Research Paper:

The Effects of Positive Psychotherapy on Internet Addiction and Identity Crisis in Female Senior High School Students

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ABSTRACT

Introduction: The present study aimed to investigate the effect of positive psychotherapy on internet addiction and identity crisis in senior female high school students in Falavarjan City, Iran.

Objectives: The use of the internet and social networks greatly influences the values of adolescents and demands; the needs previously met by the family are now met by this new medium.

Materials and Methods: This was a quasi-experimental study with a pre-test; post-test and a control group design. The statistical population of this study included senior high school female students and their parents from Falavarjan City (Isfahan Province, Iran) during the 2018-2019 academic year. Forty female high school students were selected by a multistage cluster sampling method. Then, they and their parents were randomly assigned into the control and experimental groups. The tools used in the study included Family Communication Patterns, Generalized Pathological Internet Use Scale, and Identity Crisis Questionnaire. The intervention included 8 positive psychotherapy sessions for parents and 9 positive psychotherapy sessions for adolescents. The obtained data were analyzed by Multivariate Analysis of Covariance (MANCOVA).

Results: The achieved results indicated that positive psychotherapy significantly reduced internet addiction (F=117.02, P<0.0005) and identity crisis (F=146.199, P<0.0005) in female adolescents (P<0.0005).

Conclusion: The study findings suggested that positive psychotherapy impacted Internet addiction and identity crisis in female senior high school students.

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1. Introduction

The use of the internet and social networks greatly influences the values of adolescents and demands; the needs previously met by the family are now met by this new medium [1]. For example, in the past, children's friendship was under parental control,; however, today, the youth could get acquainted with different people and cultures through online dating, chatting, and so on. Unlike the first generation, which was active in real-world affairs, Internet users are currently engaged in virtual space [2]. Accordingly, many family functions in people's socialization occurs through this interactive medium in the virtual environment [3]. One of the most critical periods of everyone's life, i.e. associated with numerous crises and issues, is adolescence. The critical aspect of the development of this era is the period associated with the formation and consolidation of identity. Identity has different dimensions; one of the most important of which is gender identity [4]. Importantly, during this period, the foundation for a healthy adolescent and identity, and especially gender identity, roots from the person's childhood. In other words, the identification process is indeed formed during adolescence; however, its foundation is shaped in childhood and by the parents [5]. Identity searching is usually associated with experiencing anxiety.

Besides, parents' anxiety is not less than their teenage [6]. While parents might feel worried about being attached to their child and the lack of a mutual feeling in their children, teenagers complain about not having adequate privacy and assistance from their parents [7]. The primary step in the growth of identity is the separation of adolescent self-concept from parent's self-concept. In the process of separation from previous childhood attachments, the teenager develops his/her physical, sexual, intellectual, and spiritual identity. Furthermore, using abstract thinking gained through these years, they play an independent role concerning their family, peers, and community. The new identity is manifested in different manners, according to which, the teenager has grown up in the family, and sociocultural settings and lives under different circumstances. The influence of the family on the child is apparent. Parents and relatives create the first foundations of their feelings in the child [8]. A family that provides emotional support and freedom of discovery for a child creates a strong self-empowerment in them. When a family is a secure base for adolescents, the teen confidently moves toward growth and identity strengthening. Gender role learning also occurs almost unknowingly and indirectly.

Furthermore, in the context of such a close relationship with parents, children observe what each parent has, what they say, what they wear, and so on. The children's learning is not limited to the number of observations of the parents, but the quality of the behavior and speech of others are instructive to them [9]. The family forms not only adaptive behavior but also unhealthy behavior. Therefore, the influence of the family environment on the formation of personality and the adaptive and maladaptive behaviors of individuals cannot be overlooked, especially in youth and adolescence, i.e. the era of identity and independence [10].

The emphasis on positivism does not mean the negation of psychological pathology; the point is that the positive thoughts and feelings and their constant impact on human biopsychological health have been neglected [11]. individuals' attitude toward life consists of emotions and beliefs. The first essential step to replacing negative views with positive ones is to identify and distinguish between emotions, thoughts, and beliefs. Positive people are healthier and happier, and by problem-solving strategies, they manage mental stress more efficiently than others. This approach emphasizes identifying emotions and controlling feelings and emotions, creating optimism, fighting negative thoughts, and changing mental images [12]. Positive psychology is a scientific study of human virtues and abilities. It is interested in scientific research in the scientific landscape to comprehend the full and wide range of human experiences from inadequacy, suffering, and illness to prosperity, health, well-being, and human happiness. Accordingly, this research assessed the effects of positive psychotherapy on internet addiction and identity crisis in female adolescents.

