

Review Article

The prevalence of musculoskeletal pain as well as its association with the nature of work

Sarah Ashfaque, Ashfaq Ahmad, Mumtaz Hussain*, Rahat Ilyas

Sheikh Zayed Medical College Hospital Rahim Yar Khan

Abstract

Received: Jun, 05, 2020
 Revised: Jun, 23, 2020
 Accepted: Jun, 27, 2020
 Online:

Background: Musculoskeletal pain is associated with the pain of muscles, tendons, ligaments and bones that can leads to pain of musculoskeletal. The pain is increasing in people of both developing and developed countries and its cause is not much clear and varies from person to person. Its prevalence depends on social and cultural difference but according to an estimate the prevalence of musculoskeletal pain is 30% ranges from 13.5% to 47%. When people do not take it serious and disease remain untreated leads to chronic musculoskeletal pain that is difficult to treat. The it's prevalence is higher in the age of 30s to 50s. **Objective:** The study was conducted to find prevalence of musculoskeletal pain as well as its association with the nature of work. The severity of musculoskeletal pain and its relation with gender has also been studied in this article. **Methodology:** A cross sectional study was conducted on the people who suffering with musculoskeletal pain due to any reason. The data was gathered of about 150 patients from which 86 were male and 64 were female with different age groups. Along with prevalence of pain, the severity of pain was also studied and observed in the article for getting understanding of effective treatment of musculoskeletal pain. **Results:** The results determined that 78 out of 150 patients from which 1 was female and 7 were male were suffering with the moderate pain during the disease while 42 patients, only 2 male and 40 female explained about severe pain. The results showed that 125 out of 150 patients claimed that at the time of initial onset of the trouble was their age and their age play important role in worsening their pain. Furthermore, the study revealed that sometimes the situation become very problematic and they have to hospitalize for few days such as 86 patients agreed that they hospitalized during disease for management of pain. **Conclusion:** Musculoskeletal pain is increasing day by day due to diversity and complexity of work during daily life. Most of the people do work by sitting on chair and does not do any work in which they have to walk or do exercise due to which bones become weak and people experienced pain in bones, muscles, tendons and ligaments. The management of pain during its initial stage is very important because situation can become worse when remain untreated and patients also have to hospitalize due to severe pain.

Keywords: Musculoskeletal pain, fibromyalgia, repetitive movements, mobilization treatment

Musculoskeletal pain

Musculoskeletal pain is a severe type of pain that affects ligaments, bones, muscles and tendons. Its cause can be varies from patient to patient in figure because tissue of muscles can become damaged due to wear or tear of regular activities done by people. According to research, the most common causes of musculoskeletal pain include trauma to any of the area such as fractures, jerking movement, sprains, falls, auto accidents, direct blows to muscles or dislocation for bones from its place. Some other causes that are present in most of the patients are repetitive movements, prolonged immobilization, postural strain, overuse, muscles shortening and problems of spinal alignment (panel Lars Arendt-Nielsen, 2010). The patients of musculoskeletal pain

complain off and on about pain in whole body or any part of body. They often feel that their muscles are pulled or overworked, thus muscles of those patients twitch or burn. The symptoms of disease are different in different people according to nature of their job and the severity of job. Most of the patients experience symptoms of pain, sleep disturbance and fatigue in entire day during regular activities. Through physical examination as well as medical history of patient is used to diagnose the disease while some doctors also perform some diagnostic tests for proper diagnosis of musculoskeletal pain (Tschudi-Madsen, 2011).



Figure 1: Musculoskeletal pains in whole body

*Corresponding Author: Mumtaz Hussain
 Address: Sheikh Zayed Medical College Hospital Rahim Yar Khan
 Email address: mh9703157@gmail.com

The rate of musculoskeletal pain is high in the children and adult people as according to a research 8% children and 46% adults are dealing with the pain due to this trauma or disorder. The severity of disease depend the age, gender and nature of job of the patient. Manual therapy or mobilization treatment method is mostly used by the doctors to treat the patients who are suffering spinal alignment problem while the recovery from acute musculoskeletal pain needs some medications and exercises for the proper treatment (Buettner, 2008).

The medications that are used to treat pain and inflammation in patient include non steroidal anti-inflammatory drugs (NSAIDs) because these drugs are considered as effective for management of pain. The drugs that can increase the level of nor-epinephrine and serotonin are used in patients with musculoskeletal pain to treat the fibromyalgia. Injections of anti-inflammatory medications or anesthetics are also used in the painful sites for treatment (E.Bialosky, 2009).

