

## Daily living activities among geriatric residents at geriatric homes in Erbil and Sulaimaniyah cities, Kurdistan Region

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### Abstract

**Background and objective:** Maintaining the ability to perform basic self-care activities by the older adults is fundamental to maintaining their independence and quality of life. This study aimed to assess the level of functional dependency of the residents of geriatric homes in Erbil and Sulaymaniyah cities.

**Methods:** This cross-sectional study involved 94 older adults living in geriatric homes in Erbil and Sulaymaniyah cities. Data was collected on the socio-demographic characteristics, clinical characteristics, social issues and daily recreation activities of the participants using a questionnaire. Nine essential activities of daily living were assessed through a three-point Likert scale of independent, requires assistance and dependent.

**Results:** The mean and standard deviation age of the participants was  $71.88 \pm 8.94$  years (range 60-81 years). Around half (43.6%) of the participants had at least one dependent activity. The level of dependency was highest in shopping, climbing stairs and bathing activities. Dependency of activities of daily living was significantly ( $P < 0.001$ ) higher in females than males; in illiterate and those read and write than primary school graduates and secondary school and higher level graduates; in those self-employed before entering geriatric home than retired and unemployed; and in ex-smokers and non-smokers than smokers.

**Conclusion:** The level of independency in the different daily living activities was relatively high, which might be attributed to having a younger age group of elderly in the geriatric homes. Dependency was significantly associated with the sex, education level, employment status and smoking status of the participants.

**Keywords:** Activities; Daily living; Geriatric; Dependency; Independency; Kurdistan.

### Introduction

Activities of daily living (ADL) refer to the daily activities of self-care at the place of residence of an individual, the outdoor surroundings, or both. Health professionals refer to the ability or the inability to perform the ADL as an important measurement of the function status of an individual, especially concerning the people with disabilities and the elderly.<sup>1</sup> A principle goal of the care of older patients is maintaining the ability to perform essential self-care activities such as bathing, dressing, using a toilet, transferring out of a bed or chair, and eating without assistance. These activities are fundamental to maintaining older

people's independence, and quality of life.<sup>2</sup> In older people, cognitive state, and ADL functioning are important for mortality, institutionalization, and quality of life.<sup>3</sup> Aging is a natural phenomenon involving a socio-biological process. Aging can be usual aging that includes changes due to the aging process in addition to the effects of diseases, environmental and unhealthy lifestyle factors. It can also be successful aging, which refers to the aging process unaffected by diseases, environmental factors or lifestyle.<sup>4</sup> The population of the world is aging so rapidly that the proportion of the world's population more than 60 years old is estimated to double from

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approximately 11% to 22% by 2050. The absolute number of all people aged 60 years or more is expected to increase to two billion by that time.<sup>1</sup> The United Nations Educational, Scientific, and Cultural Organization (UNESCO) revealed that the total population of Iraq was 24,246,000 in 2002 and the percentage of the age group 65 years and over was 3%.<sup>5</sup> A study conducted in 2013 on geriatric residents in Erbil geriatric home showed that the majority (71.4%) of these residents were within the age group 61-80 years old.<sup>6</sup> Another study conducted in 2012 on geriatric residents in Sulaymaniyah geriatric home showed that 69.2% of the sample were within the age group 60-79 years.<sup>7</sup> Currently, the geriatrics health services are poorly integrated into the health system in Kurdistan region. Up to the authors' knowledge, there are no published studies in the region regarding the independency of ADL in geriatric homes. Therefore, this study can help in improving the care and screening for undetected problem among geriatrics population. This study aimed to assess the ADL in residents of geriatric homes in Kurdistan region and to find out the association between dependent activities with socio-demographic, medical and social characteristics.

