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Caring Music;

music intervention for improved health

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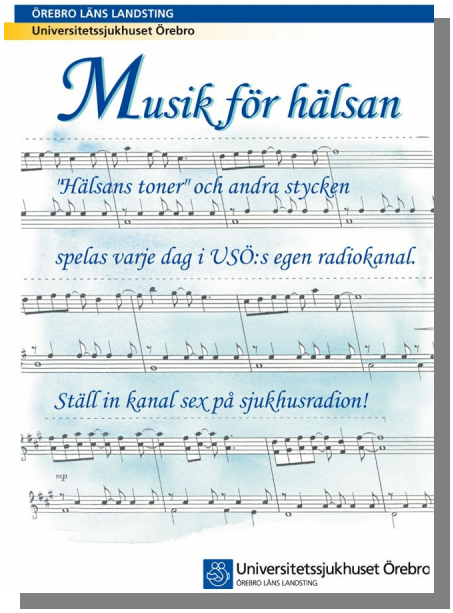
Introduction



Healthcare practitioners often prioritize physical care over the patient's emotional, spiritual, and psychological needs. Meeting such needs becomes an additional challenge left to nursing. Healthcare practitioners might view interventions such as the therapeutic use of music as "extras" and not as a basic ingredient of daily nursing care. However, in 2006 Örebro University hospital was the first hospital in Sweden to start a special radio channel with relaxing modern and classical music. In 2003 the hospital released a CD with soft and relaxing classical music "Tune of health, music for wellbeing". In 2007 a sequel CD "Tune of health 2, music for wellbeing" was released, including a mixture of different genre of relaxing music. The CD's and radio channel is cooperation with the musical company Naxos.

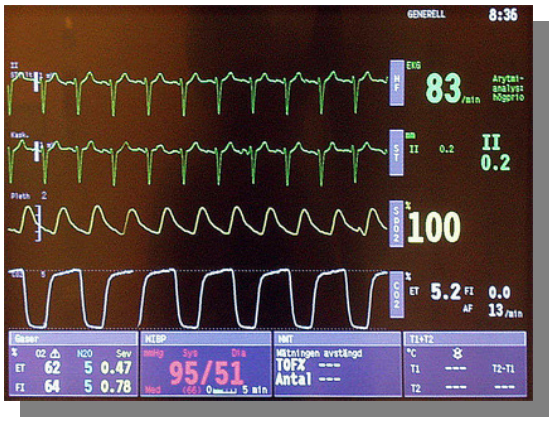
Therapeutic use of music has been documented, by research in for example perioperative settings. Music intervention has been shown to have analgesic, anxiolytic and relaxing effect. To reflect these findings, professional knowledge of the use of music in clinical nursing should be more widespread. *"The music was there the whole time and made me feel calm and took the pain impulses away"* is a quotation from a patient who was listening to music after her surgery in the postoperative care unit (Nilsson 2003). This type of music treatment defines as "a supportive source of environmental sound that stimulates and maintains relaxation as well reduces or controls distress by a self-management technique" (Nilsson in 2008). Music can work as an 'audioanalgesia', 'audioanxiolytic' or/and 'audiorelaxation'.

Music interventions in a historical perspective

Music has been used since ancient time to influence human health. Archaeological findings show that the primitive man used music as a way to appease the "gods". The 6th century Greek philosopher Pythagoras, considered the founder of music therapy and geometry, believed that music greatly contributed to health. Pythagoras prescribed music and diet to restore and maintain harmony of the body and soul. Florence Nightingale recognized the power of music in the environmental milieu of the hospital wards as a part of the healing process for injured soldiers in the Crimea War. Nightingale noted the effects of different types of music. She recommended wind instrumental pieces with continuous sound or air as generally having a beneficial effect on the sick. She also observed that instruments, which do not produce

continuous sounds, would have the opposite effect. Nightingale felt it was the responsibility of nursing to control the patient's environment in order for healing to take place. In 1926, Isa Maud Ilsen established the National Association for Music in Hospitals. Ilsen, a nurse, herself, advocated the implementation of specific prescriptions or treatment regimes. Ilsen identified rhythm as the basic therapeutic element in music. After the invention of the phonograph in the late 1800's, recorded music was first then used in the hospital setting. The most extensive account of music in general hospitals appeared during the first half of the 1900's. The practitioners used music in conjunction with anesthesia and analgesia. The physician Kane was the first person in 1914 to provide music during surgery to distract patients from "the horror of surgery". In 1949, a group of surgeons studied the use of music in conjunction with psychosomatic factors in physical illness. They performed a series of operations and observed that music had a calming effect on these normally tense and nervous patients, when routine medication did not work.

