



Health, Stress, and Social Isolation among the Elderly in Kuwaiti Society

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Abstract:

Cross-cultural research revealed that individuals who have a large social network and who receive social support have stronger immunity and live longer than individuals with a small network and little social support. This study examines the effects of stress and social isolation on the somatic symptoms in the elderly in Kuwaiti society. It considers whether there are differences between 1) levels of stress on somatic symptoms and 2) levels of social isolation on somatic symptoms among the Kuwaiti elderly. A sample of 130 Kuwaiti adult respondents comprising of 62 men and 68 women whose ages ranged between 60 and 82 were selected. Interviews were conducted by Research Assistants (RAs). Questionnaires included standardized scales: Stress Scale (SS), Somatic Symptoms Inventory (SSI) and Social Isolation Scale (SI). Version 19 of the Statistical Package for the Social Sciences (SPSS) was used for analysis. The data showed a significant positive relationship between the effects of both stress and social isolation on the somatic symptoms of the Kuwaiti elderly.

Introduction

Aging is a universal life stage that is irreversible across species, and it is characterized by an organism's dysfunction and many changes that occur in the body's organs such as tissue elasticity reduction and cellular deterioration. The aging process is dominated by the neuroendocrine system that regulates every tissue and organ in the human body (Meites and Lu, 1994). During this vital stage of life, endocrinological alteration, genetic factors, and lifestyle changes account for somatic symptoms among the elderly. These changes

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include impaired cognitive function, prediabetes, osteoporosis, anxiety, depression, and decreased quality of life. In order to verify the quality of aging, several cross-cultural studies (Mota-Pinto et al., 2011; Qadri et al., 2013) emphasise factors that affect the elderly's quality of life, sociodemographic characteristics, living circumstances, cognitive and physical function, morbidity, and wellbeing. On the other hand, some studies show an increase in satisfaction with age (Baird et al., 2010). An individual's own experience of the aging process and attitude towards the elderly is influenced by his or her cultural beliefs and perceptions of aging. Therefore, aging in both sociocultural and physical stratification depends on how it is perceived by an individual's traditions, norms, and cultural customs (Crawford, 2000).

Due to improvements in hygienic, medical, and occupational conditions, the mean life expectancy has increased worldwide. The rise in the number of the elderly who are aged 60 and above during the period 2006-2030 in developed countries is expected to be higher than that in developing countries. In 2006, Europeans aged 60 and above constituted 20% of the total population, compared to 17.1% in North America, 9.6% in Asia, and 4.7% in Sub-Saharan Africa. By 2030, these percentages of the older population are expected to reflect the same tendency as in 2006, with 28% older people in European countries, 17.8% in Asia, and 5.6% in Sub-Saharan Africa (U.S. Census Bureau International Data Base, 2007). According to the World Health Organization (WHO), health is defined as a condition of comprehensive wellbeing of social, physical, and mental functions, and it is not attributed only to frailty or absence of disease (WHO 1948). Improvements in health status and the increase in life expectancy pose social, political, medical, and economic challenges, and create a high demand for social service agencies and medical facilities for the care and assistance of the elderly (Plas & Daha, 2004).

Cross-cultural research has examined the differences between Eastern and Western perceptions of aging (Boduroğlu et al., 2006; Giles et al., 2003; Sung, 2001; Zhou, 2007). Confucian values in many Eastern traditions highlight familial devotion and rituals of worshipping ancestors. Within these traditions, individuals are raised to value and

respect the elderly and regard them as a source of wisdom and experience, which in turn enhances elderly self-esteem and wellbeing. On the other hand, westerners obtain a negative stereotype of aging and replace it with favoring youth. Western culture links the aging process with biological dysfunction, cognitive impairment, and emotional fluctuation, all of which lead to negative perceptions of aging and of the elderly (McArdle et al., 2002; Salthouse & Davis, 2006; DiGiovanna, 2000). Aging stereotypes, the ways that individuals perceive the aging process and the ways that cultural values and norms identify aging and the elderly, differ across cultures (Giles et al., 2000).

Cultural attitudes toward the elderly and traditions and beliefs about aging can be clearly observed in Japanese culture, where 58% of Japanese elderly who are above 60 years of age live with at least one of their children. This shows healthy aging compared to 17% of the elderly in the U.S. who live with their children, 15% in Germany, and 5% in Sweden. In Japanese culture, aging is associated with wisdom, experience, and proficiency; it is a positive life stage where the elderly enjoy their time away from responsibility for their children and employment pressures and anxiety (Kitayama, 2000). Overall, the elderly living with their children reported receiving more emotional and economic support, and better medical care (Takagi et al., 2007).

