

Role of music in operating room

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Introduction

The therapeutic effects of music on the patients during and after surgery have been reported which reduces the anxiety and pain levels.¹⁻³ A very few studies have demonstrated the effect of music on the operating room (OR) staff.⁴⁻⁶ Peretti measured galvanic skin responses and reported that music had a calming effect during a stressful task.⁷ Music has also been associated positively with performance on stressful tasks. Ethical and practical concerns limit the use of a true field experiment to test the hypothesis that music reduces surgeon stress and enhances surgical performance. However the study by Allen et al demonstrated clearly that surgeon-selected music was associated with reduced autonomic reactivity and improved performance of a stressful nonsurgical laboratory task.⁵ Some surgeons claim to perform better with music, but others fear it has a potentially disturbing influence. The study by Miskovic et al.,⁸ showed that music in OR may have a distracting effect on novice surgeon performing new tasks and surgical trainees should consider switching off music during teaching procedures.⁸ However the type of music and volume used is an interesting factor. The following study was conducted among the plastic surgeons to know their preferences about the music during surgery.

Materials and methods

A questionnaire (Figure 1) was designed and distributed among the 200 plastic surgeons selected randomly who were the members of Pakistan Association of Plastic Surgeons (PAPS), IPRAS, ASAPS and Australian Society of Plastic Surgeons (ASPS). The surgeons were divided into two groups. Group A comprised of the plastic surgeons from the Asian subcontinent. Group B consisted of plastic surgeons living in Australian, American and European nations. From group A, 100 plastic surgeons were chosen randomly and 100 plastic surgeons. The surgeons were asked to return the questionnaire within 60days.

Name: _____ Age: _____ Gender: _____
 Primary speciality: _____ years in practice: _____
 Country: _____, memberships: _____

Directions: Please highlight the relevant options

Q. 1. Do you listen to the music during your free time?
 Yes No Sometimes

Q. 2. Do you listen to the music during surgical procedure?
 Yes No Sometimes

Q. 3. Would you prefer playing music during surgical procedure?
 Yes No

Q. 4. In what language you prefer the music during the surgical procedure?
 Urdu Hindi English Local

Q. 5. What type of music you prefer during surgical procedure?
 Classical Opera Jazz Blues Rock Rap Others

Q. 6. Is there any relationships between your preferences of music and performance?
 Yes No

Q. 7. Do you think music should be played during surgery?
 Yes No

Q. 8. At what volume you would prefer the music to be played?
 Low Medium High Very high

Q. 9. Is there any relationships between your performance and music?
 Yes No Sometimes

Q. 10. Do you think music affects the communication in operating room during the surgery?
 Yes No Sometimes

Q. 11. Music during surgery will make you?
 Calm More efficient Disturbed Does not matter

Q. 12. Who chooses the music in operating room?
 Senior surgeon Resident/Junior surgeon Anaesthetist Nurse Patient

Figure 1 Questionnaire.

Results

The answers of all the plastic surgeons from each group were analyzed.

- i. *Music in free time:* About 97% of group A and 99% of group B listen to the music in their free time.
- ii. *Music during surgical operation:* Sixty seven percent of group A and 81% of group b listen to music during surgical operation whether local or general anaesthesia.
- iii. *Language:* Eighty nine percent of group A and 98% of group B listen to English music.
- iv. *Type of music:* Twenty nine of group A and 35% of group B listen to classical music whereas only very few (4% in group A and 2% in group B) listen to high pitched music (Table 1).

Table 1 Type of Music

Group	Classical	Opera	Jazz	Blues	Rock	Rap	Others
Group A	29	24	41	2	1	2	1
Group B	35	29	31	3	1	1	-

- v. *Preference of music:* About one tenth of the surgeons of group A had a specific preference to play the music in OR whereas only 2% in group B had it.
- vi. *Music during surgery:* Eighty one percent of the surgeons (group A) and 93% (group B) wished the music to be played during the surgery.
- vii. *Volume of music:* Majority of the surgeons (71% in group A and 84% in group B) liked the music to be played in low volumes (Table 2).

