Journal of Gerontology & Geriatric Research
ISSN: 2167-7182

Eltayeb et al., J Gerontol Geriat Res 2012, 1:5
DOI: 10.4172/2167-7182.1000113

Research Article Open Access

Quality of Life in the Older Population in Sudan-Illustrated by Maslow's Hierarchical Levels, Experienced Loneliness, and the Importance of Social Support

Eltayeb W[1]*, Ericsson K[1], Theorell T[2] and Gunnar L[1,3,4]

[1]Karolinska Institute, Department of Neurobiology, Care Sciences and Society, University of Khartoum, Sudan
[2]National Institute of Psychosocial Factors and Health, Karolinska Institute, Sweden
[3]Centre for Care Development, Stockholm County Council, Stockholm, Sweden
[4]Medical Management Center, LIME, Karolinska Institute, Sweden

Abstract

Sudan is one of the countries where the rate of the economically active population is particularly high. The extended family system is still the dominant system in the Sudanese society. The aim of this present study is to understand the concept of quality of life (QoL) with reference to Maslow's hierarchical level and experienced loneliness for a group of older Sudanese individuals. Forty-two Sudanese older subjects, between 60 and 85 years have participated in the study. Data collected and tools used are an open question about QoL, UCLA scale of loneliness, and a pre-coded and pretested designed question for the collection of social support. Main categories of quality of life, stressed by the older Sudanese, were the religious matters, socioeconomic situation and family and social support. Loneliness questions indicate that participants always felt in tune with people around them. The concept of QoL and experienced loneliness are strongly related to Maslow's hierarchical level.

Keywords: Quality of life; Loneliness; Social support; Older individual

Introduction

In developing countries, the older individuals make up a smaller proportion of the population than they do in developed regions. But their numbers are growing much faster than the rest of the population categories. The World Health Organization stated that that moderately high increase in the older populations is expected to occur in the developing countries, which may cause serious challenge for those countries to provide welfare package services for their older population.

The older individuals in Sudan constitute a growing group whose needs are inadequately met. Their role in the displaced community is not always identified, and their potential contribution to their families is not fully recognized. In Sudan, traditional attitudes and influence of the extended families are the main features of the family structure. Older people in Sudan face many problems. They are unable to save money for their old age and have little to live on when they stop working. Poor diet, inadequate housing, bad health and isolation often contribute to their poverty. Many older people are forced to work at very old age, and they quit working only when they are physically or mentally unable to continue. A few of them have social security or insurance. Earning a living remains the priority to them.

The Sudanese older individuals seem to be struggling for survival. Grandsons are the main providers for their families. Older individuals need to have extra work to support themselves or their families.

According to the yearbook of labor statistics, Sudan has been one of the five countries with the highest proportion of economically active persons above age of 65, since 1990. The country has experienced a high birth rate and a high but declining death rate, which causes rapid population growth among older individuals. Like many other developing countries, Sudan continues to experience problems in providing the most basic psychological and social support services to its population, as well as health services, to help them overcome the vulnerability that might arise from unpredictable conditions of social, economic and political changes [1,2].

Health status for older people in Sudan is focused on communicable and environmental diseases versus psychological induced diseases, psychosomatic pains and those related to loneliness/not feeling lonely.

Older people used to retire at an early stage to give chances for the younger, even if they might still have the capability to continue working. A very little amount of pension is provided for the older. For the past thirty years, people from western and southern Sudan have migrated northwards to the city of Khartoum due to drought and ethnic tensions and conflicts breaking in their home areas, as well as searching for better job opportunities. The situation for the older people who live in displaced areas gets worse at times of stresses and disasters. They might have difficulties to find food, and the food itself might not be suitable for them. Older persons might not have neat and warm places to stay at. They might have psychological pressures as well. A part from other older individuals living in normal life situation, they do not feel secured because they have illegal housing.

This study was performed in Cartoon Barona (Barona slums). It is a small area located about seven kilometers north of Khartoum city, where 10% of its population consist of older people coming from rural areas, searching for better opportunities after having lost their properties. They settled down and constructed shelters from wood, old sacks, cardboard and mud [3,4].

Demographic situation

Sudan is one of largest country in Africa with a total area of one million square miles, located in the northeastern part of the continent.

