

## The Relationship between Coping Strategies During Pregnancy with Perceived Stress Level in Pregnant Mothers

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### ABSTRACT

**BACKGROUND AND OBJECTIVE:** Physical and mental changes that caused by pregnancy, causing high levels of stress, which is associated with adverse outcomes for the mother and fetus and pregnant women require coping strategies during pregnancy to combat with these created challenges. This study aimed to investigate the correlation between coping strategies and perceived stress of pregnancy and pregnant mothers.

**METHODS:** This study was done on 500 pregnant women as random sampling referred to 20 health centers in Mashhad. Information was obtained by using the Perceived Stress Questionnaire which scores range is from 0 to 56 and higher scores indicate greater perceived stress. In addition, coping strategies with pregnancy stress questionnaire which each subscale score measures separately was collected and evaluated.

**FINDINGS:** Average score of planned preparedness strategy was  $3.12 \pm 9.34$ , the avoidance strategy  $5.9 \pm 3.14$ , positive spiritual strategy  $7.5 \pm 3.17$  and the perceived stress levels of participants  $6.9 \pm 3.23$ , respectively. Between perceived stress and planned preparedness strategy ( $r = -0.69$ ) and positive spiritual strategy ( $r = -0.68$ ) was a significant inverse linear correlation and also between perceived stress and avoidance strategy ( $r = 0.75$ ) was a significant positive correlation ( $p < 0.0001$ )

**CONCLUSION:** The results showed that perceived stress was positively correlated with planned preparedness strategy and positive spiritual strategy, whereas was inversely correlated with avoidance strategy.

**KEY WORDS:** *Stress, Perceived Stress, Coping Strategies With Stress, Pregnancy.*

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## Introduction

One of the most critical periods of a woman's life is pregnancy and childbirth, which tends to induce large changes, including changes in physiological and psychological and social roles in the family. These changes cause psychopathological disorders such as stress and anxiety in the mother (1). Pregnancy is a stressful event, and researchers have given it a score of 40 out of 100 (2). Negative effects of maternal stress during pregnancy include premature birth, fetal weight loss, increased fetal birth defects and infant mortality (3-7). Stress in pregnancy causes side effects such as depression and mood disorders after childbirth (8), chronic increase in blood pressure (9), episiotomy infections (5), increase the likelihood of unplanned cesarean delivery (10).

Because of changes in the pregnancy period, there is a need for psychological compatibility in mothers. Each person's response to stress, depends on genetic factors, personality behaviors such as ability of evaluating the stressors, individual handling skills with stress, living conditions and environment, social support structures and the individual previous experience. Confronting is defined as a series of cognitive and behavioral efforts to control the stressful situation and improved pregnancy outcomes and impact on the fetus (12).

Handling the stress in mothers is very important issue because it affects the mental health of mom and baby(13). Among the leaders in the field of stress and deal with it, are Lazarus and Folkman that said that a woman during pregnancy how to assess the stress, the emotional responses and how the behavioral coping against stress takes shape. In fact, the concept of coping with the stress of pregnancy strategies derived from coping strategies of Folkman and Lazarus (14). Strategies for coping with the stress of pregnancy is divided into three strategies, planned preparation, a positive spiritual and avoidance(10,12).

In planned preparation strategy in pregnancy, plans about during pregnancy talk and consult with others about pregnancy and childbirth. In avoidance strategy, mothers in pregnancy, eat, sleep more than they need and talk about disappointment with others. Although planned preparation strategy in short term reduce the stress, but it is an useless strategy for coping with stress during pregnancy. The use of avoidant coping

strategy in pregnancy generally is associated with lower mental health, less positive attitude towards the screening of pregnancy, preterm delivery, greater use of tobacco, alcohol, tobacco during pregnancy. In spiritual strategy, pregnant person tries to submit herself to God about her pregnancy discomforts and problems and thus her distress and confusion reduces(12). In fact, how mother deal with stress in pregnancy predicts the mood of depression in mothers after childbirth(12,16). Huizink and colleagues showed that the use of appropriate adaptation strategies during pregnancy is associated with reducing complaints and adverse pregnancy outcomes such as nausea and vomiting, backache, change in appetite, loss of concentration and emotional disorder(15).

Huizink and colleagues showed that Compliance procedures have direct contact with the mother's stress level .Since pregnant women are one of the critical health groups and their mental health, guarantee the family and community health, and these women are trainers of children are the future generation checking, the status of their mental health is very important(18). Coping with stress in mothers is very important because it affects the mental health of the mother and baby. For this reason, the present study was performed with the aim of examining the association between strategies for coping with the stress of pregnancy with the perceived stress in pregnancy.

