J. Biosoc. Sci., (2014) **46**, 518–530, © Cambridge University Press, 2013
doi:10.1017/S0021932013000576 First published online 14 Nov 2013

SOCIAL SUPPORT AND HEALTH AMONG ELDERLY KUWAITIS

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Summary. The aim of this study was to examine differences in several aspects of health between Kuwaiti men and women aged 60 years and over across three age categories (60–69, 70–79, 80+ years). The relationships between several social support variables, somatic symptoms and systolic and diastolic blood pressures were examined. A total of 1427 adult men (472) and women (955) aged 60 years and over representing all six governorates were selected. Data were collected during 2008–2009 by interview and completion of a questionnaire by participants in their own homes, after obtaining their informed consent. The Social Support Scale (SSS), Frequency of Contact Scale (FOC), Strength of Relations (SOR), Somatic Symptoms Inventory (SSI) and self-rated scales of general health were included. Systolic and diastolic blood pressures were measured. The data show that self-rated health and health in the last year differ significantly across age groups. Glycaemia differed significantly across the three age groups for the total sample. Systolic and diastolic blood pressure were higher in older respondents than younger ones, but no significant differences were observed between men and women. No significant differences in somatic symptoms were observed across the three age groups. Strength of relationship, frequency of contact, social support and children living with an elderly adult were all associated with fewer somatic symptoms, and all, except social support, were associated with lower systolic and diastolic blood pressure. Having children, the perception of social support, frequency of contact with, and strength of, relationships with kin are important modulators of somatic symptoms and blood pressure among elderly Kuwaitis.

Introduction

Many studies discuss the relationship between social support and health in general, and a large proportion of these concentrate on elderly people (Horman, 1989; Gliksman *et al.*, 1995; Johnson, 1996; Al-Kandari, 2001b, 2008, 2011; McCawley, 2007; Thanakwang &

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https://doi.org/10.1017/S0021932013000576 Published online by Cambridge University Press

Soonthorndhada, 2011). Across ethnic groups and nations, whether observed or self-reported, better quality social support predicts greater life expectancy and lower mortality rates among older adults (Hanson *et al.*, 1989; Lyyra & Heikkinen, 2006; White *et al.*, 2009). Some studies have shown that the effect of social support on longevity and health differs between men and women (Shye *et al.*, 1995; Okamoto & Tanaka, 2004). Men generally report lower rates of morbidity than do women, while women report worse health but survive longer than men in most samples regardless of social setting or culture (Waldron, 1967; Case & Paxson, 2004; Mendoza-Sassi & Beria, 2007). Differentials in health and symptomology between elderly men and women have been well documented (Deeg & Bath, 2002; Molarius & Janson, 2002; Murtagh & Hubert, 2004; Oman *et al.*, 1999; Zunzunegui *et al.*, 2009; Schollgen *et al.*, 2010). Sarason *et al.* (1990) distinguished between 'quality of support perceived and provided social support'. Several studies have examined effects of spousal support on elder's health (Minkler, 1985; Wyke & Ford, 1992; Barron, *et al.*, 1994; Gliksman *et al.*, 1995). Others concentrated on the effect of having children (Spitze & Logon, 1990; Akiyama *et al.*, 1996; Al-Kandari, 2011). In most cases, the importance of kin to elders' health and survival is clear.

Social support is an important psychological concept in Kuwait traditional and modern society. Solidarity is an important element of such social support. Internal cohesion among family groups and living in familial social solidarity were adaptive in the harsh environments of traditional Kuwait. One of the most important values of Kuwaiti familial solidarity is providing support and aid to one's elders in the form of respect and obedience (Barakat, 2008). Al-Thakeb (1985) and Al-Kandari & Poirier (2001) reported that modernity has changed the traditional Kuwaiti family pattern from extended families towards preferring living in nuclear families. Change also has occurred in the way men and women interact and their different roles in modern society. Women in traditional Kuwait society were mostly segregated from men. Today, women are taking an increasingly active role in education, politics and the work force (Al-Falah, 1989; Jaleeli, 2008; Al-Kandari, 2010).

Social support for the elderly and its relationship to health have been examined in several studies in Kuwaitis (Al-Kandari, 2001, 2008, 2011). Social support is an important psychological element for older adults. Participating in a non-formal organization with relatives and friends in what is called *Diwaniyyah* is related significantly to positive overall health in elderly Kuwaitis (Al-Kandari, 2008). Religiosity, an element of social support, has also been found to be associated with positive overall health among older adults in Kuwait society (Al-Kandari, 2011).