***Corresponding author:** Wafaa Eltayeb, University of Khartoum Postgraduate Studies, Faculty of Arts, Department of Psychology, Sudan, E-mail: wafaaeltayeb@hotmail.com

Received September 03, 2012; **Accepted** October 18, 2012; **Published** October 20, 2012

Citation: Eltayeb W, Ericsson K, Theorell T, Ljunggren G (2012) Quality of Life in the Older Population in Sudan-Illustrated by Maslow's Hierarchical Levels, Experienced Loneliness, and the Importance of Social Support. J Gerontol Geriat Res 1:113. doi:10.4172/2167-7182.1000113

It has a total population of 32 million inhabitants. The capital and largest city is Greater Khartoum with a total population of five millions, where about 4% are 65 years old and above [5].

Living arrangements

The national census conducted in 1993 showed that 75.4% lived in rural areas, while 24.6% in urban areas; that 49.6% lived in one-storied houses, 43.6% in cottages, and about 6.8% live in houses with more than one floor.

Family structure

The family is defined as a social, economical and cultural unit. As in many collective societies, the extended family system is still dominant in the Sudanese society, and older persons are considered the pillars of the family [6]. Hence, the cultural and traditional beliefs of the Sudanese society necessitate that care and respect for the older persons should naturally be provided.

Socioeconomic status

Social and economical factors are formed for having an adverse impact on the situation of older people by gradually weakening traditional family patterns. The income generation intervention in Cartoon Barona was designed to support 250 participants and use their skills as indirect benefits in order to promote community services by sharing older people's skills with the community [7].

Feminization of later life

Feminization of the world population is one of the major socioeconomic challenges, since aging females exceed males ones in number. In Sudan, low life expectation at birth renders the numbers of females and males reaching the age of 60 to constitute a very low percentage of the population.

The concept of Quality of life (QoL) is difficult to define and measure. A high quality of life may mean different things to different groups in the society. It could also differ according to age, gender and health status in different roles (for instance patient, relative, and staff). The amount and quality of networks as well as living conditions are other examples of factors that influence quality of life. QoL is defined as lack of illness, so called health related QoL, but nowadays research focuses on the individuals' own experiences. It is a rapidly developing area of interdisciplinary research not only in gerontology and geriatric care, but also in other areas of public health. It has recently become commonly used both as a concept and as a field of research in nursing [8,9]. The older subjects' own experience of mood and living situation are important aspects to take into consideration when planning their care and when obtaining the best possible QoL. Those who successfully age have an ability to maintain low risk of disease and disease-related disability, high mental and physical functioning and active engagement in life [10].

Loneliness

This concept is based upon two theoretical aspects, emotional and social loneliness [11]. Older individuals with a history of loss of a person, physical function, or object, who have not sought consultation, have been found to have a significantly elevated degree of loneliness [12]. The perception of feeling lonely [9,13-15] and not having a good friend to talk to, has been shown to be a factor that plays a role in the development of dementia disease. According to a longitudinal study on loneliness, it was found that meaningful contacts play an important role in the quality of life and caring for older people [16]. For instance, most of the older people tended to report a high satisfaction with friends contacts over the study time, despite a decreasing number of good friends to talk to.

Social support and meaningful social contacts are important factors enabling older people to deal effectively with everyday life and maintain healthy aging. Meaningful social contacts are an important part of healthy aging [13]. Empirical studies have shown that the good support emerges as an essential concept to mobilize families in dealing with personal crisis, and coping with several types of stress [17]. Support provides not only companionship and emotional reassurance or support but also practical assistance [18]. Among older populations, social support has been linked to lower mortality, improved recovery after acute illness or surgery and better patient participation in care [18]. Older individuals, living alone without any close social ties, had an increased relative risk for developing dementia. Also, it was found that an extensive social network seemed to protect against dementia [12,15].

Main objectives

This study is to understand the concept of Quality of Life (QoL) with reference to Maslow's hierarchical level and experienced loneliness, for a group of the older Sudanese individuals.

Hypothesis

The researcher is expecting that a good quality of life with reference to the Sudanese older individuals will range in level one of Maslow's hierarchical level.

