Karary University

Faculty of Medicine

Department of Community Medicine



the effect of music on medical students’ life generally and academically in karary university 2019/2020

In partial fulfillment of the requirement of the degree of MBBS



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**قَاْلَ تَعَــــالَى:**

**(وَقُـــــــلْ رَبِّي زِدْنِــيْ عِلْمَــــــــــاً)**

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**Dedication**

To

 our mothers always in the first place who keep giving us love and support from the cradle to the grave.

To our fathers who keep supporting us until we reach this and forever.

To our brothers and sisters who keep providing us with all we’ve ever need.

**Abstract**

**Introduction:**

Music is an art whose medium is sound organized in time, however, playing music could make listener a happier person as it releases pleasurable hormones and increases dopamine levels.

Relaxing music is helpful for students with their stress and anxiety, thus leads them to study more efficiently.

**Methodology:**

The study design is a cross-sectional descriptive to determine the effect of music on medical students’ life generally and academically.

The study was conducted at Karary University medical students during period of study from December 2019 to February 2020 with a total number of 235 student whom were selected using a non-probability purposive sample technique.

Data collected using a structured questionnaire and analyzed using statistical package for social studies (SPSS) computer programme.

**Result:**

According to the result of data collection, most of medical students listen to music and not ready to abandon listening to it, with a percentage of only 26% of students think it is waste of time.

The study shows that music increases productivity and reduces stress anxiety. Also to have maximum benefit of music you better listen in intervals between studying.

**Recommendations:**

As a stressful field; medical students should be aware about the stress relieving properties of music, if used in the right place and time.

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# **CHAPTER ONE**

Introduction

**(1.1)Background**

Music, The word derives from Greek (mousike; "art of the muses"). It is an art whose medium is sound organized in time. General definition of music include common items like pitch (which governs melody and harmony), rhythm (and its associated elements tempo, meter, and articulation), dynamics (loudness and softness), and the sonic qualities of timbre and texture (which are sometimes termed the "color" of a musical sound).

Music could be divided into genres (e.g., country music) and genres can be further divided into sub-genres (e.g., country blues and pop country).

However, listening to music could make the listener a happier person, as it releases pleasurable hormones and increases dopamine levels, listening to certain music enhances the release of dopamine brain. Dopamine ‘is a neurotransmitter that promotes feelings of happiness and excitement’. (1)

Studies have found that people may be able to find solutions better than they are in a positive mood compared to them when they’re in a negative or normal mood. Relaxing music is also helpful for students with their stress and anxiety, thus leads them to study more efficiently.

Music actually lowers your cortisol levels. Cortisol ‘is a hormone that is usually responsible for feelings of stress and anxiety’ according to web article. (2)

Scientifically, listening to music has been proven to have a remarkable effect on the brain. Recent researches show that music could help in many aspects life, including pain relief, stress reduction, memory, and brain injuries. In the book The Power of Music, Elena Mannes says, “Scientists have found that music stimulates more parts of the brain than any other human function.

Billy Joel an American singer-songwriter, composer, and pianist said: “I think music in itself is healing. It’s an explosive expression of humanity. It’s something we are all touched by. No matter what culture we’re from, everyone loves music.”

**(1.2)Problem Statement**

Around the world, a lot of students feel like they need to listen to music while they are studying or revising, believing it helps them ‘concentrate better’.

Some of them even say that they can’t revise as it’s too quiet without music. On the other hand, some say that they find music distracting and they need silence to do the best during work or study. So here we are asking is it really true that music helps students to concentrate and study well? Is it really true that music increases their productivity? Or is it really a distraction they’re not aware of?

**(1.3)Rationale**

 In this research we are aiming to assess the variations of how does the music affect the medical students and what they think about studying with listening to music.

**(1-4)Objectives:**

**(1-4-1)General Objective:**

 To study the effect of music among medical students.

**(1-4-2)Specific Objectives:**

1-To evaluate the academic effects of the music among listeners.

2-To determine the effectiveness of music in medical student’s life.

3-To assess the medical students’ perspectives toward music.