## Methods

This correlation study was done on 500 pregnant women referred to health centers in Mashhad by using a multi-stage stratified cluster sampling. The complete list of the five regional health care centers (number one, two, three, Samen and five) in Mashhad was prepared and from all five regional cluster, four regions randomly (by lottery) was selected, the number of health centers selected from five regions was 20 health centers. In the case of drug addiction, history of medical illness, high-risk pregnancy, psychiatric history, taking medication or hospitalization due to mental illness in recent year, severe stress over the past six months, such as the death of a family member or divorce were excluded from study. The sample size on a pilot study with confidence of 95% ( $\alpha=0.05$ ), power of 80% ( $\beta=0.2$ ) and correlation coefficient formula was

calculated 500. Data from the individual and midwifery questionnaire, perceived Stress questionnaire, Questionnaire-Revised coping strategies with pregnancy stress were collected. To determine the validity of individual and midwifery questionnaire, face and content validity were used.

Perceived Stress Questionnaire includes 14 questions such as Likert 5 of never or ever be. Questions (13,10,9 V7-4) was graded reversely and the grades range was 0 to 56. Higher scores indicate greater perceived stress. The validity of the Cohen Perceived Stress Questionnaire, was confirmed in the research of Mazloom and colleagues (19). Reliability of questionnaires in this study was also evaluated by using Cronbach's alpha 0.89. Revised coping with pregnancy stress questionnaires, which has 32 questions was used to examine strategies for coping with stress in pregnant women. This has three sub-readiness planned scale 15 words, avoidance 11 words, positive spiritual 6 words. Scoring is based on a 5-point Likert scale option from zero (never) to score four (most cases) and also score of each subscale measured separately. The reliability and validity of this instrument was confirmed in Hamilton and his colleagues study (10). For the validity of this questionnaire the questionnaire was translated into Persian and then necessary reforms were carried out by four English language specialist and then confirmation of the validity and content was done by ten members of the Faculty of Nursing and the School of Education of Ferdowsi University of Mashhad.

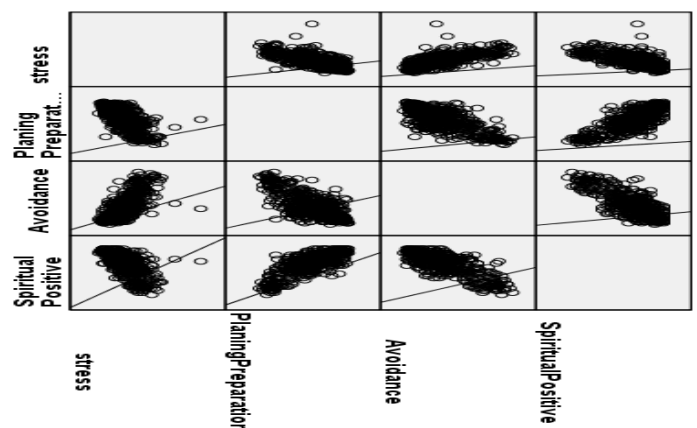
In this study, Cronbach's alpha reliability in three times in the first quarter, second and third was measured for planned sub-scale preparation 0.93, 0.91, 0.94 and for the avoidance subscale vary from 850, 0.88, 0.90 and positive intellectual scale 0.89, 0.81, 0.90. After collecting data by using 16Spss v statistical software and Kolmogorov-Smirnov and Shapiro Wilkie statistical tests, Spearman correlation coefficient and multiple regression analysis were done and  $p < 0.05$  was considered significant.

**Results**

The average age of pregnant women participating in the study was  $26.9 \pm 5.3$  years, the average number of pregnancies  $1 \pm 2$ , the average number of children

$0.9 \pm 0.8$ , respectively. The majority of pregnant mother's education level 36.2% (181 people) was diploma and in terms of employment status, 76% (380 people) were housewives and working mothers included others. The majority of the spouse's education level 35.8% (179) was diploma.

In terms of employment status, spouse majority of 47% (235) were workers. Income 75.8% (379) had more than enough for living expenses. In terms of housing, the majority of samples, 49.6% (248 people) were living in a rental home. The mean gestational age of participants was  $22.3 \pm 10.5$  weeks. Average score of planned preparedness strategy was  $34.9 \pm 12.3$  with the range of 55-6, avoidance strategy  $14.3 \pm 9.5$  with the range of 40-0, positive spiritual strategy  $17.3 \pm 5.7$  with the range of 24-2 and perceived stress levels of participants  $23.3 \pm 9.6$  range was 56-4. Between perceived stress and preparation planned coping pregnancy strategies ( $r = -0.69$ ), perceived stress and positive spiritual strategy ( $r = -0.68$ ) had a significant inverse linear correlation ( $p < 0.0001$ ). Between perceived stress and avoidant coping pregnancy stress strategy ( $r = 0.75$ ) there was a significant positive correlation ( $p < 0.0001$ ) also scatter plot matrix were drawn between the variables (fig 1). In order to control the factors, multiple regressions were used. The results of multiple regression to determine the relationship between coping strategies, personal information and pregnancy records with perceived stress level showed that the gestational age, number of pregnancy, number of alive children, etc variables have important role in this relationship (table 1).