Cross-cultural studies show that socio-cultural systems like social support, relative social connection, intergenerational relationships, spousal support, and extended family have significant positive effects on the longevity and health status of the elderly (Arling, 1987; Gadalla, 2010; Bøen, et al., 2012). Physicians as well as social counsellors consider this stage of life to be critical because of deterioration in both physical and mental health. It has been assumed that elders' wellbeing and health conditions are interlinked with the degree of their engagement in the activities of their relatives'. Being an active member within one's kin and relative networks reduces or eliminates the environmental and social stress that the elderly encounter at this stage of life, such as retirement, empty nest, or the death of one's spouse. Takagi et al. (2007) reveal that there is a strong relationship between living with at least one of the elderly's children and positive wellbeing.

Sinha (2001) defined stress as an external trigger that causes imbalance in the homeostasis state of an organism, and in order to regain balance in the organism's homeostasis system, it responds to the biochemical, physiological, and cognitive reactions. Didier et al. (2016) show that both human and non-human primates' life-span and longevity are associated with the amount of social caring and support they receive from each other. The study shows that individuals who have a large social network and who receive social support have stronger immunity and live longer than individuals with a small network and little social support. The effect of lifestyle, socio-demographic factors, and social network on one's health status has been detected in studies by (Fortmann & Gallo, 2013; Shaya *et al.*, 2013). The findings illustrated that there was a negative association between hypertension and social support among African Americans living in the southern United States. Social connection with one's kin and relatives works as a buffering mechanism against extrinsic stress; it also regulates systolic and diastolic blood pressure. Kodzi et al. (2010) conducted a study among Nairobi elderly, which showed that social support, frequency of community participation, and the number of intimate friends were positively associated with the elderly's health status and wellbeing.

Marital status as a source of social support has also been found to have a direct relationship with the elderly's health status and wellbeing (Wyke & Ford, 1992; Barron *et al* 1994; Gliksman et al., 1995; Taqui *et al* 2007; Ostwald, 2009). The findings show a positive association between the longevity and wellbeing of the elderly and spousal support. Married men tend to have a longer lifespan than men who have never been married. Moreover, Tiedt (2010) examined the relationship between Japanese elderly social support network and their health status. The study findings revealed that elderly with a weak social support network (i.e. living alone, without community contact, and unmarried) were ailing more in health compared to those who were married and had strong social support from their community. Xin *et al.* (2011) conducted a study among Chinese American elderly, examining the impact of loneliness on the health and wellbeing of this

group. The study found that the emotional and social isolation of the elderly related negatively to their physical and mental wellbeing. Another study conducted by Winningham & Pike (2007) illustrated the effect of the levels of elderly social support and loneliness on their cognitive abilities and quality of life. The study results showed that the elderly's health status, quality of life, cognitive function, and depression levels were associated positively with the extent of their social networks and social support.

Many theories tried to explain the etiology of difference in the cultural attitudes of aging, such as the Social Representation Theory (Moscovici, 1988) and the Modernization Theory (Cowgill, 1972). The Social Representation Theory explained how cultural values, ideas, and norms affected the aging process, and how individuals interacted with the elderly. Individuals developed positive or negative stereotypes toward the elderly based on their cultural attitudes toward aging (Hummert, 1990). Within their culture, individuals can obtain accurate information or misconceptions about the aging process (Kite et al., 2005). Salthouse and Davis (2006) illustrated that the elderly's status in the familial structure, their physical characteristic, and their social roles were associated with the individuals' perspective of aging.

The Modernization Theory (Cowgill, 1972) explained that in industrial societies with a higher economic level, the elderly obtained lower social status because of the negative attitudes toward aging, since the elderly could contribute to industry. The family structure in an industrial society has switched from an extended family to a nuclear family; with this transition, the elderly's roles, status, and the power of decision-making within the family have also changed. The Modernization Theory posited an association between the means of production in both the traditional and modern societies and the value of an elderly's status and role within the family. In a traditional extended family, older members gained higher status as they aged and had the authority of decision making; they thus controlled the means of production. Therefore, individuals in traditional societies value and respect the elderly. Among these traditional societies, individuals hold a positive perception of the aging process. However, in industrial societies where

the industrial unit is a substitute for the family unit as the means of production, the elderly are not as valued since they do not contribute to industrial production. The nuclear family in the industrial society also diminishes the roles of elderly in the family.

