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Assessment Of Activities Of Daily Living Among Adult Patients With Lumbar Disc

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Abstract

Background: *Activities of daily living among adult patients with lumbar disc (LD) is abarrier between their needs and abilities to implement them, there is a strong correlation between patients' condition and reduced physical activity.* ***Aim:*** *The aim of this study is to assess the activities of daily living among adult patients with lumbar disc* ***Research design:*** *Descriptive study was used.* ***Setting:*** *The study was conducted at Out-patient clinics of neurosurgery in Makkah Hospital* ***Results:*** *[1]The study found that total satisfactoryknowledge of adult patients regarding LD was 25%, the total poor practice regarding daily living activity among adult patients with lumbar disc was 68% and total moderate pain score among adult patients with lumbar disc was 49%.* ***Conclusion****: There was a statistically significant relation between income & BMI and patient practice with p-value (<0.043-<0.049respectivley), there was a statistically significant relation between instrument activities of dailyand pain scale of patient practice with p-value (<0.004-<0.025 respectivley).* ***Recommendations:*** *Lumbar disc rehabilitation programs must be developed for LD patients asit is the best predictor of their compliance of optimal ADLs and life style management are to beachieved by the patients.*

Keywords: *Activity of daily living, Lower bake pain, Lumbar disc and Lawton instrumental activities of daily living scale*

Introduction:

The lumbar spine consists of 5moveable vertebrae numbered L1-L5. The complex anatomy of the lumbar spine is a remarkable combination of these strong vertebrae, multiple bony elements

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linked byjoint capsules, and flexible ligaments/tendons,large muscles, and highly sensitive nerves. Italso has a

complicated innervation and vascular supply. The lumbar spine is designed to be incredibly strong, protecting the highly sensitive spinal cord and spinal nerve roots. Atthe same time, it is highly flexible, providing for mobility in many different planes including flexion, extension, side bending, and rotation**(Miller et al., 2016).**

The intricate structures in the spine can lead to pain, and pain can be concentrated the neck or back, and/or radiate to the extremities or be referred to other parts of the body, the large nerve roots that go to the legs and arms may become irritated or pinched, the smaller nerves that innervate the spine may be irritated due to inflammation or degeneration, the large paired back muscles(erector spine) may be strained due to overuse or an injury, the bones, ligaments or joints themselves may be injured, thedisc space in between the vertebrae may become painful though any of the various joint complexes in the spine may degenerate and lead to pain **(Foster et al., 2018).**

Adult patients with acute low back pain should gradually increase their level ofactivity by using pacing, which involvesmodification of behavior to improve function, manage symptoms, and reduce recurrence and disability for those experiencing pain. Activity limitation might be required if physical activity causes symptoms to spread (pain or other symptoms radiating to the leg); temporary modifications are often necessary for people to continue to remain active. Adult patient with acute low back pain shouldmove in ways that work best for them to reduce pain and improve or maintain mobility. They should return to work orother life roles quickly, applying strategies that are appropriate to their work environment, using modifications as necessary, and minimizing the risk ofprolonged disability. Most adult patient with acute low back pain should be encouraged to return to work withmodifications, even if they still feel some back discomfort, because working will not cause further damage to their back**(Mustard et al., 2017).**

Adult patients who are recovering from an acute episode of low back pain should be advised that recurrent episodes are common and that remaining physically active and participating in regular exercise may lessen these recurrences so modified duties should allow adult patients to ensure a safe work environment, given their current health status. Adult patients with Lumbar disc and low back pain to continue being physically active, moving around within their level of pain tolerance, doing more each day, and returning to work and other life roles as early in their treatment as possible. Convey the importance of not resting in bed, because bed rest will reduce their overall health and well-being. Once patients feel better, they should continue with their regular activities **(Brosseau et al.,2018).**

Activities of daily living include personal care, continence, toileting, walking, feeding, work, and leisure.Instrumental activities of daily living include doing housework, preparing meals, shopping, and managing medications.Physical activity any bodily movement produced by the musculoskeletal system that necessitates energy expenditure, including activities that are done while working, playing, carrying out household chores, caregiving, travelling, and engagingin recreational pursuits **(Busse et al., 2017).**

The community health nurse haveimportant role in adult patient with lumbar disc to encourage positive changes inknowledge, beliefs, and behavior. adult patient with acute low back pain who receive education from a health care professional feel less fearful and more in control of their health and should beoffered information on the nature of their symptoms; reassurance about the low risk for serious underlying lumbar disc disease; reminders about the importance of continuing their usual activities and remaining mobile; and guidance on self-managing their current and recurrent symptoms. Self-management involves goal setting to encourage patient's self- confidence to manage their pain successfully and increase daily

functioning.Empowering patients to take control of their condition by self-managing their symptoms is important to their recovery, and helps them overcome any misconceptions associated with back pain **(Marin et al., 2017)**.

