EFFECTS OF EDUCATION GIVEN ACCORDING TO WATSON'S THEORY OF HUMAN CARING ON PREGNANCY DISTRESS: A RANDOMIZED CONTROLLED TRIAL

Abstract

Objective: Prenatal maternal stress is a very common mental health problem among women during their time of pregnancy.The objective of this study was to evaluate the effectiveness of the education based on Watson's "Theory of Human Caring" on pregnancy distress.

Methods: This study is single-blind randomized controlled experimental. The study was conducted at Family Health Centers (FHC) in the central district of Manisa. The research was conducted with 128 pregnant women. Pregnancy distress rate after the education based on Watson's "Theory of Human Caring". 128 Turkish pregnant women (training group: 64, control group: 64). The research data were collected by using a Pregnant Information Form, Tilburg Pregnancy Distress Scale (TPDS) and Watson Caritas Patient Score (WCPS).

Results: In the research, it was found that the total score average of the TPDS before the training for the pregnant women in the training and control groups was no significant difference between two groups ($p>0.05$). It was also determined that the total score average of the TPDS after the training during the third trimester was a statistically significant difference between two groups ($p<0.05$).

Conclusion: It has been determined that the training provided with given according to Watson's Theory of Human Caring to pregnant women is an effective initiative in decreased the distress of pregnant women.

Key Words: Pregnancy, Distress**,** Watson's Theory, Training

1. INTRODUCTION

Pregnancy is recognized as a stressful event in a woman's life that needs enormous psychological adjustment [1]. Stress during pregnancy is defined as the imbalance that a pregnant woman feels when she cannot deal with demands and worries [2].

Worldwide, prenatal maternal stress is a very common mental health problem among women during their time of pregnancy. Studies reported that the prevalence of stress during pregnancy range from 5.5 to 78% [2, 3, 4, 5, 6].

It is normal for a pregnant woman to be psychologically unsteady and tensed about her health, baby's wellbeing and the likely changes which will take place in her life after the birth of the child [7]. Mild level of perceived stress during pregnancy is good for the most favorable development of the fetus, but if it goes beyond it may lead to long term effect on the fetus and change the development of the fetal nervous system [8]. During pregnancy a women's body changes in many ways due to the effect of hormones. These changes can sometimes be uncomfortable and may lead to stress during pregnancy [7]. Prenatal maternal stress has been implicated in having a role in adverse health outcomes across the lifespan, including antenatal and postpartum depression; inadequate prenatal care; obstetric complications; preterm birth; low birth weight; delayed child development, behavioural, and mental health problems; and chronic adult disease related to fetal programming [9,10,11]. The short- and long-term sequelae of prenatal maternal stress underscore its importance as a public health concern.

Pregnant women should learn how to cope with stress because reducing the effects of stress is important for the health of both pregnant women and babies. Prenatal care provides a window of opportunity to assess and implement care for women experiencing psychological distress [9].

The starting point for the present study was the need for taking the nursing care of women whose stress during pregnancy. When the stress during pregnancy, maintaining the

care requires nursing knowledge and practices. To achieve this, it has been suggested that theories or models specific to nursing should be used as a guide.

Jean Watson's human care theory aims at moving away from treatment-centeredness and focuses on "caring" [12]. The theory focuses on both human and nursing paradigms. It asserts that a human being cannot be healed like an object to be repaired. The conceptual elements of the Watson's theory include the caritas process, the transpersonal caring relationship, caring moments and caring occasions, and caring–healing modalities [13]. Various studies have established that the theory of human caring can make nursing care more efficient and aware and improve care outcomes [14]. Given all of these an antenatal education based on Watson's "Theory of Human Caring" may be a promising prevention approach for this group.

Even though perceived stress during pregnancy adversely affects the mother and her baby, there is still a scarcity of data from developing countries including Turkey. Therefore, this study was to evaluate the effectiveness of the education based on Watson's "Theory of Human Caring" on pregnancy distress.