This study examines the differences between Kuwaiti men and women aged 60 years and over across three age categories (60–69, 70–79, 80+ years) for several aspects of health: glycaemia, reported somatic symptoms, systolic and diastolic blood pressures and self-reported general health and over the last year. The relationships between several social support variables, somatic symptoms and systolic and diastolic blood pressure are also examined. Although a few studies have discussed the relationship between health and social support in Kuwait (Al-Kandari, 2001, 2008, 2011), this is the first to explore associations of health and social factors across multiple categories of the elderly Kuwaiti population: the young-old, old-old and oldest-old. To the authors' knowledge, neither discussions nor comparisons among different cohorts of elders have appeared in any

https://doi.org/10.1017/S0021932013000576 Published online by Cambridge University Press

studies of Kuwaiti elders. In Kuwait different age cohorts have experienced rapid cultural change, radically different life styles, and new patterns of survival and longevity. In this report health across these three age groups of elders is compared.

Methods

A total of 1427 adult men (472) and women (955) aged 60 years and over representing all six governorates in Kuwait were enrolled into a health survey. The respondents' age averaged 77.1 years (SD = 9.41) (range: 60–105 years). Respondents were sampled from all socio-cultural and economic backgrounds. Most had a low level of education – elementary or below (69.3%). Medical and socio-cultural data were collected in the field by research assistants who worked as nurses or were working in mobile care units affiliated to the Ministry of Social Affairs in Kuwait. Data collection consisted of obtaining informed consent, and then introducing the questionnaire and interview to the participant and completing it with the aid of the closest-related person to the participant currently at home. Other than self-reports, this person who was knowledgeable about the elderly participant's health, social status, cultural background and current behaviour helped with data collection. All procedures were completed during the evening at the participant's home. This study was part of a larger project supported by Kuwait University and approved by the university's institutional review body. The data were collected during 2008–2009.

The questionnaire included items eliciting data on socio-cultural and demographic factors, medical history and self-ratings of health. Questions on age, gender, total number of children and number of children currently living in the same household were included, along with the total number of residents in the household. The Social Support Scale (SSS) developed by Zimet *et al.* (1988) has been used previously in Kuwaiti studies (Al-Mutiri, 2000; Al-Kandari, 2001a, 2002). Several modifications allow this scale to better fit the elderly adults constituting this sample. This SSS has high internal consistency overall (α-coefficient of 0.87). A Frequency of Contact (FOC) scale, including questions concerning kin and friends' frequency of contact with the responding elderly family member and the participant's daily contact with spouse, children, cousins, close friends, and others, was also completed. In addition, a Strength of Relations (SOR) scale was included to determine strength of contacts with these people. Both scales are based on five points: always (5) to never (1). These scales also show high internal consistency (α-coefficient of 0.84 and 0.85, respectively). Table 1 describes social support characteristics of the sample.

Self-rated scales of general health (What is your estimation of your health in general?) and health in the past year (What is your estimation of your health in the last year?) were used. These are ten-point scales scored as 0 = poor and 10 = excellent. A Somatic Symptoms Inventory (SSI), developed by Abdel-Kalek (2003b), was useful for examining physical health status. In the SSI, 'the vast majority of items [are] related to physical and organic aspects, e.g., tooth aches, dyspnea, gastric upset, joint pains, and otitis media, notwithstanding that it is difficult to differentiate the psychic from the somatic,' (p. 117). The SSI includes sixty somatic symptoms rated on a Likert scale: 0 = none, 1 = some, 2 = much, and 3 = always. The SSI has been reported for other Kuwait elderly

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Table 1. Descriptive social support characteristics, Kuwait men and women aged over 60

Variable	Min	Max	Mean	SD
Number of children	0	20	6.78	3.20
Children living with elderly	0	14	2.21	1.56
Social support	12	72	48.95	9.96
FOC[a]	0	60	19.57	10.45
SOR[b]	0	50	21.49	10.28

[a] FOC = Frequency of Contact; [b] SOR = Strength of Contact.

samples (Al-Kandari, 2001a; Abdel-Kalek, 2003a, 2004), and shows high internal consistency in this sample (α-coefficient 0.92). The study research assistants completed systolic and diastolic blood pressure (SBP and DBP) measurements using an aneroid sphygmomanometer (desk model). Systolic pressure was read as the first Korotkoff phase, i.e. onset of sound. Three blood pressure measurements were taken at different times during the visit. The average of these three readings was used for all analyses. The research assistants also completed glucose measurements using a Glucose Elite III, Glucose One Touch®. All visits were at night before the common dinner hour (19:00 hours) and about 4–5 hours after standard lunch time (12:00–13:00 hours).

Analysis was performed with SPSS (Version 17), and *t*-tests, ANOVA and multivariate regression were used to assess differences between men and women in self-reported health and the effects of selected socio-cultural (age, education and socio-economic status) and social support variables on somatic symptoms, SBP and DBP. These included a forward stepwise regression of each of these health measures of the full set of socio-cultural and social support measures.