Caring music



Music contains a combination of six elements; pitch (which governs melody and harmony, rhythm (and its associated concepts tempo, meter and articulation), dynamics, structure, and the sonic qualities of timbre and texture. The characteristics of caring music are that the music is non-dramatic, has predictable dynamics, has a soft tone, is harmonic and non-lyrical. In contrast to music that evokes tension, which has a fast tempo in with hard beat, irregular rhythm, dissonant harmony or played in a high volume. The tempo of the music seems to be the most important, around 60-80 beats per minute is best for creating relaxation. A higher tempo acts like a "driving input", which results in increased heart rate, blood pressure and respiratory rate. Descriptions used to describe music perceived as relaxing are "quiet", "peaceful", "soft", "dreamy", "soothing", "serene", "un-dramatic", "slow speed", "regular rhythm", "pleasant combination of instruments", and "low volume".

The genre of the soothing music seems not to influence the positive effect of it. However, there are cultural differences in music preference and therefore should culturally specific music bee provided to the listener. In contrast to cultural differences it seems that there are no gender differences in response to soft relaxing music.

The volume of the music is of importance and is recommended to a maximum level of 60 dB and the length to 20-60 minutes. To increase the quality of the night sleep the length of music listing is recommended to 45 minute at bedtime, because sleep onset has been found to take about 13–35 minutes in adults. Repeating the music intervention twice a day seems to have a pain reducing effect on persons suffering from chronic pain. A 20-30 minute daily music intervention for at least one week can decrease an agitated behavior by persons suffering from dementia.

There is a distinction between music therapy and music intervention. Music intervention is an interdisciplinary therapeutic tool to facilitate patients' outcome using recorded music as opposed to music therapy that is an expressive therapy that focuses on means of contact and communication to achieve therapeutic relationships. Music therapy is conducted by a professional who has completed an approved music therapy program and includes for example songwriting, listening in reminiscence work with elderly, processing and relaxation work, and rhythmic entrainment for physical rehabilitation in stroke victims. Let us therefore always use the term "music intervention" when we talk about caring music as therapeutic tool and supportive source of environmental sound that stimulates and maintains relaxation as well reduces or controls distress by means of a self-management technique.

Arias of scientific evidence for the positive effects of soft relaxing music

Perioperative care

Studies to test the effect of relaxing music on the patient's experience of anxiety and discomfort before, during or after surgery has shown positive results. Listening to music has a pain reducing effect seen as reduced subjective pain perception and reduced need for analgesic drugs. Music has also a calming effect seen as reduced subjective anxiety and a reduced need for sedation. Some hemodynamic effects have also occurred in the form of reduced heart rate, blood pressure and breathing rate. Other positive effects on patients' postoperative recovery such as reduced acute confusion and delirium in elders undergoing elective hip and knee surgery has been reported as well as reduced physiological stress response in the immediate postoperative recovery seen in decreased Cortisol levels after different types of day surgery. Listening to music also affects the experience of satisfaction and comfort in the postoperative care as well as reducing emotional stress. Scientific evidence is also available on patients reporting that the acoustic environment is of great importance for their wellbeing during their first postoperative recovery face. The majority of patients undergoing an operation also want to wake up to music and mean that music has a great impact on their postoperative wellbeing.

Intensive care

*H*eart rate and blood pressure can decrease if the intensive care patients listen to relaxing music. Music listening can also lead to a positive mood. Furthermore, if music being played in connection with the wound care of burn injuries the patient's experience of pain can decrease.

Cardiac care

Music listening can have a beneficial effect on blood pressure, heart rate, respiratory rate, anxiety, and pain in persons with coronary heart disease. However, the anxiety-reducing effects of music in myocardial infarction patients may be considered small. Music listening may also reduce myocardial oxygen demand as well as have a beneficial effect on mood.

Obstetric care

Within obstetric care music can provide reduction in pain and a calming and positive experience of childbirth for the mother. Music during planned caesarean section under regional anaesthesia may improve pulse rate and birth satisfaction as well as reduce anxiety. However, there is a lack of research on infant and father/partner outcomes.

Childcare

Music is effective in reducing anxiety and pain in children and youth undergoing medical and dental procedures and can be considered an adjunctive therapy in clinical situations that produce pain or anxiety. Playing lullaby for the premature child has positive effects as reduced hospitalization, increased weight and decreased oxygen needs.

Chronic pain

Music listening is effective in reducing chronic osteoarthritis pain. Pain perception can also decreased in rheumatoid arthritis patients when listen to music. However, the music intervention has to be conducted for 14 days to increase its positive effects on chronic osteoarthritis pain in comparison to acute postoperative pain, which have a direct effect after one music session.

Palliative care

Single music intervention may affect pain, physical comfort, fatigue and energy, anxiety and relaxation, time and duration of treatment, mood, spirituality and quality of life in patients with a terminal illness.