2. MATERIALS AND METHODS

2.1.Participants and design

The study is a single-blind, randomized controlled and follow up trial. The study was conductedbetween 15 June 2018 and 15 June 2019 at Family Health Centers (FHC) in the central district of X city. Target population of the study consisted of 6289 pregnant women in the city. There are 25 FHCs in the area where the study was conducted. The study involved FHC Numbered 8 and FHC Numbered 4 in the city.Two was selected using purposive sampling as FHCs where women with varying sociodemographic characteristics came for health services and would be able to take part in and continue with the education program. The research was conducted with 128 pregnant women by determining the number of individuals needed to serve as a sample from the clinic by the Random Sampling Method. The inclusion criteria were: Turkish pregnant women who (1) were in their second trimester

of pregnancy, (2) undertaken at least primary school education, (3) spoke Turkish, (4) were primigravidae, (5) were undergoing an uncomplicated pregnancy.

Power analysis was performed with 95% confidence interval and p=0.05 significance level. As a result of the completion of the study, 64 people were recruited to the experimental group and 64 to the control group, the power of the study was determined to be 100% when the data obtained according to the Tilburg pregnancy distress scale in pregnancy were used in the G-Power program.

2.2.Questionnaires

For the collection of research data, we used a Pregnant Information Form, theHealth Practices in Pregnancy Questionnaire and Watson Caritas Patient Score (WCPS).

Pregnant Information Form

The Form consisted of questions about their socio-demographic and marital features, income status, residence, family type (nuclear, extended etc.) and educational background [15,16,17].

Tilburg Pregnancy Distress Scale (TPDS)

The TPDS was developed by Pop et al. (2011) in the Netherlands. The scale consists of 16 items and 2 main subscales. The first subscale is “Negative Affect” and the second subscale is “Social” (Partner involvement) subscale. The “Negative Affect” subscale consists of 12 items regarding pregnancy, delivery, fear, anxiety, perceptions, and concerns regarding postpartum. The “Social” (Partner involvement) subscale consists of four items related to partner support during pregnancy. The scale is a 4-point Likert-type scale (0=often, 1=quite often, 2=sometimes and 3=rarely or never). In the scoring, the scores of 3rd, 5th, 6th, 7th, 9th, 10th, 11th, 12th, 13th, 14th, and 16th items were interpreted by inverting. The minimum score in the scale is 0 and the maximum score is 48. The maximum score for Negative Affect is 36, whereas the maximum score for Social (Partner participation) subscale is 12. Cronbach’s alpha of the scale was noted to be0.78.According to the scoring of the scale, the score for

breakpoint is 28 and over.Higher scores indicated increased birth-related anxiety and fear[18].The validity and reliability of the TPDS were tested by Capık (2011) and Cronbach Alpha value was found to be 0.83[19]. Cronbach's for the current study was 0.81.

Watson Caritas Patient Score (WCPS)

Watson Caritas Patient Score (WCPS) capturing the patients experience of caring. The WCPS was developed by Watson et al. (2010). The WCPS consists of 5items. Response options for each item range from 1 (never) to 7 (always). The items empirically assess the patients subjective experience of receiving caring; the items refer to such indicators as loving kindness, trust, dignity, healing environment, and honoring of beliefs and values[20,21].

2.3.Data collection

Data were collected immediately before the education program as pretest (Second trimester, mean: 23.08 week).The research was applied that Pregnant Information Form and TPDS by using the face-to-face interview technique after the necessary explanations were made by the researcher.

Data were collected as post-test (third trimester, mean: 31.00 week) 8week after the end of theeducation program.The research was applied that TPDS and WCPS by using the face-to-face interview technique after the necessary explanations were made by the researcher.

2.4.Randomization

The block randomization method was used to determine which group of pregnant women would be included. 6 different possibilities numbered in six blocks were determined by the help of a computer program that produces random numbers.

The researcher who will collect the data learned the group of each pregnant woman, only after she was included in the research, in the data collection phase. Individual files have been created for each pregnant woman. These files are enclosed in opaque envelopes. After determining the pregnant women who met the sample criteria of the study and agreed to

participate in the study, envelopes were opened and the woman was determined to be in the education or control group. The pregnant women in the sample of the study learned which group they were in during the data collection phase after they were included in the study. Knowledge of the education and control group has also been hidden from employees at the hospital. In order to prevent pregnant women in the education and control group from contacting each other, appointments were made at different times.

The pregnant women who were included in the research were divided into two groups: education and control. Tilburg Pregnancy Distress Scale was applied to the pregnant women in the education group during the prenatal period (II trimester average: 23.08 weeks) during the first interview with the pregnant information form and in accordance with the data collected, the point averages of the pregnant women in the Tilburg Pregnancy Distress Scale were determined.