Results

Self-reported health and health over the last year, glycaemia, somatic symptoms, and systolic and diastolic blood pressure were examined. To estimate the strength of differences in health between elderly men and women within and across age groups, means, standard deviations (SD) and *t*-values were determined to compare men and women. Between-age-group differences were examined using one-way ANOVA and *F*-statistics, and the results are shown in Table 2.

Self-rated health and health in the last year differed significantly across age groups. As expected, the young elderly report greater satisfaction with their current health and their health over the last year compared with older age groups. No significant difference in health was found between men and women in the older age group, or in self-rated health and self-rated health in the last year. No significant differences were found in average glycaemia between men and women in any age group. However, glycaemia differed significantly across the three age groups for the total sample and for both men and women. The highest average glycaemia was observed at the youngest ages compared with both older groups. Among men aged 60–69 glycaemia averaged 8.93 IU (SD = 3.60) – slightly higher than in the older age groups, and a pattern repeated

https://doi.org/10.1017/S0021932013000576 Published online by Cambridge University Press

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Table 2. Differences between elderly Kuwaiti men and women of different age groups in self-reported health and somatic symptoms and assessed glucose and systolic and diastolic blood pressure, mean (SD)

	60–69 years				70–79 years				80 + years				All[a]		
Variable	Males ($n = 84$)	Females ($n = 233$)	t	All ($n = 317$)	Males ($n = 173$)	Females ($n = 373$)	t	All ($n = 546$)	Males ($n = 215$)	Females ($n = 349$)	t	All ($n = 564$)	F(all) ($n = 1427$)	F(M) ($n = 472$)	F(F) ($n = 955$)
Current health	5.81	5.61	0.719	5.68	5.16	5.38	−1.23	5.31	5.17	5.28	−0.67	5.24	5.74*	4.20*	2.35*
	(1.83)	(1.93)		(1.90)	(1.89)	(1.98)		(1.95)	(1.81)	(1.97)		(1.91)			
Last year's health	3.08	3.13	−0.413	3.12	2.8	3.02	−2.23*	2.96	2.86	2.91	−0.74	2.89	6.75**	2.70*	4.18*
	(0.92)	(0.95)		(0.94)	(0.85)	(0.91)		(0.80)	(0.81)	(0.89)		(0.86)			
Glycaemia	8.93	9.33	−0.45	9.23	8.49	8.65	−0.454	8.60	7.57	7.91	−1.38	7.78	11.63***	7.56**	5.90**
	(3.60)	(2.70)		(0.85)	(3.25)	(4.25)		(3.96)	(2.91)	(2.92)		(2.85)			
SSI[b]	117.3	117.8	−0.134	117.7	118.31	115.7	0.928	116.5	113.4	116.7	−1.26	115.5	0.525	1.34	0.350
	(33.26)	(32.56)		(32.69)	(31.50)	(30.57)		(30.86)	(27.36)	(30.98)	(29.67)				
SBP[c]	158.96	158.75	0.092	158.80	157.29	158.09	−0.625	158.52	154.59	157.59	−1.42	156.09	1.83	1.87	0.595
	(17.88)	(18.72)		(18.48)	(18.56)	(35.77)		(31.35)	(20.22)	(19.15)		(19.59)			
DBP[c]	97.74	99.58	−1.56	99.09	97.09	97.18	0.684	97.40	93.94	94.84	−1.05	94.49	22.5***	6.68**	16.94***
	(9.54)	(9.16)		(9.28)	(14.11)	(9.84)		(11.36)	(9.87)	(9.88)	(9.87)				

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

[a] All means compared differences in scores within age groups.

[b] SSI, Somatic Symptoms Inventory; [c] SBP and DBP, systolic and diastolic blood pressures.

among women. Systolic and diastolic blood pressures showed a similar pattern of variation, being lower in older respondents than in younger. For SBP these differences were non-significant. Significant differences in DBP across age groups are observed among both men and women. The highest SBP average was found in the youngest sample of men, as was the highest DBP; the same was observed for women. No significant differences between men and women in SBP or DBP were observed within age groups. Finally, no significant differences across the three age groups in somatic symptoms were observed. However, the youngest group reported more symptoms than other age groups. Also, no significant differences in somatic symptoms between men and women were observed for any age group.

