Art therapy and social function in palliative care patients: a mixed-method pilot study

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ABSTRACT

Objectives To evaluate the influence of art therapy in reducing palliative symptoms, on social availability and on perceptions of aesthetics in hospitalised palliative care patients. The secondary objective was to evaluate its influence on bereaved families.

Methods A mixed-method quasi-experimental before and after study comprising a follow-up postal survey of bereaved families. All patients who were keen to have art therapy sessions were eligible. We used patient-reported outcome scales 5 min before and after the session. The Edmonton Symptom Assessment Scale has been used for pain, anxiety, well-being, fatigue and depression. Ten-point visual analogue scales were used for social availability, lack of desire and wishes, and perceptions of aesthetics based on the Beautiful–Well–Good model. A postal survey was sent to bereaved families. Correlations and data mining analyses were performed.

Results In all, 24 patients were recruited for a total of 53 art therapy sessions analysed. Seven families completed the survey. Art therapy significantly reduced the assessed symptoms and overall symptom distress by 54.4% ($p < 0.001$, $d = 1.08$). It also decreased the feeling of social unavailability (–59%, $d = 0.67$) and the lack of desire and wishes (–60%, $d = 0.86$). The analysis of the family questionnaires indicates the positive effects regarding support, artwork and feelings during illness and grief.

Conclusion Our results suggest an overall improvement in the symptoms experienced and social functioning of palliative patients. Based on our findings, we propose a model for the potential mechanism of action of art therapy.

INTRODUCTION

In palliative-cancer conditions, cancer-related symptoms are part of total pain which might lead to withdrawal and social isolation. As a result of psycho-social distress, maintaining previous relations which existed before the disease is often a hard task.[1]

Lately, the number of patients using complementary therapies alongside cancer care to improve their quality of life has increased.[2 3]

Art therapy is one of these therapies. It can be defined as 'the exploitation of the artistic potential of a person with a humanitarian and therapeutic goal'.[4] Art therapy process considers the patient's characteristics as well as the physical and psychological dimensions of their distress.

During art therapy sessions, three dimensions of aesthetic feeling can contribute to the effect of art therapy: The 'Good'—which is associated with the pleasure the patient experiences during the activity, the 'Well'—corresponding to the technical satisfaction with the artistic creation and the 'Beautiful'—associated with the aesthetic satisfaction achieved when carrying out the work.[4]

It has been advocated as one of the reasons why this type of therapy has been employed with greater frequency over the past two decades .[5 6] Additionally, art therapy can help to reduce several symptoms,[7–9] to improve well-being[10–15] and quality of life.[16 17] A literature review previously highlighted that positive affective states and significant social relationships are important contributing factors to cope with pain.[18] Art therapy leaves a lasting memento, which could have an impact on affective states and social relationships.

The aim of this study was to assess the influence of art therapy on the patient's social availability, relationships, experience of disturbing symptoms and perception of the three aspects of aesthetics following the model of Beautiful–Good–Well (BGW).[4]

Additionally, the study aimed to assess the influence of art therapy on bereaved family members.

METHODS

Design

We performed a mixed-method pilot study to assess the benefits of art therapy for inpatients in a French Palliative Care Unit (PCU).

The study protocol has been approved by the institutional ethics committee of the Hospices Civils de Lyon.

Procedure

Patients were consecutively recruited in a French tertiary hospital PCU over a period of 30 months. The inclusion criteria were as follows: advanced cancer diagnosis, ability to communicate in French, ability to attend a 1-hour art therapy session and ability to complete the patient-reported outcome scales.

Families were contacted by mail 1 month after the death with a postal-survey adapted for bereaved people. The survey had open questions to assess the effectiveness of art therapy for the patient and their family.

The intervention in art therapy

Art therapy sessions are routinely proposed in the setting where the study took place.

