19 years (SD ± 6.99) and the majority of the respondents were aged between 60–69 years old (63.7%). The sample represented slightly more males (51.2%) than female respondents. The majority of the respondents was married (63.1%), had received a secondary level education (52.1%), living with spouse and/or children (86.9%) and non-employed during the study period (72.9%). The mean monthly family income was Rs 20,647.59 (SD ±17,931.32) and mode of Rs 5,000.00. One hundred and ninety seven respondents (58.6%) reported monthly family income above the national poverty line. Out of the 336 respondents, 48 respondents (14.3%) did not report any chronic medical problem. The most prevalent chronic medical problem was cataract/vision impairment (53.9%). None of the respondents reported chronic liver diseases. Most of the respondents reported

ADL/IADL disability (80.4%). The majority of the respondents rated their health as 'poor/very poor' 39.6 per cent (n = 117) (Table 1).

Table 1

Distribution of Socio-demographic Characteristics, Chronic Medical Problems, Functional Disability and SRH Among Respondents (n = 336)

Study Variable	n	%	Mean (SD)
Age			68.19 (±6. 99)
60–69 years	214	63.7	
70–79 years	95	28.3	
80 years and above	27	8	
Gender			
Male	172	51.2	
Female	164	48.8	
Marital Status			
Married	212	63.1	
Never married	7	2.1	
Divorced	3	0.9	
Widowed	114	33.9	
Education			
No formal education	38	11.3	
Primary education	115	34.2	
Secondary education	175	52.1	
Tertiary education	8	2.4	
Living arrangement			
Living alone	26	7.7	
Living with spouse and/or children	292	86.9	
Living with others	18	5.4	
Employment status			
Presently employed	91	27.1	
Presently un-employed	245	72.9	
Monthly family income			20,647.59(±17, 931.32)
Below the national poverty line	139	41.4	
Above the national poverty line	197	58.6	
Number of chronic medical problems			1.93(±1.42)
None	48	14.3	

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One disease	98	29.1
Two to three diseases	140	41.7
More than three diseases	50	14.9
Presence of chronic medical problems*		
Cataract/vision impairment	181	53.9
Hypertension	102	30.4
Arthritis	55	16.4
Diabetic mellitus	51	15.2
Heart diseases	42	12.5
Neurologic problems	41	12.2
Asthma	37	11
Hearing impairment	31	9.2
Gastrointestinal diseases	26	7.7
Chronic kidney disease	18	5.4
Bone and muscle disorders	15	4.5
Cancers	8	2.4
Chronic bronchitis	7	2.1
Chronic obstructive pulmonary disease	2	0.6
Others	31	9.2
ADL/IADL disability		
Absent	66	19.6
Present	270	80.4
SRH		
Excellent/good	86	25.6
Fair	117	34.8
Poor/very poor	133	39.6

* Multiple responses

The most strongly agreed/agreed responses in OPQOL were 'religion, belief or philosophy is important to my QOL' (96.5%), followed by 'I feel safe where I live' (90.8%) 'I have someone who gives me love and affection' (90.8%) and 'culture/religious events/festivals are important in my QOL' (85.1%). Most of the respondents disagreed or strongly disagreed with they did not have enough money to pay for household repairs or help needed in the house (85.4%). The mean OPQOL score was 111.76 (SD $\pm$ 14.7) out of a possible score of 175, ranging in total score from 67 to 152. The standardized score of the

OPQOL was 63.68. In relation to specific sub-scale, the domain of 'home and neighbourhood' (71.4) and 'psychological wellbeing' (69) reported high standardized domain score and the domain of 'financial circumstances' (51.8) and 'health' (55.9) reported the lower standardized domain score (Table 2).

Table 2
Distribution of Mean and Standardized OPQOL Scores Among Respondents

	Mean ± SD	Standardized Score
Total QOL score	111.76 ± 14.69	63.86
Domain scores		
Life overall	12.39 ± 2.89	61.95
Health	11.18 ± 3.90	55.90
Social relationship	16.50 ± 2.40	66.00
Independence	12.41 ± 2.59	62.05
Home and neighbourhood	14.82 ± 1.98	71.40
Psychological well-being	13.80 ± 2.57	69.00
Financial circumstances	10.36 ± 3.20	51.80
Leisure, religion	20.30 ± 2.87	67.67

Univariate analysis showed that QOL was significantly associated with age, education, living arrangement, monthly family income, number of chronic medical problems, hypertension, arthritis/musculoskeletal problems, neurological problems, respiratory diseases, cataract/vision problems, chronic kidney diseases, ADL/IADL disability and SRH. There was no significant association between QOL with gender, marital status, employment status, diabetes mellitus, gastrointestinal diseases/cancer and hearing impairment. All significantly associated factors with QOL in the univariate analysis were entered into binary logistic regression model and it demonstrated that living arrangement (OR = 3.502, CI: 1.143–10.727), family income (OR = 3.407, CI: 1.931–6.008), chronic kidney disease (OR = 6.849, CI: 1.178–39.840) and SRH (OR = 4.974, CI: 2.695–9.179) were the significant determinants of QOL of the elderly (Table 3). The Hosmer and Lemeshow goodness-of-fit test showed the non-significant p value (df = 8, p = 0.214) indicating the well-fitting model.

