



Investigation of Awareness in Patients with Pain: A Descriptive Study by Fremantle Shoulder Awareness Questionnaire

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Abstract:

Background: Shoulder pain is a common musculoskeletal complaint. This descriptive study aimed to assess the self-awareness of patients with shoulder pain at Ghazy Al-Hariri Hospital for Surgical Specialties.

Methods: A purposive, non-probability sample of 40 patients (male and female) with shoulder pain was recruited between May 5, 2024, and October 1, 2024. Data were collected via interviews using a structured questionnaire, which included demographic information (sex and age) and the 9-item Fremantle Shoulder Awareness Questionnaire (FreSHAQ-J). The FreSHAQ-J demonstrated good internal consistency, with a personal reliability index of 0.65 and a Cronbach's alpha of 0.71. Descriptive statistics, including frequencies, percentages, and mean scores, were used for data analysis with SPSS version 16.

Results: The study sample consisted primarily of males, with 33 patients (82.5%) being male. Patient ages ranged from 26 to 30 years. The findings revealed that patients with shoulder pain demonstrated a moderate level of body awareness, with a mean FreSHAQ-J score of 1.71 on a scale of 1.34 to 2.66.

Conclusion: The results indicate that patients with shoulder pain have moderate body awareness. These findings highlight a need to improve patient self-awareness.

Recommendations: The authors recommend developing and distributing nursing health education materials, such as paper brochures, to patients. Additionally, training programs are needed to teach patients how to apply the 9 items of the FreSHAQ-J scale to enhance their awareness and management of shoulder pain.

Key word: Shoulder awareness, Pain, Questionnaire

I. Introduction:

Pain is a complex phenomenon that can impact a person's psychosocial, emotional, and physical functioning. Pain is an unpleasant sensory or emotional experience associated with actual or potential tissue damage. It can be categorized as either acute or chronic, and it can occur anywhere in the body, such as the abdomen, back, head, and shoulder ⁽¹⁾. Statistics show that shoulder pain is second only to back pain, with a prevalence of 7% in Sweden and the United Kingdom ⁽²⁾.

Shoulder pain presents as a frequent clinical problem, impacting nearly a third of all adults and often impeding daily functioning ⁽³⁾. The recovery process can be protracted, with many individuals experiencing symptoms for more than six months ⁽⁴⁾. Sensorimotor dysfunction has been implicated in the pathogenesis of shoulder pain ⁽⁵⁾. A large proportion of those with shoulder pain do not seek formal treatment, but rather, they may seek a "cure." A critical consideration for managing this condition is the individual's awareness, defined as the state of being fully conscious of relevant stimuli and truly experiencing a given task or situation ⁽⁶⁾.

While previous research has yielded questionnaires to assess perceptual dysfunction in complex regional pain syndrome of the upper limb, there is a current lack of clinically applicable tools to evaluate impaired body perception specifically in individuals with shoulder pain ⁽⁷⁾. This study investigates whether individuals experiencing chronic musculoskeletal pain also report symptoms indicative of impaired body perception, and explores potential associations between such perceptual dysfunction and clinical presentation. Modifying a questionnaire by altering key terms to encompass various musculoskeletal conditions offers a strategy for broader applicability. However, rigorous psychometric evaluation remains indispensable before clinical integration. The words "aware" and "unaware" are used in many contexts with many different connotations. Awareness refers to having a lot of information rather than the lack of information ^(3,6).

II. Methodology

3.1 Design of the study:

A descriptive study was conducted on patients with pain at Al-Yarmook Teaching Hospital from May 5th, 2024, to October 1st, 2024. The study aimed to assess body awareness in this patient group. A non-probability purposive sample of 40 male and female patients with pain was chosen. Data were collected using an interview method with a designed questionnaire consisting of two parts: Part One collected demographic data (Sex and Age); Part Two included The Fremantle Back Awareness Questionnaire (FreBAQ). The FreBAQ is a 9-item self-report questionnaire that demonstrated good internal consistency in this study (Personal Reliability Index = 0.66, Cronbach's alpha = 0.81). Descriptive statistical analysis procedures (frequencies, percentages) and the mean of score were used in analyzing data using the SPSS version 16.

3.2 Setting of the Study:

The study has been conducted on patients with those who are shoulder pain at Ghazy AL_hariri hospital surgical specialties.

3.3 The Sample of the Study:

A non-probability purposive sample of 40 patients with pain was selected from Ghazy Al-Hariri Hospital, surgical specialties.

3.4 INCLUDED CRITERIA OF THE SAMPLE INCLUDE:

- Patients both male and female.

- Patients with shoulder pain only

3.5 EXCLUDED CRITERIA OF THE SAMPLE INCLUDE:

- Pain related surgery
- Psychiatric patients

3.6 Data Collection Methods:

The data (questionnaire) were collected via interview over a three-month period in 2024.

3.7 The Study Instrument:

The two key demographics collected were Sex and Age. The Fremantle Shoulder Awareness Questionnaire (FreSHAQ-J) is a 9-item tool designed to assess self-awareness in patients with shoulder pain. It utilizes a 5-point Likert scale with the following categories, consistent with the original FreBAQ: Response Scale: (0 = Never, 1 = Rarely, 2 = Occasionally, 3 = Often, 4 = Always)

3.8 AWARENESS LEVEL:

0 - 1.33: High awareness (Good proprioception) - Individuals with scores in this range tend to be very aware of their body's position and movement in space. They can easily perceive subtle changes and control their movements precisely.

1.34 - 2.66: Moderate awareness - Individuals in this range have a good sense of body awareness but may not be as attuned to minor changes. They can still control their movements effectively but might require slightly more focus for complex tasks.