Participants attended at least one session of art therapy performed by a certificated art therapist. A few days before each session, all patients were invited to express their tastes in art and their expectations for producing a piece of art. To choose the technique and topic, the art therapist relied on the patient's tastes as well as their physical abilities. It was considered that by allowing patients a choice they would be more committed to an activity that was meaningful to them. Several techniques were used: painting, drawing, photography, modelling and sculpture. The sessions took place either in the patient's room or in the art workshop located close to the PCU, depending on the patient's wishes and physical abilities. Participants could be assisted by family members if they wished. The art therapy sessions mainly focused on orientating the patient towards a positive affective state. To do so, the practitioner suggests the patient to focus on pleasant topics, at first, by choosing a subject that makes sense to them and that they associate with positive life events or pleasant emotions. The number of sessions was depended on the project and the length of stay in the PCU.

Measurement

Assessment of distressing symptoms was performed using a modified Edmonton Symptom Assessment Scale (ESAS).[19] For the purpose of this study, we excluded the assessment of symptoms that had already been shown not to be conducive to art therapy: emesis, drowsiness, lack of appetite and breathlessness. The overall symptom-related distress had been assessed using the sum of the seven previously rated subscales. Participants were asked to complete this modified ESAS 5 min before and 5 min after the session (online supplementary file 2).

Assessment of social availability and desires

We used 10-point visual analogue scales to assess the level of social availability and the lack of desires and wishes. The assessments were performed 5 min before and 5 min after the session. For social availability, 0 corresponded to 'fully available for a social relationship' and 10 to 'unavailable for a social relationship'. For the lack of desire and wishes, 0 corresponded to 'maximal desire and wishes' and 10 to 'no desire or wish'.

Assessment of the aspects of aesthetics

We used 10-point visual analogue scales to assess the aspects of the Good, the Well and the Beautiful. For the assessment of the Good, 0 corresponded to 'a lot a pleasure' and 10 to 'no pleasure at all'; for the Well, 0 corresponded to 'Very well achieved' and 10 to 'Not well achieved', and for the Beautiful, 0 corresponded to 'Really pleased me' and 10 to 'Did not please me at all'.

The family survey

Only family members of participants who attended two or more sessions were surveyed. The survey has four sections with 16 items assessed using numeric rating scales ranging from 0 ('I do not agree at all') to 10 ('I completely agree'). Five scales assessed the family assessment of the influence that art therapy could have had on their loved one, five scales assessed the family feelings and five assessed the piece of art itself. The last item assessed the overall family satisfaction with art therapy. An open question was located at the end of the survey to explore how art therapy might have influenced the patient and family experience (online supplementary file 1). The survey has been developed by the scientific committee of the study, composed of experienced palliative care providers. We took an extra step to adapt the study to bereaved persons (online supplementary file 1).

Statistics

Statistics were performed using R 2019 for Mac.[20]

To overpass data distribution hypothesis, we performed non-parametric tests. We used Wilcoxon's test for paired samples to compare variables before and after the intervention. Friedman's test was used to study the aspects of aesthetics. Links between variables were studied using the Spearman's non-parametric partial correlation. Analysis in network was performed using qgraph for R.

The analysis of the qualitative dataset extracted from the blank question was performed using sentence-level

sentiment analysis through data mining.[21] To do so, we used the package 'sentimentr' for R. The software scores each sentence, a positive score will reflect an overall positive sentiment in the sentence. Contrary to that, a negative score will reflect an overall negative sentiment in the sentence. This score is calculated by taking a count of the sentence structure, negations, evaluative terms and the value of each word in the sentence (a positive value for terms positively connotated, a negative value for negatively associated terms).

Salient, representatively polarised and meaningful verbatim was used to illustrate the findings.

Analysis was considered statistically significant for an alpha threshold of 0.05.

RESULTS

In all, 24 patients were recruited, corresponding to a total of 53 art therapy sessions. Four patients were excluded from analysis due to the incompleteness of data and 51 art therapy sessions were assessed.

During the study period, 35% of patients who were offered art therapy sessions declined. Every patient who accepted also accepted to take part in the study. Only their family members were surveyed and the family participation rate was 32% (7 on 22).

Sample characteristics

Among 20 participants analysed, 14 were women (80%) with a median age of 57.9 years (SD=11.5). Primary neoplasms localisations were mostly gastrointestinal cancers (25%), followed by breast cancers (15%), blood cancers (15%), melanomas (15%), head and neck cancers (10%), urological cancers (10%) and 10% were other types of neoplasms.

