

University of Basrah  
College of Nursing



***The effect of obesity, smoking, lack of exercise and age risk factors on lower back pain syndrome***

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A Research project Was Submitted to the Counsel of the College of Nursing at the University of Basra as Partial Fulfillment of the Requirements for the Degree of Baccalaureate in Nursing Science

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بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ

وَعِنْدَهُ مَفَاتِحُ الْغَيْبِ لَا يَعْلَمُهَا إِلَّا  
هُوَ وَيَعْلَمُ مَا فِي الْبَرِّ وَالْبَحْرِ  
وَمَا تَسْقُطُ مِنْ وَرَقَةٍ إِلَّا يَعْلَمُهَا وَلَا حَبَّةٍ فِي ظُلْمٍ  
اتِ الْأَرْضِ وَلَا رَطْبٍ وَلَا يَابِسٍ إِلَّا  
فِي كِتَابٍ مُّبِينٍ ﴿٥٩﴾

سورة الانعام اية (59)

صدق الله العلي العظيم

## الإهداء

إلى صاحب السيرة العطرة والفكر المستنير ..  
فلقد كان له الفضل الأول في بلوغي التعليم العالي  
(والذي الحبيب , أطال الله في عمره .  
إلى من وضعتني على طريق الحياة وراعتني حتى صرت كبيراً  
(أمي الغالية ) أطال الله في عمرها.  
إلى إخوتي , من كان لهم بالغ الأثر في كثير من العقبات والصعاب...  
إلى جميع أساتذتي الكرام , ممن لم يتوانوا في مد يد العون لي  
اهدي إليكم بحثي



## **Supervisor's support**

**I certify that this project of research**

**"THE EFFECT OF OBESITY, SMOKING, LACK OF EXERCISE  
AND AGE RISK FACTORS ON LOWER BACK PAIN SYNDROME"**

**Was prepared under my supervision at the College of Nursing,  
University of Basra as partial fulfillment of the requirements  
for the degree of baccalaureate in nursing sciences .**

**Professor Dr. Mahfoudh Falih Hassan**

**Supervisor**

**College of Nursing**

**University of Basra**

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Also we would like to thank all nurses working at Basra City Hospitals.

## Abstract

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**Background:** Low back pain (LBP) or **lumbago** is a common disorder involving the muscles, nerves, and bones of the back [ National Institute of Neurological Disorders and Stroke

### **Objective of project:**

- 1- To identify the amount and percentage of each risk factor in lower back pain syndrome.
- 2- to identify the relationship of lower back pain with demographic variables

**Methodology:** A descriptive longitudinal study was carried out on random people to know the effect of obesity, smoking, lack of exercise and age risk factors on lower back pain syndrome Statistical data analysis: the data were analyzed using the Statistical Package for Social Sciences (SPSS), version 26. The sample of the study consist 557persons, (272) male and (285) female, they were having different level of Education, BMI and lifestyle.

Questionnaire was distributed to (557) person, all participant answered about (8) question through direct interview 117 and electronic 440 .

Statistical Data Analysis: The data were analyzed using the Statistical Package for Social Sciences (SPSS), version 26.

### **The most important results**

- 1- The largest proportion of the research sample was (60 %) with lower back pain.
- 2- The largest percentage of the research sample (55%) did not exercise.
- 3-Risk factor of lack of exercise in low back pain syndrome was (33 %) significant.
- 4- stress risk factor in low back pain syndrome was (16%) insignificant.
- 5- Obese risk factor in low back pain syndrome was (33 %) significant.
- 6- The relationships of demographic factors with low back pain syndrome were with married individuals at a significant level.

### **Recommendation**

- 1- Taking the results of the study to avoid the most risk factors in lower back pain syndrome
- 2-It is recommended to exercise and maintain an ideal body weight.

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# *Chapter one*

**1-1 Introduction**

**1-2 Important of the project**

**1-3 Problem of the project**

**1-4 Goals of the project**

**1-5 Definition of terms**

## **1-1 Introduction:-**

Low back pain (LBP) or **lumbago** is a common disorder involving the muscles, nerves, and bones of the back. Pain can vary from a dull constant ache to a sudden sharp feeling . [1] Low back pain may be classified by duration as acute, sub-acute and chronic [2]. The symptoms of low back pain usually improve within a few weeks from the time they start, with 40–90% of people completely better by six weeks [3].

In most episodes of low back pain, a specific underlying cause is not identified or even looked for, with the pain believed to be due to mechanical problems such as muscle or joint strain [National Institute of Neurological Disorders and Stroke. [4]. Some low back pain caused by damaged intervertebral discs, and the "straight leg raise" test is useful to identify this cause [5]. In those with chronic pain, the pain processing may causing large amounts of pain in response to non-serious events. [6] . Approximately 9–12% of people (632 million) have LBP at any given point in time, and nearly 25% report having it at some point over any one-month period .[7] . About 40% of people have LBP at some point in their lives [8] ,with estimates as high as 80% among people in the developed world [9] .Difficulty most often begins between 20 and 40 years of age

women are equally affected.[1] . Low back pain is more common among people aged between 40 and 80 years, with the overall number of individuals affected expected to increase as the population ages.[7] .

## **1 – 2 Importance of the project**

Enabling health institutions and cadres from the real proportions of risk factors in lower back pain syndrome

## **of the project1 – 3 problem**

We can formulate the problem with the following question:

What is the percentage of each risk factor in lower back pain syndrome ?

## **1 – 4 Objective of the project**

1- To identify the amount and percentage of each risk factor in lower back pain syndrome.

