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EPIDEMIOLOGY OF SELF-DEPENDENCE AMONG KUWAITI ELDERLY POPULATION OF ABDULLAH AL-SALEM AREA

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Abstract

Objectives: To study the socio-demographic and health characteristics of Kuwaiti elderly patients 65 years of age and above and the factors influencing their self-dependence for the performance of activities of daily living (ADL).

Design: An observational study of a random sample of Kuwaiti elderly patients 65-year-old and above; 113 patients included.

Setting: Abdullah Al- Salem area / Kuwait 1998-2000. Main outcome measures: A description of the major socio-demographic and health characteristics; and determination of the major factors influencing self-dependence for the performance of ADL.

Results: The majority were below 85 years of age (74.3%), married (65%), having hearing defects (80%) and visual defects (91%), 17.8% were demented and 25% showed evidence of depression. These patients were mainly self-dependent for ADL (64%) and there was no significant correlation of self-dependence to the adequacy of social support, to sex or to the medical diseases the patient had. Out of 113 patients, 87 were seen in the clinic and 26 were seen at home. Mann-Whitney comparison test showed high statistical significance (P = 0.00) when comparing those seen in the clinic to those seen at home in relation to their age, marital status, mobility, general mental state, self-dependence, general appearance and nutritional state.

Conclusions: Age, psycho-mental status and physical status have tremendous effects on self-dependence for ADL. Although nothing can stop aging, a lot can be done to encourage preventive initiatives to help maintain physical independence.

Key words: elderly, independence, quality of social support, self-dependence for activities of daily living, socio-demographic characteristics

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Introduction

Older Americans are living longer and living better than ever before, but many of those aged 65 and older face disability, chronic health conditions or economic stress. The number and proportion of older people in the United States' population have grown and generally will continue to grow at a very rapid pace[1]. The older population, persons 65 or older, numbered 34.1 million in 1997. They represented 12.7% of the US population, about one in every eight Americans[2]. By the year 2030, the proportion of those over the age of 85 is expected to increase by as much as six fold in some Western nations[3]. In Kuwait, the total number of elderly patients all over the country is 21,954[4], the total population of patients in Abdullah Al-Salem area is 17,083 of which the Kuwaiti geriatric patients account for 2.4% i.e., 530[4]. The problem of ageing population continues to attract the attention of the World Health Organization. For instance, Leopold (1996), quoting Alexandra Kaleche, head of World Health Organization's department of ageing and health, reported that by 2020, more than 1.2 billion people will be over 65 years old, three quarters of them in the developing world[5]. Recognizing the importance of health supervision of the elderly, an institution for the care of the elderly was established to provide care for the relatively lonely and destitute elderly in Kuwait. However, the scope of elderly care should be consistent with the socio-cultural, psychological and physiological imperatives. There is therefore, a need to characterize the multiple factors that are constantly interacting in the independent state of life of the elderly in the community. Understanding this will inevitably lead to a better program planning and consequently maximize the utilization of such services. There has been a lot of studies in the literature, highlighting the definition, health assessment, consequences of ageing, and how best to organize the individual and community resources to deal with it. Studies have shown that formalized comprehensive elderly assessments can result in improved survival, reduced hospital and nursing home stays, lower medical costs, and improved functional status for individuals undergoing such assessments[6]. Care of the elderly can be improved with a thorough work-up in primary care office. Pre-visit questionnaires help patients and families focus the initial interview on specific health concerns. Attention to target areas of functional disability can help direct medical care to maintain independence, as functional impairment cannot be predicted by the number or severity of medical diagnoses[6,7].

Although an appropriate institution was established to provide care for the elderly in Kuwait, findings from a recent study of the inmates of one of such institutions seemed to suggest a need for a comprehensive assessment of the health and health-related needs of the elderly. However, there have not been many studies on assessment of the

needs of the elderly in Kuwait. The study mentioned earlier, focused mainly on psycho-geriatric problems of 23 elderly male patients in a geriatric home[8]. Results from this study emphasized the need for prevention and minimization of social and mental problems in the old as well as physical problems. It also emphasized the important role of the elderly family support to prevent mental and psychological deterioration. The objectives of the current study therefore, were to study the factors influencing the independence in performance of the activities of daily living (ADL) of the elderly population.

