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Health and Disability

Is there evidence for the use of art therapy in treatment of psychosomatic disorders, eating disorders and crisis? A comparative study of two different systems for evaluation

GÄRD HOLMQVIST^{1,2} and CRISTINA LUNDQVIST PERSSON^{2,3}

¹Department of Psychiatry, Skaraborg Hospital, Skövde, Sweden

²Skaraborg Institute for Research and Development, Skövde, Sweden

³Department of Psychology, Lund University, Sweden

Holmqvist, G. & Lundqvist Persson, C. (2011). Is there evidence for the use of art therapy in treatment of psychosomatic disorders, eating disorders and crisis? A comparative study of two different systems for evaluation. *Scandinavian Journal of Psychology*.

As with any type of treatment the requirement for evidence based practice (EBP) has also affected art therapy (AT) when used as an intervention. This review evaluates the available evidence for using AT for psychosomatic disorders, eating disorders and crisis. The search in Cochrane, Best Practice, AMED, CINAHL, PION, PsycINFO and PubMed from 1987 until now resulted in a huge number of articles but only 32 articles met our criteria for evaluations. The articles were assessed with two evaluation systems, the GRADE system used by the Swedish Council on Health Technology Assessment (SBU) and the US Preventive Services Task Force (USPSTF/Task Force). When comparing the results we found that the GRADE evaluation system rejected the quality in 84% of the 32 studies and the USPSTF/Task Force 41% of these studies. An evidence base for AT was found only according to the criteria of USPSTF/Task Force. Hence, the evidence concept is not explicit, which means that effective treatments run a risk of not being implemented in health care. We suggest a broader view of what constitutes evidence in order to make it possible to include different types of research designs and methods.

Key words: Art therapy (images), psychosomatic disorders, eating disorder, crisis.

G. Holmqvist, Department of Psychiatry, Skaraborgs Sjukhus, Långgatan 18, S-541 30 Skövde, Sweden. Tel: +46 500 47 29 46; fax: +46 500 47 29 19; e-mail: gard.holmqvist@vgregion.se

INTRODUCTION

Art therapy (AT) is the most common term for a therapy where the client's image-building is at the core of the method (Waller & Gilroy, 1992). In the history of AT there are two persons who often are mentioned as key persons, Naumburg (1966) and Kramer (1971). Both built their AT on Freudian theory, but in different ways. Naumburg attempted to stimulate free association to sensitize the unconscious, "art-in-psychotherapy", while Kramer emphasized the healing process in the actual creation and on the capacity for sublimation through artistic expression, "art-as-therapy". Schaverien (2000) looks at AT in a different way. She perceived that there were three different categories of AT that in practice can be difficult to distinguish because they often overlap and interweave with one another. The three categories were art therapy, art psychotherapy and analytical art psychotherapy.

AT has been described and explained by many practitioners, on the basis of several different theories, for example, Jungian analytical therapy, Freudian psychoanalytic theory and object relations theory (Dalley, 1984; Rubin, 2001; Wadson, 2010). The therapy also includes different practices (Rubin, 2001) and Rubin stated the psychodynamic, humanistic, psycho-educational, systemic and integrative approaches. As far as we know there are no reports that a specific form of art therapy should be more suitable for a particular diagnostic category than others.

AT stimulates the client to be active and offers an opportunity to experiment and play with different art materials, for example colored pencils, watercolor and clay (Meijer-Degen & Lansens,

2006). Different art materials have their own specific allures, which can be used consciously in the therapeutic process (Hinz, 2009). Meijer-Degen and Lansens (2006) considered that AT evokes motor and emotional responses and that it is an appeal to use the person's capacity and creativity. Significant for all forms of AT is the projection of the inner world into spontaneous pictures (McMurray & Schwartz-Mirman, 2001; Ulman, 2001). The process of making something visible, for example feelings, thoughts and memories, is described as the nature of AT (Skaife, 2001). The triangulating relationship between client, picture and therapist distinguish the therapy from other verbal psychotherapies (Edwards, 2004; Schaverien, 2000).

