Structural equation modeling of pain management based on rumination mediating resiliency and vitality in women with breast cancer Structural equation modeling of pain management based on rumination mediating resiliency and vitality in women with breast cancer

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Abstract

Aim: Pain management in breast cancer patients should be seen what is related to emotion regulation. In patients with emotional problems and anxiety, vitality and resiliency can be good predictors for controlling their negative emotions. This study aimed to explain the pain management model based on rumination mediating vitality and resiliency in women with breast cancer. **Methods:** The research method was descriptive correlation modeling (structural equations). Participants in this study were women with breast cancer referred to all medical centers (hospitals and private and public clinics) in Tehran, among which 273 were randomly selected. To measure the research variables, rumination response questionnaires, vitality questionnaire, resiliency scale and pain management, and Spearman correlation coefficient test and path analysis, and SPSS.22 and LISREL 8.80 software were used to analyze the data. **Results:** The results showed that the indirect and direct effect of rumination on pain management by mediating role of vitality was significant ($P \leq 0.05$). The indirect and direct effect of rumination on pain management by mediating role of resiliency was significant ($P \leq 0.05$). **Conclusions:** It can be concluded that the pain management model based on rumination with vitality and resiliency mediation in women with breast cancer has sufficient fitness.

Keywords: *pain management, rumination, vitality, resiliency, breast cancer.*

Introduction

This research aimed to predict cyberspace addiction based on married women's marital intimacy, self-worth, and quality of life. As seen, marital intimacy can predict the variable of cyberspace addiction.

When interpersonal relationships are damaged, a person feels lonely and inevitably turns to the Internet to compensate and receive love and affection. In these virtual spaces, relationships are sometimes formed due to various types of relationships and the absence of certain privacy and anonymity (Chattopadhyay et al., 2020), which satisfies the intimacy women need and cannot provide in their lives with their husbands. For this reason, they constantly use these social networks and the Internet, which causes addiction to virtual space. People tending to social networks fulfill their needs to some extent. By exploring the technical dimensions of virtual social networks, people express their mental potential or get to know different aspects of their personality that were hidden before, express their opinions and artistic needs, and gain access to the information they need. On the other hand, social networks provide a platform to escape from reality and a means to satisfy psychological needs, including gaining approval from others and gaining self-esteem, which is one of the essential needs of people in life. Married women with self-knowledge problems do not have good coping strategies in marital and family conflicts. Instead of using problem-oriented strategies to solve these problems in life with the help of their husbands, they look for the wrong alternatives. One of these strategies can be the trend toward virtual spaces and their addiction. Some married women do not give much importance to themselves and have a low quality of life due to their various roles and conditions. For this reason, most of the time, they are at home or have little time for sports and social activities, which has become more apparent in the last two years when the Corona epidemic has spread. Due to the availability of virtual space and receiving all the information in these spaces, women have more desire and motivation to use this virtual space and spend more hours on the Internet day by day due to the habit of this lifestyle. Since people with a high quality of life use a problem-oriented strategy, they ultimately have a greater ability to control the stresses of everyday life. On the contrary, people who use incompatible emotion-oriented coping strategies experience a vicious and increasing cycle of anxiety and restlessness, which leads to a decrease in self-esteem, and the occurrence of physical and psychological diseases, one of the consequences of which is cyberspace addiction. This research was conducted during the corona epidemic, in which married women (working and housewives) spent more time at home with their children and husbands due to the imposed restrictions and home quarantine.

Method

The research method was descriptive correlation modeling (structural equations). Participants in this study were women with breast cancer referred to all medical centers (hospitals and private and public clinics) in Tehran, among which 273 were randomly selected. To measure the research variables, rumination response questionnaires, vitality questionnaire, resiliency scale and pain management, and Spearman correlation coefficient test and path analysis, and SPSS.22 and LISREL 8.80 software were used to analyze the data.

