ORIGINAL ARTICLE

Impact of intolerance of uncertainty on psychological well-being in pregnant women with or without miscarriage risk

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This study was conducted as a master’s thesis and presented at the 32nd Euro Nursing and Medicare Summit, in Paris, France, on 26–28 October 2017.

Abstract

Purpose: This study seeks to examine the impact of intolerance of uncertainty on the psychological well-being of pregnant women who have or do not have a risk of miscarriage.

Design and Methods: The study was done as a case–control study. The Intolerance of Uncertainty Scale, Psychological Well-being Scale, and a participant description form were used for data collection purposes.

Findings: Psychological well-being decreased when uncertainty intolerance increased in pregnant women with or without a risk of miscarriage.

Practice Implications: The professional support provided to pregnant women at risk of miscarriage contributes to the psychological well-being of the women.

KEYWORDS

Intolerance of Uncertainty Scale, pregnancy, Psychological Well-being Scale, risk of miscarriage

1 | INTRODUCTION

Although pregnancy is a natural phenomenon, the physiological and psychological changes occurring within this period are more intensive in comparison to the ones occurring at other times and the number of contributors to anxiety and stress during pregnancy is higher than is usually encountered in other cycles of women’s lives.\(^1\) Circumstances, such as a risk of miscarriage threatening the maternal and fetal health, can lead to an increase in the physiological, social, and emotional needs of pregnant women and their families throughout the pregnancy.\(^2\)

Risk of miscarriage is defined as bleeding without loss of tissue or liquid up until the 20th week of pregnancy.\(^3\) Half of pregnancies with a risk of miscarriage end in miscarriage. Miscarriage generally starts with light bleeding (or “spotting”), and in the following hours or days it is accompanied by abdominal pain or low back pain.\(^3,4\) In addition to the physical signs, a risk of miscarriage causes feelings of fear, guilt, anxiety, and uncertainty.\(^5\) The individual may respond to this uncertainty by displaying cognitive, emotional, and behavioral reactions.\(^6\) Carleton defines intolerance of uncertainty, as “an individual’s dispositional incapacity to endure as the averse response triggered by the perceived absence of salient, key, or sufficient information, and sustained by the associated perception of uncertainty.”\(^7\) One manner in which pregnant women might be affected by this process is their psychological well-being. Psychological well-being covers self-awareness of one’s purpose in life, their potential, and the quality of their relationships with others.\(^8,9\) Psychological well-being also entails positive self-perception/self-acceptance, individuals’ satisfaction with themselves even at times they fall insufficient, their ability to construct sincere relationship with the people around them, mastery of their environment, the ability to arrange their environment in a way that meets their needs and desires, their ability to act individually and autonomously, their awareness of the purpose of their lives and their capacities, and their desire to improve their capacities.\(^8,9\)

A review of the literature reveals the presence of various studies investigating the intolerance of uncertainty and psychological well-being,\(^10,11\) while it yields no result in respect to a study conducted on the presence of these two conditions in pregnant women and their impact on each other. For this reason, this study was conducted with a view to identify the impact of intolerance of uncertainty on the psychological well-being of pregnant women with and without a risk of miscarriage.

1.1 | Design and methods

The study was designed as a case–control study and conducted in the obstetrics polyclinic in the Beydağ Campus of Malatya State Hospital. The participants were pregnant women who were determined to be at risk of miscarriage and pregnant women who were not at risk of miscarriage, and both groups were under the observation of the obstetrics polyclinic in the hospital during the period of the study. A power analysis was performed in order to determine the sample of the study.
As a result of this analysis, it was calculated that at least 171 subjects were needed for each group in order to ensure that average variance of the score of Intolerance Of Uncertainty Scale between the pregnant women with a risk of miscarriage and the pregnant women without such risk is 44 when \( \alpha = 0.05 \) 1-\( \beta \) (power) = 0.80. For this reason, the sample includes 171 pregnant women with a risk of miscarriage in the study group and 171 pregnant women with a risk of miscarriage in the control group. During the determination of the sample, the pregnant women who were in the first 20 weeks of their pregnancies and diagnosed with having a risk of miscarriage were added to the study group, while the pregnant women who had no problem with their pregnancies were added to the control group. The pregnant women were selected by improbable sampling method.

The data were collected by the researcher through face-to-face interviews at the obstetrics outpatient clinic between January and April 2017. A participant description form, the Intolerance of Uncertainty Scale (IUS), 12 and the Psychological Well-being Scale (PWS) 13 were used for data collection purposes.