As with any type of treatment the requirements for evidence based practice (EBP) have also affected AT, when used as an intervention in different health care settings. That AT is no exception shows the increasing numbers of research method books, discussions in the literature and research articles (Gilroy, 2006; Kapitan, 2010; Maclagan, 1999; Metzl, 2008). The interest in conducting evaluation research has increased (Gilroy & McNeilly, 2000; McMurray & Schwartz-Mirman, 2001; Reynolds, Nabors & Quinlan, 2000) but some art therapists continue to feel ambivalent to research (Kapitan, 2010). Gilroy (2006) stated that randomized control trials (RCTs) do not address how or why an intervention or treatment is effective. She claimed that in both EBP and RCTs the complexity of an individual is reduced to a single variable. There is a difficulty when comparing different research results because the AT studies are often made in different contexts, with different client groups and different research

designs (Eaton, Doherty & Widrick, 2007; Gilroy, 2006; Metzl, 2008). Case studies have been the most common design for describing how AT works (Reynolds *et al.*, 2000) and Edwards (2004) considered that the case study is still the most useful research method, if one wants to understand what is happening in the context of the AT. McNiff (1998) argued that the ultimate design would be a research model in which the partnership between art making and the interpersonal relationship were included. Mixed methods with long-term follow-up studies have been recommended by Wood, Molassiotis & Payne (2011). Thus, nowadays art therapists seem to be more and more positive to a manifold of research designs (Kapitan, 2010; McNiff, 1998).

There are cultural differences in the attitudes to AT as an intervention method in health care (Karkou, Martinsone, Nazarova & Vaverniece, 2010). In comparison with the Scandinavian countries, AT is an established form of treatment in the United States and Great Britain (Borowsky Junge, 1994; Waller, 1991) and the demand of evaluation and research is even introduced during the training of an art therapist (American Art Therapy Association, 2010; British Association of Art Therapists, 2010). There is more of an ongoing evaluation of the *efficacy* and *effectiveness* of AT and also a continuing debate about adequate research designs (Gilroy, 2006; Kapitan, 2010; Maclagan, 1999; McNiff, 1998). Efficacy means the extent to which a specific intervention produces a beneficial result under ideal conditions. Effectiveness means the extent to which a specific intervention when deployed in the field routine circumstances does what it is intended to do for a specific population.

Many countries in the world, including Sweden, have only one evaluation system (INAHTA – International Network of Agencies for Health Technology Assessment, 2011) for assessing evidence base unlike United States which has more systems. Most evaluation systems are built on medical research but there are others, for example the American Psychological Association (2011) evaluation system which is assessing the evidence for different psychological treatments.

In Sweden SBU (2010) uses the GRADE (2010) guidelines for evidence-based care. From the results of the evaluations they recommend implementations of changes in clinical routines and treatments. They also report about cost-benefit results of treatments and which treatment ought to be studied more before implementation. These recommendations from SBU may lead to treatments in the long term being excluded from Swedish health care.

The aim of this review was to explore the evidence base for the use of AT in the treatment of psychosomatic disorders, eating disorders and crisis using two different evaluation systems. The questions addressed were: is there an evidence base for using AT in the treatment of psychosomatic disorders, eating disorders and crisis and is the concept of evidence an explicit concept?

METHOD

Studies from 1987 until now were selected. The reason for choosing that year was that the Swedish Council on Health Technology Assessment (Statens Beredning för Medicinsk Utvärdering, SBU) (2010) started their work with EBM and EBP in 1987. The consulting of databases showed that it was impossible to include all studies where AT was used as an intervention. Therefore we had to compromise with the ideal situation, which had been to include all kind of intervention studies with AT, and decided to limit our investigation to three diagnostic groups where AT

often is recommended as a treatment. The groups were: eating disorders (Waller & Gilroy, 1992), psychosomatic disorders (Theorell & Konarski, 1998) and crisis (Wadson, 2010). We included all studies where the concepts eating disorders, psychosomatic disorders, crisis, crisis reactions and trauma were mentioned in the description of the patients and where AT was used as an intervention. Only English-language articles were included.

