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Factors influencing the resilience of clinical education in general medicine in Iran: a qualitative content analysis study

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Abstract

Background Clinical education is one of the key components of medical education and directly affects the efficiency, professional skills, and quality of future services graduates provide. Additionally, resilience plays an essential role in facing crises and forming medical students' professional identity. Strengthening resilience can accelerate this process. Therefore, this study was conducted to comprehensively understand the dimensions and factors affecting resilience in the clinical education of general medicine, based on the experiences of stakeholders, including professors and students present in clinical environments.

Methodology This qualitative study was conducted based on purposive sampling among ten faculty members and six medical students. The data collection process was conducted from September 2023 to April 2024 through semi-structured interviews. Interviews were transcribed, and data analysis was accomplished according to the steps proposed by Graneheim and Lundman (2004).

Results Data analysis revealed three themes that reflected the factors influencing resilience in clinical education: Facilitators of resilient clinical education, Barriers of resilient clinical education, and Prerequisite factors of resilient clinical education.

Conclusion According to the results, in order to create a resilient clinical education system, it is necessary to pay attention to factors such as the use of residents in teaching, cooperative learning, effective interaction, strong knowledge base, infrastructure development, and spreading the culture of learning from experiences. In the meantime, obstacles such as the loss of trust between community members and doctors, heavy workload, non-scientific management and treatment-oriented clinical training centers can prevent the realization of this goal. On the other hand, supporting faculty members with training programs and job promotion as well as paying attention to individual resilience are considered as facilitating factors in this direction.

Keywords Resilience, Qualitative Research, Undergraduate Medical Education

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Background

The COVID-19 crisis highlighted the importance of resilience in educational systems and attracted the attention of researchers and policymakers to the response of these systems and the transformation of students' learning experiences [1]. Given that crises are inevitable, universities, as organizations [2], should cultivate the skills of anticipating, coping with, and adapting to challenges, and act on lessons learned in advance. The term 'resilience' in



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higher resilience scores, while a high workload increases their job stress [40]. Participants believed that education is in the shadow of treatment.

Prerequisite factors of resilient clinical education

Zhou et al.'s study showed that interventions that strengthen students' self-directed learning have the potential to increase resilience. The study recommends innovative educational approaches, strategic reinforcement, and curriculum changes to promote self-directed learning awareness and internalize self-directed learning skills [41]. Therefore, strengthening positive psychology and self-directed learning abilities is suggested as a strategy to prepare for changes in education and clinical areas [42]. On the other hand, given the high social and economic costs of crises, organizations are interested in predicting crises and implementing appropriate preventive or corrective measures to increase system resilience [43, 44]. Ashraf Labib (2021) argues that control systems in organizations should identify similar types of crises by learning from past experiences and others. Decisions should be made by focusing on resilience modeling and learning from incidents [45]. The results of Evenseth et al.'s (2022) study also show that organizational resilience and organizational learning are intrinsically related. Effective learning relies on the proper management of hands-on experiences, the adoption of a systematic approach to learning, the organization's ability to discard outdated knowledge, and the presence of a supportive environment that encourages learning within the organization [46]. According to studies, knowledge management is recognized as a primary and vital factor in enhancing the resilience of organizations [47, 48]. In this regard, Ibrahim Ismael and his colleagues (2021) aimed to investigate whether knowledge management can be considered an important factor for organizational resilience and agility from the perspective of employees. Their study found that nearly two-thirds of university hospital nursing staff reported a moderate level of knowledge management, and more than half believed that the hospital had a moderate level of organizational resilience [48]. In the current study, the dissemination of learning culture from previous experiences, in the form of organizational learning and knowledge management, has been introduced as a prerequisite for achieving resilience in clinical education.

This study should continue as a grounded theory to develop the process and model of resilience in clinical education. Considering the importance of resilience in clinical education, it is suggested to develop a valid and reliable tool to measure resilience in this field for future studies. It is also recommended that studies be

conducted to develop a curriculum specific to crisis situations so that it can be referred to if needed.

This study had some limitations, including the challenge of scheduling interviews with busy faculty members. To address this issue, we scheduled appointments and coordinated visits to the professors' offices in advance.

Conclusion

This study examines resilience and factors affecting it in clinical education. The results show that in order to create a resilient clinical education system, it is necessary to pay attention to factors such as the use of residents in teaching, cooperative learning, effective interaction, strong knowledge base, infrastructure development, and spreading the culture of learning from experiences. In the meantime, obstacles such as the loss of trust between community members and doctors, heavy workload, non-scientific management and treatment-oriented clinical training centers can prevent the realization of this goal. On the other hand, supporting faculty members with training programs and job promotion as well as paying attention to individual resilience are considered as facilitating factors in this direction. Overall, creating a suitable platform for learning and professional development can significantly contribute to resilience and improve the quality of clinical education.

Abbreviations

F	Faculty member
S	Student

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Authors' contributions

K.J. conducted the literature research for the background of the study, planned the study, collected data for the study, analyzed and interpreted data, and wrote the article. M.A.M. planned the study, analyzed, and interpreted data, and contributed to the writing of the article. S.A. F. planned the study, analyzed, interpreted data. R.R. and A. H. supervised the study, revised the article, and proofread the manuscript. The authors read and approved the final manuscript.

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Data availability

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

The ethical approval for the study was acquired from the Research Ethics Committee of Shiraz University of Medical Sciences (IR. SUMS.REC1402.250).