Patients and Method

This study adopted a Comprehensive Geriatric Assessment Method using a modified version of a standardized international questionnaire similar to M. Mead[6]. The first three sections of the questionnaire consisted of collection of data regarding basic socio-demographic characteristics of the elderly, their current medication and history of medical diseases. Section four concentrates on extensive evaluation of physical, mental and psychosocial domains[6,7], followed by assessment of self dependence for A D L to identify those at risk, or who may need additional support from nurses, social workers, physiotherapists and other helping agencies[6,7]. Many criteria were scored based on literature[6,7,9] such as the ADL. Basic ADL are those necessary for individuals to care for themselves within a limited environment e.g., getting dressed, eating alone, going to the toilet, combing hair, bathing, using the telephone etc. Functional impairments were identified mainly through interviewing the patient; evidence of cognitive impairment in the patient necessitated that additional history is collected from a collateral source of help (the care-givers). A score of two points was given to the patient for each activity when the patient could do it without help, one point when done with the help, and no points when unable to do the activity; a total score of 16 as independent and zero for totally dependent[10,11]. For depression, the Yesavage Geriatric Depression scaling method was adopted which contained a 15-item questionnaire; with more than five points the patient was labeled depressed[7,10, 11]. Assessment of the mental function was based mainly on tests involving calculation and recall of three items, which are more sensitive as a measure of cognitive function than orientation tests[7,10,11]. The Folestin MMSE which is Mini Mental State Examination used for grading cognitive status was used for assessment when the patient showed inability to recall three items. A single summary score was used to assess the severity of cognitive impairment and to follow the progression of the impairment, a score of less than 24 was considered abnormal[7,9,1 0,11]. Assessment of nutrition in the old was made t h rough checking for evidence of weight loss. Nutritional risk was accomplished through asking about weight loss of more than 10 pounds in the past year followed by assessing the adequacy of dietary intake[7,9,1 0,11]. The adequacy of social support was defined as having stable, healthy and clean home environment, living with social contacts and having a care-giver. Results were classified as highly adequate when all criteria were present, adequate when most were present (4 out of 6) and not adequate when less than two criteria were present . Patients who were found to have physical or mental disabilities were given follow-up arrangements or home visits, those who had social problems, their problems were discussed with the caregivers and some were re f e r red to social workers.

Sample

A random sample of Kuwaiti individuals 65 years of age and above who were currently receiving medical care in Abdullah Al-Salem Health Center was chosen for the study. Patients were contacted by telephone, those who could come were seen in the clinic and those who could not, were seen at home. The objectives of the study were carefully explained to each patient or the concerned relative/s. Permission for a thorough physical assessment and agreement to participate fully in the interview were considered as an informed consent. Agreement for participation in the interview was taken from all patients selected or from their care-givers. Subjects were free to drop-out of the study, if there was a need to do so.

In all, 113 patients, males and females, currently receiving medical care participated in this study. Eighty-seven patients were seen in the clinic while 26 were seen at their homes where the interviews w e re continued with the care-givers and assessment performed by the author. Fifteen patients died during the course of this study.

Data Analysis

Questions were phrased in Arabic and the questionnaire was pilot-tested on a random sample of 20 patients selected from waiting rooms in the clinic to assess the easiness of the questions to the patients and their understanding of each question. The wording of some of the questions was modified before the formal administration of the questionnaire. Reassurance for the respondents for confidentiality of the information and results was offered. All data management and analyses were done using the SPSS Statistical Program.

X^2 test was used to assess the significance of differences in the distribution of selected socio-demographic and health characteristics among participants with $P < 0.05$ considered as significant. Self-dependence for A D L was defined as the dependent variable. Age, sex, marital status, medical diagnoses, social status, mobility, nutritional state, mental state and depression were the independent variables. Spearman's Correlation test was used with P value < 0.01 considered highly significant. Mann-Whitney testing was used to compare those who received care in the clinic with those who were seen at home; $P < 0.01$ was considered significant.

Results

Socio-demographic Characteristics: Table 1 shows the major socio-demographic characteristics of the studied population in which the majority were below the age of 85 (74%), the mean age of participants was 78.3 ± 6, (range 76 - 79), the majority were females (70%), married (65%), had adequate social support (55%), and the majority never lived alone 96.5% and 77% were living in nuclear family. The majority never smoked (72%), 21% were smokers but stopped and only 6% were still smoking.

Health status and Health assessment: Table 2 shows the main characteristics of the health status of the sample, 59% of the patients were having two or more medical

diseases, 64% of patients mainly depended on themselves, while 36% sometimes or never depended on themselves. 80.5% had hearing impairment, and 91% had visual impairment. 93% showed no evidence of nutritional defect, 79% showed no evidence of mental defect, the prevalence of dementia was 18% (P = 0.00). The prevalence of depression was 25% (P = 0.001), 87.5% of the patients were already receiving medications for medical illnesses while 12.5% were not on any medication, 86 % were compliant to their medications while 14 % were not compliant to medications.