The process and results of our search are presented in Fig. 1. When the whole process was done 32 articles met our criteria for intervention studies.

Procedure

To get an overview of the research field of AT as a treatment and to cover most of the published work we began a broad search in the Cochrane database with the search concepts “art therapy” and “treatment”, separately and together. We then continued with the databases Best Practice, AMED, CINAHL, PION, PsycINFO and PubMed. We got 4,820 hits in the Cochrane database, of which only one review was found that matched our subject: art therapy for schizophrenia or schizophrenia-like illnesses (Ruddy & Milnes, 2009). We encountered the same problem with the other databases. The results yielded altogether 19,917 hits and they were distributed between the databases Amed with 1,363, CINAHL 4,098, PsycINFO 5,283 and PubMed 9,173 hits. When we added the concept “painting”, 421 articles were found. The concept of “intervention” gave 1,538 articles and “psychotherapy” 3,593. The problem persisted throughout the search; too many articles about other forms of medical treatment were returned.

The addition of the concept “expressive art”, yielded 418 hits, which significantly limited the number of hits, but many well-known articles, for example from the journal, *Arts in Psychotherapy*, were missing. To find as many relevant articles as possible we made a separate search in the journal *Arts in Psychotherapy*. In the final step of our search we added the three diagnoses, psychosomatic disorders, eating disorders and crisis. In the diagnostic group, crisis and crisis reactions (Reber & Reber, 2001), we included children and adults. We had now altogether 858 articles. All the abstracts were read through. Those articles which contained music, dance, drama, or movement therapy were excluded as were those with other subjects in combination with art therapy, that is, art therapy and teaching.

After this procedure 43 articles remained from the databases and from *Arts in Psychotherapy*. Seven more articles from the articles’ reference lists were included.

The result was 13 articles in the group comprising eating disorder and AT, 7 articles in the group psychosomatic disorder and AT and 30 articles dealing with crisis and AT, thus there were altogether 50 articles. Eighteen more articles were discarded, for example when the images in art therapy had been used as a diagnostic tool or when alcohol addiction was involved in the diagnoses.

The quality criteria of SBU and USPSTF/Task Force

Our two different models selected for evaluating evidence were GRADE (2010) which, as earlier mentioned, is used by SBU and the Preventive Services Task Force (USPSTF/Task Force) (Harris, Helfand, Woolf *et al.*, 2001). The GRADE was chosen because it is used internationally and the USPSTF/Task Force because it is similar to GRADE and has been used in evaluating the evidence base for other non-medical interventions for example, music therapy (Silverman, 2010). The work group USPSTF/Task Force represents one of several groups which take a more evidence-based approach to the development of general guidelines for clinical practice.

According to the GRADE criteria, the design of the study is the basis for the evaluation of evidence, while USPSTF/Task Force evidence evaluation includes both design and how well a study has been conducted. In evaluating research articles, SBU (2010) refers to the international system called GRADE (Grading of Recommendations Assessment, Development

