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Designing a Resilience Curriculum for Relief Workers in Iran: A Psychological–Educational Approach

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Original Article

Abstract

INTRODUCTION: The present study aimed to design a resilience curriculum for relief workers in Iran based on a psychological–educational approach.

METHODS: This study employed a systematic review and qualitative content analysis approach. A total of 154 sources were initially identified, of which 20 met the predefined inclusion and exclusion criteria and were included in the final synthesis. Data were extracted using a researcher-developed worksheet and analyzed using Hord's seven-stage model (1987), with open and axial coding used to identify and categorize the main themes.

FINDINGS: The findings highlight that the resilience curriculum for relief workers integrates key psychological and educational components, including self-awareness, experience-based and collaborative learning, critical thinking, real-life situational learning, and openness to change, aimed at enhancing resilience, coping skills, mental well-being, communication, crisis and stress management, self-efficacy, and emotional regulation.

CONCLUSION: The results indicate that the designed resilience curriculum, with its emphasis on educational and psychological outcomes, highlights the role of key resilience factors in shaping curriculum objectives, content, instructional methods, and evaluation strategies.

Keywords: Curriculum; Resilience; Relief workers; Psychological–educational approach.

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Introduction

Resilience is a multidimensional and dynamic concept for which numerous operational definitions have been proposed in the scientific literature (1). The term, derived from the Latin word *Resilio*—meaning "to return" or "to bounce back"—was initially used to describe a return to a previous state following exposure to adversity or crisis. However, in contemporary perspectives, its conceptual scope has expanded significantly beyond this traditional view.

Within this broader framework, Valizadeh and Motaghi (2024) (2) define resilience as the capacity of groups and communities to actively cope with stress and disturbances arising from social, political, and environmental changes. This includes the ability to anticipate risks, mitigate adverse consequences, and achieve rapid recovery through processes of survival, adaptation, and growth. Similarly, Adger (2000) and Mozaffari Gharehbagh et al. (2025) conceptualize resilience as the ability of community members to take meaningful, purposeful, and collective actions to address challenges, interpret environmental conditions, and move forward (3,4).

In line with these perspectives, resilience is no longer viewed as mere passive resistance to adversity, but rather as an active and constructive process involving engagement with the environment (5). It encompasses a set of factors and processes that disrupt the progression from risk exposure to psychological harm and instead facilitate positive adaptation and developmental outcomes (6). From this viewpoint, resilience involves not only recovery, but also

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transformation and growth in response to adverse conditions (7,8).

Furthermore, resilience is understood as a dynamic process shaped by individual, familial, and social factors (9). Individuals with higher levels of resilience tend to demonstrate more adaptive emotional responses, positive thinking patterns, and goal-oriented behaviors, whereas lower resilience is associated with negative cognitions and feelings of inadequacy (10).

Rescue workers in organizations such as the RCS represent a critical human resource in disaster response and national development. Due to the nature of their work—exposure to traumatic events, operational pressures, and high-risk environments—they are frequently subjected to stress, anxiety, and psychological strain (11). Evidence suggests that resilience plays a significant role in predicting effective crisis management among RCS personnel (12). Consequently, enhancing resilience is essential for maintaining their psychological well-being and operational effectiveness.

In this regard, resilience has been identified as a key component of psychological capital, contributing to improved psychological functioning and professional performance (13, 14). Strategies for strengthening resilience include fostering psychological hardiness, self-enhancement, adaptive coping mechanisms, and positive emotional states (10).

Given the critical role of education in shaping competencies, the curriculum is considered a foundational element of the teaching–learning process and a central component of educational systems (15). It plays a vital role in facilitating effective learning, developing essential skills, and responding to evolving societal needs (16, 17). Moreover, curriculum flexibility—defined in terms of adaptability and responsiveness to learners' needs—has been emphasized as a key factor in modern educational design (18).

Despite the recognized importance of resilience in psychological and professional development, previous research has paid limited attention to the systematic integration of resilience into curriculum design. Most studies have focused on examining relationships between resilience and other variables, rather than exploring the characteristics and requirements of an effective resilience-based curriculum (19).

