

Assessment of Daily Living Activities Among Elderly Patient with Low Back Pain at Ministry Health Hospitals

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Abstract

Background: Low Back Pain is a very common health problem amongst population and a major cause of disability that affects work performances and well-being. **Aim:** to assess daily living activities among elderly patient with low back pain. **Subject and methods:** Descriptive research design was conducted. Purposely the total number was 600 elderly patients, The study was conducted at orthopedic outpatients' clinics in (Al-Arbaeen) and (Al-Shamla). Three tools were used, **Tool 1:** Individual interview questionnaire include three parts (**a**): socio-demographic characteristics of elderly patients (**b**): Medical data of elderly patient which included past, present history (**c**): elderly Patients knowledge regarding low back pain, **Tool 2:** Wong Baker Face Pain Rating Scale used to measure pain levels. **Tool 3:** physical assessment scale. **Results:** it was found that the mean \pm SD 64.89 ± 4.64 , (50.8%) were males and 58.8% of them had poor level of knowledge regarding low back pain and there was a significant negative correlation between Wong Backer Faces Rating and Activities Daily Living Scale ($r = -0.373$ & $P = 0.006$). **Conclusion:** There was a statistical significant relationship between level of education and assessment of low back pain related daily activity living and there was a significant negative correlation between Wong Backer Faces Rating Scale and Activities Daily Living Scale. **Recommendations:** Health education program for elderly patients to increase knowledge about risk factors and its causes and healthy life style through well balanced diet regimen and physical activity.

Keywords: Daily Living Activity, Elderly & Low Back Pain.

Introduction

Low back pain (LBP) is a leading cause of disability. It occurs in similar proportions in all cultures, interferes with quality of life and work performance, and is the most common reason for medical consultations. The lower back pain is the greatest burden when humans perform a variety of movements and acts as the central axis of the body during our movements in everyday life (Tong et al., 2018). Globally, about 40% of people have LBP at some point in their lives, with estimates as high as 80% of people in the developed world. Approximately 9 to 12% of people (632 million) have LBP at any given point in time, and nearly one quarter (23.2%) report having it at some point over any one-month period (Buchbinder et al., 2018).

It is not a specific disease but rather a complaint that may be caused by a large number of underlying problems of varying levels of seriousness (Olafsson et al., 2018).

The majority of LBP does not have a clear cause but is believed to be the result of non-serious muscle or skeletal issues such as sprains or strains. Obesity, smoking, weight gain during pregnancy, stress, poor physical condition, poor posture and poor sleeping position may also contribute to low back pain (Simmonds et al., 2012).

The common presentation of acute low back pain, pain develops after movements that involve lifting, twisting, or forward-bending. The symptoms may start soon after the movements or upon waking up the following morning. The description of the symptoms may range from tenderness at a particular point to diffuse pain (Troost et al., 2018).

LBP lead to impairments in quality of life and in the activities of daily living (ADLs); as a consequence, they further lead to dependency, institutionalization and increased health-care costs. These musculoskeletal diseases have been defined as one of the major health priorities both on international level as well as on national level (Machado et al., 2018).

The gerntological nurse can observe the patient's posture, abnormal position and how the road. On physical examination, reviewed the curvature of the spine, the iliac crest and shoulder symmetry. Para spinal muscle spasm palpated and recorded presence and tenderness. Patients assessed the existence of obesity because it can cause lower back pain. Gerntological nurses need to explore the experience of low back pain from the viewpoint of the client. The advantage for clients pain assessment is that the pain is identified, recognized as something tangible, measurable, can be explained, and used to evaluate treatment (Foster et al., 2018).

Significance of the study

Low back pain is more common among elderly people aged 40-80 years, with the overall number of individual affected expected to increase as the population ages. It is not clear whether men or women have higher rates of low back pain (Hartvigsen et al., 2018).

Low back pain has a negative impact on performances at work and general well-being, leading to physical, social and psychological problems (Prieske et al., 2019).

Aim of the Study

To assess daily living activities among elderly patient with low back pain.

Research question

1. Is there a lack of knowledge about low back pain among elderly patients?
2. Is there an effect of low back pain on level of dependent.

Subject & Method

Descriptive research design was utilized.