2- to identify the relationship of lower back pain with demographic variables.

## **1 – 5 key words**

	<b>abbreviation</b>	<b>Terminology</b>
<b>1</b>	<b>LBP</b>	<b>Low back pain</b>

# *Chapter Tow*

## **2-Review of literatures 2-1**

### **Lower Back Pain.**

### **2-2 Classification of Lower Back Pain.**

### **2-3 Signs and Symptoms of lower back pain.**

### **2-4 Causes of lower back pain.**

### **2-5 Pathophysiology of lower back pain .**

### **2-6 Diagnosis of lower back pain .**

### **2-7 Prevention of lower back pain.**

### **2-8 Management of lower back pain.**

### **First: Treatment**

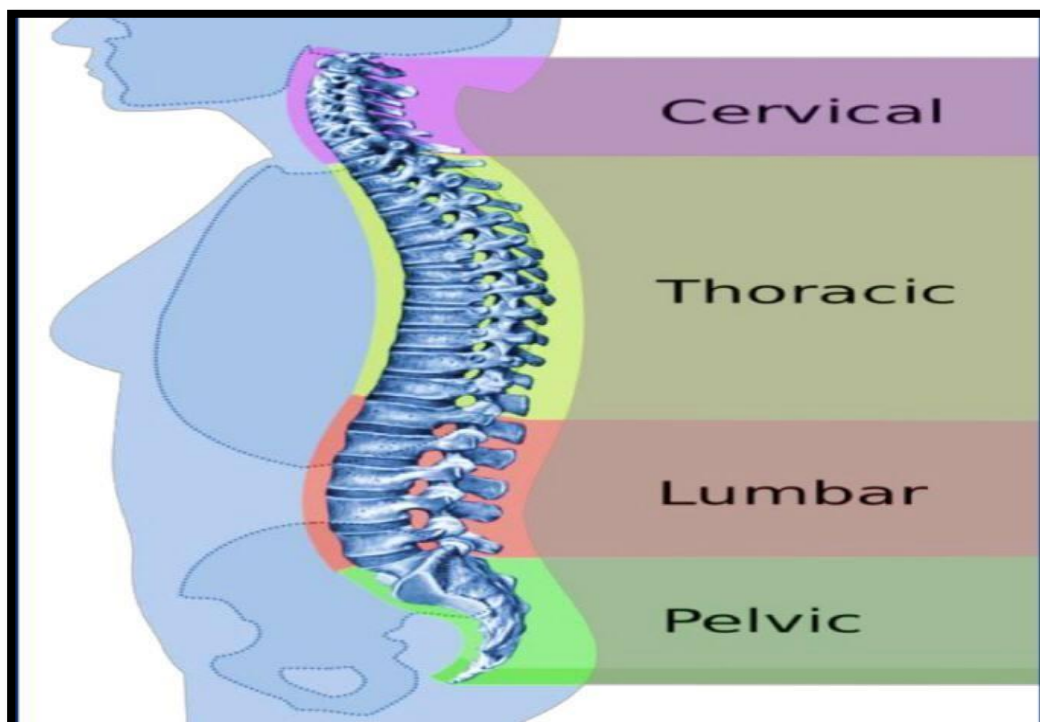
### **Second: Physical therapy and exercise**

### **2-9 International Lower Back Pain Statistics.**

## 2-Review of literatures

### 2-1 Lower back pain

Back pain, also known as backache, is pain felt in the back. Back pain is divided into neck pain (cervical), middle back pain (thoracic), lower back pain (lumbar) or coccydynia (tailbone or sacral pain) based on the segment affected [10]. The lumbar area is the most common area affected [11]. An episode of back pain depending on the duration may be: Acute back pain lasts less than 6 weeks, Sub-acute back pain lasts between 6 and 12 weeks, and Chronic back pain lasts for greater than 12 weeks. The pain may be characterized as a dull ache, shooting or piercing pain, or a burning sensation. Discomfort can radiate into the arms and hands as well as the legs or feet and may include numbness or weakness in the legs and arms [12].



**Figure (2-1) Different regions ( curvatures) of the vertebral column.**

The majority of back pain is nonspecific with no identifiable causes [13][14]. Common underlying mechanisms include degenerative or traumatic changes to the discs and facets joints, which can then cause secondary pain in the muscles, and nerves, and referred pain to the bones, joints and extremities .Diseases and inflammation of the gallbladder, pancreas, aorta, and kidneys may also cause referred pain in the back [12] .Tumors of the vertebrae, neural tissues and adjacent structures can also manifest as back pain.

Back pain is common, with about nine out of ten adults experiencing it at some point in their life, and five out of ten working adults having it every year[14]. Some estimate up to 95% of people will experience back pain at some point in their lifetime . It is the most common cause of chronic pain, and is a major contributor of missed work and disability [11] for most individuals, back pain is self-limiting. In most cases of herniated disks and stenosis, rest, injections or surgery have similar general pain resolution outcomes on average after one year. In the United States, acute low back pain is the fifth most common reason for physician visits and causes 40% of missed days off work[15]

**2-2 Signs and Symptoms of lower back pain:** Signs and symptoms may be include[17]

- 1- Muscle pain.

- 2- Stabbing or shooting pain.

- 3- Pain that radiates toward the leg.

- 4- Pain that worsens when bending over, lifting things, standing, or walking.