The Kuwaiti society experienced a structural transition in the last 80 years with the discovery of oil. The shift in natural resources contributed to economic, demographic, and cultural modifications. Before the discovery of oil, the nature of the Kuwaiti society was simple and characterized by traditional means of production based on sheep herding, fishing, and gathering wild plants. The family structure was dominated by an extended family, with the elderly holding a high status within their family because of the cultural norms that value older age. Therefore, in the traditional Kuwaiti culture, aging is associated with more life experience, wisdom, and blessing. In view of this traditional belief, the elderly have control over their children and have the right to make vital life decisions for them, such as marriage, education, and career. Aging tends to be associated with positive emotional characteristics such as affection, kindness, and generosity.

Currently, with the economic upswing due oil production in Kuwait, western beliefs and values have penetrated the Kuwaiti society, which have led to a significant change in the individuals' attitudes toward aging and their opinions about the elderly's role and status in the family. In the Kuwaiti society, which is Islamic and traditional, social integration and support are considered to be important elements. Kuwaitis' lifestyle, social norms, and traditions are shaped by their country's natural environment, which emphasizes social cooperation and support to help them adapt to the harsh environment to sustain food and shelter. Therefore, Kuwaitis highly value relationships with relatives and rely on their socioeconomic support.

Social isolation is a reflection of an individual's scarcity of social connection and limitation of social networking (Holt-Lunstad *et al.* 2010). Stringhini *et al.* (2012) defined the term "Social Isolation" as an absence of social participation and integration and a limitation of social contact and networking of individuals. Some bio-cultural

research has been conducted among the Kuwaiti elderly to examine the influence of isolation, social and spousal support, number of children living with elderly, and the influence of diwaniyyah, an unofficial special social group for men, on the elderly's health status and wellbeing across age and gender. Al-Kandari (2001; 2008) illustrated that there was a significant negative association between older men attending the diwaniyyah and enhancement of their health status as reflected in their serum glucose and systolic and diastolic blood pressure levels. Al-Kandari (2001) aimed to detect the effect of the sociocultural variables, such as social support and social isolation on the health conditions of the Kuwaiti elderly. The study revealed that there was a significant association between the elderly's health condition and the strength of the social support they received from their kin and relatives. Another study conducted by Al-Kandari's (2011) on a sample of Kuwaiti elderly also showed that the marital status had a significant positive effect on both older men and women's health condition and wellbeing. Al-Kandari's (2011) finding revealed that there was a significant positive association between the elders' marital status and their wellbeing. A further study conducted by AL-Kandari & Crews (2016) sought to examine the relationships between systolic and diastolic blood pressures, somatic symptoms, and social support variables among Kuwaiti men and women aged of 60 and above. The study revealed that social support that elderly men received from their spouses was considered as a main buffer against one's stress. Men reported less somatic symptoms and less satisfaction with their health condition than did elderly women.

The current study examines the relationship between stress and social isolation and the Kuwaiti elderly's health conditions from the perspective of medical anthropology and the effects of cultural norms and values on these conditions. No research was found discussing the relationship between the health status of the elderly in Kuwait and stress and social isolation. Therefore, the current study investigates the following research questions from the medical anthropological perspective:

- 1 - Do levels of stress, social isolation, and somatic symptoms vary across age groups, educational history, and retirement status for the Kuwaiti elderly?
- 2 - Are stress and social isolation related to the somatic symptoms of the Kuwaiti elderly?

Methodology

Participants

A sample of 130 Kuwaiti elderly (62 men and 68 women) aged 60 and above was selected to participate in this study. Sixty years old is the retirement age in Kuwait, and it is the cutoff age that the World Health Organization uses for defining “old” adults. The sample was selected by nonrandom opportunistic sampling. The participants consisted of elderly Kuwaitis, many of whom volunteered to answer the questionnaire. The participants’ ages ranged from 60 to 82 years, with a mean age of 66.03 (SD = 5.21). We divided the participants into two categories by age: “young old” and “oldest old; 79 (60.8%) were young old (60-69 years) and 51 (39.2%) were oldest-old (70 +). Furthermore, 21 (16.2%) were still working and 109 (83.8%) were retired. Most of the participants (91%) had high school education or below. We also divided the participants into two categories by educational level: low- (middle school and below) and high education (high school and above); 82 participants (63.1%) fit in the low education category and 48 (36.9%) participants fit in the high education category.

Some participants found it difficult to read the questions and fill out the questionnaire because of their level of education. Due to the difficulty of finding old participants who could easily fill out the questionnaire, interviews were conducted by Research Assistants (RAs). The RAs were trained by the first author to collect the data. Interviews were completed in the homes of the elderly participants at an appropriate time which was agreed upon by both parties. The participants came from the six governorates of Kuwait.