Accordingly, considering the importance of resilience in enhancing both individual well-being and professional performance, as well as the central role of curriculum in education systems, there is a clear need to design and develop a comprehensive resilience-based curriculum tailored to the specific needs of rescuers.

Methods

This study is a research and development (R&D) study conducted with the aim of designing a practical program based on available scientific evidence. In this approach, a specific educational problem is identified and relevant evidence is used to develop an appropriate solution. Accordingly, the present study employed a descriptive–applied approach based on a systematic review and qualitative content analysis.

A systematic search identified 154 sources, of which 20 were selected for final analysis based on predefined inclusion and exclusion criteria. Data were extracted using a researcher-developed worksheet, and the selected sources were analyzed using Hord's seven-stage framework (1987). Open coding was used to identify and categorize the main themes and curriculum components. Key characteristics examined included research code, target population, methodology, publication year, and major findings (Table 1).

Considering the main objective of the research, a systematic search was conducted in domestic and international databases to identify scientific resources related to psychological skills training, stress management, and resilience building among rescue workers. The keywords included "psychological resilience," "stress management," "psychological interventions," "resilience training," "rescuers," "crisis management and crisis coping," "scenario-based training," and "educational simulation." Relevant articles, theses, and doctoral dissertations were identified from international databases, including ERIC, ScienceDirect, Springer, Scopus, Elsevier, Semantic Scholar, SAGE, ProQuest, Google Scholar, and Web of Science, as well as relevant Iranian scientific databases and repositories.

Inclusion and exclusion criteria were defined according to the focus of the study. Relevant research and review studies in curriculum planning, instructional design, resilience, stress management, and psychological preparedness published between 1997 and 2023 were considered. This period was selected to cover the development and subsequent application of design-oriented approaches in educational research.

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Studies were included if they addressed at least one curriculum element, such as objectives, content, teaching–learning strategies, materials, time, place, or assessment, and were related to psychological skills training, resilience, stress management, or psychological preparedness among first responders. Studies unrelated to curriculum design or resilience training, or those that did not provide sufficient relevant information, were excluded.

The initial search identified 154 documents from domestic and international databases. After screening titles, abstracts, and full texts according to the predefined eligibility criteria, 20 sources were retained for the final analysis and synthesis.

The synthesis process was organized according to the framework proposed by Hord (1987) (21), including problem identification, literature search and selection, data extraction, coding, framework development, and presentation of the final model. The extracted data were analyzed using qualitative content analysis. Initial concepts were identified through open coding and subsequently grouped into conceptually related categories.

The curriculum-related codes were organized according to relevant curriculum elements informed by Akker's curriculum framework. To ensure coding reliability, dual coding was conducted, and inter-rater agreement was assessed using Cohen's kappa coefficient ($\kappa = 0.81$), indicating substantial agreement.

For further review of the proposed framework, the extracted conceptual framework was developed into a preliminary model and evaluated by experts in curriculum and relief education through semi-structured interviews. The expert feedback was analyzed qualitatively and used to refine the proposed curriculum framework.

Findings

Based on the findings of the selected studies, all components were extracted using open coding and categorized according to common concepts. Based on the coding process, the curriculum features were identified according to a design-oriented understanding and organized based on the curriculum elements, as shown in Table 2. Finally, a general and comprehensive framework was developed based on the findings.

According to the results obtained from the research synthesis and open and axial coding, the framework of the curriculum based on the resilience of rescuers is presented in Figure 1.