## **2-3 Causes of lower back pain:**

Causes of low back pain include [18]

**1-Sprain or tear:** Muscles and ligaments in the back can be torn due to excessive activity, and symptoms include pain and stiffness in the lower back, in addition to muscle spasms, and the solution is rest and physical therapy to treat lower back pain.

**2-The Sciatica:** Sciatica can happen with a herniated disc if the disc presses on the sciatic nerve. The sciatica nerve connects the spine to the legs. As a result, sciatica can cause pain in the legs and feet. This pain usually feels like burning or pins and needles.

**3-Spinal stenosis:** Spinal stenosis is when the spine narrow, which increases pressure on the spinal cord and spinal nerves, and it is one of the most common causes of lower back pain, as pressure on the nerves in the spine causes symptoms such as numbness, cramping and weakness.

**4-A muscle or ligament strain:** Repetitive lifting or sudden movement can strain back muscles and spinal ligaments. If you are in poor physical condition, constant pressure on your back can cause painful muscle cramps.

**5-Swollen or torn discs:** The discs act as a cushion between the bones (the vertebrae of the spine). The soft material inside a spinal disc can swell or tear and press on a nerve. However, you may develop a swollen or ruptured disc without back pain. Herniated disc disease is often discovered when you are exposed to X-rays of your spine for another reason.

**6-Arthritis:** Osteoporosis can affect the lower back. In some cases, arthritis in the spine can lead to a narrowing of the space around the spinal cord, a condition called spinal stenosis.

**7-Skeletal irregularity:** A condition where curves of the spine to the side (scoliosis) can also cause back pain, but in general this does not occur until after middle age.

**8-Osteoporosis:** Spinal vertebrae can develop compression. There are a fractures if your bones become porous and fragile number of other conditions that cause lower

back pain including: Arthritis, fibromyalgia (long-term pain in the joints, muscles and tendons), spondylitis

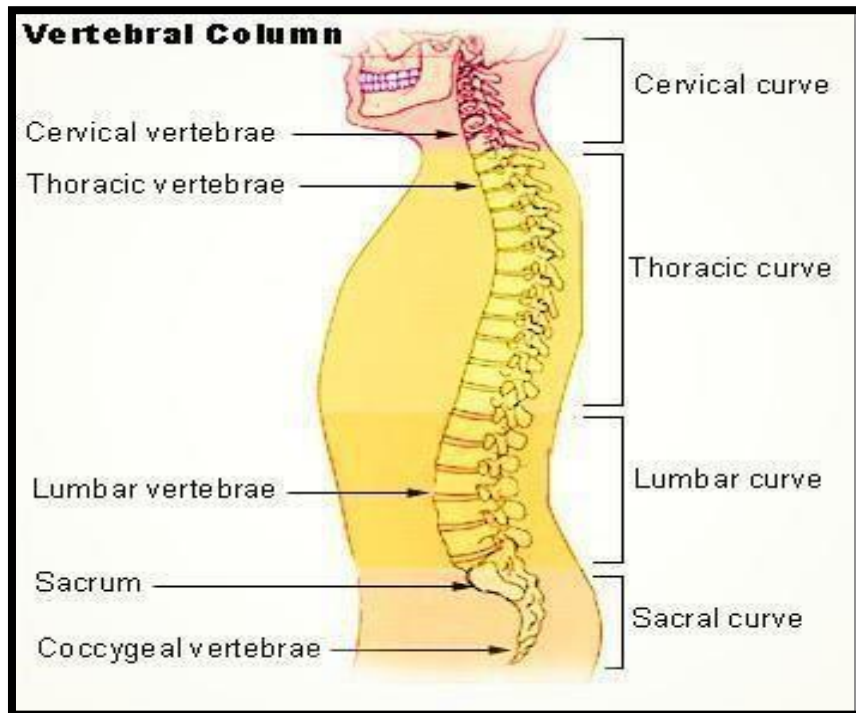
(inflammation of the joints between the bones of the spine), spondylitis (a degenerative disorder that may cause loss of normal spine structure and function).

Kidney and bladder problems, pregnancy, endometriosis, ovarian cysts, uterine fibroids, and cancer can also cause lower back pain.

### **2-5 Pathophysiology:**

The lumbar (or lower back) region consists of five vertebrae (L1- L5), sometimes including the sacrum. Between these vertebrae are fibrous, cartilaginous discs that act as cushions to prevent the vertebrae from rubbing against each other while at the same time protecting the spinal cord. Nerves come from the spinal cord and go to it through specific openings between the vertebrae, providing the skin with sensations and messages to the muscles. The stability of the spine is provided by the back and abdomen ligaments and muscles. Small joints called the superficial joints limit and direct movement of the spine[19].





**Figure(2-2) The five lumbar vertebrae define the low back region.**

The cleft palate muscles run up and down along the back of the spine, important to keeping the spine straight and stable during many of the common movements such as sitting, walking and lifting [20]. Often a problem with these muscles is found in people with chronic lower back pain, because back pain causes a person to use their back muscles incorrectly in an effort to avoid pain [21].

The intervertebral disc contains a gelatinous core that is surrounded by a fibrous ring. When the disc is in its normal, uninjured state, most of the disc is not presented by the circulatory or nervous system - blood and nerves only flow outside the disc. The specialized cells that can survive without a direct blood supply are located inside the disc [22]. Over time, the discs lose elasticity and the ability to absorb physical forces [23]. This lack of ability to handle physical forces increases pressure on other parts of the spine, causing spinal ligaments to thicken and develop bony growths on the vertebrae. As a result, there is less space that the spinal cord and nerve roots can pass

through. When a disc degenerates as a result of injury or disease, the disc's composition changes:- blood vessels and nerves may grow inside it and / or the material of the herniated disc can press directly against the nerve root. Any of these changes may lead to back pain[22].