Dementia / Alzheimer

Music can be used to reduce behavioural problems and in improvement of social, cognitive and emotional functioning in people suffering from dementia and Alzheimer. Quiet soothing music can reduce anxiety and agitation that may be present during mealtime or in connection with acute care. When bathing is accompanied by listening to the participants' preferred music it can lead too less aggressive behaviours. Furthermore, music can stimulate the memory, linguistic ability, content and reduce the cognitive deterioration of persons suffering from Alzheimer. Crossover effects between music listening and linguistic features have studied and shown increased in verbal memory in stroke patients who received music intervention.

Sleep and rest

Music listening have a beneficial effect on sleep quality seen as better perceived sleep quality, longer sleep duration, greater sleep efficiency, shorter sleep latency, less sleep disturbance and less daytime. Listening to music during bed rest after surgery has beneficial effects on the relaxation system as regards s-oxytocin and subjective relaxations levels. This effect seems to have a causal relation from the psychological (music makes patients relaxed) to the physical (oxytocin release).

Conclusion

More research is needed in order to evaluate the effects of music interventions in nursing care. Future randomised controlled trials with good methodology, in terms of randomisation methods, concealment, and blinded outcome assessors, should be undertaken involving different types of music, adequate sample sizes, gender, age and patients from a variety of different ethnic groups.

In clinical practice it is important to note that there are a number of individual factors that influence responses to music. These include, but are not limited to: age, gender, severity of symptoms, cognitive function, training in music, familiarity with and preference for the music, culture, and personal associations with the music. Music also evokes various types of imagery in many individuals. Thus, the individual's unique imagery characteristics will influence his or her responses to the music. Therefore, it cannot be assumed that relaxing music will always have positive effects on individuals; careful monitoring of individual effects is needed.

It is also of great importance that the music listening equipment is of good quality, easy to use and hygienic. Health care associated infections; such as Methicillin-resistant Staphylococcus aureus (MRSA) can be transmitted indirectly by sharing items that contain the organism. Therefore, allowing patients to use equipment such as headphones can increase the risk of cross

infection. New equipments such as Wellness Musicpillow and MusicFrame® offers an adjustable patient focused sound environment without 'shutting off the external world' as well as it enables the patient to rest in any position without the inconvenience induced by some types of headphones. However, the quality of the sound in the Wellness Musicpillow could be better as well as the maximum volume limitation of 60 dB. This volume is acceptable in a silent environment, but in a noisier environment, there is a need of higher volume. Another aspect of the equipment is the user friendliness. However, more innovations from the industry to handle these requirements; hygiene, quality of sound, volume, user-friendliness etc., are needed and here should the industry, music researchers and the Health Care staff work together.

MusicFrame® http://www.maysound.com/Index_dk_maysound.html

Wellness Musicpillow ® (http://www.sleep-well-ness.dk/.)

Clinical recommendations / Adults:

- Genre; Instrumental, the listeners own choice / preference
- Tempo; 60 - 80 beats per minute
- Volume; ≤ 60dB
- Length; 20-60 minutes (45 minute at bedtime)
- Dose; 1-2 times per day in14 days or more

Musical hints:

- Beyond the Missouri Sky. Charlie Haden & Pat Meheney. Polydor (Jazz)
- Only my mind, Johan Stengård. Saga Records of Sweden (Light Jazz/pop)
- Sentimental journey, Nils Landgren. The ACT Company (Jazz)
- Lyden av lys, Anders Rogg, Kirkelig Kulturverksted (Jazz)
- Pure Moods. Virgin Records AB (Light pop/rock)
- MusiCure 1-9, Niels Eje. Gefion Records (Special design music)
- Garden of gods. Deuter och Anette Cantor. THETA förlag (New age)
- Musik för inre harmoni. (*Music for inner harmony*) THETA förlag (New age)
- Panflöjtens drömmande toner. (*Dreamy tones of the syrinx*) Doru Apreotesei. THETA förlag (New age)
- Golden Harmony. Kasa-Lord (New age)
- Grieg for meditation. Naxos (Classic)
- Clair de Lune, Classical favourites for relaxing and dreaming. Naxos (Classic)
- Lugna blå timmar. Naxos (Classic)

- Hälsans toner 1 och 2, musik för välbefinnande, *(Tune of Health*). Nyckelfonden, Örebro University Hospital, Sweden (Classic)
- Musik och Hälsan III *(Music and Health)* (Classic)
    I. Läkande; musik för kropp och själ *(Healing; music for body and soul)*
    II. Stimulerande; musik för kropp och själ *(Stimulating; music for body and soul)*
    III. Välbefinnande; musik för kropp och själ *(Well-being; music for body and soul)*

Clinical recommendations / Children < 1 year:

- Genre; lullabies, female or children voice accompanied by one instrument
- Volume; < 70 dB
- Rhythm; Soft and constant
- Length; Max 1 1/2 hour

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