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The Mediating Role of Cognitive Emotion Regulation in the Relationship between Self-compassion and Compassion

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Abstract

Introduction: The new conceptualization for compassion towards others includes kindness, common humanity and mindfulness. Self-compassion could be related to compassion through different psychological processes. The current study aimed to explore the mediating effect of cognitive emotion regulation strategies in the relationship between self-compassion and compassion for others.
Method: The research method was correlational and the statistical population consisted of all online responders in Iran above the age of 18, in the year 2021. An online sample of 412 individuals (M=37.89, SD=9.06, 18-64; 57.5% females) were selected using convenience sampling, and completed the Self-Compassion Scale (SCS), developed by Neff in 2003, the Compassion Scale (CS), developed by Pommier in 2011 and the Cognitive Emotion Regulation Questionnaire (CERS), developed by Garnefski et al. in 2001. In order to analyze data, descriptive statistics, correlation matrix and structural equation modeling were used with SPSS 21 and AMOS 22.
Results: The results indicated that self-compassion and compassion were positively correlated. Furthermore, structural equation modeling revealed that self-compassion was only indirectly related to compassion for others through the mediating role of adaptive cognitive emotion regulation strategies ($p<0.05$). However, maladaptive emotion regulation strategies did not play a mediating role in this relationship ($p>0.05$).
Conclusion: The findings indicate that adaptive emotion regulation strategies appear to have a central role in explaining the relationship between self-compassion and compassion towards others. Self-compassion can be targeted when designing intervention programs to cultivate compassion and promote adaptive emotion regulation strategies.

Keywords: Cognitive Emotion Regulation, Compassion, Self-compassion

Introduction

The word compassion comes from the Latin root "compati," meaning "to suffer with someone" [1]. The Dalai Lama has defined the concept of compassion, which, like mindfulness, is rooted in Eastern practices, as being sensitive to one's own suffering and the suffering of others, along with a deep commitment to trying to resolve it [2]. In current conceptualizations, the term is not merely an emotion followed by an emotional response but also has cognitive components that involve being able to imagine and reason about other people's sufferings embedded in an ethical framework concerning freeing others from suffering [1].

On the other hand, self-compassion is compassion directed inward; this time, it is oneself who is the target of care and attention in times of suffering [3] . Self-compassion arises when

issues such as personal inadequacies, mistakes, failures, as well as dealing with general life situations arise that cause psychological, emotional, or physical pain. Consistent with Buddhist principles, Neff proposed self-compassion to have three main components: self-kindness instead of self-judgment, common humanity as opposed to isolation, and mindfulness as opposed to over-identification. Self-kindness refers to being kind and understanding towards oneself when faced with experiences of failure and suffering, rather than treating oneself with harsh judgment and self-criticism. Common humanity refers to viewing experiences of inadequacy and failure as part of a larger human experience and not an isolated one. Mindfulness refers to the balance between extremes of over-identification and disassociation with painful thoughts and feelings .Followed by Neff's self-compassion theory, Pommier [4] applied the theoretical structure of self-compassion to compassion towards others, which share the three main components. In this framework, kindness as opposed to indifference, common humanity as opposed to separation, and mindfulness as opposed to disengagement.

The association between self-compassion and compassion for others has been investigated in a few studies. An fMRI study showed that self-reassurance engages similar parts of the brain as the expression of compassion for others [5]. Self-compassion was also associated with more positive behaviors, such as being more accepting and caring rather than controlling in the context of romantic relationships [6] and was related to higher levels of compassion in community adults and those who regularly practiced meditation, but not undergraduate students [7] . However, a more recent study found no significant relationship between self-compassion and compassion in adults [8] and even a negative association was found between self-compassion and compassion among palliative care nurses and doctors [9] . Findings of the above-mentioned study further indicated that increased compassion was associated with a decrease in self-compassion. The difference between compassion toward others and self-compassion is that compassion is evolved as an affective state or trait because it has evolutionary advantages such as protecting offspring and cooperating with non-kin, whereas self-compassion has more personal benefits, such as reduced psychopathology and better mental health [10]. Considering these contradictory findings, there is a need to understand the underlying mechanisms that affect the relationship between self-compassion and compassion for others. Cognitive emotion regulation strategies can be regarded as one such mechanism.