The education was prepared in three sessions with the subjects such as Pregnancy, Pregnancy perceptions, Concerns about pregnancy, Discomfort During Pregnancy and was given by the researcher individually for each pregnant woman in the designated FHC. The education was done using question-answer, lecture, slide show, showing on the figure, showing and making methods. The pregnancy education booklet covering the educational content was given to the women in the education group. After individual educations for each pregnant woman, pregnant women were able to receive counseling support by phone from the researcher at any time.

In the education group, the TPDS and WCPS were re-applied in pregnancy by meeting the pregnant women face to face in the III trimester (Avg: 31.00 weeks).

During the prenatal period (II trimester average: 24.02 weeks), the TPDS was applied to the control group by means of the Pregnancy Information Form and in accordance with the data collected, the data collected the mean scores of TPDS were determined.

The control group was not given any education by the researcher other than the standard care offered at the health institution. With pregnant women in the control group in II trimester (Avg: 24.02 weeks) and in III trimester (Avg. 30.92 weeks) were interviewed face-to-face and the TPDS was applied. After the last measurement, pregnant women in the control group were given a pregnancy education booklet covering the educational content.

2.5.Statistical analysis

Descriptive data are presented as number, percentage, mean, Kolmogrow-Smirnov, Chi-square and Fisher Chi-square test. The data gathered from the groups were compared with the, independent samples t□test and Multiple Regression Test. All analyses were carried out using the SPSS for Windows, release 20.0 (SPSS, Inc., Chicago, IL, USA). A p value of <0.05 was thought to be crucial for all analyses.