Community health nurses help adult patient with lumbar disc to follow guidelines plan through a safe and effectiveexercise program to condition the back. The key goals of engaging in exercise and fitness activities are to prevent futureproblems. Patients should always consult with a physician prior to beginning any exercise or fitness program. A healthcare professional can assist with thedevelopment of an appropriate list of back exercises and activities in which to engage or avoid; specific training and expertise with exercise and fitness programs for pain relief. It's particularly important to see a health professional with expertise in spinal conditions and back pain, as different back conditions often require very different exercise programs **(Wong et al., 2017).**

Significance of the study:

Lumbar disc disease is a major medical, social, and economic problem in both developed and developing countries. It often affects all life domains from fairly basicself-care activities to advance and complex social interactions, work, and leisure activities and eventually has a profound impact on daily living activity secondary to LBP; both acute and chronic LBP have important societal consequences in terms of health costs,productivity loss due to sick leave and working incapacity in spite of their benign nature and favorable course. In the United States, it has been reported that 149 million working days are lost per year due to LBP, leading to loss of annual productivity cost of
$28 billion. In UK alone, the combined direct and indirect costs associated with LBP are estimated to be over £12 billion annually **(Taylor et al., 2016).**

The average 1-year prevalence ofLBP among adults it was 50%. The averagelifetime prevalence of LBP among adults it was 62%. The findings support the global burden of disease of LBP and suggest that LBP prevalence among Africans is rising andis of concern **(Louw et al., 2015)**.

Aim:

The aim of this study is to assess theactivities of daily living among adult patientswith lumbar disc through:

1- Assessing socio-demographiccharacteristic of adult patients withlumbar disc.
2- Assessing adult patient's knowledge regarding lumbar disc.
3- Assessing adult patient's practices regarding lumbar disc.
4- Assessing adult patients with lumbar discregarding activities of daily living.

Research questions

1- Is there relation between socio- demographic characteristic and past historyfor adult patients with lumbar disc?
2- Does lumbar disc effecting on adult patient's daily living activities?
3- Is there relation between knowledge of adult patients with lumbar disc and theiractivities of daily living?
4- Is there relation between practices of adultpatients with lumbar disc and their activities of daily living?

Subjects and Methodology

Research design:

Descriptive study was used to describe various aspects of the phenomenon. In its popular format, descriptive research used to describe characteristics and/or behavior of sample population. An important characteristic of descriptive research relates to the fact that while descriptive research can employ a number of variables, only one variable is required to conduct a descriptive study. Three main purposes of descriptive studies can be explained as describing, explaining and validating research findings.

A descriptive analytical study was used to meet the investigator aim.

Setting:

The study was conducted at Out- patient clinics of neurosurgery in Makkah Hospital, Saudi

Sample:
Purposive sample was used for selection lumbar disc patients' who consisted of 100 patients according to the following criteria:

a- inclusion criteria
Diagnosed patients with lumbar disc,their age from 21- 55 years, both males & females and willing to participate in the study.

Free from any surgical operation related to lumbar and spinal cord.

b- Exclusion criteria
Diagnosed patients had surgical operation related to lumbar and spinal cord.

Tools for data collection:
It was developed by the investigator after reviewing the national and international related literature. Two tools were used for datacollection:

First tool: A structural interviewingquestionnaire has been used in the study and includes the following parts:

Part 1: Is concerned with socio- demographic data about the adults patient with lumbar disc it included age, sex, marital status, education level, occupation, occupation requer, residence and income.

Part 2: Assessment of patient'sknowledge regarding lumbar disc it included definition of lumbar disc, types of lumbar disc, causes of lumbar disc, symptoms of lumbar disc, diagnosis of lumbar disc, treatment methods of lumbar disc and preventions of lumbar disc (Q9- Q15), Table 2)

❖ **Scoring system of knowledge:**

The scoring system was followed according to the adult patients' responses toquestion; it was ranged form one point to thesatisfactory answer and zero to the unsatisfactory answer. The total responses ofquestions was 7 items equal to (100%) and according to adult patient answer, their knowledge satisfaction were categorized as satisfactory ≥50% and unsatisfactory <50%.

Part 3: Assessment of patient'sreported practices with lumbar disc; it included daily body position, body mechanics when carrying objects and nutrition.

❖ **Scoring system of adult patient's practice:**
It contains 25 items by score 2 for good and 1 for poor. The table score for adult patient's practices was 50 points classified into: good ≥ 50% = (25-50) points and poor < 50% = (0-24) points.

