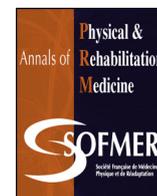




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## Letter to the editor

### Give music therapy a chance in post-stroke rehabilitation



#### ARTICLE INFO

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#### Dear editor

Music therapy enhances the awareness of sound perception and musical sensorial experience that is often highly impaired after a stroke [1,2]. Researching music in the field of stroke rehabilitation [3] is now encouraged [4] and is becoming a field of increasing interest [5].

This study aimed to investigate how patients and caregivers experience music therapy when it is included in routine stroke rehabilitation. The study was performed in accordance with the Declaration of Helsinki, among inpatients in a physical and rehabilitation medicine (PRM) department, with a multidisciplinary team. It was not approved by an ethics committee because it concerns ancillary current care, with no risk of any adverse effect. The study was registered with the Commission Nationale de l'Informatique et des Libertés (CNIL), and patients gave their written informed consent before inclusion.

Music therapy sessions were included in usual routine care in the department from October 2015 to April 2016. Each patient received 40 min individual sessions of music therapy, twice a week, for at the most 2 months. Music therapy sessions consisted of several activities. The first was listening to recorded music, which was used to facilitate memories, associations and feelings related to the music heard (valence  $\pm$  of emotion felt and arousal). Beyond words associated with music and thought flexibility, conversation was shared with the music therapist, which allows for better self-awareness of one's own emotions and may help to regulate them [6]. Music therapy sessions also included practicing improvisation with an instrument (synthesizer, balafon, metallophone, drum, claves, theremin etc.). With the help of the music therapist, rhythmic, melodic, and harmonic characteristics of music were worked on to enlarge sound perception and practice, with the voice and/or instruments. Practicing improvisation required active involvement together with joint attention. Rhythmic synchronisation and combinations of pitches then formed the basis of the therapy.

The perceptions of caregivers and patients were analysed by using questionnaires specifically designed for the study. Caregivers were surveyed about their perceptions on the impact of music

therapy by answering a short questionnaire of 15 questions asking about their general feelings about music therapy in stroke rehabilitation, the feasibility of implementing music therapy in stroke rehabilitation and the possible improvement observed in patients. Six possible answers were proposed for each question: not at all; not quite; not a lot; yes, a little; yes, reasonably; yes, a lot. Each answer was scored one point, with one answer per question. Patients were asked about how they felt after each session and were invited to complete a small survey card after each session. They could choose at most 3 words among 5 adjectives and their antonyms about how they felt: relaxed/tense, quiet/anxious, alert/slowed, rested/tired, light/heavy. Each word chosen was scored one point. Then they had to indicate whether this sensation was weak ("a little") or strong ("a lot"). They were also asked: What does music therapy bring to you? Caregiver questionnaires and patient surveys were analysed by the first author and analysis was overseen by the corresponding author.

Caregiver scores for each question are presented in Tables 1 and 2. Two-thirds of the caregivers ( $n=31$ ) returned the questionnaire. They were nurses ( $n=6$ ) and care assistants ( $n=8$ ); physical ( $n=2$ ), speech ( $n=3$ ) and occupational ( $n=4$ ) therapists; a dietician ( $n=1$ ); and physicians ( $n=7$ ). Because the questionnaire was freely completed, not everybody answered all questions. The feasibility of music therapy was considered good for 90%: sessions were simple to implement (81%), easily integrated into the course of the day (90%) and did not disrupt the functioning of the department (97%). Feelings about music therapy were excellent: all caregivers believed that the therapy may improve practices in stroke rehabilitation and be helpful to the patient. Regarding improvements in patients, observations were from nurses and care assistants, who are closer to patients in everyday hospital life, and from ergotherapists. Overall, 53% of the caregivers noted positive improvement, especially in mood (80%), motivation (74%), self-esteem (67%), oral expression (56%), and behavior (53%) and less in sleep and pain (33% and 36%) and appetite (20%).

Eleven voluntary patients (characteristics are in the appendix) followed the program and completed 69 survey cards over 118 sessions. All said they had benefited from music therapy. To describe their feelings after a music therapy session, they often first chose the word "relaxed" (43 times). "Quiet" was used 37 times, "alert" 30 times, "rested" 24 times, and "light" 22 times. All patients reported a consistent choice of adjectives describing their physical and psychological perceptions, except one who declared feeling "anxious", "slowed", "tired" and "heavy" but "relaxed". For each selected word, patients were asked to specify how they felt, in terms of weak ("a little") or strong ("a lot") feelings. Most perceptions were strongly felt: 113 strong positive feelings and 47 weak positive/negative feelings.

Furthermore, with the open question What does music therapy bring to you?, we observed 3 types of answers: "something else in

**Table 1**  
Caregiver's point of view (31 participants): Feasibility and perceptions about music therapy.

Do you think music therapy:	Not at all	Not quite	Not a lot	Yes, a little	Yes, reasonably	Yes, a lot	Total no. of replies	Positive replies (%)
Is simple to implement?	2	2	1	1	19	1	26	81
Is easy to integrate?	0	2	1	5	16	7	31	90
Does not disrupt the course of the day?	0	0	1	3	7	20	31	97
Feasibility of music therapy	2	4	3	9	42	28	88	90
Do you think music therapy:								
May improve practice in PRM?	0	0	0	6	14	11	31	100
May be helpful for patients?	0	0	0	0	21	10	31	100
Feelings about music therapy	0	0	0	6	35	21	62	100

PRM : physical and rehabilitation medicine.

**Table 2**  
Caregiver's point of view (20 participants): Improvement in patients noted.

Did you notice patient improvements in:	Not at all	Not quite	Not a lot	Yes, a little	Yes, reasonably	Yes, a lot	Total No. of replies	Positive replies (%)
Mood?	0	0	4	9	7	0	20	80
Motivation?	0	0	5	6	8	0	19	74
Self-esteem?	0	0	6	7	5	0	18	67
Oral expression?	0	1	6	6	3	0	16	56
Behavior?	0	1	7	8	1	0	17	53
Relationship?	0	0	8	5	2	0	15	47
Attention?	0	0	8	4	2	0	14	43
Pain?	0	1	8	4	1	0	14	36
Sleep?	0	0	10	1	4	0	15	33
Appetite?	0	0	12	0	3	0	15	20
Improvement in patients	0	3	74	50	36	0	163	53

the hospital care experience”, “music discovery, hearing and expressing, playing”, and “a kind of creativity with improvisation”.

The feasibility of music therapy care in a PRM department deserves much thought because this is a very new kind of therapy implying organizational changes. Yet, the reaction of the caregiver team was excellent, as confirmed by the consistency of their viewpoints. Furthermore, the team had the feeling of a positive effect on improvement. Patient compliance was also excellent. Patients were mainly interested in focusing and expressing their own feelings with music [7,8]. Although we included only a few patients, our study was a positive experience that led to conclude on the feasibility of music therapy in a PRM department for post-stroke inpatients. Finally, this study suggests that music may have a place in the functional recovery post-stroke care protocol and emotional functions within PRM during the sub-acute stroke period, which in our opinion deserves to be studied.

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### Disclosure of interest

The authors declare that they have no competing interest.

### Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at <https://doi.org/10.1016/j.rehab.2018.01.004>.

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