The relationship between self-compassion and cognitive emotion regulation strategies has received attention in the last decade. Cognitive emotion regulation styles refer to strategies used to decrease, increase or maintain emotional experiences [11] , which encompass a broad range of cognitive, behavioral, emotional, and physiological responses and give one the ability to adapt and regulate symptoms of depression and anxiety, especially after negative emotional experiences and adverse life events [12]. Theoretically, self-blame, rumination, catastrophizing and blaming others are maladaptive cognitive emotion regulation strategies, while acceptance, positive refocusing, positive refocusing planning, positive reappraisal, and putting into perspective are adaptive cognitive emotion regulation strategies [13].

To explain this link between self-compassion and cognitive emotion regulation strategies, research has shown that self-compassionate individuals simply have non-judgmental awareness of their thoughts and feelings without ruminating repressing painful emotions, thus making them more likely to use cognitive emotion regulation strategies [12]. For instance, they are more likely to use mindfulness to solve conflicts. Therefore, self-compassion is associated with increased positive emotions and decreased negative emotions [14, 15]. Low self-compassion is also significantly associated with emotion regulation difficulties [16]. The use of emotion regulation strategies can impact compassion, empathy, and altruistic behaviors. For instance, a study found a negative association between suppression and empathic concern and a negative association between dispositional reappraisal and empathic concern. In addition, the habitual use of suppression was associated with being more reluctant to help others [17].

Even though other studies have examined the relationships between self-compassion, compassion, and cognitive emotion regulation strategies, to date, there has been no research on the underlying mechanisms by which self-compassion is related to compassion towards others. Therefore, in the current study, it was hypothesized that 1) self-compassion would be positively correlated with compassion for others; 2) self-compassion would be positively correlated with emotion regulation strategies; 3) adaptive emotion regulation strategies would be positively correlated with compassion towards others; and 4) cognitive emotion regulation strategies would mediate the relationship between self-compassion and compassion for others. The conceptual model for the present study is shown in Figure 1.

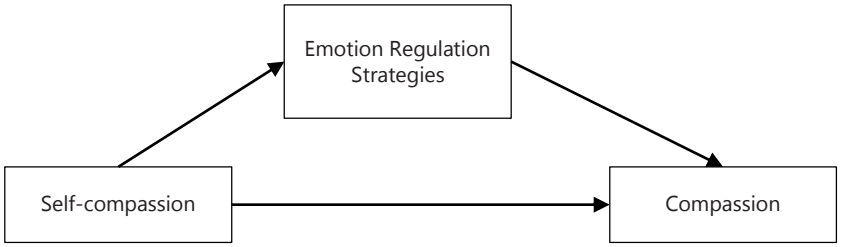

Figure 1. Conceptual model.

Method

The design of the current study was correlational and the statistical population consisted of online responders above 18. According to Cho and Bentler's recommendation for sample size, a minimum of five participants were considered for each parameter [18]. Since in the present study there were 82 parameters that needed to be estimated, a sample size of 410 participants was determined.

A convenient sample of 412 participants from Iran was recruited online, using posters shared on Instagram, Twitter, and Telegram Inclusion criteria was being above the age of 18 and residing in Iran. The Persian translations of the questionnaires were developed into an online survey using PorseLine. Then, the link to the online questionnaire was shared via social media and messaging platforms, including Instagram, WhatsApp, and Telegram in the year 2021. A consent statement was included at the beginning of the questionnaire, ensuring complete anonymity and confidentiality.

The ethics code IR.SBU.REC.1400.082 was obtained from the Family Institute of Shahid Beheshti University. The study protocol also conforms to the ethical guidelines of the 1975 Declaration of Helsinkias reflected in a priori approval by University of Shahid Beheshti human research committee.

The following measures were used in the study:

Demographic Questionnaire: This questionnaire consisted of questions regarding age, gender, education level, occupation and number of children.

Self-Compassion Scale (SCS): The SCS is a self-report measure developed by Neff [19] which consists of six factors: self-kindness/self-judgment, common humanity/perceived isolation, and mindfulness/over-identification. The items are scored on a 5-point Likert scale from 1=almost never to 5=almost always. The negative subscale items, namely, self-judgment, judgment, and over-identification, are reverse scored to compute the total compassion score. Then the mean of each subscale is calculated and added together to obtain the total compassion score. Scores 1.0-2.49 are considered low, between 2.5-3.5 moderate, and 3.51-5.0 high. The scale has shown good internal reliability for total SCS scores with Cronbach's α=0.92 and for the six subscales, Cronbach's α ranging from .75 to .81. The Persian translation of the SCS has also shown good internal consistency in Iran with Cronbach's α =0.70 [20]. Furthermore, Cronbach's alpha for the subscales self-kindness, self-judgment, common humanity, perceived isolation, mindfulness/over-identification were obtained as 0.81, 0.79, 0.84, 0.85, 0.80, 0.85, respectively. The factor structure of the scale was also supported by the results of confirmatory factor analysis RMSEA=0.08, NFI=0.84, CFI=0.89). A significantly negative correlation was also reported between SCS and perfectionism (0.33), negative affect (0.38) and external shame (0.21).

