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The study of pregnant women’s kinetoprophylaxy using relaxation methods

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Abstract

This study meets the wishes of future mothers, and it aims at providing the most natural, cheapest and more readily available drug: exercise, suggestion and autosuggestion. With its help the pregnant woman will remain normal physically and especially mentally, the pregnancy will have a normal development, the birth will be easy, and the negative outcomes will be prevented or corrected. The woman will find a reason to learn how to become a parent and how to eliminate the fear of this period in her life.

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1. Introduction

Adult education is for all people, all social categories and it facilitates the active population to adapt to the continually changing knowledge and contemporary requirements, fostering the integration of the individual, improving the conditions of their existence. Adult education experts have identified several priority groups of people requiring careful assistance; among these groups are women. The purpose of this education is to optimize the involvement of women at intellectual, social, economic, civic, moral and spiritual level (Sacaliuc, 2012).

The permanent changes have brought along transformations at all levels. Taking into account this fact, we must bear in mind the fact that changes to information processing in the human psyche occur at a slower pace (Dumitriu, 2010).

We can add to these physical and mental changes the fact that, during pregnancy, the woman has to fulfill a number of roles and responsibilities in different social structures. These roles overlap and undergo a dynamic and constant

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change, which can often cause a crisis during which the adult, the future mother needs support in teaching and learning provided by a multidisciplinary team.

To achieve maximum efficiency in assisting a pregnant woman, it is important that the team of specialists works from three perspectives: biological, psychological and social (Ciobanu, 2008).

The multidisciplinary team specialists had to find solutions to solve the needs of pregnant women with personalized information for them. They have created a prenatal educational kinetoprophylaxy for theoretical, mental and physical training.

For the prevention of anxiety about pregnancy and birth, professionals attribute a strong role to the prenatal educational activities. This aims at preparing pregnant women for normal behavior during birth (Luca, 2013).

2. Study design

The evolution of science and current research guides us to a new vision and awareness towards lifelong education for every individual.

Birth is the hope for the perpetuation of life with which we try to overcome death. By giving life we become a part of the infinite universe. Birth, this unique moment in the life of a person, is something singular, noble, triumphant, but fear and ignorance can turn it into a scary, agonizing and painful situation.

Pregnancy induces a number of changes in the activity of the whole body, which produces a more pronounced physical and mental load. Pregnancy brings a major change in life as future mothers encounter highly elevated negative emotional states, stress.

Fitness programs and prenatal exercises alleviate some of the discomfort of pregnancy, also aiding in preparing the body for labour and promoting emotional balance (Simkin, Whalley, & Keppler, 2012).

Many countries already have tradition and experience in designing and conducting educational programs of physical training and mental health of pregnant women. In our country, this mentality has also begun to spread. The School for pregnant women in Tîrgu Mure was established in 1995 within the Rheum-Care Foundation.

The prenatal kinetoprophylactic educational training for pregnant women should be started only after a thorough medical examination performed by a gynaecologist and after recovery, to ascertain the health of the pregnant woman and the status of the pregnancy (Balint, 2010).

Design prenatal kinetoprophylactic instructional activities were designed and tailored according to the Bloom model, following three areas: cognitive, affective and psychomotor (Bernat, 2010).

The objectives, ordered hierarchically from simple to complex, have the following sections: knowledge, comprehension, application, analysis, synthesis and evaluation (Marcu & Filimon, 2010).

To implement the kinetoprophylactic training activities the following objectives and means were placed in relation, adapted to the situational needs of the School for Pregnant Women. These activities were designed based on specific questions of the six sections of learning.

In the implementation of kinetoprophylactic training activities the objectives and means were correlated and adapted to situational needs of the beneficiaries of the School for pregnant women.

By implementing the educational activities in prenatal kinetoprophylactic training we hypothesized the following:

- the applied relaxation kinetoprophylactic exercises will help maintain a mental balance in mothers to have a better physical shape;
- by the participation in such activities the future mothers will be more confident and will look onto the unknown future (the birth) with a marked optimism.

In the prenatal educational program, future mothers were drafted their history, a careful evaluation, after which the educational activities started, grouped into three areas: theoretical, physical and mental.

