



Medical Music Therapy Knowledge among Medical Students of Jimma University, Ethiopia

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Abstract

The use of music therapy as an adjunct medical treatment option is well established. However, there is no evidence on the knowledge of music therapy among medical practitioner in Ethiopia. Hence, this institutional based cross-sectional study was conducted to assess the knowledge and practices of Jimma University medical students on music therapy as an adjunct medical treatment option. A total of 349 medical students were involved in the study. More than half (51%) of the medical students had heard about the music therapy. However, majority (56.7%) of the medical students had lower mean knowledge (low knowledge) on the application of music therapy in specific medical condition and quality of life. The major source of information is internet. There is also higher interest (83.4%) on music therapy training and education among the study participants. Majority (75.4%) of the medical students were show interest in referring patients to a music therapy. The mean knowledge of the medical students was significantly associated to age, ethnicity and level education in medical school. Therefore, effort should be done to in cooperate the music therapy in formal curriculum of medical education and also continues professional development program is need for medical practitioners to ensure the integration of music therapy program on medical system in the country

Keywords: Music therapy; Knowledge; Medical students; Jimma university

Background

Music therapy is one type of complementary and alternative medicine therapy. It is gaining increasing recognition for its benefit in medical settings. It has been defined by the World Federation of Music Therapy as the professional use of music and its elements, to intervene in the medical, educational and everyday environments with individuals, groups, families or communities seeking to optimize their quality of life and improve their physical, social, communicative, emotional conditions, intellectual, and spiritual health and wellness' research, education, clinical education and practice in music therapy are based on professional standards according to cultural, social and political contexts [1].

Music therapy is an allied health profession and one of the expressive therapies, consisting of a process in which a music therapist uses music and all of its facts-physical, emotional, mental, social, aesthetic, and spiritual-to help clients improve their physical and mental health [2,3]. Music therapists have an ethical and professional responsibility to provide the highest quality care possible to their patients [4]. Music therapy has been shown to be an efficacious, non-invasive and valid treatment option for medical patients with unique outcomes possible [5]. Music therapy can be used to address patient needs related to respiration, chronic pain, physical rehabilitation, diabetes, headaches, cardiac conditions, surgery, and obstetrics, among others. Out of these, the three common areas in which music therapy is used widely are pain management (most common), the reduction of anxiety, and the treatment of depression; each of which are common acute and chronic medical conditions [6].

Music therapy is part of various services that provided in patient care in a wide variety of medical settings such as hospitals, cancer treatment centers, rehabilitation centers, skilled and intermediate care facilities, hospices and more [7-11].

Despite the increasing use of medical music therapy, many medical practitioners seem to remain largely uninformed of the efficacy

and applications of music therapy to meet patient needs. A positive perception and understanding results in increased referrals to the music therapist, and more opportunities for direct patient care. Contrariwise, if the medical practitioners do not have an adequate understanding of the music therapist's role or capabilities, they can easily create a barrier between the patient and music therapist because of medical practitioners have a powerful impact on the kinds of treatments their patients choose [6].

Understanding the knowledge of medical practitioner regarding music therapy is paramount in successful integration of music therapy into the treatment team. However, there is no evidence on the music therapy knowledge among medical practitioner in Ethiopia. Hence, this study was done to fill these information gaps.

Methods and Materials

Study design and population

This institutional based cross-sectional study was carried out between August and September 2016 among Jimma University Medical Students using a self-administered questionnaire. The study includes a randomly selected medical student from 1st to 6th year.

Data collection process

The questionnaire used was prepared by the researcher after detail review of the relevant international literature, and finalized following

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a pilot application prior to data collection. Students completed the questionnaires during class hours after obtaining necessary permits from the official faculty administrations. The questionnaire was verbalized in English language and was not translated to other languages as English is the medium of instruction at universities in Ethiopia.

The questionnaire consisted of three parts. The first part consisted of questions on socio-demographic characteristics of the students, second part on the knowledge and the last part was on the practice of the study respondent on the music therapy.

To ensure quality of the study, trained data collector administered data collection. The completeness each part of the questionnaire used were checked by principal investigator.

