

Original Research Article

Perception of Patients with Musculoskeletal Problems towards Pain Modulation; Electrotherapy Modalities Vs Exercise Therapy

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ABSTRACT

Background: Physiotherapy includes treatment of patients with manual therapy, exercises and electrotherapeutic modalities. Manual therapy and exercises correct the biomechanical mal-alignments and strengthen the muscles whereas modalities work on reducing pain by pain gate mechanism, reducing inflammation or relieving spasm. Satisfied patients adhere more towards to treatment, and have a higher quality of life. Patient's satisfaction has emerged as an important patient focused indicator of the quality of patient care. If the perception of patients towards electrotherapy machines is more it may hamper with consistency and continuation of the prescribed exercises.

Aim: To find if the patients perception is more biased towards electrotherapy modalities or exercise therapy, for pain modulation.

Method: Approval was taken from ethical committee; notice regarding participation in study was displayed. Consent was taken from the subject. Total 194 subjects participated in the study. A questionnaire was filled from them. Validity of the questionnaire was established. The questionnaire was given pre-treatment. Graphical representation of data was done.

Results: Perception of patients for pain modulation was positive for exercises as well as electrotherapy (exercises therapy>electrotherapy).

Conclusion: Patients have a perception of use of both electrotherapy modalities as well as exercise in reducing their pain; electrotherapy having immediate effect and exercise having a sustained effect.

Key Words: Patient's perception, Pain, Exercise therapy, Electrotherapy.

Key Message: Patients preferred combination therapy the most. So, exercise therapy and electrotherapy should both be given equal emphasis in clinical practice for better patient satisfaction, patient adherence and results.

INTRODUCTION

The International Association for the Study of Pain defines pain as "an unpleasant sensory and emotional experience,

associated with actual or potential tissue damage, or described in terms of each damage". [1]

Sensory nerve fibers that send information about pressure and touch that reach the spinal cord and brain override the pain messages carried by the A-delta and C-fibers. Certain parts of brain stem can inhibit pain signals by the production of endorphins, vigorous exercise is one of the factor that stimulate the production of endorphins. [2] Thus, both the electrotherapy machines and exercise therapy can modulate pain by pain gate mechanism. As the world is getting modernized dependency and trust is more on machines.

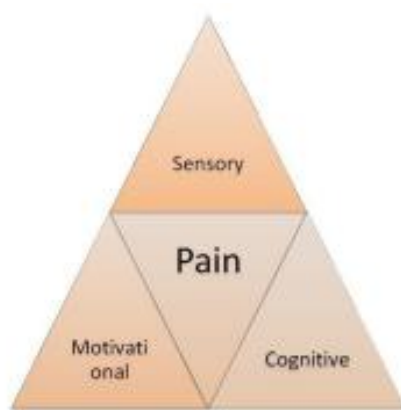


Figure: 1 Interaction of the three systems producing pain

Physiotherapy includes treatment of patients with manual therapy, exercises and electrotherapeutic modalities. Manual therapy and exercises correct the biomechanical mal-alignments and strengthen the muscles, whereas modalities work on reducing pain by pain gate mechanism, reducing inflammation or relieving spasm. A study done by Gert Bronfort, Mitch Haas, Roni Evans, Brent Leininger and Jay Triano proves the effectiveness of manual treatment for the management of a variety of musculoskeletal and non-musculoskeletal conditions. [3]

Since manual therapy is relatively newer school of thought, patient's perception of physiotherapy still inclined towards electrotherapy modalities/machines.

Need For Study-

Patient's satisfaction has emerged as an important patient focused indicator of the quality of patient care. If the perception of patients towards electrotherapy machines is more it may hamper with consistency and continuation of the prescribed exercises. This study gives us an idea about the compliance of home exercise program which rarely contains any electrotherapy machines. It also shows the need to educate the patient about the condition, the effects of exercises and the reason of applying modalities. Also, the concept of physiotherapy can be determined amongst people. The significance of patient's perspectives and their satisfaction towards the particular mode of treatment is further emphasized by the evidence that satisfied patients adhere more towards to treatment, and have a higher quality of life. [1]

Aim-

To find if the patients perception is more biased towards electrotherapy modalities or exercise therapy, for pain modulation.

Objective-

To analyze the perception of patients with musculoskeletal problems between electrotherapy modalities and exercise therapy in pain modulation.

MATERIALS AND METHODS

- 1) **Study Design:** Observational study.
- 2) **Sample Size:** 194
- 3) **Sampling Technique:** Convenient sampling
- 4) **Study Population:** Out patients in private and government hospitals.
- 5) **Study Set Up:** Pune city.
- 6) **Inclusion Criteria:**
 - 1) Patients with musculoskeletal problems.
 - 2) New patients coming for physiotherapy.
 - 3) Patients with functional impairment of pain in moderate category Numerical Rating Scale (NRS) - 4-7.
- 7) **Exclusion Criteria:**
 - 1) Patients who underwent physiotherapy previously for same condition.