Table1. Characteristics of documents included in the final synthesis

Document	Author(s) and Year	Goal	Method & Study Type
Article	Leppin et al. (2014) (22)	Examining the effectiveness of resilience training programs	Systematic review and meta-analysis
Book	Everly & Lating (2013) (23)	Providing a framework for psychological first aid and stress management	Theoretical and applied guide
Book	Regehr & Bober (2005) (24)	Examining psychological effects of trauma and crisis exposure on emergency service workers	Theoretical and qualitative evidence
Article	Bagheri (2021) (25)	Examining the effectiveness of scenario-based training on rescuers' performance and preparedness	Applied study
Article	Prati & Pietrantoni (2009) (26)	Examining the role of optimism, social support, and coping strategies in posttraumatic growth	Meta-analysis
Article	McCann et al. (2013) (27)	Reviewing resilience factors and training implications in the health professions	Review study
Article	Hoge et al. (2013) (28)	Examining the effects of mindfulness meditation on anxiety and stress reactivity	Randomized controlled trial
Article	Levine et al. (2020) (29)	Presenting a training model for resilience and stress management during crisis situations	Training model / applied study
Article	Andersson et al. (2019) (30)	Examining the relationship between general self-efficacy and resilience in mental health	Systematic review
Article	Brooks et al. (2018) (31)	Reviewing social and occupational factors associated with psychological outcomes during infectious disease outbreaks	Rapid review
Article	Nicol et al. (2020) (32)	Investigating the role of self-efficacy in stress coping among frontline responders	Correlational study
Article	Mohammadi (2013) (33)	Examining the role of experiential learning in enhancing psychological resilience	Quasi-experimental study
Article	Southwick et al. (2014) (34)	Reviewing definitions, theoretical perspectives, and influencing factors of resilience	Interdisciplinary review
Article	Yang et al. (2012) (35)	Examining retention of advanced life support knowledge and skills	Systematic review
Article	Nadel et al. (2000) (36)	Examining the effects of an intervention for teaching resuscitation skills	Intervention study
Article	Al Ghareeb & Cooper (2016) (37)	Exploring barriers and enablers to high-fidelity simulation in health education	Integrative review
Article	Liu et al. (2016) (38)	Examining the effectiveness of blended learning in health professions education	Systematic review and meta-analysis
Article	Ganley & Linnard-Palmer (2012) (39)	Examining academic safety during nursing simulation	Descriptive study
Article	William et al. (2009) (40)	Investigating the impact of films and scenarios on situation-based learning	Empirical study
Article	Cook (2011) (41)	Evaluating multimedia and simulation tools in clinical skills learning	Meta-analysis

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Table2. Characteristics of curriculum framework elements based on rescuers' resilience (ACR Components)

Element	Features
Logic	Developing self-awareness and responsibility (28,34); experiential learning (28); strengthening critical thinking and problem-solving (34); group learning and sharing experiences (26); learning based on real-life situations; strengthening a sense of meaning and purpose (29,34); promoting openness to and acceptance of change (34); cooperative (peer) learning (26).
Goal	Increasing psychological resilience (27,28,34); strengthening coping skills (22,34); promoting mental health and well-being; developing communication and collaboration skills (26,31); improving crisis management skills (23,30); identifying and managing sources of stress (23,24,28,29); enhancing psychological self-efficacy (22,28,32); developing emotional regulation skills (27,34).
Content	Adapting content to the professional characteristics, psychological needs, and operational conditions of rescuers (24,25); training communication and effective interaction skills in stressful and operational environments (31); designing content based on research evidence and up-to-date scientific approaches in resilience (22,34); training coping skills for psychological stress (27,32); emphasizing psychological self-care, social support, and teamwork (23,26).
Learning strategies	Scenario-based learning and crisis simulation (22,25,27,29,30); experiential and workshop-based training for practicing psychological skills (22,28); group discussions and analysis of rescuers' real experiences (24,34); role-playing to practice emotion management in crisis situations (23,27,30); problem-solving and decision-making in stressful situations (29).
The role of the teacher	Acting as a learning facilitator and psychological coach (34); creating a safe space for rescuers to express experiences and emotions (24).
Materials and resources	Use of crisis training films and scenarios (40); application of multimedia tools and training simulators (41).
Grouping	Group learning in small rescue teams (26); collaborative activities to strengthen team cohesion (30); integration of individual work (self-awareness) and group work (social support) (25,31).
Time	Short, intensive training courses tailored to rescuers' working conditions (23–27); periodic exercises and continuous retraining to reinforce skills (27,35,38).
Location	Training conducted in rescue and relief centers or crisis simulation environments (30); possibility of blended learning (face-to-face and online) (35,38); provision of a safe, calm, and supportive environment for practicing psychological skills (34).
Evaluation	Performance evaluation in simulated crisis situations (23); self-assessment of resilience and stress management (28,32); use of standardized psychological resilience questionnaires (27)

According to the logic underpinning the resilience-based curriculum for rescuers, its adoption is justified by several key considerations: fostering self-awareness and responsibility; promoting experiential learning; strengthening critical thinking and problem-solving; encouraging group learning and the sharing of experiences; emphasizing learning in real-life situations; enhancing a sense of meaning and purpose; supporting openness to change and acceptance; and facilitating collaborative (peer) learning.