Literature Review

John et al. conducted a study in 2007 to find the epidemiology of acute as well as chronic musculoskeletal pain in both adult and adolescent people. The main focus of the study was determining the three types of pain disorders such as fibromyalgia pain, low back pain and shoulder pain. The collection of data for the study was difficult for researchers because effective data was not available in the websites. The study determined that the pain was common but the exact rate of pain was unknown. The results explained that the prevalence of pain was high in adults where musculoskeletal pain was considered as fifth top most reason of pain in all over the world. It was found

that various group factors such as ethnicity, socioeconomic status and race as well as individual factors such as diet, smoking and psychological status is also associated with musculoskeletal pain (McBeth, 2007).

A study was conducted by Aura et al. in 2005 to find the rate and prevalence of pain as well as musculoskeletal pain in adolescents. A cross sectional study was conducted by the authors and questionnaire was filled from patients or relatives of patients to determine the exact results. Pain was reported by 40% of the participants, myofascial syndrome by 5%, benign joint hypermobility syndrome by 10%, fibromyalgia by 1% and tendonitis by 2% of the people. Logistical regression method was used for the analysis which showed that sex and ages of patents also affect the pain (Ligia, 2005).

A study was conducted by Elizabeth et al. to find the trend of medication in children and adult for management of musculoskeletal pain syndrome. A retrospective evaluation was done by using self-reported data from the patients to tell the pain. The data of 899 patients was collected whose age were between 3-20 years because musculoskeletal pain is most common in children. All the subjects were dealing with disease from last one or two years and data was collected from single tertiary specialized clinic between January 2008 to December 2014. The information about disease was collected from medical records of patients such as past medication, aids, therapies, professional seen, procedures, surgeries, current outpatient medications and hospitalizations. After the collection of data, trend of medication was analyzed throughout the year. The results indicated that used of proper medication without negligence

reduce the degree of musculoskeletal pain throughout the year. Furthermore, it was also found that use of regular medication according to the prescription of doctor also reduce the chances of hospitalization due to severe pain (Kaufman, 2016).

Wijnhoven et al. conducted a study in 2006 to determine the prevalence of musculoskeletal disorder in males and females. The purpose of study was to find the relationship of gender on musculoskeletal pain and other parameters that play role on duration of musculoskeletal pain were analyzed in the study. The prevalence in one year, point prevalence and persistence of severe chronic pain was also determined by the authors. 2 general based population based prospective surveys were used for the collection of data from which dutch population based as well as Cohort Study were used. Written questionnaire were assessed by the patients of age groups ranges from 25 to 64 years. The results from questionnaire determined that the prevalence of musculoskeletal pain is much higher in women as compared to men. The results indicated 45% women were suffering with chronic pain while 39% of men were dealing with this pain which showed that ratio of pain is higher in males (Wijnhoven, 2006).

A study was conducted by Dtsch et al. to determine the link between musculoskeletal pain and fibromyalgia. Furthermore, the treatment of musculoskeletal pain and fibromyalgia and its efficacy was also found in the study. A panel of experts was collected in the meeting and selected about 8000 publications to determine the most effective treatment of these disorders. The results indicated that various therapies and some types of exercise is necessary for the treatment of disease (Int, 2009).

Objective

The study was conducted to find prevalence of musculoskeletal pain as well as its association with the nature of work. The severity of musculoskeletal pain and its relation with gender has also been studied in this article.

METHODOLOGY

STUDY DESIGN:

Cross Sectional Study

SETTING:

THQ Multan

STUDY DURATION:

4 Months.

SAMPLING TECHNIQUE:

Sampling technique.

SAMPLE SIZE:

150

INCLUSION CRITERIA:

- Men and Women of ages from 20 to 60 with musculoskeletal pain
- People having both professional and un-professional life and various nature of job
- General people belongs to different areas of country such as urban and rural
- People who are taking medication for the management of pain

EXCLUSION CRITERIA:

- People who are not taking any precaution or medication
- Patients with an co-morbidity of any disease such as diabetes and blood pressure
- People below the age of 20

Statistical Tool

SPSS version 19

Chi-square test

ETHICAL CONSIDERATION

- Written informed consent was taken from all the patients.