Next, a forward step-wise multivariate regression model was used to examine independent associations of social support with the dependent variables, somatic symptoms and systolic and diastolic blood pressure (see Table 3). Strength of relationship, frequency

Table 3. Regression coefficients of somatic symptoms inventory (SSI) and systolic and diastolic blood pressures on social support variables by age category of elderly Kuwaitis

Variable	*B*	*β*	*t*
All sample			
SSI			
Child with elder	−3.17	−0.162	−6.12***
FOC	−1.23	−0.417	−13.30***
SOR	−0.960	−0.321	−9.66***
Social support	−0.461	−0.146	−5.34***
$R^2 = 0.370$			
SBP			
Child with elder	−1.72	−0.054	−1.83*
FOC	−0.449	−0.09	−2.69**
SOR	−1.08	−0.219	−6.04***
$R^2 = 0.363$			
DBP			
Child with elder	−0.715	−0.053	−1.92*
FOC	−0.411	−0.202	−6.28***
SOR	−0.677	−0.327	−9.79***
$R^2 = 0.366$			
60–69 years			
SSI			
Child with elder	−2.85	−0.135	−2.27*
FOC	−1.67	−0.586	−5.38***
SOR	−1.24	−0.371	−3.20**
$R^2 = 0.324$			
SBP			
FOC	−0.683	−0.443	−4.68***
SOR	−1.10	−0.607	−6.51***
$R^2 = 0.505$			
DBP			

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Table 3. *Continued*

Variable	*B*	*β*	*t*
FOC	−0.322	−0.445	−4.50***
SOR	−0.521	−0.615	−6.30***
$R^2 = 0.463$			
70–79 years			
SSI			
Child with elder	−4.05	−0.211	−5.14***
Social support	−0.439	−0.138	−3.26**
FOC	−1.35	−0.452	−9.67***
SOR	−1.36	−0.457	−8.13***
$R^2 = 0.438$			
SBP			
FOC	−0.708	−0.222	−3.51***
SOR	−1.06	−0.333	−4.54***
$R^2 = 0.249$			
DBP			
Child with elder	−1.12	−0.153	−2.97**
FOC	−0.143	−0.126	−2.00*
SOR	−0.231	−0.203	−2.77**
$R^2 = 0.373$			
80+ years			
SSI			
Child with elder	−1.84	−0.098	−2.29*
Social support	−0.498	−0.160	−3.69***
FOC	−0.770	−0.242	−5.24***
SOR	−0.135	−0.463	−8.50***
$R^2 = 0.373$			
SBP			
Social support	−0.195	−0.097	−2.52**
FOC	−0.276	−0.133	−3.19**
SOR	−0.391	−0.205	−4.02***
$R^2 = 0.507$			
DBP			
Social support	−1.62	−0.148	−2.11*
FOC	−0.165	−0.164	−3.99***
SOR	−0.226	−0.243	−4.86***
$R^2 = 0.520$			

FOC = Frequency of Contact; SOR = Strength of Contact.
*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

of contact, social support and children living with an elderly adult were all associated with fewer somatic symptoms, and all, except social support, were associated with lower systolic and diastolic blood pressures. The young-old elders showed higher SSI scores when fewer of their children were living in the household, they had lower frequency of contact or lower strength of relations. Systolic blood pressure was most related to a combination of frequency of contact (FOC) and strength of relations (SOC) scales.

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Diastolic blood pressure was best modelled using FOC and SOR. Somatic Systems Inventory (SSI) responses among elders aged 70–79 were related to all social factors examined: fewer children living in the same household, SSS (Social Support Scale), FOC and SOR. Higher systolic blood pressure was related to lower FOC and SOR. Diastolic blood pressure was related significantly to all social measures except SSS. In the oldest-old group SSS, FOC and SOR were closely related to SSI, SBP and DBP. Variation in SSI was related to number of children living in the elder's household, SSS, FOC and SOR. Both SBP and DBP were best explained by lower SSS, FOC and SOR. Social support appeared to strongly affect elder's health. This was true across all age groups of elders examined; however, SSS showed a stronger effect at later life stages.

Discussion

Social support has generally been found to be associated with well-being during the later days of the human life span in most socio-cultural settings. Having children, the perception of social support, and frequency of contact with and strength of relationships with kin have all been found to be important modulators of somatic symptoms and blood pressure among elderly Kuwaitis. Modernity has changed the socio-cultural characteristics and social relationships of elderly Kuwaitis (Bustan, 1986; Al-Kandari, 2008, 2011a, b). Socio-cultural surveys have shown major changes in the social lives of elders secondary to rapid modernization and socio-cultural changes throughout the Middle East over recent decades (Bustan, 1986; Hegland *et al.*, 2007; Jaleeli, 2008; Sokolovsky, no date). Among these many changes are smaller family sizes, fewer spouses for men, more education for girls and women and increased number of single-family households (Al-Thakeb, 1985; Al-Kandari & Poirier, 2001; Barakat, 2008; Al-Kandari, 2010).