Results

Examining the results of the Kolmogorov-Smirnov test shows that in all research variables, K-S values are significant at P≤0.01 level. Therefore, the difference between the distribution of the sample group and the normal distribution is significant, and in fact the distribution of the variables is abnormal. In this way, the presumption of using parametric statistics is not met and non-parametric tests (Spearman's correlation) should be used.

The relationship of all the variables, except the strategies of returning attention and ignoring the pain, as well as the variable of diverting responses, is significant at P≤0.01 and sometimes P≤0.05. The research findings showed that rumination responses directly affect self-talk and hope. To investigate the mediating role of resilience, the indirect effects of rumination on pain management have been investigated with the mediation of resilience variable.

The effect of rumination (a) multiplied by the effect of resilience and vitality on pain management (b). The estimation coefficient obtained from Sobel's z was used to calculate the significance. Considering the figures reported in the above table, the indirect effect of rumination on pain management through resilience (estimation coefficient: 0.09) is significant at the P≤0.05 level. The indirect effect of rumination on pain management through resilience (estimation coefficient: -0.11) is significant at P≤0.05 level. After examining the direct and indirect relationships between the model variables, it is necessary to examine the indicators of the model.

The value of x2 obtained equals (1.76), less than criterion 2. Therefore, this index indicates the suitability of the model. The obtained p-value is 0.19 and considering that it is more than the criterion (0.05), it can be concluded that the model has a good fit. RMSEA is equal to (0.0001), which is less than the criterion value (0.05). Therefore, it is possible to have a desirable fitness model. NFI equals (0.96), which is higher than (0.95) and shows a good fit. The CFI index obtained from the model is (0.96), and since it is greater than the criterion value (0.9), it indicates the appropriateness of the model. The GFI obtained from the model is (0.97) and the model has a good fit because it is more than the criterion (0.9). In general, the indicators related to the suitability of the model show that the final model has an acceptable level of fit. Based on the obtained results, the obtained model is significant regarding the rumination model on pain management through resilience and vitality.

Conclusion

This study was conducted to explain the pain management model based on rumination with the mediation of resilience and vitality in women with breast cancer. The research findings showed that rumination is related to pain management through resilience and vitality in women with breast cancer.

Disease-induced rumination and decreased pain management in women with breast cancer. So patients with higher rumination had lower pain management. When a person is faced with ambiguous situations that cause anxiety, the person ruminates about any signs of rejection or failure, the intolerance of such ambiguous situations may increase psychological distress. Positive beliefs about rumination motivate people to engage in thought or topic constantly.

People suffering from pain with high resilience perform better in the behavioral and cognitive domains of pain, such as coping strategies, attitude towards pain, tendency to catastrophize, and the pattern of using health care and pharmaceutical services. The reason why pain is not catastrophized by people who have high resilience is due to their positivity of these people because these people make positive predictions with a positive attitude towards issues and have positive emotions, and they consider psychological tensions and physical pain to be temporary, and this is what causes pain management. It is higher by these people.

Due to the chronic nature of cancer, the patient has to accept long-term treatment, often accompanied by side effects such as lymphedema, weakness, pain, numbness, and psychosocial disorders, significantly reducing their ability. Long treatments and

high-stress levels have a long-term negative effect on the self-confidence of women with breast cancer and ultimately on their family functioning, marital role and level of vitality. As a result, examining the vitality of these patients is considered one of the important indicators of treatment and care worldwide.

Although medical interventions effectively change vitality, some changes are related to demographic, social, psychological and cultural characteristics. As a result, understanding the concerns of vitality for these patients and the factors related to vitality is one of the important priorities of health professionals. It can be useful in making treatment decisions. On the other hand, feeling pain is one of the consequences of cancer and about 70% of cancer patients are dealing with this problem. Every stage of cancer treatment can be painful and if pain management is not done properly, it will aggravate the patient's physical, emotional and psychological problems.

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