2. Materials and Methods

This was a quasi-experimental study with a pre-test/post-test and a control group design. The statistical population of this study included senior high school female students and their parents from Falavarjan City (Isfahan Province, Iran) in the 2018-2019 academic year. By a multistage cluster sampling method, three schools were randomly selected in Falavarjan City. Of those, 150 students (each school: 50 students) were randomly selected. Then, a Pre-test was performed, and 40 of those who obtained the highest scores (higher mean scores in internet addiction and identity crisis scales) in the Pre-test were randomly selected and placed (drawn by lot)

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in two groups of experimental and control (each group included 20 adolescents with their parents). After selecting the study samples and randomly assigning them to the experimental and control groups, written consent forms were obtained from the study participants. Then, the questionnaires were used as a Pre-test in each group. Next, for the experimental group, 8 educational sessions of positive psychotherapy for parents and 9 sessions of positive psychotherapy for adolescents (two-hour group sessions per week) were conducted; however, the control group received no intervention. After the completion of the sessions, both groups were subjected to a Post-test. To observe the ethics of the research, after performing the follow-up test, the intervention was also provided for the control group. The below tools were used for data collection.

Generalized Pathological Internet Use Scale: The Kaplan's Generalized Pathological Internet Use Scale was designed in 2002 to measure the extent and severity of internet addiction and measure the overall potential harm caused by internet addiction. This questionnaire is composed of 29 questions, designed based on clinical and field experiences. This questionnaire has an excellent internal consistency with a range of 0.88 to 0.85. Kaplan also mentioned the reliability of the questionnaire by Cronbach's alpha coefficient (0.93) in one of his studies [13]. In another study, the reliability of this questionnaire was obtained as 0.92, and the validity of this questionnaire was averagely reported to be 0.82.

Identity Crisis Questionnaire: Identity crisis is a pencil-and-paper scale with 30 items. This is a researcher-made scale developed by Ahmadi in 1997. The questionnaire identifies the extent of adolescent infections with a stressed identity crisis, including the inappropriateness of sexual behaviors. The Cronbach's alpha coefficient for this scale was calculated as 0.86, which indicates that the consistency between the questions in this questionnaire is acceptable. In the study of Bu-Ali Dad and Bami [14], the calculated Cronbach alpha coefficient was 0.89. Additionally, the validity of this inventory using a split-half method was equal to 0.95; thus, it has a high correlation coefficient.

The ethical considerations of the present research were as follows: 1. All individuals received written information about the research and participated in the research voluntarily; 2. The study subjects were assured that all obtained data remains confidential and will only be used for research purposes; 3- To comply with privacy, the name of the study participants was not recorded. Moreover, they were explained that at each stage of the

research, they could discontinue participation. After selecting the samples and randomly placing them in two experimental and control groups, treatment initiated in the experimental group. At the treatment onset, it was announced to the study subjects that the sessions were not merely unilaterally delivered, and the participation of the members in the group was encouraged and emphasized. Positive psychotherapy used in this study was conducted in 8 weekly sessions for parents and 9 weekly sessions for adolescents, separately. Table 1 and 2 summarizes the treatment sessions. The intervention was performed in a counseling center in Falavarjan City by the researcher.

Descriptive statistics were used to describe the demographic characteristics of the study participants and the pre-test, post-test stages of data. Multivariate Analysis of Covariance (MANCOVA) was used to determine the significance of the effect of the independent variables on the dependent variables. Data analysis was performed using SPSS.

3. Results

The Mean±SD age of the experimental and control groups was 32.8±8.1 and 33.3±8.6 years. Moreover, the duration of imprisonment in the experimental group was 16.1±4.3 months, and the mean duration of imprisonment in the control group was 15.9±3.18 months (Table 3).