Table 3
Determinants of QOL among Older People (n = 336)

Independent Variables	Logistic regression analysis		p Value
	Univariate	Multivariate	
	P value	OR (95% CI)	
Age	0.015	0.916 (0.503, 1.668)	0.773
Education	<0.001	1.505 (0.828, 2.736)	0.180
Living arrangement	0.045	3.502 (1.143, 10.727)	0.028
Monthly family income	<0.001	3.407 (1.931, 6.008)	<0.001
Number of medical problems	<0.001	1.218(0.430, 3.454)	0.710
Hypertension	<0.001	1.198(0.627, 2.290)	0.585
Heart diseases	0.013	2.256 (0.917, 5.552)	0.077
Arthritis/musculoskeletal problems	<0.001	1.549 (0.758, 3.166)	0.230
Neurological problems	0.003	1.444 (0.594, 3.509)	0.417
Respiratory problems	0.006	1.879 (0.815, 4.331)	0.139
Cataract/vision impairment	<0.001	1.843 (0.975, 3.483)	0.060
Chronic kidney disease	0.002	6.849 (1.178, 39.840)	0.032
ADL/IADL disability	<0.001	1.573 (0.696, 3.552)	0.276
SRH	<0.001	4.974 (2.695, 9.179)	<0.001
Constant	.056	<0.001	

P Value < 0.05; Multiple logistic regression analysis: Score test (x^2 = 137.591, df = 14, P = <0.001); Hosmer and Lemeshow test–0.214; Nagelkerke R^2 Square = 0.449

Discussion

This cross-sectional study examined QOL and its determinants in a sample of older people living in a rural community in Sri Lanka. The standardized QOL score based on OPQOL was 63.86, which means that QOL among older people is not high. This finding suggests that QOL among older people in the selected community is at a moderate level. This might be attributed mainly to the practice of Buddhism as the majority of the Sinhalese are Buddhists. There is a close link between religion and parent-children relationship, and looking after parents and respecting older people are meritorious deeds. According to Buddhism, it is not easy to repay the fathomless and boundless kindness of the parents (Kim & Sung, 2011). Buddhism is unique in the

practice of filial piety and children are duty-bound to care for their parents extending to them filial obligation (Ibid.). This religious background reinforces the retaining and caring the older people within the family. Our study showed that majority of older people lived with their spouses and/or children (86.9%) and the proportion of older people living alone was low. When considering the individual items in OPQOL, 96.5 per cent respondents said that religion, belief or philosophy is important to their QOL while 85.1 per cent respondents said that culture/religious events/festivals are important. Therefore, religion and culture have an important role in QOL among older people. Moreover, most of the respondents said that they have someone who gives love and affection, and their living environment is safe. These factors might give the feeling of safety among older people and optimize in the psychological well-being. Our findings showed that the domains of 'home and neighborhood' and 'psychological well-being' are the two dimensions that scored relatively good QOL.

Our results indicated that the score in domains of financial circumstance and health were low. About 41 per cent of respondents had their family income below the national poverty line. The national poverty headcount ratio for Sri Lanka was 7.6 for 2012/2013 (DCSSL, 2014). Our result is inconsistent with the above national figure indicating a high prevalence of poverty. Gaminirathna (2004) also reported that poverty among older people was higher in rural parts than urban areas. This study found that the health status of older people was poor. Only one fourth of respondents rated their health as good/excellent and it was supported by the findings of a national survey conducted in Sri Lanka, where it found that the majority of elderly rated their health as poor/fair (Ostbye, *et al.*, 2009).

The QOL findings of this study were similar with two studies conducted in India and Myanmar. Devi and Roopa (2013) conducted a survey to compare QOL among institutionalized and non-institutionalized older people in Urban Bangalore district in India and they found that the majority of the respondents (60% of men and 59.5% of women) had moderate level of QOL in non-institutionalized setting. The study in Myanmar also found that the older people living in the community reported moderate level of QOL in Irrawaddy division, Myanmar (Naing, *et al.,* 2010). Sri Lanka, India and Myanmar

are developing countries located in the Asian Region that share the common features in Asian Culture and this similarity may be due to the similar socio-economic and cultural backgrounds.