The mean length of art therapy sessions was 97 min (SD=36).

Participants benefited from one to nine sessions (mean=3.7).

Symptom reduction, social availability and desires

Art therapy significantly reduced the five assessed symptoms: pain improved from a median of 2 to a median of 1.3 ($p<0.001$), anxiety from 2.65 to 0.75 ($p<0.001$), well-being from 2.9 to 0.65 ($p<0.001$), tiredness from 4.1 to 1.95 ($p<0.001$) and depression from 2.7 to 0.6 ($p<0.001$). Overall, symptom-related distress decreased by 54.4% (from a median of 22.35 to a median of 7.26, $p<0.001$) with a large effect size (Cohen's $d=1.08$) (figure 1). Moreover, partial correlations were significant only between depression and anxiety, anxiety and pain, pain and ill-being, ill-being and lack of desire and wishes, and relational unavailability and lack of desire and wishes (figure 2).

Art therapy sessions significantly reduced pain (−42%, $d=0.59$), anxiety (−62%, $d=0.92$), depression (−62%, $d=0.89$), tiredness (−43%, $d=0.66$) and ill being (−63%, $d=0.98$).

It also decreased the feeling of social unavailability (−59%, $d=0.67$) and decreased the lack of desire and wishes (−60%, $d=0.86$).

Aspects of aesthetics

Art therapy sessions reveal a differentiated perception of all three aspects of aesthetics ($p<0.005$). On average, the Good (mean rating=9.2, SD=1.2) was higher than the Beautiful (mean rating=8.6, SD=1.4, $p=0.025$) and the Well (mean rating=8, SD=1.9, $p=0.001$). The Beautiful and the Well are statistically undifferentiated ($p=0.15$). An analysis using partial correlations showed a significant correlation between Good and Beautiful ($r_s=0.69$, $p<0.001$) and between Beautiful and Well ($r_s=0.78$, $p<0.001$). There was no significant partial correlation between the Good and the Well.

Additionally, the three aspects of aesthetics had the highest correlation levels for social unavailability ($r_s=-0.41$, $p<0.01$ for the Good, $r_s=-0.50$,

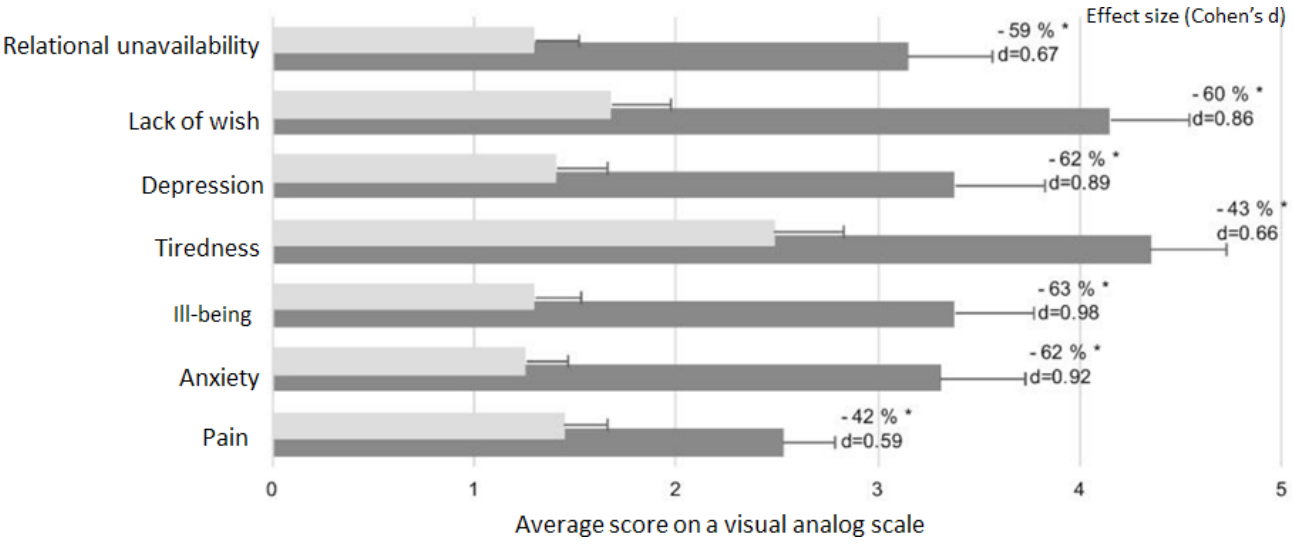

Figure 1 Plot diagram of the influence of art therapy on the assessment of symptoms and social availability and desires.

