

The Effects of Art-Therapy Techniques on Prenatal Maternal-Fetal Attachment

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Abstract

Introduction: *The creative potential as an innate skill of every human being can be a relevant resource in the experiential personal development process to explore, understand, and optimize the expecting mothers' relationship to their fetuses. Prenatal attachment defined as "the unique relationship that develops between a woman and her fetus" (Muller, 1990) has got important consequences for pregnant women's compliance with healthy practices during pregnancy and for the post-partum relationship with the baby (Condon, 1988, Lindgren, 2001).*

Objectives: *This quasi experimental research study aims at presenting an assessment and improvement intervention on prenatal maternal attachment with art-therapy support, undergone during the experiential personal development process for expecting mothers. There were involved 16 pregnant women at 22-24-week gestation, divided into two groups (experimental and control group). The members of the experimental group participated in a prenatal attachment optimizing intervention program structured as four sessions which took place throughout six weeks.*

Methods: *Using an questionnaire semi-structured and Prenatal Attachment Interview - PAI (Muller, 1993) - a psychological tool designed to assess prenatal attachment, the data were collected both before and after the experiential intervention group and at baseline and after two weeks of the enrollment for the control group.*

Results: *The statistic results obtained underline the significant increase of the overall score PAI for the experimental group subsequently to the intervention to their initial score and the overall PAI points scored by the control group.*

Conclusions: *After the prenatal attachment experiential intervention developed with art-therapy support, we noticed significant quality and quantity outcomes regarding the assessment of the prenatal attachment type, the improvement in the participants' emotional contact with their fetuses and in the narrative structure of communication, when they speak about their experiences.*

Keywords: *attachment research, expecting mothers, pregnancy, prenatal*

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I. Introduction

Throughout the pregnancy, the expecting mother experiences a large number of neurobiological changes which activate motherhood circuits, triggering a range of emotions and behaviours regarding the fetus that occur as part of the attachment relationship about to grow from now on between the two of them. On the one hand, this relationship is determined by multiple and complex factors, and on the other hand, it becomes itself a significant factor influencing behaviours during pregnancy and after the birth.

The attachment relationship of the expecting mother with her fetus is being influenced by cognitive, emotional, and situational factors related to her mental representation and fantasizing skill, to her relationship to her own parents, to her attachment style, to early traumas, to her emotional status, her age, her couple relationship, her previous miscarriages (O'Leary, 2004; Tsartsara & Johnson, 2006), her number of children, the type of her current pregnancy (single/ multiple pregnancy, with or without complications, with malformations diagnosed during prenatal screening). All these factors either facilitate or block the prenatal attachment relationship. The research studies related to the prenatal maternal-fetal attachment relationship and its importance reveal that there is a link between observing healthy practices during pregnancy, such as diet, exercising, performing the necessary medical checks, giving up smoking and alcohol, etc. (Lindgren, 2003; Sjogren et al, 2004; Slade, Laxton-Kane & Spiby, 2006), the parental behaviour after birth (Condon & Corkindale, 1997; Pollock & Percy, 1999), and the intrauterine and extrauterine development of the human being (Sarkar, 2008; Field, Diego, Hernandez-Reif, 2006).

Given the implications of prenatal attachment over the fetus's development and scheduling and not only, these factors are a powerful argument in favor of intervening before or during pregnancy, rather and waiting for the postnatal period, when the intensity and the type of prenatal attachment triggering biological and psychological changes will have already caused some consequences over the fetus and the relationship between the pregnant woman and her fetus.

Most attachment theories and models were based upon the relationship between mothers and their children (the postpartum attachment) rather than on the relationship shaping itself even since pregnancy between expecting mothers and their fetuses (the maternal prenatal attachment). The defining framework of prenatal attachment takes into account attachment as being "the unique relationship developing between a pregnant woman and her fetus" (Muller, 1990) or as

the parent's relationship to the baby throughout the pregnancy period (the relationship with the baby during pregnancy), which means "the development of the earliest, most basic form of human intimacy" (Condon, 1993). From the very beginning, the researchers concerned with the attachment topic tried to operationalize the mother-to-fetus prenatal attachment relationship. Rubin (1975) proposed four activities for the expecting mother to carry out during pregnancy: search a secure place for herself and her child, make sure that the fetus is accepted by the significant members of her family, get attached to her fetus, learn how to commit. Condon subsequently (1993) developed a prenatal attachment model structured on five moods: to know, to be with and interact with, to avoid separation or loss, to protect, and to satisfy the needs.