Accordingly, the curriculum's goals and objectives include enhancing psychological resilience, strengthening coping skills, promoting mental health and well-being, developing communication and teamwork competencies, improving crisis management skills, identifying and managing sources of stress, increasing psychological self-efficacy, and cultivating emotional regulation.

To achieve these aims, the curriculum content is carefully prioritized and structured in alignment with the professional characteristics, psychological needs, and operational contexts of rescuers. It incorporates training in effective communication and interaction within high-stress environments and operational teams, and is grounded in research evidence and contemporary scientific approaches to resilience, with particular emphasis on psychological self-care, social support, and teamwork.

A range of instructional methods is employed, including crisis simulations, role-playing, guided discovery learning, case analysis, problem-based learning, and skills-based workshops. These approaches are selected to promote active participation, foster interpersonal interaction, give meaning to lived experiences, and strengthen learners' capacity for knowledge construction. Attention is also given to creating an engaging learning environment, addressing the emotional needs of rescuers, and providing opportunities to process challenging experiences.

Within this program, the trainer assumes the roles of learning designer, facilitator, and action researcher, guiding the learning process through the use of probing questions, educational technologies, demonstration tools, and simulated scenarios. The program also emphasizes individualized learning by accounting for learners' differences, while enabling structured

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and purposeful teamwork. Learners are organized into small groups or pairs based on their abilities, interests, and professional needs to enhance communication, coordination, and mutual support.

Effective implementation of the curriculum requires adequate time allocation, appropriate educational settings, and flexible learning spaces. Evaluation is conducted in a comprehensive and multidimensional manner, with a strong focus on learning outcomes. It takes place in authentic, realistic, and situational contexts and incorporates multiple forms of evidence, including performance-based tasks, resilience indicators, and professional performance standards. The evaluation process combines formative and diagnostic approaches, utilizing methods such as self-assessment, peer assessment, performance observation, situational analysis, and validated psychometric instruments.

Figure 1 illustrates the overall framework of the resilience-based curriculum for rescuers, highlighting key elements such as self-awareness, personal responsibility, experiential learning, critical thinking, group interaction, and real-life learning. The program is designed to enhance psychological resilience, strengthen coping capacities, and improve communication and crisis management skills.

Drawing on the components identified in the synthesis study, Table 3 presents the corresponding educational themes. To operationalize the framework depicted in Figure 1, the core curriculum components are further elaborated, including course content, learning activities, and evaluation evidence, thereby establishing a clear link between theoretical foundations and practical application.

Accordingly, the proposed structure of the resilience-based curriculum is provided in Table 4.