The theoretical stage included topics about the concept of pregnancy, physiological changes in the body, the stages in birth, the learning of breathing-relaxation methods, possible analgesic-anesthesia methods, advantages and disadvantages, proper nutrition during pregnancy, the importance of breastfeeding and the post-partum period, the father’s role in childbirth and programs applied in other countries.

The physical education stage contained special exercises tailored to the prenatal period, grouped according to the effects they exert:

- exercises to prepare the body for effort, selective influence on the loco motor system and relaxation;
presentation and practice of correct posture in different positions of the body and in different life situations;
exercises for toning and/or development of the following muscle groups: back, abdomen, chest, pelvic floor, pelvic-peritoneal area;
exercises to improve peripheral circulation, balance and breathing.

The mental stage had the strongest emphasis in our study because members of the multidisciplinary team wanted to pursue particular methods and psycho-somatic relaxation techniques and autosuggestion, increasing personal value and improving the self-image of the trainees at the School for pregnant women. Relaxation methods are widespread and highly valued, providing support for pregnant women to cope with the stress of everyday life. As a method of relaxation, self-regulation produces induces relaxation and mental calmness (Holdevici, 2012).

The mental educational activities included the following methods and psycho-somatic relaxation techniques tailored to the specific prenatal period:
- analytical relaxation method - Jacobson
- auto genus training - I. H. Schultz
- suggestion and autosuggestion
- breathing and relaxation.

In the case of the educational activities, Bloom’s six sections were tailored according to the maternity period as follows:
- Concepts, ideas, knowledge about the exact period of pregnancy;
  - explaining and clarifying of this knowledge;
  - proper application of theoretical, physical, and mental knowledge;
  - analyzing information and applying new knowledge;
  - synthesis and reformulation of information and new knowledge;
  - assessment and concluding opinions about the acquired information and knowledge.

2.1. Organization of the study

The study was conducted in Tîrgu Mure within the Rheum-Care Foundation, the Clinics of Obstetrics and Gynaecology No. 1 and No. 2, and it covered the period between January 2012 and June 2013.
Throughout the duration of the study we had the support of specialists from the above mentioned institutions.
The trainees of the School for pregnant women participated in kinetoprophylactic educational activities twice a week and the duration of the sessions was 90 minutes/meeting. Kinetoprophylactic prenatal education activities focused on theoretical, physical and mental training.

2.2. Subjects

One hundred and sixty pregnant women were included in our study, 80 representing the experimental group and the other 80 the control group.
The groups had a homogeneous composition from the point of view of age, profession, place of residence and level of education. Subjects in both study groups were primary and we received the consent of each to be included in this study.
When registering, each pregnant woman in the experimental group was given their history by the gynaecologists of the multidisciplinary team, which allowed detection of the pregnant women with increased obstetrical risk so that they were not included in the study group.

2.3. Assessment

To have a clearer view of the kinetoprophylactic prenatal educational program with a stronger emphasis on psychological educational activities, we used the Life Orientation Test self-assessment scale – the optimism scale developed and applied by Michael F. Scheier and Charles S. Carver.
Two tests were performed, an initial and a final one.
The rating system was as follows:
Please answer the following statements by choosing one of the five choices, depending on your feelings now and not what people think in general.

4 = I strongly agree  
3 = I partially agree  
2 = I neither agree or disagree  
1 = I disagree  
0 = I strongly disagree

Items of the scale

- In uncertain times, I usually expect the worst to happen.
- I can relax easily.
- If something can go wrong for me, it will.
- I always look on the bright side of things.
- I am always optimistic about my future.
- I enjoy my friends a lot.
- It is important for me to keep active and busy.
- I do not expect things to go well.
- Things never happen as I want.
- I do not become upset too easily.
- I believe in the saying “After the rain comes the sun”.
- I do not take account of the good things that happen to me (Scheier & Carver, 1985).

2.4. Results

To get a clearer picture of the importance of kinetoprophylactic educational program, with special attention to the mental activity education, the multidisciplinary team chose between the items of the test, “I can easily relax”.