## Methods

This cross-sectional study was carried out in the only two geriatric homes that are available in Iraqi Kurdistan Region. There is a geriatric home in Erbil city accommodating 53 geriatric persons and another one in Sulaymaniyah city providing residence to 41 geriatric individuals while there is no geriatric home in Duhok or Halabja cities. The study was carried out from July 1<sup>st</sup>, 2015 to March 1<sup>st</sup>, 2016. All the 94 residents living in the two geriatric homes in Erbil and Sulaymaniyah cities were included in the study. However, six residents were excluded; two from Erbil and four from Sulaymaniyah as they were outside the geriatric homes on the days of

the survey. A questionnaire consisting of four parts was developed to collect data from the participants. Development of parts one to three was based on a review of relevant literature, while part four included a validated standard tool to assess ADL. Part one included six questions about the socio-demographic characteristics of the study participants; governorate of residence, age, sex, educational level, occupation and marital status before entry to the geriatric home. Part two included four questions about medical and surgical history and smoking pattern of the participants. Part three consisted of eight questions about social issues and daily recreation activity; going out from geriatric home to visit families and relatives, having visitors to the geriatric home, watching television, listening to radio, reading newspapers or books, using a computer and doing any religious spirituals with the type of religious spirituals. Part four included a standard tool to assess the ADL that included nine essential activities of feeding, oral care, toileting, bathing, dressing, grooming, physical ambulation, climbing stairs and shopping.<sup>8</sup> The questionnaire was pre-tested on a sample of 10 geriatric residents in geriatric homes before finalizing it and using it in this study. Data was collected from October 15<sup>th</sup> to November 4<sup>th</sup>, 2015. Data was collected by direct interview with the participants. Interviewing each person took around 15 to 20 minutes to complete the response for all parts of the questionnaire. The participants were asked to rate each of the nine ADL on a three-point Likert scale of independent (= 0), requires assistance (= 1) and dependent (= 2). Independent for each activity means the person can perform the activity with no supervision, direction or personal assistance. Require assistance for each activity means that the individual needs some help to carry out the activity such as needing help to tying shoes for dressing activity or needing help to bathing a single part of the body for bathing activity. Dependent for each

activity means the person cannot perform the activity without supervision, direction, personal assistance or total care. Verbal consent was taken from each individual before participation the study. The study was approved by the Research Ethics Committee of the College of Nursing at Hawler Medical University. Institutional permission was obtained from the Directorate of Social Care in Erbil and Sulaymaniyah and the geriatrics homes to gain access and get cooperation during this study. Data was analyzed by the statistical package for the social sciences (version 20). Descriptive statistics included calculating frequencies and percentages. For inferential statistics, the participants were categorized into those having at least one dependent ADL and those having no any dependent ADL. Association between dependency of ADL with the different

socio-demographic, social and medical characteristics of the participants was assessed using Chi-Square test. A *P* value of  $\leq 0.05$  was considered statistically significant.

## Results

Of the 94 participants, 56.4% were living in the Geriatric Home in Erbil city, and 43.6% were residing in the Geriatric Home in Sulaymaniyah city. The mean ( $\pm$  SD) age of the participants was  $71.88 \pm 8.94$  years (range 60-81 years). More than half (52.1%) of the participants were between 60 and 70 years old. Most of the participants were male (76.6%) and illiterate (62.8%). Before entering to the geriatric home, most participants were self-employed (57.4%) and married (60.6%). Table 1 shows the socio-demographic characteristics of the study participants.

**Table 1:** Socio-demographic characteristics of geriatric residents.

Characteristics		No.= 94	
		F	(%)
Governorate	Erbil	53	(56.4)
	Sulaymaniyah	41	(43.6)
Age group (years)	60-70	49	(52.1)
	71-80	29	(30.9)
	$\geq 81$	16	(17)
Sex	Male	72	(76.6)
	Female	22	(23.4)
Education level	Illiterate	59	(62.8)
	Can read and write	7	(7.4)
	Primary school	14	(14.9)
	Secondary school	9	(9.6)
	Higher Education graduate	5	(5.3)
Occupation before entering to the geriatric home	Unemployment	13	(13.8)
	Retired	22	(23.4)
	Self-employed	54	(57.4)
	Governmental employed	5	(5.3)
Marital status before entering the geriatric home	Single	36	(38.3)
	Married	57	(60.6)
	Divorced	1	(1.1)

