Daily living Activities among Institutionalized Older Adults with Chronic Immobility

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Abstract

Background: Immobility is a major cause of morbidity and mortality in older adults, aging results in reduced physiological reserve. **Aim of the Study:** The study aimed to assess daily living activities among institutionalized older adults with chronic immobility**. Design:** Descriptive analytical or correlational study to achieve the aim of this study. **Setting:** The study was conducted at all institutionalized health care centers affiliated to the ministry of social solidarity in in Fayoum Governorate. **Subjects:** convenience sample of 150 elderly was used in the study. **Tool:** one tool was used for data collection **First tool:** interviewing structured questionnaires contained five parts that developed by the researcher, **Part I:** Socio-demographic characteristics about elderly inmates in the elderly homes, **Part II:** Medical history of older adults, **Part III:** Older adults' knowledge regarding immobility, Daily living activities, Healthy aging associated changes, comorbidities and healthy safe environment, **Part IV:** Assessment degree of mobility (Elderly mobility scale) (EMS), and **Part V:** BARTHEL INDEX for assessing activity of daily living among elderly in the health care centers. **Results:** the results revealed that more than half of older adult had satisfactory knowledge regarding immobility, more than three quarterly of older adult had satisfactory knowledge regarding daily living activity. Also, one third of older adults had independent level of mobility degree. Where one quarter of them had borderline independent level of mobility and less than half of them had dependent mobility degree. **Conclusion:** There were statistically significant different between sociodemographic characteristic of older adult and degree of mobility. However, there were statistically significant different between sociodemographic older adult and their daily living activities, also statistically significant different between degree of mobility of older adult and their daily living activities. **Recommendations:** Educational programs should be developed and implemented to raise health awareness among older adults with chronic immobility about their disease and how to improve daily living activities,

Key words: Daily living activities, institutionalization, older adults, chronic immobility, safe environment.

Introduction

Ageing is the main condition leading to immobilization which occurs due to skeletal muscle atrophy in humans, in both conditions, muscle force decreases in ageing, slowing of movement occurs. Although a likely explanation for such impairment of muscle performance is loss of muscle mass, recent evidence suggests that a significant contribution might come from changes in the properties of muscle fibres. Maximum shortening velocity and specific force of muscle fibres from vastus lateralis muscle were found to be lower in elderly subjects than in young controls *(Ferrucci et al., 2016).*

Chronic immobilization occurs when the ability to compensate for the cumulative effects of impairments is exhausted and normal daily life becomes a challenge. chronic immobilization can have serious consequences and constitute a major cause of morbidity and mortality in the elderly population, since in old

age there is an increasing risk of osteoporosis, and therefore of bone fractures. Globally, immobilizationare considered one of the main causes of premature death among older adults *(Rhonda et al., 2019)*.

Older adults (Activities of Daily Living) or ADLs is a term used by healthcare professionals to refer to the basic self-care tasks an individual does on a day-to-day basis. An individual's ability or inability to perform ADLs is often used by health professionals as a way of measuring an individual's functional status, especially that of older adults or those with disabilities *(Cobo-Cuenca, 2019).*

Community health nurse play an important role as older adult voice in community apersonalized exercise program and care must be worked out for every hospitalized, chronically ill older adult in order to maintain their physical activity.

Significance of the study

Activities of daily living is one of the most important factors in characterizing the health status of older adults because ADLs are associated with dependence. It is evaluated to determine the levels of care that people should receive. Another aspect of ADL is the ability to predict mortality. In Fact, a number of epidemiologic studies have shown that ADLs' levels predict mortality in elderly population *(Bookman et al., 2016).*

According to a report by the Central Agency for Public Mobilization and Statistics (CAPMAS) the number of older people in Egypt in 2013 reached 6.461.078 persons, 7.8% of the total population, 8.9% of all population in 2016 expected to reach 10.9 % in 2026 and 11.5% in 2031 respectively.

Aim of the study

The aim of this study is to assess daily living activities among institutionalized older adults with chronic immobility through:-
1. Assessing older adults' knowledge regarding immobility.
2. Assessing older adults' activities of daily living.
3. Assessing older adults' degree of mobility.

Research Questions:
1. Is there a relation between socio-demographic characteristic older adult and daily living activities?
2. Subjects and Methods

The subject and methods of the current study were designed under the following main four designs:

I. Technical Design.
II. Operational Design.
III. Administrative Design.
IV. Statistical Design.

I. Technical Design:

Includes research design, setting, subject and tools for data collection.

- **Research Design:**

Descriptive analytical or correlational study to achieve the aim of this study.

- **Setting:**

This study was conducted at all institutionalized health care centers affiliated to the Ministry of Social Solidarity in Fayoum Governorate. There are four institutionalized health care centers namely, Dar Abou Bakr Elsedek, Dar Shafee, Dar Resala and Dar Esha Hassanien.

- **Subjects:**

Convenience sample was used in the study included all older adult clients in institutionalized health care centers who had chronic immobility and over 60 years old. The total number was 150 elderly

	Institutionalized health care centers	No of older adult
1	Dar Abou Bakr Elsedek	40 (25 femal, 15 male)
2	Dar Shafee	30 (20 female, 10

3	Dar Resala	male) 30 (20 female, 10 male)
4	Dar Esha Hassanien	50 (30 female, 20 male)

Tools of the study:

One tool was used for data collection.

Tool: Interviewing structured questionnaire divided into five part developed by the researcher.

