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The effect of positive thinking training on hope and adherence to treatment in hemodialysis patients: a randomized controlled trial

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Abstract

Background Patients undergoing hemodialysis are exposed to psychological problems, such as despair, which in turn can be a trigger for them to abandon the treatment process. This study aimed to determine the effect of positive thinking training on hope and adherence to treatment in hemodialysis patients.

Methods This randomized controlled trial was performed on 80 hemodialysis patients referred to two hemodialysis centers in Shiraz, Iran. They were randomly divided into an intervention and a control group. Eight sessions of positive thinking skills training carried out individually on the patients' bedsides. The primary and secondary outcomes were hope and adherence to treatment, respectively. The data were collected using Snyder Hope Questionnaire, End-Stage Renal Disease Adherence Questionnaire, laboratory tests, and weight measurements. Data were analyzed by Chi-square and Paired and Independent T-test using SPSS software version 18.

Results After the intervention, the mean score of hope was significantly higher in the intervention group (42.1 ± 6.1) than in the control group (38.7 ± 6.5) ($p = 0.024$). Moreover, after the intervention, the mean score of adherence to treatment was significantly higher in the intervention group (1070.2 ± 80.1) compared to the control group (1018.4 ± 105.3) ($p = 0.019$). In addition, blood urea nitrogen, phosphate and inter-dialytic weight gain were lower in the intervention group compared to the control group after the intervention.

Conclusions The findings showed that positive thinking interventions could lead to improvement in hope and adherence to treatment in hemodialysis patients. Positive thinking training could be used in caring of hemodialysis patients to improve their hope and adherence to treatment.

Trial registration RCT Registry: Iranian Registry of Clinical Trials; RCT registration number: IRCT20180915041044N1; Registration date: 19/12/2018.

Keywords Education, Hemodialysis units, Hospital, Psychology, Positive, Renal dialysis, Treatment adherence and compliance

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groups. Thus, random allocation was done based on the hospitals. In addition, the participants were aware that they belonged to the control or the intervention group. These two limitations could reduce the generalizability of the findings. However, the use of face-to-face training at the time of hemodialysis was favorable for the patients in the intervention group and made them more willing to continue the study. Other strengths of the study included the use of a two-group, pre-post design, practices in each training session, and presentation of assignments in each session.

Given the lack of research on the role of positive thinking in the hope of patients undergoing hemodialysis, it can be concluded from the results of the present study and the above-mentioned studies that interventions inducing positive thinking and motivation could increase hope among patients under hemodialysis. Therefore, because of its cost-effectiveness, this method can be used to increase these patients' hope.

Conclusion

According to the results of the current study, positive thinking interventions could improve hope and increase adherence to treatment among the patients under hemodialysis probably by reducing hopelessness, emphasizing the positive aspects of patients' lives, and training strategies for accepting the realities and enhancing their physical and mental abilities. Therefore, the use of positive thinking could be recommended to improve adherence to treatment and hope in patients undergoing hemodialysis. By conducting further studies in this area, positive thinking training can be considered a feasible, low-cost, and safe non-pharmacological intervention as a complement to psychological and nursing interventions to improve treatment adherence and hope among patients undergoing hemodialysis.

Abbreviations

ESRD	End stage renal disease
ESRD-AQ	End-stage renal disease adherence questionnaire
BUN	Blood urea nitrogen
SPSS	Statistical package for the social sciences

Acknowledgements

The authors would like to thank the Vice-chancellor for Research and Technology of Shiraz University of Medical Sciences for financially supporting the study. They would also like to thank the Center for Development of Clinical Research of Namazi Hospital and Mr. Keshtvarz and Dr. Motazedian who collaborated in study design, statistics, and data analysis. The honorable officials of Namazi and Shahid Faghihi Hospitals who contributed to this study are acknowledged, as well. Thanks also go to Ms. A. Keivanshekouh at the Research Improvement Center of Shiraz University of Medical Sciences for improving the use of English in the manuscript. Finally, the researchers wish to express their gratitude to the patients undergoing hemodialysis who participated in this study.

Author contributions

All authors made substantial contributions to conception and design of the study. FS performed the interventions and collected data. ZKh and FS analyzed and interpreted the data. ZKh and FS participated in drafting the manuscript. FS, MR, and ZKh revised the manuscript critically for important intellectual content and final approval of the manuscript.

Funding

This work was supported by the Vice Chancellor of Research of Shiraz University of Medical Sciences, Shiraz, Iran under Grant No. 97-01-08-17374. The funding body did not play any roles in the in the design and conduct of the study; and in writing the manuscript.

Availability of data and materials

The datasets used during the current study available from the first author on reasonable request.

Declarations

Ethics approval and consent to participate

This study have been performed in accordance with the Declaration of Helsinki and all methods were carried out in accordance with relevant guidelines and regulations. The Ethics Committee of Shiraz University of Medical Sciences, Shiraz, Iran approved the study (code: IR.SUMS.REC.1397.704). The authorities of the hospitals also issued the necessary permits to conduct the research. All participants were required to complete the informed consent forms and were assured about the voluntary participation and the confidentiality of their information.

Consent to publication

Not applicable.

Competing interests

The authors declare that there is no competing interest.

Received: 29 July 2022 Accepted: 2 January 2023

Published online: 09 January 2023

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