Variables:

This paper is part of a larger project. Questionnaires included standardized scales: Stress Scale (SS), Social Isolation Scale (SIS), and Somatic Symptoms Inventory (SSI), which are described below.

- Stress Scale (SS): The stress scale developed by Hassoun (1995) was used for this study. “Stress” here refers to life events that have harmful consequences on an individual’s health. The SS represents the best measurement of stress related to life events. It consists of 12 items. The respondents were asked to select significant events that occurred in their lives in the last year. Events of this instrument were the death of one’s spouse, travel, moving to a new house, divorce, etc. The participants were asked to respond to each question with a Yes (= 1) or No (= 0) answer. The stress scale results were calculated by using the sum of the number of “Yes” responses.
- Somatic Symptoms Inventory (SSI): developed by Abdel-Khalek (2003b), the SSI was used to report for other samples of Kuwaiti elderly (Abdel-Khalek, 2003a, 2004; Al-Kandari, 2001a; Al-Kandari & Crews, in press), which provided information about the physical health of the respondents. “Somatic” can be defined as relating to or affecting the body. Most items included in the Somatic Symptoms Inventory request self-reports of physical and organic aspects of the respondents’ current health; e.g. toothache, dyspnea, gastric upset, joint pain, and otitis media. Clearly, with self-reports it is difficult to distinguish psychologically based complaints from somatic ones. The 60 somatic symptoms in the inventory are scored on a four-point Likert-type scale (SSI: 0 = None, 1 = Some, 2 = Much, and 3 = Always). The somatic symptoms scale results were calculated by using the sum of all answers. The highest score was (180) and the lowest was (0). This estimate of somatic symptoms shows high internal consistency overall for this sample (alpha coefficient of 0.93).
- Social Isolation Scale (SIS): Dean’s (1969) Social Isolation Scale, which consisted of nine sentences, was used in this study. The Social Isolation Scale has been used as one of the best indicators to measure loneliness in some studies that were conducted in Kuwait (Al-

Kandari 2010; 2001; Al-Tarrah & Al-Kandari, 1992). It proves to be a good indicator of loneliness when measuring the social life of the elderly. A five-point scale from Strongly agree (= 5) to Strongly disagree (= 1) was used. The scale includes sentences like the following: "Sometimes I feel all alone in the world", "I don't get invited out by friends as often as I'd really like", "Most people today seldom feel lonely", "Real friends are as easy as ever to find", "One can always find friends if one shows himself to be friendly", "The world in which we live is basically a friendly place".... The Social Isolation Scale results were calculated by using the sum of all answers. The highest score was (45) and the lowest was (9). This scale was shown to have high internal consistency overall (alpha coefficient of 0.87).

All scales were read to and by participants. The participants received prompts in completing the questionnaire. All of these scales were reviewed by colleagues in the College of Social Sciences at Kuwait University to check their validity and suitability for the elderly. Stress and Social Isolation Scale results were divided into two categories depending on the mean for the purpose of comparison.

Statistical Analysis:

A number of statistical techniques were used. A correlation coefficient was used to examine the relationship between both stress and social isolation and somatic symptoms. T-test was used to examine the differences between low and high levels of stress and social isolation in each single somatic symptom item and both scales in general. Multivariate regression was run to adjust for the effect of stress and social isolation on somatic symptoms in all samples for men and women.

Results:

Table (1) below shows the differences in health status, on the three scales (SIS, SS, & SSI) and age group, educational level, and whether the participants are retired or still working.

Table (1)

Differences in health status on the three scales (SIS, SS, & SSI) and age group, educational level, and whether the participants are retired or not

Variables	Social Isolation Scale			Stress Scale			Somatic Symptoms Inventory		
	M	SD	t	M	SD	t	M	SD	t
Age groups									
60-69 years	29.42	10.43	2.55*	2.67	1.72	-1.57	92.14	19.28	-2.03*
70 + years	24.42	11.43		3.16	1.72		99.22	19.50	
Job									
Still Working	29.40	10.40	2.54*	2.88	1.74	.776	95.80	20.51	.288
Retired	24.41	11.42		2.76	1.87		92.10	16.78	
Education									
Low	26.39	11.37	-1.06	3.12	1.80	2.02*	100.28	19.61	4.30
High	29.79	10.76		2.47	1.56		85.33	16.00	