Population

The current study was conducted during the period 1999 -2000 in Haj Yousif area, Bahri, Khartoum State; one of the Khartoum outskirts. The area is densely populated by older persons. The study is a joint project between Help Age International and the Sudanese Red Crescent. It is a part of a comparative study on older individuals in Sudan and Sweden regarding the coping strategies and social support. A number of 42 Sudanese older subjects, 32 (76%) females, and 10 (24%) males were surveyed. Their age range was from 60 to 85 years (mean age 69.5 ± 6.0. years). Therefore, age was dichotomised (76 and under).

Of the 42 subjects, 19 were employees, 23 were not. Eight out of ten were supported by their children and 9 of 10 were living in extended families. The interviews were conducted in cartoon Barona clinic and lasted for one to two hours. The selection of population was based on random sampling of individuals who used to come to the Red Crescent Outpatient Clinic. The subjects living in this area had come from different parts of Sudan and represented different ethnic and religious backgrounds. Both men and women complained about the quality of health services, for example their back pains and other types of pains were not taken care of.

Instruments and data treatment

Quality of life: QoL can be measured with different instruments to make older people aware of their thinking about what is the most important for them. We used one open-ended question: What does QoL mean to you? This question has been used in earlier studies [9,10], but not in the same situation and not for a non European population.

As content analysis has no single form or stage, the answers were processed and analyzed in the following way.

Stage 1: Different themes have been identified (Appendix 1).

Stage 2: Categories were found based upon the themes and according to [19]. Maslow's hierarchy of needs starts with the most basic biological requirements (e.g. food, water, sleep) and ends with the needs for self-actualization.

The UCLA-scale of loneliness: It is a well-documented and widely used instrument that measures both emotional and social loneliness [9,14]. A short version of this questionnaire, consisting of only four questions and rated on a Likert scale at a four-point agree-disagree continuum [11], has been used as an inverted QoL measure, and is found to have sufficient content validity for use among older persons [20].

Stage 1: The UCLA questions have been dichotomized, where the responses rarely and mostly were operationally defined as "not feeling lonely" and the responses mostly and sometimes correspondingly as "feeling of loneliness".

Stage 2: Two of the questions were "positively" formulated, and have earlier been used as QoL indicators; "I feel in tune with people around me" (item 1) and "I can find company whenever I want" (item 15). The two other questions were "negatively" formulated; "Nobody knows me so well" (item 13) and "People are around me but not with me" (item 18) were transferred to enable a comparison of the results.

Social support/contacts: Social support/contacts were assessed using a modified Swedish version of Interview Schedule for Social Interaction [21]. Such version has been developed for use in population studies and has been examined for reliability and validity [22]. The instrument has two scales; the availability of social integration (AVSI) and the availability of attachment (AVAT). The AVSI describes the structural measurement, incorporating both the quantitative and qualitative characteristics of the social network. The AVAT scale describes the availability of close emotional support, mainly from family and close friends. In this study only the different items were used as a quantitative variable to study the importance of available social as well as emotional support.

Past and present coping activities: Coping is defined as 'efforts' to manage (i.e. master, tolerate, reduce, minimize) environmental, and internal conflicts, which exceed a person's resources. It includes both 'defences' and coping strategies. Coping can occur in anticipation of a stressful confrontation or in reaction to a present or past situation [23]. One way of measuring coping is by the coping wheel technique. The validity of the coping wheel has been tested indirectly in previous studies [24,25]. The coping wheel is easy to administer even when the client is illiterate or disabled. The coping wheel had been tested for Sudanese older persons and was found reliable and useful [26]. The past and present daily activities were noted and for this study they were classified according to Maslow's hierarchical need levels. This was done to be able to compare with the QoL items, to see if the daily activities, such as the work in this society, are seen as a form of QoL.

Statistics

To facilitate the understanding of the data, the open QoL question has been analyzed with content analysis [27]. The loneliness questions were treated by quantitative methods and descriptive statistics was calculated. The QoL and also the past and present coping activities were treated by content analysis.

Ethics

The study was approved by the administration of the Sudanese Red Crescent and the doctor in charge of the clinic. The Sudanese participants gave verbal consent to take part in the study. Thereafter, interviews were conducted with the subjects. After being properly revised, data collected were then classified, interpreted and presented in the following sequence.

