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Research Article

EFFECT OFFAST AND SLOW TEMPO MUSIC ON MUSCLE ENDURANCE TIME

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A R T I C L E I N F O

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A B S T R A C T

It is estimated by the WHO - Global health observatory that at least 2.8 million people die each year due to the adverse effects of obesity and overweight(1). Increased BMI is associated with High blood pressure, High LDL levels and insulin resistance leading to adverse cardiovascular effects. Effective exercisingis found to have a positive impact on reducing weight as well as improving the cardiovascular health. Hence, it is important to identify methods to increase the exercising time effectively.

Aim: The aim of the study is to compare the effect of slow and fast tempo music on muscle endurance time.

Methodology: 50 male and 50 female subjects between the age group 18-25 years were included in the study. By using handgrip dynamometer maximum voluntary contraction was determined for each subject. Endurance time was determined by making the subject to squeeze the dynamometer to the 70% of the maximum voluntary contraction for 10 minutes while hearing fast music with headphones. Then they were allowed to rest for 5 minutes and the same procedure was repeated while listening to slow music

Result: Muscle endurance time for males = 34.92secs ± 9.2, Mean endurance time with slow tempo music was =19.34secs± 7.3 and with fast tempo music was = 20.68secs ±11.9 in males. In females, mean endurance time was = 24.84secs ±16.8, with slow tempo music it was 19.4 secs ± 7.8 and with fast tempo music the endurance time was 21.84secs ±16.3.

Conclusion: Music helps in prolonging muscle endurance time in both males and females.

INTRODUCTION

Music has an enriching effect on the minds of the people. With the available advanced technologies it has become very easier for everybody to hear and cherish music. Music has a wide range of effects like it regulates the emotional status, increase the work output, increases arousal and it produces a state of well being(3). Studies have shown that music has ergogenic effect, it increases the capacity of bodily work by eliminating fatique(4). Effective exercising is important for achieving weight reduction which helps in decreasing the incidence of obesity and overweight(5).

Exercise is the best way to improve the physical and mental health of the person. It helps in improving the overall health, fitness and wellbeing of the person. Regular exercise helps in decreasing the risk of chronic diseases. Exercise refers to the activity requiring physical effort, carried out to sustain or improve health and fitness(6).

Effective exercising means exercising for the required intensity for required time. Hence, it is important that the endurance time, which refers to the time the performance of exercise can be sustained, so that the exercise can be effective.

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With obesity and overweight in rise especially among the young person's, exercising regularly will help in keeping the BMI under check .Exercise not only increases the physical well being but also the mental well being and WHO defines health as a state of physical and mental wellbeing.

Aims and objectives

- To study the effect of fast and slow tempo music on muscle endurance time
- To compare the effect of fast and slow tempo music on muscle endurance time between young adult males and females.

MATERIALS AND METHODOLOGY

After getting approval from the institutional ethical committee, 50 males and 50 female medical students of age group 18-25 years who were willing to participate in this study were recruited. Written informed consent was obtained from all the participants.

By using handgrip dynamometer maximum voluntary contraction was determined for each subject by making the subject press the dynamometer with maximum effort for three times. After getting the MVC, The Endurance time was determined by making the subject to squeeze the dynamometer to the 70% of the maximum voluntary contraction at rest

without any music (7,8). The subjects were asked to initially hear the music with headphones attached to a mobile in which the fast and slow tempo music was recorded .They were asked to initially hear the fast tempo music and the endurance time was determined by calculating the time they can hold the dynamometer at 70 % of the determined MVC. Then the subjects were asked to relax for ten minutes. Again the same procedure was repeated with slow tempo music and the time was noted.

RESULTS

Table I Baseline Characteristics and Mvc in Males and Females

	MALE	FEMALE
AGE (years)	20.19±1.97	20.14±1.80
HEIGHT(cm)	164 ±3.2	154.7±9.2
WEIGHT(Kg)	68.5±7	64.2±3
MAXIMUM VOLUNTARY CONTRACTION (%)	34.92±9.2	24.84±16.3

Table 2 Comparison of endurance time at rest, with fast tempo and slow tempo music

	Endurance time –rest(sec)	**Endurance time (sec)–fast tempo**	**Endurance time(sec) – slow tempo**
MALES	19.34±3.4	20.68±11.9	19.8±7.3
FEMALES	14.23±2.4	21.84±16.3	19.44±7.8

DISCUSSION

In our study, it was observed that the maximum voluntary contraction was found to be 34.92±9.2 in males and females was found to be 24.84 ±16.3. Endurance time was 19.34 ±3.4 seconds in males and 14.23±2.4 seconds in females. With fast tempo music the endurance time was 20.68±11.9secs in males which is less than females in whom it was 21.84 ±16.3sec. Slow tempo music the endurance time was 19.8±7.3 in males and in females it was 19.44±7.8sec.

MVC was more in males when compared to females. The endurance time without music was more in males when compared to females. Endurance time was increased with fast tempo music in both males and females. However, in females the endurance time was more when compared to males with both slow and fast music.

Ergogenic effect of music may be due to either fatiquegetting delayed due to music or increasing the work capacity. Music may improve mood, increases the work output, improve the skill acquisition and enhance the performance.

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