Compassion Scale (CS): The CS, developed by Pommier (4), consists of 24 items and six subscales, including kindness/indifference, common humanity/separation and mindfulness/disengagement. The items are scored on a 5-point Likert scale from 1=almost never to 5=almost always. Subscales of indifference, separation, and disengagement are reverse scored, and then the mean of each subscale is computed and added together to obtain the total compassion score. Cronbach's alpha for internal consistency reliability was 0.86 for the total compassion score, and 0.76, 0.72, 0.68, and 0.67 for the subscales of kindness, common humanity, mindfulness, and indifference, respectively [21] . In the Iranian population, excellent internal consistency was reported for the whole scale with Cronbach's α =.92. For the subscales of kindness, common humanity, separation, mindfulness, and disengagement expect for the subscale of indifference, Cronbach's α ranged from 0.61 to 0.83 [22]. In terms of construct validity, confirmatory factor analysis confirmed the factor structure of the scale. A significant and negative correlation was also reported between CS and the Fear of Compassion Scale, Burnout Inventory, DASS, CERQ, indicating high divergent validity and a significant positive relationship with cognitive emotion regulation skills, indicating acceptable convergent validity.

Cognitive Emotion Regulation Questionnaire (CERQ): The CERQ consists of 36 items, which is developed by Garnefski et al. [13] and has nine subscales that measure different cognitive emotion regulation strategies after stressful and threatening events. These subscales include self-blame, other-blame, rumination, catastrophizing, putting into perspective, positive refocusing, positive reappraisal, acceptance, and planning. These items are scored on a 5-point Likert scale from 1 (almost never) to 5 (almost always). To compute the total score, mean scores of all subscales are calculated and added together. Higher scores in the subscales are indicative of more regular use of that particular cognitive emotion regulation strategy. All the subscales of the CERQ have been reported to have good internal consistencies [23]. In the Iranian population, Cronbach's are ranged from 0.64 to 0.82 which is indicative of good internal consistencies [24].

Data were analyzed using SPSS 21 and AMOS 22. Correlation analyses were performed to find associations between variables.

As shown in Table 1, in order to determine the adequacy of fit, the chi-square test (x2), chi-square divided by the degrees of freedom (x2/df), the Comparative Fit Index (CFI), the Incremental Fit Index (IFI), the Goodness of Fit Index (GFI), Root Mean Error Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR) were used. Acceptable ranges (x2/df <5, CFI>0.9, IFI>0.9, GFI>0.9, RMSEA<0.08, and SRMR<0.08), recommended by Kline (25) were used to assess the adequate fit of the model. All indices were in the acceptable range, and the model was indicative of adequate fit to the data (x2/df=3.18, CFI= 0.90, IFI= 0.90, GFI= 0.91, RMSEA=0.07, SRMR=0.07).

Table 1. Goodness of Fit Tests

Fit indices	Acceptable range	Amount
(χ2)	-	855.26
Chi 2 to degrees of freedom	Less than 5	181.3
(CFI)	More than 0.90	907.0
(IFI)	More than 0.90	908.0
(GFI)	More than 0.90	919.0
(RMSEA)	More than 0.08	073.0
(SRMR)	More than 0.08	078.0

Results

In the present study with the aim of examining the mediating role of adaptive and maladaptive cognitive emotion regulation strategies in the relationship between self-compassion and compassion towards others, 412 participants were recruited (M=37.89, SD=9.06, 18-64; 57.5% females). In terms of the level of education, 9% didn't have a high-school diploma, 26.7% held a high school diploma, 6.8% held an associate degree, 28.6% held a bachelor's degree, 21.1% held a master's degree and 28.9% held a doctorate degree or higher. In terms of occupation, 28.9% had administrative and government jobs, 4.9% worked in healthcare, 26.2% had freelance jobs, and 4.1% were students. In terms of number of children, 30.6% had one child, 35% had two children, 6.1% had three children, 2.7% had four children or more, and 25.7% were childless.