Setting

This study was conducted at orthopedic outpatients clinics in General El-Eman Hospital (El- Arbaeen). It located in Mubarak City. It consist of 6 floors and 350 beds . and Assuit General Hospital (El- Shamla). It located in El- Magzob square, It consist of 3 floors and 204 beds , and those services all Assuit city and all surrounding villages.

Sampling: Total number of elderly patients at orthopedic outpatient clinics representative in six months was (600) elderly patient for both sexes ; elderly patient aged from 60-75 years and not complain of any other diseases associated with lower back pain.

Tools: Three tools were utilized for information gathering after rereading significant writing.

Tool I: Individual interview questionnaire was developed by researcher for data collection, it includes three parts. **Part 1:** includes socio-demographic characteristics as, age, sex, residence, marital status, income, occupation, and level of education. **Part 2:** includes Medical data of elderly patient which included past , present history such as chronic disease, and medication. **Part 3:** structure items for patients knowledge regarding low back pain as (definition, sign and symptoms, risk factors , and complications). The total optimal score = 17 point, this score ranged between (0) for incorrect answer, (1) for correct answer and represent 100% for all items for every question which categorized into three

levels as poor levels $0 \leq 50$, Fair level $50 \leq 70\%$ and good level $70-100\%$.

Tool II: The Wong Baker Face Pain Rating Scale.

This Scale was developed by (Hockenberry, et al., 2015). evaluate pain and measure pain levels. The total score = 10 point, this score ranged between **Face 0** doesn't hurt at all, **face 2** hurts just a little bit, **face 4** hurts a little bit more, **face 6** hurts even more, **face 8** hurt a whole lot, **face 10** hurts as much as you can imagine, although you don't have to be crying to have this worst pain. and represent 100% for all items for every question which categorized into three levels as mild levels $0 \leq 50$, moderate level $50 \leq 70\%$ and severe level $70-100\%$.

Tool (3): Physical assessment scale: this is an assessment questionnaire, which is modified from BARTHEL INDEX to assess the level of dependence for patients. It covers mobility, transferring, bathing, dressing, toileting, continence, feeding, Stairs, exercises, and grooming. The optimal score = 20 point, classified into: dependent (≤ 7), need help (8-12) and independent (≥ 13). The score ranged between (0-1-2) for every point, which is composed of three items for every point, it contain ten point by score (2) for independent performance (full function), score (1) fore needing assistance in performance (moderate impairments) and score (0) for total dependent performance (sever functional impairments) (Dijkhuizen, et al., 2016).

Operational phase

Official letters were issued from the Faculty of Nursing Assuit University to obtain approval to carry out the study and interview the patients in the selected governmental hospital. Approval to carry out this study was obtained from director of El-Eman Assuit hospital and El-Shamla hospital.

Pilot study

was done before beginning information gathering on 10% (n = 60) of elderly patients to test clarity, feasibility of questionnaire and estimated the time needed for filling it. This percent was excluded from the overall sample. After that the essential changes were prepared and final form was developed and used in data collection.

Content Validity: The tool was investigated by (5 experts), from community health nursing and gerontological nursing staff in Assiut University to test relevance of the contents, clarity and comprehension sentences of the tools.

Reliability was analyzed by Cronbach's alpha the value was 0.900.

Ethical consideration: Ethical approval oral was attained from the ethical committee at the faculty of nursing at Assuit university. Oral consent is taken

from each patient who participates in the study. Confidentiality of obtaining information is assured, the purpose and the nature of the study is explained to all participants. An official permission was obtained from the head of General El- Eman Hospital (El-Arbaeen), and Assuit General Hospital (El- Shamla) to carry out the study .

Data Collection (Field work)

Data were collected during the period from July to December, the investigator started with introducing himself and explains the aim of study for the selected patients, assured that the data collected will be confidential and would be only used to achieve the purpose of the study. The data collection was carried out in four days of week during morning shift from (9.00am to 1.00pm) in Orthopedic outpatients clinics in General El-Eman Hospital (El-Arbaeen) from (Saturday to Sunday), and Assuit General Hospital (El- Shamla) from (Tuesday to Wednesday). The participants were also assured about anonymity, and that data used for the purpose of the study. The questionnaires were read, explained and the choices were recorded by the investigator. Sometimes the answers of questions took by observation of patient facial expression. The investigator read questions and waits until patients complete the questionnaire for illiterate patients, while patients who read and write took questionnaire and filled it by themselves. Questionnaire took about 20 minute for illiterate patients and 15 for literate patients to complete the tool. The investigator filled (8-10) sheet from patients daily.