Self-dependence for ADL: Table 3 showed that self-dependence for ADL was significantly correlated to age (P = 0.000), visual impairment (P = 0.000), mobility (P= 0.000), nutritional status, the presence of depression (P = 0.000), the general mental state (P = 0.000), and marital status (P = 0.000). There was no significant association of self-dependence for ADL with adequacy of social support, sex of the patient nor the medical diagnoses the patient had.

Out of 113 patients, 87 were seen in the clinic while 26 were seen at home. Mann-Whitney comparison test showed high statistical significance (P = 0.00), when comparing those seen in the clinic to those seen at home in relation to their age, marital status, mobility, general mental state, self-dependence, general appearance and nutritional state.

Table 1. Socio-demographic characteristics of the elderly patients included in the study

Characteristics	Number	Percent
Age		
65-75	36	32
75-84	**48**	**42.5**
85+	29	25.5
Sex		
Female	79	70
Male	**34**	**30**
Marital Status		
Married	73	65
Divorced	**36**	**32**
Widowed	2	1.5
Single	**0**	**0**
Quality of Social Support		
Highly Adequate	38	33.5
Adequate	**62**	**55**
Not Adequate	13	11.5
Living alone		
Yes	4	3.5
No	**109**	**96.5**
Living with		
Spouse only	1	0.9
Son only	**17**	**15**
Daughter only	4	3.5
Servant only	**4**	**3.5**
Nuclear family	87	77.1
Smoking		
Smoking	7	6
Stopped smoking	**24**	**21**
Never smoked	82	73
Usual source of help		
Spouse	20	18
Son	**6**	**5**
Daughter	15	13
Maid	**51**	**45**
Nuclear family and maid	21	19

Table 2. Health Status and Assessment of Elderly Patients

Disease	No.	%	Statistical sign P
Medical Diagnosis			
One diagnosis	26	23	P=0.001
Two or more diseases	**67**	**59**	
Other diagnoses	20	18	
Self-dependence for ADL			
Always and Mostly	73	64	P=0.000
Sometimes and Never	**40**	**36**	
Mobility			
Freely mobile	73	64	P=0.002
On stick	**22**	**20**	
Immobile	18	16	
General Appearance			
Clean	85	75.2	P=0.002
Moderately clean	**25**	**22.1**	
Neglected	3	2.7	
Hearing Defect			
Present	91	80.5	P=0.000
No hearing defect	**16**	**14.2**	
Could not be assessed	6	5.3	
Visual impairment			
Present	103	91	P=0.000
No defect	**2**	**2**	
Could not be assessed	8	7	
Nutritional Status			
Well nourished	105	93	P=0.002
Malnourished	**8**	**7**	
General Mental Status			
Normal	89	79	P=0.000
Dementia	**20**	**17.5**	
Could not be assessed	4	3.5	
Depression			
Present	28	25	P=0.001
Could not be assessed	**10**	**9**	
No depression	75	66	
Receiving Medication			
Yes	99	87.5	P=0.000
No	**14**	**12.5**	
Compliance to Medication			P=0.000

Always **Mostly** Not compliant	66 **31** 16	58.5 **27.5** 14	

P is X^2 Statistical Significance

Table 3. Factors Associated with Self-Dependence for ADL

Factor	N=72	%	Significance 2-Tailed	rho
Age 65-74 **75-84** 85+	31 **33** 8	43 **45** 12	P*=0.000	0.416
Mobility Freely mobile **On stick** Immobile	64 **8** 0	89 **11** 0	P*=0.000	-0.7
Nutritional state Well nourished **Malnourished**	71 **1**	98.5 **1.5**	P*=0.000	0.369
Depression# Moderate **Mild** No depression	1 **11** 56	1 **11** 82	P*=0.000	0.363
Quality of social support Highly adequate **Adequate** Not adequate	22 **45** 5	30 **64** 6	P=NS	0.064
Sex Male **Female**	23 **49**	32 **68**	P=NS	0.064
Medical diagnosis Two or more diagnoses **Other diagnosis**	42 **30**	59 **41**	P=NS	-0.017
General mental state Normal **Demented**	69 **3**	96 **4**	P*=0.000	0.579
Marital status Married **Divorced**	56 **2**	77.7 **2.8**	P*=0.000	0.37

Widowed **Single**	14 **0**	19.5 **0**		

P* = statistically significant <0.01; NS = not statistically significant; # = Total does not add up to Total N (72) because of missing values (those not assessed); rho = Spearman's Correlation Factor.