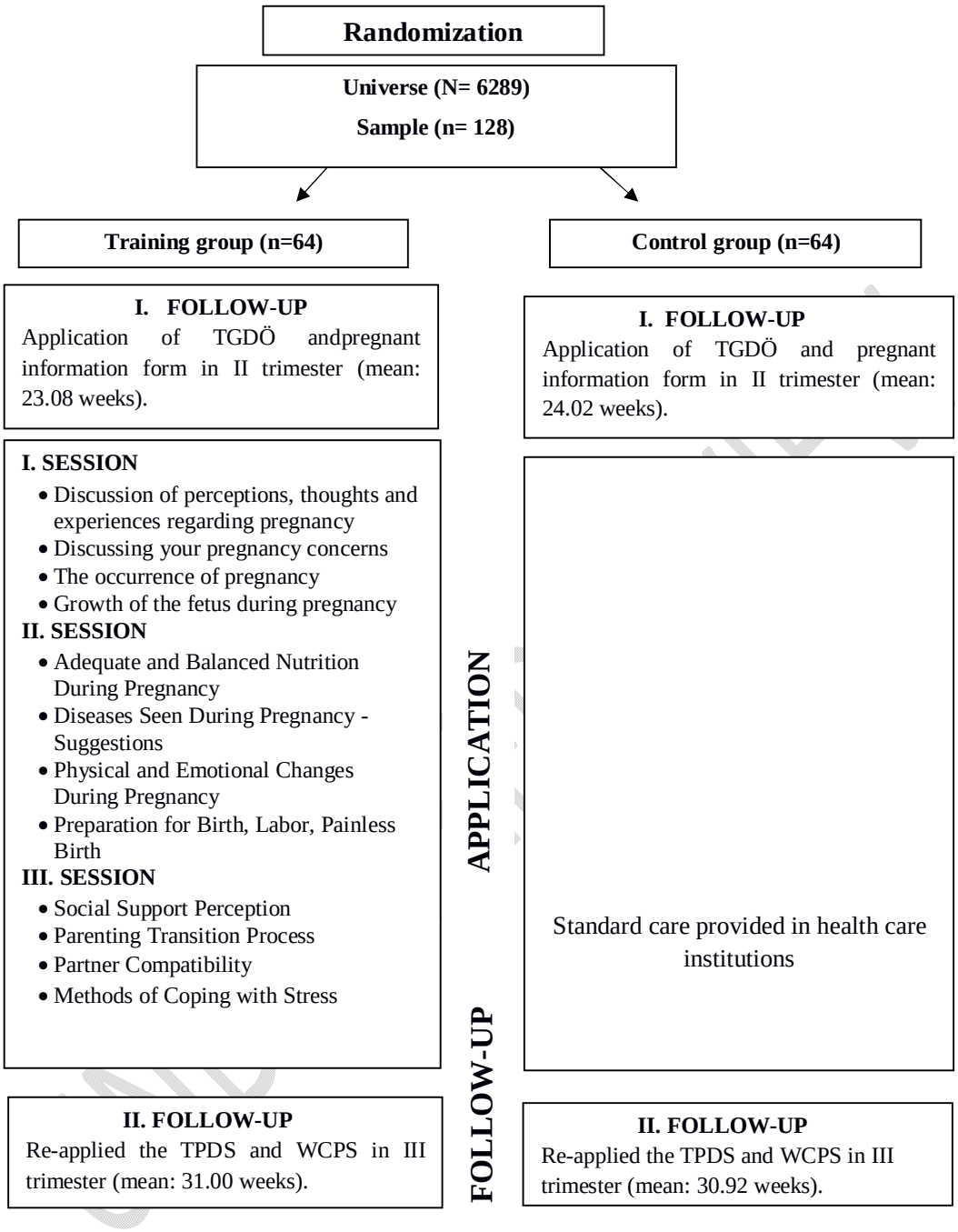

Figure 1: Consort Chart of the Study

Source: Consort 2010 Akış Diyagramı, Moher D, Schulz KF, Altman D. The Consort Statement: Revised Recommendations for Improving the Quality of Reports of

3. RESULTS

Considering the descriptive features of individuals comprising the study group, the training group had an mean age of 26.17±4.46, and the mean age of control group was 24.76±4.35. Women in training group 50.0% of them graduated from elementary school, 50.0% of them have middle income, first delivery mean age of them is 22.87±4.11 and all of them had social security. Women in control group 65.6% of them graduated from elementary school, 29.7% of them have middle income, first delivery mean age of them is 22.32±4.19 and of them had social security. There was no significant difference between the groups ($p>0.05$)

Comparing training group and control group before training; it was determined that the total score average of TPDS was 19.70±7.44 in training group, 22.32±4.19 in control group and a significant difference was not obtained in the statistical analysis which was performed to compare the groups ($t=-1.203$, $p>0.05$) (Table I).

Comparing training group and control group after training in third trimester; it was determined that the total score average of TPDS was 8.73±7.68 in training group, 21.43±5.99 in control group and a significant difference was obtained in the statistical analysis which was performed to compare the groups ($t=-10.422$, $p<0.05$) (Table I).

Comparing training group and control group before training; it was determined that the total score average of Negative Affect was 15.90±6.89 in training group, 18.12±6.73 in control group and a significant difference was not obtained in the statistical analysis which was performed to compare the groups ($t=-1.842$, $p>0.05$). It was determined that the total score average of Partner Involvement was 3.79±2.93 in training group, 3.09±3.21 in control group and a significant difference was not obtained in the statistical analysis which was performed to compare the groups ($t=1.292$, $p>0.05$) (Table II).

Comparing training group and control group after training in third trimester; it was determined that the total score average of Negative Affect was 6.20±5.24 in training group,

18.21±6.18 in control group and a significant difference was obtained in the statistical analysis which was performed to compare the groups (t=-11.856, p<0.05). It was determined that the total score average of Partner Involvement was 2.53±3.12 in training group, 3.21±3.21 in control group and a significant difference was not obtained in the statistical analysis which was performed to compare the groups (t=-1.226, p>0.05) (Table II).

Multiple regression analysis was conducted to explain the effect of training on TPDS scores in the research groups. It is seen that the established model is not statistically significant before training (F=1.448, p>005). In the second trimester, it was determined that 0.4% of the change in TPDS scores of training and control groups could be explained by individual counseling training. (R^2=0.004, p>0.05) (Table III).

In the third trimester, it was determined that 45% of the change in TPDS scores of training and control groups could be explained by individual counseling training. (R^2=0.459, p<0.05) (Table III).

Patient satisfaction assessment results of training group according to WCPS; it was determined that the total score average of WCPS was 31.01±5.33 in training group. It was determined that the highest score average of "Value my personal beliefs and faith, allowing for hope (6.29±0.93)" and the lowest score average of "Meet my basic human needs with dignity (6.09±1.29)" and "Have helping and trusting relationships with me (6.09±1.35)" (TableIV).