2.67 - 4.00: Low awareness (Poor proprioception) - Scores in this range indicate reduced awareness of body position and movement. Individuals might struggle to control their movements precisely or be unaware of their posture.

3.9 Validity and Reliability of the questionnaire:

The Fremantle Shoulder Awareness Questionnaire (FreSHAQ-J) is a 9-item questionnaire with personal reliability index was 0.65, and Cronbach's alpha was 0.71. It is good internal consistency.

3.10 Statistical data analysis:

The data were analyzed by using descriptive statistical measures which included frequencies, percentages; mean of score were used for the data analysis under application of the statistical package of social science (SPSS).

III. Results of the Study

PART 1: PATIENTS' DEMOGRAPHICAL CHARACTERISTICS(N=40)

List	Demographic characteristics	Groups	Frequency	Percent %
1	Age	21_25	11	27.5
		26_30	19	47.5
		31 and more	10	25
2	Sex	Male	33	82.5
		Female	7	17.5

This Table reveals that the majority of patients ages between (26-30)years old who were accounted (47.5%), (82.5%) were males.

Par.t II -: The Scoring obtained from The Fremantle Back Awareness Questionnaire (FreBAQ) is a 9-item, for the patients with CLBP

No.	Items	Never N(%)	Rarely N(%)	Occasionally N(%)	Often N(%)	Always N(%)	M.s
1	My back feels as though it is not part of the rest of my body	16 (40)	11 (27.5)	6 (15)	5 (12.5)	2 (5)	1,15 H
2	I need to focus all my attention on my back to make it move the way I want it to	2 (5)	2 (5)	9 (22.5)	12 (30)	15 (37.5)	2,9 L
3	I feel as if my back sometimes moves involuntarily, without my control	6 (15)	7 (17.5)	15 (37.5)	11 (27.5)	1 (2.5)	1,85 M
4	When performing everyday tasks, I don't know how my back is moving	4 (10)	6 (15)	24 (60)	5 (12.5)	1 (2.5)	1,82 M
5	When performing everyday tasks, I am not sure exactly what position my back is in	5 (12.5)	14 (35)	12 (30)	6 (15)	3 (7.5)	1,7 M
6	I can't perceive the exact outline of my back	9 (22.5)	7 (17.5)	14 (35)	10 (25)	0 (0)	1,62 M
7	My back feels like it is enlarged (swollen)	13 (32.5)	12 (30)	9 (22.5)	5 (12.5)	1 (2.5)	1,2 H
8	My back feels like it has shrunk	15 (37.5)	11 (27.5)	3 (7.5)	8 (20)	3 (7.5)	1,32 H
9	My back feels lopsided (asymmetrical)	3 (7.5)	14 (35)	12 (30)	8 (20)	3 (7.5)	1,85 M
Total MS							1,71 M

*MS =Mean of score; Following three levels, if MS range from: (0-1.33) **High awareness (Good proprioception)**, (1.34-2.66) **Moderate level**, (2.67-4) **Low awareness (Poor proprioception)**.*

The data analysis was conducted on (9) items of the questionnaire that assessment of awareness for patients with shoulder pain based on a rating scale, which had been reported and manifested out of the mean of scores for severity of these items. Reported that total mean of score for (9) items were (1.71) at moderate awareness level.

IV. Discussions:

Part I: Discussion of Patients' demographical Characteristics.

Our findings indicate that the majority of study participants were males aged between 26 and 30 years. Notably, this age group comprised 47.5% of the sample, and males constituted 82.5% of the total participants. (This data is based on the final sample of 40 participants). For recruitment, a total of 253 patients were approached in the clinic's waiting area. Out of this total, 114 either declined to participate or did not meet the study criteria. From

the remaining 139 eligible individuals, 40 were selected using a non-probability purposive sampling method, and they were administered the survey questions via a face-to-face interview ⁽⁸⁾.

Another study using fMRI compared 24 patients with active RA (mean DAS-28 5.20 ± 1.14) with 19 age- and sex-matched controls. The findings showed that, compared to controls, patients with RA had increased brain connectivity predominantly in the supplementary motor areas, mid-cingulate cortex, and the primary sensorimotor cortex ⁽⁹⁾.

Part II: Response the patients with shoulder pain for (FreSHAQ-J) is a 9-item.

The discussion focused on nine items from the questionnaire designed to assess patients' awareness of shoulder pain using a rating scale. The mean score across these items was 1.71, indicating a moderate level of awareness among the participants. Responses to pain awareness items indicate that the majority (>80%) of respondents agreed that they knew why chronic pain occurred (89.2%), where to find health care professionals who can help manage their pain (81.7%), and that pain can affect an individuals' mood (88.4%) ⁽¹⁰⁾. The level of awareness of patients who suffer from shoulder pain is average, which indicates that the majority of patients do not have sufficient awareness to recognize their pain. It was also found that the least aware group is the youth (**the researchers**). Patients older than 60 years who had two out of three findings also had a 98 percent probability of a rotator cuff tear. A retrospective analysis of 191 persons found that the combination of being older than 65 years, having weakness on external rotation testing, and experiencing night pain resulted in a 91 percent probability of having a rotator cuff tear (partial or complete) ⁽¹¹⁾. Participants experienced a decrease in pain through development of an increased sense of control as well as a changed attitude to themselves, their bodies and their pain. It is important for physiotherapists to understand that pain can increase during BBAT and to support the patients in this process during the therapy ⁽¹²⁾.

V. Conclusions:

The conclude of the results also showed that patients with shoulder pain exhibited a moderate level of body awareness. The authors recommend creating nursing health instructions in the form of paper brochures to be distributed to patients, and training patients who suffer from shoulder pain on how to deal with the nine items of the scale to improve their awareness.

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