The data show significant differences in health status between age group (young old and oldest old) and Social Isolation Scale and Somatic Symptoms Inventory. The oldest-old, who are more isolated than the young old, suffer from more somatic symptoms. No significant difference was found between age group and Stress Scale. For the oldestold group, the data show that there is a significant difference in social isolation between those who are still working and those who are retired, with the latter group being more isolated. No significant differences were found between retired and still working elderly on the Stress Scale and Somatic Symptoms Inventory. The results show that there are significant differences between the oldest old group of adults with low educational versus high education levels and the Stress Scale and Somatic Symptoms Inventory. Those with high educational level have a lower mean on the Stress Scale and Somatic Symptoms Inventory than those with low educational level. The data show no significant difference between low educational level and high education level with Social Isolation Scale for the oldest old group.

Table (2) shows the differences between the effect of low and high levels of stress and low and high levels of social isolation on each somatic symptoms item.

Table (2)
Differences between the effects of low and high levels of stress and low and high levels of isolation on each somatic symptom

Somatic Symptoms	Level of Stress		t-value	Level of Isolation		t-value
	Low M(SD)	High M(SD)		Low M(SD)	High M(SD)	
Tooth aches	1.78(.71)	2.03(.88)	-1.68*	1.84(.71)	2.00(.91)	-1.11
Sleep disorder	1.86(.84)	2.14(.82)	-1.90*	1.83 (.77)	2.18(.88)	-2.45*
Heart pains	1.36(.68)	1.53(.85)	-1.22	1.33(.70)	1.59(.84)	-1.89*
Dyspepsia (Indigestion)	1.52(.66)	1.73(.77)	-1.62	1.52(.67)	1.77(.78)	-2.02*
Muscle tremors	1.33(.70)	1.57(.85)	-1.72*	1.45(.85)	1.47(.73)	-1.11
Decreased hearing	1.27(.56)	1.66(.90)	-2.85**	1.53(.82)	1.44(.77)	.660
Easy fatigability	2.13(.96)	2.44(.95)	-1.86*	2.19(.93)	2.42(.98)	-1.33
Constipation	1.54(.74)	1.83(.79)	-2.18*	1.58(.61)	1.83(.89)	-1.87*
Tachycardia	1.57(.68)	1.78(.82)	-1.65	1.53(.64)	1.88(.85)	-2.62*
Tension	1.84(.85)	2.05(.83)	-1.45	1.70(.77)	2.23(.84)	-3.71***
Common cold or flu	1.75(.65)	2.04(.77)	-2.30*	1.86(.67)	1.95(.79)	-.753
Chest pains	1.41(.63)	1.55(.69)	-1.17	1.34(.57)	1.62(.72)	-2.44*
Hand tremors	1.27(.49)	1.51(.84)	-1.91*	1.28(.70)	1.52(.71)	-1.89*
Increased respiratory rate	1.16(.37)	1.41(.55)	-2.94**	1.17(.42)	1.44(.53)	-3.18**
Cold and hot flashes	1.43(.57)	1.58(.67)	-1.32	1.41(.58)	1.61(.65)	-1.84*
A lump in the throat	1.34(.72)	1.42(.69)	-.686	1.28(.58)	1.52(.81)	-1.89*
Numbness	1.46(.60)	1.88(.82)	-3.18**	1.58(.69)	1.80(.81)	-1.80*
Insomnia	1.80(.72)	2.15(.81)	-2.52*	1.92(.80)	2.06(.78)	-.998
Speech disorder	1.24(.43)	1.34(.64)	-.962	1.18(.39)	1.40(.66)	-2.17*
Weakness of vision	1.84(.76)	2.15(1.00)	-1.95*	1.76(.84)	2.24(.93)	-3.08**
Low back pain	1.87(.83)	2.18(.95)	-1.91*	1.90(.90)	2.18(.89)	-1.80*

cont/ Table (2)

Differences between the effects of low and high levels of stress and low and high levels of isolation on each somatic symptom