Part 4: Basic activities of daily living (KATZ) scale for patient with lumbar disc; it included bathing, dressing, toileting, transferring, continence and feeding **(KATZ, 2014).**

❖ **Scoring system of BDLA:**
It contains 6 items by score 1for independent and zero for dependent (need help) which mean needs help. The total score of BDLA divided into 6 indicate full function, 4 indicates severe functional impairment.

Part 5: Lawton instrumental activitiesof daily living scale (LIADL**)** for patient withlumbar disc; it included ability to telephone, ability to shopping, ability to food preparation, ability to housekeeping, ability to do laundry,ability to use transportation, responsibility formedication and ability to handle finances **(Lawton & Brody, 2012).**

❖ **Scoring system of Lawton scale:**
It contains 31 items by score 1 for independent and zero for dependent which mean needs help. The total score for instrumental activities of daily living was 31 points classified into independent ≥50%
= (16-31) points and dependent <50% = (0-
15) points.

Part 6: Low back pain scale for patient with lumbar disc, the scale used to assess the effect of back pain on patient dailyliving activities; it included pain intensity during personal care, lifting, walking, sitting,standing, sleeping, social life, traveling and employment / homemaking **(Fritz & Irrgang,2012).**

❖ **Scoring system of pain:**
Each question has 3 levels of answers: "severe pain", "moderate pain "and "mild pain". These were respectively scored (3, 2 and 1). The score of itemswere summed up and the total divided by the number of the items, these scores were converted into a percent score; they were evaluated as follows:

- Mild pain referred to score <50
- Moderate pain referred to score from50< 75
- Severe pain referred to score from 75- 100

Second tool: Outpatient medical record, it included weight, height, BMI, medication, medical history, onset of diagnose, causes of lumbar disc, follow-up of the disease continuously, symptoms of the disease that appeared, health instructions from medical team, side effects of drug intake,psychological status, physical examination and medical investigations.

Validity and reliability:

Testing validity of the proposed toolusing face, content validity added to constructvalidity by using factor analysis. Face validityaimed at inspecting the items to determine whether on face of it the tool measures what period and fulfilling inclusion criteria was be included. It was necessary for the investigator to introduce herself andexplained briefly the nature and aim of the study before each interview. Data were collected by the investigator using a simplified Arabic language to be suitable for the patient. Each patient was interviewed individually and each interview took approximately from quarter to half an hour. The investigator read the questions and waits until the patient complete the questionnaire for patients whodo not read and write.

i. Administrative design:
To carry out this study, thenecessary approvals were obtained

Ethical consideration:
At the initial interview, each potential patient was informed about thenature, purpose, and benefits of the study, and informed that his/her participation is voluntary, confidentiality and anonymity ofthe subjects were also assured through coding of all data. The investigator assured

that the data collected and information will be confidential and would be used only to improve their health and for the purpose of the study.

i. Statistical Design:

Testing the reliability through Cronbach's Alpha reliability analysis.

(Reliability of the used tool or instrument) the reliability score of tool as above is (0.840, 0.893, 0.872, 0.937 and 0.915)for Total Knowledge, Total Practice, Total Kitz, Lawton Scale and Pain Scale respectively.

While validity score of tools is (0.941, 0.931, 0.883, 0.978 and 0.927) for patients for Total Knowledge, TotalPractice, Total Kitz, Lawton Scale and PainScale respectively, this indicated high total internal consistency of the used tool.

Statistical analysis:

Recorded data were analyzed using the statistical package for social sciences, version 20.0 (SPSS Inc., Chicago, Illinois, USA). Quantitative data were expressed as mean± standard deviation (SD). Qualitativedata were expressed as frequency and percentage.

The following tests were done: Chi- square (x^2) test of significance was used in order to compare proportions between two qualitative parameters. The confidence interval was set to 95% and the margin of error accepted was set to 5%. So, the p- value was considered significant as the following: Probability (P-value) P-value <0.05 was considered significant.

Results:

Table (1): shows the distributionof demographic characteristics amongpatients included in this study. As regardsage, 36% of them their age were from 40-<50 years, means ± SD was 43.78± 6.13, 56% were male, 83% of them were married, according to level of education, 54% their education were secondary education, 59% of them were worker, 41% of them were not worker, 93% of them were live in urban area, 67% ofthem had unsatisfied income.