Table 2 Volume of Music

Group	Low	Medium	High	Very High
A	71	29	-	-
B	84	16	-	-

viii. *Performances and music:* Only few surgeons (14% in group A and 21% in group B) thought to have worked better while the music being played during the surgery.

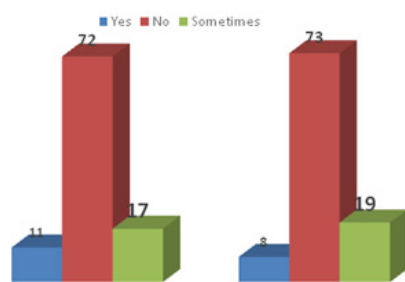
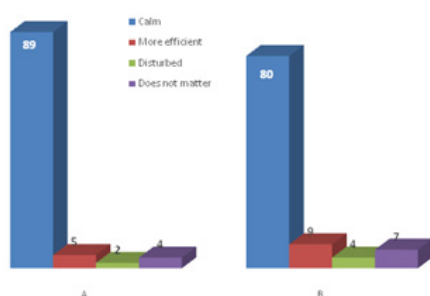
ix. *Effect on communication:* Majority of the surgeons in both the groups had the views that playing music in OR did not affect the communications with the OR staff (Figure 2).

x. *Personal feelings:* Most of the surgeons in both the groups felt calm while performing the surgeries with the music playing in OR (Table 3).

Table 3 Who chooses the musi

Group	Surgeon	Resident/ Junior Surgeon	Anesthetist	Nurse	Patient
A	40	38	12	9	1
B	38	35	15	8	4

Person choosing the music: In majority of the cases, the senior surgeon chose the music (Figure 3).

**Figure 2** Effect on Communication.**Figure 3** Surgeon's feelings.

Discussion

Working in OR is somewhat unique in comparison with working in other professional settings. It is probably the most stressful environment and surgeons being the sole captain of the ship, is under stress. The beneficial anatomic effects of music have been mentioned in the literature.⁴⁻⁶ The music in OR plays a double role. On one hand, it alleviates the anxiety of the patients about the surgical procedure and OR environment. On the other hand, it relieves the stressful conditions of surgical and OR staff. The studies by Arsalan et al.,¹ and Tabarro et al.⁴ showed that the patients undergoing surgery were able to manage the pre-operative anxiety more readily than those not

listening to the music in pre-op time.^{1,4} Similarly, the study by Allan et al also indicated the improved performance in the surgeons.⁵

In the present study, we attempted to analyze the overall general views of the plastic surgeons about music in the OR. A similar study was carried out by Ullan et al.,⁶ Anxiolytic effects of music on patients before, during and after surgery have been long recognized and are well establishes.^{9,10} The sources in operating room like sucker, anaesthetic monitoring machines, dropping of the instruments emit the noises of 80 – 108 dB.^{11,12} These sounds could be very uncomfortable to OR staff especially to the surgeon. An ambient music being played in OR helps to reduce or mask the annoying sounds. Moreover, the speed and accuracy of the surgeon has been shown to enhance by the music especially if the music is familiar to the surgeon.^{5,13,14} About 74% of the surgeons in the present study listened to the music which is higher than those in Ullan et al.,⁶ In the current study, only 17.4% of the surgeons thought they worked better while music was playing which is in contrast to the observation noted in other studies.

It is shown in studies that listening to the music improved the speed and quality of wound closure.¹⁵ On the other hand loud music can impair the communication and cause distraction resulting in increased incidence of surgical site infections.¹⁶ A survey in 1997 reported that 26% anesthesiologists found it distracting.^{12,17}

Conclusion

The music can be employed as an adjunct to obtain physical and emotional. The slow music being played in the operating room can alleviate the anxiety and has pleasing effect on surgeon, staff and patient.

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Conflicts of interest

Author declares there are no conflicts of interest.

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