### **2-6 Diagnosis of lower back pain:**

Diagnosis of the underlying cause of lower back pain is usually done by (an osteopathic physician, physical therapist (doctor), or by a chiropractor) [24]. A complete diagnosis is usually through a combination of the patient's medical history, physical examination and where appropriate diagnostic tests, such as an MRI or X-ray.

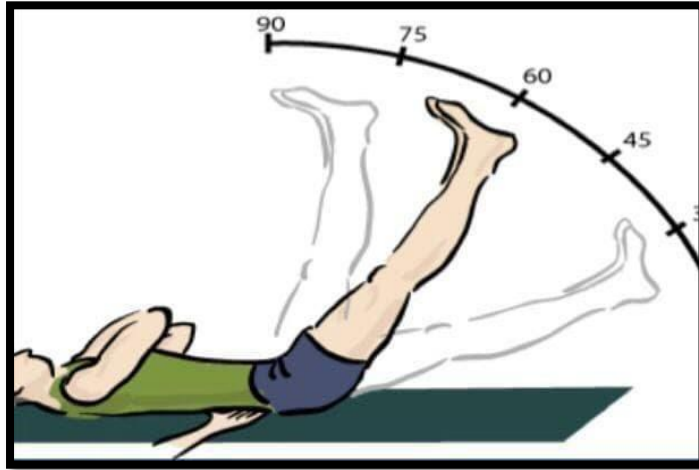
**-Blood tests.** These tests help determine if you have an infection or another problem that could be causing your pain.

**-Bone scan.** In rare cases, a doctor may use a bone examination to check for bone tumors or compression fractures caused by osteoporosis.

**-Neurological studies.** An electromyography (EMG) measures the electrical impulses produced by the nerves and the responses of your muscles. This test can confirm nerve compression caused by herniated discs and narrowing of your spinal canal (spinal stenosis).

**-Lasègue test:** A straight leg lift, also called the Lasègue mark, Lasègue test, or Lazarevi sign.

**-Technique:** A straight leg elevation, is a test performed during a physical examination to determine whether a patient with low back pain has an underlying nerve root sensitivity, often located at the L5 (lumbar spinal nerve fifth)[25].



**Figure(2- 3) A straight leg lift (Lasègue mark)**

-Interpretation: If the patient has sciatic pain, and more specifically pain that radiates down the leg (radiculopathy), when the straight leg is at an angle between 30 and 70 degrees, the test is positive and a herniated disk is a possible cause of the pain. A negative test indicates a different possible cause of back pain.

## **2- 7 Prevention of lower back pain:**

One of the best ways to prevent back pain is to keep your back muscles strong. Follow these steps to help protect your back and prevent back pain

[26] :-

- 1-Avoid heavy lifting. If want to lift something heavy, bend the knees and keep back straight. In this way, leg muscles will do most of the work (lift with your legs rather than your back).
- 2-Stand and sit up straight.
- 3-Get regular exercise to keep your back muscles fit and flexible.
- 4-Eating healthfully will keep the body weight within a healthy range.
- 5-When sitting, maintain a correct posture.
- 6-Avoid frequent bending and twisting. Especially avoid bending, twisting and lifting at the same time.

## **2-8 Management of lower back pain:**

### **First : treatments**

Most severe back pain improves within a few weeks of home treatment. However, everyone is different, and back pain is a complex condition. In many cases, the pain does not go away for a long time, but a few will feel severe and persistent pain.

For acute back pain, over-the-counter pain relievers and warm compresses may be all you need.

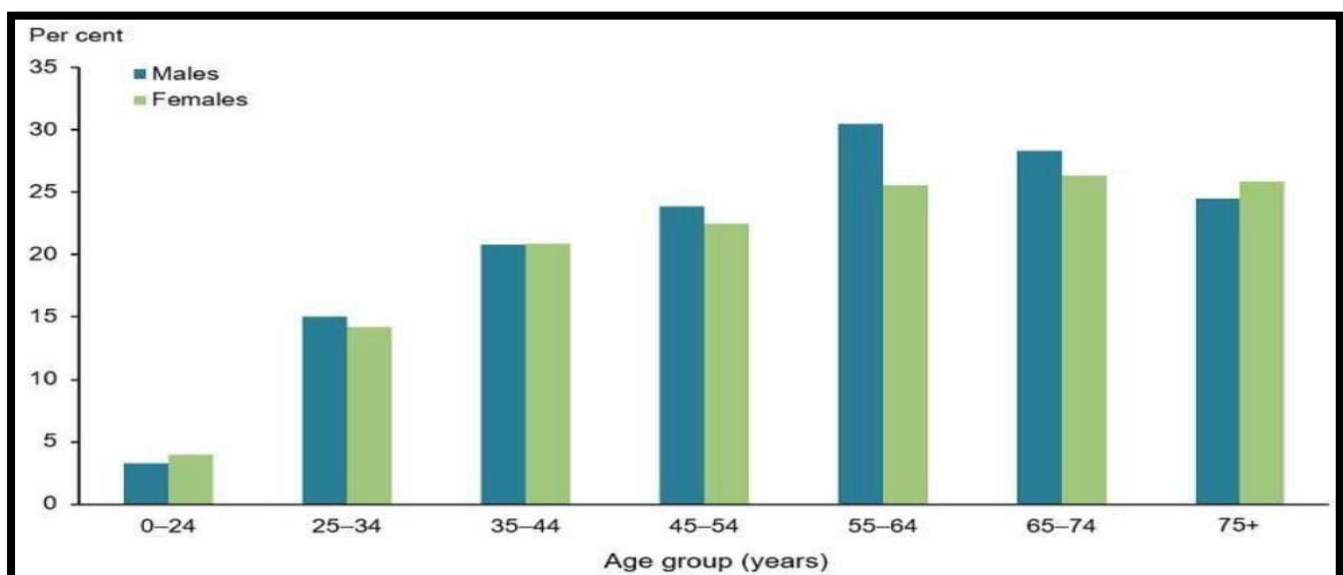
Continue your activities as long as you can. Try a light activity, such as walking and activities of daily living. Stop the activity that increases pain, but don't avoid activities for fear of pain. If home remedies do not work after several weeks, your doctor may suggest more powerful drugs or other treatments [26].