# **CHAPTER TWO**

Literature Review

**(2.1)Introduction:**

Music makes our daily life more stunning. At the same time it has plentiful healing properties. Music is one of the most effective methods of decreasing anxiety, calming the body and mind, positively affecting memory. Today's people enjoys having music at their hands. While music is an essential part of our regular days, there are still many unknown puzzle in mental circles about if it is a chief factor that makes us more or less productive. So in this research we are aiming to study the effect of music among medical students in Karary University.

Music in actual fact has diverse classes that have diverse effects on common sense; Music with sounds from nature, Music you enjoy, Non-recording music, Instrumental (text-free music), and Music with a specific tempo.

**(2.2)Effects of music:**

The scheme that listening to music can potentially boost production and cognitive function is nothing new. The "Mozart Effect," study from 1993, which suggested listening to Mozart before taking the "spatial-temporal reasoning" section of an IQ test improved performance. (3)

More new article was carried out on 56 software engineers who worked either in silence or while listening to different types of music, it found an enhanced not only in mood and output, but also quality. (4)

For us to assess the effects of music in general among Karary University medical students, first we need to calculate students who actually listen to music. A Cross-sectional study was carried out in Mangalore, Coastal south India to find out the prevalence of students who listen to music. The study community account for Medical students from second to final year. Overall, 47.4% belonged to 18-20 years age group and majority of the subjects were females (56.3%). However, in studies conducted in Korea (47.6%), Alabama, USA (51.7%), Zogby International (31%), and California (50%) the proportion of students listen to music for more than 1 h is lower compared to this study.

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Data were collected using a 31 item semi structured questionnaire that was distributed among 570 medical students, of which 485 completed questionnaire were received giving an overall response rate of 86.14%. Of the total study participants, 83.1% of listen to music regularly, of whom 77.7% used it for more than one hour/ day, Overall, 43.2% used personal listening devices while studying and 86.8% of listen to music for more than 1 h. 13.4% opined they could be one of the causes of headache among the users. (5)

Actually its evidenced that music increase our bodies’ dopamine levels. This makes us feel happier and more relaxed, but also it’s thought that it can be addicted!

It’s found that dopamine is released onto the nucleus accumbens, an area in brain that theorized it’s where perception and addiction are rewarded. Within the same study, also they noticed that beautiful music or listening to music you love stimulates inferior frontal gyrus and Rolandic operculum which reveal working memory. Listening to music also modulates anxiety induced by the experience of stress. Indeed, a decrease in anxiety after listening to music is the most consistent findings reported in field studies with patients and laboratory-based studies. So music can have same effect of sedatives. In our role in this research to assess medical students perspectives towards music and to grant them to know the benefits of music. (6)

Music truly changes our minds; despite of dopamine effect it affects our brain’s wave. If you measure or monitor the brains of musicians and compared to non-musicians, musicians had higher results of elevated alpha waves, so they are capable to meditation and relaxing. A study also questioned if beta waves activity awareness to be a mediating executive function in the process. From the beta wave data collected in this study, it is obvious that musicians had extensively higher maximum attention values than the non-musicians. The musicians had acquired the skill to be more conscientious during mentally hard actions. Learning to play an instrument or to use the voice not only improves musical skills, it improves cognitive ability during challenging non-musical tasks. An electroencephalogram (EEG) was used to measure these changes. (7)

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Actually In recent years, members of the American education system searched for columns of support such as Horace Mann, who advocated for the enclosure of music in the basic curriculums. In addition, they was found as a result of their research that 94% of the population that were highly-engaged in the arts went on to achieve higher-education degrees compared to 76% in the low-arts with high socio-economic status. (8)

In general and conclusion, research on music playing, listening or educating has showed either beneficial properties, or no effects at all. If we want to do a research of music and its effects, the sample sizes, socio-economic status, knowing the levels of students' contribution in music, and interval of the research each are factors affect in shaping the final results of the research. So we have to consider all the previous factors in mind. The social interaction a student gains from being involved in music groups and/or listening to music has been recognized as beneficial for coping, sensorimotor, preoperational, concrete operational, and formal operational skills; which are known as cognitive skills, and social development. Getting in on the act in music increases students' chances of going on to higher-education and completing a Bachelor's degree in comparison to students who have not engaged in music participation. The literature is continuously published on the matter of music enhancing academics with students.