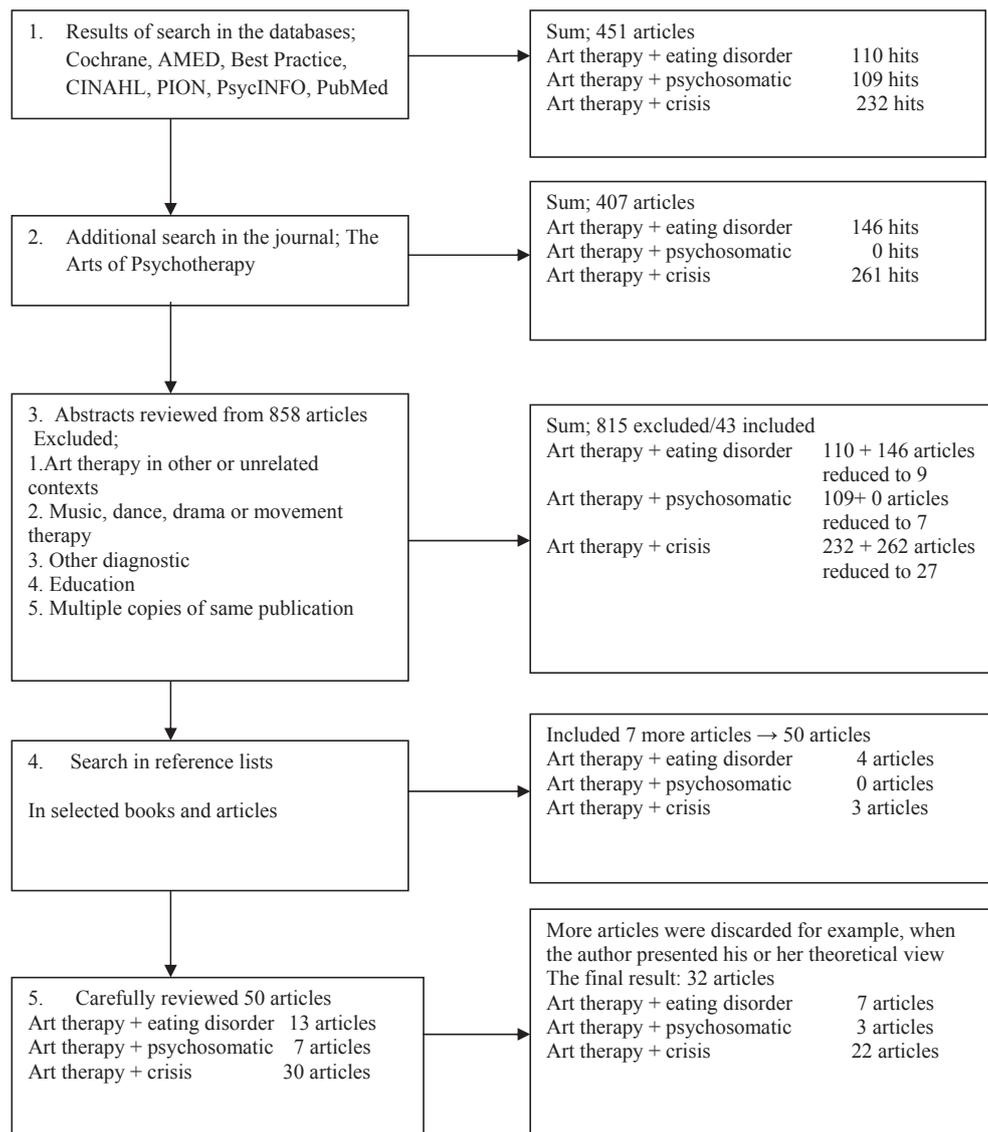


Fig. 1. The search process.

and Evaluation), where a high probative value (4) or moderately probative value (3) is assigned to RCTs (GRADE, 2010). The probative value of 4 means that further research is unlikely to increase the reliability of the study, while a moderate value of 3 means that further studies would likely have a significant influence on the reliability of the result in the study. According to GRADE, small observational studies get a 2 or the very low probative value 1. A probative value of 2 means that further research would likely have a decisive influence on the reliability and a probative value of 1 is assigned to observational studies which mean that the result, the effectiveness/efficacy of the intervention, is very uncertain. In order to achieve maximum strength of evidence for an intervention by the SBU (2010) at least two RCT studies are required while it is enough with one according to USPSTF/Task Force (Harris *et al.*, 2001).

The USPSTF/Task Force classification from I–IV evaluates whether or not the implementation of treatment is beneficial or harmful (Harris *et al.*, 2001). The four classes judge the intervention as having a substantial, moderate, small or negative effect. An intervention having evidence obtained from at least one properly conducted RCT receives classification I. Classification II includes three subgroups: II-1, one well-designed controlled trial without randomization, II-2, one well-designed analytical study with a cohort or case control, preferably from more than one studied group and II-3 from multiple time series of studies, with or without intervention, such as positive results from uncontrolled

experiments. Articles from respected authorities, based on clinical experiments, descriptive study and case reports or reports of expert committees get the evaluation mark III. Class IV contains articles that are valued as zero or which have no evidence value. It should be noted that the USPSTF/Task Force uses a reverse value system to GRADE. For example, the value 1 for GRADE corresponds to the classification IV in the USPSTF/Task Force method.