Mobility:

- 64% were freely mobile, 20% used a walking-stick, and 16% were immobile (P = 0.000).
- Mobility was significantly correlated at 0.01 (2-tailed) to psychological status, general mental state, nutritional and marital status (P = 0.000).

Patients receiving clinical care at home

26 patients of the sample (23%) received clinical care at home, over half of them were 85 years of age and above (P = 0.001). 62% of them were immobile (P = 0.002), 61.5 % widowed (P = 0.000), 92% were sometimes or never dependent on themselves, 3 patients (11.5%) among those seen at home were neglected (P = 0.002). The majority had good nutritional state (77%), 46% had highly adequate social support, and 15.4 % had non-adequate social support. Mann-Whitney test showed statistical significance (P = 0.000) in relation to age, marital status, general mental state, mobility and self-dependence. Table 4 shows the major differences between those studied in the clinic and those studied at home.

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Discussion

The purpose of this study was to describe the major socio-demographic characteristics of the elderly population in Abdullah Al-Salem area and to describe the health status and factors influencing their independence state for the performance of ADL. The profile of illnesses and disabilities due to ageing was similar to a large extent to Americans. The literature showed that the majority of Americans (> 90%) has at least one medical diagnosis, 91% have visual defect, 90% of older Americans needed eyeglasses, 80.5% had hearing defects, screening for visual and hearing loss in the old is important since older patients may not complain of or recognize that their vision or hearing is

impaired[12,13]. The fact that 86.5% of patients were receiving medications implies that as they grow older the elderly usually have polypharmacy, at least 90% of Americans over the age of 65 take at least one medication daily and the majority take two or more medications daily [12,13]. The prevalence of depression ranged from 13 -27%, which is similar to the rate seen in our sample (25%)[12,14]. Depression is prevalent in the elderly and is associated with increased morbidity and mortality, perhaps it is the most frequent cause of emotional sufferings in later life[1 5 - 2 1]. It is particularly important for primary care physicians to be aware of the symptoms of depression, as it may present with only simple sleep disturbances. It is often under-diagnosed and/or under-recognized by primary care physicians[18,21]. A large number of studies assessing the relationship between depression and medical burden have focused on patients with cardiac diseases, and recent researches have focused on the role of depression as an independent risk factor for cardiac disease [16,17,21]. Of morbidity identified within this population, the majority take two or more medications daily [12,13]. The prevalence of depression ranged from 13 -27%, which is similar to the rate seen in our sample (25%)[12,14]. Depression is prevalent in the elderly and is associated with increased morbidity and mortality, perhaps it is the most frequent cause of emotional sufferings in later life[1 5 - 2 1]. It is particularly important for primary care physicians to be aware of the symptoms of depression, as it may present with only simple sleep disturbances. It is often under-diagnosed and/or under- recognized by primary care physicians[18,21]. A large number of studies assessing the relationship between depression and medical burden have focused on patients with cardiac diseases, and recent researches have focused on the role of depression as an independent risk factor for cardiac disease[16,17,21]. Of morbidity identified within this population, the one illness that can be relatively easily treated, is depression. This treatment would have a beneficial effect on several domains. It would improve the cognitive function of the individuals as well as increase their motivation to maintain activity and independence. Depression is an illness identified in the elderly that should be diagnosed well and easily treated in order to hasten remission rate, prevent relapse, and improve patient's quality of life.

Table 4. Major comparisons between those seen in the clinic and those seen at home.

Factors	Clinic	% within	Home	% within	Significance
Age					
<85	75	84	11	42	P*=0.001
>85	**14**	**16**	**15**	**58**	
Marital status					
Married	65	75	8	31	
Widowed	**20**	**23**	**16**	**61.5**	P*=0.000
divorced	2	2	0	0	
Single	**0**	**0**	**2**	**7.5**	
Q.F.S.					
Highly	26	30	12	46	P=NS
adequate	**52**	**60**	**1**	**4**	
Adequate	9	10	13	50	

Not adequate					
Nutritional status Well nourished **Malnourished**	85 **2**	98 **2**	20 **6**	77 **23**	P*=0.002
Mobility Freely mobile **On stick** Immobile	67 **18** 2	66 **21** 2	5 **5** 16	19 **19** 62	P*=0.000
Self-dependence for ADL Always and Mostly **Sometimes and Never**	70 **17**	80.5 **19.5**	2 **24**	7.7 **92.3**	P*=0.000
Depression# Moderate **Mild** No Depression	5 **16** 62	5 **19** 71	1 **6** 13	4 **23** 50	P=NS
General mental state# Normal **Demented**	81 **6**	93 **7**	8 **14**	30.7 **53.8**	P*=0.000
General appearance Clean **Moderately clean** Neglected	71 **16** 0	81.6 **18.4** 0	14 **9** 3	53.8 **34.6** 11.5	P*=0.000

P* = Mann-Whitney Statistical Significance; NS = not significant; # = excluding those not assessed.

