

Evaluating Nurses' Understanding of Lower Back Pain and Approaches for Physical Therapy

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Abstract. Low back pain (LBP) is a widespread condition negatively impacting quality of life and productivity. Nurses play a vital role in managing LBP, especially through the application of physiotherapy techniques. This study aimed to assess nurses' perception levels regarding LBP and physiotherapy exercises. A descriptive cross-sectional study was conducted in Basra hospitals between May and August 2024, involving 80 nurses. Data were collected using a 24-items structured questionnaire covering general perception and exercise therapy, rated on a 3-point Likert scale. Perception levels were categorized as poor, medium, or good. The majority of participants (62.5%) were female. Overall, 58% demonstrated medium perception, followed by 37% with good perception and 5% with poor perception. In part-specific analysis, 83% scored well in general perception, while 72% passed the exercise therapy section. The mean scores were 14.82 ± 3.62 and 13.70 ± 4.33 , respectively. No significant associations were found between demographic variables and perception levels. The findings indicate a need for targeted educational programs to enhance nurses' competence in physiotherapy-based LBP management.

Highlights:

1. More than half of the nurses (58%) demonstrated a medium perception level regarding lower back pain and physiotherapy management.
2. Higher understanding was observed in general knowledge (83% passed) than in exercise therapy (72% passed).
3. The study emphasizes the need for targeted educational programs to improve nurses' competence in physiotherapy-based pain management.

Keywords: Lower Back Pain, nurses, Physical Therapy, Approaches

Introduction

Pain with the lower back, also known as lumbago, is a prevalent condition that affects the muscles, nerves, and bones of the back. This condition manifests with varying intensities, ranging from a persistent dull ache for sudden sharp sensations, often disrupting daily activities and quality of life [1]. LBP is typically categorized by its duration into acute, sub-acute, and chronic forms, with each presenting distinct challenges and treatment considerations [2,12].

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Most cases of LBP resolve within a few weeks, with significant improvement observed with 40–90 percent of individuals within six weeks [3,10]. However, in many instances, the specific underlying cause of the pain is either not identified or not investigated. The majority of cases are attributed for mechanical issues, such as muscle or joint strain, without a direct pathological cause [1,4]. With certain cases, LBP may be stemmed from the damaged of intervertebral discs, and diagnostic tests like the straight leg raise are often utilized for pinpoint this cause [5,14]. For individuals experiencing chronic LBP, altered pain processing mechanisms can lead for heightened sensitivity and an exaggerated pain response for otherwise minor triggers [6].

Globally, LBP is a significant public health concern, affecting approximately 9–12 percent of the population, equating for around 632 million individuals at any given time [7]. Nearly 25 percent of people report experiencing LBP over any given month, and up for 40 percent will encounter it at some point during their lives [11]. Its estimated around 80 percent of people get experienced LBP at least once with their lifetime observed in developed countries [8]. The onset of LBP typically occurs between the ages of 20 and 40, with both men and women equally affected [4,1]. However, the condition becomes more prevalent with individuals aged 40 for 80 years and the number of people affected by LBP is expected to be significantly raised in the coming years [13].

Given its widespread occurrence and impact on individuals' physical and psychological well-being, understanding the causes, progression, and effective management strategies for LBP becomes an essential.

Materials and Methods

This descriptive cross-sectional study was conducted for assess the perception of nursing staff regarding exercises for managing lower back pain. The study was carried out at Basra hospitals over a four-month period, from May 2024 for August 2024.

The study sample comprised 80 nurses who were randomly chosen, including 50 females and 30 males, representing various educational backgrounds such as secondary school nursing, diploma holders, and nursing college graduates. All participants were actively working with the nursing field and had at least one year of professional experience.

A structured questionnaire consisting of 24 items was developed for assessing the nurses' perception of lower back pain exercises. The questionnaire also collected demographic and professional data, including hospital name, sex, age, marital status, years of service, experience with physiotherapy-related tasks, and academic qualifications. Data were collected through direct interviews and electronic means, with all participants responding for the 24-items questionnaire.

Each question was scored based on a 3 -point Likert scale: Strongly Agree = 2, Agree = 1, and Do Not Agree = 0. The total possible score was 48 degree, with responses categorized as follows:

- Strongly Agree: 2 degree

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- Agree: 1 point
- Do Not Agree: 0 degree

The questionnaire covered two key parts: general perception about lower back pain and perception of exercise therapy. Scoring and rating were defined as follows:

Part	Items	Score range	Total score
General Knowledge	12	0-24	24
Exercise Therapy	12	0-24	24
Overall Total	24	0-48	48

Participants' perception levels were also categorized into three assessment levels based on their total scores:

Score Range	Assessment Level
0-15	Poor
16-31	Medium
32-48	Good

Statistical analysis:

The data were analysed using SPSS software, version 26. Descriptive statistics, including percentages, means, standard deviations (SD), and frequencies, were calculated. Inferential statistics included paired sample t-tests and one-way analysis of variance (ANOVA) for assessing the significant differences among continuous data.