Changing family size has been observed in Kuwait and other Gulf countries. In Kuwait, average family size declined from 6.5 in 1970 to 5.9 in 2005 and is expected to fall to 4.25 by 2015 (El-Haddad, 2003). Fertility declined at the same time, from a rate of 7.0 per 1000 in 1970 to only 6 per 1000 in 2005 (Al-Kandari, 2007). Living in nuclear families, as opposed to the traditionally preferred extended family, is characteristic of modern Kuwait (Al-Thakeb, 1985). In the past, it was important to have many children as the people lived in harsh environments in the desert, on farms and at sea. In such settings, a large labour force was needed to counter the harsh living circumstances of subsistence agriculture, herding and fishing. Thus, large numbers of children have long been important for Kuwaiti families living traditional lives. Such needs enhanced the solidarity and cohesion among family members and kin who strived to survive together. Everyone needs the support of others to counter life's stressors. Traditionally, children were called *ezwa* or *sanad*, meaning supporter and well-helpers (e.g. Barakat, 2008). In modern Kuwait clearly the number of children living with their parents in extended family households has declined. Children who live with an elderly relative provide social support and aid with activities of daily living.

Based upon previous research, it was expected that the youngest elders would receive more social support and more frequent contact from relatives and friends than the oldest. This is partly because older participants will have lost more friends and relatives to death

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and that many will have retired and not worked for long periods of time leaving them without co-workers to visit them. It has been confirmed by other studies (Heylen, 2010; Melchiorre, *et al.*, 2013) that the oldest people are the more isolated. They receive less social support. It seems that social isolation may be more frequent among some Kuwait elders due to their improved survival.

In this study, several differences between elderly age groups identified as young-old, old-old and the oldest-old were observed. Young elders reported more satisfaction with their health, self-rating themselves higher than older groups. The oldest-old were the least satisfied with their current health. However, no significant differences in somatic symptoms were reported across the three age groups. Satisfaction with one's health may flow more from the amount of social support received. The younger elderly have larger social networks and support than the oldest. Social networks will become more critical as deaths of friends and spouses reduce the networks of the oldest elderly, as has already been seen in longitudinal studies (Haessler & Willis, 1990). Indeed, social support may relate to overall life satisfaction and thereby further affect health satisfaction. Feeling more integrated socially and psychologically comfortable seems to be related to better self-perceived health. As reported by Chang (1997) 'social support ... [has] profound and pervasive protective effects on adjustment and satisfaction of the elderly,' (p. 471). Reviewing related studies, Ballesteros (2001) modelled the interrelationships between environmental factors, health and life satisfaction among elders. Social support was the most important factor for health satisfaction. In this study, health satisfaction was higher among the youngest elderly, probably because they are receiving more social support and have more contact with relatives and friends. Social factors probably affect the health satisfaction of the elderly through both direct and indirect pathways.

The youngest sample of Kuwaiti elders showed more chronic diseases, higher glycaemia and higher systolic and diastolic blood pressures than did the older age groups. The oldest-old were the least healthy on most assessments. Blood glucose and blood pressure generally rise with age. However, Bots *et al.* (1991) suggested that neither SBP nor DBP rise significantly after age 65 years. It is a possibility that those with higher systolic and diastolic blood pressures and blood glucose die at earlier ages, leaving those with lower blood pressure and glycaemia surviving into old age. Genetic factors may lead to lower systolic and diastolic blood pressure and glycaemia among elders. According to the World Health Organization (2006) the leading cause of death in Kuwait is ischaemic heart disease (around one-third of total deaths), the second is hypertensive heart disease (11% of total deaths) and diabetes mellitus is the seventh (5% of total deaths). It is likely that these conditions more affect those with higher blood pressure and glycaemia, so selective mortality could lead to those predisposed to lower blood pressure alive at older ages.

Among the multiple types of social support the elderly receive over their lives, the major source is their spouse. Elders with a spouse report fewer somatic symptoms, lower blood glucose, SBP and DBP, and higher self-rated current health and health over the past year. Elwert & Christakis (2008) stated that 'what is called the "widowhood effect" – is one of the best documented examples of the effect of social relations on health,' (p. 2092). Spouse death 'causes loneliness which has been identified as one of the most stressful life events elderly people can ever face,' (Nalungwe, 2009; p. 12).

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These trends are clear even at young-old ages. Among elders with a spouse aged 80+ years both blood glucose and self-rated health in the last year are significantly below those without a spouse, while among elderly aged 70–79 years, glycaemia, somatic symptoms and self-rated current health and health in the last year were all lower. Such differences suggest that the positive effect of having a spouse on elders may wane as adults succumb to the progressive influences of senescence, ageing and loss of allostasis. It is well documented that there is an association between death of a spouse and worsening health among the elderly (e.g. Zisook & Shuchter, 1991; Kaunonen *et al.*, 1999). It has been found that 'conjugal bereavement is one of the highest-ranking stressful life events,' (Holmes & Rahe, cited in Keijser & Schut, 1990, p. 67). It has also been reported that the oldest elders report more feelings of anxiety and depression, which affect general health, than younger older ones (Sable, 1991).