- **Part I: Sociodemographic characteristics** to assess age, sex, marital status, education, occupation, income. Q1 – Q6

- **Part II: Medical history** as chronic diseases as cardiac diseases, diabetes mellitus, renal disease, neurological disease, hepatic disease, medication administration, past surgery, accidents, times and place of accidents, complication of accidents, smoking, periodic check up, sleep pattern, and types of sleep disorders. Q7 – Q22

- **Part III: Knowledge of older adult regarding immobility:** to assess older adults' knowledge regarding immobility, it consisted of (26) multiple choice question divided into five dimensions older adults' immobility (5 items), activity of daily living (5 items), changes (5 items), common diseases (7 items), healthy and safe environment (4 items). Q23-Q48

❖ **Scoring system:**

A scoring system was followed to assess older adults' knowledge regarding immobility. Each statement was assigned a score according to elderly of MCQ. Items were summed up and converted into percentage. Correct answer score 2 grads, and incorrect answer score zero. Total knowledge scored as:

-Total score equal 52

-Satisfactory knowledge if score 26 – 52 = ≥50%.

- Unsatisfactory knowledge if score (0 - <26) < 50%

Part IV: Elderly mobility scale (EMS): Adopted from **Nolan, Remilton, Green, 2008.**

This tool provides a standardized mean to assess degree of mobility in older adults. There are 7 dimensions of functional performance evaluated, all of which refer to abilities that are supporting the performing of activities of daily living, it consisted of (7) multiple choice question, lying to sitting, sitting to lying, sitting to standing, standing process, gait, timed walk, and functional reach.

❖ **Scoring system:**

Each of the 7 items consists of answer choices weighing from 0 to 4 points. The final score adds these points to provide a total number of points up to a maximum of 20. There are three categories of interpretations based on the following three ranges of total scores:

- **14 -20:** Elderly is independent in basic activities of daily life and is generally safe at home, however, might require some help.

- **13-10:** Elderly scores borderline independence in activities of daily life and requires some help with mobility maneuver**s**.

- **0 – 9:** Elderly requires help with basic activities of daily life and is dependent of long-term care.

Part V: Barthel Index of Activities of Daily Living. Adopted from **Collin et al., 1988** to assess daily living activities of older adults. it consisted of 10 items of multiple-choice question, bowels (3 items), bladder (3 items), grooming (2 item), toilet use (3 items), feeding (3 items), transfer (4 items), mobility (4 items), dressing (3 items), stairs (3 items). Bathing (2 item).

❖ **Scoring system:**

Sum elderly scores for each item, total possible scores range from 0– 20, with lower scores indicating increased disabily. It was classified into two categories

- **0-9:** Elderly consider dependent.

-10-20: Elderly consider independent.

Content and Face Validity

Reliability:

The pretest was carried out to test the reliability as the following:

Data collection tools	No of Items	Cronbach's Alpha
Older adults' knowledge	26	0.875

II. Operational Design

Operational design for this study consisted of four phases, namely preparatory phase, ethical considerations, pilot study, and fieldwork.

• Preparatory Phase

This phase included reviewing of literature related to elderly knowledge regarding immobility, elderly degree of mobility, elderly activities of daily living, and Assessment of environment of older adults. This served to develop the study tools for data collection. During this phase. the researcher also visited the selected places to get acquainted with the personnel and the study settings. Development of the tools was under supervisors' guidance and experts' opinions were considered.

Ethical Considerations

The ethical research considerations include the following:

Ethical approval was obtained from the scientific research & ethical committee of faculty of nursing Ain Shams University. The investigator clarified the objective and aim of the study to the clients included in this study. The investigator assured maintaining anonymity and confidentiality of data. Clients were informed that they are allowed to choose and participate or not in the study and that they have the right to withdraw from the study at any time. Written consent form was reviewed and assigned by each participant prior to collecting data. Confidentiality was maintained in all data collection forms by using codes to identify

It was ascertained by a group of three experts in community health nursing. Their opinions elicited regarding the format, layout, consistency, accuracy and relevancy of the tools.

regarding immobility		
Elderly mobility scale (EMS)	7	0.766
Barthel Index of Activities of Daily Living	10	0.815
Environmental assessment tool (EAT)	38	0.834

participants instead of names or any personal identification.

Pilot Study

The tools were given to fifteen of older adults they represent 10% of study subjects to determine the applicability of the study, the clarity and feasibility of questionnaire, as well as the time needed for filling the form. This pilot was included into the study sample without modification.

Fieldwork

• After securing the official permission from the directors of institutionalized health care centers, the investigator was met the directors of institutes before applying of the study to determine the suitable time to meet the study subjects.

• The investigator met the study subjects and explained the aim and objectives of the study,

• The investigator collected the data from the subjects at 3days/ weeks.

• The questions of knowledge regarding older adults' immobility were filled by investigator which took 5-10 minutes, the elderly mobility scale, Barthel Index of activities of daily living, and assessment of environment of older adults ckeck lists was filled by investigator in 20 minutes for each client.

III. Administrative Design

An official letter from the faculty of nursing dean was delivered to directors of the intended study settings. A full explanation about the aim of the study was explored elderly consent was obtained to carry out this study.

