

# Decreasing depression and anxiety symptoms in pregnant women with imminent abortion by means of art therapy\*



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Current research in the world shows that 16% of women during pregnancy develop depression and anxiety symptoms resulting in complications during labour as well as foetal growth retardation. Art therapy is one of the ways to reduce depression and anxiety symptoms which are usually concomitant. Some research has been performed on the effect of art therapy on reducing depression and anxiety symptoms in pregnant women but none in Latvia. Correlation has been found between depression and anxiety symptoms and imminent abortion, and art therapy seems to be an effective method in preventing of imminent abortions and improving pregnant women's emotional and physical health.

*Keywords: depression, anxiety symptoms, art therapy*

## A depressziós és szorongásos tünetek mérséklődése művészetterápia hatására fenyegető vetülésnek kitett terhes nők esetén

Napjainkban a szakirodalomban megjelent közlemények alapján 16%-os gyakoriságban fordul elő terhességben depresszió és szorongási tünetek, amelyek szülési komplikációhoz vagy a magzat növekedési retardációjához vezethetnek. A művészeti terápia olyan lehetőség, amely csökkentheti a depressziót és a szorongási tüneteket, amelyek gyakori kísérőbetegségek terhességben. Erre irányuló klinikai kutatásokat számos országban végeztek, azonban a kezelés hatékonyságát depresszióban és szorongásban várandós nőknél Lettországon még nem tanulmányozták. A szerző a depresszió és a szorongás csökkentésére irányuló vizsgálatokat végzett művészeti terápia segítségével. Összefüggés található a depresszió és a szorongás, valamint az imminens abortusz között. A művészeti terápia egyéb kezelési módszerek mellett hatékony lehet az imminens abortusz kezelésében. Ez a módszer javítja a nők emocionális és fizikális egészségét terhességben.

*Kulcsszavak: depresszió, szorongásos tünetek, művészeti terápia*

A woman's health during pregnancy affects the proceeding of pregnancy, labour and newborn health. Analyzing the literature sources, based on the clinical research within the last five years, it has been revealed that antenatal depression and anxiety are related to pregnancy complications (preeclampsia), labour complications (miscarriage, pre-term labour), and foetal developmental disorders (growth retardation, newborns of low weight, foetal death). Untreated antenatal depression and anxiety may later result in postnatal depression [1].

The incidence of depression symptoms and anxiety symptoms in pregnancy are 7–15% and 6–16% on average, respectively [2]. According to the World Health Organization (WHO) data, statistically significant depression symptoms are encountered in around 20% of pregnant women in the 3<sup>rd</sup> trimester. Anxiety during pregnancy has a harmful effect on the foetus, new-born, and can result in a series of pregnancy and labour complications [3].

Depression and anxiety in pregnancy are treated not only medically in many countries, but alternative methods are

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also applied such as psychotherapy, psychological counselling and art therapy [4].

Art therapy has been proven to help pregnant women with emotional problems by reducing anxiety, depression, fear of childbirth, and offering a much deeper understanding of becoming a mother [5]. Art therapy helps to raise one's self-control, self-esteem and affection to the expected baby.

Studying the effect of visually plastic art therapy on depression and anxiety during pregnancy is an innovative approach as no such studies have been done yet. Though art therapy in Latvia is a comparatively new health care field (Cabinet of Ministers Regulations, March 24. 2009. Nr.268 and Cabinet of Ministers Regulations, May 18. 2010. Nr.461).

### Aim of study

The aim of the study was to check whether art therapy can decrease depression and anxiety symptoms in pregnant women and whether they correlate to imminent abortion, as well as to test the sustainability of results in a month's time.

A pre-test questionnaire with partially structured interview and document analysis of mother's passport data of a woman's health and pregnancy process, foetal development by ultrasonography data, assessment of high and low risks of gynaecological and obstetric pathologies were considered as inclusion criteria. 64 patients (study group n=32, attending 13 art therapy sessions; and control group n=32, not attending art therapy), age from 20 to 35 years, from the 12-28<sup>th</sup> gestation week with mild and moderately severe depression symptoms as well as anxiety symptoms were enrolled.