## Second: Physical therapy and exercises

A physical therapist can take a combination of treatments, such as heat, ultrasound, electrical stimulation and muscle relaxation techniques, to the muscles in your back and soft tissues to relieve pain [26].

### 2-9 International Lower Back Pain Statistics:

About 4.0million Australians (16% of the total population) have back problems, based on self –reported data from the Australian Bureau of Statistics (ABS) National Health Survey (NHS).



**Figure (2-4) Prevalence of back pain prproblems by age group and gander**

Back pain problems are less common in people from birth to age 24 figure (2-4). The general prevalence of back pain problems after accounting for age differences is similar for males (16%) and females (15%)[27]

- Low back pain (LBP) is the fifth most common reason for physician visits. - Affects nearly 60-80% of people throughout their lifetime
- Some studies have shown that up to 23% of the world's adults suffer from chronic low back pain. This population has also shown a one-year recurrence rate of 24% to 80%.
- Some estimates of lifetime prevalence are as high as 84% in the adult population] [28]
- A systematic review demonstrated an annual rate of adolescents suffering from back pain of 11.8% to 33%.
- 11-12% of the population being disabled by low back pain[29].

# **Chapter Three**

## **3- Methodology**

### **3-1 Design of the project**

### **3-2 Setting of the project**

### **3-3 Sample of the project**

### **3-4 Project instrument**

### **3-5 Validity of the Questionnaire**

### **3-6 Statistical Data Analysis**

### **3-1 Design of the project**

A descriptive longitudinal study was carried out on random people to know the effect of obesity, smoking, lack of exercise and age risk factors on lower back pain syndrome.

This study started from

25 November 2021 to April 2022

### **3-2 Setting of the project**

Random samples of patients with and without lower back pain

### **3-3 Sample of the project**

The sample of the study consist 557 person, (272) male and (285) female, they were having different level of Education, BMI and lifestyle.

### **3-4 Project instrument**

The instrument of the project questionnaire format determined by (8) items (lower back pain, back Injury, sport exercise, daily stress, smoke, heavy load , age and obesity) to know the effect of these factors on lower back pain syndrome, Also include the demographic information (age, gender, Education level, social state and living). Questionnaire was distributed to (557) person, All participant answered about (8) question through direct interview 117 and electronic 440.



### **3-5 Validity of the Questionnaire:**

The content validity of the study instruments knowledge test was determined by panel of (10) experts from Basra University /College of Nursing All experts have more than (5) years of experience in their jobs, these experts have been asked to view the instruments for content, clarity, relevancy and adequacy. Changes and modification are made with respect to the experts' suggestions and recommendations.

### **3-6 Statistical Data Analysis**

The data were analyzed using the Statistical Package for Social Sciences (SPSS), version 26.

1- Percentage (%)

2- Arithmetic mean

3- Standard deviation (Sd)

4- Relative risk ratio (RR)

5- Chi square ( $X^2$ )

*Chapter four*  
*Results and its*  
*Discussion*

*Results of the Study*

*Chapter Four*

**4-1 Distribution of the Variables Related Demographic and risk factors Characteristics N=557 sample**

**4-2 Results of the risk factors ratio in low back pain syndrome, N=557**

**4-3 Results the relationships of the demographic factors with low back pain syndrome, N=557**

**4 – 4 Discussion of results**

## Chapter Four

### 4-1 Distribution of the Variables Related Demographic and risk factors Characteristics N=557 sample

Table 4.1.1 : descriptive statistics of Demographic Variables (sex, education level, social status and living)			
Demographic Variables	Variables Classes	F	Percent
Gender	Male	272	49 %
	Female	285	51 %
	Total	557	100 %
Education level	College	374	67 %
	Institute	50	9 %
	High school	112	20 %
	Primary school	21	4 %
	Total	557	100 %
Marital status	Married	340	61 %
	Single	217	39 %
	Total	557	100 %
Living	Center	358	64 %
	Out center	199	36 %
	Total	557	100 %

Table (4.1.1) shows the majority (51%) of participants related to sex group were (female), regarding to the Education level the majority (67%) of sample were College , related to the Social status the majority (61%) were married, related to living the majority (64%)of sample were from Center