IV.　Statistical Analysis

Data were collected and coded to facilitate data manipulation and double entered into Microsoft access and data analysis was performed using statistical package of social science (SPSS) software version 18 in windows 7. Simple descriptive analysis in the form of numbers and percentage for qualitative data and arithmetic means as central tendency measurement. Standard deviation as measure of dispersion for quantitative parametric data. Quantitative data included in the study was first tested for normality by one –sample Kolmogorov-Smirnov test in each older adult then inferential statistic tests were selected.

Significant level

>0.05 Non significant <0.05* significant <0.001* High significant.

Results:

Table (1): Shows that, 38.7% of older adults, their age was ranged between 75 to 85 years old, 52.7% of them were males versus

Table (4): Shows that, 54.0 % of older adults had correct knowledge regarding immobility, 76.7% of them had correct knowledge regarding daily living activities, 72.7% of them had correct knowledge regarding healthy aging associated changes while, 66.0% of them had correct knowledge regarding elderly co morbidities, 77.3% of them had correct knowledge regarding healthy and safe environment.

Figure (1): Shows that, 54 % of older adult had satisfactory knowledge score about immobility. While, 76.7 % of them had satisfactory knowledge score about daily living activities. While, 72.7 % of older adult had satisfactory knowledge score about healthy aging associated changes.but, 66% of older adult had satisfactory knowledge score about elderly comorbidities. While 77.3% of older adult had satisfactory knowledge score about healthy and safe environment.

Figure (2): Shows that, 68 % of older adult had satisfactory knowledge score. While,

47.3% were females, 44% of older adult were widow, 30.7% of them had basic educational level. 96% of them retired, and 50.7% of them had not enough income.

Table (2): Shows that 29.9% of them had Cardiac disease, and 88% were receive treatment for chronic disease; 38% of them had previous surgery and 27.3% of them exposed to accidents. 92.7% of them diagnosed as fracture, 87.8 % of them exposed once to accident, also 53.7 % of them exposed to accident at geriatric home, 43.8 % of them had anemia.

Table (3): Shows that, 69.3% of older adult had correct answer regarding meaning of daily living activities, 76.7% of them had correct answer regarding types of daily living activities, 78.7% of them had correct answer regarding factors that affect on daily living activities, while 76.7% of them had correct answer regarding benefits older adult's daily living activities, 80.0% of them had correct answer regarding importance of daily living activities.

32.0 % of them had unsatisfactory knowledge score.

Figure (3): Shows that, 34.0% of older adults show independent level of mobility. while, 20.67 % of them had borderline independent level and 45.33% of them had dependent mobility degree.

Table (5): Shows that, 52.7% of older adults were continent during bowels, 58.7% of them were continent for over 7 days during bladder, 58% of them were independent face, hair, teeth, shaving (implement provided) during grooming. While, 58% of them independent (on and off, dressing wiping) during toilet use, 48% of them were unable during feeding, 47.3% of them were independent during transfer. 40.7% of them were independent (but may use any aide e.g stick) during mobility, 55.3% of them were independent (including buttons, zips, laces, etc) during dressing, 55.4% of them were independent (up and down) during use stairs, 58% of them were independent (or in shower) during bathing.

Table (6): Show that highly statistically significant different between Total barthel index with Age, Education level and income when p-value was <0.001*. Statistically significant different between Total barthel index with Marital status when p-value was <0.05*.

Table (1): distribution of older adults regarding their socio demographic. **(n=150).**

Variables	Frequency	
	Number	**%**
Age / years		
60 - <65 y	38	25.3%
65 - <75y	46	30.7%
75-85 y	58	**38.7%**
>85 y	8	5.3%
Mean±SD	**67.45±7.23**	
Sex		
Male	79	**52.7%**
Female	71	47.3%
Marital status		
Married	45	30%
Divorced	30	20%
Widow	66	**44%**
Single	9	6%
Education level		
Not read and write	9	6 %
Can read and write	24	16 %
Basic	46	**30.7%**
Secondary	40	26,7%
University	31	20,7 %
Occupation		
Retirment	144	**96%**
Work	6	4%
Income		
Enough	74	49.3%
Not enough	76	**50.7%**

Table (2): Distribution of older adults regarding their medical history. **(N=150).**

Items	Frequency (n=127)	
	Number	**%**
Presence of chronic disease		
Cardiac disease	38	**29.9 %**
Diabetes mellitus	31	24.4 %
Renal disease	20	15.7 %
Neurological disease	22	17.3 %
Hepatic disease	16	12.6 %
Past history		
Receive medication for chronic disease.	132	**88%**
Previous surgery	57	38%
Exposed to accident	41	27.3%
Type of accident (41)		
Fracture	38	**92.7%**
Fracture & injury	1	2.4%
Burn	2	4.9%
Times of accident exposure (41)		
Once	36	**87.8%**
Twice	5	12.2%
Place of accident (41)		
Home	19	46.3%
Geriatric home	22	**53.7%**
Complication of accident (32)		
Bed sores.	9	28.1
Anemia.	14	**43.8**
Motor disability.	5	15.6
Deep vein thrombosis.	4	12.5

Table (3): Distribution of older adults regarding their knowledge about daily living activities. **(n=150).**

Daily living activities	Correct answer		Incorrect answer	
	N	**%**	**N**	**%**
Meaning of daily living activities	104	69.3	46	30.7
Types of daily living activities	115	76.7	35	23.3
Factors that affect on daily living activities	118	78.7	32	21.3
Benefits older adult's daily living activities	115	76.7	35	23.3
Importance of daily living activities	120	80.0	30	20.0