Results and Discussion

Distribution of Demographic Characteristics of the Study Sample (N = 80 Nursing Staff)

The results of demographic data have shown that the females comprised a greater portion of the studied sample (50 nurses, 62.5 percent) compared to the 37.5 percent in male nurses (N=30). Regarding to age distribution, the majority of participants were aged between 31–39 years (35percent , 28 nurses), followed by those aged 22–30 years (30percent , 24 nurses), 40–48 years (20percent , 16 nurses), and 49–58 years (15percent , 12 nurses).

Most of the nursing staff with the sample were shown married (70percent , 56 nurses), while the remaining 30 percent (24 nurses) were single. In terms of educational levels, more half of participants held diplomas (60percent; 48 nurses), followed by high school graduates (25percent; 20 nurses) and 15 percent (12 nurses) with nursing college graduates.

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In terms of involvement with physiotherapy, 60 percent (48 nurses) reported having responsibilities related for physiotherapy, while 40 percent (32 nurses) did not. Moreover, the majority of the participants (50 percent, 40 nurses) had 1–10 years of experience, followed by 25 percent (20 nurses) with 11–20 years and 15 percent (12 nurses) with 21–30 years, and 10 percent (8 nurses) with 31–40 yrs (See table 1)

Table 1: Demographic analysis of the participants

Demographic Data	Variable Classes	Frequency (F)	Percentage (percent)
Sex	Male	30	37.5
	Female	50	62.5
	Total	80	100
Age	22–30	24	30
	31–39	28	35
	40–48	16	20
	49–58	12	15
	Total	80	100
Marital Status	Single	24	30
	Married	56	70
	Total	80	100
Education Level	High School	20	25
	Diploma	48	60
	College	12	15
	Total	80	100
Involvement with Physiotherapy	Yes	48	60
	No	32	40
	Total	80	100
Years of Experience	1–10	40	50
	11–20	20	25
	21–30	12	15
	31–40	8	10
	Total	80	100

Perception Assessment of Nurses Regarding Lower Back Pain and Its Physiotherapy (N = 80 Nursing Staff)

Perception Levels

The perception levels of the nursing staff regarding lower back pain and its physiotherapy indicated that the majority of participants (58 percent; 46 nurses) have shown a medium perception level with a mean score of 25.06 ± 3.43 , while the poor perception level was lowest

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and observed only in 5 percent (4 nurses) with a mean score of 13.00 ± 3.46 . Overall, the results highlighted that the medium perception level was the most prevalent among the participants, and significant differences with perception levels were observed (ANOVA, $p < 0.05$) (See table 2). These results align with [8], who reported similar findings with assessing nurses' perception of physical therapy techniques

Table 2: Perception Assessment of Nurses Regarding Lower Back Pain and Its Physiotherapy (N = 80 Nursing Staff)

Perception Level	Frequency (F)	Percentage (percent)	Mean	SD
Poor	4	5	13.00	3.46
Medium	46	58	25.06	3.43
Good	30	37	36.14	3.21
Total	80	100	28.52	7.20

Part

The rate of passed and non- passed for the two questionnaire parts, Information and Exercise Therapy indicated that the total of 83 percent (66 nurses) has achieved a passing score, while 17 percent (14 nurses) did not pass. The mean score was 14.82 ± 3.62 , with the part being considered high overall (T-test, $p < 0.05$). In terms of **exercise Therapy Part**, total of 72 percent (58 nurses) has achieved a passing score, while 28 percent (22 nurses) did not with mean score was 13.70 ± 4.33 that indicated a high level of perception with this area (See table 3.3). These findings suggest that nurses generally have a good understanding of lower back pain and its physiotherapy, with higher perception levels observed with the Information Part compared for the Exercise Therapy Part.

Table 3: The outcomes of Part-Specific Perception Assessment

Part	Pass (percent)	Not Pass (percent)	Mean	SD	T-Test	P-Value	Significance
Information Part	83percent (66)	17percent (14)	14.82	3.62	2.5	0.015	Significant
Exercise Part	72percent (58)	28percent (22)	13.70	4.33	-	-	Significant

Regarding the information part, 83 percent of participants passed, while 72 percent passed with the exercise part, as shown with Table 3. Nurses demonstrated stronger perception about general information on lower back pain compared for perception on exercises, likely due for their scientific background and frequent exposure for patients with lower back pain, a widespread condition. Notably, lower back pain is a significant health issue globally. According

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for the Global Burden of Disease (GBD) 2010 study, lower back pain is among the top ten conditions contributing for disability-adjusted life years (DALYs), with a higher burden than conditions such as HIV, tuberculosis, and lung cancer [9,15].

The findings from the current study could suggest the importance of integrating physiotherapy topics into nursing curricula for enhance both theoretical and practical perception among nurses, particularly concerning physical therapy for lower back pain [16].

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Conclusions

The study concluded that nearly half (47 percent) of the nurses worked with physiotherapy and more than half of the participants (58 percent) have demonstrated the medium perception of lower back pain and its physiotherapy, as reflected with their scores of 16–30. With the information part, majority of the participants have achieved a passing score and exercise part. In addition, the current study has shed the light for the importance of having targeted training courses for nurses in order to improve their skills for managing the lower back pain and its physiotherapy effectively. Moreover, the outcomes here suggest the urgent need to increase the number of equipped physiotherapy centers to fulfill the growing healthcare demands

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