ORIGINAL ARTICLE

The Relationship between Personality Traits and Labor Pain Intensity

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ABSTRACT

Background

Labor pain is one of the most intense pains. Physiological, personality, psychological, cultural, and environmental factors are related to the labor pain. Pain is a strong stressor which can have great impacts on women's reproductive, mental, and physical health; therefore, its harmful effects should be reduced. Thus, the present study aimed to determine the relationship between the personality traits and the labor pain intensity.

Methods

This correlational study was conducted on 220 parturient women who fulfilled the inclusion criteria of the study from December to February 2012 through a demographic questionnaire, Five Factor Inventory (FFI) including 5 personality traits (neuroticism, openness, agreeableness, conscientiousness, and extraversion), and NPRS scale which was used to determine the labor pain intensity. The data were analyzed through the SPSS software (version 16) using Pearson correlation and multiple regression tests.

Results

The results of this study showed that among the demographic factors, only the number of childbirths had a significant negative correlation with the labor pain score (r=-0.21, P<0.01). Also, a significant correlation was observed between the labor pain score and agreeableness (r=20, P<0.05) and openness (r=0.19, P<0.05). However, among the personality traits, only agreeableness was a positive predictor of the labor pain score (β=0.27, P<0.01).

Conclusion

The main finding of this study was that some personality traits, such as agreeableness, were predictors of labor pain. Thus, if women with specific personality traits are identified, appropriate measures can be taken to prepare them for labor pain by providing them with suitable consultation.

KEYWORDS: Labor; Pain; Personality

INTRODUCTION

Since creation, human beings have constantly felt pain and have always tried to control it in different ways. Labor pain is one of the most severe pains. This pain, as one of the inevitable aspects of the childbirth process, is different from other pains. It is not a sign of injury or (tissue) damage, reduces spontaneously, is regular and continuous, gets tense gradually, and leads to a pleasant incident which is childbirth.[1]

In the present century, researchers have paid attention to the psychological aspects of pain as a real and new concept besides its physical aspect. Using various approaches, psychologists believe that the psychological mode can lead to a positive or negative situation in confrontation with pains and physical illnesses. It can accelerate or delay the effect of a physical illness and can also be effective in treatment of illnesses.[2] Furthermore, psychological and social factors including personality factors, attitudes, beliefs, patients' expectations from themselves and their problems, their ability in coping with an illness, and the healthcare system can indirectly influence the patients' expression of pain, inability, and response to pain. These occur through a decrease in physical activity and muscular flexibility.[3]

The personality traits of the pregnant women and their husbands are related to their attitudes towards the process of pregnancy and the type of childbirth.[4] People with neuroticism, inefficiency, and emotional instability may face a greater pain.[5] Other personality factors which can also influence a person's reaction to pain are introversion and extroversion. Jalali and Ghaleban[2] found that these two groups were different in brain stimulation levels and that the extroverts were more sensitive to lower level stimulations. However, several other studies indicated that the introverts showed higher sensitivity to lower level stimulations and had a lower pain threshold compared to the extroverts.[2]

Negative experiences and attitudes toward pain, especially labor pain, can also cause a great fear of natural delivery. Therefore, it makes women choose cesarean section despite its potential dangers.[4]

According to the statistics released by World Health Organization in the recent years, cesarean section has averagely increased by about 10 to 15 percent. In Iran, the rate of cesarean section has been reported as 41% which is 3 times more than the world's statistics. This happens when only 13 percent of the childbirths are needed to be carried out by caesarian section.[6] To the best of our knowledge, no research has been done on the effects of the psychological factors such as personality traits on labor pain. Considering the recognized risks of cesarean section especially unnecessary caesarian section, lack of attention to the world's standards and safe childbirth, and emphasis on reproductive health, the present study aims to determine the predictive role of the personality traits in labor pain. To reach this goal, the following questions were posed:

1. Is there a significant relationship between the demographic characteristics and labor pain?

2. Are the personality traits predictors of the labor pain?

MATERIALS AND METHODS

In the current correlational study, the personality traits were the independent variables and labor pain was the dependent variable. The participants in this study consisted of 220 parturient women referring to Vali-e-Asr Hospital, Kazeroun, Iran. The inclusion criteria of the study were lack of physical discomfort during pregnancy, term pregnancy, singleton pregnancy, not being a widow, not having suffered from mental illnesses during or before pregnancy, not being divorced, and not having a history of infertility.