<b>Table 4.1.2 : descriptive statistics of lower back pain and its risk factors Characteristics</b>			
<b>Variables</b>	<b>Variables Classes</b>	<b>F</b>	<b>Percent</b>
<b>Lower back pain</b>	<b>No</b>	<b>225</b>	<b>40 %</b>
	<b>Yes</b>	<b>332</b>	<b>60 %</b>
	<b>Total</b>	<b>557</b>	<b>100 %</b>
<b>Back injury</b>	<b>No</b>	<b>414</b>	<b>74 %</b>
	<b>Yes</b>	<b>143</b>	<b>26 %</b>
	<b>Total</b>	<b>557</b>	<b>100 %</b>
<b>Sport exercise</b>	<b>No</b>	<b>305</b>	<b>55 %</b>
	<b>Yes</b>	<b>252</b>	<b>45 %</b>
	<b>Total</b>	<b>557</b>	<b>100 %</b>
<b>Daily Stress</b>	<b>No</b>	<b>152</b>	<b>27 %</b>
	<b>Yes</b>	<b>405</b>	<b>73 %</b>
	<b>Total</b>	<b>557</b>	<b>100 %</b>
<b>Smoke</b>	<b>No</b>	<b>382</b>	<b>69 %</b>
	<b>Yes</b>	<b>175</b>	<b>31 %</b>
	<b>Total</b>	<b>557</b>	<b>100 %</b>
<b>Heavy load</b>	<b>No</b>	<b>376</b>	<b>67.5 %</b>
	<b>Yes</b>	<b>181</b>	<b>32.5 %</b>
	<b>Total</b>	<b>557</b>	<b>100 %</b>
<b>Age class</b>	<b>Less than 40</b>	<b>490</b>	<b>88 %</b>
	<b>greater than 40</b>	<b>67</b>	<b>12 %</b>
	<b>Total</b>	<b>557</b>	<b>100 %</b>
<b>Obesity</b>	<b>No obese</b>	<b>482</b>	<b>86.5%</b>
	<b>Obese</b>	<b>75</b>	<b>13.5%</b>
	<b>Total</b>	<b>557</b>	<b>100 %</b>

Table (4.1.2) shows the majority (60%) of participants have lower back pain ,(74%) don't have back Injury, (55%)don't have sport exercise, (73%) have daily stress, (69%) are non-smokers,(67.5%) don't have heavy load, (88%) are less than 40 y and (55%)don't have obesity.

<b>Table 4.1.3 : descriptive statistics of Demographic Variables (age, weight and length)</b>			
<b>Demographic Variables</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>
<b>Age</b>	<b>557</b>	<b>27.70</b>	<b>10.43</b>
<b>Weight</b>	<b>557</b>	<b>70.78</b>	<b>14.96</b>
<b>Length</b>	<b>557</b>	<b>167.10</b>	<b>10.89</b>

Table (4. 1.3) display Demographic variables (age, weight and length). Age mean was (27.70), standard deviation was (10.43). Weight mean was (70.78), standard deviation was (14.96). Length mean was (167.10), standard deviation(10.89)

## 4-2 Results of the risk factors ratio in low back pain syndrome, N=557

Table 4.2.1 Back injury risk factor in low back pain syndrome								
		Lower back pain		Total	RR absolute	RR %	Significant	
		Yes	No				P – value	Sig.
Back injury	Yes	82	61	143	0.94	- 0.06	0.522	Ns
	No	250	164	414				
Total		332	225	557				

RR= Relative risk, RR% = RR<sub>absolute</sub> – 1, Ns = non-significant

Table 4.2.1 Back injury risk factor in low back pain syndrome was non - significant

Table 4.2.2 Sport exercise risk factor in low back pain syndrome								
		Lower back pain		Total	RR absolute	RR %	Significant	
		Yes	No				P – value	Sig.
Sport exercise	no	205	100	305	1.33	33 %	0/00	S
	yes	127	125	252				
Total		332	255	557				

RR= Relative risk , RR% = RR<sub>absolute</sub> – 1 , S = significant

Table 4.2.2 Sport exercise risk factor in low back pain syndrome was significant

Table 4.2.3stress risk factor in low back pain syndrome								
		Lower back pain		Total	RR absolute	RR %	Significant	
		Yes	No				P – value	Sig.
Stress	Yes	251	154	405	1.16	16 %	0.097	Ns
	No	81	71	152				
Total		332	225	557				

RR= Relative risk , RR% = RR<sub>absolute</sub> – 1 , Ns = non-significant

Table 4.2.3stress risk factor in low back pain syndrome was non\_ Significant

Table 4.2.4 Smoke risk factor in low back pain syndrome								
		Lower back pain		Total	RR	RR	Significant	
		Yes	No		absolute	%	P – value	Sig.
Smoke	Yes	107	68	175	1.03	3 %	0.865	Ns
	No	225	157	382				
Total		332	225	557				

RR= Relative risk , RR% = RR<sub>absolute</sub> – 1 , Ns = non-significant

**Table 4.2.4 Smoke risk factor in low back pain syndrome was non-Significant**

Table 4.2.5 Heavy loads risk factor in low back pain syndrome								
		Lower back pain		Total	RR	RR	Significant	
		Yes	No		absolute	%	P – value	Sig.
Heavy loads	Yes	116	65	181	1.11	11 %	0.933	Ns
	No	216	160	376				
Total		332	225	557				

RR= Relative risk , RR% = RR<sub>absolute</sub> – 1 , Ns = non-significant

**Table 4.2.5 Heavy loads risk factor in low back pain syndrome was non-Significant**



Table 4.2.6 Age risk factor in low back pain syndrome								
		Lower back pain		Total	RR	RR	Significant	
		Yes	No		Absolute	%	P – value	Sig.
Age class	Greater than 40	53	14	67	1.39	39 %	0.001	S
	Less than 40	279	211	490				
Total		332	225	557				