Thirty-one (33%) participants were smokers, and 10 (10.6%) were ex-smokers. More than half (58.5%) of participants had chronic diseases, and 19.1% of them had hypertension (Table 2). Nearly half (48.9%) of the study participants used to go out from the geriatric home to visit their families,

relatives, and friends. Around half (48.9%) of the participants had family, relatives and friends visiting them at the geriatric home. Regarding daily recreation activity; the majority (60.6%) of participants watched television, followed by listening the radio (48.9%) and reading newspapers and books (8.5%). Only one participant (1.1%)

**Table 2:** Medical information and smoking pattern of geriatric residents.

Medical information and smoking pattern		No.= 94	
		F	(%)
Smoking pattern	Not smoker	53	(56.4)
	Smoker	31	(33)
	Ex-smoker	10	(10.6)
Chronic disease	Yes	55	(58.5)
	No	39	(41.5)
Type of chronic disease (*No.=55)	Diabetes mellitus	9	(9.6)
	Hypertension	18	(19.1)
	Heart disease	6	(6.4)
	Cardiovascular accident (CVA)	4	(4.3)
	Romantic arthritis	7	(7.4)
	Depression	9	(9.6)
	Asthma	2	(2.1)

was able to use a computer and religious spirituals, primarily praying 42.6% of the participants practiced (Table 3).

**Table 3:** Social issues and daily recreation activity information of geriatric residents.

Social issues and daily recreation activity		No.= 94	
		F	(%)
Do you go out from geriatric home to visit anyone?	Yes	46	(48.9)
	No	48	(51.1)
(If yes) Who are they? (*No.= 46)	Family	25	(54.3)
	Relative	11	(23.9)
	Friends	8	(17.4)
	Family, Relative and Friends	2	(4.3)
Does anyone come to the geriatric home to visit you?	Yes	46	(48.9)
	No	48	(51.1)
(If yes) Who are they? (*No. = 46)	Family	32	(69.6)
	Relative	13	(28.3)
	Friends	1	(2.2)
Do you watch television?	Yes	57	(60.6)
	No	37	(39.4)
Do you listen to the radio?	Yes	46	(48.9)
	No	48	(51.1)
Do you read the newspaper or book?	Yes	8	(8.5)
	No	86	(91.5)
Do you use a computer?	Yes	1	(1.1)
	No	93	(98.9)
Do you do any religious spirituals?	Yes	40	(42.6)
	No	54	(57.4)
Type of spiritual activities (*No. = 40)	Pray	40	(100)
	Go mosque	7	(17.5)
	Reading religion book	8	(20)

The most common independent ADL were feeding (92.6%), oral care (79.8%) and toileting (69.1%). The most common dependency ADL were shopping (43.6%), climbing stairs (29.8%) and bathing (25.5%) as shown in Table 4. More than half (56.4%) of the participants did not have any dependent activities while 11.7%

had one dependent activity, 6.4% had two dependent activities, 7.4% had three dependent activities, 6.4% had four dependent activities, and 11.7% had five or more dependent activities. The commonest dependent activities included shopping, climbing stairs, physical ambulation, bathing, and toileting (Table 5).