Statistical analysis

Data were computerized and analyzed by computer program SPSS (ver.18). Information was exhibited by utilizing graphic measurements as frequencies and rates or means \pm standard deviations for subjective information. Quantitative information was compared about utilizing Independent examples t-test for examinations among two set. Subjective variables were looked at utilizing chi-square test to determine significance.

Results

Table (1): Distribution of Socio-demographic characteristics among elderly patients at Assiut City, (N=600).

Sociodemographic data	n. (600)	%
Age: (years)		
60 - < 65	285	47.5
65 - < 70	186	31.0
≥ 70	129	21.5
Mean ± SD (Range)	64.89 ± 4.64 (60.0 – 80.0)	
Sex:		
Male	305	50.8
Female	295	49.2
Residence		
Urban	290	48.3
Rural	310	51.7
Educational level		
Illiterate	168	28.0
Read & write	81	13.5
Basic education	116	19.3
Secondary	139	23.2
University	96	16.0
Marital status		
Married	476	79.3
Divorced	12	2.0
Widow	112	18.7
Occupation before retirement		
Farmer	92	15.3
Employee	171	28.5
Skilled worker	91	15.2
Housewife	246	41.0
Number of elderly family member		
3 – 4	283	47.2
5	182	30.3
> 5	135	22.5
Live with family		
Yes	528	88.0
No	72	12.0
Social assistance		
Yes	326	54.3
No	274	45.7

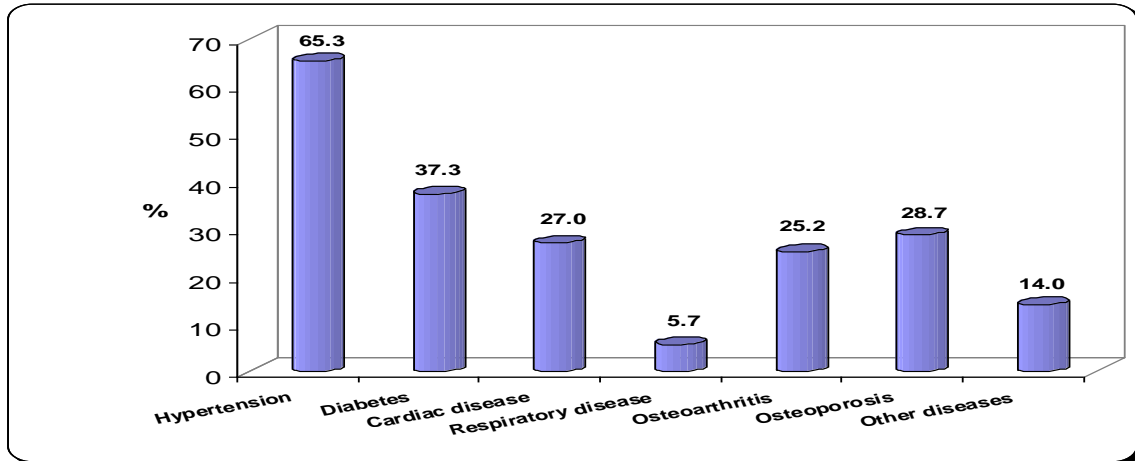


Fig. (1): Distribution of medical history of the elderly patients

Table (2): Distribution of elderly patient's knowledge about exercise.

Exercise	n. (600)	%
Practice of exercise:	246	41.0
Type of exercise		
Walking	122	49.6
Running	111	45.1
Bicycles	16	6.5
Climb of stairs	33	13.4
How many times do you practice exercise?		
One time/ day	123	50.0
Two times/day	75	30.5
Three times/day	40	16.3
More than three times/ day	8	3.3
Duration do you spend to practice exercises? (246)		
< 15 minutes	76	30.9
15-30 minutes	150	61.0
>30 minutes	20	8.1