Social support is important for health at all ages and may be assessed as self-reported social support, frequency of contact, strength of relation and number of children living with elderly. Social support may aid in slowing the onset of somatic symptoms and chronic diseases. Physical illness and loss of ability to complete activities of daily living may require children to be near elders to provide services. The more that somatic illness affects one's elderly relatives, the more physical help they need from spouses, kin and children. Significantly in this study, number of children is not directly related to elder's health. How social support affects health is not clear. However, the nature of the relationships may be more important than the number of relatives and friends in the social system (Sarason *et al.*, 1990).

There are differences between men and women in receiving social support in Kuwaiti society. Social support, frequency and strength of contact were found to be associated with lower somatic symptoms and diastolic and systolic blood pressure. Differences in interpersonal relationships by gender are not small in Kuwait society, especially in traditional society. In traditional society, women have fewer social support contacts with relatives and friends compared with men. Women were mostly segregated from the outside world. They have become more active in education and the work force in the modern Kuwaiti society, but men in all generations still have more social relationships with the outside world. Although differences between men and women in interpersonal relationships are large in Kuwait society, the study results do not show any differences between men and women in the three old-age categories. These are only found between men and women in the old-old category for one item: self-rating of health in the last year. This lack of difference may be because men and women receive support from different sources. As mentioned in another study (Al-Kandari, 2011a), men have greater social networking and more contacts with relatives and friends. On the other hand, women have more strength of contact within their social networks than do men. Women also receive a higher quality of support than men by having a higher frequency of contact. It is found that women receive more help from kin and friends than do men (Gallagher, 1994). Women are more likely than men to exchange emotional support (Liebler & Sandefur, 2001). Emotional support is given by those who provide with 'empathy, caring, love, and trust' (House, 1981, p. 24). This is related to strength and frequency of relations, which determine strength and frequency of contacts with relatives and friends. As stated by Sarason *et al.* (1990), the nature of relationships is the more important element of social support.

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However, there are certain limitations to this study. Although respondents came from different socio-cultural backgrounds and well represent Kuwait society, more research in this field is needed. Another possible limitation is that the sample was selected from six available home care units. Also, we need to be cautious when interpreting data concern health and social support among elderly in these data as, although the respondents well represent Kuwaiti society and show acceptable relationships between social support and health variables, a causal relationship is still unclear.

References

Abdel-Kalek, A. (2003a) Can somatic symptoms differentiate anxiety from depression? *Alexandria Bulletin* **3**, 289–302.

Abdel-Kalek, A. (2003b) The Somatic Symptoms Inventory (SSI): development, parameters, and correlates. *Current Psychiatry Ain Shams University* **10**, 114–129.

Abdel-Kalek, A. (2004) Can somatic symptoms predict depression? *Social Behavior and Personality* **32**(7), 659–666.

Akiyama, H., Elliott, K. & Antonucci, T. (1996) Same-sex and cross-sex relationships. *Journal of Gerontology* **5**(6), 374–382.

Al-Falah, N. (1989) Social change in the productive oil countries: Kuwait society. *Annals of the Faculty of Arts* **10**(57).

Al-Kandari, Y. (2001a) Physical health and its relations to some sociocultural variables in a sample of Kuwaiti elderly [in Arabic]. *Faculty of Arts Journal*: *Menoufis University* **47**, 1–26.

Al-Kandari, Y. (2001b) Social support and its relations to blood pressure in Kuwaiti family [in Arabic]. *Journal of Social Sciences* **39**(2), 317–345.

Al-Kandari, Y. (2002) Social support and its relationship with hypertension in Kuwaiti family [in Arabic]. *Social Science Journal* **30**(2), 317–345.

Al-Kandari, Y. (2007) Fertility and its relation with sociocultural factors in Kuwaiti society. *Eastern Mediterranean Medical Journal* **13**(6), 1364–1371.

Al-Kandari, Y. (2008) The role of Diwaniyah in elderly adult's health in Kuwait society. *Journal of the Gulf and Arabian Peninsula Studies* **34**, 131.

Al-Kandari, Y. (2010) *Change and Modernity: Kuwaiti Family as a Model* [*in Arabic*]. Maktab Al-Jame'a Al-Hadeeth, Cairo.

Al-Kandari, Y. (2011a) Social support and its relationship to hypertension and general health status among older adults in the mobile care unit in Kuwait. *Journal of Cross-Cultural Gerontology* **26**(2), 175–187.

Al-Kandari, Y. (2011b) Religiosity, social support, and health among the elderly in Kuwait. *Journal of Muslim Mental Health* **VI**(1), 81–98.