Socio-demographic Data	No.	%
Age (years)		
21<30 years	4	4
30- <40 years	29	29
40-<50 years	36	36
50-<55 years	31	31
Mean ±SD	43.78±6.13	
Sex		
Male	56	56
Female	44	44
Marital Status		
Married	83	83
Single	3	3
Divorced	4	4
Widowed	10	10
Education Level		
Do not read or write	2	2
Write and read	11	11
Second education	54	54
High education	33	33

Occupation		
Worker	59	59
Not worker	41	41
Residence		
Urban	93	93
Rural	7	7
Income		
Satisfied	33	33
Unsatisfied	67	67

Figure (1): Distribution of adult patient with lumbar disc total shows that 25% of them had satisfied knowledge and75% of them had unsatisfied knowledge.

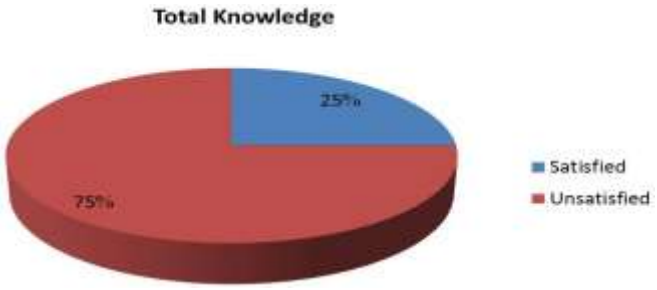

Table (2): shows the relation between patient's satisfied total knowledge. The result found that, there were statistically significant relationbetween practice, DLA and pain scale with p-value (<0.05 significant).

Total Knowledge test					**Chi-square**	
Items	**Unsatisfied <60% (N=75)**		**Satisfied >60% (N=25)**		**x2**	**p-value**
	No.	**%**	**No.**	**%**		
Total Practice						
Poor <60%	55	73.3%	13	52.0%	3.922	0.048*
Good >60%	20	26.7%	12	48.0%		
Basic daily living activities						
Independence	21	28.0%	1	4.0%	6.294	0.012*
Dependence	54	72.0%	24	96.0%		
Instrument activities of daily						
Independence	23	30.7%	5	20.0%	1.058	0.304
Dependence	52	69.3%	20	80.0%		
Pain Scale						
Low pain (<50%)	23	30.7%	15	60.0%		
Moderate pain (50-70%)	41	54.7%	8	32.0%	6.853	0.033*
Severe pain (70%-100%)	11	14.7%	2	8.0%		

Table (3): found that there were highly statistically significant relation between basic daily living activities with patient practice with p-value (<0.001highly significant) and there were statistically significant relation between Instrument daily activities and pain scale with patient practice with p-value (0.004 - 0.025 significant).

Total Practice					**Chi-square test**	
Item (N=68)	**Poor <60%**		**Good >60% (N=32)**		**x2**	**p-value**
No.		**%**	**No.**	**%**		
Basic daily living activities						
Independence	21	30.9%	1	3.1%	8.115	<0.001**
Dependence	47	69.1%	31	96.9%		
Instrument daily activities						
Independence	22	32.4%	6	18.8%	7.949	0.004*
Dependence	46	67.6%	26	81.3%		
Pain Scale						
Low pain (<50%)	26	38.2%	12	37.5%		
Moderate pain (50-70%)	32	47.1%	17	53.1%	6.642	0.025*
Severe pain (70%-100%)	10	14.7%	3	9.4%		

Discussion:

Spinal pain is a serious medical and socio-economic problem since its occurrence has a negative psychological impact on the affected person. In turn, neckand low back pains cause personal suffering and interfere with every aspect of daily life, especially during work. The experience of pain, its duration, as well as disabilities associated with pain affect the way of its perception disability on dailyliving activities, which developed secondary to low back pain, in patients with lumbar disc disease and treated either conservative or surgically. Maximum loading on the lumbar spine occurs in the anterior bending position by sitting and standing positions. Therefore, pain is observed in lumbar disc disease mostly during the physical activities, dressing, sitting, and standing. Back pain is the leading cause of occupational disability in the world and the most common cause of missed workdays **(Bible et al., 2018).**

Discussion of the result waspresented in seven sections. The first one will discuss the socio-demographic data. The second section will discuss the patients' knowledge about the disease and the third section will discuss practices of adult patients. The fourth sections discuss the daily living activities characteristics for patients with lumbar disc. Fifth section willdiscuss instrumental DLAs for patients with lumbar disc disease. Sixth section will discuss LBP for adult patients with lumbar disc disease. Seventh sections will discuss statistical association among study variables.

Part (I): Demographiccharacteristics of adult patients withlumbar disc:

The finding of the present study revealed that the majority of adult patients with lumbar disc, age ranged between 40≤50years with mean age was 43.78±6.13. In a similar study done by **Kakutani et al. (2017)**Prospective Cohort Study of Performance Status and Activities of Daily Living after Surgery for Spinal Metastasis in India foundthat the lumbar disc is more common in theaged persons less than 50 years. This could bedue to prodctivity of this age group long

worke time and exsesive responsibility.