The collected data was processed using:

- discrete variables-> nonparametric test (Mann-Whitney)
- the significance level used was alpha = 0.05
- it was used the Graph Prism 5.0, which rendered the following results:

<table>
<thead>
<tr>
<th>Table 1. Initial data parameters</th>
<th>INITIAL TEST CONTROL GROUP</th>
<th>INITIAL TEST EXPERIMENTAL GROUP</th>
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<td>80</td>
<td>80</td>
</tr>
<tr>
<td>Minimum</td>
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<td>0.0000</td>
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<tr>
<td>25% Percentile</td>
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<tr>
<td>Median</td>
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<tr>
<td>75% Percentile</td>
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<tr>
<td>Maximum</td>
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<td>Mean</td>
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<td>Std. Deviation</td>
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<tr>
<td>Std. Error</td>
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<td>0.0875</td>
</tr>
<tr>
<td>Lower 95% CI</td>
<td>2.132</td>
<td>1.913</td>
</tr>
<tr>
<td>Upper 95% CI</td>
<td>2.468</td>
<td>2.262</td>
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### Table 2. Initial data analysis

<table>
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<th>Table Analyzed</th>
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</thead>
<tbody>
<tr>
<td>Column A</td>
<td>INITIAL TEST CONTROL GROUP vs. INITIAL TEST EXPERIMENTAL GROUP</td>
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<tr>
<td>Mann Whitney test</td>
<td>P value 0.0662</td>
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<td>Exact or approximate P value? Gaussian Approximation</td>
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<td>P value summary ns</td>
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<td></td>
<td>Are medians signify different? (P &lt; 0.05) No</td>
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<td></td>
<td>One- or two-tailed P value? Two-tailed</td>
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<td></td>
<td>Sum of ranks in column A,C 6935, 5945</td>
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<td>Mann-Whitney U 2705</td>
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### Table 3. Final data parameters

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<th>FINAL TEST CONTROL GROUP</th>
<th>FINAL TEST EXPERIMENTAL GROUP</th>
</tr>
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<tbody>
<tr>
<td>Number of values</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>Minimum</td>
<td>1.000</td>
<td>2.000</td>
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<tr>
<td>25% Percentile</td>
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<tr>
<td>Median</td>
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<tr>
<td>75% Percentile</td>
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<tr>
<td>Maximum</td>
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### Table 4. Final data analysis

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<td>Column B</td>
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<td>Mann Whitney test</td>
<td>P value &lt; 0.0001</td>
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<td>Exact or approximate P value? Gaussian Approximation</td>
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<td>P value summary ***</td>
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<td></td>
<td>Are medians signify different? (P &lt; 0.05) Yes</td>
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<td>One- or two-tailed P value? Two-tailed</td>
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<td></td>
<td>Sum of ranks in column B,D 3651, 9229</td>
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<td></td>
<td>Mann-Whitney U 411.0</td>
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</table>
Comparing the results we can infer the following:

- the initial testing scores obtained in the experimental group have a mean value of 2,088, and 2,300 in the control group. This difference can be considered a consequence of spontaneous mental preparation of the pregnant woman on having of a new family member;
- on the final testing, after implementing the suitable kinetoprophylactic educational program, there is an increase of 1,250 in the relaxation capacity as opposed to the initial testing of the experimental group, due to the elimination of stress factors and increased knowledge about pregnancy;
- the final testing scores obtained in the experimental group have a mean value of 3,338, and 2,075 in the control group.

We believe that with the approach of the time of birth, something unknown to pregnant women in the control group, signs of insecurity and vulnerability occurred more and more frequently, which led to a decrease in their ability to relax.

At the initial testing, p = 0.06, we found that there was no significant difference between the two medians.
At the final testing, p < 0.0001, we found that the difference between the two medians was significant.

Under these circumstances, we can say that pregnant women undergoing kinetoprophylactic educational activities enjoy a high level of quality of life, resulting in optimal relaxation capacity, they become more confident and able to fulfil more intellectual activities on social, economic, civic, moral and spiritual levels.

Conclusions

The kinetoprophylactic educational program fulfilled its aim to find and apply learning models for women in a special biological situation, pregnancy, the trainees of the School for pregnant women.

Implementation of the activities and using Bloom’s learning model, adapted to the need of our study, brought along the acquiring and use of conscious relaxation methods, the women having developed a relaxation ability beneficial during pregnancy.

Collaboration and communication between the members of the multidisciplinary team was outstanding and is a prerequisite for success.

In the kinetoprophylactic educational program a major role was played by the psychological environment, the local atmosphere, communication between professionals and the subjects who acquired skills in mental, general and physical relaxation.

References