Participant description form: The participant description form, which was developed by the researcher, contained questions about the socio-demographical profile, pregnancy, and risk of miscarriage of the pregnant women.

Intolerance of Uncertainty Scale: The first Intolerance of Uncertainty Scale was developed in the French language and was later translated into English by Buhr and Dugas. The Intolerance of Uncertainty Scale is a self-reporting tool, consisting of 27 items that assess cognitive, emotional, and behavioral reactions to uncertain situations. It is an assessment tool with a five-point Likert scale ranging from 1 = “not at all characteristic of me” to 5 = “entirely characteristic of me.” 14

The internal consistency coefficient of the version whose adaption, validity, and consistency control was conducted by Sari and Dağ was found to be 0.79. Its factor analysis revealed that it comprised of four factors. These factors are respectively “Uncertainty is stressful and upsetting” (F3), “Negative self-assessment about uncertainty” (F2), “Uncertainty about the future is a disturbing thought” (F3), and “Uncertainty keeps me from acting” (F4). As the scores obtained from the scale increase, intolerance of uncertainty also increases. The lowest score that can be taken from the scale is 27 and the highest one is 135. 12

In the present study, the Cronbach’s alpha of the scale was 0.89. In the present study, Cronbach’s alpha was found to be 0.87. 13

The data was evaluated using the descriptive statistics, t-test in independent groups, correlation test, and Cronbach’s alpha reliability analysis test. The findings were within the confidence interval of 95% and the significance was found to be \( p < 0.05 \).

## RESULTS

In the present study, it was reported that the average age of pregnant women was 29.0±5.5 and that 35.1% of the pregnant women with a risk of miscarriage and 35.7% of the pregnant women without risk of miscarriage were graduates of primary school (5 years). It was also found that 67.8% of the pregnant women with a risk of miscarriage and 55.0% of the ones without such risk had an income that covered their expenditures. The total number of pregnancies was approximately 2.7±1.5 in the pregnant women with a risk of miscarriage and 2.9±1.7 in the pregnant women without such risk. In addition, it was found that 62.5% of the pregnant women with a risk of miscarriage experienced miscarriage once previously, while 67.2% of the pregnant women without such risk experienced miscarriage once previously. Regarding psychological well-being, 70.8% of the pregnant women with a risk of miscarriage reported that they needed psychological support throughout their pregnancy and 29.2% of the pregnant women without such risk reported that they needed psychological support throughout their pregnancy (Table 1).

The average score of the intolerance of uncertainty was found to be 110.1±16.5 for the pregnant women with a risk of miscarriage and average score of intolerance of uncertainty was found to be 69.2±17.7 in pregnant women without such risk. The difference between the scores obtained from the intolerance of uncertainty of the pregnant women with a risk of miscarriage and those of the pregnant women without such risk (\( p < 0.001 \)) was highly significant. It was seen that the average subscale scores (F1, F2, F3, F4) of the pregnant women with a risk of miscarriage were higher than those of the pregnant women without such risk, and that the difference between their scores was statistically significant (\( p < 0.001 \)) (Table 2).

The average score of the pregnant women with a risk of miscarriage on the Psychological Well-being Scale was 36.6±8.4, while the average score of the pregnant women without such risk was 46.6±6.5. The difference between their scores was found to be statistically highly significant (\( p < 0.001 \)) (Table 2).

A negative significant relationship was found between average scores of the pregnant women on the Intolerance of Uncertainty Scale and the Psychological Well-being Scale in our study (\( p < 0.001 \), \( p < 0.05 \)). While the level of intolerance of uncertainty increased in the pregnant women, their level of well-being decreased (Table 3).
TABLE 1  Comparison of pregnant women’s average scores on Intolerance of Uncertainty and Psychological Well-being Scale