Results

This study is a cross-sectional centre-based one, where a number of 42 older people 60 years and above were involved. A convenient sampling technique was used in the selection of the study subjects. All selected subjects were met by the investigator through personal interviews, using different tools in the collection of the required data. The classification of the study subjects according to gender showed that 76% of them were females. When they are classified according to age it was found that they have an average age of 69 years, with an estimated standard deviation of ± 6.03 years (Table 1).

1) On the open-ended QoL question 5 missing values were noted; two of them indicated that they had no idea of what a good QoL was; and for the other three the QoL did not matter to them as they were

Number and sex	Subjects
Number	42
Men (%)	10 (24)
Women (%)	32 (76)
Mean age ± SD	69.48 ± 6.03

Table 1: Population characteristics (number, age and sex) for 42 Sudanese.

Hierarchical levels	QoL Items	*nbr (%)
1 Physiological needs		23 (32.6)
	Health	12 (13.0)
	Water, sleep, hunger, food	8 (8.7)
	No physiological needs	3 (3.3)
2 Security needs		26 (28.3)
	God's matter	10 (10.9)
	Economy	8 (8.7)
	Caring, not lonely	4 (4.3)
	Living situation, housing	3 (3.3)
	Security	1 (1.1)
3 Social support needs		20 (21.7)
	Family	6 (6.5)
	Social network	5 (5.4)
	Relations	5 (5.4)
	Somebody to talk to	3 (3.3)
	Social visits,	1 (1.1)
4 Needs of integrity		14 (15.2)
	Well-being, happiness	6 (6.5)
	Joy, laugh, love	6 (6.5)
	Autonomy	1 (1.1)
	Worthiness	1 (1.1)
5 Needs of self esteem		2 (2.2)
	Self esteem/thinking	1 (1.1)
	Empathy	1 (1.1)
6. Divers non classified items		7 (7.6)
	Be alive	4 (4.3)
	Be old	3 (3.3)
	Total Nr of utterances	92 (100)

Ns=No significance; *: p<0.05
*Nbr=Number; %=Percentage

Table 2: Items from the open QoL question sorted in hierarchical levels according to Maslow for 37 Sudanese older persons. Significant T-values and most often cited items by the classification groups (age, gender).

old. The remaining 37 were subject to a content analysis performed in two steps.

Step 1: The answers from the interviews were analyzed and the following themes were identified: health, (food, water, sleep), being alive and old, God's matter, living situation, security, economy, social family network, social support, caring, love, well being, autonomy/self-decision, joy, self-esteem, and empathy (Appendix 1).

Step 2: Based on these themes, Maslow's five levels were developed, i.e. physical needs, security needs, social support needs, integrity needs, and self-esteem needs**.**

The results showed that for older Sudanese persons**,** physical needs as a whole was the most important but health was also a basic category for a good QoL (33%) (Table 2). On the contrary, self esteem comes on the top of Maslow's hierarchy with only 2% of utterances. In between these two extremes the other three levels were represented; security (28%), social support (22%), and integrity (15%). When the levels were tested for significance with *t*-test for age and gender it was found that four of the levels (physiological, security, social support, and integrity needs) were significantly different. The physiological needs were most often cited by older women, the security needs, the social support needs, and the need of integrity by younger women. The self esteem need was not significant but most often cited by older women.

2) Loneliness on the two positive loneliness questions, 35 (UCLA item 1) and 36 (UCLA item 15) persons respectively indicated never feeling lonely, compared to the two negatively transformed questions, where 39 (UCLA item 13) and 33 (UCLA item 18) persons respectively showed that the feeling of loneliness was not really an important factor. Significant differences were found neither for age nor for gender. However, the feeling that "people are around you but not with you" (item 18) was most often answered by older women, and only younger persons (under or equal to 69 years) answered that they "could find company whenever they wanted" (item15). "I feel in tune with people around me" (item 1) and "nobody knows me so well" (item 13), were most often answered by older women (Table 3).