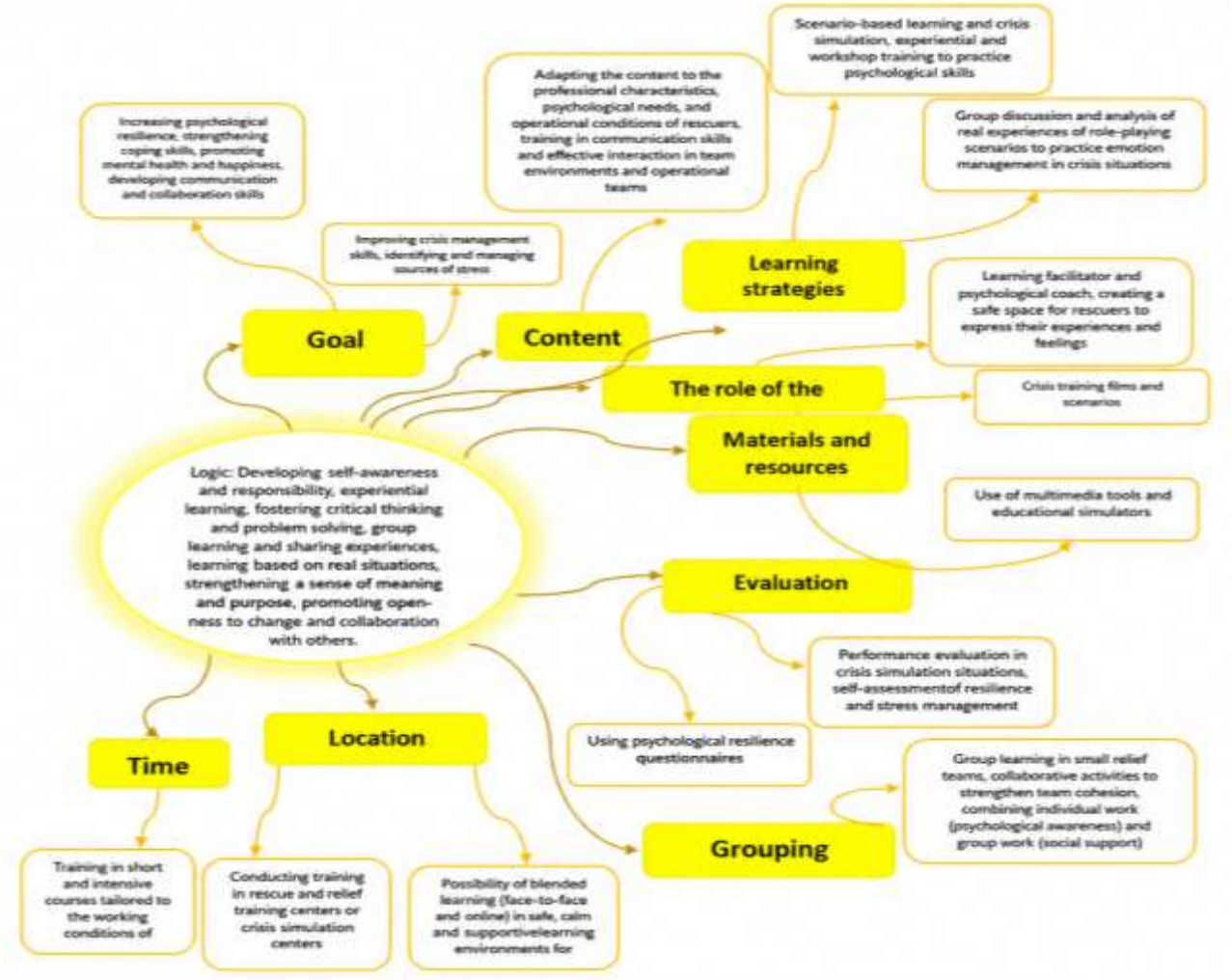


Figure 1. Conceptual framework for a curriculum based on resilience for rescuers

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Table3. Content structure and learning activities based on the main components of the curriculum

Main component	Educational goal	Themes and course content
Self-awareness	Recognizing emotional reactions and personal limitations	Identifying stress triggers, analyzing behavioral patterns in crisis
Responsibility	Understanding the ethical and professional implications of decisions	Ethical decision-making frameworks
Experiential learning	Converting experience into operational knowledge	Feedback methods
Critical thinking	Analyzing complex situations and reducing human error	Cognitive error analysis, operational evidence evaluation