- More than one answer

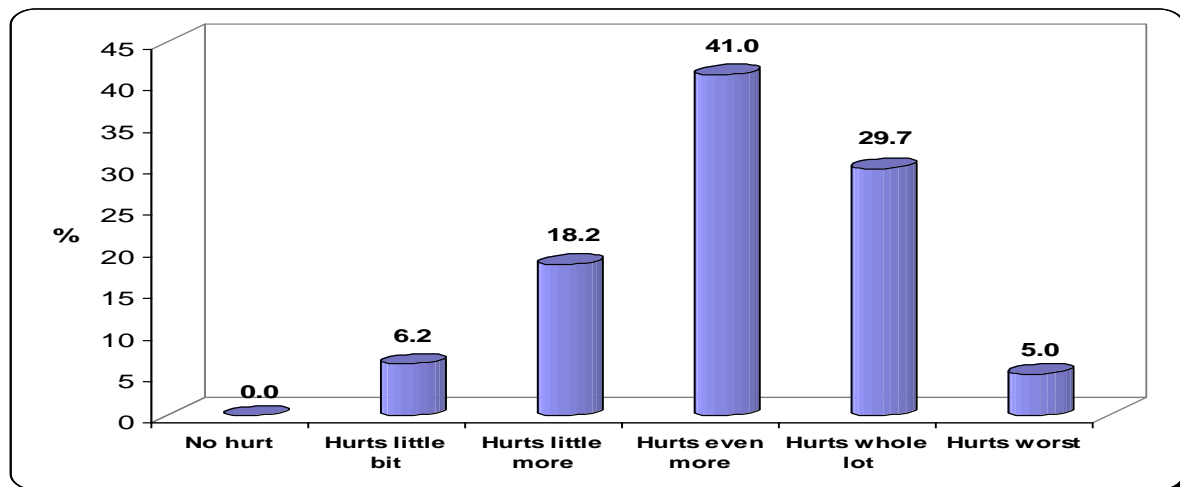


Fig. (2): Wong Backer Faces Rating Scale.

Table (3): Distribution of level of dependence among studied participants in orthopedic outpatients clinics at Assiut City Hospitals.

Level of dependence	n. (600)	%
Bathing		
Dependence	44	7.3
Independence	556	92.7
Dressing		
Dependence	48	8.0
Independence	552	92.0
Toileting		
Dependence	50	8.3
Independence	550	91.7
Transferring		
Dependence	183	30.5
Independence	417	69.5
Continenence		
Dependence	86	14.3
Independence	514	85.7
Feeding		
Dependence	120	20.0
Independence	480	80.0

@ Dependence not mean completely dependent

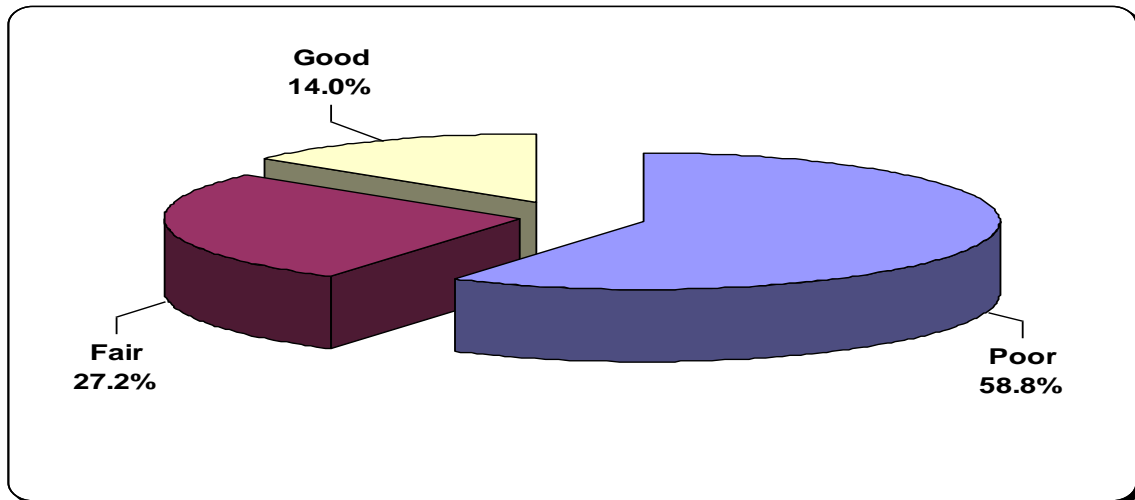


Fig. (3): Level of knowledge about low back pain.