To investigate depression and anxiety symptoms, two methods were used:

1. Self-assessment questionnaire of anxiety signs (STAI Form Y-1): State- Trait Anxiety Inventory, Spielberger, Gorsuch, Lushene, Vagg & Jacobs, and
2. Beck Depression Inventory II (BDII), Beck, Steer & Brown, 1996.

For data analysis, descriptive statistics (mean arithmetic, mode, median, standard deviation) and conclusive statistics (parametric statistical test – Student's t-criterion) were used.

The Rīga Stradiņš University Ethics Committee authorized the research, and the participants gave their informed consent.

### General description of depression

Depression is present in about 5–10% of the population and 20–30% of chronic patients. It is twice as common in women as in men, and is diagnosed late (>5 years) in about 30% of the cases. An identical rate of incidence was found in pregnant women. The most frequent symptoms are low-depressive mood, no joy for life, lack of interests, increased tiredness, being in a sad or fearful mood, having hypochondriac complaints, sleep and appetite disorders, or headaches [6].

Beck's cognitive approach includes the cognitive triad [7] – negative self-esteem, negative assessment of the presence or the environment and negative assessment of future [8] as well as thinking schemes (they start to develop in childhood and later on one's personal experience, as well as identify oneself with the closest people around and it ends with the formation of new values and convictions) and wrong thinking (wrong processing of information) (Figure 1).

According to Beck et al., depression is characterized by a series of cognitive disorders due to the very patient's assumptions such as: generalization, a sense of guilt, self-incrimination, exaggeration and dichotomic thinking [9].

### General characteristics of anxiety

Anxiety is seen in 25% of the total population regardless of their health [10]. Anxiety may be a symptom of the disease (e.g., depression) or a risk factor in the pathogenesis of a medical condition [11]. The biochemical markers increase in the pituitary and the adrenal glands ACTH (adeno-corticotrophic hormone), cortisol, glucocorticoids; in serum: cholesterol, and triglycerides. During anxiety the gene activity also changes. Due to the stressors, the changes occur in the nervous system which further on coordinates fear-related sympathetic stimuli, which are manifested as emotional and physical symptoms [6].

Beck identifies anxiety as motivating symptoms (to be as far away from the traumatising situation as possible), affective of emotional symptoms (subjective feelings towards danger) and behavioural symptoms (accelerated thinking or speaking) as well [12].

These symptoms also indicate the patient's worries about danger manifesting as oppressive conservative, involuntary „automatic thoughts” (verbal and visual manifestations), and the contents of which make physical and mental harm

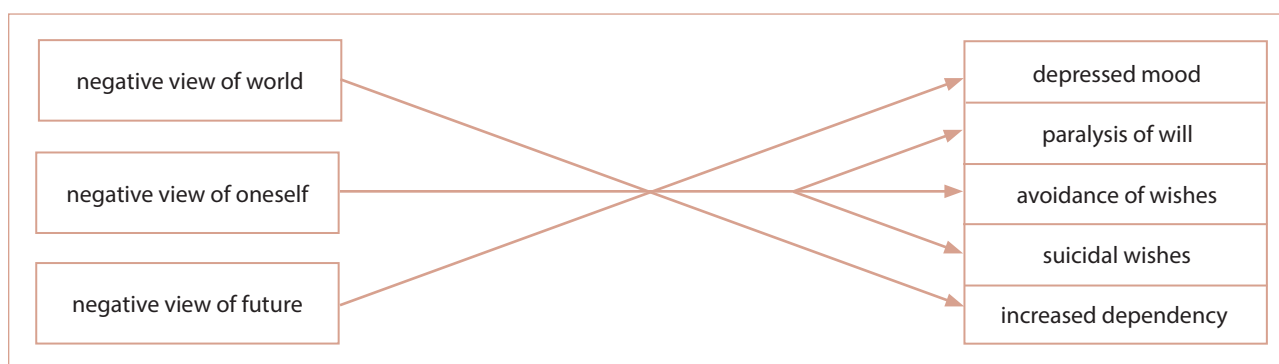


Figure 1. Cognitive triad and its influence on the manifestation, effects and motivations of depression [8]

possible. These thoughts come on regularly and occur from the information processing system, which is activating the affects.

