Journal of Riphah College of Rehabilitation Sciences

ORIGINAL ARTICLE

Frequency of Fear Avoidance Beliefs in Patients with Neck Pain

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ABSTRACT

Background:

Psychological factors like fear leads to decrease movement and development of beliefs that results in avoidance from physical activity in patients with neck pain. FAB i.e. fear avoidance beliefs (either with work or physical activity) not only restrict the participation of patient in active rehabilitation program but also hinder social interactions and leisure activities.

Objectives:

The purpose of the study was to determine how frequently FAB prevails in neck pain patients in Wah Cantt & twin cities of Pakistan.

Methodology:

A descriptive cross sectional study was conducted in Wah Cantt & twin cities of Pakistan from July 2014 to December 2014 and patients with neck pain were recruited from six physiotherapy outpatient departments, office workers, school teachers and bank workers(N=405). For quantitative analysis, FAB was evaluated with modified Fear Avoidance Belief Questionnaire (FABQ) by the examiner. The modified FABQ consists of two subscales pertaining to physical activity (FABQ-PA with questions 1-5) and work (FABQ-W with 6-16 questions). The data was analyzed on SPSS-21

Results:

The total population was 405 in which 76% (309) patients have FAB for physical activity. The Mean ± S.D for FABPA is 16.73 ± 4.862 depicting prevalence of high FABPA in neck pain patients. 70 %(282) patients found to have FAB to be reflected in their work. The Mean ± S.D for FAPW is 27 ± 7.88 depicting prevalence of high FABW in patients with neck pain.

Conclusion:

The study results clearly depicted the high frequency of FABPA and FABW prevailing in neck pain patients.

Keywords:

FAB (fear avoidance beliefs), Neck pain, FABPA (fear avoidance beliefs for physical activity), FABW (fear avoidance beliefs for work) FABQ (fear avoidance belief questionnaire)

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INTRODUCTION:

Geographically neck pain is most common musculoskeletal problem secondarily to low back pain. Being a frequent cause of chronicity and disability, it poses a noteworthy threat to health and finance. [1] 50% of population suffers from episodes of neck pain at some stage of their life in which higher incidence is reported in middle aged females.[2,3] It causes hindrance in performing ADL's which leads to depression, disappointment, misery and disability.[4] Apart from physical impairments and pathologies, health care professionals should also consider the psychological factors which play significant role in the development of prolonged disability.[5]

Psychological factors like stress elevates pain intensity and severity[6] likewise FAB (Fear avoidance beliefs) i.e. avoidance of activities due to fear, are captivating researcher's interests[6,7] Patients with increased fear of pain manage it by avoiding physical activities that are expected to increase pain.[8]pain behaviors like avoidance develops as nociception stimulates the emotional feedback to the input of pain in the form of depression, anxiety, stress or fear. These behaviors are explained as the activities a person do when they are feeling pain e.g. avoidance belief to defend the fear of re-injury.[9] FAB causes

restrictions in engaging with rehabilitation activities which results in physical deconditioning, worsens the pain and causes greater disability.[6,10]

The reduction of pain threshold and tolerance due to anxiety, aggravates FAB and restrictions in functional activities.[10] furthermore FAB is a predictor of disability rather than the consequence of disability.[5] Decreased ability to perform functional tasks is not due to the severity of the pathology but fear of increasing pain associated with the physical activities.[5] So, there exists a cognitive domain of pain as well.[11] The fear of pain due to anticipation of pain is a strong negative reinforcement for the persistent avoidance behavior and functional disability.[12] Physiologically, FAB also increases the severity of pain by adrenaline elevation due to sympathetic activation during stress and fear.[6,13]

Some initial literature reported weak association between FAB and disability for cervical spine patients. [14] But later on, role of FAB as predictors of disability was well supported.[15] Understanding the emotional responses to the stressful events is essential to improve the prognosis of the disease.[6] To increase the effectiveness of treatment, fear eliciting activities & FAB should also be addressed through multimodal interventions.[11,16-18] So the current study was planned to find out how frequently FAB (either with any physical activity or work) prevails in neck pain patients of our society.