4. DISCUSSION

Pregnancy, due to emotional, physical, and social changes, is considered an acute time in women's lives. Many women are faced with stress, perhaps the greatest stress they will ever have to deal with [22]. Therefore, it is important that to be able to notice the distress that exists during pregnancy, in terms of preventing possible problems that may occur during and after birth [23]. In line with these results, to decrease the women's levels of stress during

pregnancy andduring prenatal care, the nursing trainings and cares were planned based on Watson's Theory of Human Caring.

There is a general consensus that pregnancy itself is a stressful life event for women because it challenges them to adapt to various psychosocial and physiological changes. Therefore, there is a high incidence of distressing psychological symptoms including anxiety in pregnancy[24]. With rates of maternal distress varying between 10% and 41%, the detrimental health effects of the condition have been recognised as a worldwide public health concern [23]. In our study, it was determined that there was no significant difference between the scores of the training group (19.70±7.44) and the control group (22.32±4.19) on the TPDS before training. It can be said that both groups experienced the same level of stress.

In Namık's (2019) research it was revealed that pregnant women's TPDS total average score was 5.46±4.57[17], In Dundar and et al. (2019) research, it was 13.48±8.6[25] and In the study of Capıkand et al. (2015), it was 18.86±7.37[26], In the study of Pop et al. (2011), it was 10.67±5.81[18]. Our findings were consistent with other studies using the same.It can be said that pregnant women who do not receive any training or special care experience more stress during pregnancy.

Unlike other studies aiming to measure distress, nursing education and care in this study is structured on the basis of Watson's Human Care Model.The theory of Watson's Human Caring focuses on human and nursing paradigm[27]. The Theory is based on the idea that humans cannot be treated as objects; they cannot be separated from their self, others, nature and the universe [28]. It asserts that a human being cannot be healed as an object. In this theory, the environment is defined as comfortable, beautiful, and peaceful and that caring is the moral ideal that entails mind-body-soul engagement with one another [28,29].

Watson's theory of Human Caring aims to ensure a balance and harmony between health and illness experiences of a person. Watson states that in a holistic approach to caring for a

human, there are mind-body-spirit sub-dimensions, all of which reflect the whole as the whole is different from her/his sub-dimensions [30,31]. It can be predicted that nursing education and care based on this Model will reduce distress during pregnancy.

In the literature, there is no study in which nursing education and care based on Watson's Human Care Model is applied to pregnant women and their satisfaction is evaluated. It was observed that in studies where Watson's Human Care Model was applied to individuals in different populations and their satisfaction was evaluated that individuals' satisfaction levels were high [20,32,33].

In our study, it was determined that there was significant difference between the scores of the training group (8.73±7.68) and the control group (21.43±5.99) on the TPDS after training. It was determined that the average score of the total score in the third trimester of pregnancy was lower in the group given training than in the control group. When the data were evaluated, it was determined that there was a decrease in the distress of pregnant women who received education on subjects such as pregnancy, pregnancy perceptions, concerns about pregnancy, discomfort during pregnancy and that the education program was successful.

It is known that pregnant women should receive adequate training and consultancy services during pregnancy. Educating during pregnancy is an important health intervention that will positively affect both maternal and infant health[34]. In Kaya andet al. (2020) of research it was revealed that the total score of the TDSP decreased from 15.17±7.03 before the education to 13.01±7.03 after the education[16]. In Sezer and Sen (2020) of research it was revealed that there was a positive change in the health practices of pregnant women who received education that the education program was successful[15]. When studies were evaluated, it can be said that prenatal education has a positive impact on protecting the pregnant women and developing fetus and improving the quality of life, decrease in the

distress, obtaining accurate and new information, adapting the parents in their new role, to the period of pregnancy and birth.

The main objectives of the education carried out in order to inform the pregnant women are to provide knowledge and skills on important issues such as ensuring harmony in pregnancy, birth and puerperant processes, conscious birth, and adoption of new roles [35]. Education that will meet the needs of pregnant women and provide the right information during this period is defined as a behavior change process. It is very important for pregnant women to be able to turn their education into behavior and to meet their needs with a good education and to be supported by all sides [15].

In our study, it was determined that 45% of the change in the third -trimester scale scores of pregnant women in the training group could be explained by training.

Education is defined as the process of gaining desired behaviors in accordance with the education given about a subject in individuals, rather than loading information. It is aimed that the information given through education, which is not a static but a dynamic process, is converted into behavior and that these behaviors are maintained and made into a way of life. As shown in the literature, it has been determined that the pregnant women who receive education turn their education into the correct practices by bringing them into the way they behave [15,36,37,38,39,40,41,42].