ANALYSIS OF THE ARTICLES

The evaluation of the 32 articles according to GRADE and USPSTF/Task Force are presented in Tables 1 to 3. Three of the articles contained a description of the method AT, one article described a case from a patient's perspective and 13 contained a description of the method illustrated with one or more cases or vignettes. The others were evaluations of the efficacy or effectiveness of the treatment AT. The evaluations of the articles according to GRADE and USPSTF/Task Force were different but consistent. Low probative value on the USPSTF/Task Force corresponded to low probative value by the GRADE system. Twenty-seven of 32

Table 1. *Levels of evidence in art therapy and eating disorder*

Year, Author(s)	Design	GRADE (2010)	Harris <i>et al.</i> (2001)
2006 Frisch <i>et al.</i> (2006)	Intervention	1	III
2003 Rehaviah-Hanauer (2003)	Intervention	1	III
2002 Diamond-Raab and Orrell-Valente (2002)	Method and case	1	IV
2002 Steinbrenner <i>et al.</i> (2002)	Case study	1	IV
1997 Matto (1997)	Method and case	1	IV
1994 Schaverien (1994)	Method and case	1	III
1993 Schindler Zimmerman and Dillon Shepherd (1993)	Method and case	1	III

Table 2. *Levels of evidence in art therapy and psychosomatic disorder*

Year, Author(s)	Design	GRADE (2010)	Harris <i>et al.</i> (2001)
2002 Sivik and Schoenfeld (2002)	Method and case	1	IV
2001 Lacroix <i>et al.</i> (2001)	Method and case	1	IV
1998 Theorell <i>et al.</i> (1998)	Intervention	2	II

articles got a very low evaluation score by GRADE and accordingly low probative value (1) evaluation. Four articles were RCT studies: Chapman *et al.* (2001), Lyshak-Stelzer *et al.* (2007), Oster *et al.* (2006) and Thyme *et al.* (2009). According to GRADE none of the articles got the highest probative value (4), two articles, Oster *et al.* (2006) and Thyme *et al.* (2009), met the criteria for a 3 and three articles, Chapman *et al.* (2001), Lyshak-Stelzer *et al.* (2007) and Theorell *et al.* (1998) were classified with a 2 and the other articles with a probative value of 1. The studies

of Oster *et al.* and Thyme *et al.* got a 3 because they had too few participants (power limitations). According to Harris *et al.* (2001) both got the highest value since power is not included in the USPSTF/Task Force evaluation. Chapman *et al.*, Lyshak-Stelzer *et al.* and Theorell *et al.* got a 2 from both GRADE and the USPSTF/Task Force and thus valued equally. Chapman had few participants and there were no statistical differences between the intervention group and the control group. Lyshak-Stelzer *et al.*'s study had a statistical significant difference between the groups but it had other limitations, for example it was a pilot study and art therapy was not the only treatment. Finally, Theorell *et al.* got a 2 because of few participants and he himself wrote that "AT may have contributed" to the patients' recovery. Thus, none of these 32 studies could demonstrate a fully efficacy of AT treatment according to GRADE.

Beyond these two articles – Oster *et al.* (2006) and Thyme *et al.* (2009) which were evaluated with the highest probative value I (substantial) by the USPSTF/Task Force – 4 articles received classification II, 13 articles classification III and 13 articles classification IV according to USPSTF/Task Force criteria.

None of the studies showed a distinct association between a particular symptom and AT and none of the authors seemed to think of AT as a symptom treatment rather as a possibility to be cured through greater self-insight and emotional awareness.