<table>
<thead>
<tr>
<th>Scales</th>
<th>With the risk of miscarriage mean±SD</th>
<th>Without the risk of miscarriage mean±SD</th>
<th>Total (n = 342) mean±SD</th>
<th>Statistical test and significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intolerance of Uncertainty Scale</td>
<td>110.1 ± 16.5</td>
<td>69.2 ± 17.7</td>
<td>89.7 ± 26.6</td>
<td>t = 22.0, p = 0.000</td>
</tr>
<tr>
<td>F1</td>
<td>38.0 ± 6.45</td>
<td>23.7 ± 6.96</td>
<td>30.9 ± 9.7</td>
<td>t = 19.6, p = 0.000</td>
</tr>
<tr>
<td>F2</td>
<td>31.6 ± 5.7</td>
<td>19.8 ± 5.7</td>
<td>25.7 ± 8.2</td>
<td>t = 18.9, p = 0.000</td>
</tr>
<tr>
<td>F3</td>
<td>16.0 ± 3.3</td>
<td>10.1 ± 3.7</td>
<td>13.0 ± 4.6</td>
<td>t = 15.4, p = 0.000</td>
</tr>
<tr>
<td>F4</td>
<td>20.4 ± 3.1</td>
<td>12.8 ± 4.1</td>
<td>16.6 ± 5.3</td>
<td>t = 19.2, p = 0.000</td>
</tr>
<tr>
<td>Psychological Well-being Scale</td>
<td>36.6 ± 8.4</td>
<td>46.6 ± 6.5</td>
<td>41.5 ± 8.9</td>
<td>t = –11.8, p = 0.000</td>
</tr>
</tbody>
</table>

Note: t: Student t test, Intolerance of Uncertainty Test, Psychological Well-being Scale, F1: Uncertainty is stressful and upsetting, F2: negative self-assessment about uncertainty, F3: uncertainty about future is a disturbing thought F4: Uncertainty keeps me from acting.

TABLE 2  Distribution of socio-demographical and fertility attributes of the pregnant work

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Pregnant women with the risk of miscarriage (n = 171)</th>
<th>pregnant women without the risk of miscarriage (n = 171)</th>
<th>Total (n = 342)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Age*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 and 25</td>
<td>55</td>
<td>32.2</td>
<td>43</td>
</tr>
<tr>
<td>26–34</td>
<td>89</td>
<td>52.0</td>
<td>92</td>
</tr>
<tr>
<td>35 and above</td>
<td>27</td>
<td>15.8</td>
<td>36</td>
</tr>
<tr>
<td>Education Level</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>6</td>
<td>3.5</td>
<td>10</td>
</tr>
<tr>
<td>Primary school (5 years)</td>
<td>60</td>
<td>35.1</td>
<td>61</td>
</tr>
<tr>
<td>Secondary school (8 years)</td>
<td>29</td>
<td>17.0</td>
<td>36</td>
</tr>
<tr>
<td>High school (12 years)</td>
<td>47</td>
<td>27.5</td>
<td>40</td>
</tr>
<tr>
<td>College/ faculty</td>
<td>29</td>
<td>17.0</td>
<td>24</td>
</tr>
<tr>
<td>Income Level</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income lower than expenditure</td>
<td>47</td>
<td>27.5</td>
<td>64</td>
</tr>
<tr>
<td>Income covers expenditure</td>
<td>116</td>
<td>67.8</td>
<td>94</td>
</tr>
<tr>
<td>Income higher than expenditure</td>
<td>8</td>
<td>4.7</td>
<td>13</td>
</tr>
<tr>
<td>Number of Previous Miscarriages</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not available</td>
<td>107</td>
<td>62.5</td>
<td>115</td>
</tr>
<tr>
<td>Once</td>
<td>42</td>
<td>24.5</td>
<td>38</td>
</tr>
<tr>
<td>2 and more</td>
<td>22</td>
<td>13.0</td>
<td>18</td>
</tr>
<tr>
<td>Believing that She Needs Psychological Support</td>
<td>121</td>
<td>70.8</td>
<td>85</td>
</tr>
<tr>
<td>Yes</td>
<td>50</td>
<td>29.2</td>
<td>86</td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>171</td>
<td>100</td>
<td>171</td>
</tr>
</tbody>
</table>

*Average age: 29.0±5.5 (min: 18, max: 43).

3 | DISCUSSION

An uncertain situation is perceived as a new, contradictious, complicated, and challenging situation.16 There are studies reporting that uncertainty is a strong stressor on an impact on the physiology and psychology of individuals.11,17 While becoming a parent is a process with far reaching effects on all members of the family, risk of miscarriage may increase the stress level perceived by the pregnant women and their families.2 Stressors may prevent individuals from feeling well.18

The intolerance of uncertainty was found to be higher in the pregnant women with a risk of miscarriage in comparison to that of the pregnant women without such risk. Previous studies indicate that various diseases, and uncertainty itself, can increase the intolerance of uncertainty,11 and a risk of miscarriage leads to stress and anxiety in pregnant women.19,20 The findings of the present study revealed that uncertainty stemming from a risk of miscarriage increases levels of stress and anxiety.

