

POTENCY OF BACKGROUND MUSIC ON HEALTHCARE PROFESSIONALS IN THE OPERATING THEATRE

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Abstract

The potency of background music on the psyche and consciousness of a human being is important. However, it is not explored in a detailed way. In our research we tried to examine whether appropriately selected and applied background music in one-day surgery has the positive potency to soothe the negative emotions of the selected healthcare professionals. We aimed to determine how it affects the emotions of medical staff and healthcare professionals in the operating room. The research sample consisted of three surgeons and two scrub nurses who worked in the operating theatres of JZS Hospital Bánovce nad Bebravou. The research method was an unstructured interview with healthcare professionals. The analysis of interviews shows that the background music minimized stress, improved wellbeing and atmosphere in the workplace in the four of five respondents. However, the music selection was very important.

Keywords: Background music. Emotions. Healthcare professionals. Operating theatre. Stress

1 Introduction

Music has always had an important place in human society, it is a form of entertainment, a source of pleasure and pleasant feelings. A certain type of music can soothe, stimulate, relax, it can somehow facilitate listeners to escape from the hardships of daily life.

2 One-day surgery

The core of one-day surgery is that the patient is not hospitalized. The main advantages of one-day surgery summarized Czudek [1] as following:

- Minimize the possible infection, and nosocomial infection of patients.
- This system is cheaper from an economic aspect.
- There is much more psychological comfort of patients – a stay in hospital is not obligatory – which lowers stress.
- Sick leave is shortened and the return to normal activities is speeded up.

Despite the fact that regime of one-day surgery greatly reduces the load of patients during hospitalization, there are different emotions that affect the overall process of surgeon's performance.

2.1 Emotions in one-day surgery

One of possible definitions of emotion belongs to Marek Franěk [2] who considers emotions a complex phenomenon that has an experiential, physiological, behavioural and expressive quality. It depicts the close connection between emotions with physiology of human body and motor reactions. According to him, emotions are manifested as spontaneous responses to internal and external stimuli, and they cannot be induced intentionally. The author distinguishes between two basic concepts of emotion, categorical and dimensional. Categorical approach distinguishes basic categories of emotions. Dimensional approach defines emotions by means of space that consists of several dimensions. Among them are the dimensions of *valence* (good – bad, resp. pleasant – unpleasant), *potency* (strong – weak) and *activity* (active – passive).

Fear necessarily belongs to our lives. In new variations it accompanies us from our birth to death. The fear exists independently of the culture and the degree of development of the individual and the nation. Changing are only the objects of fear, the ones that exactly cause fear, and on the other hand, means and measures that we use to fight against fear [3].

2.2 Emotions of healthcare professionals in one-day surgery

Among the social skills that should belong to the majority of health professionals are the following: social responsiveness, friendliness and communication skills, ability to work in a team and ability of understanding and handling conflicts. Social sensitivity is important for the perception of other people. This is the same talent that allows us to perceive and understand emotions, mood and behaviour of others [4: 22].

Emotional intelligence allows people know how to control our own emotions and the emotions of other people. It includes such qualities as knowing your own emotions, the ability to empathize with other people and guide the emotions in order to improve their quality of life [5: 590].

Emotions are often the object of research in relation to biological and psychological stress. They are experimentally investigated as both initiatives of stress (stressors) and as a response to stress. Experiencing anxiety reduces the level of behaviour, distracts attention, and particularly weakens the ability to concentrate on work, disintegrate and disorganize [6].

Many factors contribute to induce stress in nursing profession. These factors may affect the physiological, emotional and behavioural level. Initially, in people affected with stress there are found the feelings of work dissatisfaction, loss of energy, and health problems. Their work effort and performance drops. And with this is related the decline in self-confidence and ability to experience positive emotions. With the decline of enthusiasm drops also motivation, and is reduced the ability to think critically, solve problems and make decisions [7].

3 Research

We selected literary method. Since the research was conducted in the institution where I was employed, I conducted action research, which is considered one of the basic approaches of qualitative research. Due to the aim of my thesis I decided to choose the method of *unstructured interview*.

The advantage of an interview is that the researcher can use additional questions to verify the understanding of responses. The analysis, however, is time consuming. The validity of this method depends on the creativity and quality of the questions asked. The interview structure prepared beforehand does not limit the connection of the themes, there is no thematic separation or limitation of respondents' answers to the interviewed questions without their mutual connection.

Questions of the interview with healthcare professionals:

1. Do you listen to music in your leisure time? If yes:
 - a) What music style do you listen most often?
 - b) When do you listen to it most often? (In which part of a day?)
2. What is the function of listening to music in your life?
3. Do you play a musical instrument or sing?
4. Is music an important part of your life?
5. Do you usually listen to background music when performing surgery?
6. If you have chance to select music in operating theatre what style it would be? (What is your favourite music band or a singer?)
7. Does music affect your emotions during surgery?
8. Would you welcome the possibility to listen to music of your own choice during surgery?

3.1 Research sample

The research sample consisted of five healthcare professionals: three surgeons and two scrub nurses who worked in the operating theatres of JZS Hospital Bánovce nad Bebravou.