The subjects were selected through convenience sampling from December to February 2012. Besides, the study data were gathered using Goldberg's Five Factor Inventory (FFI),[1] Numerical Pain-Rating Scale (NPRS),

and a demographic questionnaire. The FFI included 46 questions. Neuroticism with 10 items, openness with 10 items, consciousness with 9 items, agreeableness with 9 item, and extroversion with 8 items were the five main factors of this questionnaire.[7]

The validity and reliability of this questionnaire have been confirmed by Khormai[7] using factor analysis and Alpha coefficient. The questionnaire was first translated and then back translated by the specialists in the field. Based on the results, the points of discrepancy were discussed and sorted. Its validity was confirmed by a group of experts and the reliability coefficient was reported to be 0.88 for neuroticism, 0.78 for openness, 0.80 for consciousness, 0.80 for agreeableness, and 0.77 for extroversion. The questionnaire was designed according to Likert scale (1-5) in which "completely correct" choices were given 5 points and "completely incorrect" ones were given 1 point. On the other hand, the negative items were graded in the reverse order. In this study, NPRS was utilized in order to measure the intensity of labor pain. This instrument is a smooth ruler with zero on one of its ends and 10 on the other. On this scale, the phrase "lack of pain" was written below zero and "the most intense pain" was written below number 10. Using these numbers, the ruler was divided into 11 sections. The subjects were then asked to choose one number from 0 to 10 to express their pain intensity. The validity and reliability of this instrument have been confirmed in the study by Karaly and Gensen (as cited in Asghari Moghaddam).[8]

The demographic questionnaire included age, level of education, place of living, number of childbirths, wanted or unwanted pregnancy, baby's sex, and the number of sons and daughters. The questionnaire included both open and closed questions.

After explaining the goals of the study to the participants, the researcher together with 2 trained midwives gathered the data during the study period. The researchers were present at the hospital everyday according to a timetable. After delivery and the relative recovery of the subjects, the women were asked to complete the questionnaires. The data were analyzed using the SPSS statistical software (version 16). Descriptive statistics such as mean, standard deviation, frequency, and correlation coefficient were used. Also, multiple regression test was used in order to determine if personality traits can predict labor pain in parturient women. Besides, $P<0.05$ was considered as statistically significant.

RESULTS

The study findings indicated that 38.1 percent of the participants were 21-25 years old and 5.5 percent were 36 or above. In addition, 40.8 percent had diplomas or academic degrees, while 5 percent were illiterate. Besides, 66.30 percent and 33.7 percent of the study women lived in rural and urban areas, respectively. Moreover, 41.7 percent, 38.1 percent, and 20.2 percent of the participants had experienced their first, second, and third or above pregnancies, respectively. Also, 83.6 percent reported wanted and 16.4 percent reported unwanted pregnancies. Based on the results, mean±SD of different personality traits scores were as follows: extraversion=2.94±0.28, agreeableness=4±0.51, conscientiousness=3.7±0.53, neuroticism=3.1±0.68, and openness=3.4±0.70.

One of the questions of the study was whether there was a significant relationship between the demographic factors and the labor pain score. As shown in table 1, among the demographic factors, only the number of childbirths had a significant negative correlation with the labor pain score (r=-0.21, P<0.01).

Table 2 shows the results of the correlation coefficient between the personality traits and the labor pain score. Among the personality traits, only agreeableness (r=0.20, P<0.05) and openness (r=0.19, P<0.05) had a significant relationships with the labor pain score.

Furthermore, multiple regression analysis was performed in order to answer the main question of the study; i.e., can the personality

Table 1: The correlation between the labor pain score and demographic factors

Demographic factors / Labor pain	Age	Parity	Number of sons	Number of daughters	Education
Ruler score	0.03	0.21**	-0.14	-0.11	-0.04

**P values lower than 0.01 are considered as significant

Table 2: The correlation between the labor pain score and the personality traits as the predictor of labor pain by regression analysis

Personality traits	Correlation coefficient of labor pain score	β value	t value	Sig.	R	R²
Extraversion	-0.12	0.04	-0.46	0.65		
Agreeableness	0.20*	0.27	2.63	0.01		
Conscientiousness	0.11	-0.07	-0.61	0.54	0.26	0.07
Neuroticism	0.07	0.02	-0.17	0.86		
Openness Experience	0.19	0.05	0.54	0.60		

*P values lower than 0.05 are considered as significant

traits predict labor pain in parturient women. Table 2 shows that among the personality traits, agreeableness was a positive predictor of the labor pain score. These variables explained 7% of the total variance of the labor pain.