Izard identifies anxiety as the combination of emotions, in which fear is a dominating correlation of emotions and fear with several other fundamental emotions, such as suffering, anger, sense of guilt, shame and interest [13]. Fear is characterized by specific physiological changes, expressive behaviour and specific experience, which is formed from the perception of fear or a dangerous situation. The relationship of anxiety with moral evaluation and anger control are included into Spielberg's Anxiety Inventory measuring anxiety as a personality trait or anxiety (T trait), and anxiety as situative anxiety (emotional reaction to threat) or anxiety phase (T phase) [14].

### Characteristics of depression and anxiety in pregnant women

During pregnancy, these disorders are seen in about 40% of women [15]. Depression symptoms have been seen in 7.4% of the cases in the first trimester, 12.8% in the second trimester, and 12% in the third trimester, which can be explained by neuroendocrine changes in the brain influencing the foetus, crossing foetoplacental barrier [16, 17].

The risk of developing depression is essentially higher in teenage or early adolescent pregnancies. Depression is also encountered in patients with affective illnesses, and depression in the family history or in the obstetric history of the woman [11].

On the one hand, central neural and endocrine changes during pregnancy are physiological and mobilize the woman's body for pregnancy; on the other hand, similar neuroendocrine changes have also been seen in anxiety and depression cases as a result of external and internal irritations. Both in anxiety and in pregnancy, the pituitary gland intensively secretes ACTH, and the adrenal glands cortisol, glucocorticoids, mineral corticoids, renin and angiotensin. This is the reason why the woman during pregnancy is more exposed to signs of depression and anxiety [4]. Changes take place in the limbic system, viscerosomatoemotional reactions, which are manifested as mood changes, taste changes, fear and uncertainty as to the expected pregnancy and its outcome [6].

Antenatal depression is seen in 7–20% of pregnant women, and if untreated, it may leave after-effect on the woman's whole further life, being the greatest risk factor for postnatal depression and postnatal psychosis. Antenatal depression and anxiety are often combined. 27% of the women in the first trimester feel tired and have sleep disorders which are connected with the oestrogen level changes, frequent urination, leg cramps, breathing problems, nausea and vomiting. Tiredness, nausea and vomiting are connected to depression and inability to do mental and physical work. These factors initiate a greater risk for preeclampsia and pre-term labour. Many authors in their studies indicate to The direct relationship between depression and increasing nausea and vomiting is suggested [18, 19], as well as the fact that antenatal stress, anxiety and depression cause pre-term

labour risk, foetal retardation, and low birth weight, and low Apgar scores (<8) [20]. Increased anxiety and depression increase foetus activity and decrease foetal development as early as the 20–22<sup>nd</sup> gestation weeks [21].

Depression and anxiety symptoms should be differentiated from pregnancy-related symptoms such as tiredness, loss of appetite and energy, and cases of anaemia and hypothyroidism [11]. Some authors refer to negative emotions of women in pregnancy: unexplained fear of pregnancy complications, separation anxiety after delivery, fear of the expected delivery, fear of conventional Caesarean section, fear of not being able to cope with the newborn, shame and disappointment of the body changes during pregnancy, internal fight between the feminine and motherly side, aggressive fantasies against the still unborn child [23]. Quite often the reasons for depression and anxiety symptoms lie in the relationship of the couple, or employment and socio-economic factors.

Nevertheless, antidepressants should be administered very carefully because they cross the placental barrier and are potentially teratogenic. Therefore, pregnant women are advised to use alternative methods to decrease anxiety, for instance, art therapy [4]. Art therapy activates the parasympathetic nervous system, interrupting sympathetic impulses and, as a result, decreasing sympathetic nervous system reactions [24]. It facilitates positive emotions stimulated by dopaminergic and opioid systems, stimulating positive effects.