Table (4): Distribution of older adults regarding their total knowledge score. **(n=150).**

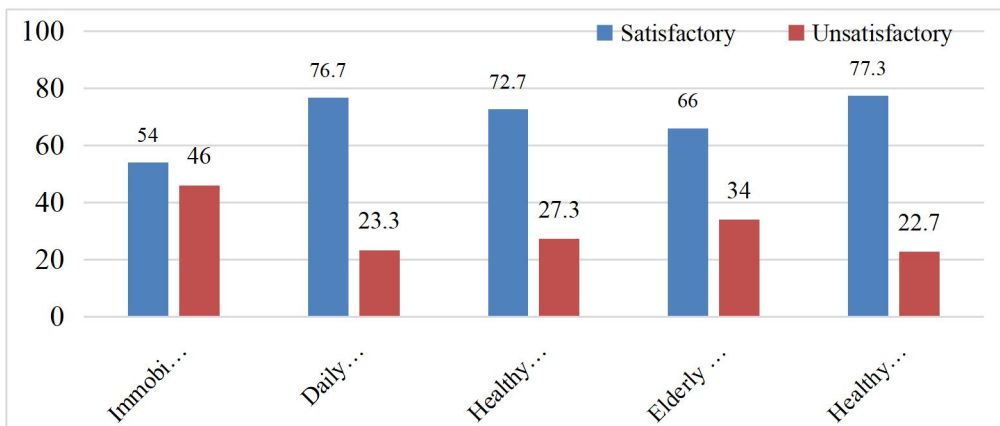| Levels of knowledge	Satisfactory		UnSatisfactory		Mean±SD
	N	**%**	**N**	**%**	
Immobility	81	54.0	69	46.0	12.3±4.3
Daily living activities	115	76.7	35	23.3	12.3±2.8
Healthy aging associated changes.	109	72.7	41	27.3	8.8±2.2
Elderly co morbidities	99	66.0	51	34.0	16.5±4.3
Healthy and safe environment	116	77.3	34	22.7	9.9±2.3

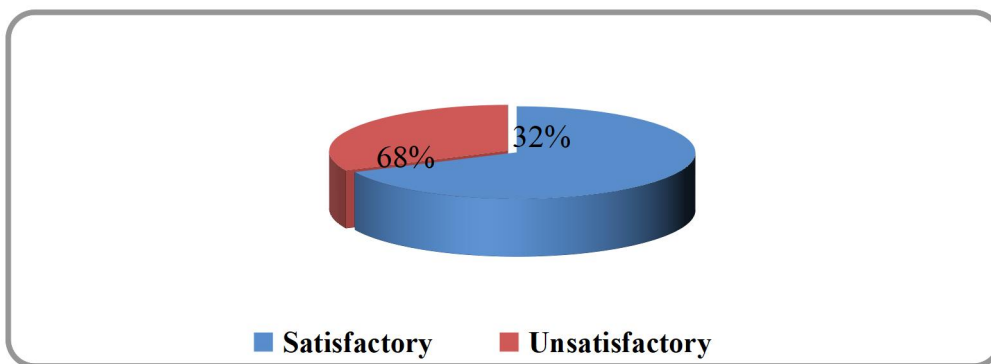**Figure (1):** Distribution of older adults regarding their total knowledge about immobility. (n=150).

Figure (2): Distribution of older adults regarding their total knowledge. **(n=150).**
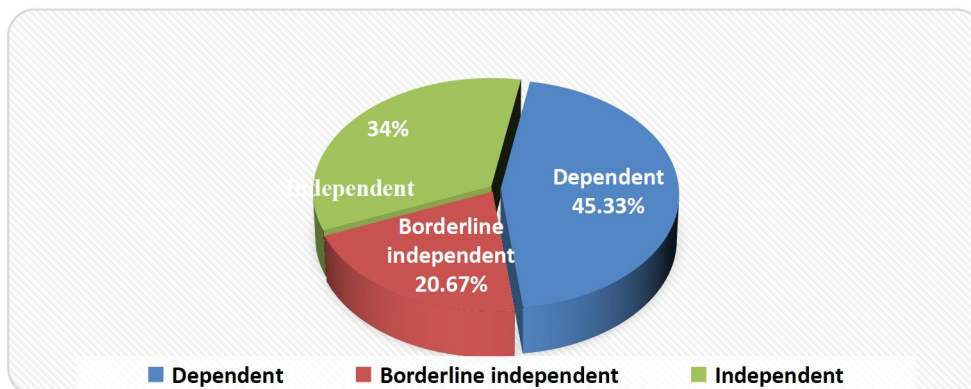

Figure (3): Distribution of older adult regarding their total mobility degree (EMS berg balance scale) (n=150).

Table (5): Distribution of older adult regarding their daily living activity (Barthel index) (n=150).