Sample size

The sample size was calculated using a sample size determination formula for a single population proportion with the following assumptions: 50% expected prevalence of knowledge and practices of the study participants at 95% confidence level with 5% degree of desired precision. The final calculated sample size was 384. However, only 349 randomly selected voluntary medical students of Jimma University in Ethiopia were included in the study. The study participants were from first year to internship level (fifth and sixth years).

Data management and analysis

The collected data were entered to Microsoft Excel and then, cleaned. The clean data were transported and analyzed using SPSS version 20. The data were analyzed using descriptive statistics tool and presented using table. The strength of association between dependent and independent variables was assessed using multiple regression model at 95% confidence interval.

Ethical issue

The study protocol was approved by Jimma University Institutional Research Review Committee. Official permission was obtained from School of the Medicine. Informed consent was also obtained from the study participants before administering the data collection. The data were collected kept confidential.

Results

Socio-demography of the study participants

A total of 349 medical students were participated in this study with respondent rate of 91.0%. More than half of 189 (54.2%) the respondents were urban dwellers before joining the university, and 201 (57.6%) protestant followers. Majority 271 (77.7%) of the respondents were in the age group of less than or equal to 24 years old, with the mean and Median age of 22.97 and 23.0 years, respectively. Great majority 327 (93.7%) were single marital status. Two hundred sixteen (61.9%) participants were on medical intern study level (Table 1).

Source of information and knowledge of music therapy

Half of respondents were heard about the music therapy. The Internet was found to be the most commonly used source of information on music therapy from the ten options provided in the questionnaire, followed by Television/Radio and books. However, few 6 (1.7%) report the contribution of medical school (Table 2).

Majority of the study respondents were known as music therapy is help patient condition and safe. However, they have low understanding on the contribution music therapy on improving pain, anxiety,

nausea, restless, agitation, distress, relaxation, spiritual comfort, self-expression, autonomy, communication, socialization and self-expression. Majority of the participants had less than mean knowledge score (bad knowledge) on the application of music therapy in medicine and quality of life (Table 3).

Particles of medical students on music therapy

Majority of the study participants were show interest in refer patients to a music therapy but they intension to support the program is decline because their knowledge gaps on the area and its application in medical practices. In addition, lack of music therapy course in the education system of medicine in the institute is one of the major hindrances for the support of the program. However, most of the responds has high interest in education and training on music therapy (Tables 4 and 5).

Factor affecting the music knowledge among medical students

The knowledge of the medical students was determined by age, ethnicity and level of education of the student in medical school when controlling their confounding variables. Where the study participant with more than 24 year olds [AOR=0.367 (95% CI, 0.21-0.64)] had less mean knowledge than their counter part. The oromo [AOR=0.14 (95% CI, 0.029-0.69)], Amahra [AOR=0.18 (95% CI, 0.036-0.88)], and Tigeray [AOR=0.07 (95% CI, 0.01-0.44)] ethnic groups study participants had less mean knowledge comparing to the Somali ethnic students. In contrary medical Intern [AOR=0.34 (95% CI, 0.21-0.57)] study participants had low mean knowledge that shows low contribution medical education level on the music knowledge.

Discussion

Music therapy has been shown to be an efficacious and valid treatment option for medical patients with a variety of diagnoses. Music is a form of sensory stimulation, which provokes responses due to the familiarity, predictability, and feelings of security associated with it. In spite of music therapy has limited side effect on the patients and more economical to be practical in developing countries like Ethiopia, it practices is reserved to palliative care for patients who have an incurable illness in Africa [12].

The level of incorporation of music therapy in modern medicine influenced by the knowledge of health care provider to refer patient to the music therapy center and promote its implementation as part of health care system. Accordingly, the aim of this explorative study mainly focuses on the knowledge and practices of medical students of Jimma University in Ethiopia.

More than half of the medical student's participants in the study heard about the music therapy. However, majority of the participants had less than mean knowledge score (bad knowledge) on the application of music therapy in medicine and quality of life. This observed because of lack of formal course in the curriculum of medicine in the study instruction. This is clearly found as medical school has low contribution as sources of information and the major sources of information is internet in present study. This similar with other studies done in different countries [13-16].