3) Social and emotional support: Table 3 shows availability of social interaction (AVSI) and availability of attachment (AVAT) for the Sudanese participants. A summary of results presented earlier [26], was used, classified in gender and age to show the importance of social and emotional support in the Sudanese society. As a whole, both AVSI and AVAT were significant ($p<0.001$) and most often cited by older women. They got care from family members and the surroundings (Appendix 2).

Social integration

On the availability of social integration (AVSI) the whole group of young or old, women or men had the highest (100%) individuals agreeing to the statements: "having somebody to speak to", "others have the same interest" and "can speak about everything". Significance was found ($p<0.05$) on the sub-item "can come to you whenever" in the older group (Table 3). The AVSI also correlated significantly (rho=.39; $p<0.5$) with cognitive health so that those having good cognitive health had also good social support (Table 4).

Emotional support

The highest percentages on availability of attachment (AVAT) was found with "can talk about happy things", and "somebody can give you support", both with 98%. The items "feels being appreciated", "has a close friend", "can talk about happy things", and "somebody can give support", were presented with 100% for the old group and the two latest were answered by women to 100%. Only one significance was found ($p<0.01$) on the item "can get support" mostly told by women (97%).

Health

When nonparametric correlations (Spearman's Rho) were applied between different variables, cognitive, physical health, social and emotional support. It was found that a higher pain score (Rho=.45; $p<0.01$) was significantly correlated with the feeling of loneliness, especially for younger women not feeling lonely. The cognitive health (MMSE-score; 21.3 ± 3.43 mean ± SD) was also significantly correlated (Rho=.37; $p<0.05$) to gender, but here, younger men not feeling lonely had higher scores 23.8 ± 4.1.

Past and present daily coping activities

Table 4 shows that all, both men and women, worked (house work as cleaning, cooking and water supply) in the past activities (100%) and almost half of them (48%) were still working at present [26]. When separated into men and women they are still working 100%, but at present 70% of the men were working compared to 41% of the women. In the past 4 out of 10 women compared to one out of the ten men worked with house work like cleaning, cooking and water supply. At present 63% of the women and 2 of the 10 men fulfilled these daily activities. The third most important activity at present was the religious duties; that for men was noted by 5 of the men and 22% of the women. For women also social visits represented the same percentage compared to one of the men. However, here 3 of the men had stressed family matters (Table 5).

	Not feeling lonely	Feeling lonely	T-value and Significance; Items most often cited by the group	
Agreements of UCLA items mean ± SD	Always nbr (%)	Sometimes, & often nbr (%)	Age groups (Old, Young)	Gender (Men, Women)
I feel in tune with people around me (Item 1) 0.17 ± 0.38	35 (83.3)	7 (16.7)	1.13 ns O=4/7	1.54 ns W=6/7
Can find company whenever I want (Item 15) 0.14 ± 0.35	36 (85.7)	6 (14.3)	1.21 ns Y=6/6	1.38 ns M=W 3/6

	Not feeling lonely	Feeling lonely	T-value and Significance; Items most often cited by the group	
Disagreements of UCLA items mean ± SD	Always, often & sometimes nbr (%)	Never nbr (%)	Age groups (Old, Young)	Gender (Men, Women)
Nobody knows me so well (Item 13) 0.26 ± 0.45	39 (92.9)	3 (7.1)	1.32 ns O=6/11	1.76 ns W=8/11
People are around me but not with me (Item 18) 0.21 ± 0.42	33 (78.6)	8 (21.4)	1.32 ns O=5/8	1.91 ns W=8/8

ns = Non significant

Table 3: Agreements and disagreements of individual UCLA items for 42 Sudanese older persons. T-value and Significance; Items most often cited by the group (age, gender).

QoL items and coping activities

Comparison based upon Maslow's hierarchical need levels between QoL items mentioned and past and present coping activities showed that only the lowest needs (physiological, security and social support needs) were possible to use. Table 5 shows that these three QoL levels were hierarchical and reached together 83% of the QoL utterances (physiological needs 33%, security needs 28% and social support needs 22%). Looking at the past and present daily coping activities and the corresponding need levels, they both represented 100% of the mentioned daily coping activities (Table 6).

Discussion

The target of the present study was to understand the concept of Quality of Life (QoL) with reference to Maslow's hierarchical level and experienced loneliness, for a group of older Sudanese individuals.