Somatic Symptoms	Level of Stress		t-value	Level of Isolation		t-value
	Low M(SD)	High M(SD)		Low M(SD)	High M(SD)	
Increased sweating	1.64(.83)	1.73(.96)	-.555	1.46(.74)	1.91(.99)	-2.91**
Weight loss	1.29(.69)	1.38(.68)	-.761	1.21(.54)	1.47(.77)	-2.24*
Pain in the ears	1.16(.42)	1.59(1.39)	-2.19*	1.49(.46)	1.32(.59)	.896
Asthmatic attacks	1.15(.36)	1.36(.82)	-1.78*	1.19(.59)	1.33(.73)	-1.22
Exhaustion	1.47(.60)	1.93(.87)	-3.35**	1.44(.62)	2.00(.86)	-4.20***
Difficulty falling asleep	1.62(.68)	2.05(.99)	-2.79**	1.75(.92)	1.97(.88)	-1.42
Changed body temperature	1.29(.50)	1.49(.67)	-1.81*	1.37(.60)	1.43(.61)	-.611
Blurred vision	1.65(.65)	1.86(.84)	-1.53	1.60(.66)	1.92(.83)	-2.43*
Anorexia (bad appetite)	1.55(.69)	1.82(.71)	-2.20*	1.56(.67)	1.83(.74)	-2.24*
Fainting or syncope	1.07(.26)	1.21(.44)	-1.99*	1.10(.30)	1.20(.44)	-1.54
General body aches	1.75(.75)	1.88(.94)	-.850	1.65(.77)	1.97(.93)	-2.12*
Joint pains	1.93(.86)	2.26(1.08)	-1.88*	2.14(1.01)	2.08(.99)	.379
Feeling of suffocation	1.35(.67)	1.40(.68)	-.428	1.21(.41)	1.53(.83)	-2.80**
Ringing sound in the ears	1.25(.44)	1.57(.77)	-2.72**	1.34(.62)	1.52(.69)	-1.52
Nausea	1.20(.40)	1.40(.57)	-2.18*	1.32(.50)	1.30(.53)	.159
Sense of taste weakness	1.09(.29)	1.25(.57)	-1.85*	1.13(.34)	1.23(.58)	-1.20
Bleeding from the nose	1.11(.32)	1.21(.47)	-1.31	1.08(.33)	1.24(.47)	-2.29*
Irregular heart beats	1.40(.56)	1.67(.80)	-2.14*	1.38(.61)	1.71(.78)	-2.68**

The adults in the oldest old group with high stress show higher somatic symptoms than those with low stress. Out of 60 somatic symptoms, significant differences were found in 25 items in the adults in the oldest old group with high and low stress levels. The data show that there is a significant difference between the oldest old adults with high stress and low stress in tooth aches, sleep disorders, muscle tremors, easy fatigability, constipation, common cold or flu, hand tremors, insomnia, weakness of vision, low back pain, pain in the ears, asthmatic attacks, changed body temperature, anorexia (poor appetite), fainting or syncope, joint pains, nausea, poor sense of taste, irregular heartbeat ($P < 0.05$), decreased hearing, increased respiratory rate, numbness, exhaustion, difficulty falling a sleep, and ringing in the ears ($P < 0.01$) compared to the adults in the young old group.

The data also show that the elderly with high levels of isolation and loneliness have higher means of somatic symptoms than the elderly with less isolation. Out of 60 somatic symptoms, significant differences were found in 24 items in the elderly with high and low levels of isolation. The data show that there is a significant difference between high and low levels of isolation in the elderly's sleep disorders, heart pains, dyspepsia (indigestion), constipation, tachycardia, chest pains, hand tremors, cold and hot flashes, a lump in the throat, numbness, speech disorder, low back pain, weight loss, blurred vision, anorexia (bad appetite), general body aches, nose bleeds ($P < 0.05$), increased respiratory rate, weakness of vision, increased sweating, feeling of suffocation, irregular heartbeat ($P < 0.01$), and tension and exhaustion ($P < 0.001$). Stress and social isolation share ten somatic symptoms: sleep disorder, constipation, hand tremors, increased respiratory rate, numbness, weakness of vision, low back pain, exhaustion, anorexia (poor appetite), and irregular heartbeat.

To determine the degree of the effects of stress and social isolation on somatic symptoms of the elderly, multivariate regression was used. Table (3) shows the relationship between stress/social isolation and somatic symptoms.

Table (3)
Regression Coefficient of Stress among the elderly in Somatic Symptoms

Variables	B	Beta	t value
Stress			
All	0.018	0.197	1.96*
Men	0.026	0.234	1.55
Women	0.019	0.229	1.90*
Social Isolation			
All	0.107	0.449	4.396**
Men	0.108	0.391	2.497*
Women	0.109	0.476	3.920**
Social Variables			
Age	2.87	.221	2.70*
Education Level	-3.184	-.321	-3.701**
Gender	7.58	.193	2.29*
Marital Status	7.57	.192	2.27*

* P < 0.05

** P < 0.001

Table (3) illustrates the results of somatic symptoms regressed on stress and social isolation. The results indicate that after adjusting for the effects of other variables, the relationship between both stress and social isolation and somatic symptoms remains constant for the entire sample. For gender, the data show that social isolation is a predictable factor of poor health in both men and women, while stress is a predictable factor of poor health in female elderly, but not in male elderly. The data show that stress and social isolation have an effect on the somatic symptoms and health of the elderly. For the social variables, the data show that the education level, gender, and marital status are predictable factors for the elderly health. The higher the educational level, the fewer somatic symptoms they have. The results indicate that factors of “elderly female” and “widow” predict poor health.