Barthel index (n=150)	Frequency Number	%
Bowles		
Incontinent (or need to be given enemata)	14	9.3%
Occasional accident (once per week)	57	38%
Continent	79	**52.7%**
Bladder		
Incontinent or catheterized and unable to manage.	49	32.7%
Occasional accident (max once per 24hrs)	13	8.6%
Continent (for over 7 days)	88	**58.7%**
Grooming		
Need help with personal care	63	42%
Independent face/hair/teeth/ shaving(implements provided)	87	**58%**
Toilet use		
Dependent	53	35.3%
Need some help but can do something alone	10	6.7%
Independent (on and off, dressing wiping)	87	**58%**
Feeding		
Unable	72	**48%**
Needs help cutting, spreading butter,etc	6	4%
Independent (food provided within reach)	72	48%
Transfer		
Unable – no sitting balance	58	38.7%
Major help (one or two people, physical).can sit	15	10%
Minor help (verbal or physical help)	6	4%
Independent	71	**47.3%**
Mobility		
Immobile	28	18.7%
Wheelchair independent. including corners,etc.	20	13.3%
Walks with help of one person (verbal or physical help)	41	27.3%
Independent(but may use any aid.e.g stick)	61	**40.7%**
Dressing		
Dependent	56	37.3%
Needs help.but can do about half unaided	11	7.3%
Independent (including buttons, zips, laces,etc)	83	**55.3%**
Stairs		
Unable	44	29.3%
Needs help (verbal or physical. carrying aid)	23	15.3%
Independent (up and down)	83	**55.4%**
Bathing		
Dependent	63	42%
Independent (or in shower)	58	**58%**

Table (6): Relation between socio-demographic characters and daily living activities (Barthel index)**.**

		Independent		Dependent		Total	Chi-square	
		N	%	N	%		X^2	P-value
Age								
	60- <65 y	30	36.6	8	11.8	38		
	65- <75 y	28	34.1	18	26.5	46	19.150	
	75- 85 y	22	26.8	36	52.9	58		<0.001*
	>85 y	2	2.4	6	8.8	8		
Sex								
	Male	43	52.4	36	52.9	79	0.004	0.951
	Female	39	47.6	32	47.1	71		
Marital status								
	Married	33	40.2	12	17.6	45		
	Divorced	15	18.3	15	22.1	30	13.571	0.004*
	Widow	27	32.9	39	57.4	66		
	Single	7	8.5	2	2.9	9		
Education level								
	Not read and write	3	3.7	6	8.8	9		
	Can read and write	8	9.8	16	23.5	24	16.532	
	Basic	21	25.6	25	36.8	46		0.002*
	Secondary	31	37.8	9	13.2	40		
	University	19	23.2	12	17.6	31		
Occupation								
	Retirment	77	93.9	67	98.5	144	2.072	0.150
	Work	5	6.1	1	1.5	6		
Income								
	Enough	55	67.1	19	27.9	74	22.774	<0.001*
	Not enough	27	32.9	49	72.1	76		

Discussion

Activities of daily living (ADL) are one of the most important factors in characterizing the health status of frail older adults. Because ADL is associated with dependence, it is ordinarily evaluated to determine the levels of care that people should receive. Another aspect of ADL is its ability to predict mortality. In fact, a number of epidemiologic studies have shown that ADL levels predict mortality in elderly populations *(Bonafé et al., 2021).*

So, the current study aimed to assess daily living activities among institutionalized older adults with chronic immobility.

The result of this study was classified and discussed under five main parts, the first part dealt with assessment of older adult socio demographic characteristics, the second part focused on medical history of older adult, the third part focused on assessment of older adult knowledge about immobility, life activity, healthy aging associated syndromes, changes, and healthy safe environment the fourth part focused on assessment the safety of Home environment and the final part displays the relation between the study variables.

Part I: Assessment of older adult socio demographic characteristics:

Regarding the socio demographic characteristics of older adults in **Table (1)**; the present study revealed that, one third of older adults, their age was ranged between 75 to 84 years old with Mean ± SD of 67.45±7.23. This result was accordance with *Indu et al. (2018)* who studied a qualitative study on the mental health needs of elderly in Kerala and found that majority of elderly' ages ranged from 65: 85 years. Also, these results were supported by *Bergland et al., (2017)* who studied mobility as a predictor of all-cause mortality in older men

and women and found that a mean age 76.7 years.

Regarding sex distribution in **Table (1)**; there was predominance for males as more than half of the participants were males. These results were supported by *Ajayi et al. (2020)* who studied the profile and determinants of successful aging in the eight contiguous states in Nigeria and found that more than half of the participants were men*.* Conversely, this result was agreement with *Bezerra et al. (2019)* who studied a new methodology for use by a single caregiver to bathe bedridden elderly persons using advanced mechatronic systems" and found that majority of elderly persons were female. These findings come in contrast with *Bergland et al. (2017)* who found that 56.4% were women.

Also, these findings came in contrast with *Ferreira et al. (2016)* who studied the prevalence of falls and evaluation of mobility among institutionalized elderly persons in Brasilia, and showed that there was a predominance of females more than half among the elderly people, these findings came in contrast with *Castaldo et al. (2020),* who studied risk factors associated with accidental falls among Italian nursing home residents and showed that women were more than half in the elderly population.

Regarding the older adults' marital status in **Table (1)**; the present study showed that more than half of them were widowed. This finding supported by *Hany, (2019)*, who studied quality of life and mental emotional health of elderly people in Egypt and showed that less than half of study subjects were widowed*.* Conversely, this result was disagreement with *Moreira et al. (2019)* who studied design of a biomedical kit for bedridden patients: a conceptual approach and found that majority of elderly persons were married.

Regarding the older adults' education level in **Table (1)**; the present study showed that one third of them were not read and write. Majority of them were not working, and half of them had not enough income. This result was accordance with *Indu et al. (2018)* who studied a qualitative study on the mental health needs of elderly in Kerala and found that majority of elderly had insufficient monthly income. Conversely, this result was disagreement with *Bezerra et al. (2019*) who studied a new methodology for use by a single caregiver to bathe bedridden elderly persons using advanced mechatronic systems" and found that less than half of them had university education.