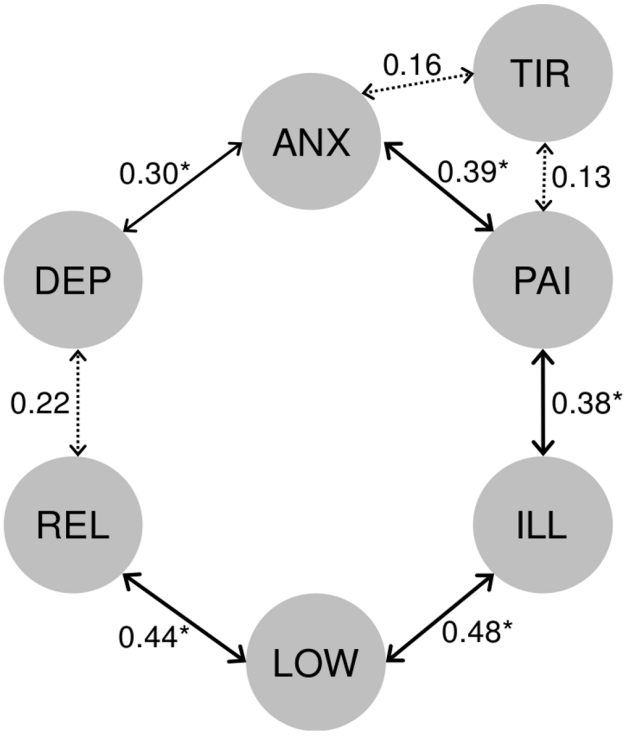

Figure 2 Partial correlation network of symptoms ANX, anxiety; DEP, depression; ILL, Ill-being; LOW, lack of desire and wish' PAI, pain; REL, relational unavailability; TIR, tiredness. The numbers indicate the partial correlation coefficients of spearman. *P value<0.05

$p<0.001$ for the Well and $r_s=-0.51$, $p<0.001$ for the Beautiful).

Family survey

In all, 22 families were invited to take part (two were excluded as their relatives received only one art therapy session). We collected seven completed surveys. The overall family satisfaction with art therapy was 9.5/10. The family members mainly recognised how the artwork might reflect or trigger positive emotions. However, they did not consider that the artwork participates in mourning (figure 3).

The sentence-level sentiment analysis highlighted a mean scoring of +0.16. Sixty-nine per cent of sentences was considered as positively polarised, 10% was neutral and 21% was negatively polarised.

Many families considered that art therapy anchored the patient in life.

> [It was] a recognition of his status as a living being
> Creating is a life proposition and not a death one

This anchoring in life was led by the fact that art therapy pushed the patient in a positive process.

> According to me, he participated in his last happy times
> The happiness of seeing the ill person being able to plan and to commit himself

Families also acknowledge the piece of art as being a testimony of love from the deceased and a memento of the shared happy times.

> His last piece of art will always remain with us
> We love to look at our daughter's piece of art, it is linked to her pleasure and enthusiasm
> His piece of art is a love message, a last message. It is wonderful and very explicit… It's a remaining link between him and me
> My husband's piece of art is part of my bereavement, it has been offered to me: it is his posthumous gift

DISCUSSION

Our study aimed to assess the effectiveness of art therapy in alleviating several distressing symptoms, in