RR= Relative risk , RR% =  $RR_{\text{absolute}} - 1$  , S = significant

**Table 4.2.6 Age risk factor in low back pain syndrome was Significant**

Table 4.2.7 Obese risk factor in low back pain syndrome								
		Lower back pain		Total	RR	RR	Significant	
		Yes	No		absolute	%	P – value	Sig.
BMI	Obese	57	18	75	1.33	33 %	0.002	S
	No obese	275	207	482				
Total		332	225	557				

RR= Relative risk , RR% =  $RR_{\text{absolute}} - 1$  , S = significant

**Table 4.2.7 Obese risk factor in low back pain syndrome was Significant**

### 4-3 Results the relationships of the demographic factors with low back pain syndrome, N=557

Table 4.3.1 the relationships of the demographic factors with low back pain syndrome								
Demographic variables		Lower back pain		Total	Significant			
		Yes	No		df	X <sup>2</sup>	P – value	Sig.
Social status	Single	187	153	340	1	7.66	0.006	S
	Married	145	72	217				
Total		332	225	557				
Living	City center	219	139	358	1	1.02	0.312	Ns
	Out center	113	86	199				
Total		332	225	557				
Sex	Female	169	103	272	1	1.41	0.235	Ns
	Male	163	122	285				
Total		332	225	557				
Education level	College	205	169	374	3,1	10.93	0.012	S
	Institute	35	15	50				
	High school	78	34	112				
	Primary school	14	7	21				
Total		332	225	557				

$\chi^2$  = Chi-square calculated, significant, if (P – value) < 0.05 then significant (S), if (P – value) > 0.05 then nonsignificant (NS). df = degree of freedom (k – 1)\* (r – 1)

**Table 4.3.1** shows relationship of the Demographic factors with low back pain syndrome used Chi-square for analysis of relationship, where ( $\chi^2$ ) was (7.66), P-value (0.006) regarding to Social status significant.

( $\chi^2$ ) was (1.02), P-value was (0.312) regarding to Living **non-significant** ( $\chi^2$ ) was (1.41), P-value was (0.235) regarding to sex **non-significant** ( $\chi^2$ ) was (10.93), P-value was (0.012) regarding to Education level significant

<b>Weight</b>	<b>BMI (kg/m<sup>2</sup>)</b>
<b>Underweight</b>	<b>&lt; 18.5</b>
Severe underweight	< 16.0
Moderate underweight	16.0–16.99
Mild underweight	17.0–18.49
<b>Normal range</b>	<b>18.5–24.99</b>
<b>Overweight</b>	<b>≥ 25</b>
Pre-obese	25.0–29.99
<b>Obese</b>	<b>≥ 30</b>
Obese class I	30–34.99
Obese class II	35–39.99
Obese class III	≥ 40

## 4 – 4 Discussion of results

The finding in table (4.1.1) descriptive statistics of Demographic Variables, the sample size (557), majority (51%) of participants related to sex group were (female), regarding to the Education level the majority (67%) of sample were College , related to the Social status the majority (61%) were married, related to living the majority (64%)of sample were from Center.

In Table (4.1.2) shows the majority (60%) of participants have lower back pain ,(74%) don't have back Injury, (55%)don't have sport exercise, (73%) have daily stress, (69%) are non-smokers,(67.5%) don't have heavy load, (88%) are less than 40 y and (55%)don't have obesity.

Table 4.1.2 The largest proportion of the research sample was (60 %) with lower back pain. The largest percentage of the research sample (55%) did not exercise.Risk factor of lack of exercise in low back pain syndrome was (33 % ) significant.stress risk factor in low back pain syndrome was ( 16 % ) insignificant. Smoke risk factor in low back pain syndrome was ( 3 % )insignificant. Heavy loads risk factor in low back pain syndrome was (11 % ) insignificant.Age (greater than 40 year) risk factor in low back pain syndrome was (39 % ) significant.

Obese risk factor in low back pain syndrome was (33 % ) significant.

Table 4.3.1The relationships of demographic factors with low back pain syndrome were with married individuals at a significant level.Sport exercise, Age and Obesity risk factor that significant in low back pain syndrome,

Back Injury, Stress, Smoke and Heavy load risk factor that Non-significant in low back pain syndrome.

Table (4.3.1) shows the relationships of the demographic factors with low back pain syndrome which is Social status and Education level that significant in low back pain syndrome, living and Sex that no significant in low back pain syndrome.

Pain in the lower back poses significant problem in clinical and public health, being one of the main problems in adults. Obesity is a result of poor life-style, which affects the deterioration of back pain.[31]

Low back pain (LBP) is the most common health problem among older adults that results in pain and disability [32]. Older adults, aged 65 years or above, are the second most common age group to visit physicians for .LBP[33]

Exercise appears to be useful for preventing low back pain. Exercise is also probably effective in preventing recurrences in those with pain that has lasted more than six weeks[34]

# **Chapter five**

**5 – 1 Conclusions**

**5 – 2 Recommendations**

## **5 – 1 Conclusions**

1\_The largest proportion of the research sample was (60 %) with lower back pain.

2\_The largest percentage of the research sample (55%) did not exercise.

3-Risk factor of lack of Exercise (33 %) ,Age (greater than 40 year) (39%), Obese (33%) in low back pain syndrome was significant.

4\_ Risk factors of stress (16%),Heavy loads (11%), smok(3%) in low back pain syndrome was insignificant.

5\_ The relationships of demographic factors with low back pain syndrome were with married individuals at a significant level.