SSRI (the newer antidepressants) have been compared with the tricyclic antidepressants and have been found to be more effective, with higher levels of tolerance, fewer dosage adjustments and greater acceptance among the elderly[21]. Presence of age-related functional disability did not influence the self-independence state of the elderly until they were above 85. This was consistent with the fact that aging process, mobility and self-dependence were not influenced by the diseases the patients had[11-13].

As people grow above 85, their independence is lost and they rarely depend on themselves as the majority become immobile[1 4 , 2 1]. Many factors contributed to the causation of immobility in old age and these included, physical causes such as

osteoarthrosis of the joints, neurological deficit, previous falls and sensory deprivation. Social factors such as retirement, loneliness, and many others[3,14,21] also contributed to immobility. High prevalence of age-related disability among the subjects was consistent with the findings that increasing age was associated with increasing disability, and loss of independence due to functional impairments such as loss of mobility, vision, and hearing[3 , 2 2]. As individuals become older, normal changes occur, slowing down vital processes, thereby resulting in anatomical changes and altered functions. A study done in England in 1996 on elderly patients who were physically disabled and cognitively impaired showed that very elderly people and those with cognitive impairment make up a large proportion of those in need of long term care, institutionalized care or intensive home care[20]. Patients should be aware of the likely changes and the methods to cope with them, but there is little awareness of the importance of regular follow-up and preventive initiatives for the aged.

Although the majority of patients were living in nuclear families, 13 patients (11.5%) had less than adequate social support, some to the degree of being neglected. Four were living alone: two of them were neglected as one was single with no children and another one elderly lady was living with her son and his family, but she was neglected and left in an isolated room under the care of a servant who did not look after her well. This last case although probably not frequently seen in our country, reflected a serious example of elderly neglect and abuse, a tragic consequence of social disruption in families.

A national study done in 1992 in Britain had shown that the prevalence of elderly abuse in the patient's own home was significant with physical abuse 2% and verbal abuse 5%[20,22,23]. 45% of carers of the elderly in respite care admitted to some form of abuse in one study[20]. The problem of abuse had received little attention because physicians usually sense that raising the question of abuse, threatens the trust needed in the therapeutic relationship[24]. Neglect is one form of elderly abuse, which needs to be discussed with carers and involved care agencies, social services, or the police in case of evident crime. Admission to a safe place may have to be considered[20,25]. The Ministry of Health in Kuwait had been seriously directing the scope of care to the elderly in the country this year to avoid such tragic events. There had been intensive programs to construct protocols for the comprehensive care of the elderly in Kuwait in conjunction with the Ministry of Social Affairs and the Rehabilitation Hospital. The significant correlation noticed between receiving clinical care at home and having normal psychological state probably suggested that receiving regular follow-up and clinical care at home on the long run and not on demand only, would result in a better psychological state for the old.

A study done on 100 elderly patients who were living in the community in Australia in the year 2000 suggested that the usefulness of regular preventive home visits was limited to those 75 years old and above[24] ,while other studies in 1999 did not favor home visits to elderly patients 65 years old, or younger[26-28].

Finally, we may conclude that the pattern of care given to the old nowadays is not only curative, but also fragmented. It had been patient-relative initiated and essentially crises-

oriented. The Comprehensive Family Practice care of the elderly should aim at:
• Keeping the elderly people in their homes in an active and mobile state through the provision of a well-synchronized clinic and home services. Such services must prepare the elderly to accept responsibility of caring for themselves when possible.
• Fostering a team approach for the provision of care. This should involve both general practitioners, physiotherapists, psychiatrists and social workers who should form a community health team. This team strengthens cooperation between general practitioners and hospital specialists in order to follow standardised and agreed policies of management of the elderly in Kuwait.
• Recognizing the risk situations of the old who are living alone, bed ridden, over 85, bereaved, malnourished and planning their regular follow-up and care by family practitioners with the community health team.

Limitations of the study

Abdullah Al-Salem area is probably not representative of Kuwait and therefore the results cannot be generalised. But this is intended to be a start for generalization of the study to all regions of the country, in order to screen the elderly population.

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