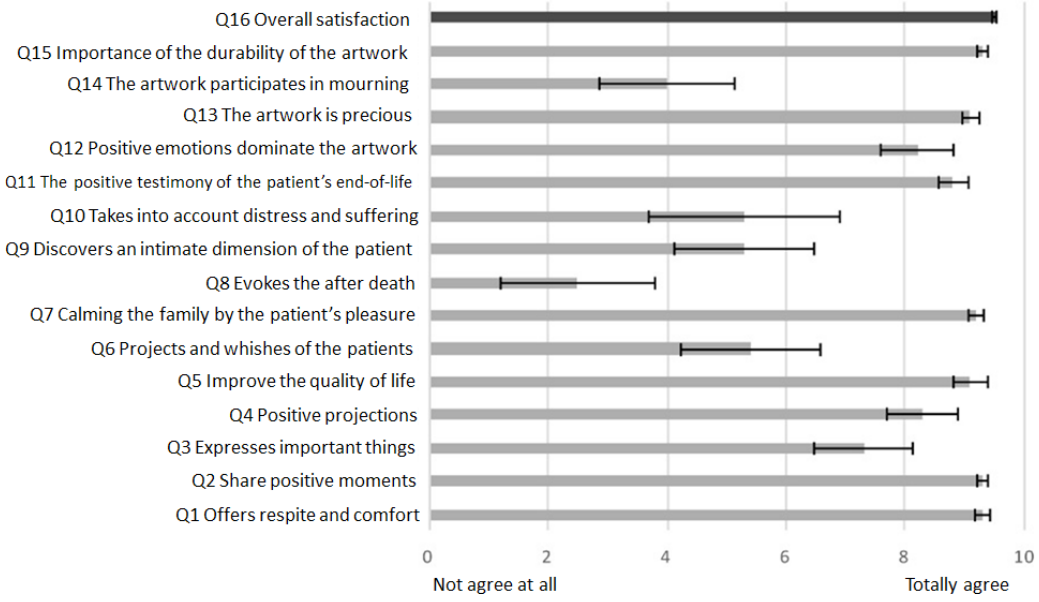

Figure 3 Plot diagram of the family satisfaction with art therapy.

improving social availability and the perception of the aesthetics aspects in hospitalised patients in a PCU.

Consistent with previous studies,[4 7] our study highlighted that art therapy sessions contribute to the mitigation of several distressing symptoms in palliative care patients. The size effect indicated that three-quarters of the positive effect might be related to other factors.[22] We hypothesise that individual and environmental factors might have influenced the intervention's outcome.

Art therapy has previously been shown to improve the quality of life of cancer patients.[16 17] As the quality of life is strongly related to the ability of an individual to satisfy its needs,[23] art therapy might be a way to partially improve it. Indeed, the Good helps to satisfy the need for social relationship through esthesis. The Well helps to satisfy the need for agency and helps to take control over the situation. The Beautiful satisfies the essential need for making sense. It is surprising to realise how these three aspects of aesthetics mirror the three categories of needs: communion, agency and meaning.[24] This supports the use of the BGW model to partially explain the factors that influence the quality of life.

Following these results, we assume that art, as a personal and holistic experience relying on emotions, perceptions and cognition,[25 26] might partially improve the quality of life of palliative care patients.

A potential mechanism of action?

The partial correlation network obtained from the self-evaluation data reveals bidirectional links (interactions not oriented in time) between the studied variables. This suggests a potential mechanism of action for the dynamics of mitigating the disruptive symptoms in palliative care (figure 4). Considering these results, first, we hypothesise that anxiety is the first and the main symptom affected by art therapy. Second, we must assume that the preferred orientation of reductions in symptoms over time takes place in

