THE ATLANTIC Journal of Medical Science and Research

Atlantic J Med Sci Res 2023;3(4):144-7
DOI: 10.5455/atjmed.2023.08.050

Original Article

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Received: 23 August, 2023
Accepted: 17 October, 2023
Published: 19 October, 2023

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CITATION
Secgin Y, Erkartal HS, Toy S, Ciftci R. Evaluation of Kinesiophobia and Pain Level in Physically Disabled Individuals. Atlantic J Med Sci Res. 2023;3(4):144-7. DOI: 10.5455/atjmed.2023.08.050

Evaluation of kinesiophobia and pain level in physically disabled individuals

Abstract

Aim: An abnormal condition resulting from the absence or improper functioning of an organ in the body is called physical disability. Individuals with physical disabilities face mobility phobia and pain throughout their lives. Based on this hypothesis, this study was conducted to evaluate kinesiophobia and pain levels in physically disabled individuals.
Materials and Methods: The study was conducted on 100 individuals with neurological and orthopedic disabilities between the ages of 10-83. The Tampa Kinesiophobia Scale and McGill-Melzack pain questionnaire were administered to the individuals and their kinesiophobia and pain levels were evaluated.
Results: As a result of the study, it was observed that the majority of the individuals' pain was localized in the trunk (12.27% in the head, 33.74% in the trunk, 23.31% in the upper extremities, 30.67% in the lower extremities), they described the pain as tiring, and they were afraid of pain recurrence.
Conclusion: As a result of the study, it was determined that individuals with physical disabilities face challenges related to pain in their daily lives and have concerns about experiencing pain again. Based on these findings, further research should be conducted to explore effective strategies for managing pain in this population. We believe that such research will contribute to the broader body of knowledge in this field.

Keywords: Physically disabled individuals, kinesiophobia, pain levels, tampa kinesiophobia scale, disability management

INTRODUCTION

All neuromotor disorders including loss of sensation and movement in a certain part of the body due to orthopedic problems in the locomotor system of the individual are called physical disabilities (1). According to the results of the Population and Housing Survey conducted in Turkey by the Turkish Statistical Institute, the proportion of the population with at least one disability (in the age group of 3 and over) is 6.9% (4,876,000). This rate is higher among women with a difference of 2%. As age increases, the rate of physical disability increases in direct proportion (2).

The term kinesiophobia was defined by Kori et al. in 1990 as the anxiety that develops against activity and physical movement caused by painful injury and/or sensitivity to re-injury (3, 4). The Tampa Kinesiophobia Scale is a kinesiophobia scale introduced by Miller, Kopri, and Todd in 1991. Vlaeyen et al. republished this scale in 1995 with the permission of Miller, Kopri, and Todd. The Tampa Kinesiophobia Scale is a 17-question scale designed to determine sensitivity to painful injury and/or re-injury (5).

Pain has been defined by the International Association for the Study of Pain as a sensory, emotional, and unpleasant feeling that may or may not be due to a natural cause and is related to the person's past experiences. It has also been reported that pain can be defined as the unconscious realization of tissue damage (6, 7). Expressions such as allodynia, analgesia, anesthesia, anesthesia dolorosa, dysesthesia, hypoalgesia, hyperesthesia, hyperpathy, hypoesthesia, cosalgia, neuralgia, paresthesia, radiculopathy, hyperalgesia were used in the definition of pain (7, 8). The McGill-Melzack Pain Questionnaire is a scale consisting of four main parts in which pain localization, sensation, pain intensity, and pain level are determined. This scale was first introduced by Melzack and Targerson in 1971 and its validity and reliability were tested in Turkey by Kuğuoğlu, Eti Aslan, and Olgun (9).

The aim of this study was to evaluate kinesiophobia and pain levels in physically disabled individuals.

MATERIALS AND METHODS

Study Population

The study was initiated with the decision of the local non-interventional ethics committee 2022/1113. The study included 100 individuals (53 females, 47 males) aged 10-83 years. The individuals were divided into two disease types: neurologic and orthopedic. Inclusion criteria were individuals over 9 years of age, literacy, and individuals showing symptoms of pain in various parts of the body.

