

Summary of project Ataraxia.

By Karin Schou

Music therapist, MA, teacher

Background

In 1997, a group of music therapy students at Aalborg University (AAU) investigated the effects of music on body and mind in traditional medicine and in an alternative treatment, in a music psychology project entitled “the Healing Power of Music”. The project included interviews with Dr. Lars Heslet, a specialist at *Rigshospital*, Copenhagen, and composer Niels Eje, who initiated a music environment project involving intensive care patients.

On the basis of this project, and for practical (geographical) reasons, Aalborg Hospital (North) and the group of music therapy students began working together. In 1999, this cooperation resulted in the project, *Ataraxia – between music and medicine*, a project report about scientific theory. Ataraxia was a two-part project:

The first part was a pilot project (described in the project report just mentioned), which had the aim of investigating how a mixed group of individuals from the humanities and scientific disciplines could work together. The project also involved the specific design and implementation of a patient and staff trial relating to the sound environment, employing both qualitative and quantitative methods.

This pilot project was viewed as quality assurance and was approved by the hospital’s ethical committee.

The second part of the Ataraxia project involved a continuation of the trial relating to the sound environment in the recovery ward of Aalborg Hospital North, using the same design, until the number of participants had exceeded 100 and the collected data thus showed statistical significance (total number of patients: 200).

In 2000, the project was extended to Western Denmark and involved post-operative wards at Skejby Hospital, Odense University Hospital (VITA and COPA) and Aalborg Hospital (South and North), and was continued under the name *Musica Humana*. The original design was retained in principle in the ongoing trials, but with adaptations to suit the specific goals and subjects of the projects.

What follows is a brief description of the historical context for treatment using music and medicine.

Music and medicine from a historical perspective

The use of music in treating illness has been known among indigenous peoples for millennia, for example, in the healing work of the medicine man or shaman. In China and India and in Western culture, the use of music together with medicine has been known since antiquity. Greek and Indian culture had a god for medicine and music.

In 500 BC, the Greek philosopher and religious teacher, Pythagoras, founded a religious philosophy and political society based on, among other things, the central idea that music has the power (along with mathematics) to create mental harmony and health. The relaxing, soothing and stimulating effects of music were already recognised at that time.

The perception of body and soul as closely bound together in a unity continued throughout the fourth and third centuries BC.

During the Middle Ages, the influence of the church led to this holistic view being pushed into the background. However, medieval medical students had to master music as an admission requirement to medical studies at the universities.

Descartes introduced the dualistic perception that body and soul are two independent and separate entities. According to Descartes, the role of music is to gratify and move people emotionally, not to be directly involved in treating illness.

Towards the end of the 18th century, science displaced music as a natural healing remedy, and the perception that music could be measured out like medicine became dominant. In the beginning of the 20th century, a few researchers (in the USA) found evidence that soothing music reduces the flow of blood to the brain, and lively music increases it. They also demonstrated that music prior to an operation reduced a patient's need for pain-relieving medication, and their anxiety (Myskja, 2000). These findings did not influence medical environments. It was not until after the Second World War that music and pain relief were reinitiated.

During the last few decades, there have been big developments in this area, with German and Norwegian music therapists and doctors, among others, researching into the effects of music on the brain.

The roots of Ataraxia are founded in this historical context, so to speak.

I find it thought-provoking that music and medicine have worked together so closely in so many periods of history, and that we in our time continue to find ourselves searching for new and better ways to improve and integrate music into medical treatment.

Goal of the Ataraxia trial

The goal of the trial was to work out how a designed sound environment in a recovery ward effects and is experienced by patients and staff. The trial was designed by three music therapy students: Astrid Faaborg Jacobsen, Pernille Holland and myself, with guidance from course advisor Lars Ole Bonde, and Dr. Per Thorgaard.

Definition of central concepts

Project Ataraxia is classified within the field of music and medicine (or music medicine), the first level of music therapy, where music supplements the medical treatment. This area is outside music therapy as actual psychotherapy, as one of the three required components – patient, music therapist and music – is not present (the music therapist). The nursing staff were responsible for the way the music was used.

A designed sound environment means that all sounds in the recovery wards were considered in the total sound picture, that all unnecessary sounds were reduced as far as possible, and that specially composed music was played in the wards.