### Theoretical approaches in art therapy to overcome depression and anxiety

Since art therapy has been used in pregnancy only for a short term, most commonly directive techniques and structured tasks are applied to change and overcome anxiety and fear [28, 26], e.g. drawing fear and overcoming fear, the woman is focusing on personal conflicts much deeper, which requires attention and solution, while transformation allows the woman to look at the situation from a different angle, which has seemed to be negative so far [5]. Self-portrait, in its turn, can be used as a directive task for the adaptation towards the new role – the role of mother and accepting her own new body's image.

Freud's unconsciousness theory in art therapy became the basis for further psychoanalytical/psychodynamic approach in art therapy recognizing the unconsciousness of patients' fantasies, daydreams and fears, and project them in pictures much faster than by words. Jung's active imagination technique and amplification method are quite often used: free associations, spontaneous drawing and scribbling techniques. Spontaneously created piece of work in art therapy makes access to subconsciousness, through creative self-expression revealing one's thoughts and emotions [27].

Art therapy in pregnant women makes us possible gain a deeper understanding of the woman's new role as a mother, transforming fear into the ability to become a mother [26]. Self-portrait for the future through creativity encourages the increase of one's self-esteem and dignity [30].

**Table 1. Study group ( $I_1$ ) (n=32) and control group ( $K_1$ ) (n=32) Measurement 1**

	Measurement 1					
	Study group ( $I_1$ ) (n=32)			Control group ( $K_1$ ) (n=32)		
	T-status	T-sign	BDA II	T-status	T-sign	BDA II
Kolmogorov-Smirnov Z criterion	0.846	0.739	0.909	0.578	1.270	0.940
Significance (2-tailed)	<b>0.471</b>	<b>0.645</b>	<b>0.380</b>	<b>0.892</b>	<b>0.079</b>	<b>0.340</b>

$p > 0.05$  there is conformity to normal distribution

**Table 2. Study group ( $I_2$ ) n= 30 and control group ( $K_2$ ) (n=30) Measurement 2**

	Measurement 2					
	Study group ( $I_2$ ) (n=30)			Control group ( $K_2$ ) (n=30)		
	T-status	T-sign	BDA II	T-status	T-sign	BDA II
Kolmogorov-Smirnov Z criterion	0.706	0.751	0.874	0.618	1.222	1.008
Significance	<b>0.702</b>	<b>0.626</b>	<b>0.430</b>	<b>0.840</b>	<b>0.101</b>	<b>0.262</b>

$p > 0.05$  there is conformity to normal distribution

## Methods

Initially, when doing the group selection, the descriptive statistical indices were calculated for two independent selections of pregnant women study group ( $I_1$ ) (n=32) and control group ( $K_1$ ) (n=32). Prior to it, by means of Kolmogorov-Smirnov Z criterion, we checked whether the empirical distribution of signs to be studied corresponded to the normal distribution of the study group ( $I_1$ ) (n=32) and control group ( $K_1$ ) (n=32) before the art therapy (*Table 1*) and after it (*Table 2*).

The frequency distribution of the studied signs of depression and anxiety (T-status and T-signs) corresponded to the normal distribution as the Kolmogorov-Smirnov Z criterion significance was higher than 0.05. Further on, t criteria were calculated for independent selections and hypothesis defined on similarity of both selections.

After conclusion of 13 sessions of art therapy cycle in the study group, the second measurement was done STAI Form Y-1 and BDA II questionnaire in the study group and the control group. Statistical calculations were done using descriptive and conclusive statistics for the data analysis.

A month after art therapy, the third measurement was done STAI Form Y-1 and BDA II questionnaires in the study group to assess the stability of results (due to subjective reasons, 4 respondents did not participate in this measurement). It did not show statistically significant difference from the 2<sup>nd</sup> measurement.

Descriptive statistics were used for data analysis and conclusive statistics (t criterion). Data were processed in SPSS program.

## Statistical analysis

Statistical calculations were performed on statistically significant differences in the study group results before and after art therapy, and in the control group results before and after art therapy in the study group in the depression symptom scale, T-status and T-signs scales (*Table 3*).