Table (4): Relationship between level of knowledge about low back pain and personal data among elderly participants.

	Knowledge level						P-value	Total
	Poor		Fair		Good			
	No.	%	No.	%	No.	%		
Age: (years)								
60 - < 65	171	60.0	77	27.0	37	13.0	0.955	285
65 - < 70	109	58.6	50	26.9	27	14.5		186
≥ 70	73	56.6	36	27.9	20	15.5		129
Sex								
Male	190	62.3	76	24.9	39	12.8	0.215	305
Female	163	55.3	87	29.5	45	15.3		295
Residence								
Urban	174	60.0	80	27.6	36	12.4	0.556	290
Rural	179	57.7	83	26.8	48	15.5		310
Educational level								
Illiterate	116	69.0	49	29.2	3	1.8	0.000*	168
Read & write	61	75.3	13	16.0	7	8.6		81
Basic education	81	69.8	22	19.0	13	11.2		116
Secondary	53	38.1	50	36.0	36	25.9		139
University	42	43.8	29	30.2	25	26.0		96
Marital status								
Married	281	59.0	126	26.5	69	14.5	0.660	476
Not married	72	58.1	37	29.8	15	12.1		124
Occupation before retirement								
Farmer	78	84.8	12	13.0	2	2.2	0.000*	92
Employee	83	48.5	52	30.4	36	21.1		171
Skilled worker	58	63.7	25	27.5	8	8.8		91
Housewife	134	54.5	74	30.1	38	15.4		246

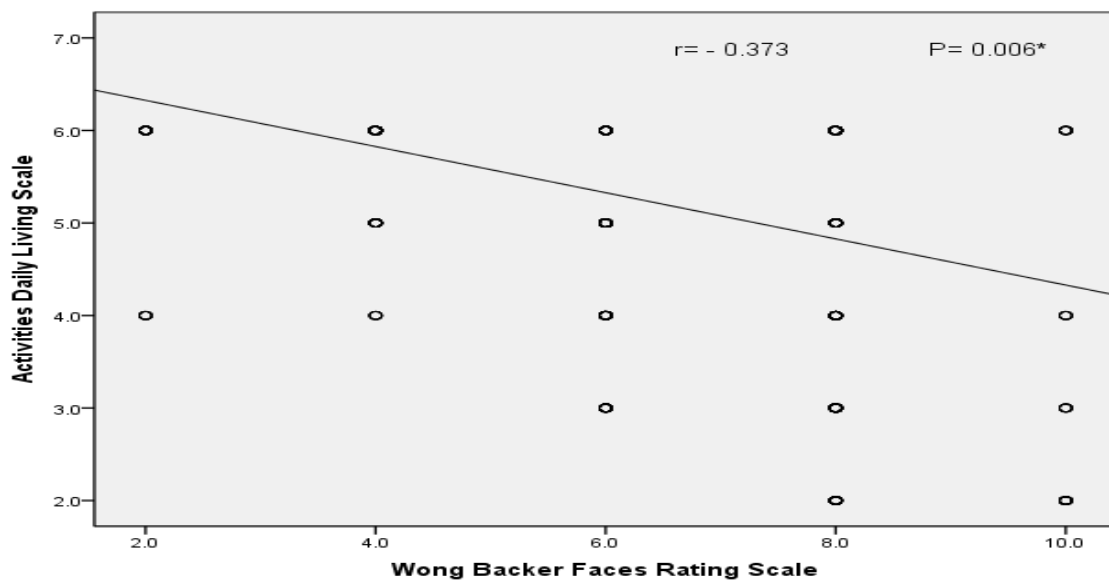


Fig. (4): Correlation between Wong Backer Faces Rating Scale and Activities Daily Living Scale.

Table (5): Correlation of age with Wong Backer Faces Rating Scale and Activities Daily Living Scale.

	Age (years)	
	r-value	P-value
Wong Backer Faces Rating Scale	0.014	0.727
Activities Daily Living Scale	-0.154	0.000*

Table (1): Showed that the mean age of the elderly patients ranged from 60-80 years, with mean \pm SD 64.89 ± 4.64 . Also, it was found that; more than half of them (50.8%) were males and from rural areas, 28.0% of them were illiterate, about 79.3 % of them were married. Regarding occupation before retirements, 41.0% were housewives, and 28.5% were employees. Also, this table presents that 88.0% of them lives with their families, and more than half of them (54.3%) needs social assistance.