Main determinants for a good QoL are related to basic human needs as well as to religious matters. The results also showed that the physical need item discussed by Maslow theory was the main category for quality of life among older Sudanese persons.

As Maslow acknowledged, however, there are many exceptions, as shown by the countless number of people who, despite severe deprivation, have remained faithful to ethical, social or religious values [28].

Within the older population, women outnumber men more and more when we move up the age pyramid. Women in Sudan take lots of responsibilities accomplishing household duties for the family. They

		Total population n=42		T-value and Significance; Items most often cited by the group	
Social and emotional support		Mean ± SD	nbr (%)	Age groups (Old, Young)	Gender (Men, Women)
AVSI items		5.52 ± 0.74		18.5*** O	23.2*** W
	Others have same interest	1.00 ± 0.0	42(100)	O=Y (100%)	W=M (100%)
	Has somebody to speak to	1.00 ± 0.0	42(100)	O=Y (100%)	W=M (100%)
	Can come to you whenever	0.90 ± 0.30	38(91.4)	2.19* O (100%) Y (81%)	W (91%) M (90%)
	Can speak about everything	1.00 ± 0.0	42 (100)	O=Y (100%)	W=M (100%)
	Can borrow things when needed	0.71 ± 0.46	30(71.4)	O=Y (71%)	W (78%) M (50%)
	Can talk about difficulties	0.90 ± 0.30	38(91.4)	O (95%) Y (86%)	W (91%) M (90%)
AVAT items		5.69 ± 0.98		5.08*** O	4.88*** W
	Can get support	0.90 ± 0.30	38(91.4)	O (95%) Y (86%)	-2.67** W (97%) M (70%)
	Has a close friend	0.95 ± 0.22	40(95.2)	O (100%) Y (90%)	W (97%) M (70%)
	Can talk about happy things	0.98 ± 0.15	41(97.6)	O (100%) Y (95%)	W (100%) M (90%)
	Can talk about inner feelings	0.90 ± 0.30	38(91.4)	O=Y (90%)	W (94%) M (80%)
	Somebody can give support	0.98 ± 0.15	41(97.6)	O (100%) Y (95%)	W (100%) M (90%)
	Feels being appreciated	0.95 ± 0.22	40(95.2)	O (100%) Y (90%)	W (97%) M (90%)

Ns=No significance; *: p<0.05; **: p<0.01; ***:p <0.001

Table 4: Items for Availability of social integration=social network / social support (AVSI) and Availability of attachment = emotional support (AVAT) scale perceived by 42 Sudanese older persons. T-value and Significance; Items most often cited by the group.

	Total population n=42		Women n=32		Men n=10	
Coping activities Nbr (%)/ mentioned activities Subgroups nbr (%) / number of older persons	Sudan Past	Sudan Present	Sudan Past	Sudan Present	Sudan Past	Sudan Present
A. Physiological needs	T 55/61 (92)	T 43/71 (61)	44/46 (96)	34/52 (65)	11/14 (79)	9/19 (47)
Work	42/42 (100)	20/42 (48)	32/32 (100)	13/32 (40)	10/10 (100)	7/10 (70)
House work; cleaning, cooking, water supply, shopping	13 /42 (31)	23/42 (54)	12/32 (39)	21/32 (65)	1/10 (10)	2/10 (20)
B. Needs of security	T 2/61 (03)	12/71 (17)	-	7/52 (14)	2/14 (14)	5/19 (26)
Religious duties, interests	2/42 (05)	12/42 (29)	-	7/32 (22)	2/10(20)	5/10 (50)
C. Social network needs	T 4/61 (07)	T 16/71 (23)	3/46 (07)	11/52 (21)	1/14 (07)	5/19 (26)
Social gathering; visits	2/42 (05)	8/42 (19)	1/32 (03)	7/32 (22)	1/10 (10)	1/10 (10)
Political and cultural issues	2/42 (05)	3/42 (07)	2/32 (06)	2/32 (06)		1/10 (10)
Family matters, marriage	-	5/42 (12)		2/32 (06)		3/10 (30)
Total number of activities	61 (100)	71 (100)	46 (100)	52 (100)	14 (100)	19 (100)

Table 5: Past, and present coping activities for 42 elderly Sudanese persons and divided into gender.