However, there are very few views that can be found on the outcome that students have in terms of social and/or psychological benefits when learning or playing music. Therefore, in plain sight this aspect needs for more future research due to its importance. Furthermore, student's tests degrees prospectively being a direct result of their increased self-confidence and self-efficacy is an area that would benefit from more research if music could actually improve their performance. (8)

# **CHAPTER THREE**

Methodology:

**(3.1) Study Design:**

Cross sectional descriptive study to determine the effect of music among medical students.

**(3.2) Study Setting:**

The study will be done at Karary University, in Omdurman western to the general administration of the medical services.

**(3.3) Study Population:**

The study population includes all Medicine students.

**(3.3.1) Inclusion Criteria:**

All the medicine students in third, fourth, fifth, and sixth years.

**(3.3.2) Exclusion Criteria:**

All medical students those do not listen to music.

**(3.4) Study Variables:**

**(3.4.1) Background Variables:**

1- Age

2- Gender

3- Education level

4- Academic performance

**(3.4.2) Dependent Variables:**

Music is literally involved in almost every single medical students.

**(3.4.3) Independent Variables:**

The pattern they by which the medical students play music, the way they use, the study way linked to music, the ability to stop listening.

**(3.5) Sample Size and Technique:**

Representatives of that population

n= N/1+N(d2)

Where:

n= sample size

N=the population size

d=the degree of accuracy required (0.05)

Then the sample size n=575/1+575(0.0025) = 235 student.

The study will be conducted in all medicine students from the third class to the sixth class. From 575 students, we will use a non-probability purposive sample technique to select 235 students who will participate in the study.

**(3.6) Data Collection Tools and Technique:**

According to specific objectives a structured modified questionnaire was designed by researchers and utilized.

**(3.7) Data Analysis:**

The data were conducted, processed and transferred to computer coding, the descriptive analysis was adopted which includes percentage, means, frequency distribution tables and figures by using statistical package for social studies (SPSS) computer program.

**(3.8)Ethical Consideration:**

The researcher will treat people with respect and ensure that the procedures are reasonable and fairly administered.

Full informed consent will be obtained, and privacy and confidentiality of the research participant will be guarded. The researcher will explain the real purpose and the use of the research participants.

The information gathers from subjects will be confidential.

# **CHAPTER FOUR**

Result:

**(4.1) Introduction:**

This chapter presents the findings and the analysis of this study. The chapter is divided into the following sections: the effect of music on medical students’ life, academics, and their perspectives toward music.

The above sections correspond with the research objectives and questions in chapter 1. Both qualitative and quantitative analysis approaches have been used in data analysis. Data for the study was sampled and collected from medical students in Karary University.

**(4.2) Socio-demographic data:**

The demographic data of the participants includes gender, age, academic class, grade point average, and mode of living.

**Figure No. (1):** Gender of Medical Students who listen to music at Karary University \_2019/20.

* Notice that the percentage is approximately the same between males and females.

|  |
| --- |
| **Table No. (2):** Academic Level of Medical Students who listen to music at Karary University \_2019/20. (n=235) |
| Level | Frequency | Percent |
| 3rd year | 47 | 20.0% |
| 4th year | 47 | 20.0% |
| 5th year | 70 | 29.8% |
| 6th year | 71 | 30.2% |
| Total | 235 | 100% |

* From the table above, higher academic levels participants are more than the lower ones.

|  |
| --- |
| **Table No. (3):** Age Groups of Medical Students who listen to music at Karary University \_2019/20. (n=235) |
| Age Groups | Frequency | Percent |
| 17-20 Y/O | 26 | 11.1% |
| 21-23 Y/O | 134 | 57.0% |
| 24-26 Y/O | 75 | 31.9% |
| Total | 235 | 100% |

* Most of students are within 21-23 age group.