**Table 4:** Activities of daily living of geriatric residents.

Activities of daily living	Independent		Requires assistance		Dependent		Total	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Feeding	87	(92.6)	6	(6.4)	1	(1.1)	94	(100)
Oral Care	75	(79.8)	15	(16)	4	(4.3)	94	(100)
Toileting	65	(69.1)	15	(16)	14	(14.9)	94	(100)
Bathing	60	(63.8)	10	(10.6)	24	(25.5)	94	(100)
Dressing	64	(68.1)	24	(25.5)	6	(6.4)	94	(100)
Grooming (neatness, hair, nails, hands, face, clothing)	63	(67)	24	(25.5)	7	(7.4)	94	(100)
Physical Ambulation	64	(68.1)	18	(19.1)	12	(12.8)	94	(100)
Climbing stairs	54	(57.4)	12	(12.8)	28	(29.8)	94	(100)
Shopping	42	(44.7)	11	(11.7)	41	(43.6)	94	(100)

**Table 5:** Distribution of participants according to the number of dependent activities.

Number of dependent activities	No.	(%)
0	53	(56.4)
1	11	(11.7)
2	6	(6.4)
3	7	(7.4)
4	6	(6.4)
5 ----- 9	11	(11.7)

There was a significant association between dependency of the ADL and the sex of the participants (86.4% for females vs. 30.6% for males,  $P < 0.001$ ), educational level (56.1% for illiterate and can read and write, 7.1% for primary school graduates and 21.4% for secondary and higher level graduates,  $P < 0.001$ ) and employment status before entering the geriatric home (50% for self-employed and 37% for retired vs. 30.8% for unemployed,

$P < 0.001$ ). Dependency was significantly higher in ex-smokers and non-smokers than smokers (50% and 47.2%, 35.5% respectively  $P < 0.001$ ). Dependency was significantly higher among those who were not going out from geriatric home to visit family and friends ( $P < 0.001$ ), whom people were coming to visit them ( $P = 0.040$ ) and who were not practicing religious spirituals ( $P = 0.061$ ) as shown in Table 6.

**Table 6:** Association some of socio-demographic, medical information, social issues and daily recreation activity factors with having at least one dependent activity.

Variable		Activities of daily living				P value
		Independent		At least 1 dependent activity		
		No.	(%)	No.	(%)	
Governorate	Erbil	26	(49.1)	27	(50.9)	0.103
	Sulaymaniyah	27	(65.9)	14	(34.1)	
Age group (years)	60-70	33	(67.3)	16	(32.7)	0.070
	71-80	12	(41.4)	17	(58.6)	
	≥81	8	(50)	8	(50)	
Sex	Male	50	(69.4)	22	(30.6)	<0.001
	Female	3	(13.6)	19	(86.4)	
Education	Illiterate + can read and write	29	(43.9)	37	(56.1)	<0.001
	Primary education	13	(92.9)	1	(7.1)	
	Secondary and High graduate	11	(78.6)	3	(21.4)	
Occupational status before entering the geriatric home	Unemployed	9	(69.2)	4	(30.8)	<0.001
	Retired	17	(63)	10	(37)	
	Self-employed	27	(50)	27	(50)	
Marital status before entering the geriatric home	Single	19	(52.8)	17	(47.2)	0.579
	Married/Divorced	34	(58.6)	24	(41.4)	
Chronic disease	Yes	24	(53.3)	21	(46.7)	0.568
	No	29	(59.2)	20	(40.8)	
Smoking	Yes	20	(64.5)	11	(35.5)	<0.001
	No	28	(52.8)	25	(47.2)	
	Ex-smoker	5	(50)	5	(50)	
Do you go out from geriatric home to visit anyone?	Yes	35	(83.3)	9	(16.7)	<0.001
	No	18	(34.7)	32	(65.3)	
Does anyone come to the geriatric home to visit you?	Yes	21	(45.7)	25	(54.3)	0.040
	No	32	(66.7)	16	(33.3)	
Do you practice any of these religious spirituals?	Yes	27	(67.5)	13	(32.5)	0.061
	No	26	(48.1)	28	(51.9)	