There were significant differences between depression and anxiety symptom indices in pregnant women in the study group before and after their participation in art therapy. There were statistically significant differences in the study group between anxiety symptom indices of T-status indices ( $t=5.634$ ;  $p=0.000$ ) before and after art therapy, and depression symptom indices before and after art therapy in the study group ( $t=5.664$ ;  $p=0.000$ ) (*Table 3*).

The calculations were performed and central tendency indices compared in the control group before art therapy and in the 2<sup>nd</sup> measurement, which corresponded to the time after art therapy of the study group. In all scales, in the control group, no statistically significant differences were found between the first and the second measurements (*Table 3*); thus, the null hypothesis was valid on the similarity of the control group first and second measurements.

As seen in the summary of the study results, there were statistically significant differences between depression and anxiety symptom indices in pregnant women in the study group after art therapy, and in the control group, in the second measurement after participation of the study group in art therapy. The study results show that there were statistically significant differences after art therapy in the study group and in the control group second measurement between anxiety symptom indices of T-status indices ( $t=5.935$ ;  $p=0.000$ ), anxiety symptom indices of T-signs

indices ( $t=6.032$ ;  $p=0.000$ ) and depression symptom indices ( $t=5.264$ ;  $p=0.000$ ) (Table 4).

There was a positive, statistically significant correlation between imminent abortion, anxiety and depression symptoms, which may prove that all study participants who had an imminent abortion also had depression and anxiety symptoms (Table 5).

1. There was statistically significant correlation between the threat of pregnancy interruption, anxiety and depression level. If there was a threat of pregnancy interruption, there was higher anxiety level (T-status, T-sign) and depression level (BDAll).
2. There was also a tendency of statistically significant positive correlation between pregnancy toxicosis and anxiety level (T-sign) ( $p=0.053$ ), which may mean that patients with pregnancy toxicosis were seen to have higher anxiety level (T-sign).

In order to check the stability of the study results, statistical calculations on statistically significant differences were done in the study group a month after art therapy session on depression symptom and anxiety symptom (T-status and T-sign) scales (Table 6).

## Discussion and conclusions

The research results confirmed that depression and anxiety symptoms in the study group statistically significantly reduced after art therapy (2<sup>nd</sup> measurement, Table 3). Stability of results was preserved even a month after art therapy (3<sup>rd</sup> measurement, Table 6). The 1<sup>st</sup> and 2<sup>nd</sup> measurements showed statistically insignificant differences in both aspects in the control group (Table 4), which can be explained by the fact that no art therapy was performed in this group.

In pregnant women, both anxiety and depression symptoms were present. Thus, it was important to include some tasks into the art therapy plan which would help them identify and correct distorted conceptual schemes and dysfunctional conceptions, teach them to fix their negative automatic thoughts, understand and judge how they would affect their feelings and health. It was important for pregnant women in the study group to solve emotional difficulties, which were in the background of depression and anxiety. Support therapy for the coordination of one's psychological needs by promoting perception changes of anxiety and fear goes hand in hand with one's self-transformation, self-development process, and improvement of communication skills and acceptance of one's body image. Using the cognitive behavioural approach is beneficial by the integration through the prism of humanistic and psychoanalytical approach, directive techniques and structured tasks with an aim to change and overcome anxiety and fear perception, consequently influencing causative relationship of anxiety and depression.

At the initial stage of art therapy, pregnant women's emotions were suppressed, marked control dominated over their behaviour and the created piece of art. The participants were worried that the evaluation of their work by other women could be negative. Signs of anxiety could be identified in the choice of colours (mostly dark) and forms, primitive lines. At the conclusive stage of art therapy, with the lessening of depression and anxiety symptoms, women became more relaxed, used brighter colours; the drawing covered a comparatively larger part of the sheet indicating a more positive perception of oneself and their future.