In the present study, we hypothesized that there would be a positive correlation between self-compassion and compassion for others, there would be a positive correlation between self-compassion and emotion regulation strategies, there would be a positive correlation between adaptive emotion regulation strategies and compassion towards others, and cognitive emotion regulation strategies would play a mediating role in the relationship between self-compassion and compassion for others.

Descriptive statistics and correlations among the study variables are shown in Table 2.

Accordingly, self-compassion and adaptive cognitive emotion regulation were positively correlated (r=0.54, p<0.01). Self-compassion and compassion for others were also positively correlated (r=0.17, p<0.01). On the other hand, self-compassion and maladaptive cognitive emotion regulation were negatively correlated (r=-0.44, p<0.01). Adaptive cognitive emotion regulation was positively correlated with compassion for others (r=0.26, p<0.01). In order to examine direct and mediating effects, structural equation modeling was used (Figure 2).

As shown in Table 3, the direct path from self-compassion to compassion for others was not significant (β=0.12, t=1.06). The direct path from adaptive cognitive emotion regulation to compassion for others was significant (β=0.28, t=3.15). The direct path from maladaptive cognitive emotion regulation to compassion for others was not significant (β=0.13, t=1.41). The direct path from self-compassion to adaptive cognitive emotion regulation was significant (β=0.63, t=10.56); and lastly the direct path from self-compassion and maladaptive cognitive emotion regulation was not significant (β=-0.63, t=-10.57).

In addition, to determine the indirect effect, a bootstrapping procedure of 5,000 samples was used.

As shown in Table 4, the indirect relationship between self-compassion and compassion for others was significant through adaptive cognitive emotion regulation (b=0.11, p<0.05). However, the indirect relationship between self-compassion and compassion for others was not significant through maladaptive cognitive emotion regulation (b=-0.05, p>0.05).

Table 2. Means, SD, and Correlations among Self-compassion (SCS), Compassion for Others (CS), and Cognitive Emotion Regulation Strategies (CERS)

Variable	M	SD	1	2	3	4
1. Compassion for others	65.73	78.11	1			
2. Adaptive cognitive emotion regulation	47.32	82.6	0.26**	1		
3. Maladaptive cognitive emotion regulation	36.21	07.5	-0.05	-0.15**	1	
4. Self-compassion	90.71	93.14	0.17**	0.54**	-0.43**	1

** P <0/01 * P <0/10

Table 3. Examining the Direct Relationships between Variables

Independent variable	Dependent variable	Unstandardized Coefficients	Standardized Coefficients	Standard Error	t	p
Self-compassion	Compassion towards others	0.08	0.12	0.07	1.06	0.287
Adaptive emotion regulation	Compassion towards others	0.66	0.28	0.21	3.15	0.002
Maladaptive emotion regulation	Compassion towards others	0.26	0.13	0.18	1.41	0.156
Self-compassion	Adaptive emotion regulation	0.17	0.63	0.01	10.56	0.001
Self-compassion	Maladaptive emotion regulation	-0.21	-0.63	0.02	-10.57	0.001