From the researcher point of view, this result may be due to all participants were elderly people, and majority of them were male, widowed and lived in geriatric homes because elderly were lose their wives.

Part II: Medical history of older adult:

Regarding the medical history of this study as observed in **table (2)**, the present study showed that less than one third of older adult have cardiac disease and were received treatment. Then less than half had previous surgery, followed by one third of them had past history of accidents.

These finding supported by *Badr et al. 2017,* who studied health status, family support and depression among residents of elderly homes and those living with families in Benha city and showed that the high prevalent ischemic heart diseases and hypertension among older adult followed by diabetes and high percent of elderly suffering of hearing and visual impairment among both elderly groups. In addition to, this result was supported with *Lubenow & Silva, (2019)* who studied the elderly think of the care provided by health services in Brasilia and found that majority of elderly persons had chronic disease that affect negatively on their daily living activities.

This result was in congruence with *Chen & Luo, (2018)* who studied the effect and effectiveness evaluation of sit-up training on elderly bedridden patients and found that majority of elderly people suffering from chronic disease such as cardiac disease, muscles atrophy, and gastrointestinal problems. Conversely, this result was disagreement with *Herath et al., (2017)* who studied the adjustable bed with real time data monitoring and

analyzing for bed ridden elderly people" and found that majority of elderly people had unsatisfactory knowledge for chronic disease.

These finding supported by ***Ferreira et al. (2016)*** in his study showed that the most prevalent chronic diseases were related to systemic arterial hypertension in Brasilia, reported that more than half of the elderly, and stroke (one quarter) and demonstrated that the chronic disease with the highest prevalence was arterial hypertension, also following the trend presented in other studies ***(Roquete et al., 2017; Park, 2018 and Immonen et al., 2020).*** Also, this result was disagreement with ***Wicha et al., (2018)*** who studied health status of dependent older people and pattern of care among caregivers in Thailand and found that majority of elderly persons had normal health status.

Part III: Assessment of older adult knowledge about immobility, daily living activity.

Regarding the assessment of older adult knowledge as observed in **(Figure 1);** more than half of older adult had correct answer regarding definition of immobility, half of them had correct answer regarding of causes of immobility. More than half of them had correct answer regarding risk factors of immobility. More than half of older adult had satisfactory knowledge regarding immobility. While, nearly half of them had unsatisfactory knowledge regarding immobility.

This result was supported with ***Kaur et al., (2019)*** who studied the assessment of functional status and daily life problems faced by elderly in a North Indian city and found that majority of elderly people had good knowledge about chronic immobility. Conversely, this result was disagreement with ***Hiramitsu et al., (2018)*** who studied healthcare needs of the elderly people over 85 years living alone in Japan and found that more than half of elderly had unsatisfactory knowledge about immobility that affect negatively on their satisfaction.

From the research point of view, this result may be due to elderly people receive information regarding their diseases that

enhance their knowledge and adapted with chronic immobility.

Regarding knowledge of older adult about daily living activity as found in **(Table 5 & Figure 2);** Showed that, more than two third of older adult had correct answer regarding definition of daily living activities, more than three quarterly of them had correct answer regarding types of daily living activities, correct answer regarding factors that effect on daily living activities, had correct answer regarding benefits older adult's daily living activities. More than three quarters of older adult had satisfactory knowledge regarding daily living activity While, nearly one quarter of them had total unsatisfactory knowledge regarding daily living activity.

This result was in disagreement with ***Jerez et al., (2017)*** who studied dynamics of activities of daily living performance in institutionalized older adults and found that majority of elderly people had correct answer about level of knowledge about daily living activities for elderly people. In contrast, this result was disagreement with ***Srivastava et al. (2020)*** who studied the role of socio-economic inequality in physical immobility among older adults and found that more than one third of older adults had poor knowledge about daily living activity.

From the researcher point of view, this result may be due to elderly people want to be independent in practicing their daily living activity normally and adapt with their health status.

Regarding knowledge of older adult about healthy aging associated changes in (**Figure 3);** more than half of older adult had correct answer regarding the physiological changes, more than three quarterly of them had correct answer regarding biochemical changes, while more than two third of them had correct answer regarding cognitive changes. Most of them had correct answer regarding behavioral changes. Nearly three quarters of older adult had satisfactory knowledge regarding healthy aging associated changes. While, more than one

quarter of them had unsatisfactory knowledge regarding healthy aging associated changes

Regarding to total knowledge score among older adults as showed in **(Table 9 & Figure 6);** more than half of older adults had satisfactory knowledge regarding immobility, more than three quarterly of them had satisfactory knowledge regarding daily living activity, had satisfactory knowledge regarding healthy aging associated changes. More than two thirds of older adult had satisfactory knowledge score. While, nearly one third of them had unsatisfactory knowledge score.

This result was in agreement with *Jaul et al. (2018)* who studied an overview of co-morbidities and the development of pressure ulcers among older adults and found that more than half of elderly people had satisfactory knowledge about immobility and bed ridden. Conversely, this result was accordance with *Darjani et al. (2020)* who studied immobility among the old age residents in a nursing home and found that more than two thirds of elderly people had low level of knowledge about immobility**.**

Regarding distribution of older adult according to their degree of mobility (EMS berg balance scale) as revealed in **(Figure 7);** less than half of older adults need help from one person from sleep to sitting and didn't need help from sitting to sleep. while, more than one third of them need help from one person from sitting to standing and during standing, more than one third of older adult walk with help but not safe during walking, more than half of them need less than 15 sec during walking for certain time, half of them need more than 20 cm during functional reach.