METHODOLOGY:

We conducted a descriptive cross sectional study from July 2014 to December 2014 on 405 patients (160 males & 245 females) 25 to 84 years of age residing in the territory of twin cities (Rawalpindi, Islamabad) and Wah Cantt. They were recruited from six physiotherapy outpatient departments, bank workers, school teachers and office workers after approval from their governing bodies. For the sampling of data, a convenient non-probability sampling technique was used. Informed consent was obtained from all the patients before participation in the study. Sample was selected on the basis of inclusion and exclusion criteria. Patients above age of 25 who presented with mechanical or postural neck pain with intensity of 3 & >3 were allowed to participate in the study. Patients below age of 25 with non-mechanical neck ache with severity of <3 on numerical pain rating scale were excluded from the study. The participants were instructed to sit and reflect on the current state of their fear of pain and movement.

For the quantitative analysis a standard fear avoidance belief questionnaire (FABQ) was used with slight modification like the word “back pain” had been modified to “neck pain” and the data was collected through it by the researcher herself. The severity of pain was calculated from the numerical pain rating scale with mild (0-3), moderate (4-6) and severe (7-10) pain. The questionnaire was supplemented with an additional self-constructed exercise questionnaire consisting of three questions only.

The modified questionnaire consists of two subscales which were reflected in the division of the outcome form into two separate sections. The first subscale (questions 1-5) is the FABQPA i.e. Physical Activity subscale in which sum of items 2, 3, 4 and 5 were recorded on the form. The second subscale (questions 6-16) is the Work subscale in which sum of items 6, 7, 9, 10, 11, 12 and 15 were recorded on the form. To measure the extent of FAB associated with neck pain reflected in their physical activity and work 7 ranks were used such as completely disagree (0), disagree (1), partially disagree (2), unsure (3), partially agree (4), agree (5) and completely agree (6).

The scores of FABQPA were categorized as 0-4(very low fear), 5-9 (low fear), 10-14 (moderate fear), 15-19 (high fear) and 20-24 (very high fear). The scores of FABQW subscale were categorized as 1-6 (very low fear), 7-12 and 13-18 (low fear), 19-24 (moderate fear), 25-30 and 31-36 (high fear), and 37-42 (very high fear) respectively.

The data was analyzed on SPSS-21(Statistical Package for Social Sciences) software. The prevalence of FABW & FABPA was measured and showed through mean ± S.D by analyzing the frequency tables in descriptive statistics.

RESULTS:

The total population was 405 in which 76% (N=309) of these found to have FAB to be reflected in their physical activity (FABPA) and 70% (N=282) also had FAB for work (FABW)

FIGURE 1: percentages of FAB for physical activity in neck pain patients

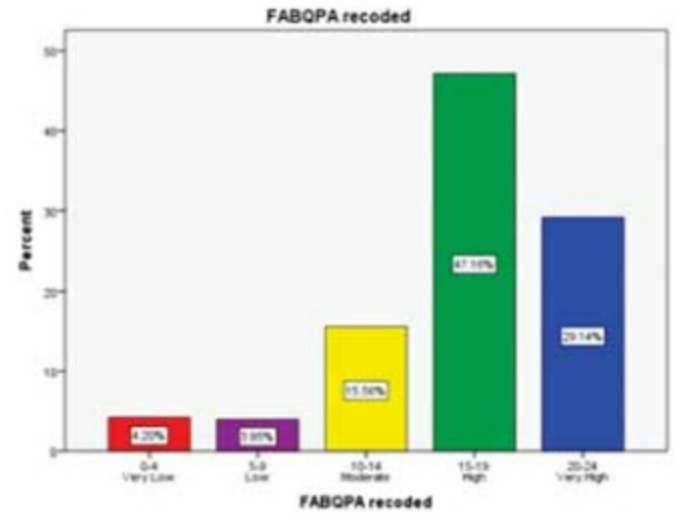

Figure 1 show percentages of scores achieved for FABPA. Their scores were 29.1, 47.2, 15.6, 4.0 and 4.2 reflecting very high, high, moderate, low and very low fear for physical activity respectively. The Mean ± S.D for FABPA is 16.73 ± 4.862 depicting prevalence of high FABPA in neck pain patients.