Given the existing studies mentioned previously, the purpose of this quasi experimental research study is to present an assessment and improvement intervention on prenatal maternal attachment with art-therapy support, undergone during the experiential personal development process for expecting mothers. I chose to use the art-therapy support because creative-expressive handwork help pregnant women get connected to their own unconscious, allowing them to actively explore the complex context in which their relationship to their fetuses is developing and expressed in a cautious and gentle way. When the prenatal experience is highly challenging, pregnant women may find it more difficult to find their words to describe their thoughts, emotions, and needs than find a concrete shape for them.

II. Methods

Participants

16 mothers-to-be (22-24-week pregnant women) participated in this study, all being customers of the private prenatal service center called MotherHood Center in Bucharest.

All expecting mothers involved in this study are married and aged between 27 and 39, with an average age of 30.6 years old. This is the first viable pregnancy for them and it was a planned pregnancy. 4 participants have got a history of miscarriage, while 2 of them have a history of planned abortion.

The participants were informed about the development of the experimental mother-to-fetus prenatal attachment optimizing program and depending on their availability, they registered for one of the two groups: the experimental group or the control group.

To start with, all participants filled in a semi-structured questionnaire and the Prenatal Attachment Inventory (Muller, 1993). The pregnant women from

the experimental group participated in the intervention prenatal attachment program, while those in the control group did not. At the end, all participants filled in the Prenatal Attachment Inventory again.

Measures

The expecting mother's prenatal attachment to her fetus is assessed using the Prenatal Attachment Inventory (PAI; Muller, 1993), containing 21 items. The answers are rated based on a four-level Likert scale. The scores obtained can range between 21 and 84, where low values point to a high level of prenatal mother-to-fetus attachment.

I used the semi-structured questionnaire to gather information about the respondents' age, studies, marital status, professional status, history of miscarriages/abortions, their couple relationship, etc.

Procedures

The experiential intervention for prenatal attachment improvement was conducted during 6 weeks. I thought about this aspect not for proposing a quick intervention recipe-like program, but in order to investigate the role and the effectiveness of an attachment intervention, while minimizing the time variable, since it is known that prenatal attachment keeps developing throughout the pregnancy, from one pregnancy term to another.

I have structured the attachment intervention for the pregnant women from the experimental group in 4 sessions.

Each session starts with a check-up of the changes having occurred from one session to another in their relationship to their fetus and a brief introduction of that particular session, to carry on with a provocative exercise, specific to experiential psychotherapy, based on art-therapeutic techniques. At the end of each session, the participants are encouraged to speak about their here and now experiences to facilitate the identification of behavior patterns during pregnancy, their causes and effects.

Session no. 1 – Title: Prenatal Bond

Art materials used: Various items are placed on a table – shells, beans, crosses, coloured feathers, little stars, coins, toys, rope fragments, dry lavender bags.

Instructions: The participants are invited to take a look at the table filled with objects, explore them at their pace – look at them, handle them, touch them, etc. and to be aware which of them draw their attention particularly, which of them they spend more time exploring and which of them they look at without showing them any special interest. After these warm-up exploration moments, they choose and put on a board at least 3 items to make a symbolic representation of their own relationship to their fetus.

Argument: This exercise was designed to stimulate expecting mothers' connection to their fetus and therefore to help them engage on a fetus-oriented direction, as well as to become aware of their existing prenatal attachment behaviour.

Session no. 2 – Title: Forms of life

Art materials used: A3 sheets of paper, crayons, watercolours, brushes

Instructions: Following a relaxation and guided imagery exercise, each pregnant woman expresses by drawing the shape of her body, that of her fetus in her body, and the areas of her body in which she feels its presence. The silhouette does not need to be realistic, nor anatomically correct. It is important that the image is representative for her as she is here and now.

Argument: By means of this exercise, the pregnant woman gets into contact with her body to explore it physically and emotionally, including the mental representation of the fetus.