Al-Kandari, Y. & Poirier, F. (2001) Modernization and family structure in Kuwait. *The Educational Journal* **60**(15), 225–239.

Al-Mutairi, H. (2000) Behaviour disorder among low income Kuwaiti family children. *Journal of Social Sciences* **28**(3), 65–88.

Al-Thakeb, F. (1985) The Arab family and modernity: evidence from Kuwait. *Current Anthropology* **26**, 575–580.

Ballesteros, R. F. (2001) Environmental conditions, health and satisfaction among the elderly: some empirical results. *Psicolhema* **13**(1), 40–49.

Barakat, H. (2008) *The Contemporary Arabic Society: Experimental Social Research* [in Arabic]. The Arabian United Studies Center, Beirut.

Barron, C. R., Foxall, M. J., Von Dollen, K., Jones, P. A. & Shull, K. A. (1994) Marital status, social support, and loneliness in visually impaired elderly people. *Journal of Advanced Nursing* **19**(2), 272–280.

https://doi.org/10.1017/S0021932013000576 Published online by Cambridge University Press

Bots, M. L., Grobbee, D. E. & Hofman, A. (1991) High blood pressure in the elderly. *Epidemiological Review* **13**, 294–314.

Bustan, M. (1986) A study of the social and institutional circumstances of the residents of the old people's home in Kuwait. *Journal of Public Health* **8**(3), 230–236.

Case, A. & Paxson, C. (2004) *Sex Differences in Morbidity and Mortality*. URL: http://www.princeton.edu/rpds/papers/pdfs/case_paxson_morbidity.pdf

Chang, C-J. (1997) Social support, health and satisfaction among the elderly with chronic conditions in Taiwan. *Journal of Health Psychology* **2**(4), 471–480.

Deeg, D. J. & Bath, P. A. (2002) Self-rated health, gender, and mortality in older persons: introduction to a special section. *The Gerontologist* **43**(3), 369–371.

El-Haddad, Y. (2003) *Major Trends Affecting Families in the Gulf Countries*. United Nations Programme on the Family Division of Social Policy and Development, UNDESA.

Elwert, F. & Christakis, N. A. (2008) The effect of widowhood on mortality by the causes of death of both spouses. *American Journal of Public Health* **98(**11), 2092–2098.

Gallagher, S. (1994) Doing their share: comparing patterns of help given by older and younger adults. *Journal of Marriage and the Family* **56**, 567–578.

Gliksman, M. D., Lazarus, R., Wilson, A. & Leeder, S. R. (1995) Social support, marital status, and living arrangement correlates of cardiovascular disease risk factors in the elderly. *Social Science & Medicine* **40**(6), 811–814.

Haessler, S. & Willis, S. (1990) Longitudinal stability and change in social support network of the young old and old-old. Paper presented at the *3rd Annual Scientific Meeting of Gerontology Society of America*, Boston, MA, November 1990.

Hanson, B. S., Isacsson, S. O., Janzon, L. & Lindell, S. E. (1989) Social network and social support influence mortality in elderly men. The Perspective Population Study of 'men born in 1914', Malmo, Sweden. *American Journal of Epidemiology* **130**(1), 100–111.

Hegland, M. E., Sarraf, Z. & Shahbazi, M. (2007) Modernization and social change: the impact on iranian elderly social networks and care systems. *Anthropology of the Middle East* **2**(2), 55–73.

Heylen, L. (2010) The older, the lonelier? Risk factors for social loneliness in old age. *Ageing Society* **30**, 1177–1196.

Horman, S. (1989) The role of social support on health throughout the life cycle. *Health Education* **20**(4), 18–21.

House, J. S. (1981) *Work Stress and Social Support*. Addison-Wesley, Reading, MA.

Jaleeli, R. (2008) *Woman and Development in the Arabian Countries: Kuwaiti Women as a Case.* Arabic Planning Institution, Kuwait.

Johnson, J. E. (1996) Social support and physical health in the rural elderly. *Applied Nursing Research* **9**(2), 6–66.

Kaunonen, M., Tarkka, M. T., Paunonen, M. & Laippala, P. (1999) Grief and social support after the death of a spouse. *Journal of Advanced Nursing* **30**(6), 1304–1311.

Keijser, J. & Schut, H. (1990) Perceived support and coping with loss. In Knipscheer, C. P. M. & Antonucci, T. C. (eds) *Social Network Research: Substantive Issues and Methodological Questions*. Swets & Zeitlinger B.V., Mesterdam.

Liebler, C. & Sandefur, G. (2001) *Gender Differences in the Exchange of Social Support with Friends, Neighbors, and Coworkers at Midlife.* URL: http://www.ssc.wisc.edu/wlsresearch/pilot/P01-R01_info/family/Family_AppA5.pdf

Lyyra, T. M. & Heikkinen, R. L. (2006) Perceived social support and mortality in older people. *Journal of Gerontology B: Psychological Science* **61**(3), 147–152.