## Discussion

This study provides a general description of the residents of geriatric homes in Erbil and Sulaymaniyah in terms of socio-demographic characteristics, clinical characteristics, social and recreational activities in addition to assessing their ADL. The study revealed the main activities that are associated with high dependency rate and assessed the factors related to the dependency of ADL. This study adds to the limited available knowledge on this field in Iraqi Kurdistan context. This study might direct the policy makers and manager responsible for providing care to the geriatric persons to identify the needs of this people and direct the action toward the problems identified by this study. This study showed that independency was highest in feeding, oral care, and toileting, while dependency was highest in shopping, climbing stairs and bathing. Several other studies from different setting had similarly revealed high independency in feeding and toileting activities,<sup>9,10</sup> and a relatively high dependency in shopping and bathing activities.<sup>11,12</sup> However, another study from the United States of America (USA) revealed a much lower rate of dependency with bathing (12%) and feeding (2.6%) among the sample of elderly people in comparison to our results.<sup>13</sup> In general, the elderly in the geriatric homes have more impairment and require more assistance to perform ADL compared with the old people living in community.<sup>7</sup> Most study participants did not have any dependent activities. The possible reason behind this result might be attributed to the fact that most participants were in the younger age group of 60-70 years and at that age they can do most of the daily activities. The remaining participants who had dependent ADL were fairly distributed from having one dependent activity to five or more dependent activities. Normal aging changes and health problems usually lead to declines in the physical abilities of the elderly, which make them less independent, less safe and make daily

tasks much harder.<sup>14</sup> The result of our study is in agreement with another study from the USA that revealed a pretty similar proportion (67%) of elderly being independent in all ADL.<sup>2</sup> However, our result disagreed with another study from Spain, which showed that only 34.6% of the participants were categorized as dependent for at least one ADL.<sup>15</sup> The results of the present study also disagreed with another study from France, where 56% of the participants were dependent in one or more ADL.<sup>16</sup> The dependency of ADL was significantly higher in females than males. This result is supported by a previous study that revealed a significant association between the sex and the elder's dependency.<sup>9</sup> In the present study, dependency of the ADL was significantly associated with the educational level of the study participants. Another study similarly reported that education was inversely associated with the occurrence of home care.<sup>17</sup> Our results also agreed with two other studies that revealed a significant association between educational level and the functional impairment and dependency of ADL.<sup>18,19</sup> The dependency of ADL was significantly higher in individuals employed before entering the geriatric house than retired or unemployed. Occupational engagement among older people is viewed within occupational therapy as one of the basic premises for health.<sup>20</sup> The result of our study partially agreed with a study from South Korean, which reported that manual workers showed a positive, significant relationship between work duration and the different measures of function.<sup>21</sup> This study revealed that dependency of ADL was significantly higher in ex-smokers and non-smokers than smokers. The result may be related to having a large number of non-smokers among the residents of the geriatric home. World Health Organization (WHO) stresses that smoking not only increases the risk of diseases such as lung cancer, but it is also negatively related to factors that may lead to important losses in

functional capacity. Smoking can accelerate the rate of decline of bone density, muscular strength and respiratory function.<sup>22</sup> Our results disagree with two other studies that revealed no significant association between smoking and the functional capacity of elderly.<sup>23,24</sup> Dependency was significantly higher among those who were not going out from geriatric home to visit family and friends, whom people were coming to visit them and who were not practicing religious spirituals. In the Islamic society, the family is the source of love, affection and reassurance and the elderly have a high position because they spend their life in growing up the children. The elderly in the geriatric homes are far away from their families and have the sense of loneliness. Engagement with family and friends is a vital issue for the life and functionality of older people.<sup>25</sup> The results of this study agree with another study that revealed presence of significant relationship between social activities like visiting the relatives and participation in a senior citizens club or going on vacation with the number of disabilities in scale of ADL item.<sup>26</sup>

### Conclusion

The level of independency in the different ADL was relatively high, which might be attributed to having a younger age group of elderly in the geriatric homes. Dependency was significantly associated with the sex, education level, past employment status and smoking status of the participants.

### Conflicts of interest

The authors report no conflicts of interest.

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