Warm-up exercises, the use of different materials of art stimulated the creativity level of the participants, and first

**Table 3. Comparison of mean indices of anxiety and depression symptoms before and after art therapy**

Dependent selections	T-status			T-sign			BDA II		
	$\bar{\chi}$	t	A	$\bar{\chi}$	T	A	$\bar{\chi}$	t	$\alpha$
I <sub>1</sub>	42.3750	5.634	0.000	43.2500	6.361	0.000	19.1250	5.664	0.000
I <sub>2</sub>	28.5000			31.0667			10.7000		
K <sub>1</sub>	42.1875	-0.056	0.956	43.3125	-0.238	0.813	18.5000	0.041	0.968
K <sub>2</sub>	42,3333			43,8667			18,4333		

$p<0.05$  there is statistically significant difference between the mean indices of selections

**Table 4. Comparison of mean indices of depression and depression symptoms after art therapy**

Independent selection	T-status			T-sign			BDA II		
	$\bar{\chi}$	t	A	$\bar{\chi}$	T	$\alpha$	$\bar{\chi}$	t	$\alpha$
I <sub>2</sub>	28.5000	5.935	0.000	31.0667	6.032	0.000	10.7000	5.264	0.000
K <sub>2</sub>	42,3333			43,8667			18,4333		

$p<0.05$  there is statistically significant difference between mean indices of selections



of all, helped them relax at the kinetic-sensation level. With the decrease of perception control, they got more actively involved into art therapy focusing their attention on it. Comparing this stage with that of the beginning, the images and symbols in art therapeutic activity were depicted in multidimensional work, richer both in form and means of expression, going deeper and focusing on the understanding of the created work. Using one's individual creativity, each woman learned more about herself and the potential of group communication and spontaneity. The aim of the task was to focus on colours and forms, how they were reflecting the women's mood. The perceptively-affective level being activated, the women tried to find representation for their internal and external experience, which helped them release their previously suppressed emotions. Representation of one's own image, in connection with one's own judgement about oneself, initiated associations and discussions how one's body image is perceived and accepted. Recognition of emotions and their depiction helped the women understand their negative automatic thoughts, communication and behaviour types in relationship with other people. Many participants expressed dislike to themselves and their body changes during pregnancy. Having discussions and paying attention to each participant's feelings and emotions, encouragement

and support helped them relax and get rid of control, to accept the negative emotions as well, to understand oneself and the problems much deeper.

In the process of art therapy, it was important to broaden the patients' space of life, creating larger scope of symbolic imagination, for instance, spontaneously created pieces of art (scribbling, drawing with a non-dominant hand, monotyping) created access to the subconsciousness, revealing thoughts and emotions through creative self-expression. Drawing by the non-dominant hand caused thoughts on situations of life changes, in case there were some limitations or losses. Using one's active imagination and creativity, using different materials of art, and short warm-up exercises, helped pregnant women express thoughts and feelings of the moment and also the experience by working in a group. It helped the group dynamics because it caused frankness and sharing one's feelings and emotions with the other groupmates. Freely chosen types of art expression, the factor of therapeutic relationship (triangular relationship, quality of therapeutic relationship, spontaneity, and creativity), the factor of reflexion and feedback strengthened the effectivity of using art therapy in the group work to overcome depression and anxiety symptoms.

At the stage of evaluation, participants were much deeper reflecting at the cognitively-symbolical level, focusing on

**Table 5. Correlation of the results of Beck Depression Inventory II (BDI-II), Self-assessment questionnaire with negative experience in previous childbirth, pregnancy toxicosis in present pregnancy and threats of pregnancy interruption in present pregnancy in the study and control groups before art therapy (n=64)**

		T-status	T-sign	BDA II
Negative experience in previous childbirth	Pearson Correlation	0.209	0.182	0.207
	Significance	0.097	0.150	0.100
	N	64	64	64
Pregnancy toxicosis	Pearson Correlation	0.194	0.243	0.287
	Significance	0.125	0.053	0.021
	N	64	64	64
Pregnancy interruption threats	Pearson Correlation	0.343	0.388	0.352
	Significance	0.006	0.002	0.004
	N	64	64	64