Hierarchical levels/ Total nbr mentioned QoL Items & Coping activities/nbr (%) of participants n=42	QoL Items	QoL items most often cited Gender (Men, Women)	Past Coping activities	Past coping activities most often cited Gender (Men, Women)	Present Coping activities	Present coping activities most often cited Gender (Men, Women)
A. Physiological needs	T 23/92 (33)	W 24/30 (80)	T 55/60 (92)	W 44/55 (80)	T 43/71 (61)	W 34/43 (79)
Health	12/42 (28)	W 10/12 (83)				
Work			42/42 (100)	W 32/42 (75)	20/42 (48)	W 13/20 (65)
Cleaning, food preparation, shopping, water supply	8/42 (19)	W 7/8 (88)	13/42 (31)	W 12/13 (92)	23/42 (54)	W 21/23 (91)
No physiological needs	3/42 (07)	M 2/3 (67)				
B. Security needs	T 26/92 (28)	W 8/10 (65)	T 2/60 (03)	M 2/2 (100)	T 12/71 (17)	W 7/12 (14)
God's matter	10/42 (24)	W 8/10 (80)	2/42 (05)	M 2/2 (100)	12/42 (29)	W 7/12 (58)
C. Social network needs	T 20/92 (22)	M 8/12 (55)	T 4/60 (06)	W ¾ (75)	T 16/71 (22)	W 11/16 (69)
Family / marriage	6/42 (14)	M 4/6 (67)			5/42 (12)	M 3/5 (60)
Relations / Political and cultural issues	5/42 (12)	M 3/5 (60)	2/42 (05)	W 2/2 (100)	3/42 (07)	W 2/3 (67)
Social gathering / visits,	1/42 (2)	M 1/1 (100)	2/42 (05)	M=W ½(50)	8/42 (19)	W 7/8 (88)
Total nbr of items / activities	92 (100)	W 65/92 (71)	60 (100)	W 47/61	71 (100)	W 52/71 (73)

Table 6: Comparison based upon Maslow's hierarchical need levels between QoL items mentioned and past, present and future coping as well as most often cited item / present activities by gender.

might suffer from pains. Besides, their needs might not be addressed and not taken care of, either from the family members or the care givers.

In this group, older subjects had jobs in the past and almost half of them are still working. The number of those who are willing to continue working decreases in the future.

The following coping activities were noted for the Sudanese group: Health, work, housework (cleaning, cooking), house needs, water supply, religious duties and interests, social gathering, clubs, visits, family matters and marriage. QoL and coping activities are strongly related and interacted for older Sudanese. Social gathering, clubs, and marriage may be considered as QoL for older Sudanese persons. The study indicated that this group of older Sudanese is oriented to live together, give a helping hand to each others in every life situation; and they usually don't feel lonely. Women had higher AVSI and AVAT scores than men, probably due to their daily living routine as they work together in the market and get back home together and they share their social life together by interacting and revealing themselves to each others at times of conflicts and life stressful situations.

The present study is the first study in Sudan in the area of psychogeriatric, and in psychosocial and societal studies with regard to the Sudanese older persons. However, a number of limitations can be listed, one of which is the size of the sample that is small. Illiteracy was another limitation beside the language/dialect combined with other problems, not to mention the cross-sectional nature of the study.

Conclusion

The concept of QoL is strongly related to Maslow's hierarchical level as well as experienced loneliness for Sudanese individuals. Loneliness is strongly related to family and societal structure. For future studies, larger comparative samples are required with a wider range of variables and groups living in the life different situations.

Acknowledgment

Thanks are extended to Nagat Malik, Nagat Farah and Rahma Mohamed, author's gratitude to Omhani Gimaa and Ibrahim Musa for their assistance. This work has been supported by the Karolinska Institute, Department of Neurobiology, Care Sciences and Society, and the Vårdal Foundation.