It is known that parents who prepare themselves psychologically before and during pregnancy go through this process more easily, peacefully and healthily. Along with psychological preparation, managing this process consciously is also important for the health of both mother and baby[43]. Education and care to be given in this process is effective in developing and maintaining positive health behaviors in the mother.

Patient satisfaction, which is used in evaluating the quality of health care services, is an important criterion of health services. Therefore, determining the level of satisfaction of

individuals reveals the quality of health care services provided to these individuals and gives information about how this service should be [44].

In our study, it was determined that the total score average of WCPS was 31.01±5.33 in training group. When your study was evaluated, it can be said that prenatal education that were planned based on Watson's Theory of Human Caring decrease the women's levels of stress and pregnant women are satisfied with this education.

In order to prevent pregnancy-related stress, the risky group must first be determined. Nurses should prepare the pregnant women very well to live this natural process in the healthiest way possible.In addition, pregnant women should be developed their ability to cope with the problems they encounter and ensure that they pass this period comfortably [45]. Nurses should reduce stress levels by providing training and counseling services in addition to the physical care they will give to pregnant women.

5. CONCLUSION

As a result of the research; It has been determined that there is a significant difference between the distressof pregnant women who receive training and those who are not trainedand that training decreased the distress of pregnant women. It has been determined that the training provided to pregnant women is an effective initiative in decreased the distress of pregnant women. Our findings may benefit future research exploring about maternal stress in that there provide evidence of the importance of stress within a theoretical framework.

Ethics approval

The necessary written permissions for using the "Tilburg Pregnancy Distress Scale" were obtained from Capık, who developed. Governor of X city and X city Directorate of Public Health approved the study protocol. This research was approved by the Ethical Board of a University. The participants were recruited to the study on a voluntary basis. Before any meetings took place, the researchers informed the participants about the purpose, length and benefits of the study, and the written, informed consent of the participants was obtained.

SUPPLEMENTARY DATA

The transcripts from which this manuscript was developed are available on request from the corresponding author.

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Table I.The distribution of pregnant women's total mean scores on TPDS before and after the training

Scale mean score	Training Group (n=64) Mean ± SD	Control Group (n=64) Mean ± SD	t	p
Pre-training (2. Trimester) TPDS	19.70±7.44	22.32± 4.19	-1.203	0.231
Post-training (3. Trimester) TPDS	8.73±7.68	21.43±5.99	-10.422	0.000

SD: Standard Deviation; t: Independent sample t test

Table II.The distribution of pregnant women's total mean scores on TPDS Sub-scale before and after the training

Sub-Scale mean score	Training Group (n=64) Mean ± SD	Control Group (n=64) Mean ± SD	t	p
Pre-training (2. Trimester)				
Negative Affect	15.90±6.89	18.12±6.73	-1.842	0.061
Partner Involvement	3.79±2.93	3.09±3.21	1.292	0.191
Post-training (3. Trimester)				
Negative Affect	6.20±5.24	18.21±6.18	-11.856	0.000
Partner Involvement	2.53±3.12	3.21±3.21	-1.226	0.223

SD: Standard Deviation; t: Independent sample t test

Table III. The Effect of Training on TPDS

TPDS	ß	t	p	Beta	VIF	F	Model (p)	R2	Durbin Watson
Pre-training (2.Trimester)									
Training Group	1.347	9.981	0.00	0.107	1.000	1.448	0.231	0.004	0.218
Control Group	0.007	1.203	0.231						
Post-training (3. Trimester)									
Training Group	0.950	15.317	0.000	0.680	1.000	108.617	0.000	0.459	0.562
Control Group	0.036	10.422	0.000						

Table IV. The distribution of pregnant women's (training group) mean scores on Watson Caritas Patient Score after the training

	Min	Max	Median	X ±Ss
Deliver my care with loving kindness	2	7	7	6.28±1.26
Meet my basic human needs with dignity	2	7	7	6.09±1.29
Have helping and trusting relationships with me	2	7	7	6.09±1.35
Create a caring environment that helps me heal	4	7	7	6.25±1.03
Value my personal beliefs and faith, allowing for hope	3	7	7	6.29±0.93
Total	5	35	35	31.01±5.33