McCawley, A. L. (2007) Older people with impaired capacity and financial abuse: a secondary analysis of Tribunal files. PhD thesis, University of Queensland, St Lucia.

Melchiorre, M. G., Chiatti, C., Lamura, G., Torres-Gonzales, F., Stankunas, M., Lindert, J. *et al.* (2013) Social support, socio-economic status, health and abuse among older people in seven European countries. *PLoS ONE* **8**(1), 1–10.

https://doi.org/10.1017/S0021932013000576 Published online by Cambridge University Press

Mendoza-Sassi, R. & Beria, J. (2007) Gender differences in self-reported morbidity: evidence from population-based study in southern Brazil. *Cadernos de Saúde Pública* **23**(2), 341–346.

Minkler, M. (1985) Social support and health of the elderly. In Cohen, S. & Syme, S. L. (eds) *Social Support and Health*. Academic Press, San Diego, CA, pp. 199–216.

Molarius, A. & Janson, S. (2002) Self-rated health, chronic diseases, and symptoms among middle-aged and elderly men and women. *Journal of Clinical Epidemiology* **55**, 364–370.

Murtagh, K. N. & Hubert, H. B. (2004) Gender differences in physical disability among an elderly cohort. *American Journal of Public Health* **94**(8), 1406–1411.

Nalungwe, P. (2009) Loneliness among elderly widows and its effect on their mental well being. Bachelor's thesis, Laurea University of Applied Sciences, Finland.

Okamoto, K. & Tanaka, Y. (2004) Subjective usefulness and 6-year mortality risks among elderly persons in Japan. *Journal of Gerontology Series B: Psychological Sciences* **59**, 246–249.

Oman, D., Reed, D. & Ferrara, A. (1999) Do elderly women have more physical disability than men do? *American Journal of Epidemiology* **150**, 834–842.

Sable, P. (1991) Attachment, loss of spouse, and grief in elderly adults *Omega* **23**, 129–142.

Sarason, B. R., Sarason, I. G. & Pierce, G. R. (1990) *Traditional views of Social Support and their Impact on Assessment.* In Barbara, R., Sarason, I., Sarason, G. & Pierce, G. R. (eds) *Social Support: An Interactional View.* A Wiley-Interscience, John Wiley and Sons. New York, pp. 9–25.

Schollgen, I., Huxhold, O. & Tesch-Romer, C. (2010) Socioeconomic status and health in the second half of life: findings from the German Ageing Survey *European Journal of Ageing* **7**(1), 17–28.

Shye, D., Mullooly, J. P., Freeborn, D. K. & Pope, C. R. (1995) Gender differences in the relationship between social network support and mortality: a longitudinal study of an elderly cohort. *Social Science & Medicine* **41**(7), 935–947.

Sokolovsky, J. (no date) *Living Arrangements of Older Persons and Family Support in Less Developed Countries*. URL: http://www.un.org/esa/population/publications/bulletin42_43/sokolovsky.pdf

Spitze, G. & Logon, J. (1990) More evidence on women (and men) in the middle. *Research on Aging* **12**(2), 182–198.

Thanakwang, K. & Soonthorndhada, K. (2011) Mechanisms by which social support networks influence healthy aging among thai community-dwelling elderly. *Journal of Aging and Health* **23**, 1352–1378.

Waldron, I. (1967) Why do women live longer than men? *Social Science & Medicine* **10**(7–8), 349–362.

White, A. N., Philogene, S., Fine, L. & Sinha, S. (2009) Social support and self reported health status of older adults in the United States. *American Journal of Public Health* **99**(10), 1872–1878.

World Health Organization (2006) *Mortality Country Fact Sheet*. URL: http://www.who.int/whosis/mort/profiles/mort_emro_kwt_kuwait.pdf

Wyke, S. & Ford, G. (1992) Competing explanation for association between marital status and health. *Social Science & Medicine* **34**(5), 523–532.

Zimet, G. D., Dahlem, N. W., Zimet, S. G. & Farley, G. K. (1988) The multidimensional scale of perceived social support. *Journal of Personality Assessment* **52**, 30–41.

Zisook, S. & Shuchter, S. R. (1991) Depression through the first year after the death of a spouse. *American Journal of Psychiatry* **148**, 1346–1352.

Zunzunegui, M. V., Alvarado, B. E., Béland, F. & Vissandjee, B. (2009) Explaining health differences between men and women in later life: a cross-city comparison in Latin America and the Caribbean. *Social Science & Medicine* **68**(2), 235–242.

https://doi.org/10.1017/S0021932013000576 Published online by Cambridge University Press