To verify the normal distribution of variables, the Kolmogoroph-Smirnov test was used. The significance level was set at $P<0.05$; therefore, the assumption of the normal distribution of the distribution was established.

As per Table 4, the quadruple tests of MANCOVA related to the variance of the research variables were statistically significant. Therefore, the experimental and control groups significantly differed in at least one of the study variables. In other words, positive psychotherapy, at least in one of the dependent variables, affected the mean values of the experimental group, compared to the controls in the Post-test phase ($P<0.0005$). This effect or difference was equal to 91%. Thus, 91% of individual differences in internet addiction scores and identity crises related to the impact of group membership. The statistical power of an indicator was sufficient for the sample size.

As per Table 5, positive psychotherapy significantly reduced internet addiction (F=117.02, $P<0.0005$) and identity crisis (F=146.199, $P<0.0005$) in female adolescents ($P<0.0005$).

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Table 1. The contents of positive psychotherapy sessions (parent form)

Session	Purpose	Concepts
First	Introduction and training the basic structure of the treatment	Describing instructions to perform the tasks; the reason for selecting people; getting acquainted with the positive thinking approach; making a commitment to continue the sessions; setting rules for the course
Second	Explaining parenting styles/ identity and optimism	Describing parenting styles and the influence of parental communication and words on children and especially adolescents; explaining the transmission styles of people's relationship with virtual space; explaining the identity and gender identity of adolescents; providing a chapter in the optimistic book of Martin Seligman (2009) (pessimistic parental legacy) as an assignment to individuals
Third	An introduction to positive thinking	Familiarity with how our thoughts and attitudes form and how our view toward life is shaped based on our beliefs and attitudes where if a child grows up in a troubled family or is more prone to witness the verbal abuse of parents, in adulthood and adolescence can become a distracting and anxious person; as an assignment, individuals were requested to remember a specific topic and a negative topic and talk about it
Four[th]	Training based on Pennsylvania Recovery Program	Initially, two questions were raised, as follows: 1. Describe in one or two words what you want your children to do more than anything else? 2. Describe in one or two words what the schools teach. Individuals were requested to review their strengths using the personal strength assessment sheets, which included 16 strength points; half of the list of advantages was mentioned in this session.
Fif[th]	The continuation of review strengths	A list of strengths was followed in this session and talked about the experiences of people during two meetings. In the end, people were requested to ask family members to make a relevant list for themselves as well as for each other.
Six[th]	Fighting negative thoughts	The central theme of this section was learning refinement skills. At this meeting, people learned to recognize specific thoughts that provoke emotion. We discussed ice peaks, i.e. the same deep beliefs leading to irrational and sudden emotional reactions. After identifying ice peaks, people were requested to ask themselves questions to find out if these peaks would be meaningful to them. Coping with issues to minimize the catastrophe thinking was discussed.
Seven[th]	Strengthening and improving relationships	Learning how to strengthen and improve relationships at work and home; providing tools that could create healthy relationships and eliminating the problems of positive communication; four styles of responding to speech and deeds of others were taught to the study subjects.
Eigh[th]	Benefits of positive results	Probing on how one can get positive emotions. Learning how positivity works and what they mean. Learning to actively engage in situations that emanate from positive emotions and find ways to increase the number and timing of positive events.
Nin[th]	Closing and concluding	Assessing sessions with the study subjects and performing academic work on class content.

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Table 2. The structure of positive psychotherapy sessions (teen form)