Working Method

A total of 100 individuals with pain in different body parts were administered the McGill-Melzack Pain Questionnaire and the Tampa Kinesiophobia Scale and the results were recorded in Excel.

McGill-Melzack Pain Survey

This questionnaire was introduced by Melzack and Targerson in 1971. It consists of four separate sections and individuals are asked to mark their pain on the body diagram according to its severity. As a result of this questionnaire, the location, sensation, relationship with time, intensity, and pain level of the pain felt by individuals are determined (9).

Tampa Kinesiophobia Scale

This scale consists of 17 questions and uses a 4-point Likert scoring system. As a result of the scale, the degree of kinesiophobia of the individual is revealed (5).

Statistical Analysis

Minitab 17 package program was used for statistical analysis. Mean, standard deviation, median, minimum, and maximum values were included in the descriptive statistics of the data. Whether the data fit the normal distribution was tested by the Anderson-Darling test. In pairwise comparisons, the Two Simple T-test was used for normally distributed data, and the Mann-Whitney U-test was used for non-normally distributed data. $p<0.05$ was considered statistically significant.

RESULTS

The ages of male and female subjects were 38.00 (10.00-83-00) and 36.00 (10.00-79.00), respectively. There was no significant difference between the ages according to gender (p=0.466). Except for the parameter of the Tampa Kinesiophobia scale, the other parameters were not normally distributed ($p>0.05$). The median (min-max) value of the McGill-Melzack Pain Questionnaire parameter was 30.00 (15.00-64.00) in men and 43.00 (22.00-86.00) in women. A significant difference was found in the McGill-Melzack Pain Questionnaire parameter according to gender (p=0.00). The Tampa Kinesiophobia Scale parameter was 42.70±7.45 in male subjects and 42.93±6.01 in female subjects. There was no significant difference in the Tampa Kinesiophobia Scale parameter according to gender (p=0.871).

Of the male individuals, 35 had neurologic and 12 had orthopedic disease types, while 28 of the female individuals had neurologic and 25 had orthopedic disease types.

As a result of the McGill-Melzack Pain Questionnaire, the perception level (cognition) of the individuals was found to be 5.00 (1.00-5.00) in male individuals and 5.00 (2.00-5.00) in female individuals and no statistically significant difference was found according to gender (p=0.06). A total of 163 different answers were given by 100 individuals to the question about the location of pain in the questionnaire. According to the answers given, 12.27% of the pain was in the head, 33.74% in the trunk, 23.31% in the upper extremities, and 30.67% in the lower extremities (Figure 1).

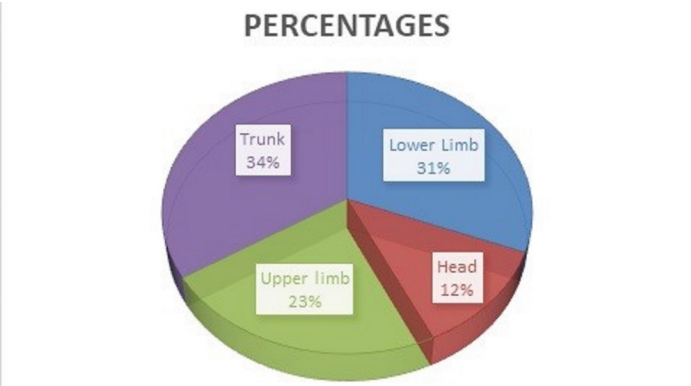

Figure 1. Percentages of where the pain is located

The question about the pain characteristic of the McGill-Melzack Pain Questionnaire was answered by 100 individuals with a total of 478 responses. The answers given are shown in Table 1 and it was seen that the most common answer was tiring.