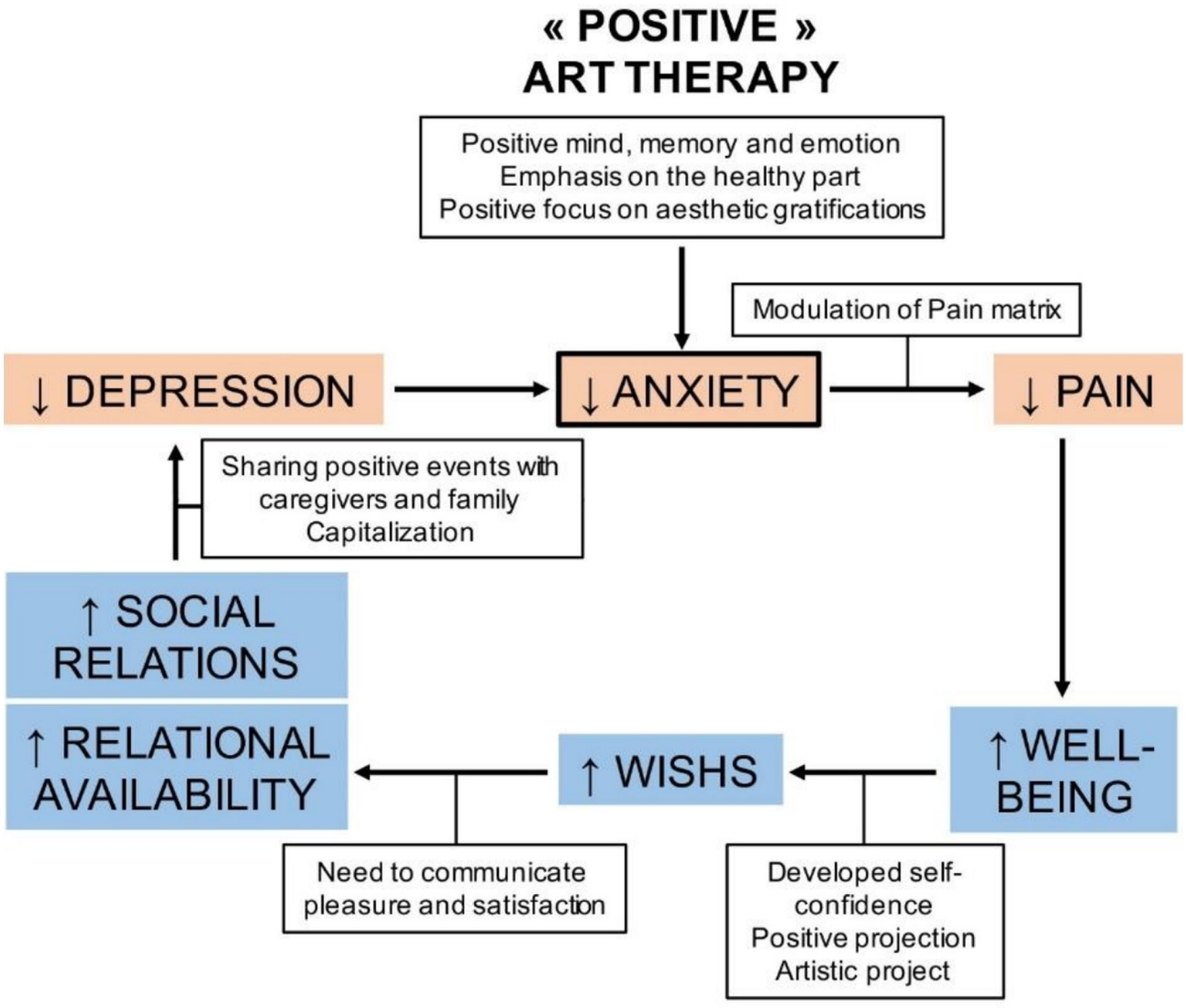

Figure 4 Potential suggested mechanism of art therapy.

the direction pain—anxiety, not in the sense anxiety—pain. It suggests that art therapy only indirectly mitigate pain by mitigating anxiety which second will mitigate pain.

Anxiety, a key symptom to address using art therapy

Art therapy facilitates positive effects through a cognitive state close to hypnosis. Indeed, this cognitive state is due to a change in symptomatic perceptions, relegates at the border of consciousness, which are pushed to the edge of consciousness, to focalise on esthetical and artistic perceptions. Mitigation of anxiety might be its first effect, explaining that in our results anxiety was a key symptom, at the centre of the correlation and partial correlation network of the five symptoms. Biochemical analysis of salivary cortisol levels during art therapy supports this hypothesis because art therapy rapidly decreases the level of salivary cortisol.[27] Moreover, these cognitive states have been shown to decrease the anxiety level in patients with cancer.[28]

Moreover, anxiety is usually a burning symptom in cancer and has the potential to increase the experience of pain through enhancing negative cognitions. The influence of art therapy on pain is likely due to an alleviation of anxiety replaced by positive effects which affect the affective and emotional components of pain.[29–31]

Fatigue as indicator for a psychological mechanism

Surprisingly, tiredness was improved by art therapy. Considering that fatigability of palliative care patients is high and the relatively long length of sessions, this finding was questionable. To explore it more deeply, we performed an additional analysis that did not reveal any correlation between the length of sessions and an increase in fatigue. This might be explained by a major physiological component in the experience of tiredness,[28] which mediates the effect of art therapy on fatigue.

