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The mediation role of hope and social support in the relationship between fatigue and burden in caregivers of patients with brain tumor

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Abstract

Introduction Brain tumor symptoms may affect the patients' caregivers. This study aimed to explore the mediation roles of hope and social support in the relationship between fatigue and burden in brain tumor caregivers.

Methods This is a cross-sectional study on 280 caregivers of brain tumor patients. Adult Hope Scale, Zarit Burden Interview, Personal Resources questionnaire 85, and Multidimensional Fatigue Inventory were used. The mediator model by the SPSS Macro PROCESS (Model 4, and 6) was used.

Results Over half of caregivers reported moderate fatigue and social support, with half experiencing moderate to severe caregiving burden. Moreover, 60.4% were moderately to highly hopeful. Significant relationships were found between fatigue and hope ($r=-0.57, p<0.001$), social support ($r=-0.65, p<0.001$), and burden ($r=0.63, p<0.001$), as well as between hope and social support ($r=0.57, p<0.001$). Fatigue, social support, and hope predicted the caregivers' burden. The indirect effect of fatigue on burden by hope was significant (Effect = 0.16, 95% CI 0.02 to 0.30). The indirect effect of fatigue on burden by social support was also significant (Effect = 0.38, 95% CI 0.21 to 0.57). The indirect effect of fatigue on burden by hope and social support was significant (Effect = 0.12, 95% CI 0.04 to 0.21).

Conclusion The results of this study showed that hope and social support should be improved in the caregivers of brain tumor patients. By conducting interventions in this field, it is possible that the burden of caregivers is decreased in situations with high fatigue.

Highlights

- More than half of the brain tumor caregivers reported their fatigue and social support at a moderate level.
- Half of the caregivers experienced moderate to severe caregiving burdens.
- More than half of the caregivers were moderately and highly hopeful.
- Fatigue, social support, and hope predicted the caregivers' burden.
- This study showed a direct effect among fatigue and social support, hope, and burden.
- Hope and social support mediated the relationship between fatigue and burden in caregivers of brain tumors.

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to examine the long-term impact of fatigue, hope, and social support on caregivers' mental and physical well-being. Furthermore, our results suggest that healthcare providers should routinely assess caregivers for chronic health conditions, as those with chronic diseases may be at higher risk for fatigue, reduced social support, and hope. Targeted interventions, such as tailored support programs or counseling, could help mitigate these negative effects and improve caregiver well-being.

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Authors' contributions

MR, SZ, MS, AS and NP wrote the main manuscript text. All authors reviewed and approved the manuscript. MR and MS conducted the data analysis.

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Data availability

The data used and/or analyzed during the present study are available from the corresponding author (Dr. Masoume Rambod) of this study on reasonable request.

Declarations

Ethics approval and consent to participate

The present study was approved by the Research Ethics Committees of the School of Nursing and Midwifery, Management and Medical Information Science at Shiraz University of Medical Sciences (IR.SUMS.NUMIMG.REC.1402.073, date: 9/9/2023). This study was conducted in accordance with the Declaration of Helsinki. Informed consent was obtained from all the caregivers, and brain tumor patients/legal guardians.

Competing interests

The authors declare no competing interests.

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