**Figure No. (2):** Grade point averages of Medical Students who listen to music at Karary University \_2019/20.

* Music listeners with good grade point averages are the largest population among medical students.

**Figure No. (3):** Mode of living of medical students who listen to music at Karary University \_2019/20.

* Rural residents represent the minority of listeners.

**Figure No. (4):** Medical students who listen to music regularly at Karary University\_2019/20.

* Music is highly engaged to regular medical students’ routine.

**Figure No. (5):** Device used among Karary University medical students while listening to music\_2019/20.

* The majority of medical students use headphones for playing music.

**Figure No. (6):** Mood Improvement due to music among Medical Students at Karary University\_2019/20.

* Only a few participants think that no mode enhancement because of music.

**Figure No. (7):** Medical Students noticed that music increases their Productivity at Karary University\_2019/20.

* Most of students notice that their productivity increases due to playing music.

**Figure No. (8):** Medical students who listen to music during studying at Karary University\_2019/20.

* The majority of medical students don’t listen to music while studying.

**Figure No. (9):** Medical Students who listen to music in gaps at Karary University\_2019/20.

* Most of students listen to music in gaps among their study period.

**Figure No. (10):** Medical Students who see music is waste of time at Karary University\_2019/20.

* Music isn’t waste of time in the majority of medical students’ perspective.

**Figure No. (11):** Medical Students who find music increases concentration at Karary University\_2019/20.

* Majority of medical students don’t find music able to increase their concentration.

**Figure No. (14):** Medical Students who find music causes distraction at Karary University\_2019/20.

* Medical students who find music distracting, not distracting or sometimes distracting are kind of similar.

**Figure No. (13):** Medical Students who find music is satisfying and relaxing at Karary University\_2019/20.

* Majority of medical students relax and feel satisfied due to playing music.

**Figure No. (14):** Medical Students who prefer to play music with themselves at Karary University\_2019/20.

* Most of medical students prefer to play music alone.

**Figure No. (15):** Medical Students who are ready to abandon music at Karary University\_2019/20.

* Most of medical students are not ready to stop listening to music or not sure about it.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table No. (3):** Medical students who noticed increased productivity when listening to music between gaps at Karary University\_ 2019/20. |  |  |  |  |
| Between gapsproductivity  |  |  |  | Total |  |  |  |  |
| Students listen | Students do not listen | Students listen sometimes |  |  |  |  |
|  | Increased | 65 | 17 | 18 | 100 |  |  |  |  |
|  | No increase | 14 | 29 | 23 | 66 |  |  |  |  |
|  | Increased sometimes | 19 | 20 | 30 | 69 |  |  |  |  |
| Total | 98 | 66 | 71 | 235 |  |  |  |  |

* Medical students who noticed increased productivity when listening to music between their study gaps are larger than the others.

**Table No. (4):** Medical students who noticed increased productivity when listening to music while studying at Karary University\_ 2019/20.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Music whileStudyingProductivitylinked to music |  |  |  | Total |  |  |  |  |
| Students listen | Students don’t listen | Students listen sometimes |  |  |  |  |
|  | Increased | 40 | 37 | 23 | 100 |  |  |  |  |
|  | Doesn’t increase | 3 | 54 | 9 | 66 |  |  |  |  |
|  | Increased sometimes | 6 | 33 | 30 | 69 |  |  |  |  |
| Total | 49 | 124 | 62 | 235 |  |  |  |  |

* Students who noticed increased productivity and listening while studying are slightly similar to those who noticed increased productivity and do not listen to music while studying.

# **CHAPTER FIVE**

Discussion

**Discussion**

Nowadays, music have been deeply involved in most of medical student’s lives. Also it’s known for being mood changer for all people.

We found out that most of the medical students who listen to music are males 120 (51.1%), at the age group 21-23 years old 134 (57%), in contrast to a study was carried on 485 medical students in India where females were the majority (56.3%), and age of 18-20 (47.4%). (5).

Mood Improvement due to music was agreed by 104 (44.3%) of medical students and 98 (41.7%) of students said it’s sometimes improves their mood. Which supports a study proved that music had effects on our brains because it releases dopamine leading to reduction of anxiety (6).