**Figure 1. Correlation between coping strategies planned preparation, avoidance and positive spiritual stress levels among pregnant women referred to health centers in Mashhad**

**Table 1. Multiple regression to determine the relationship between coping with stress, personal profile and history of pregnancy with the perceived stress.**

Variable	$\beta$	P-value	Variable	$\beta$	P-value	Variable	$\beta$	P-value
Planned preparation	-0.59	0.0001	Avoidant	0.63	0.0001	positive spiritual	-0.54	0.0001
Number of pregnancy	0.25	0.0001	Number of pregnancy	0.17	0.007	Number of pregnancy	0.24	0.0001
Number of alive children	-0.25	0.0001	Number of alive children	0.19	0.002	Number of alive children	-0.24	0.0001
gestational age	0.71	0.02	gestational age	0.08	0.01	gestational age	0.12	0.02
spouse's job (worker)	0.84	0.03	spouse's job (worker)	0.07	0.03	spouse's job (worker)	0.12	0.002
Have personal home	-0.34	0.04	(Constant)	14.37	0.007	Have personal home	-0.23	0.04
(Constant)	35.78	0.0001				(Constant)	41.32	0.0001

## Discussion

The results showed planned readiness strategy and positive spiritual strategy had a significant inverse correlation with the perceived stress levels. In addition, the avoidance strategy had a direct and significant relationship with perceived stress. The results are consistent with finding of Dolatiyan and colleagues which showed between perceived stress and coping methods in women there is a statistically significant relationship. Women who used emotion-focused coping methods had high stress (1).

Although the tools used in the study of Dolatiyan was general coping strategies while in this study the tools of coping pregnancy stress strategies were used. Yali and his colleagues study also showed more women to cope with the stress caused by pregnancy changes used coping prayer strategy and positive evaluation and the use of avoidant coping strategy is strongly related to anxiety and high stress during pregnancy (20).

Soderstrom study results also showed that people who use avoidance strategy, understand higher stress which is consistent with our results. Because in problematic strategies the person seeking information and knowledge to reduce himself stress level. Yali and colleagues expressed a kind of emotion-focused coping is avoidant coping. Most strategies used in pregnancy is praying and the least is avoidant (21). In preparation Planned Problem-focused strategy of pregnancy, the mothers plan for obtaining information, talk and consult with others about pregnancy and childbirth (14). In problem-focused coping, people try to handle

the stressful situation or amend and this type of deal is extremely useful when people are faced with controllable stressors. Whereby people just attend to stressful event and do more effective action. People who use problem-focused coping, their attention focus on gathering information to deal with stressors and stress levels secular declines (24 and 23). In avoidance strategy in pregnancy mothers eat and sleep more than they need, and talk with others about hopelessness (14). They try to hide her feelings about the pregnancy (10) and is a non-useful strategy for coping with stress during pregnancy (25).

Under this strategy, mother trying to undermine their reactions these strategies do not actually solve the underlying problems. Excitement skills to overcome the stress can be in a range of formats such as seeking social support, denial or escape, evacuation emotional and etc (23,24). Women may be created to cope with stress during pregnancy and having a good pregnancy and a healthy baby during pregnancy turn to prayer and go to religious places (10,12). Studies show that a positive evaluation of the strategy and spiritual health has been associated with better psychological adjustment during pregnancy (12).

Spirituality as a structure, has an important impact on psychological adjustment. Religious beliefs play a major role in people's mental health and adjustment (26). Park and colleagues showed that high levels of intrinsic religiosity were correlated with lower levels of depression, anxiety and more confidence after negative life events (27). KIM and his colleagues have

shown a relationship between religiosity and spirituality with lower blood pressure, improve public health, increase longevity, enhance coping skills and stress reduction and control (28). Bayrami and his colleagues study showed that spiritual intelligence had significant negative correlation with perceived stress, anxiety and depression (29) which is consistent with our results. Hamilton and colleagues study results show that pregnant women use diverse and specific strategies to cope with stress in pregnancy and this strategy during pregnancy varies and reflects the personality traits of the mother and her understanding from stress and social support (10). So proper training to deal with stress in pregnant mothers during

pregnancy improves the mother's mental health and midwives during pregnancy should be aware about stress management and coping skills to obtain information for pregnant women (30) because it is very important to deal with stress in mothers and its impact on mental health of the mother and the baby.

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