Trial design

Choice of music

The designed sound environment in project Ataraxia consisted of specially composed music (MusiCure) by Niels Eje. Ataraxia was completed using 7 (out of a planned 13) CD's featuring compositions by Niels Eje, mixed with excerpts of classical music and expanses of natural sounds. Eje's compositions included a classical selection of instruments, the oboe, harp and cello, supplemented by a synthesizer. At

the end of the pilot project, the complete set of 13 CD's was ready and was used in the continuing, follow-up trial¹.

Two control groups were chosen: a) a second sound category, which consisted of a selection of light classical compositions, and b) no music (ie. the recovery ward's basic sound environment).

Our reason for setting up not just one, but two control groups, was that we wanted to investigate whether music makes a difference – and whether it was significant which of the two types of music was played, and if the specially composed music (Eje) would have a more positive effect, ie. be better suited than other music chosen for the purpose.

We found Eje's music to be very beautiful and comfortable to listen to, and we described it as follows²:

“It is dynamic and covers a wide range in tone, sound and register. It is melodic, predominantly legato, and has a calm pulse. Words like “round, soft, comfortable, and beautiful” describe it well. There are no abrupt changes in dynamic, sound, rhythm or pulse. The instrument selection is classical: harp, cello and oboe, supplemented with a synthesizer.”

The classical music³ in one control group was chosen based on the criteria that it had to be easily accessible, well known, melodic, instrumental (not vocal), with a calm pulse and not too much dynamic variation. We chose a mixture of programme music and lighter/popular classical music based on our own knowledge and experience of listening to it. The three sound categories (Eje, classical, and no music) were rotated according to a fixed weekly plan. The specially composed music (sound category 1) was played on two days (at the beginning and end of the week), sound category 2 (selected classical music) was played on one day in the middle of the week, and the two other days were music free (sound category 3).

Methods

The design of the pilot project involved one quantitative and two qualitative methods for investigating patient experiences and the effects of the music. The quantitative method consisted of a structured patient questionnaire based on VAS scores (registration of pain, nausea, anxiety and stress) and marking using smileys. The patient's experience of the recovery period was also registered using a structured questionnaire in which the patients marked (on a scale of 1-10) their degree of discomfort or comfort in the areas in question.

The quantitative methods involved an open, written interview in connection with the questionnaire, and an oral, semi-structured interview.

The quantitative and qualitative methods supplement each other, since the quantitative method was able to identify/measure the patients' anxiety, stress, pain and level of nausea, while the qualitative method identified the patients' subjective experience of their stay in the recovery ward.

¹ The music has since been changed, and now consists exclusively of Eje's compositions for the above instruments and natural sound recordings.

² Quote: Andersen, Holland & Jacobsen (1999)

³ (Dvorak "New World", Kaare Norge, Smetana "My Country", Nielsen "Quintet for flute, oboe, clarinet, horn, bassoon", Beethoven "Symphony no. 6 –Pastorale" and "Concert no. 1 and 2 for piano and orchestra".

Participants

The pilot project involved women in the age 18 - 50.

Results

Data collection for the Ataraxia pilot project took place in March – April 1999. N=37, divided between 17 in sound category 1 (Eje), 5 in sound category 2 (classical music) and 15 in sound category 3 (music free). The number of participants was thus not sufficient for the collected data to be able to show statistical significance.

In the qualitative investigation, patients expressed only positive comments about sound category 1 (Eje). The patients described the music as “calming”, “very relaxing”, “providing a cosy atmosphere”, and “a lovely, soothing experience”.

Comments from participants in sound category 2 were more varied, ranging from very positive to very negative.

With regard to personnel, only 9 participated and answered one questionnaire. All of these spoke positively about sound category 1, which they felt reduced stress, and negatively about sound category 2, which they felt was stressful.

In general, sound category 1, involving specially composed music, received positive feedback from patients and staff.

In the music free category 3, participants focused more on the significance of the personnel for their experience of their stay in the recovery ward.

Conclusion

Ataraxia – between Music and Medicine, showed that it was possible for a mixed group of individuals from the humanities and scientific disciplines to work together, and to benefit in the trial from the way quantitative and qualitative methods can supplement each other. In the pilot project, the data pool was too small to have statistical significance and demonstrate clear trends, while the qualitative methods demonstrated that both patients and staff expressed satisfaction with the designed sound environment, which included the specially composed music.

The subsequent trials involving a further 160 patients clearly reflect consistency with the results obtained from the pilot project. The trial design has therefore been demonstrated to be ‘sustainable’ and still provides a foundation for the ongoing current projects within Musica Humanas.

References

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