As regards to sex, the finding of the present study showed that more than half ofpatients with lumbar disc were males. This finding is congruent with of **Simons and Radebold (2015),** Effects of external trunk loads on lumbar spine stability in Srilanka which reported that **60%** males were affected more than females **40%**, who suffer from LD. this finding is also similar to that of **Cholewicki and Mc Gill, (2016),** Mechanical stability in the in vivo lumbar spine: implications for injury and chronic low back pain in New York study showed that more than three fifths were males and less than two fifths were females. This was to assign them to heavy work and heavy lifting more than women.

Regarding to marital status, thepresent study finding revealed that the majority of the sample were married. This in agreement with **Mcgill, (2017)** Low back stability from formal description to issues for performance and rehabilitation in United States. Mentioned that the majority were married. This result is also on line with that of **Magnusson et al. (2013),** will unexpected load and asymmetric posture asetiologic factors in low back pain inCanada who mentioned that the majority (89%) of patients were married. These results may be due to increasedresponsibilities about family which in turn increases stress woke for parent.

Regarding to educational level, the present study result revealed that more thanhalf of the patients under study were finishing secondary education. This findingagreed with **Mcgill, (2017),** concerning the level of education, the majority of the patients under study was educated. This could be due to the most job opportunities require educated employees, such as factories, in addition to service places that require sitting for long periods at the computer.

Regard to results of the present study showed that more than half of adult patients with lumbar disc were worker and Thirty-three of them not worker.This finding is agreed with **Fathallah et al. (2016),** Stooped and Squatting Postures in the Workplace. Oakland, California who reported that patient's occupation with LD was for the majority of patient's employers,the minorities of them were not worked. This could be due to their failure to follow the proper body position during the completion of their tasks.

Concerning residence, the finding ofpresent study showed that the highestpercentages of the patient were living inurban areas while the least percentages wereliving in rural area. This result disagreed with **Kirkhorn et al. (2017)**, Ergonomic risks and musculoskeletal disorders in productionagriculture: recommendations for effective research to practice, and also agreed with **Park et al. (2016)**, Risk factors for back painamong male farmers: analysis of Iowa FarmFamily Health and Hazard Surveillance Study in Shandong, China. This results because thestudy sample in government hospital inside Cairo who frequented it most of the workersand craftsmen who frequented internalemigration to Cairo in search of work.

As regards patient's income in the present study revealed that more than two thirds of lumbar disc patients had unsatisfied income. This result was in contrast with **Bussmann and Stam (2015)** Techniques for measurement and assessment of mobility in rehabilitation medicine: a theoretical approach, in anational sample survey of the adult patientswith lumbar disc problem of Britain patients were in the lowest income categorywere more likely to report lumbar disc disease than those in the highest income group.

Part (II): Adult patient'knowledge regarding lumbar disc.

The results of the present study revealed that three quarters of the adult patientshad unsatisfied knowledge about the LD. These results were agreed with **Snook et al.(2014)** The reduction of chronic nonspecificlow back pain through early morning lumbarflexion in London who found that the majorityof studied patients hadn't knowledge about LDcauses, complications and first onset singe ofoccurring lumbar disc disease, and also agreedwith **Macken and Candace, (2016).** A Profileof Functionally Impaired Elderly PersonsLiving in the Community in Untied State, who

found that 68% of studied patients hadn't knowledge about LD disease. From my pointof view about my study result could be due tolack of awareness programs.

The results of the present study revealed that the majority of the patients were not oriented about the definition of lumbar disc. This result was consistent with**Waleed, (2017)** Knowledge around back pain and spinal disorders among Saudi patients: A cross-sectional study, who investigated the level of knowledge in patients with lumbar disc the majority of these studies revealed that unawareness of patients about the definition of lumbar disc.

In my point of view about my study result could be due to low level of education which is reflected in the cognitive interests and the level of health education.

Regarding patients' knowledge about causes of lumbar disc, the majority ofthe studied patients were not oriented aboutthe causes of lumbar disc. These resultswas consistent with **Tarimo and Diener,(2018)** Knowledge, attitudes and beliefs on contributing factors among LD patients attending outpatient physiotherapytreatment in Malawi, who found that many patients with lumbar disc in Malawi did nothave adequately knowledge about the causes of lumbar disc. In light of the resultsof my study found lake of health education about the prevention of LD and occupational safety and health programs that maintain the health of workers.