2) Patients with conditions other than musculoskeletal problems.

Procedure

Approval was taken from ethical committee; notice regarding participation in study was displayed. Consent was taken from the subject. Total 194 subjects participated in the study. A questionnaire was filled from them. Validity of the questionnaire was established. The questionnaire was given pre-treatment.

RESULTS

This study included total 194 participants who were suffering from musculoskeletal pain. A graphical representation of the questionnaire was done.

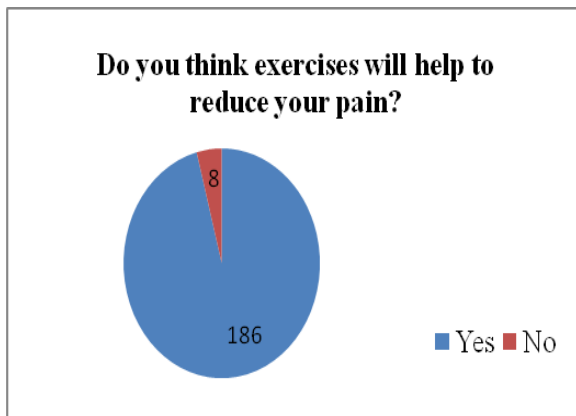


Figure 1. Do you think exercises will help to reduce your pain?

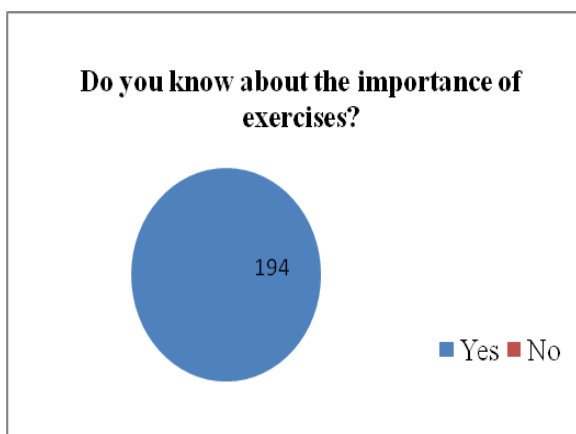


Figure 2. Do you know about the importance of exercises?

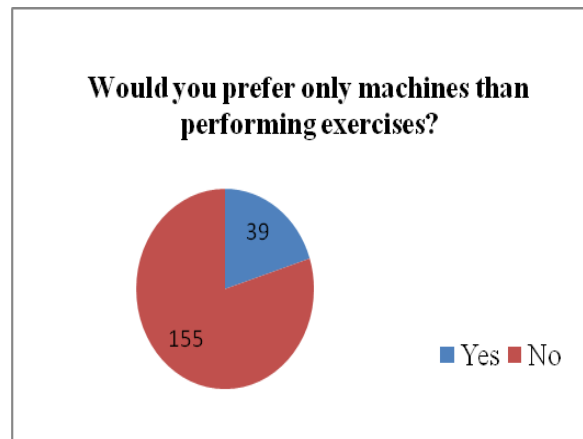


Figure 3. Would you prefer only machines than performing exercises?

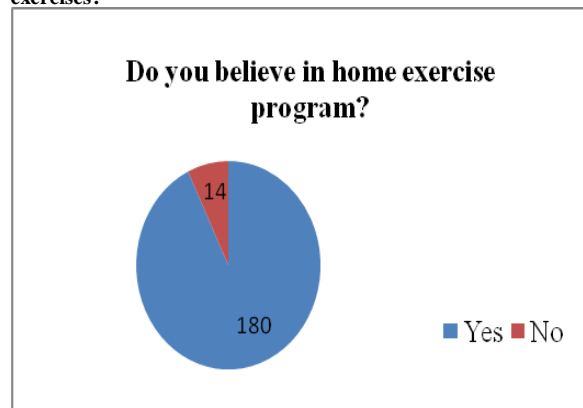


Figure 4. Do you believe in home exercise program?

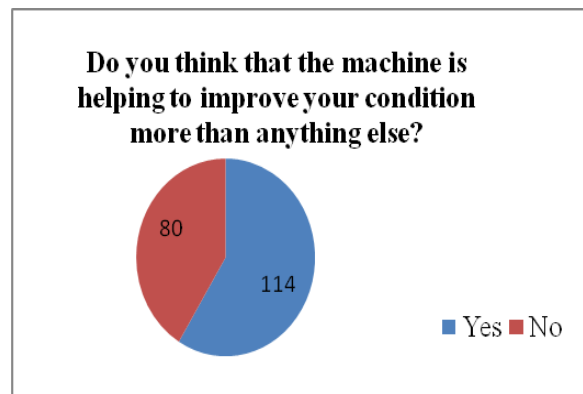


Figure 5. Do you think that the machine is helping to improve your condition more than anything else?