Sessions	Topic	Purpose	Concepts
First	-Forming a supportive group environment -Familiarity with positive treatment		Describing to perform the task, the reason for choosing people and understanding the positive attitude, and committing to continue the sessions as well as setting rules for the course (including secrecy and group goals) -The debate about the meaning of happiness - Practicing "you at your best" Providing homework
Second	Introduction to appreciation	- Checking the levels of appreciation (Acknowledgments) - Definition of appreciation and its Effect on Happiness - Creating a method for using appreciation	Checking homework - Rating appreciation level - Checking the importance of appreciation
Third	Appreciation meetings	- Reviewing students' experiences of appreciation - Communicating between thoughts and feelings -Integrating gratitude actions	-Reviewing homework; notes on appreciation - Appreciation meeting - Homework assignment "Meetings and Acknowledgments" - Implementing TSSC-C
Four[th]	Affectionate Acts	-Talking about compassion and its relation to happiness - Investigating the extent of self-esteem - Learning to use compassion as a positive interpretation of current events	- Reviewing homework -Talking about kindness and kindness as a virtue associated with happiness - Estimating the studied students' affectionate actions - Assigning homework; attempting good deeds
Fif[th]	An introduction to personality strengths	- Defining the strengths of personality and virtues - Discussing the personal strengths and virtues associated with happiness in the present - Identifying the perceived strengths - Reinforcing affectionate actions	- Reviewing homework - Performing affectionate acts - Talking about the strengths of personality and virtues - Identifying the strengths perceived by the investigated students - Investigating the relationship between personality strengths and happiness in the present - Homework assignment; the continuation of attempting affectionate acts
Six[th]	Evaluating strong personality points	- Objective identification of strong personality points - Discussing advantages - Discovering new methods of applying a strength - Developing individual plans and plans for using a strength	-Reviewing homework - Evaluating specific strengths - Discussing the significant expected strengths concerning the actual cases - Assigning homework; using the strengths with new methods
Seven[th]	Using obvious strenghts with new methods	- Reviewing the use of significant strengths in new ways - Discussing the emotions associated with it - Applying problem-solving in the face of obstacles - Examining new strategies of using strengths in different areas of life - Providing simple ways of understanding the spread of positive experiences using prominent strengths	- Reviewing assignments - Reviewing and planning the use of strengths with serious methods in the community - Understanding the experience - Assigning homework: Using the apparent point of the new methods with understanding along with pleasure
Eigh[th]	Optimistic thinking	- Talking about the feelings of using strong points - Defining optimistic thinking - Discussing the value of optimism in happiness - Learning strategies to increase optimistic thinking	- Reviewing assignments - Grading the rate of optimism - Discussing optimistic thinking - Discussing values - TASC implementation
Nin[th]	Hope	- Discussing the use of optimistic mindset and the creation of a snowball effect - A group discussion about the meaning of hope - Defining hope as a purposeful object - Discussing the ways to use hope for future happiness	- Reviewing assignments; optimistic thinking - Hope rating - Discussing hope - Written activity: The best possible self - Homemade homework: The best possible self in the future

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Table 3. The Mean±SD pre-test, post-test scores of internet addiction and identity crisis in the studied samples

Variable	Group	n	Mean±SD	
			Pre-test	Post-test
Internet Addiction	Experimental	20	109.55±10.57	92.50±16.66
	Control	20	113.55±16.42	114.05±16.52
Identity Crisis	Experimental	20	20.95±3.63	14.55±2.45
	Control	20	21.30±3.37	21.40±3.50

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4. Discussion

The present study results suggested that positive psychotherapy significantly reduced internet addiction among girls participating in the study (P<0.0005). This finding was consistent with those of Khazaei et al. [15].

Accordingly, we could highlight the impact of positive psychotherapy on improving the quality and quantity of interpersonal contact among adolescents. As previously mentioned, the literature supports the fruitful effects of positive psychotherapy on improving interpersonal relationships [16]. Furthermore, one of the factors behind the tendency of adolescents to excessive internet use and addiction to the internet could be loneliness, social isolation, and decreased quality of interpersonal relationships [17]. Internet addicts primarily enjoy the internet's dimensions, which allows them to socialize and exchange ideas with others. Therefore, positive psychotherapy, through improving social relationships, could be considered as an internet addiction intervention process [18]. There was also a relationship between internet addiction and family and patterns; the level of internet addiction in consensual and liberal families was higher [19]. Therefore, improving the quality of family communication patterns could reduce the inclination to addictive use of the internet in adolescents. In addition to the relationship's quality, research has reported that internet addiction is positively correlated with emotional and avoidance coping strategies [20]. There is much evidence that excitement fluctuations are linked to the problem of internet use [21].