- The subject was informed there are no disadvantages or risk on the procedure of study.
- Data will be saved in personal laptop and hard copies from data will be in locker.
- All informed and collected data will be kept confidential.
- Participants will remain anonymous throughout the study
- They were also informed that they are free to withdraw at any time during the process of the study

DATA COLLECTION

- Data collection sheets were utilized to collect the data.

- The data was gathered according to the variable of gender, qualification, awareness and age
- The demographic data was collected from all the patients.
- The patients who were unable to fill the performa, the data was collected from their relatives.

DATA ANALYSIS

- Appropriate statistical technique for collection of data as well as for data analysis was used with SPSS version
- Chi-Square test was pragmatic in statistical P-value<0.05 is analyzed.

Results

Table 1: Severity of Pain

		Crosstab				Total	
		HAVE YOU EVER HAD TROUBLE (ACHE, PAIN OR DISCOMFORT)					
			0	MODERATE PAIN	SEVERE PAIN	VERY SEVERE PAIN	
Gender	Female	Count	14	1	40	9	64
		% of Total	9.3%	.7%	26.7%	6.0%	42.7%
	Male	Count	0	77	2	7	86
		% of Total	.0%	51.3%	1.3%	4.7%	57.3%
Total		Count	14	78	42	16	150
		% of Total	9.3%	52.0%	28.0%	10.7%	100.0%

Severity of Pain

The table 1 & figure 2 shows the severity of pain during the disease and their relation with the gender as both data was collected from both males and females. The results determined that 78 out of 150 patients from which 1 was female and 7 were male were suffering with the moderate pain during the disease while 42 patients, only 2 male and 40 female claimed about severe pain. Furthermore, 16 from which 9 were female and 7 were male told that they experienced very severe pain during the disease that was unable to bear. Chi-square test was applied

in the test whose results showed that the analysis of data is true because the value was less than 0.05 that is indication of right results.

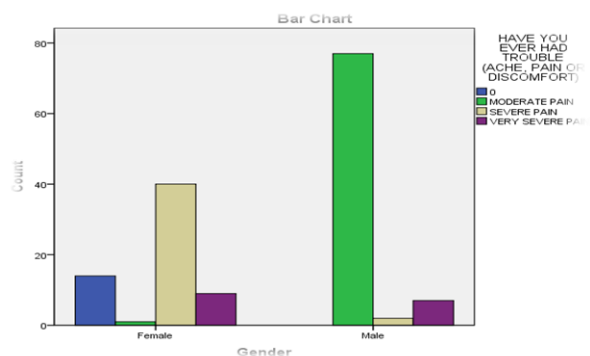


Figure 2: Severity of Pain

Table 2: Effect of Age on Severity of Pain

		Crosstab					Total
		AT THE TIME OF INITIAL ONSET OF THE TROUBLE WAS YOUR AGE					
			0	Disagree	No Comment	Agree	Strongly Agree
Gender	Female	Count	14	1	2	2	45
		% of Total	9.3%	.7%	1.3%	1.3%	30.0%
	Male	Count	0	0	0	6	80
		% of Total	.0%	.0%	.0%	4.0%	53.3%
Total		Count	14	1	2	8	125
		% of Total	9.3%	.7%	1.3%	5.3%	83.3%

The table 2 & figure 3 shows the frequency of people who are saying that their initial age of pain affects on their pain. 14 people did not respond on this question but only 1 patient disagree with the fact that time of initial onset of trouble was their age. 2 did not gave any comment while 8 were agree with the fact. Most of the people as 125 out of 150 patients said that initial age affect on their rate of trouble. The value of chi-test was less than 0.05 that was 0.000, which showed that results were significant.

