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Causal Model Testing of Women's Reproductive Health Behaviors Based on Sense of Coherence and Distress Tolerance with the Mediating Role of Parenting Stress

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Abstract

Abstract

The present study aimed to investigate the roles of sense of coherence and distress tolerance in women's reproductive health behaviors mediated by parenting stress. It was applied in terms of purpose and was conducted using path analysis. The statistical population included all pregnant women who attended healthcare centers in Mashhad for prenatal care during the first six months of 2024. Of these, 238 women were selected through the convenience sampling method. The research instruments included the Pregnancy Health Behaviors Questionnaire (Lobel et al., 2008), the Sense of Coherence Scale (Antonovsky, 1996), the Distress Tolerance Scale (Simons & Gaher, 2005), and the Parenting Stress Index–Short Form (Abidin, 1995). Data were analyzed using SPSS-27 and LISREL 8.8 software. Findings showed that sense of coherence and distress tolerance had a positive and significant direct effect on reproductive health-promoting behaviors and a negative and significant direct effect on reproductive health-damaging behaviors. Moreover, the indirect effect of sense of coherence and distress tolerance on both categories of reproductive health behaviors through the mediation of parenting stress was significant ($p < 0.05$). Based on the results, enhancing the sense of coherence and distress tolerance skills can improve reproductive health and reduce women's vulnerability to parenting stress. Therefore, it is recommended that pregnancy specialists, alongside medical care, pay greater attention to the psychological factors affecting reproductive health.

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Introduction

Pregnancy is one of the most sensitive periods in women's lives, accompanied by simultaneous physical, psychological, and social changes. It can seriously affect behavioral patterns related to maternal and fetal health. Reproductive health behaviors during this period range from health-promoting practices such as having proper nutrition, following prenatal care, and adhering to health recommendations to health-damaging behaviors such as smoking, neglecting medical care, and other high-risk behaviors (Morris et al., 2020). Reproductive health, as a fundamental part of public health, includes not only physical health but also the psychological and social well-being of women in the reproductive process. In this vein, research evidence shows that a healthy lifestyle, proper nutrition, regular physical activity, and avoiding unhealthy behaviors are associated with reducing risky pregnancy outcomes and improving maternal and child health (Braun et al., 2022).

Psychological factors affecting reproductive health behaviors include sense of coherence and distress tolerance. Sense of coherence refers to an individual's perception of the world as an understandable, manageable, and meaningful context. According to the health-generating theory, it is considered an important source of coping in stressful situations (Antonovsky, 2002). Research has shown that higher levels of sense of coherence are associated with less anxiety and depression, better adjustment to pregnancy, and more favorable health outcomes (Alcantara et al., 2023; Bäckström et al., 2018). On the other hand, distress tolerance refers to an individual's capacity to be resilient and continue to function adaptively in the face of negative emotions and stressful situations (Simons & Gaher, 2005). Women with higher distress tolerance use more adaptive coping strategies in the face of pregnancy-related stress and are less likely to engage in avoidant or damaging behaviors (Costa et al., 2020).

In addition to these variables, parenting stress can act as an explanatory mechanism in the relationship between maternal psychological resources and reproductive health behaviors. Parenting stress occurs when an individual evaluates the demands of the parenting role beyond psychological and emotional resources (Wang et al., 2020). Despite the importance of these variables, most previous studies have examined them separately, and fewer have presented an integrated model to explain reproductive health behaviors. Therefore, the present study aimed to test a causal model of women's reproductive health behaviors based on sense of coherence and distress tolerance mediated by parenting stress.

Method

The present study was applied in terms of purpose and descriptive-correlational in terms of method of implementation, using path analysis. The statistical population included all pregnant women who attended healthcare centers in Mashhad for prenatal care during the first six months of 2024. Among them, 250 women were selected using convenience sampling method. Finally, after removing 12 incomplete questionnaires, the data of 238 women were analyzed. The mean age of the participants was 29.15 years. The research instruments included the Pregnancy Health Behaviors Questionnaire (Lobel et al., 2008), the Sense of Coherence Scale (Antonovsky, 1996), the Distress Tolerance Scale (Simons & Gaher, 2005), and the Parenting Stress Index–Short Form (Abidin, 1995). Cronbach's alpha coefficients for health-promoting behaviors, health-damaging behaviors, sense of coherence, distress tolerance, and parenting stress were 0.92, 0.90, 0.83, 0.82, and 0.87, respectively. Data were analyzed using SPSS (version 27) and LISREL (version 8.8) software. Pearson's correlation coefficient was used to examine the relationships between variables, and path analysis was used to test the structural model. In addition, to test the significance of indirect effects, the bootstrap method with a 95% confidence interval was used.