Regarding knowledge of patients about treatment methods of lumbar disc less than one quarter of the studied patients were oriented about the treatment methods of lumbar disc. These results wereconsistent with **Jordan et al. (2019)** Herniated lumbar disc, who showed that awareness regarding disc herniation among the general population was very poor for all domains.

The results of the present study revealed that three quarters of the adult patients had unsatisfied knowledge about thepreventions of lumbar disc. This finding goesin the same line with that study conducted by**Tavafian, (2019).** Sciatica from disk herniation who assessed the attitude and awareness of Iranian patients towards LD found that majority of them had little knowledge about LD and its risk factors andpreventions, the misconceptions andunawareness have proven to be effective in managing pain and disability if combined with other treatment modalities like physiotherapy.

Part (III): Adult patient' practicesof adult patients with lumbar disc.

Regarding the distribution of total practice among patients included in this studyreferred to daily body position, more than halfof adult patient with lumbar disc had poor healthy practices regarding use a pillow underthe arms while reading, the majority of the patients avoid sexual activity during pain attacks, more than half exposure to air currents. Regarding to body mechanicm recorded 70% of LD patient had poor practices in bend the back to work or carry something even if just to pick up a sheet and68% of LD patient had poor practices when bend the back with the trunk rotation to lift something. These results are consistent with**Bible et al. (2018)**, Normal Functional Rangeof Motion of the Lumbar Spine During 15 Activities of Daily Living in Germany who found that the majority of the patients had poor health practices 73% were using improper body mechanics. Regarding to nutrition the results of the present study revealed that half of LD patient had poor control excess eating by eating small amounts,eating less fat and sweets and 60% of them had poor eat a low fat meal by removing or reducing meat or poultry. This finding goes in the same line with that study conducted by **Los and Whittier, (2018)** Range of motion ofthe lumbar spine required for four activities ofdaily living in United State to assess the range of motion of the lumbar spine required for four activities of daily living, The intraclass correlation coefficient ranged from stand-to- sit and sit-to-stand activities required approximately of lumbar flexion. Putting on socks required about 90% of lumbar flexion.Picking an object off the floor required almost full lumbar flexion 95%. Analysis of

variance showed significant differences among all activities.

Part (IV): Basic daily living activities of adult patients with lumbar disc.

As regarding basic daily living activities for adult patients with LD the investigator was used Katz index of independence of daily living, to assess functional status as a measurement of the adult patient's ability to perform ADL independently, found in this study that more than three quarters of adult patient with lumbar disc were dependent basic daily living activities. The result was consistent with **David et al. (2018)** Activities of Everyday Life with High Spinal Loads in Germany activities withhigh spinal loads should be avoided by patients with lumbar disc awareness about daily living activities, were measured for these activities of daily life. However, therewas a large intra- and inter-patient variationin the implant loads for the various activities depending on how exercises wereperformed. The following activities caused high resultant forces: lifting a weight from the ground, forward elevation of straightarms with a weight in hands, moving a weight laterally in front of the body with hanging arms, changing the body position, staircase walking, tying shoes, and upper body flexion. All activities have in common that the center of mass of the upper body was moved anteriorly.

Regard to results of the present studyshowed that three quarters of patientsdependence (need help) in bathing; this findingis similar to that of Szpalski and **Hayez, (2019)**Does Adequate Lumbar Segmental Motion Reflect Recovery Process in Acute Lumbar Disc Herniation? Who found more than half ofthe patients had ability to dependence inbathing.

The current study revealed that majority of patient with LD dependence (need help) in dressing. This confirmed by **Hoy et al. (2019)** Association between low back pain and various everyday performances: Activities of daily living, ability to work and sexual function, who reported more than two thirds of patientwith LD could dependence (need help) in dressing.

The present study results showed that more than two thirds of patient withLD dependence (need help) in toileting. This result is incongruent with **Reid, (2018)**Effect of 8-Week Core Stabilization Exercises on Low Back Pain, Abdominal and Back Muscle Endurance in Patients with Chronic Low Back Pain due to Disc Herniation, who reported there was no statistical significance between LD with overall urinary incontinence.

The results of the present study revealed that three quarters of the adult patients with LD had dependence (need help) in transferring. This result isincongruent with **Rubert, (2017)** Managing Low Back Pain through Activities-of- Daily-Living Education, Moscow who detected in his study that Avoiding movements, positions, and exercises thatplace high loads on tissues might help prevent further injury. ADL education prepares patients for the demands of rehabilitation and the unexpected curves life inevitably delivers.

The present study result revealed that less than one quarter of the adult patients with LD had independence in continence. This finding is congruent with that of **Watanbe et al. (2018)** Co- contraction characteristics of lumbar muscles in patients with lumbar disc herniation during different types of movement Electromyogram, who reported the deterioration of the pathological condition of patients with lumbar disc; theydevelop into the patient's incontinence.