$p < 0.05$  There is positive, statistically significant correlation if significance level is lower than 0.05

**Table 6. Comparison of mean depression and anxiety indices in comparison to results in the study group after art therapy and a month after art therapy**

Dependant selections	T-status			T-sign			BDA II		
	$\bar{\chi}$	t	A	$\bar{\chi}$	T	A	$\bar{\chi}$	t	$\alpha$
I <sub>2</sub>	28.5000	-0.981	0.331	31.0667	-0.529	0.599	10.7000	-0.273	0.786
I <sub>3</sub>	30,4615			32,1923			11,0769		

$p > 0.05$  there is statistically significant difference between mean indices of selections



**Figure 2. Circle in a circle like a “sparkling symbol” in different pieces of art prepared by pregnant women**

negative automatic thoughts, changing the thinking schemes, turning attention to problem solving, the ability to plan perception of their image and future. Lusebrink's concept on gradual expression levels of art is confirmed in relation to the use of art materials and technologies, and depict the development of patients' mental and artistic manifestations, starting from spontaneous reactions till abstract and symbolic thinking [31]. Sometimes nonverbal communication with one's own piece of art and nonverbal experience in the group was so strong that the created symbols were encountered in the pieces of art repeatedly (Jung defines them as “sparkling symbols”) [32], helping to identify internal conflicts, fear and worries, as well as to recognize oneself.

In the fifth session, the task for the group was to show „how I struggle with negative emotions and who helps me overcome them”. It was a dynamic turning point to see the resources at work with negative emotions to develop cooperation and to make new behavioural models. Depiction of emotions and physical feelings in a group work facilitated their mutual interactivity, communication, trust and emotional support in solution of common problems, as well as in looking for solutions of individual

problems. At the same time, the ability of other participants to express their emotions and feelings created a sense of support, strengthened safety and self-confidence.

Creative process and therapeutic relationship characterize the efficacy of art therapy working process, depicting therapeutic changes from the patients' point of view. Patients became livelier, more relaxed, more confident, could tell what they wanted, could ask for support when it was needed, could explain their emotions and verbalize them, could accept their negative emotions and their causes as well, could structure their needs, could devote more time to themselves, began to understand their problems and causes, could perceive different life situations much calmer, dared to express their ideas in the group, became calmer and more secure about themselves and the expected baby's health, became less worried of the expected childbirth.

At the evaluation and conclusion stage of art therapy, the ability of pregnant women to understand their own and other people's emotional reactions, behaviour was also increased, which helped them to learn, understand and perfect one's own personality, behaviour, relationships, and internal resources.

#### List of Abbreviations

ACTH: adrenocorticotropic hormone; BDAI: Beck Depression Inventory II; SKF: International functioning, disability and health classification. Geneva: WHO; 2001.; SSK-10: International Disease Classification; STAI Form Y-1: State- Trait Anxiety Inventory; T phase: anxiety phase; T trait: personality trait or anxiety;

Analyzing the group results statistically, first of all, attending the art therapy significantly changed the participants' daily life by devoting some time only to themselves. Art therapy with its humanistic approach emphasized self-awareness, initiated the development of one's capacities, self-assessment, creativity development and thinking of issues related to one's own self (fear, anger, death, suffering, freedom).

Secondly, the aim of art therapy was to change the perception of anxiety and fear, interrupting automatic thoughts, changing wrong thinking and behavioural models. By this change, their behaviour was changed as well, which was reflected in a sense of greater safety, self-confidence, accepting one's self-image, and the primary therapeutic aim – decreasing of depression and anxiety symptoms.

Thirdly, art therapy improved pregnant women's communication skills. Doing repeated measurements a month after art therapy in the study group, the measured level of depression and anxiety showed stability of the acquired results.

Fourthly, it would be sensible to have cooperation between gynaecologists and obstetricians, family physicians and midwives offering art therapy as an essential additional method for depression and anxiety symptoms in pregnant women, as it could significantly improve pregnant woman's health and the health of the new-born, as well as the outcome of childbirth (*Figure 2*).

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