DISCUSSION

The GRADE system rejected 27 studies (84%) of the 32 selected articles and the USPSTF/Task Force rejected 13 studies (41%). The criteria from the GRADE and USPSTF/Task Force were consistent in assessing 13 articles as not meeting the criteria for an evidence base. The poor quality was because the aim was not clear enough, the intervention method was insufficiently described or other factors which may influence the result had not been con-

Table 3. *Levels of evidence in art therapy and crisis*

Year, Author(s)	Design	GRADE (2010)	Harris <i>et al.</i> (2001)
2010 Sarid and Huss (2010)	Intervention and case	1	IV
2009 Pifalo (2009)	Method, intervention, case	1	III
2009 Thyme <i>et al.</i> (2009)	Intervention, RCT	3	I
2008 Reynolds <i>et al.</i> (2008)	Intervention	1	IV
2008 Italia <i>et al.</i> (2008)	Intervention, pilot	1	II
2007 Lyshak-Stelzer <i>et al.</i> (2007)	Intervention, pilot, RCT	2	II
2007 Reynolds and Lim (2007)	Method	1	III
2007 Talwar (2007)	Method and case	1	III
2007 Orr (2007)	Method	1	III
2007 Chilcote (2007)	Intervention and case	1	III
2007 Gantt and Tinnin (2007)	Intervention and case	1	III
2006 Oster <i>et al.</i> (2006)	Intervention, RCT	3	I
2006 Meijer-Degen and Lansen (2006)	Intervention and case	1	III
2002 Mallay (2002)	Method and case	1	III
2002 Raghuraman (2002)	Method	1	IV
2001 Appleton (2001)	Method and case	1	IV
2001 Chapman <i>et al.</i> (2001)	Intervention, RCT	2	II
1995 Malmo (1995)	Method and case	1	IV
1995 Morgan and Johnson (1995)	Intervention, pilot	1	III
1992 Speert (1992)	Method and case	1	IV
1992 Glaister and McGuinness (1992)	Method and case	1	IV
1991 Farrelly <i>et al.</i> (1991)	Method and case	1	IV

sidered. The common feature of these articles (11 of 13 articles) was that they were conducted before the year 2002.

Although 84% of the 32 articles in our review were rejected by the GRADE system and SBU, we can see positive developmental trends in the AT research. The scientific quality has improved since 2000. Examples of that are Oster *et al.* (2006) and Thyme *et al.* (2009), whose studies almost met the GRADE criteria for the high probative value 3. The USPSTF/Task Force are not so clear-cut in their assessments. Nineteen articles were assessed with I to III and are considered to give valuable information and knowledge about AT and they are therefore viewed as important contributions to the development of image-therapeutic research. For example, the study of Theorell *et al.* (1998) is a well-completed intervention study, but lacks a RCT design and the study of Italia *et al.* (2008) had a control group but the participants were not randomized. Both these studies received a II. Examples of articles with a very low value of evidence 1 (GRADE) and III (USPSTF/Task Force) are Schaverien's (2000) and Pifalo's (2009) studies. Schaverien's study is a well-written description of the intervention illustrated with a case and with a discussion of the image in AT in the role of transitional object. Pifalo's study described AT as an intervention and evaluated the outcome with a description of cases. The purpose was to describe and evaluate if the intervention of AT succeeded in creating order in the chaos that followed a disclosure of sexual abuse in a group of adult women and their families. Even if these articles do not reach a high value of evidence, they are not seen as without value. They have an interesting content from which you can develop clinical work and the articles may also be hypothesis generating.

According to GRADE there was no evidence for the use of AT as an intervention for psychosomatic disorders, eating disorders and crises in health care. Does it mean that art therapy is useless as a treatment, or is it possible to question the narrow assessment's criteria and refer to another evaluation system and other criteria for an evidence base? The answer is not obvious. According to the criteria of the USPSTF/Task Force, there is an evidence base for the use of AT, which means that patients with psychosomatic disorders, eating disorders and crisis can benefit from AT. Hence, with the GRADE system and the SBU's criteria for EBP, there is a risk that an effective treatment will not be implemented or eventually be excluded from Swedish health care. Silverman (2010) examined the evidence base for music therapy and discussed EBP according to different evidence criteria. He compared four different methods, including the USPSTF/Task Force in his evaluation. He found that the majority of studies had low levels of evidence and claimed that there is a lack of RCTs in the evaluations of music therapy. But is the solution to increase the number of RCTs?