This result was supported with *Simões et al., (2020)* who studied group pain neuroscience education and dance in institutionalized older adults with chronic immobility and found that majority of elderly people needed to assistant to move during standing, moving. Also, this result was congruence with *Faronbi et al., (2019)* who studied caring for the seniors with chronic illness: the lived experience of caregivers of older adults and found that half of elderly

people had moderate level of dependent on others.

According to distribution of older adult according to their daily living activity (Barthel index) as shown in (**Table 11);** more than half of older adults not need help during bowels, not need help during control urination, not need help during grooming, not need help during toilet use process, not need help during dressing, not need help during use stairs, not need help during bathing. Nearly half of older adults show dependent level in daily living activity. While, more than half of them was independent regarding daily living activity.

This result was supported with *Ahmad et al. (2020)* who studied the association between functional limitations and depression among community-dwelling older adults in Malaysia" and found that more than half of elderly people needed to help to practice their daily living activities such as: bathing, toilet use and dressing. On the other hand, this result was disagreement with *Hami et al. (2019)* who studied the prevalence of geriatric giants among older people in Kelantan Malaysia and found that majority of elderly people had dependent level on others to help them in all daily living activities.

From the research point of view, this result may be due to elderly people suffering from heart attacks, suffering from angina, suffering from congestive heart, suffering from joint pain, more than half of them had always suffering from stiffness in the extremities, complain from always back pain suffering from swelling in the hands with pain that effect on their movement and dependency on daily living activities.

Also there was highly statistically significant different between Total barthel index with Age, Education level and income (p-value was <0.001).While statistically significant different between total barthel index with Marital status was found (p-value was <0.05) **(Table 24)**. This goes with a study done by *Naimi et al. (2017)* to determine the quality of life (QOL) of retired older adults in Tehran who

found that income sufficiency was significantly related to both domains of QOL.

Conclusion

Based on the results of the present study, it can be concluded that the mean age of the studied sample was 67.45±7.23, and the most common disease is cardiac disease, most of the studied older adults exposed to accident at institutional health care center. The current study also showed that there were statistically significant relation between socio demographic characteristic of older adults and degree of mobility. However, there were significant relation between sociodemographic older adult and daily living activities. As well as, there were significant relation between degree of mobility of older adult and their daily living activities.

Recommendations

In the light of findings of the present study the following recommendations are suggested:

1- Education program should be developed and implemented to raise health awareness for all institutionalized older adults with chronic immobility about their diseases and how to improve daily living activities.

2- Provide continuous health education to all institutionalized older adults with chronic immobility about their health needs and problems.

3- Further studies about institutionalized older adults with chronic immobility and their knowledge, needs and problems.

References

Ahmad, N. A., Abd Razak, M. A., Kassim, M. S., Sahril, N., Ahmad, F. H., Harith, A. A., and Mohd, S.. (2020): Association between functional limitations and depression among community-dwelling older adults in Malaysia. Geriatrics & gerontology international, 20, 21-25.

Ajayi, S., Oladeji, B. & Abiona, T. (2020): Association between depression and hypertension in the Ibadan Study of Ageing. African Journal of Medicine and Medical Sciences; 49(4): 521-30.

Badr, S. and Shaheen, H., (2017): Health Status, Family Support and Depression among Residents of Elderly Homes and Those Living with Families in Benha City and Associated Factors. The Egyptian Journal of Community Medicine; January 35(1): 81 – 97.

Bezerra, K., Machado, J., Carvalho, V., Soares, F., Matos, D., Castro, M.,... & Lopes, H., (2019): A New Methodology for Use by a Single Caregiver to Bathe Bedridden Elderly Persons Using Advanced Mechatronic Systems. In Healthcare 7(4): p. 124. Multidisciplinary Digital Publishing Institute.

Bonafé, M., Jorge, M. S. G., Portella, M.R., Doring, M., Scortegagna, S.A., & Wibelinger, L.M. (2021): Factors related to chronic immobility in institutionalized elderly. BrJP, 3, 314-317.

Castaldo, A., Giordano, A., Incalzi, R.A. and Lusignani, M., (2020): Risk factors associated with accidental falls among Italian nursing home residents: a longitudinal study (FRAILS). Geriatric nursing; 41(2): 75-80.

Chen, H. & Luo, Y., (2018): The Effect and Effectiveness Evaluation of Sit-up Training on Elderly Bedridden Patients. Journal of Clinical and Nursing Research, 2(5).

Darjani, A., Alizadeh, N., Rafiei, E., Moulaei, M., Naseri Alavi, S. H., Eftekhari, H., & Mohtasham-A., Z. (2020): Skin Diseases among the Old Age Residents in a Nursing Home: A Neglected Problem. Dermatology Research and Practice, 2020.

Fabbri, M., Zoli, M., Gonzalez-Freire, Marcel, E. Salive, Stephanie, A., Studenski, and Luigi Ferrucci, (2018): Aging and Multimorbidity: New Tasks, Priorities, and Frontiers for Integrated Gerontological and Clinical Research, Journal of Gerontology, on Jul. 16. 18(7): P.240.