The present study result revealed no statistically significant relations foundbetween patient with LD and independence infeeding this finding is similar to that of**Adams and Dolan**, **(2017)** Effects of Reiki Versus Physiotherapy on Relieving Lower Back Pain and Improving Activities Daily Living of Patients With Intervertebral Disc Hernia, Berlin, who mentioned that no relation between feeding and LD.

Part (V): Lawton instrumentactivities of daily living of adult patients with lumbar disc.

Regarding instrumental activities of daily living among adult patients, the current study

revealed that less than three quarter of studied sample were dependent (need help) in instrument daily livingactivities and more than one quarter of them were independent. This result was in contrast with that of **Juker et al. (2017),** Quantitative intramuscular myoelectric activity of lumbar portions of psoas and theabdominal wall during a wide variety of tasks in London, who reported that instrumental activities of daily living had negative result on patients, reported (68%) dependent (need help).

Regarding the distribution of total instrument activities among adult patientsincluded in this study, found 91% of themhadnot taken care of all shopping needs dependently (need help), 48% was shops dependently for small purchases, 93% was Plans prepares and serves adequate meals dependently, but 50% dependent (need help)in heats, serves and prepares meals or prepares meals but does not maintain adequate diet., 89% dependent (need help) in Performs light daily tasks such as dishwashing, bed making, 92% dependent (need help) in does personal laundry completely , 46% dependent (need help)in travel limited to taxi or automobile with assistance of another, 76% dependent (need help) in taking responsibility if medication is prepared in advance in separate dosage, 14% Manages financial matters independently (budgets, writes checks, pays rent, bills goes to bank), collects and keeps track of income. This finding was in line with **Convertino et al. (2017)**, Physical strain in daily life of wheelchair users with lumbar disc disease, it was shown that there was a significant correlation ($p<0.05$) with the lumbar disc disease in items of IDLA housework, preparing meals, laundry, shopping, transportation and managingmoney, which relatively require the physical ability of the participants, whereas there was no significant correlation ($p<0.05$)with access to operates with telephone, and taking medicine, where the nature of the item means that the use of assistive devices is the major part for activity.

Part (VI): Mild back painof adult patients with lumbar disc.

The present study showed that less than half of study sample had moderate mildback pain. This finding was in line with **Fairbank et al. (2017)** study of workers of Egyptian Electric and Plastic Company thatthe highest prevalence of low back pain wasamong age groups of 40 to 50 years. While **Ebenbichler et al. (2017)** Sensory-motor control of the lower back: implications for rehabilitation; London, reported that low backpain can be experienced by people in all agegroups.

As regarding low back pain for adultpatients with LD the investigator was found33% moderate pain to take personal care.

Part (VII): Medical record foradult patients with lumbar disc.

Regarding to medical record for adult patients with lumbar disc, the present study finding revealed that the majority were diabetics; another study done by **Bolm Audorff, (2017)** about risk factors forsymptomatic lumbar disc herniation inChicago reported that more than sixty percent there had osteoporosis associatedwith lumbar disc herniation, from theresearcher point of view, he results of the current study could be due to that, diabetes is a common disease among the Egyptians people.

Concerning residence, the finding of present study showed that the highest percentages of the patient not follow up of their disease condition and had poor psychological status; these study results agreed with **Coskun and Zencir, (2016)** about relationships between pain, disability, and psychological factors after lumbar disc, These findings indicate that were positively correlated between pain, disability, and psychological status with lumbar disc patients. This may be due to that lumbar disc one of chronic disease accompanied a feeling of pain and the inability to complete social and daily activities, which leads to a sense of powerlessness.

Part (VIII): Statistical associationamong study variables

Regarding to body mass indices BMI, the present study find revealed that the majority was obese. This in agreement with **John et al. (2017)** about body mass index as a risk factor for developing lumbar spin diseases in Norwegian county who reported significant positive associationwas found between BMI and risk of lumbarspin diseases, from the researcher point of view the result of current study could bedue to that increased load on the spine that caused by over-weight with weak back muscles that protect the lumbar spine.

The present study result revealed thatstatistically significant relation betweenpatient's knowledge and level of education and job. This finding is similar to that of **Fabris et al. (2015),** who found that level ofeducation effect on patient's knowledge which impact on those DLAs. Regiment healthy diet to avoid over weight and avoid negative effect on body image and spinal health. Regarding the knowledge of the patients about healthy practices, found that the majority of the patients in the study did not had healthy body mechanism, these couldbe attributed to lack of knowledge among adult patients regarding the healthy practices and the consequence of unhealthy habits.