When linking music to productivity of students, 100 (42.6%) of students noticed an absolute increase in productivity and 69 (29.4%) sometimes notices increased productivity. While only 66 (28.1%) of students noticed no increased productivity at all. Which is kind of not expected. A study was done on 56 software engineers who worked either in silence or while listening to different types of music, it found an enhanced not only in mood and output, but also quality. (4). Maybe due to difference between two fields or the sample size between the two studies. In addition most of medical students who listen to music have good GPA, which resembles a study carried out in USA saying that 94% of the students that were highly engaged in the arts went on to achieve higher education degrees compared to 76% in the low-arts .(8)

Medical students who prefer listening to music between study gaps were 98 (41.7%) which are larger compared to those who listen during studying itself 49 (20.9%). Which makes sense. As a recent study adopted the Theory of Mozart Effect, saying listening to music in intervals is more satisfactory and increases IQ. (3)

Music is thought to be addicted! It is theorized that because of the physiological changes occur including dopamine releasing. (6). Assuring to this theory, we found that 101 (43%) of total medical students were not ready to give up listening to music and 70 (29.8%) of students were not sure if they are ready to. Where only 64 (27.2%) of medical students said that they are capable of quitting listing to music.

# **CHAPTER SIX**

**(6.1)Conclusion**

The study was conducted in Karary University to assess the effect of music in medical students’ life generally and academically.

According to the result of data collection, most of medical students listen to music and not ready to abandon listening to it, with a percentage of only 26% of students think it is waste of time.

The study shows that music increases productivity and reduces stress anxiety. Also to have maximum benefit of music you better listen in intervals between studying.

Most of students who think music is distracting use headphones, so basically to get the relaxant and satisfactory effects of music you better play through speakers.

**(6.2)Recommendations**

1. Further studies must be carried out with larger sample size to evaluate contribution of medical students among Karary University in music considering different music genres and with better facilities.
2. Medical students should listen to music in intervals among their study periods but not during studying.
3. As a stressful field; medical students should be aware about the stress relieving properties of music, if used in the right place and time.

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# **ANNEXES**

**INFORMED CONSENT**

**A Study On The Effect Of Music On Medical Students In Karary University**

The research will be conducted to determine the effect of music on medical students.

**Confidentiality:**

Any personal information collected on this study will be confidential and only used for research purposes.

**Authorization:**

By filling this questionnaire, you authorized the usage and disclosure of the following information for this research.

Your decision to participate in this study is completely on you.

By participating in the study you indicate that you have read and understand the information provided above.

**University Of Karary**

**A Study On The Effect Of Music Among Medical Students**

**Socio-demographic Data:**

**Gender:** Male Female

 **Level:** 3rdyear  4thyear  5thyear  6th year

**Age:** 17-20 Y/O  21-23 Y/O  24-26 Y/O

**Grade point average:** 2.50 – 3.00  3.00 – 3.50

 3.50 – 3.80 Above 3.80

**Mode of living:** Urban  Rural

1. **Do you listen to music regularly :**

 Yes  No  Sometimes

1. **What device you use?**

 Headphones  Speakers  Others …………... (Specify)

1. **When you listen to music, you feel better mood?**

 Yes  No  Sometimes

1. **Have you noticed that listening to music increases your productivity?**

 Yes  No  Sometimes

1. **Do you listen to music while studying?**

 Yes  No  Sometimes

1. **Do you listen to music in study gaps?**

 Yes  No  Sometimes

1. **Do you find music waste of time?**

 Yes  No  Sometimes

1. **Do you find it more concentrating?**

 Yes  No  Sometimes

1. **Do you think music is distracting?**

 Yes  No  Sometimes

 **10) Do you find playing music satisfactory and relaxant?**

 Yes  No  Sometimes

 **11) Do you prefer playing music alone with yourself?**

 Yes  No  Sometimes

1. **If you’ve been told to abandon music and stop listening, would you do that?**

 Yes  No  Sometimes