DISCUSSION

This study aimed to determine the relationship between the personality traits and labor pain intensity. To reach the goal, 220 subjects were chosen to complete the demographic questionnaire, FFI, and NPRS.

Regarding the first research question, the results of the study showed that among the demographic factors, only the subjects' number of childbirths had a significant negative relationship with the labor pain score. Therefore, the fewer the number of childbirths, the higher the labor pain score will be.

This finding accords with the results of some studies demonstrating that the perceived labor pain had a higher intensity in primiparas women compared to multiparas ones.[4,6,9,10] However, other studies showed no significant difference between primiparas and multiparas women regarding the labor pain scores.[11,12] Also, another study showed no significant relationship between the labor pain and the demographic factors, such as education, occupation, economic status, and parity.[13] Yet, the findings of the study by

Fridh and Guston-Johnson[14] indicated that multiparas women had higher labor pain expectations, which is incompatible with the result of our study.

In this study, primiparas women reported a greater pain. It seems that the first experience of childbirth pain as an intense stress, anxiety, and the experiences expressed by others lead to expectation of an intense and indescribable labor pain. This in turn increases the sensitivity toward labor pain in parturient women. In the further childbirths, however, the woman is ready for labor pain because of the previously-experienced pain. In the current study, among the personality traits (neurotisism, conscientiousness, extraversion, agreeableness, and openness), only agreeableness and openness had a significant relationship with the labor pain score. This finding accords with that of a survey performed by Ahadi and Basharpoor[15] showing a positive relationship between aesthetics sensitivity and openness to new experience.

Moreover, another study revealed that neuriticism and extroversion items had no significant relationship with sensitivity to pain and pain tolerance.[16] Also, Jalali and Ghaleban's study[2] showed no correlation between the mean score of pain and pain tolerance level of the women with different personality traits and mental health. On the other hand, Pearce and Porter reported that among the personality traits, only

neuroticism was related to the pain intensity[5] which is not in agreement with the results of our study.

In the present study, the results of multiple regression analysis indicated that among the five personality traits, only agreeableness was the positive predictor of the labor pain score. The results of a study indicated that there was a positive correlation between ease of excitation and neuroticism and mental health (physical problems, anxiety, disorder in social functioning, and depression); however, it was negatively related to extroversion.[15] Aesthetic sensitivity was positively related to neuroticism, openness to experience, conscientiousness, and anxiety. Low sensory threshold was also positively related to neuroticism, physical problems, anxiety, and mental health. The results of regression analysis revealed that the considerable variances of the personality traits and mental health could be explained by the sensory processing sensitivity.[15] These findings were incompatible with those of our study. No other survey has been performed to assess the role of agreeableness in prediction of the labor pain score.

The main features of agreeable people are sympathy, empathy, and sensitivity to pain and suffering. Sometimes this feature emerges in relationships with others and sometimes this sensitivity can focus on the person oneself. Therefore, such people are more aware of the pains and experience and report the depth of pain within themselves.

Overall, this study indicated that some personality traits significantly contributed to the prediction of labor pain. Yet, the main limitation of our survey was the lack of the related literature that made the explanation of the findings more difficult.

Conclusion

The findings of the present study showed that some personality traits, such as agreeableness, were predictors of the labor pain experience. If women with these features are identified, the necessary measures can be taken to prepare them for the labor pain by providing them with appropriate consultation. Thus, we can control the labor pain as a strong stressor which can cause great risks for women's reproductive, mental, and physical health and reduce its harmful effects. Therefore, it seems necessary to establish consultation centers in maternal healthcare centers and educate healthcare personnel to identify the features and act suitably towards the parturient women.

Conflicts of interest: None declared

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