TABLE 1: Frequency Distribution

		Frequency	Valid Percent
Valid	0-4	17	4.2
	5-9	16	4.0
	10-14	63	15.6
	15-19	191	47.2
	20-24	118	29.1
	Total	405	100.0
Mean ± S.D		16.73 ± 4.862	

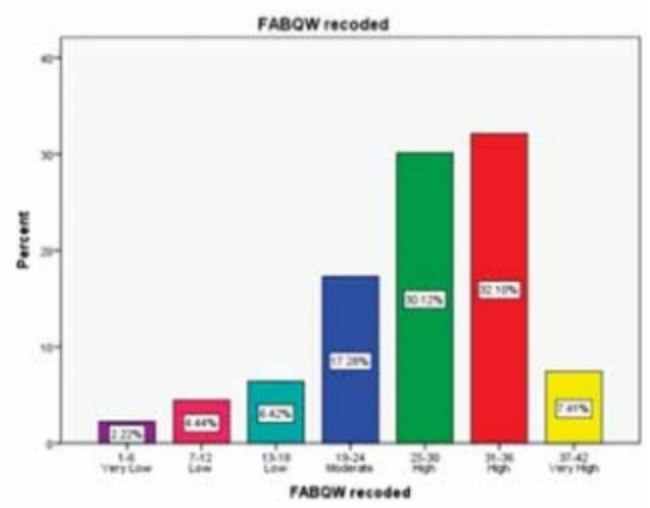

Figure 2 shows percentages of achieved scores for FAB in their work. Their scores were 7.4, 32.1 and 30.1, 17.3, 6.4 and 4.4, 2.2 reflecting very high, high, moderate, low and very low fear for work respectively. The Mean ± S.D for FAPW is 27 ± 7.88 depicting prevalence of high FABW in patients with neck pain

TABLE 2: Frequency Distribution

		Frequency	Valid Percent
Valid	1-6	9	2.2
	7-12	18	4.4
	13-18	26	6.4
	19-24	70	17.3
	25-30	122	30.1
	31-36	130	32.1
	37-42	30	7.4
	Total	405	100.0
Mean ± S.D		27 ± 7.88	

DISCUSSION:

The main aim of this study was to provide evidence for FAB prevailing in patients with neck pain. Numerous researches supported the findings of this study.

Leeuw et al. establish the relationship of fear avoidance behavior with musculoskeletal assessment and found that pain catastrophizing is a precursor of pain related fear. During the process patient perceives pain as being extremely threatening. This gives rise to pain related fear, associated with safety seeking approach and ultimately avoidance of activities that exacerbate the problem. Study of Leeuw gives evidence that

pain catastrophizing as a precursor of pain related fear.[17]

In the maintenance of anxiety disorders main mechanism is the long term use of safety behaviors seeking approach that includes avoidance of threatening activities and careful attention towards the source of threat. When these patients detect any threatening situation they will either escape the activity or avoid it. This detoriates pain related fear of these patients.[17]

The fear and anxiety response encompasses psycho-physiological (e.g. heightened muscle re-activity), behavioral (e.g. escape and avoidancebehavior) as well as cognitive (e.g. catastrophizing thoughts) elements.

Several studies have confirmed that excessive attention to pain depends upon the existence of pain related fear in patients. Further studies confirmed that pain catastrophizing increases the attentional demand of pain. Thus patient starts avoiding physical activities.[19]

CONCLUSION:

After the conduction and analysis of this cross sectional survey, it is concluded that a large percentage of patients suffering from neck pain in our society have shown to have pain and movement related fear. Patients that have fear for pain do not engage in any activity. Thus, avoidance of physical activity further deteriorates the pain problem.

RECOMMENDATIONS:

Psychological assessment through FABQ should be included in clinical assessment of patients with neck pain and counseling should be included in plan of treatment if ill believes are found. Large samples studies should be conducted to test the significance of interventions in modifying FAB and to check whether they influence the course of symptoms or not in patients presented with neck pain.

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