Session no. 3 – Title: Expressive connections

Art materials used: Plasticine

Instructions: We start by a guided imagery exercise performed while the expecting mothers use a piece of plasticine. During the exercise, the time is rewound to the time before they got pregnant, for them to recall images, thoughts, and emotions in the professional, family environment, the couple relationship, and the current context. Starting from this exercise, we ask the participants to give their fetus a symbolic shape.

Argument: Following this exercise, the pregnant women get into contact with the role they unconsciously assign to their fetus and they become aware of the way this influence their prenatal relationship.

Session no. 4 – Title: Emotional Mandala

Art materials: pictures and written words, crayons, watercolours, and brushes.

Instructions: We start by a guided imagery exercise oriented towards the emotions and fears they experience throughout their pregnancy period, then the expecting mothers express all these through a collage mandala made using the art materials provided to them.

Argument: The participants think about their resources and emotional challenges during pregnancy, and to the impact of those on their relationship with their fetus.

III. Results

We analyzed the results obtained subsequently to this study both in terms of quantity and of quality. For the quantitative analysis of the outcomes, we

performed a statistic processing of the gross scores obtained by the pregnant women in the experimental and those in the control group, during the initial and final stages of the prenatal attachment intervention.

During the initial stage, the average score of the experimental lot was 51.88, with a 2.58 standard deviation and a 0.91 standard error of the average score. The control group scored, on average, 47.75, with a 10.89 standard deviation and a 3.85 standard error of the average score.

The statistic analysis of those data shows us that, prior to the prenatal attachment optimizing intervention, there were no statistically significant differences between the scores for the Prenatal Attachment Inventory obtained by the pregnant women in the control group and those in the experimental lot ($U=25.50$; $p>0.05$).

During the final stage, the average score obtained by the experimental lot was 37.38, with a 6.71 standard deviation and a 2.37 standard error of the average score. At the level of the control lot, the average score was 46.50, with a standard deviation of 10.21 and a standard error of the average score of 3.61.

The statistic analysis of data reveals that at the end of the therapeutic intervention, there are statistically significant differences in the scores obtained for the Prenatal Attachment Inventory between the pregnant women in the control group and those in the experimental lot ($U=12.00$; $p < 0,05$).

As concerns the experimental group, one can notice that there are large differences between the prenatal attachment points scored in the initial stage and those scored in the final stage ($Z= -2.52$; $p < 0.05$).

At the control lot level, we can see that there



„C – I wanted to shape my fetus (using plasticine) as a little basket because I thought it was

are no significant gaps between the prenatal attachment points scored at the initial time and in the final stage ($Z= -1.43$; $p > 0.05$).

From the quantity analysis perspective, as it was carried out following the prenatal attachment optimizing experience-based intervention using art therapy techniques intended for the expecting mothers in the experimental group, we followed the evolution of the narrative structure used by those women when communicating about what they experienced during pregnancy, as well as about the concrete changes occurring in their relationship to their fetuses throughout the prenatal attachment optimizing program.

As far as the narrative structure assessment was concerned, we took into account the 7 parameters used by Ammaniti et al. (1992-2008) for the Interview for Maternal Representations during Pregnancy, that is: the richness of perception, the openness towards change, the intensity of the involvement, coherence, differentiation, social dependence and the dominance of fantasy. From one session to another of the experiential prenatal attachment intervention, we noticed how the perception of the pregnant women in the experimental group grow more ample and detailed, on the one hand because they have an increasing amount of knowledge about themselves as mothers-to-be and about the intrauterine development of their fetuses, and on the other hand because they become more and more aware of their emotions and feelings towards their fetuses. To illustrate this, we shall quote a fragment (taking place during the third session with the modeling exercise in order to identify the role assigned unconsciously to their fetus, as described by the pregnant woman) from the story of one of the participants which highlight all these aspects:

like a basket, the way it is right now crouched in my womb. I know and I feel it has been growing, I have also seen it on the ultrasound recently. It's a little basket and I filled it with much love and caring,

although I sometimes think about many things and I'm worried about how I would get along with my baby. When I opened my eyes, I was surprised to realize it actually looked like a flower.