In this study, we found that living arrangement was a determinant of QOL among older people and the respondents who lived alone experienced poor QOL than those who lived with spouse/children/others. This finding is similar with a study conducted by Hellstrom *et al.,* (2004) who reported that living alone was a predictor of poor QOL among older people living at home who need assistance. Lin, *et al.*, (2008) also reported that older people living alone experienced poor QOL. Living alone is associated with loneliness, poor psychological well-being and depression (Fukunaga, *et al.,* 2012; Lim & Kua, 2011). This finding raises the need for attention towards the older people who are living alone in Sri Lanka.

Another significant determinant of poor QOL among older people was poor family income. This finding is consistent with studies conducted in other countries (Siop, *et al.,* 2008; Tajvar *et al.,* 2008). It is true that lack of sufficient financial resources is highly linked with poverty and poor social status. Studies have shown that poverty is associated with health inequalities (Zimmer, 2008) , perceived economic stress and psychological distress among the people (Thanakwang, 2013). The older people are at higher risk for the consequences of poverty, especially in a country where no social security or disability pension is available (Gureje, *et al.,* 2008). According to Engelhardt and Gruber (2004), social security benefits have an important role and it can significantly alter the poverty of elderly. In Sri Lanka, there is no compulsory social security system for all older persons. Therefore, these issues should be taken into account by relevant stakeholders and raises the need for income generation activities and welfare aids for low income people in the community.

Our findings indicated that chronic kidney disease was the only chronic medical illness that predicts poor QOL in old age. The present study was conducted in North Central Province and in this region; chronic kidney disease of uncertain etiology has increased markedly over the past 15–20 years (Nanayakkara, *et al.,* 2012). This is a major

health care problem in the North Central Province of Sri Lanka and mainly affects males from poor socio-economic backgrounds who are involved in paddy farming (Wanigasuriya, 2012). It is essential to pay special attention on QOL among older people with chronic kidney diseases in Sri Lanka.

Finally, this study found that SRH was an important determinant of QOL in old age and it reported that those who perceived poor SRH experienced poor QOL. This result is consistent with the findings of two studies conducted in Malaysia and Nigeria (Gureje, *et al.,* 2008; Siop, *et al.,* 2008) and they reported that SRH as a strong correlate with QOL among older people living in the community. SRH encompasses the broad view about health among people; therefore attention is much needed towards issues related to poor health status among older people to enhance their health and well-being.

There were several limitations in this study. This is a cross-sectional study and it does not help to establish a causal relationship among the variables. Inclusion and exclusion criteria of this study may reduce the representativeness of the sample. We selected few factors related to QOL and did not assess the relationship between QOL with other known influencing factors like health behaviors, depression, loneliness and social support. Since this was a small scale study in a rural part of the country, the findings cannot be generalized to the entire older population in Sri Lanka.

Conclusion

The findings of this study indicate that the majority of the older people experience a moderate level of QOL in the Talawa Divisional Secretariat Division, Sri Lanka. Religion is a very important aspect in QOL among older people. Comparatively, good QOL is reported in the domains of 'home and neighborhood' and 'psychological well-being' while lower QOL is reported in the domains of 'financial circumstances' and 'health'. Living alone, poor family income, presence of chronic kidney disease and poor SRH are the determinants of poor QOL among the older people.

Implication for Practice, Policy and Research

These findings may have significant implications for healthcare professionals, social workers and policy makers to be cognizant of QOL and related factors among older people in Sri Lanka. The findings can be used by health care professionals in planning appropriate interventions for older people. Health screening, health education and health promoting activities could be expanded. As poor health status is a significant issue, the establishment of community geriatric service mainly focusing on nursing care would help older people to meet their health needs at primary care setting. Among the variables, chronic kidney disease is the only disease that predicts poor QOL among elderly. Health care providers need to pay serious attention towards this increasing health problem in the agricultural community. Income generation activities and welfare aids for families are essential to improve QOL among older people. It is essential to study on older people who are living alone in the community. In future studies, the qualitative approach as well as large scale longitudinal studies may be helpful to best explain the QOL among older people in Sri Lanka.

Note

1. This study was approved by the Research and Ethics Committee of the Faculty of Medicine and Health Sciences, Universiti Malaysia Sarawak, Malaysia and the Ethical Review Committee, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka. Permission to conduct this study in the community was obtained from Divisional Secretary, Thalawa. Written informed consent was signed by all the participants prior to data collection.

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