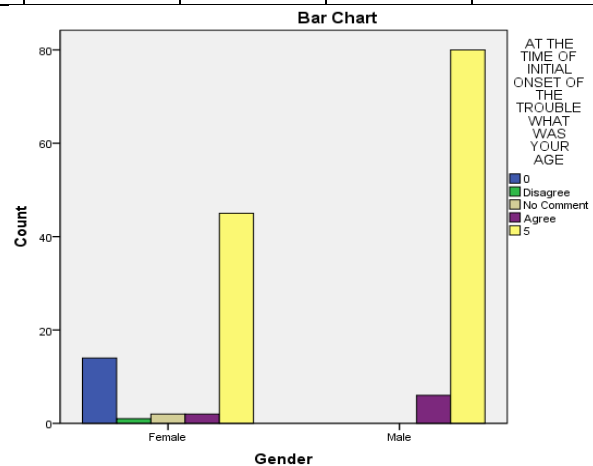


Figure 3: Effect of Age on Severity of Pain

Table 3: Hospitalization during disease

		HAVE YOU EVER BEEN HOSPITALIZED BECAUSE OF TROUBLE				Total
		0	No Comment	Agree	Strongly Agree	
Gender	Female	Count	14	4	8	38
		% of Total	9.3%	2.7%	5.3%	25.3%
	Male	Count	0	2	78	6
		% of Total	.0%	1.3%	52.0%	4.0%
Total		Count	14	6	86	44
		% of Total	9.3%	4.0%	57.3%	29.3%

The table 3 & figure 4 showed the percentage and frequency of patients being hospitalization during the trouble or disease. The results showed that 6 out of 150 patients did not give any comments on this question but 14 patients claimed that they did not have to visit hospital for management of pain instead they got pain relief by home

medication. Most of the patients as 86 out of 150 claimed that they had to visit the hospital due to severe pain during the trouble. The analysis by chi-test determined that results were significant because the value was less than 0.05.

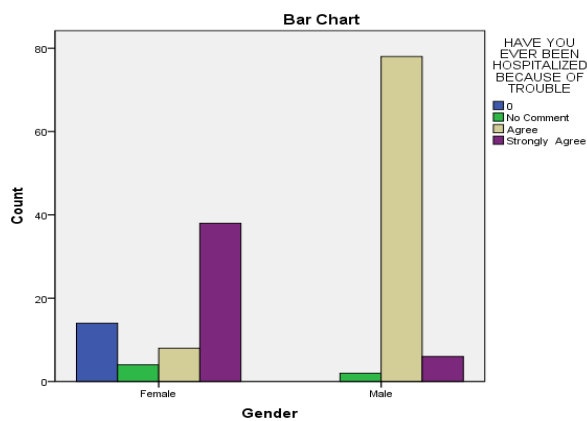


Figure 4: Hospitalization during disease
Discussion

The results showed that the severity of disease was so much higher in patients as 78 out of 150 patients from which 1 was female and 7 were male were suffering with the moderate pain during the disease while 42 patients, only 2 male and 40 female claimed about severe pain. The results were similar to a study conducted by Aura et al. in 2005 whose purpose of study was to find the prevalence of study. Its stud also determined that pain by 40% of the participants, myofascial syndrome by 5%, benign joint hypermobility syndrome by 10%, fibromyalgia by 1% and tendonitis by 2% has been indicated which showed that the rate of pain is higher in people dealing with musculoskeletal pain disorder. John et al. also found in his study that there are three types of pains associated with the disease of musculoskeletal pain because people have to deal with these pains throughout the life.

The results determined that rate of pain was higher in female as compare to male as 42 out of 48 patients were females who claimed that they have severe pain due to disease. The results were similar to a study conducted by Wijnhoven et al. whose purpose of study was to find the prevalence of pain in males and females. . The results from questionnaire determined that the

prevalence of musculoskeletal pain is much higher in women as compared to men. The results indicated 45% women were suffering with chronic pain while 39% of men were dealing with this pain which showed that ratio of pain is higher in males. The result of this study was similar to study and showed that efficacy of results.

The results determined that more than half of the patients have to visit hospital for the treatment of musculoskeletal pain due to severity of disease and unbearable pain. Elizabeth et al. also found in the study that when disease remain untreated and people did not take it serious than the disease become a real problem. Then people have to hospitalize for exercise and medications such as statins, anesthetics and NSIDs for better management of pain. The study indicated that exercise is also important and essential for healthy human life due to its effectiveness in treatment of disease.

Conclusion

Musculoskeletal pain is increasing day by day due to diversity and complexity of work during daily life. Most of the people do work by sitting on chair and does not do any work in which they have to walk or do exercise due to which bones become weak and people experienced pain in bones, muscles, tendons and ligaments. The management of pain during its initial stage is very important because situation can become worse when remain untreated and patients also have to hospitalize due to severe pain. The management of disease is very important to improve the quality of life because many people are suffering due to severe pain in bones, ligaments and muscles. The researchers should find such medicines that can help them in relieving pain in short time without any visit to hospital.

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