References

1. HAI (Help Age International; Ministry of Social Planning) (2002) Voices of Older People in Sudan "I am old, I am poor, I am a women and I am alone." Khartoum, Sudan: Help Age International Publication.
2. HAI (Help Age International; Ministry of Social Planning) (2002) Age Care in Sudan. Help Age International Publication, Khartoum.
3. Omar S, Abdullah A (1997) The situation of Elderly People in Sudan: The Sudanese society for the elderly.
4. Abdullah A, Lubab Z (2002) Elderly Assessment Programme: Case study for elderly centre in Hag Yousif, BsC thesis, School of Rural Extension Education and Development. Khartoum.
5. UNFPA (2001) Population Data Sheet for Sudan. Central Bureau of Statistics, Khartoum.
6. Sudanese organization for Family (2002) The role of family in elderly care: Sudanese organization for Family.
7. Evaluation Report (2002) Cartoon Barona. Sudan: The Sudanese Red Crescent.
8. Nilsson M, Ekman SL, Sarvimäki A (1998) Ageing with joy or resigning to old age: Older people's experiences of the quality of life in old age. Health Care in Later Life 3: 94-110.
9. Holmén K, Ericsson K, Winblad B (1999) Quality of Life among the Elderly. State of mood and loneliness in two selected groups. Scand J Caring Sci 13: 91-95.
10. Berglund AL, Ericsson K (2003) Different meanings of quality of life: a comparison between what elderly persons and geriatric staff believe is of importance. Int J Nurs Pract 9: 112-119.
11. Russell D, Peplau LA, Cutrona CE (1980) The revised UCLA Loneliness Scale: concurrent and discriminant validity evidence. J Pers Soc Psychol 39: 472-480.
12. Noguchi F, Nakashima Y, Morimoto Y (1998) Loneliness and Dementia in the Elderly living in their Home. Journal of Kurume Medical Association 61: 123-131.
13. Holmén K, Ericsson K, Andersson L, Winblad B (1992) Loneliness among elderly people living in stockholm: a population study. J Adv Nurs 17: 43-51.
14. Holmén K, Ericsson K, Winblad B (2000) Social and emotional loneliness among non-demented and demented elderly people. Arch Gerontol Geriatr 31: 177-192.
15. Fratiglioni L, Wang HX, Ericsson K, Maytan M, Winblad B (2000) Influence of Social network on occurrence of dementia: a community-based longitudinal study. Lancet 355: 1315-1319.
16. Holmén K, Furukawa H (2002) Loneliness, health and social network among elderly people--a follow-up study. Arch Gerontol Geriatr 35: 261-274.
17. Payne R, Johns J (1987) Measurement and Methodological Issues in Social Support. In: S.V. Kasl, C.L. Cooper (eds.). Stress and Health: Issues in Research Methodology, New York.

18. Kristjansson B, Breithaupt K, McDowell I (2001) Development and Validation of an Indicator of Support for Community-residing older Canadians. Int Psychogeriatr 13: 125-135.

19. Maslow AH (1987) Motivation and personality. (3rdedn), New York: Harper and Row, Publishers, Inc.

20. Andersson L (1985) Intervention against loneliness in a group of elderly women: an impact evaluation. Soc Sci Med 20: 355-364.

21. Henderson S, Duncan-Jones P, Byrne DG, Scott R (1980) Measuring social relationships. The Interview Schedule for Social Interaction. Psychol Med 10: 723-734.

22. Undén AL, Orth-Gomér K (1989) Development of a social support instrument for use in population surveys. Soc Sci Med 29: 1387-1392.

23. Cohen F (1987) Measurement of Coping in Stress and Health: Issues in Research Methodology. SV Kasl, CL Cooper (Eds.). New York.

24. Blomkvist V, Hannerz J, Orth-Gomér K, Theorell T (1997) Coping style and social support in women suffering from cluster headache or migraine. Psychother Psychosom 66: 150-154.

25. Blomkvist V, Hannerz J, Katz L, Theorell T (2002) Coping style and social support in men and women suffering from cluster headache or migraine. Headache 42: 178-184.

26. ElTayeb W, Weitner S, Ericsson K, Theorell T, Ljunggren G (2003) Social support and coping strategies among Swedish and Sudanese older persons.

27. Patton MQ (2002) Qualitative research and evaluation methods. (3rdedn), Sage, London.

28. Coleman JC (1974) Contemporary psychology and effective behaviour. (3rdedn), Scott, Glenview Illinois.