Using the internet could be a jump platform to escape reality and distracting stress and negative emotions. Moreover, individuals with emotional disturbances

Table 4. MANCOVA results in the experimental and control groups in terms of the pre-test/ post-test scores of the studied variables

Tests	Values	F	df Hypothesis	df Error	Sig.	Eta Squared	Statistical Power
Pillai effect	0.93	103.20	2	37	0.0005	0.91	1/00
Wilks Lambda	0.07	103.20	2	37	0.0005	0.91	1/00
Hoteling effect	13.32	103.20	2	37	0.0005	0.91	1/00
Roy's largest root	13.32	103.20	2	37	0.0005	0.91	1/00

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Table 5. The MANCOVA post-test results for internet addiction and identity crisis in the experimental and control groups

Research Variables	Stage	Sum of Squares	df	Mean Squares	F	Sig.	ETA (Effect)	Statistical Power
Internet addiction	Post-test	3184.77	1	3184.77	117.20	0.0005	0.77	1.000
Identity crisis	Post-test	430.50	1	430.50	146.99	0.0005	0.82	1.000

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often use the internet as a way to regulate negative emotions, leading to internet addiction. Besides, positive psychotherapy could increase the emotional level of positive people, decrease the experience of negative emotions, and consequently reduce the tendency to extreme use of the internet in adolescents [22]. Another positive effect of reducing internet addiction could be attributed to improving self-esteem and self-concept among the studied adolescents. According to the literature, internet addiction and low self-esteem and low self-esteem are correlated, as a significant predictor of internet addiction [23].

Low self-esteem leads some people to seek temporary relief of life problems through attending activities that they could escape from reality [24]. Therefore, the extreme use of the internet could be a strategy to compensate for perceived deficiencies and disadvantages, like self-esteem [25]. People with low self-esteem often use the internet to feel better about themselves and their conditions. The internet seems to provide people with activities, leading to feelings of elevated self-confident and self-awareness, and they appear to have higher self-esteem there. In addition, studies revealed that positive psychotherapy improves self-concept and self-esteem [26].

Positive psychotherapy, focusing on identifying the strengths and abilities of individuals and avoiding high emphasis on weaknesses and vulnerabilities, could improve their self-esteem; consequently, it can reduce the tendency of extreme use of the internet to compensate for the damaged effective self-esteem. Therefore, increasing the self-esteem of adolescents participating in this intervention has made them less willing to extremely use the internet. It also resulted in forming virtual relationships to recover from the injuries they inflicted on their self-esteem in real life and through real-life relationships.

Accordingly, the influence of positive psychotherapy on improving one's attitude towards oneself is due to focusing more on strengths instead of weaknesses. Positive psychotherapy focuses on searching for a balanced narrative of references and examining its strengths from multiple perspectives. It also addresses the use of these strengths in identifying meaningful personal goals and seeking opportunities to help individuals identify their strengths. Such a procedure could help adolescents with better self-awareness and self-esteem and, consequently, fostering positive identities [27]. From the perspective of positive psychology, self-esteem, self-actualization, and self-image in a dialectical relationship

form the process of identity. Furthermore, self-esteem, self-actualization, and self-image, in a dialectical relationship, create the process of identity. In positive psychology, identity derives from the expression of an individual's unmatched personality, i.e. a real self that includes the inner potentials of a person and strengths, as well as limitations and weaknesses [28].

Therefore, conducting positive thinking exercises could help to increase their ability to discover their strengths, increase their association with themselves, improve self-awareness, and self-acceptance. Moreover, achieving a practical knowledge of self is the key to solving the identity crisis. Erickson believes that when three dimensions of self, the individual, and the community are combined, that is likely to be a solution to the identity crisis. In other words, when the potentialities and interests of a teenager are associated with the opportunities of the social environment, the identity crisis is also solved. In this context, the positive psychotherapy allows adolescents to experience valuable opportunities and social situations that might increase their ability to take responsibility and decide on themselves. Positive psychotherapy for adolescents also helps in establishing peace between the person who wants to be and the person whom the community expects to be.

Furthermore, this new sense of self-appearing is created by the positive intermingling of past experiences with future expectations [29]. In addition, the positive psychotherapy allows teenagers to create rewarding and satisfying relationships to form clear life goals, interact adequately with parents and peers, and develop intimate relationships and positive self-esteem. Unlike the lack of integration of the concept of self and others, this process is in contrast to the lack of capacity for self-definition and commitment to the values and goals, relationships, and the sharp sense of the disrupted experience in the context of the identity crisis.