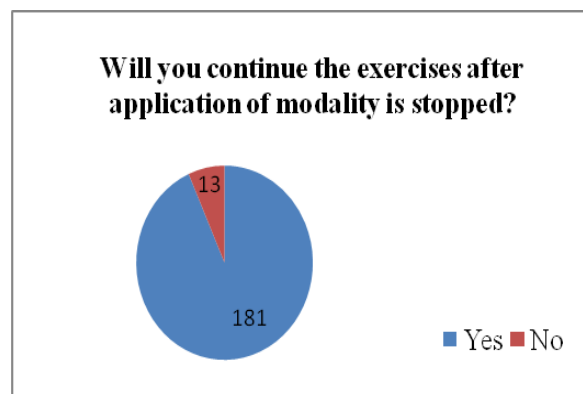


Figure 6. Will you continue the exercises after application of modality is stopped?

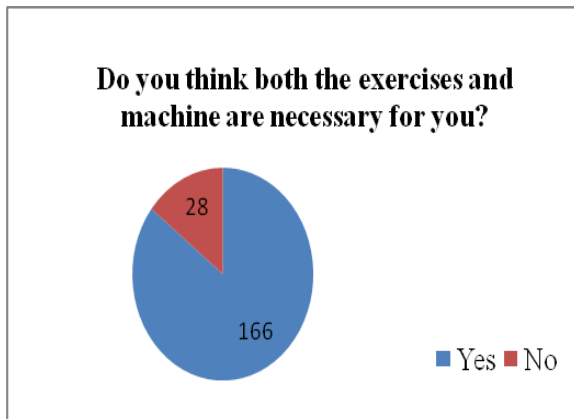


Figure 7. Do you think both the exercises and machine are necessary for you?

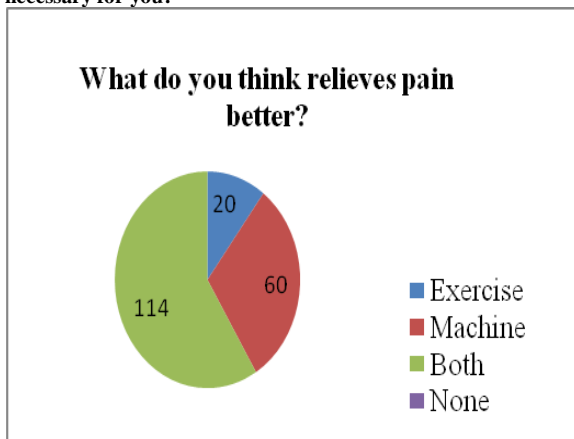


Figure 8. What do you think relieves pain better?

Maximum study population's perceptions was that exercise therapy will help to reduce their pain and were well aware of the importance of exercise, but when they were specifically asked total of 114 participants preferred both exercise and electrotherapy, 60 preferred electrotherapy only and 20 preferred exercise-therapy only for their pain management.

DISCUSSION

This study aimed to throw light on the perception of patients towards pain modulation. Patients preferred exercise because of the quality of patient care, the physiotherapist-patient relationship and extensive education which is a mainstay of patient care. [4] Also pain threshold increases post exercise. [5] Exercise can be done by the patient himself even sometimes unsupervised and are done actively by the patient. Exercise help reduce kinesiphobia which in turn reduces the pain. [6,7] Patients

find exercise therapy more satisfying than electrotherapy for their chronic pain according to study done by Shivani Chowdhury Salian. [1] Exercise induced analgesia experienced by patients can be a contributing factor to this result. [8] Few patients preferred electrotherapy because of the immediate pain relief by pain gate mechanism. [9] When asked about a choice between exercise, electrotherapy, both or none, patients selected both because of previous experiences of physiotherapy either of the patient himself or relatives. Majority of the patients preferred combination therapy as it works better than using only one mode of therapy. [9,10]

CONCLUSION

Patients have a perception of use of both electrotherapy modalities as well as exercise in reducing their pain; electrotherapy having immediate effect and exercise having a sustained effect.

Clinical Significance

This study shows us need to incorporate extensive education about the condition and benefits of exercises and use of modalities. It indicates the importance of incorporation of both modalities and exercises both under supervision and home exercise program for sufficient patient satisfaction.

Limitations -

1. Study was not focused on specific condition.
2. High pain intensity patients were not included.

Further Scope of Study –

1. Study comparing perception specific to one condition with a fixed treatment protocol can be done.
2. Perception of patients in pain modulation by immediate effects of exercise vs electrotherapy can be done.

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