3.2 Organisation and realisation of the research

We collected the data from January 2016 to March 2016. The approval of Hospital Bánovce – The 3rd Private Hospital, Ltd. with the execution of the research was obtained before the implementation of musical intervention. All the patients were informed of the research and signed an informed consent, which is available on request.

3.3 Interpretation of an interview with healthcare professionals

Surgeon no 1

1. Listening to music in leisure time: *"I listen to music mainly in the car, in the morning and afternoon, on the way home from work. And of course, at home when doing chores. I like jazz, classical music and folk."*
2. Function of music in personal life: *"It is simple and it dulcifies specific moment."*
3. Performing music activities: *"No, this is my lifelong suffering that I cannot play any musical instrument."*
4. Importance of music in personal life: *"Yes, music is very important, like fragrance."*
5. Listening to background music during surgery: *"I like listening to music, the same sort as at home, more peaceful genres. And it cannot be too loud."*
6. Preferable music genre in the operating theatre: *"I do not know if as an operator I want to select music. Well, the kind of music that I like is not necessarily the sort of music that my colleagues likes, and I do not want a nervous assistant during a surgery. ... and consensus is very important to me."*
7. Impact of music on your emotions during surgery: *"You know me, the same moment when I hear „tuc-tuc“ I am angry, as soon as I arrive to operating theatre. I mean, it has impact on me. Negative impact mainly rap, techno music and all loud sorts of music."*
8. Would you welcome the possibility to listen to music of your choice? *"Certainly, (...) not only I am important."*

Surgeon no 2

1. Listening to music in leisure time: *“Yes, usually I listen music in the radio ... or based on my mood – Dire Straits, Jimi Hendrix (...), certainly not classical music and jazz. And I listen to music all the time, at home, at work, in car.”*
2. Function of music in personal life: *“Complete perception. I do not like silence ... even when I read books I am not used to sit silently.”*
3. Performing music activities: *“I went to violin lessons for 7 years, but could not play it well. And I also do not sing.”*
4. Importance of music in personal life: *“Yes, it is important for me.”*
5. Listening to background music during surgery: *“Yes, I listen to music during surgery.”*
6. Preferable music genre in the operating theatre: *“I like older rock music. I am satisfied with play list of the Antena Rock, this type of music is enough for me.”*
7. Impact of music on your emotions during surgery: *“I do not think it has impact on my emotions during surgery.”*
8. Would you welcome the possibility to listen to music of your choice? *“I think this is chance for me! But it is not that important to me ... so maybe I do not need it.”*

Surgeon no 3

1. Listening to music in leisure time: *“Yes, I listen to music in my leisure time, my most favourite is folk a rock. I frequently listen to music at work, after surgeries and in car. I confess that at home I have a cellar with a workshop. There I usually create things when listening to music and singing.”*
2. Function of music in personal life: *“To rest and relax. While listening to folk music I like singing, it is quite stimulating and it is much better to work. Music is an inspiration to activity to me.”*
3. Performing music activities: *“As you know I play the guitar and amateurishly sing folk music. With my wife I regularly, twice a week, go to a latino dance club... to this kind of activity belongs to my life too. And I like it that way.”*
4. Importance of music in personal life: *“Well, it is important!”*
5. Listening to background music during surgery: *“Certainly yes, to perform surgery in silence – it is stressful for me. I like better it with pleasant background music.”*
6. Preferable music genre in the operating theatre: *“Definitely folk music. And most of all I like the Czech radio Blaník. There are nice Czech songs without advertisement.”*
7. Impact of music on your emotions during surgery: *“Yes, it definitely affects me. When I am in stress, I hate techno music and too loud music in general.”*
8. Would you welcome the possibility to listen to music of your choice? *“Yes, but I am too lazy to select it ... the music from the radio is enough.”*

Scrub nurse no 1

1. Listening to music in leisure time: *“No, no, I am an active searcher locator of music. When I am alone at home, I like silence, because there is often a lot of noise at our house. My husband turns on radio and listens whatever. I and children listen to music, but I personally do not insist on music. It might be deformation from work that I want to listen whether somebody needs me and silence is better when I want to hear the others.”*
2. Function of music in personal life: *“To me – I need only minimum music in my personal life that helps me to detract my attention from everyday stress.”*
3. Performing music activities: *“No, I only hum.”*
4. Importance of music in personal life: *“No, it depends on the situation. For example, I enjoy music on balls. I even sing there.”*
5. Listening to background music during surgery: *“I listen to it, but do not select particular style, I accept what they play. But I do not mind silence during surgery, contrary, I can concentrate better when there is silence.”*
6. Preferable music genre in the operating theatre: *“I am not interesting in anything at work, because I concentrate better when there is silence.”*
7. Impact of music on your emotions during surgery: *“No, I do not perceive music so as it had impact on me. I concentrate on surgery – my duties and work.”*
8. Would you welcome the possibility to listen to music of your choice? *“For me music at workplace has no sense.”*