Figure (1): Showed that the hypertension and diabetes were the most common chronic diseases (56.3% and 37.3% respectively) among elderly patients. Also, it is clear that 42.8% of the participants were current smokers, and 4.7% of them were drug addicted. Regarding to allergies, 12.7% had drug allergy and 4.8% had food allergy, more than one-third of them need assistance, 16.8% had previous surgery, and 19.3% of them exposed to previous accidents.

Table (2): Illustrated that 41.0% of the elderly patients were practicing exercise; the most common types of exercise were walking and running (49.6% and 45.1% respectively). Also, it was found that one-half of them were practicing exercise once per day, about two-thirds of them (61.8%) were practicing exercise for 15-30 minutes.

Figure (2): Illustrated that only 6.2% of the elderly patients were hurt little bit, while 41.0% of them were hurt even more, and only 5.0% were hurt worst.

Table (3): It was noticed that 92.7% of them bathing independent, 92.0% were dressing independent, 91.7% were toileting independent, while 69.5% were transferring independent, 85.7% were continence independent, and 96.7% of them were feeding independent.

Figure (3): Showed the level of knowledge about low back pain. It was found that 58.8% of the elderly patients had poor level of knowledge, more than one-quarter had fair level of knowledge, and only 14.0% of them had good level of knowledge.

Table (4): Showed that there was a statistical significant relationship between level of education and level of knowledge about low back pain.

Fig. (4): Showed correlation between Wong Backer Faces Rating Scale and Activities Daily Living Scale. It was found that there was a significant negative correlation between Wong Backer Faces Rating Scale

and Activities Daily Living Scale ($r = -0.373$ & $P = 0.006$).

Table (5): Shows correlation of age with Wong Backer Faces Rating Scale and Activities Daily Living Scale. It was found that there was a significant negative correlation between age and Activities Daily Living Scale ($r = -0.154$ & $P = 0.000$).

Discussion

Chronic low back pain (LBP) is a common health problem with a strong societal impact. According to the US Burden of Disease Collaborators, LBP has consistently accounted for the largest number of years lived with disability in the US population in 1990 and also in 2010. While many epidemiologic studies and prospective clinical trials have been conducted on chronic LBP, studies have been difficult to compare and reproduce, due to inconsistent chronic LBP definitions and varying assessments (**Shmagel et al., 2016**).

The present study showed that the mean age of elderly patients ranged from 60-80 years, with mean \pm SD 64.89 ± 4.64 . Also, it was found that; more than half of them were males and from rural areas, less than one third of them were illiterate and the most of them were married. Regarding occupation before retirements, more two fifth were housewives, and less than one third was employees. Also, the majority of them lives with their families, and more than half of them need social assistance. This study come in accordance with (**Oduah, 2018**) who studied "Chronic Low Back Pain: A Needs Assessment for Practice Change" and reported that more than two third of the survey participants were females, while one third of them were males. The majority of the patients were within the 50 to 70 age group.

This study also agree with (**Wong et al., 2017**) who studied Low back pain in older adults: risk factors, management options and future directions" reported that Older adults, aged 65 years or above, are the second most common age group to visit physicians for LBP and Females are more susceptible to chronic LBP than males regardless of age. Also this study come in consistent with (**Rundell, 2014**) who studied "The transition from a new episode of back pain to persistent pain and disability in older adults" and found that the mean age were 73.9 and SD and more than one third of the participant were male.

The present study showed that more than half of the participants experience pain gradually and deep. This result comes in line with (Stensland, 2017) who studied "Everything I Do Is A Struggle And Everything I Do Leaves Me In Pain": Older Adults' Lived Experience of Chronic Low Back Pain" and reported that more than half were experience severe pain.

The present study also showed that more than one quarter of patients had experienced pain from more than one year. This result were contraindicated with (Rundell, 2014) who told that only less than tenth of the participant the pain started for one year ago and less than one third started pain from one month, but (Oduah, 2018) reported that the length of time that the participants have had experienced of chronic low back pain from 14.95 year.