## **5 – 2 Recommendations**

1- Taking the results of the study to avoid the most risk factors in lower back pain syndrome

2-It is recommended to exercise and maintain an ideal body weight.

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# Appendices

## Appendix (A)

مكان العمل	التخصص	الشهادة	أسم الخبير	ت
كلية التمريض	طب الاسرة	الدكتوراه	أ.د.سجاد سالم عيسى	1
كلية التمريض	فلسفه	الدكتوراه	أ.م.د. وصف ظاهر عبد علي	2
كلية التمريض	احياء مجهرية	الدكتوراه	م.د. عبد المطلب عبد الله محمد	3
كلية التمريض	فلسفه حيوان	الدكتوراه	م.د. واثق فرعون حسن	4
كلية التمريض	علوم_حاسبات	ماجستير	م. لؤي عبد الواحد شهاب	5
كلية التمريض	علوم_احياء مجهرية	ماجستير	م. فرحان لايد	6
كلية التمريض	تمريض_اطفال	ماجستير	م.م. كاظم جواد عواد	7
كلية التمريض	اللغه الأنجليزيه	ماجستير	م.م. محمد كاظم مطشر	8
كلية التمريض	تمريض-بالغين	ماجستير	م.م. ماهر عبدالأمير عطية	9
كلية التمريض	كيمياء حياتية سريرية	ماجستير	م.م. سعدون عباس عيدان	10
كلية التمريض	تمريض_نفسية وعقلية	ماجستير	م.م. دعاء محمد باجي	11

## Appendix [B]

استبيان

عوامل الخطورة المرتبطة باصابة الم اسفل الظهر

!

لمعلومات الديموغرافية:

الجنس : ذكر ----- انثى -----

الحالة الاجتماعية : متزوج ----- غير متزوج -----

المستوى التعليمي : ابتدائي ----- ثانوي ----- معهد ----- كلية -----

السكن : مركز المدينة ----- الاطراف -----

عوامل الخطورة:

كلا	نعم	السؤال	
		هل تعاني من اعراض الم اسفل الظهر	1
		هل تعرضت للاصابة سابقا في الظهر	2
		هل تمارس الرياضة	3
		هل تتعرض للاجهاد خلال عملك	4
		هل تدخن	5
		هل تقوم برفع احمال ثقيلة خلال اليوم	6
السمنة و العمر			
		اكبر من 40 سنة	7
	BMI	الطول	8

الملخص باللغة العربية

# تأثير عوامل خطر السمنة و التدخين و عدم ممارسة التمارين و العمر في متلازمة ألم أسفل الظهر

المشرفاً.

د . محفوظ فالح حسن

الخلفية: ألم أسفل الظهر (LBP) أو ألم الظهر هو اضطراب شائع يشمل عضلات وأعصاب وعظام الظهر [المعهد الوطني للاضطرابات العصبية والسكتة الدماغية هدف المشروع:

1- التعرف على مقدار ونسبة كل عامل خطر في متلازمة ألم أسفل الظهر.

2- التعرف على علاقة ألم أسفل الظهر بالمتغيرات الديموغرافية

المنهجية: أجريت دراسة وصفية طولية على أشخاص عشوائيين لمعرفة تأثير السمنة والتدخين وقلة ممارسة الرياضة وعوامل الخطر المتعلقة بالعمر على متلازمة ألم أسفل الظهر. تحليل البيانات الإحصائية: تم

تحليل البيانات باستخدام الحزمة الإحصائية للعلوم الاجتماعية (SPSS). (الإصدار 26). تتكون عينة

الدراسة من 557 شخصاً ، و (272 ذكراً و 285 أنثى) ، وكان لديهم مستويات تعليمية مختلفة ، ومؤشر

كتلة الجسم ونمط حياتهم.

وزع الاستبانة على 557 (فرد أجاب جميع المشاركين عن) 8 (سؤال من خلال المقابلة المباشرة والإلكترونية.

تحليل البيانات الإحصائية: تم تحليل البيانات باستخدام الحزمة الإحصائية للعلوم الاجتماعية (SPSS) (الإصدار 26).

أهم النتائج

1- كانت النسبة الأكبر من عينة البحث) 60% يعانون من ألم أسفل الظهر.

2- النسبة الأكبر من عينة البحث) 55% لم يمارسوا الرياضة.

3- عامل الخطورة لعدم ممارسة الرياضة في متلازمة ألم أسفل الظهر كان معنوياً) 33%.

4- كان عامل خطر الإجهاد في متلازمة ألم أسفل الظهر ضئيلاً بنسبة) 16%.

5- عامل خطر السمنة في متلازمة ألم أسفل الظهر كان معنوياً) 33%.

6- كانت علاقة العوامل الديموغرافية بمتلازمة ألم أسفل الظهر مع المتزوجين عند مستوى معنوي.

توصية

1- أخذ نتائج الدراسة لتجنب أكثر عوامل الخطر في متلازمة ألم أسفل الظهر

2 -ينصح بممارسة الرياضة والحفاظ على وزن مثالي للجسم



جامعة البصرة  
كلية التمريض

# تأثير عوامل خطر السمنة و التدخين و عدم ممارسة التمارين و العمر في متلازمة الم اسفل الظهر

مشروع بحث مقدم لنيل درجة البكالوريوس في علوم التمريض

من قبل

علياء فؤاد عدنان

عماد عبد الحليم عطية

رغد نعمان صالح

المشرف

الأستاذ الدكتور

محفوظ فالح حسن

2022-2021