Scrub nurse no 2

1. Listening to music in leisure time: *“Yes, I listen to it all the time. At home we always listen to music. I listen to all kinds of music, but I have my favourite music bands from Slovak alternative music. I prefer harder rock music, I am nervous from soft and sweet music. However, I cannot cook, tidy, drive my car without music.”*

2. Function of music in personal life: *"I can relax while listening to music, but it also stimulates me to activity. It depends what genre I select ... on the activity I do. It is always important to me to have aesthetical experience from listening to a piece of music."*
3. Performing music activities: *"I do not play any musical instruments, but I love singing. Only when I am alone at home or with my closest relatives. My husband plays the guitar, so we sing together, mainly folk and country songs."*
4. Importance of music in personal life: *"Yes, music is very important in my personal life. I cannot imagine my life without music. And it is not only a phrase."*
5. Listening to background music during surgery: *"I love it. But it must be a piece of music that I like. I would not be able to work while listening to folk music or weepie. I would probably get nervous. But the worst for me is silence ... when we forget to turn on radio, or when a surgeon asks us to turn it off."*
6. Preferable music genre in the operating theatre: *"If I could I would certainly listen to Billy Barman, Korben Dallas, Walter Schnitzelsson, these are my favourite pieces that I am listening to these days."*
7. Impact of music on your emotions during surgery: *"Yes, I am more relaxed when there is background music."*
8. Would you welcome the possibility to listen to music of your choice? *"I would welcome it. When I have a chance, like now, I insist on the selection of musical genre – in case a surgeon does not mind."*

4 Emotions of healthcare professionals in the surgical workplace during one-day surgery

In this part of the contribution we analyze the results of our research. In the following tables there are arrayed the processed data from individual interviews and written commentary.

The analysis of an interview with the surgeon no 1 shows that music is not only important for her personal life nor during work in the operating theatre. However, the great emphasis was given to the selection of music and a mutual agreement with all members of the operating team. It can not be anything too loud or rhythmic, because then are highlighted all the negative emotions and the atmosphere is tense.

The surgeon no 2 prefers rock music, not only in personal life, but also at work during operation. He does not like silence, and music uses as new perceptions. Nevertheless it indicates that music does not affect his emotions, it must be the part of his life.

The surgeon no 3 lives surrounded by music at work and in his personal life. He does not tolerate silence, if it occurs it increases stress and negative emotions in him. Similarly as with the surgeon no 1. She does not tolerate loud music and likes to select what she will listen, then it is fine and happy.

The analysis of the interview with the scrub nurse no 1 shows that music is not interesting for her in personal life or at work. She can concentrate better when it is quiet and also when background music is playing, but she does not perceive it.

In contrast, the scrub nurse no 2, cannot imagine her life without music and even during her work she is quite affected by background music. As she says, music has positive impact on her emotions and when there is silence, she is in discomfort and feels an increased tension. Thus she appreciates the possibility to select music.

5 Conclusion

The aim was to map how music affects emotions of healthcare professionals when performing surgery. We tried to proceed holistically in the process. Based on the analysis of **case studies of healthcare professionals**, we found out that three surgeons and one scrub nurse are almost identical in responses. Music is very important for them not only in their personal lives but also in the workplace, resp. during surgery. As they confirmed, they feel better at work when they listen to background music. The difference in opinions was proven in the selection of music, loud music and the style of techno, rap, and metal were obstacle for the two of respondents. The other two respondents admitted that it was silence that is the source of stress and distraction for them. They do not insist on the selection of music, partly because they are lazy to select it, or it has low importance and also they prefer consensus with assistants and other healthcare staff.

On the other side, one scrub nurse admitted that she does not need music in her life and it is useless for her at work, she prefers to work in silence as she can better concentrate on her duties during surgery. She said music did not affect her emotions, because she simply did not perceive it.

When testing the effects of background music in the operating theatre doctor Conrad C. [8] created a computer-simulated operating procedures during which there sounded classical music, death metal and silence. He proved that listening to music during surgery did not affect accuracy during surgery as much as silence. However, listening to Mozart music increased the degree of precision during surgery also in repeated procedures. He proved that music can help during learning and has impact on the improvement of performance. Currently he plans follow-up studies on the potency of music to affect human learning and concentration.

The research study of University of Texas confirmed that surgeons who listened to classical music, were more precise and had more efficient operating techniques. This study was published in the Journal of Aesthetic Surgery Journal [9]. Susan Hallam [10] depicted in a number of her research studies the impact of background music on work. According to her the use of background music increased morale in the workplace, reduced boredom and

fatigue, increased productivity and reduced errors. Similarly minimized stress, improved wellbeing and a better atmosphere in the workplace. According to Harinek and Ostatníková [11], music can help, through the modulation of stress reaction, to alleviate pathophysiological effects of stress and discomfort. Music experience cannot be attributed solely to the respond to musical stimuli. Physiological changes caused by the effect of music (changing rhythm of breathing, pulse, blood pressure, or electrical resistance of the skin and pupil of the eye) can now be measured using advanced displaying techniques: electroencephalogram (EEG), magnetic resonance imaging (MRI) or positron emission tomography (PET) [12].

We realize that available research findings cannot be generalised, but can be helpful.

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