Like the GRADE, the USPSTF/Task Force sees RCT as the best research design for achieving an evidence base but they judge other research designs as good enough if the study is well conducted and is in accordance with ethical principles. But is this sufficiently comprehensive? Those studies are included in Group II-3 and can never reach a I even if they are very good studies. It may be interesting in this context to mention that the intervention study with penicillin in the 1940s would have been categorized in Group II-3 (Fleming, 1946).

The evidence concept is relatively new and has lately been much discussed in relation to intervention studies. Criticism against the GRADE criteria has been raised. Sandell (2006) has argued on several occasions that to cover all research projects with one single method (RCT) is problematic. Without dismissing the value of the RCT he claims that the SBU's definition of science is too limited and restricted. Zuzelo (2007) stated that the primary weakness is that one thinks there is only one truth to be discovered rather than many truths to be interpreted. Furthermore, Martinsen and Kjerland (2006) maintain that RCTs cannot provide insight into experiences that concern existential and humanistic values like feelings of joy, sorrow, longing, suffering and hope. For Ekeland (1997, 2007, 2009) psychotherapy is the creation of meaning in various forms, it is *the* "medicine", and what makes sense will always be dependent on people's subjectivity, situational orientation, and not least the relationship with the therapist (subject ontology). In the same way as other forms of verbal or experience-based therapies, the aim of AT is to change and develop the individual. Gilroy (2006) stressed the difficulty in measuring human change but also underlined that the time has come when art therapists must make science of proven experiences. We agree upon the difficulty to measure and describe human changes. However, AT research must live up to good quality standards as well as other research fields have to do. In AT and in other forms of psychotherapy, there are experiences that are difficult to capture and quantify and therefore require other types of designs. McNiff (1998) is one of those who underlines that no single research method can shed light on all aspects of an art therapists' work. He suggests a combination of qualitative and quantitative research designs as most appropriate. Oster *et al.* (2006) has shown that such research design is possible.

Discussions about appropriate research methods for experience-based therapies have also been intensified during the late 1990s (Gilroy, 2006; McNiff, 1998) and there are contradictory opinions. Ruddy and Milnes (2009) concluded in their review of the effect of AT for schizophrenia or schizophrenia-like illnesses, that it is possible to use RCT in evaluating the effect of AT while Gilroy (2006) claimed that RCT studies only show if a treatment is effective or not and that the individual's complexity is reduced to a single classification.

In our view the claim for EBP is justified, especially in relation to ethics and also in times of limited financial resources. However, evidence-based research and EBP must be defined clearly. How narrow can the concept of evidence be and is there a risk that we might miss the target itself? Is it good to have just one evaluation system or more, depending on which kind of scientific studies should be evaluated? USPSTF/Task Force categorize the treatment's magnitude of benefits, harms or no benefits of a possible implementation which we see as an attractive approach. Maybe it is possible to develop this evaluation system to be more comprehensive. We see evidence as a multidimensional concept and therefore suggest a broader view of the concept in line with the criteria of the USPSTF/Task Force. Doing so would make it possible to include other types of studies and to get an evidence base even for treatments which cannot be investigated by RCT studies. Hence, we do not suggest more evaluation systems. We can see advantages with one evaluation system which cover different

research designs and methods with the possibility to fertilize each other.

Krantz (2008) stressed that: “The evidence for the effectiveness of public health interventions must be sufficiently comprehensive to encompass complexity which means there is actually a need for methodological pluralism” (Krantz 2008, pp. 14–15). We agree with her and Wood *et al.* (2011) who believes that for a valid outcome, research of AT should be undertaken in multi-centre studies with mixed methods and with long-term follow-ups.

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