Table 4. A curriculum framework based on resilience for rescues

Step 1- Desired results		
Transfer How can a rescuer maintain resilience and professional functioning in high-pressure situations? **Understanding** What factors reduce or enhance resilience? Why is emotion regulation critical for first responders? **Acquisition** Mastering the fundamental concepts of resilience and coping skills for application in operational situations	What specifically do you want the rescuers to understand? What inferences should they make?	**Objectives** Develop resilience skills to maintain professional functioning of rescue workers in high-pressure and critical situations.
Step 2- Evidence		
Functional tasks Functional tasks will show how much the rescuer has actually improved in resilience skills. Can the rescuer use emotion regulation techniques (controlled breathing, cognitive pauses, thought restructuring) in a simulated crisis situation? Can the rescuer analyze a stressful operational situation and choose an appropriate coping strategy? Can the rescuer perform a short (2-4 minute) mindfulness exercise in a moment of stress? Can the rescuer develop and explain his/her "personal resilience plan"? Does the rescuer demonstrate the ability to provide emotional support to teammates during group exercises**?**	**Evaluation criteria** Determining performance indicators to measure psychological skills (such as emotion regulation and effective coping)	**Code** Teaching techniques for emotion regulation, coping with stress, cognitive restructuring, thought management, and the use of concentration and mental recovery exercises
Step 3- Learning plan		
Prerequisites Investigating the knowledge and previous experiences of rescuers in the field of resilience and educational needs assessment	What tools are used to assess the knowledge and prior experience of rescuers?	Code
Monitoring progress Continuous assessment of rescuers' performance in managing psychological stress and fatigue from operations to ensure learning effectiveness	**Learning events** Using scenario-based training, crisis simulations, role-playing, and group discussions to link skills to real-world situations	What is the goal (or results) of each event?

Discussion and Conclusion

The findings of this study, in line with a series of reputable domestic and foreign studies, show that designing a resilience curriculum for paramedics, when based on the principles of experience-based learning, simulation of real situations, and strengthening psychological skills, may contribute to professional performance and psychological adjustment of individuals. As revealed in the content analysis of the 20 selected studies of this study, components such as self-awareness, emotion regulation, problem solving, cognitive flexibility, teamwork, and stress management have been introduced in most studies as the main elements of resilience. This is in line with the findings of studies such as Regehr and Bober (2005), McCann et al. (2013), and Southwick et al. (2014). These studies also emphasize that resilience in crisis-affected groups—especially RCS workers who work in high-risk and unpredictable conditions—is, above all, a trainable capability that can be enhanced through structured training programs.

Similarly, the findings of this study regarding the necessity of applying comprehensive and goal-oriented educational design patterns are consistent with established instructional design principles. These approaches have also been recognized as effective frameworks in studies focusing on the training and preparedness of emergency response teams. The correspondence of this psychological-educational approach with the theoretical and empirical analyses of the present study shows that linking the principles of resilience psychology with modern educational strategies can increase the coherence, efficiency, and effectiveness of rescuer training programs and promote learning from the level of theoretical

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knowledge to the level of real and resilient performance in crisis situations.

On the other hand, the results of this study are consistent with studies that emphasize the role of experience-based learning, situational learning, crisis simulation, and active participation of learners in learning. Studies such as Williams et al. (2009) have highlighted the value of simulation-based approaches in paramedic education, particularly for providing realistic learning experiences and supporting the development of practical competencies. These findings are fully consistent with the results of the present study, which emphasizes the importance of using active learning methods, continuous feedback, analysis of practical experiences, and group interaction.

Also, the analysis of the sources showed that resilience is not only an individual construct and is formed in interaction with environmental, social and organizational factors. This is in line with the view of researchers such as Olsson, Samani, Belcher et al. (2020) who consider resilience to be a multifaceted process influenced by support networks, institutional structures and interpersonal dynamics. The findings of this study also show that in order to improve the resilience of rescuers, in addition to individual skills, it is necessary to focus on creating supportive environments, strengthening teamwork, creating a psychologically safe space and developing effective professional communications.

Overall, the results of the present study demonstrate that the elements designed for the resilience curriculum for rescuers are consistent with the findings of reputable, evidence-based global research. The alignment between the components extracted from the analysis of 20 studies and the theoretical foundations of resilience, as well as the existing literature on rescuer training, indicates that the proposed framework possesses strong theoretical coherence, and evidence-informed support. Therefore, it can serve as a reliable scientific and practical foundation for the design and implementation of training programs in the IRCS and other relief organizations.

Compliance with Ethical Guidelines

As this study is a review article, it did not involve human or animal participants; therefore, no ethical approval or specific ethical considerations were required.

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Author's Contributions

Tayebeh Tajari contributed to study design, data analysis, manuscript writing, and supervision of the research process. Hossein Torbatinezhad contributed to conceptualization and manuscript review. Sara Espo contributed to data collection, data analysis, and methodological implementation. Soror Espo contributed to the literature review and manuscript editing.

Conflict of Interests

The authors declare no conflict of interest.

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