Table 1. Percentages of pain characteristics

Pain Characteristic	Percentages
Spreading	4.18
Hot	5.86
Miserable	3.14
Annoying	4.81
Very Sharp	2.72
Striking	2.93
Like a skewer	2.30
Sore	7.11
Like a pinprick	3.35
Exhausting	7.32
Desensitizing	2.72
Fearful	2.30
Chilling	2.51
Throbbing	5.23
Like a cramp	7.11
Introgressive	6.07
Sensitive	2.72
Antsy	3.56
Burner	3.14
Lethargic	6.28
Itchy	2.09
Fluttering	2.30
Thorns and Thistles	2.72
Tugger	2.30
Nervous	2.51
Blunt	2.72

The response rates obtained as a result of the Tampa Kinesiophobia Scale are given in Table 2.

Additionally, in our study, Tampa Kinesiophobia scale and McGill-Melzack pain scale were compared between orthopedic and neurological patients and a significant difference was obtained ($p<0.05$).

Table 2. Kinesiophobia scale results

Questions	Strongly disagree	Disagree	Agree	Completely agree
I worry that if I exercise, I will injure myself.	43	25	17	15
If I try to deal with my pain, it increases.	23	44	26	7
Because of my pain, my body is telling me that something is dangerously wrong.	17	35	36	12
I feel like if I exercise, the pain will go away.	15	22	37	26
People don't take my medical problems seriously enough.	30	31	26	13
My body will be at risk for the rest of my life because of this incident.	22	32	36	10
When I have pain, it always means that I have injured my body/that there is a problem.	29	40	23	8
Just because certain things increase my pain does not mean that they are dangerous.	5	17	57	21
I'm afraid of accidentally injuring myself.	24	22	28	26
The simplest and safest way to prevent the pain from increasing is to avoid unnecessary movements.	8	23	43	26
If there was nothing dangerous in my body, I wouldn't feel so much pain.	7	25	48	20
Despite my pain, if I had been physically active, my condition would have been better.	6	21	50	23
Pain signals me when to stop exercising so I don't injure myself.	5	20	58	17
It is not safe for someone in my situation to be physically active.	32	42	20	6
I can't do everything that normal people do because I get injured very easily.	22	31	32	15
Even if some things cause a lot of pain, I don't think they are really dangerous.	3	19	59	19
No one should have to exercise when they feel pain.	9	23	44	24

DISCUSSION

In this study in which kinesiophobia and pain levels in physically disabled individuals were evaluated, 63 individuals with neurological and 37 with orthopedic disease types were used and 33.74% of the individuals reported that their pain was in the trunk and 7.32% reported that the pain characteristic was tiring.

The World Health Organization defines physical disability as an abnormal life situation caused by the absence of an organ or the inability of an organ to function properly. Individuals with physical disabilities have to deal with the difficulties caused by this abnormal life situation throughout their lives. Some of these challenges include limited physical activity, pain, sexual problems, and kinesiophobia (10, 11). It is critical to eliminate or reduce these difficulties in order to prevent the isolation of physically disabled individuals from society. For this purpose, physical activity opportunities for individuals with physical disabilities should be increased or facilitated, educational opportunities should be increased or improved, sexual life quality should be increased, and socioeconomic levels should be improved. In order to eliminate the inappropriate conditions of physically disabled individuals, state institutions, local governments and non-governmental organizations need to work in coordination and put forward legal and strategic plans (10-13).

Kinesiophobia is an important risk factor because it causes individuals to believe that pain or a new pain will occur again. Due to this belief, studies clearly show that individuals restrict their physical activities, sleep problems occur, and psychological problems occur. Accordingly, the quality of life decreases day by day (14).

Pain is an unpleasant emotional sensation that occurs in a specific part of the body. Identifying the localization, severity, and level of pain is an important factor that directly affects the quality of life of the individual (15).

CONCLUSION

As a result of the study, it was observed that physically disabled individuals both suffered from pain and were afraid of pain in their daily routines. According to this result, protocols should be developed for physically disabled individuals to cope with this pain and fear of pain.

Conflict of Interests
The authors declare that there is no conflict of interest in the study.

Financial Disclosure
The authors declare that they have received no financial support for the study.

Ethical Approval
Karabük University Local Ethical Committee Approval Number: 2022/1113.

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