The present study result revealed statistically significant differences found between 50≤55 years of adult patient with lumbar disc and their ADLs parameters was **(36.8%)** not done their total practice, while there is statistically significant relation between BMI and total practice was P-value 0.049. This finding is similar to that of **Abenhaim et al. (2010)** about the role of activity in the therapeutic management of pain in Landon who found that age and sex effect on total practice in LD patients.

The present study illustrated significantrelation between sex and total practice; therewas a higher mean percentage score of physical affection among males compared to females. This finding is similar to that of **Bouten et al. (2016)** Disuse and physical deconditioning in the first year after the onsetof back pain, who found statistically significance difference between male andfemale patients in relation to the perceived level of physical, social and spiritual well- being.

The present study result revealed statistically significant differences found between education level and ADLs parameters, there is a higher mean defect ofADLs practice among highly and second educated patients compared to other levels of education. This finding agreement with **Takatalo et al. (2017)** about Prevalence of degenerative imaging findings in lumbar magnetic resonance imaging among young adults in India, who stated that the ADLs practice, was poor between second educated patients **58.1%** than highly educated patients with LD. this may be due to highest percentages of the patients under study were **67 %** unsatisfied income as regard, direct to working more to satisfied their needs.

The present study results showed that there were statistically significant relations between patients' knowledge with their practice, basic daily living activities and pain scale, who found these results were on line with **Rainville et al. (2016)** fear-avoidance beliefs and pain avoidance in low back pain translating research into clinical practice, that there were statistically significant relations between poor patient knowledge and dependence of patients' total practice and their basic daily activities. Who reported that more commonamong low-income and feeling of loneliness, due to their health problems which increasing their stress and more sense of fear and needs to depend on other persons.

The present study illustrated significant differences found between ADLs practices parameters and practices ofadult patients with lumbar disc, a higher mean affection of physical ADLs parameters among adult patients. This finding is similar to that of **Ainsworth et al.(2018)** Compendium of physical activities: classification of energy costs of human physical activities**,** who found that lumbar disc disease effect on life style in lumbar disc patients. Similarly this is on line with **Pratley et al. (2016)** Strength training increases resting metabolic rate and

norepinephrine level in healthy, who reported that the physical sum scale decreased between patients had lumbar spin disease

The present study results showed that there were statistically significant relations between patient's knowledge and level of pain,who found these results were on line with **Bono and Lee, (2016)** Critical analysis of trends in fusion for degenerative disc disease,who reported that, individuals may experience impairment or disability at work because of back disorders whether the latter was directly caused by job-related factors. The degree to which ability to work is impaired is often dependent on the physical demands of the job. Those suffering back pain may modify their work activities in an effort to prevent or lessen pain. Similarly, these results were on line with **Humphreys and Eck, (2017)** Clinical evaluation and treatment options for herniated lumbar disc, who studded shown that low back pain frequency and severity were related to severalsocio-demographic factors as sex, age, and kind of job/work presented a significant association with risk of low back pain dependently from other socioeconomic factors.

The result showed that total knowledge, socio-demographiccharacteristic and lumbar disc disease were affecting their DLAs of adult patient in addition to the effect of age, gender, marital status, occupation, practicing of sports, crowding index, income, Level of education, residence.

The feeling of patients with pain andnot finding a comfortable position to relieve pain which makes them with time lose many daily living activities in theirdaily lives and in addition to that low back pain due to LD didn't stop at a certain age, but it can affect many age groups. It didn't stop only in the elderly, but it can affect young people at a young age. It can be for the wrong reasons; Load more weights incorrectly or increase body weight.

Conclusion:

On light of the current study result,it can be concluded that, more than three quarters of the studied sample were obese. Also, more than three quarters of patient had unsatisfactory total knowledge regarding LD and more than two third of them had poor practices. Also, more than two third of them had dependence in basic daily living activities and more than two third of them had dependence in Lawton instrument activities of daily living. Thestudy reflected that there was statistically significant relation between practice, DLA and pain intensity among adult patient with LD.

Recommendations

Based on the results and conclusionof this study, the following recommendations are suggested**:**

- Simplified health education programmed for adult patient with lumbar disc under Conservative treatment included on thepreventive measure of LD, healthy body image, lumbar stabilizing exercises, and healthy diet to avoid overweight.
- Lumbar disc rehabilitation programs mustbe developed for LD patients as it is the best predictor of their compliance of optimal ADLs and life style management are to be achieved by the patients.
- Further studies are needed to evaluate the effect of other factors not analyzed in thisstudy such as: coping behaviors, quality ofcare received which may influence ADLs of patients with LD.

Helth education programs for prevention ofLD disease among adulesent and adulthood

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