Findings

Descriptive and inferential findings showed that the data were in a favorable state in terms of univariate and multivariate normality, and the assumptions of structural equation analysis, including the absence of outliers and multiple noncollinearity, were met. Pearson correlation results showed that health-promoting behaviors had a positive and significant relationship with sense of coherence ($p < 0.01$, $r = 0.45$) and distress tolerance ($p < 0.01$, $r = 0.53$) and a negative and significant relationship with parenting stress ($p < 0.01$, $r = -0.55$). Furthermore, health-damaging behaviors had a negative relationship with sense of coherence ($p < 0.01$, $r = -0.37$) and distress tolerance ($p < 0.01$, $r = -0.49$) and a positive and significant relationship with parenting stress ($p < 0.01$, $r = 0.56$).

The model fit indices also indicated the optimal fit of the proposed model; the ratio $\chi 2/df = 1.85$, the indices CFI = 0.91, NFI = 0.92, IFI = 0.91, TLI = 0.90, GFI = 0.86, and RMSEA = 0.065 all showed that the model had acceptable adequacy. The results of the direct path coefficients showed that sense of coherence had a positive and significant direct effect on health-promoting behaviors ($\beta = 0.19$, $T = 3.43$, $p = 0.01$) and a negative and significant direct effect on health-damaging behaviors ($\beta = -0.12$, $T = -2.17$, $p = 0.03$).

Moreover, sense of coherence showed a negative and significant relationship with parenting stress (β = -0.22, T = -3.57, p = 0.001).

Regarding distress tolerance, the results showed that this variable had a positive and significant direct effect on health-promoting behaviors (β = 0.27, T = 4.53, p = 0.001) and a negative and significant direct effect on health-damaging behaviors (β = -0.25, T = -4.01, p = 0.001). In addition, distress tolerance had a negative and significant effect on parenting stress (β = -0.39, T = -6.20, p = 0.001). The results also showed that parenting stress directly reduced health-promoting behaviors (β = -0.35, T = -6.01, p > 0.05) and increased health-destructive behaviors (β = 0.40, T = 6.73, p > 0.05).

In examining indirect effects, bootstrap results showed that parenting stress played a significant mediating role in the relationship between sense of coherence and distress tolerance with reproductive health behaviors. The indirect effect of sense of coherence on health-promoting behaviors through parenting stress was positive and significant ([0.148, 0.007]CI95%, β = 0.077), while its indirect effect on health-damaging behaviors was negative and significant ([-0.014, -0.162]CI95%, β = 0.088). Similarly, the indirect effect of distress tolerance on health-promoting behaviors was positive and significant ([0.202, 0.071]CI95%, β = 0.137), and its indirect effect on health-damaging behaviors was negative and significant ([-0.075, -0.237]CI95%, β = 0.156). Since none of the confidence intervals included zero, the significance of these effects was confirmed. Overall, the findings indicated that higher levels of sense of coherence and distress tolerance, through reducing parenting stress, increased health-oriented behaviors and reduced reproductive health-damaging behaviors in pregnant women.

Conclusion

The objective of the present study was to test the causal model of women's reproductive health behaviors based on sense of coherence and distress tolerance mediated by parenting stress. The results showed that sense of coherence and distress tolerance played important roles in promoting reproductive health behaviors and reducing health-damaging behaviors, both directly and indirectly through reducing parenting stress. These findings are consistent with the literature (Costa et al., 2020; Manouchehri et al., 2024; Mousavi et al., 2023) and showed that women who perceived pregnancy as more understandable, controllable, and meaningful, and had a greater ability to tolerate negative emotions and stressful situations, exhibited more caring and health-oriented behaviors in the face of the challenges of this period (Alcantara et al., 2023). Moreover, the mediating role of parenting stress indicates that individual psychological resources affected health behaviors, in part, by reducing the mental and emotional pressures associated with the maternal role.

Considering the implications of this study, the results emphasize the need to simultaneously pay attention to psychological dimensions and medical care in reproductive health programs. Accordingly, it is suggested that specialists in the fields of gynecology, midwifery, health psychology, and counseling, in addition to training in physical care during pregnancy, design and implement interventions to strengthen sense of coherence, increase distress tolerance, and reduce parenting stress. Holding educational workshops, interventions based on emotion regulation, mindfulness, acceptance and commitment, and training in coping skills can be beneficial in this regard. It is also suggested that future research use larger samples, longitudinal methods, and examine other mediating and moderating variables to gain a more accurate understanding of the mechanisms affecting women's reproductive health.

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Conflict of interest

According to the authors, this study had no conflict of interest.

AI Use Statement

The authors declare that no generative artificial intelligence (AI) or AI-assisted technologies were used at any stage of the preparation, writing, editing, analysis, or translation of this manuscript.

Ethical Approval

The authors declare that All procedures performed in this study were conducted in accordance with the ethical standards of the responsible institutional and national research committee.