The experience of the aspects of aesthetics

In our study, the Beautiful and the Good were linked to each other, but were not similar in the patient's opinion.[32] This can be compared with the paradox of appreciating sad music.[33 34] In this paradox, the Good, as a concept of aesthetic emotion, is part of the emotional field, contrary to the Beautiful (the judgement on aesthetics) and the Well (the judgement on the quality of the piece of art), which are issued from the cognitive field. This difference explains the mismatch between the experience of the Beautiful and the Good. Moreover, it is easily explained by the fact that our participants were mostly inexperienced in art and therefore highly rated the level of experienced emotion.

In this palliative context, feeling better following a decrease in experienced symptoms might trigger the ability to wanting to plan for the future. In fact, when the patient plans and commits himself to a piece of creative work it can trigger desires. For example, the desire of offering this piece of work to a relative or of achieving it. These desires might also help the patient to make sense in its life.

This improvement in ability to feel desire and to have wishes is illustrated by the fact that patients immediately feel the need to share their experience with their family and the healthcare professionals.[35] It underlines the positive effect of art on social relationship.[18]

The impact of art therapy on social functioning

Art therapy enhances the patient's availability for social relationship. This effect might be linked to a parenthesis in the trajectory of the disease, where the patient can push away the negative aspects of his condition to focus himself on its current positive cognitions. In this process, the patient can capitalise on the positive events and emotions.[36 37] We assume that this process of shift in the focus might also enhance the patient's self-esteem and self-image.

Additionally, this capitalisation in positive cognitions might also influence the availability to social relationship. Our results support this statement: the highest correlation between the three aspects of aesthetics has been found for social availability. This finding means that an increase in aesthetic satisfaction increases the patient's availability for social relationships. Moreover, qualitative data from the patient's next of kin support this argument and the fact that art therapy sessions can build bridges to enhance communication between the patient and his family members.

Interestingly, art therapy also has benefits for the patient's family. It builds happy memories of the patient, of their relationship and it creates a lasting thread.

This might support the importance of art therapy in palliative care as its positive approach makes sense for the patient and his family members.[38]

Limitations

Our study suffers several limitations. The main limitations are the relatively small sample size and the lack of control, they limit the transferability and generalisation of our results. However, the statistical significance of our results and the size effect are highly encouraging.

During the selection process, only patients who were believed to have the physical capacities to take part in art sessions were recruited. Additionally, our study has probably been biassed by a sampling unconsciously targeted on patients who were expected to agree to take part in the study. Both might have participated in a selection bias, limiting the extrapolation of our results to the overall palliative care population.

Additionally, a measurement bias might have occurred secondary to the use of a modified ESAS. Indeed, the use of selected symptoms expected to be

responsive to art therapy might have had modified the internal and external validity of the used tool.

It has been previously suggested that the number of art therapy sessions does not modify the direct outcomes.[7] However, no information is available on the long-lasting effects of art therapy and it might be influenced by the number of sessions.

Finally, our PCU is a tertiary hospital unit that only handles very complex situations where patients have a high symptom burden. This might have explained the large improvement and might not reflect the average situation in oncology.

CONCLUSION

Our results suggest an overall improvement in the experience of symptoms and in the social functioning of palliative care patients when receiving art therapy sessions. Therefore, we assume there might be a positive effect of art therapy on the quality of life in palliative in-hospitalised patients.

These findings have allowed us to propose a model for the potential mechanism of action of art therapy. This model should inform further studies on how and why art therapy influences the quality of life of palliative care patients.

Contributors CL: designed the study, provided the art therapy sessions, reviewed the manuscript. GE: analysed the data, drafted the manuscript. CT: designed the study, collected the data. EP-C: supervised the study and reviewed the manuscript. MF: designed the study, supervised the study, reviewed the manuscript (contributor responsible for the overall content).

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