Faronbi, J.O., Faronbi, G. O., Ayamolowo, S.J. & Olaogun, A.A., (2019): Caring for the seniors with chronic illness: The lived experience of caregivers of older adults. Archives of gerontology and geriatrics, 82, 8-14.

Ferreira, L.M., Jerez-Roig, J., Andrade, F.L., Oliveira N.P., Araújo, J.R. and Lima, K.C. (2016): Prevalence of falls and evaluation of mobility among institutionalized elderly persons. Revista brasileira de geriatria e gerontologia; 19, 995-1003.

Hami, R., Hassan, M. H. M., Kadir, A. A., Ismail, H. C., & Bachok, N. A. (2019): Prevalence of geriatric giants among older people in Kelantan Malaysia. Malaysian Journal of Medicine and Health Sciences, 15(2): 16-21.

Hany, A. (2019): Quality of life and mental emotional health of elderly people. Jurnal Ilmu Keperawatan: Journal of Nursing Science; 6(1): 22-8.

Herath, W. B. P. N., Ranasinghe, R. A. K. I., Sandaru, M. P. C., Lakmali, I. A. S., Aluthgama, A. G. N. K., & Abeysingh, A. M. A. P. (2017): Adjustable Bed with Real Time Data Monitoring and Analyzing For Bed Ridden Elderly People.

Hiramitsu, O., Moriyama, M., Osaki, K., Sakamoto, R., Sakamoto, M., Maeno, S. & Rahman, M. M. (2018): Healthcare needs of the elderly people over 85 years living alone on the Island area in Japan: a descriptive study. Health, 10(04): 516.

Immonen, M., Haapea, M., Similä, H., Enwald, H., Keränen, N., Kangas, M., Jämsä, T. &Korpelainen, R., (2020): Association between chronic diseases and falls among a sample of older people in Finland. BMC geriatrics; 20(1): 1-2.

Indu, P. V., Remadevi, S., Philip, S. & Mathew, T. (2018): A qualitative study on the mental health needs of elderly in Kerala, South India. Journal of Geriatric Mental Health, 5(2): 143.

Jaul, E., Barron, J., Rosenzweig, J.P. & Menczel, J.,(2018): An overview of co-morbidities and the development of pressure ulcers among older adults. BMC geriatrics, 18(1): 1-11.

Jerez-Roig, J., Ferreira, L. M. D. B. M., de Araújo, J. R. T. & Lima, K. C. (2017): Dynamics of activities of daily living performance in institutionalized older adults: A two-year longitudinal study. Disability and health journal, 10(2): 279-285.

Juan, M.C.,-Torres, María A.R.-B., José, A., Laredo-Aguilera, Pablo, J. L.-S., Esmeralda S.-Salas & Ana Isabel Cobo-Cuenca (2019): Disability for basic and instrumental activities of daily living in older individuals, journal of orthopedic, Jul. 26(9), Pp. 201.

Kaur, S., Bhalla, A., Kumari, S. & Singh, A. (2019). Assessment of functional status and daily life problems faced by elderly in a North Indian city. Psychogeriatrics, 19(5): 419-425.

Lubenow, J.A.M., & Silva, A.O. (2019): What the elderly think of the care provided by health services. Revista Brasileira de Geriatria e Gerontologia, 22(2):

Moreira, F., Matos, D., Carvalho, V. & Soares, F. (2019): Design of a biomedical kit for bedridden patients: a conceptual approach. In IECON 2019-45th Annual Conference of the IEEE Industrial Electronics Society 1, pp. 6859-6865).

Naimi, A.J, Naderiravesh, N., Bayat, Z.S, Shakeri, N. & Matbouei, M. (2017): Correlation between health literacy and health-related quality of life in patients with hypertension, in Tehran, Iran, 2015–2016. Electronic physician; 9(11): 5712.

Park, S.H. (2018): Tools for assessing fall risk in the elderly: a systematic review and meta-analysis. Aging clinical and experimental research; 30(1): 1-6.

Rhonda, L., Babine, K, E., Hyrkäs, Caitlin, G., Mckenzie and Heidi, R. (2019): Mobilizing older adults: A multi-site,

exploratory and observational study on patients enrolled in the Hospital Elder Life Program (HELP), Geriatric Nursing journal, 40 (3): Pp. 233-346.

Roquete, F.F, Batista, C.C. and Arantes R.C. (2017): Care and management demands of long-term care facilities for the elderly in Brazil: an integrative review (2004-2014). Revista Brasileira de Geriatria e Gerontologia.; 20: 286-99.

Simões, P., Andias, R., Simões, D. & Silva, A.G. (2020). Group pain neuroscience education and dance in institutionalized older adults with chronic immobility: a case series study. Physiotherapy theory and practice, 1-9.

Srivastava, S., Patel, R., Chauhan, S., Kumar, P. & Dhillon, P. (2020): The Role of Socio-Economic Inequality in Physical Immobility Among Older Adults: Did the Scenario Changed from 2004-05 to 2017-18?.

Wicha, S., Saovapha, B., Sripattarangkul, S., Manop, N., Muankonkaew, T., & Srirungrueang, S. (2018). Health Status of Dependent Older People and Pattern of Care among Caregivers: A Case Study of Hong Ha Health Promoting Hospital, Lampang, Thailand. Asian Journal for Public Opinion Research, 5(3): 228-249.