Majority of the medical students had low understanding on the contribution music therapy on specific medical and social condition like in improving pain, anxiety, nausea, restless, agitation, distress, relaxation, spiritual comfort, self-expression, autonomy, communication, socialization and self-expression. This could be attributed to the presence limited knowledge on music therapy among the study participants. Surprisingly, majority of the study respondents

Variable	Frequency	Percentage
Sex		
Male	263	75.4
Female	86	24.6
Age (Mean=22.97 and median=23.0)		
<or=24	271	77.7
>24	78	22.3
Address before university		
Rural	160	45.8
Urban	189	54.2
Ethnic		
Somali	13	3.7
Oromo	152	43.6
Ahmara	121	34.7
Tigeray	23	6.6
other	40	11.5
Religion		
Muslim	38	10.9
Orthodox	201	57.6
Protestant	90	25.8
Catholic	12	3.4
other	8	2.3
Marital status		
married	12	3.4
Single	327	93.7
Divorced	8	2.3
Windowed	2	0.6
Level of year		
1 st year	6	1.7
2 nd year	24	6.9
3 rd year	31	8.9
4 th year	72	20.6
5 th & 6 th year	216	61.9

Table 1: Socio-demography of the study participants (n=349).

Variables	Frequency	Percentage
Source of information		
Personal experience using music therapy	10	2.9
Family and friends	9	2.6
Newspapers/Magazines	16	4.6
Television/Radio	53	15.2
Internet	55	15.8
Books	21	6.0
Journals	7	2.0
Medical school (University)	6	1.7
Other health care professionals	1	0.3
Not heard music therapy	171	49.0

Table 2: Source of information on music therapy knowledge among Medical students of Jimma University, Ethiopia (n=349).

were reported as music therapy is help patient condition and safe. They also showed higher interest in referring patients to a music therapy but their intension to support the program is decline because their knowledge gaps on the area and its application in medical practices. In addition, lack of music therapy course in the education system of

medicine in the institute is one of the major hindrances for the support of the program.

Most of the medical students had high interest on music therapy education and training. This support report from other studies [13,14].

Variable	Frequency	Percentage
Music therapy would help the patient's condition		
Yes	248	71.1
No	101	28.9
Music therapy is safe		
Yes	224	64.2
No	126	35.8
Music therapy can be used to address or improve pain		
Yes	93	26.6
No	256	73.4
Music therapy can be used to address or improve anxiety		
Yes	188	53.9
No	161	46.1
Music therapy can be used to address or improve nausea		
Yes	52	14.9
No	297	85.1
Music therapy can be used to address or improve restless		
Yes	132	37.8
No	217	62.2
Music therapy can be used to address or improve agitation		
Yes	113	32.4
No	236	67.6
Music therapy can be used to address or improve distress		
Yes	170	48.7
No	179	51.3
Music therapy can be used to address or improve relaxation		
Yes	142	40.7
No	207	59.3
Music therapy can be used to address or improve spiritual comfort		
Yes	101	28.9
No	248	71.1
Music therapy can be used to address or improve self-expression		
Yes	95	27.2
No	254	72.8
Music therapy can be used to address or improve socialization		
Yes	96	27.5
No	253	72.5
Music therapy can be used to address or improve overall quality of life		
Yes	67	19.2
No	282	80.8
Music therapy can be used to address or improve family support		
Yes	51	14.6
No	298	85.4
Music therapy can be used to address or improve communication		
Yes	104	29.8
No	245	70.2
Music therapy can be used to address or improve autonomy		
Yes	61	17.5
No	288	82.5
Mean knowledge		
Good (\geq mean knowledge)	151	43.3
Bad ($<$ mean knowledge)	198	56.7

Table 3: Music therapy knowledge among Medical students of Jimma University, Ethiopia (n=349).

This could be a great opportunity to incorporate the music therapy in the national health system through continues professional development program.