References

Abdollahi, S., Faramarzi, M., Gholinia, H., & Esfandiari, M. (2020). Psychometric properties of Persian version of Prenatal Health Behaviors. *Journal of Babol University of Medical Sciences, 22*(1), 326–333. http://doi.org/10.22088/jbums.22.1.326

Abidin, R. R., & Brunner, J. F. (1995). Development of a parenting alliance inventory. *Journal of Clinical Child Psychology, 24*(1), 31–40. https://doi.org/10.1207/s15374424jccp2401_4

Alcantara, J., Myers, S., Emmanuel, E., & Grace, S. (2023). Sense of coherence in pregnancy: A systematic review of the literature. https://doi.org/10.21203/rs.3.rs-2454507/v1

Antonovsky, A. (2002). *Unraveling the mystery of health: How people manage stress and stay well*. Sage. https://doi.org/10.4135/9781446221129.n9

Bäckström, C., Kåreholt, I., Thorstensson, S., Golsäter, M., & Mårtensson, L. B. (2018). Quality of couple relationship among first-time mothers and partners, during pregnancy and the first six months of parenthood. *Sexual and Reproductive Healthcare, 17*, 56–64. https://doi.org/10.1016/j.srhc.2018.07.001

Bellido-González, M., Robles-Ortega, H., Castelar-Ríos, M. J., et al. (2019). Psychological distress and resilience of mothers and fathers with respect to the neurobehavioral performance of small-for-gestational-age newborns. *Health and Quality of Life Outcomes, 17*(1), 54. https://doi.org/10.1186/s12955-019-1119-8

Braun-Lewensohn, O., Idan, O., Lindström, B., & Margalit, M. (2022). Salutogenesis and the Sense of Coherence During the Adolescent Years. In *The Handbook of Salutogenesis*. Springer. https://doi.org/10.1007/978-3-030-79515-3_16

Costa, E. C., Castanheira, E., Moreira, L., Correia, P., Ribeiro, D., & Graça Pereira, M. (2020). Predictors of emotional distress in pregnant women: The mediating role of relationship intimacy. *Journal of Mental Health, 29*(2), 152–160. https://doi.org/10.1080/09638237.2017.1417545

Guinhouya, B. C., Duclos, M., Enea, C., & Storme, L. (2022). Beneficial effects of maternal physical activity during pregnancy on fetal, newborn, and child health. *Journal of Midwifery and Women's Health, 67*, S149–S157. https://doi.org/10.1111/jmwh.13424

Hadian, T., Mousavi, S., Meedya, S., et al. (2019). Adolescent pregnant women's health practices and their impact on maternal, fetal and neonatal outcomes. *Reproductive Health, 16*(1), 45. https://doi.org/10.1186/s12978-019-0719-4

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer. https://books.google.com/books/about/Stress_Appraisal_and_Coping.html?id=i-ySQQuUpr8C

Lobel, M., Cannella, D. L., Graham, J. E., DeVincent, C., Schneider, J., & Meyer, B. A. (2008). Pregnancy-specific stress, prenatal health behaviors, and birth outcomes. *Health Psychology, 27*(5), 604–615. https://doi.org/10.1037/a0013242

Mahmood, T. A., & Bitzer, J. (2024). Public health aspects. In *Textbook of Contraception, Sexual and Reproductive Health*, 28–37. https://doi.org/10.1017/9781108961097.005

Manouchehri, F., Eyni, S., & Zemestani, M. (2024). The mediating role of psychological well-being in the relationship between pathological worry and childbearing motivation in married women. *Iranian Journal of Family Psychology*, *11*(2), 116-132. https://doi.org/10.22034/ijfp.2025.2042893.1360

Morris, T., Strömmer, S., Vogel, C., et al. (2020). Improving pregnant women's diet and physical activity behaviours. *BMC Pregnancy and Childbirth, 20*(1), 244. https://doi.org/10.1186/s12884-020-02913-z

Mousavi, S., Mousavi, S., & Shahsavari, M. R. (2023). Effects of compassion-focused therapy on resilience and distress tolerance in female heads of households. *Women's Health Bulletin*, *10*(3), 200–209. https://doi.org/10.30476/whb.2023.99466.1238

Park, J., & Lee, H. (2023). The relationship between depression, self-efficacy, social support, and health-promoting behaviors in Korean single-household women. *Preventive Medicine Reports, 32*, 102156. https://doi.org/10.1016/j.pmedr.2023.102156

Przestrzelska, M. A., Knihinicka-Mercik, Z., Gryboś, A., et al. (2018). Evaluation of factors affecting the sense of coherence in women during pregnancy. *Advances in Clinical and Experimental Medicine, 27*(10), 1425–1430. https://doi.org/10.17219/acem/73802

Simons, J. S., & Gaher, R. M. (2005). The Distress Tolerance Scale: Development and validation of a self-report measure. *Motivation and Emotion, 29*(2), 83–102. https://doi.org/10.1007/s11031-005-7955-3

Wang, Y., Huang, Z., & Kong, F. (2020). Parenting stress and life satisfaction in mothers of children with cerebral palsy. *Journal of Health Psychology, 25*(3), 416–425. https://doi.org/10.1177/1359105317739100