

ORIGINAL ARTICLE

Music for Pain Control Following Orthodontic Initial Archwire Placement

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ABSTRACT

Background: Pain control is very important aspect of orthodontic practice.

Aim: To compare the efficacy of music therapy for pain control following initial archwire placement in orthodontics.

Methods: This randomized control trial was conducted at orthodontics department. The study consisted of 50 orthodontic subjects from 1.1.2019 to 1.30.2020. Purposive sampling technique was used. 25 were in control group while other 25 were randomly allocated to music group. The pain was recorded using VAS scale at multiple points of time following archwire placement. T-test was used for the statistical analysis.

Results: The study found that there was insignificant difference in mean pain scores between the two groups with less pain scores in music group.

Conclusion: Music can play an effective role in pain control following orthodontic initial bonding.

Keywords: Music; Orthodontics.

INTRODUCTION

Music therapy for pain control in dentistry is not a new method.¹⁻³ Music therapy is used in dentistry for pain control following many dental procedures with successful outcomes.⁴⁻⁶ The main advantage of music in pain control is avoidance of drugs and its associated side effects.⁷⁻⁸

Pain following orthodontic therapy is one of the most common reasons of avoidance of orthodontic therapy.⁹ There are various traditional methods of pain control following orthodontic initial arch wire placement such as pharmaceutical agents.¹⁰⁻¹² There are also various latest ways of pain control following initial orthodontic arch wire placement such as chewing gums, lasers, vibrations, ultrasonic rays, and low level laser therapy.¹³⁻¹⁵

Music can actually calm patients, improve vital signs and enhance patient's overall well being.¹⁶ Music act as an audio analgesia for relieving pain and anxiety by moving conscious thought away.

Therefore; aim of this study is to compare the efficacy of music therapy for pain control following initial arch wire placement in orthodontics.

MATERIAL AND METHODS

The objective of this study was to compare the efficacy of music therapy for pain control following initial archwire placement in orthodontics. This randomized control trial was conducted at orthodontics department. The study consisted of 50 orthodontic subjects from 1.1.2019 to 1.30.2020. Purposive sampling technique was used. 25 were in control group while other 25 were randomly allocated to music group. The pain was recorded using

VAS scale at multiple points of time following archwire placement. Following was the selection criteria: Orthodontic patients of both genders, age 12-16 years, mild to moderate crowding, candidate of fixed appliance therapy by non-extraction plan, no history of orthodontic treatment, willing to take part in study, patients with insignificant medical and drug history.

Descriptive statistics were computed. Frequency and percentage has been reported for the categorical variable such as gender. Mean and standard deviation (SD) has been reported for the quantitative variable such as age and pain scores. t-test was used for the statistical analysis between the two groups.

RESULTS

The study found that there was insignificant difference in mean pain scores between the two groups with less pain scores in music group (Table 1).

Table 1: Pain scores in the two groups.

Time point	Control group*	Music group*	P-value
Baseline	0.32 ± 1.12	0.37 ± 1.01	0.456
Immediately	3.23 ± 1.12	1.16 ± 1.23	0.213
12 hours	6.72 ± 1.65	5.33 ± 1.67	0.345
24 hours	7.89 ± 1.22	6.23 ± 1.43	0.267
3 days	2.34 ± 1.43	1.78 ± 1.88	0.211
7 days	0.22 ± 1.94	0.10 ± 1.90	0.345

*t test

DISCUSSION

Music therapy is used in dentistry for pain control following many dental procedures with successful outcomes.⁴⁻⁶ The main advantage of music in pain control is avoidance of drugs and its associated side effects.⁷⁻⁸ The aim of this

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study was to compare the efficacy of music therapy for pain control following initial archwire placement in orthodontics. Pain following orthodontic therapy is one of the most common reasons of avoidance of orthodontic therapy.⁹ There are various traditional methods of pain control following orthodontic initial arch wire placement such as pharmaceutical agents.¹⁰⁻¹² There are also various latest ways of pain control following initial orthodontic arch wire placement such as chewing gums, lasers, vibrations, ultrasonic rays, and low level laser therapy.¹³⁻¹⁵

The result of the present study showed that there was insignificant difference in mean pain scores between the two groups with less pain scores in music group. The less pain scores in music group can be linked to the fact that music can actually calm patients, improve vital signs and enhance patient's overall well being.¹⁶ Music act as an audio analgesia for relieving pain and anxiety by moving conscious thought away.¹⁶

The results are somehow in agreement with the findings of other studies by Xu et al, Huang et al and Zheng et al which showed that music therapy was effective for control of pain following initial archwire activation possibly via restoring functional connectivity and brain regularity influenced by pain.¹⁴⁻¹⁶

There are certain limitations of the present study such as small sample size and single centric study. However within these limitations the result of present study showed that there was insignificant difference in mean pain scores between the two groups with less pain scores in music group.

CONCLUSION

Music can play an effective role in pain control following orthodontic initial bonding. Further large-scale studies are suggested.

Conflict of interest: Nil

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