The age is significantly associated with the mean knowledge of the study participants where medical students more than 24 year olds had 0.37 less good mean knowledge. This is could be associated to the higher

Variable	Frequency	Percentage
Would you refer patients to a music therapy		
Yes	263	75.4
No	86	24.6
Reason for not support a music therapy program		
I do not have enough know on music therapy	131	37.5
I do not think music therapy is effective in the medical environment	144	41.3
I think music therapy would be too expensive	28	8.0
I do not think patients would benefit from music therapy	12	3.4
I do not think a music therapist is work in the medical environment	7	2.0
Other	2	0.6
Support a music therapy	25	7.2
Studied Music Therapy		
As part of the core coursework at your medical school	13	3.7
As an elective at your medical school	4	1.1
Outside of your medical school	15	4.3
Never Studied	317	90.8
Like to know more about Music Therapy		
Yes	291	83.4
No	58	16.6
Rate your interest in education and training on Music Therapy		
Very interested	80	22.9
Interested	168	48.1
Equivocal	64	18.3
Uninterested	37	10.6

Table 4: Music therapy practices among Medical students of Jimma University, Ethiopia (n=349).

use of internet services among the younger which is major sources of information in the present study. The presence of mean knowledge significant difference on the of the music therapy among the ethnic groups of the study participants will need further study.

Surprisingly, the Medical Intern Students had 0.34 less likely had good mean knowledge than Pre Medical Intern. This observed difference could be attributed to medical intern had more knowledge and practices in medicine and they had less likely to support music therapy where they did not have formal education in the medical school.

Conclusion

More than half of the medical students had heard about the music therapy. However, majority of the medical students had low mean knowledge on the application of music therapy in specific medical condition and quality of life. The major source of information is internet and the medical school has low contribution on the knowledge and practices of music therapy. There is also higher interest on music therapy training and education among the study participants. The mean

knowledge of the medical students was affected by age, ethnicity and level education in medical school.

Therefore, effort should be done to in cooperate the music therapy in formal curriculum of medical education and also continues professional development program is need for medical practitioners to ensure the integration of music therapy program on medical system in the country.

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Variable	Good knowledge, n%	COR(CI)	P-value	AOR(CI)	P-value
Sex					
Male	146(55.5)	1			
Female	52(60.5)	1.23(0.75-2.01)	0.421		
Age					
<or=24	170(62.7)	1		1	
>24	28(35.9)	0.33(0.20-0.56)	0.000*	0.367(0.21-0.64)	0.000*
Address before university					
Rural	92(57.5)	1			
Urban	106(56.1)	0.94(0.62-1.44)	0.790		
Ethnic					
Somali	11(84.6)			1	
Oromo	78(51.3)	0.19(0.04-0.89)	0.035*	0.14(0.029-0.69)	0.016*
Ahmara	71(58.7)	0.26(0.05-1.22)	0.087	0.18(0.036-0.88)	0.035*
Tigeray	9(39.1)	0.01(0.12-0.65)	0.015*	0.07(0.01-0.44)	0.004*
Other	29(72.5)	0.48(0.10-2.52)	0.385	0.43(0.08-2.37)	0.335
Religion					
Muslim	25(65.8)	1	0.448		
Orthodox	119(59.2)	0.75(0.36-1.56)	0.104		
Protestant	45(50.0)	0.52(0.23-1.14)	0.330		
Catholic	6(50.0)	0.52(0.14-1.94)	0.149		
Other	3(37.5)	0.31(0.06-1.51)	0.448		
Marital status					
Single	189(57.8)	1			
Other	9(40.9)	0.50(0.21-1.22)	0.128		
Level of education					
Pre-Medical Intern	93(69.9)	1		1	
Medical Intern	105(48.6)	0.41(0.26-0.64)	0.000*	0.34(0.21-0.57)	0.000*

COR=Crude Odds Ratio; AOR=Adjusted Odds ratio; CI=Confidence interval; 1=Reference; *=statistically significant

Table 5: Factor affecting on music knowledge among Medical students of Jimma University, Ethiopia (n=349).

Author's Contribution

KNA conceived and designed the protocol, supervise the data collection, contributed for data analysis, and wrote the paper. I read and approved the final paper.

Disclosures and Ethics

I declare there is no conflict of interest and the study was conducted after obtaining ethical approval and permission from concerned bodies.

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