The present study illustrated that low back pain decreased with meditation in about in more than two third of the participants, and low back pain referred to other side in about three-quarters of them. This result come in the line with (Zgierska et al., 2016) who studied "Mindfulness meditation and cognitive behavioral therapy intervention reduces pain severity and sensitivity in opioid-treated chronic low back pain: Pilot findings from a randomized controlled trial" reported that meditation-intervention reduced pain severity and sensitivity to experimental thermal pain stimuli in patients with opioid-treated chronic low back pain. This was confirmed with (Coaccioli et al., 2016) Who studied "Meditation as a useful chance for chronic pain decrease" and reported that meditation is a practice that should be highly recommended within a non-pharmacological approach for chronic pain therapy. This study it is further evidence that meditation might be a valuable strategy for chronic pain patients.

In regarding the health status for elderly patients this study showed that more than half of the studied sample suffers from hypertension and more than one third suffer from diabetes. This result come in accordance with (Stensland, 2017) who reported that more than two fifth of the studied sample suffer from hypertension and more than one fifth of them suffer from diabetes. It come in consistent with (Nawai, 2017) who reported that more than two fifth of the participant were suffered from heart disease and less than one fifth were suffered from diabetes, also (Wong et al., 2017) found that females, hypertension, joint pain, pre-existing LBP, and loneliness, were predictors for developing persistent LBP in individuals aged 70 years.

The present study showed that more than one-third of studied sample need assistance, this were confirmed with (Rasmussen et al., 2016) who studied "A multi-

faceted workplace intervention targeting low back pain was effective for physical work demands and maladaptive pain behaviors, but not for work ability and sickness absence: Stepped wedge cluster randomized trial" and said that One of the consequences that has been reported in relation to LBP is reduced work ability, which is also a predictor of sickness absence. This may be due to the elderly people may suffer from multiple diseases that affect their ability to perform their own needs, so they may need assistance.

In regarding to elderly knowledge about low back pain the present study clarified that more than half of studied participants had poor knowledge about low back pain. This result were confirmed with (Jones et al., 2016) who studied "Pain in the elderly" and founded that many patients are simply not aware of the effective treatment options that exist currently. This may be related to low educational level and absence of health education.

Regarding to importance of exercise the present study showed that more than half of the participants mentioned that sports was important in case of low back pain and it decreases low back pain and it's important for muscle strengthening. This come in accordance with (Wong et al., 2017) who reported that walking for 30 min on five or more days a week and strength exercises on two or more days per week lowered the risk of persistent LBP after adjusting for age and body mass index.

In regarding to the intensity of low back pain the present study showed that more than one third of them were hurt even more. This may be related to the causes of low back pain and other precipitating factor In regarding relationship between level of knowledge about low back pain and personal data among elderly participants, the present study showed that there were a statistical significant relationship between level of education and level of knowledge about low back pain. It may be related to the high educational level the high knowledge about own health status and own disease.

The present study illustrated that there was a significant negative correlation between Wong Backer Faces Rating Scale and Activities daily living scale. It may because the intensity of pain affect the ability of the person to perform the daily activity living. This come in the line with who studied "The effect of low back pain on daily activities and sleep quality in patients with lumbar disc herniation: a pilot study" reported that disability in activities of daily living and sleep quality are directly affected by low back pain and increase with pain intensity (Kose et al., 2019).

The present study also showed that there was a significant negative correlation between age and Daily Living activities Scale ($r = -0.154$ & $P = 0.000$). This result come in the line with (Stenhagen et al., 2014) who studied Both deterioration and improvement in daily living activities are related to falls: a 6-year follow-up of the general elderly population study good aging in skåne" and reported that both deterioration and improvement in ADL over the course of 6 years increased the risk for falls in a general elderly population.

Conclusion

Assessment of low back pain more than half of the elderly patients had poor level of knowledge , there was a statistical significant difference regarding the relationship between the level of education and knowledge about low back pain and there was a significant negative correlation between Wong Backer Faces Rating Scale and Activities Daily Living Scale.

Recommendations

Based on the results of the present study, it can be recommended that

- 1- Health education program for elderly patients to increase knowledge about risk factors and its causes and healthy life style through well balanced diet regimen and physical activity.
- 2- Future research to evaluate effect of educational program to improve self-management of lower back pain.
- 3- Publications and posters should be available in every hospital or home library to increase knowledge about low back pain .

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