T. – ... like a flower! How is this flower finding a place in your life right now?

C. – My boyfriend and I got married last year, after a long-term relationship, of about 7 years. Before getting married, we used to travel together a lot and we got very much used to doing it. It seemed like everything was routine between the two of us. And now that I am looking at this pink plasticine flower, it seems to me that it is so fresh, so colourful, and playful. I like it a lot.

T. – What link can you see between your life as you have just describe it and this flower “so fresh, so colourful, and playful” that you are now holding in your hands?

C.: - I realize this is what I needed in my life. Freshness, something new, more liveliness...”

Using the drawing as a symbolic working tool, pregnant women access the physical and psychological reality of their pregnancy in an expressive and symbolic way, that they can explore safely, understand and accept it as that they manage to channel their

“availability towards making the best choices (potential at the present), that is responsible choices” (Mitrofan, I., 2004).

This is a specific focus for the expressive therapy (Natalie Rogers), i.e. process-oriented, instead of product-oriented. Expecting mothers thus become more open to change, identifying and admitting the physical and psychological changes they undergo during pregnancy.

Here we have below a sequence from a pregnant woman's story during the second session, when the participants shaped their own body and that of their fetus by means of drawing/ painting:

- T.: What did you find the most difficult to accomplish in the drawing you made?

- C.: The shapes of my body. It has been very difficult for me, until recently, to get used to it, as it constantly changes and my weight keeps going up. I have always taken care of my body. I understood that it was the only way for my child to grow: it needed enough space. And I want it to have enough space.

- T.: What about your body?

- C.: I try to eat healthy food and to exercise. I attend pregnant women's workout classes.



We have also noticed the impact of the art therapy techniques used in the specific way of the Unifying Experiential Psychotherapy in stimulating the coherence, structure, and flow of the verbal discourse of the pregnant women involved in the prenatal attachment optimizing intervention – a fact which

makes the mental representation of the fetus and the mother-to-fetus relationship be more organized.

IV. Conclusions

This quasi experimental research study brings in new information, besides the already existing results

on prenatal attachment both in theory and as a practical intervention.

First of all, while using the principles specific for the Unifying Experiential Psychotherapy in this prenatal attachment intervention, the creative language of a symbolic and artistic type, the participants have a direct access to their own here and now pregnancy-related experiences, allowing them to become aware of the way they get in touch with their fetus from a cognitive, emotional, and behavioural point of view, the difficulties preventing them from establishing a secure and intense attachment relationship to their fetus, as well as from “*integrating the new significances in realistic, effective, creative actions with a unifying sense*”(Mitrofan, I., 2004). Thus, pregnant women become emotionally available for their fetuses, they make healthy choices in terms of diet, movement, behaviour, they give up smoking or alcohol, become more creative, and feel happier during pregnancy.

Secondly, the quality and quantity results of this prenatal attachment intervention make this survey be considered rather a preventive, allowing to prevent some risks as a part of the prenatal attachment relationship of either the anxious or the ambivalent or disorganized type of attachment. As a consequence, irrespective of its occurrence context, no pregnancy serves as a protection mechanism against anxiety, depression or other diseases.

The most important aspect is that such optimization intervention upon attachment makes expecting mothers undertake responsible decisions and behaviours during pregnancy, since “*the purpose of intelligent responsibility is preventing evil, not only to undertake it by admitting it*” (Mitrofan, I., 2004).

Thirdly, it confirms that only the time is not a solution to optimize the attachment in pregnancy.

Fourth, no matter the factors significantly

influencing the strength and the quality of prenatal attachment, even in the case of diagnosed conditions, nobody can ignore the risks of pharmacological treatments over the intrauterine development of the fetus: risks of preterm birth, birth complications, small weight, miscarriage, congenital heart defects, birth malformations etc.

One cannot, of course, ignore the limitations of this experimental study, given the small number of expecting mother involved, nor the standardization of some variables (i.e.: age, abortion history, number of children, etc.), a fact which makes it compulsory to extend this survey to a larger group of pregnant women and to check on several parameters, which is in fact what I propose for future research, as well as achieve prenatal attachment interventions tailored according to the particular situation of each and every expecting mother.

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