In the present study, the scores of the pregnant women with a risk of miscarriage on the subscale “Uncertainty is stressful and
upsetting” (F1) under the Intolerance of Uncertainty Scale are significantly higher than those of the pregnant women without such risk. Dugas and Koerner reported that they found a positive correlation between uncertainty, stress, and anxiety in their study.21 The findings of the present study support those of Dugas and Koerner as the scores of the pregnant women with a risk of miscarriage on the subscale of “Negative self-assessment about uncertainty” (F2) is significantly higher than those of the pregnant women without such risk. In another previous study, it was reported that negative beliefs about an uncertain situation and its consequences cause a mental and characteristic intolerance.22 Experts argue that uncertainty not only diminishes self-confidence, but also causes people to remain passive and inconsistent.23 For example, people who are intolerant of uncertainty perceive unclear situations as dangerous and therefore may be reluctant to start a new job.12 In line with these previous studies, the present study’s findings show that the average scores among pregnant women with a risk of miscarriage on the subscale of “Uncertainty about the future is a disturbing thought” (F3) under the Intolerance of Uncertainty Scale are significantly higher than those of the pregnant women without such risk. Presence of a risk factor in an individual’s life and fear of the way this risky situation will end adds to the anxiety of the individual in respect to their future.24

In this study, the average scores among pregnant women with a risk of miscarriage on the subscale of “Uncertainty keeps me from acting” (F4) under the Intolerance of Uncertainty Scale are higher than those of the pregnant women without such risk. Öz reported that the individuals who suffer due to uncertainty about their future give up their goals and do not take action to pursue them.25 In a similar study conducted on a different patient group, Yanar found that the average scores of patients waiting for organ transplantation on all subscales of Intolerance of Uncertainty were significantly higher.26 These findings were supported by those of Öztürk who investigated the predictors of the probability of suicide and reported that there was a significant relationship between all subscales of the Intolerance of Uncertainty Scale.27 The findings of these two studies were confirmed by those of Gümüş who reported that the disease prognosis of patients with multiple sclerosis affects only the subscale of “Uncertainty keeps me from acting” under the Intolerance of Uncertainty Scale.11 The findings of the present study support these findings of these previous studies.

Pregnancy is a very stressful period in a woman’s life.22 Negative conditions related to pregnancy, such as risk of miscarriage, increase the levels of stress and anxiety felt by pregnant women.19,20 The findings of the present study revealed that the psychological well-being of pregnant women with a risk of miscarriage were lower than that of the pregnant women without such risk. In their study comparing the psycho-social health of pregnant women with a risk of miscarriage and that of the pregnant women without such risk, Gümüşd aş et al. reported significant difference between the average scores of pregnant women with a risk of miscarriage and those without such risk.20 Anxiety and stress affect psychological well-being during the pregnancy period.

Significant negative correlation was found between intolerance of uncertainty and psychological well-being in both groups of women. The findings also pointed out that any increase in the intolerance of uncertainty in pregnant women is followed by a decrease in their psychological well-being. Similarly, Erguvan conducted a study on university students and reported that the intolerance of uncertainty was inversely correlated with psychological well-being.10 In addition, Koç et al. reported that psychological well-being is affected by the intolerance of uncertainty.28 The findings of the present study are parallel with the prior studies in the literature in this sense as well.

3.1 The limitations of the research

This study has some limitations. The study was conducted in only one hospital. The results obtained in our study only applies to these groups and generalizations have been made.

3.2 Implications for nursing practice

It was found that a risk of miscarriage negatively affected the intolerance of uncertainty and psychological well-being of pregnant women. In the light of these findings, it is important that nurses assess the level of intolerance of uncertainty and psychological well-being of pregnant women, particularly when monitoring high risk pregnancies. Health professionals should question the methods used by women with high risk pregnancies to cope with uncertainties, and help them to develop better ways of coping. Pregnant women should be assessed holistically (bio-psychosocial). In order to reduce intolerance of uncertainty levels, directing them to psychiatric support will contribute positively to women’s psychological well-being.

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CONFLICT OF INTEREST

The authors report no actual or potential conflicts of interest.

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REFERENCES

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