Discussion:

Across-culture studies reveal that the elders' physical function, cognitive mechanism, morbidity, and quality of life can be attributed to the interaction between endocrinological, psychosocial, and cultural factors (Wood *et al.*, 1994; Fatusiet al., 2004; Adebajo *et al.*, 2007; Jankowska *et al.*, 2008). The current study illustrates that there are significant differences between the elderly with high stress and low stress and the following somatic symptoms: sleep disorder, fatigability, insomnia, palpitation. These differences can be explained by Studd's (1977) endocrinological feedback disturbance hypothesis between pituitary gonadotropin hormones and ovarian steroids due to reductions in the ovarian follicles that are available for stimulation during menopausal transition in older women. In addition, the prevalence and intensity of somatic symptoms in elderly males may also be due to androgen deficiency (Fatusiet al., 2004; Ichioka *et al.*, 2006; Jankowska *et al.*, 2008; Kratzik *et al.*, 2004; Myon *et al.*, 2005; Studd, 1977). Kratzik *et al.*'s (2004) study among Austrian men aged 40-60 years old demonstrated that there is a negative association between testosterone levels and the severity of an elderly somatic symptoms. Adebajo *et al.*'s (2007) study findings among Nigerian men in Lagos also revealed that 96% of men between 54 and 62 years of age experienced a variety of physical changes that were related to androgen deficiency. These changes include loss of libido, anxiety, loss of memory, and disturbance in sleep patterns.

Loss of one's spouse also has a significant effect on the elderly's wellbeing and morbidity. Losing one's partner at this critical life-stage accompanied by biological dysfunctions and endocrinological imbalance due to aging contribute to many somatic health issues. The results of the current study are similar to the results of Adebajo *et al.* (2007), who found that there were significant associations between the respondents' experiencing somatic symptoms and their marital status, educational level, and occupation. The findings of this current study are comparable to those of several studies that also reported significant association between middle aged men's experience of various somatic

symptoms and their educational levels and occupation (Nguyen, 1996; Tan & Philip, 1999; Handelsman & Liu, 2005). Also, Jankowska et al.'s (2008) findings among Polish men reveal that there was a significant effect of the men's age and social status on their sexual, psychological, and somatic symptoms.

The data of the current study show that older women with high levels of isolation and loneliness reported more somatic symptoms than older women with less isolation. This finding may be explained by two hypotheses, namely Spence *et al.*'s (1971) Empty Nest Hypothesis and Antonovsky's (1972) Minimal Integration into Social Network Hypothesis. According to the Empty Nest Hypothesis, a woman's experience of menopause coincides with her children leaving the home, which contributes to higher prevalence of menopausal symptoms because she feels lonely and isolated from her family. According to Minimal Integration into Social Network Hypothesis, women who are integrated into kin and have a social network tend to report a lower incidence of menopausal symptoms and better health than women with a high level of social isolation (Antonovsky, 1972). Moreover, other studies revealed that occupation, relationship with partner and children, and socioeconomic status have a significant effect on men's experience of andropausal symptoms (Adebajo et al., 2007; Gliksman et al., 1995; Thoits, 1986; Waite & Lehrer, 2003).

Asfar et al.'s (2007) study among Syrian adults reveals that older men and women reported more chronic health problems and poorer self-rated health (SRH) than younger adults. The elderly who reported poor SRH were unemployed, had lower levels of education, lower socioeconomic status, and lacked social support and relative networks. Lack of social support and relative networks, low socioeconomic status, being without a spouse, and low physical activity were also related significantly to poor SRH among the elderly in France (Melchior et al., 2003). Molarius et al. (2007) demonstrated how lifestyle, socioeconomic status, and psychosocial conditions affect Swedish elderly SRH. The elderly who are retired and who have a poor social networking reported poor SRH. The findings of Molarius et al. (2007) and Melchior *et al.* (2003) are comparable with the findings of

Kawachi et al. (1999) and Marmot et al. (1998), who demonstrated that the elderly's psycho-social conditions impact their health. Moreover, Veenstra (2000) revealed that participating in neighborhood functions and being active members in the neighborhood have a positive influence on the elderly's health status.