Moreover, a negative identity in adolescents could be created due to an unclear understanding of oneself and their abilities and their place in life. At the same time, positive psychotherapy allows adolescents to accept their qualities and skills and foster a positive identity. Another explanation of this finding is the impact of positive psychotherapy on finding meaning in life. The meaningfulness of life is correlated with psychological well-being and mental well-being, academic success, job satisfaction, physical health, and positive identity, resulting in the formation of a favorable sense of self and life [30]. The positive psychotherapy focuses on using the strengths of clients and on the capabilities,

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meaning, purpose, and strategies in which individual strengths could serve something meaningful and beyond self. These exercises teach the authorities to validate and invest in valuable individual and interpersonal moments and pursue meaning and purpose. Besides, they could be useful in shaping a coherent and integrated identity. Generally, the contents used in a positive psychotherapy program include teaching young people new forms of interaction based on collaboration, methods of interlinking, constructive conflict resolution, self-awareness development, increased confidence in their abilities, optimizing positive experiences, neutralizing the level of perceptive behavior, and the creation and consolidation of positive patterns of behavior; these interventions are useful as corrective psychological tools for resolving the identity crisis of adolescence [18]. By training the skills required to have optimism and positivity with flexibility and reality-based to adolescents, they could be psychologically immunized against adolescent issues and problems, especially the identity crisis.

In positive thinking, individuals are encouraged to recognize their positive experiences and identify their role in enhancing and promoting their self-esteem; while concurrently gaining the ability to recognize the positive aspects of life and others. They could also take an active position in life and shape their lives personally, rather than taking whatever passively happens to them. Accordingly, such a position plays a significant role in the successful passing of the identity crisis. Positive learning could increase the sense of greater control over life. Additionally, adopting a positive image of oneself could enable people to take more responsibility for their credibility and value and achieve a better understanding of themselves. The study participants seemed to realize their abilities and talents and that if they use them well, they could succeed and could find solutions to their problems. Moreover, they strived to foster their skills and abilities. Overall, the present study results supported the impact of positive psychotherapy on reducing internet addiction and the identity crisis in female adolescents; thus, it could provide useful data for working with adolescents.

This research has been conducted on a small sample of senior high school female adolescents in Falavarjan City; therefore, there are limitations in generalizing the results to other age groups and adolescents as well as male adolescents. Due to the time lag, it was impossible to conduct a follow-up stage; therefore, the long-term reliability of results must be further investigated. This research was designed only for adolescents using self-report questionnaires; thus, it was impossible to review parent's views on the considered variables. It is recommended that a similar study be conducted on a sample of male adolescents. It is suggested that the effect of positive psychotherapy on other variables related to the well-being of adolescents, such as quality of life, mental health, suicidal tendency, self-incrimination, tendency to use drugs, etc. be explored. It is suggested that in future studies, in addition to self-report questionnaires, additional tools, such as interviewing adolescents, their parents, and their coaches, be used to obtain more accurate data. It is suggested that in future studies, by performing a follow-up phase, the reliability of treatment outcomes in long-term periods be considered.

Moreover, school counselors should be trained to conduct positive group psychotherapy sessions. Positive psychotherapy could be included in school education sessions. Such sessions should be regularly organized in school counseling activities for children and adolescents. Positive thinking is recommended to be practically and straightforwardly taught to teenagers and their families in the form of booklets and educational films. Relevant organizations, like the Child and Adolescent Intellectual Center, are suggested to use the principles of positive psychotherapy innovatively, in the formulation of books and magazines of interest to students. Eventually, the principles and foundations of positive psychotherapy, in the field of theater and creative displays, should be presented to students and families.

The study findings suggested that positive psychotherapy impacted internet addiction and identity crisis in female senior high school students.

Ethical Considerations

Compliance with ethical guidelines

All ethical principles were considered in this research. The study participants were informed about the purpose of the research and its implementation stages and signed the informed consent. They were also assured about the confidentiality of their provided information. Moreover, they were allowed to leave the study whenever they wished, and if desired, the research results would be available to them. This research was approved by the relevant Ethics Research Committee (Code: IR.IAU.AHVAZ.REC.1397.010).

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Authors' contributions

All authors contributed equally in preparing all parts of the research.

Conflict of interest

The authors declared no conflicts of interest.

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