Some symptoms of impaired vision, such as weakness of vision and blurred vision lead to more stress and social isolation. Data show significant differences between low and high levels of stress in weakness of vision. Blurred vision also leads to more social isolation as shown in this study. Puriet al. (2014) found that there was a relationship between quality of life and the elderly's vision.

Cheon's (2010) study on old Korean adults revealed that the health status of the elderly differed significantly according to their type of social network. The findings illustrated that social isolation had a significant negative effect on the elderly's physical health status. You & Lee (2006) also showed how the elderly's living conditions affected their social, physical, and mental health status in South Korea. The findings revealed that there was a significant association between the elderly's state of living (whether they lived with relatives or lived alone) and their physical, emotional, and mental health conditions (You & Lee, 2006). Their study showed that being a grandparent or a parent, living with a spouse, having a friend, belonging to kinships, being an active member in a group, or attending religious rituals were also factors that positively affected the elderly's health status. Seeman's (2000) findings indicated a significant association between the elderly's social relationships and their mental and physical health conditions. The study illustrated the impact of elderly's social relationships on their physical and mental health. Positive social relationships reduced the incidence of cardiovascular problems, elevated immune functions, and depressed stress hormones in the elderly.

Despite its small size, this research strongly indicates that social isolation and stress are key elements that worsen the health of the Kuwaiti elderly. In modern Kuwait, the elderly lose many of their social roles compared to the elderly's experience of the past, who lived in traditional Kuwaiti society, in which they had more social

interactions and played vital roles, both in and outside the household. Social connections and networking remained intact in traditional society as people aged. Changing the social roles of the Kuwaiti elderly may lead to loss in social networking. Two major social changes in modern Kuwait that affect the elderly's social networking are retirement from governmental positions (most Kuwaitis have government jobs) and the tendency of young adults to favor a nuclear family rather than an extended family. Thus, social isolation and its concomitant life stress is an expected outcome. Losing friends from work, married children leaving the family household, losing social power and encountering difficulties inherent in adult life constitute major elements that lead to social isolation and stress, which in turn negatively affect the elderly's health status. This domino effect can be applied to the elderly living in other Arabian Gulf countries undergoing similar social changes to those experienced in Kuwait. All of the Arabian Gulf countries have undergone socioeconomic changes and westernization that have affected the social life and health of their citizens. Kuwait can be the test tube for understanding and ameliorating these negative effects.

The findings of the current study illustrate the impact of modernization and westernization on the elderly in Kuwait both in terms of their social role within their families and their health conditions. The findings indicate that modernization and westernization have significantly altered the elderly's roles and their social networks in the past five decades. Whereas in traditional Kuwaiti society the elderly had a high and powerful social role and an extended social network, they now play a lower social role within their families and are viewed as lower economic contributors. These shifts negatively affect their health status, which leads to more reported somatic symptoms among the elderly due to social isolation. The current findings reveal an interrelationship between the cultural norms and values and the elderly's health outcomes. The Kuwaiti elderly's health status could show less improvement in the future than at the present time, because most of the current population is experiencing a societal shift, and they will be more acutely influenced by modernization and

westernization. A major issue is social isolation. We expect that in the future, there will be a further decline in the health of the Kuwaiti elderly due to stress, which will in turn exasperate other chronic diseases.

It needs to be stated here that our data was cross-sectional, but that a longitudinal study would be better to look at whether social isolation and stress actually lead to somatic symptoms. In addition, this study was primarily limited by its small sample size. Finding elderly citizens in Kuwait amenable to interviews was difficult especially with a large questionnaire containing many variables. Future research concentrating on the effects of retirement, death of relatives and friends, harmonic changes, degenerative chronic diseases (such as hypertension, diabetes, cancer, etc.), and other factors is highly recommended and needed. Kuwait is a virgin area for this kind of research.

Based on the current findings, integration of the elderly in the community activities is crucial, such as part-time tasks that do not require much physical or cognitive effort from the elderly. Such integration with social environments will positively enhance the elderly's health and wellbeing. It is required to amend the educational curriculum to incorporate the teaching of the values of respecting the elderly and to encourage care-giving behavior in the community. Religious and cultural morals and ethics of respecting the elderly and caring for them within the family should be addressed and highlighted by both traditional and social media. Elevated community awareness of the services provided by institutional care facilities for the elderly should encourage the elderly to join these facilities and participate in their activities.

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