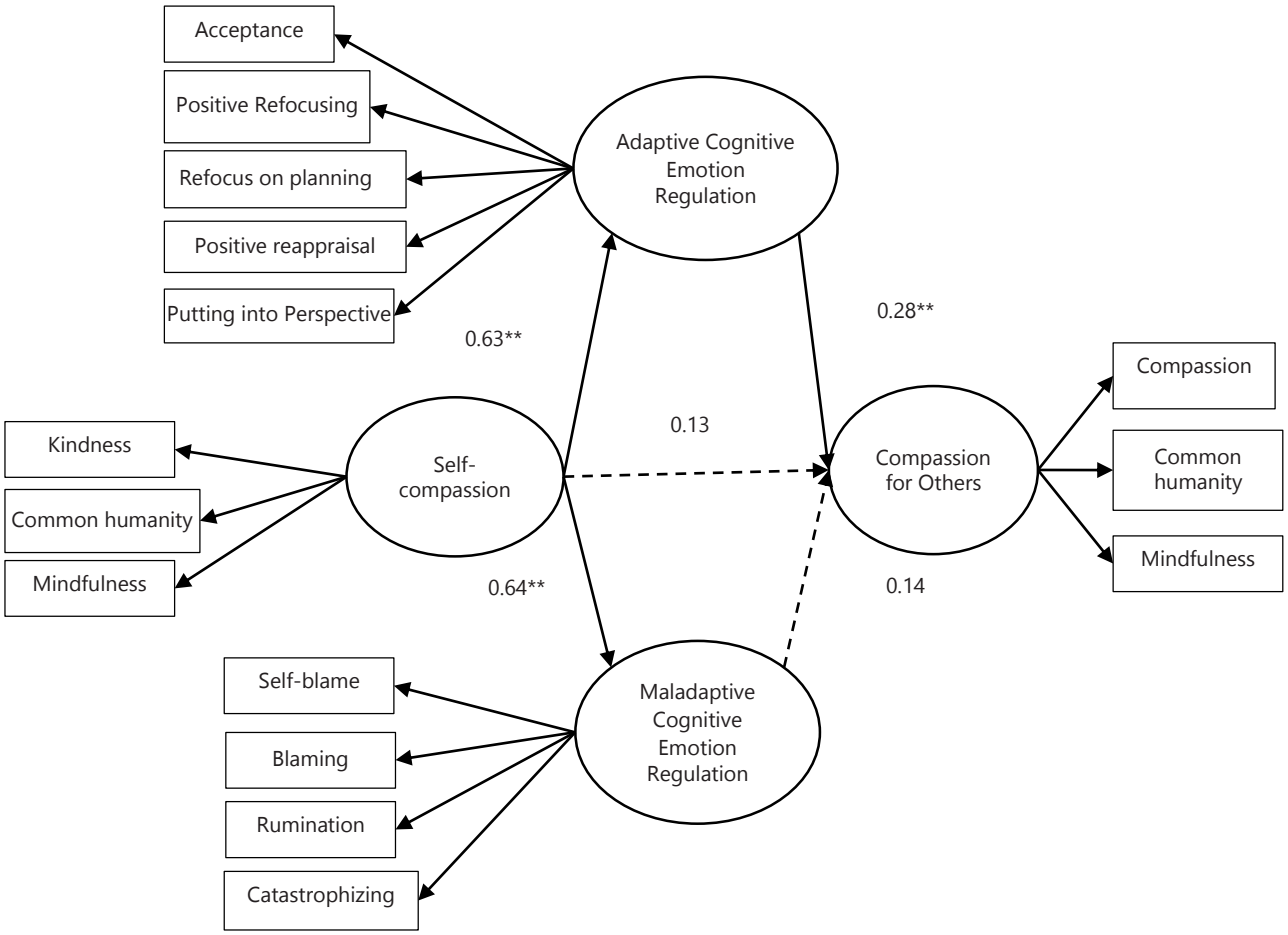

Figure 2. Standard path coefficients for the study's variables.

Table 4. Examining the Indirect Relationships between Variables

Independent Variable	Mediating variable	Dependent Variable	Unstandardized coefficient	Low range	High range	p
Self-compassion	Adaptive cognitive emotion regulation	Compassion for others	0.11	0.03	0.20	0.008
Self-compassion	Maladaptive cognitive emotion regulation	Compassion for others	-0.05	-0.16	0.03	0.195

Discussion

The purpose of this study was to explore the relationship between self-compassion and compassion for others and whether cognitive emotion regulation strategies play a mediating role in this relationship. Results indicated that self-compassion was significantly correlated with compassion towards others. Moreover, mediation analyses showed that self-compassion and compassion were only indirectly related to each other via adaptive emotion regulation strategies.

As expected, there was a significant positive correlation between self-compassion and compassion. Previous studies partially support this finding. For example, a study among UK nurses indicated that high levels of self-compassion are associated with greater compassion for others, increased well-being, and better quality of life [26]. In addition, in a study by Neff and Pommier [7], a positive association was found between self-compassion and compassion, altruism, and empathic concern in community adults and those who meditate regularly. There are several reasons why self-compassion has a positive effect on compassion towards others. Self-compassionate individuals tend to be more emotionally resilient, which allows more constructive responses in times of conflict within interpersonal relationships [6]. They are also more able to attend to their own need for belonging and kindness, making it easier for them to give their partners more freedom instead of being controlling. Moreover, they tend to compromise when faced with conflicts in interpersonal relationships and balance their needs for connectedness and autonomy, which all leads to healthy and positive interpersonal relationships [27].

The second finding of the study was that adaptive emotion regulation strategies were significantly positively correlated with compassion towards others. Even though there was no previous research which directly studied the relationship between the above-mentioned variables, studies have shown a link between emotion regulation strategies and empathy. For instance, a study by Decety and Jackson [28] has shown that the same brain regions were involved in emotional processing and empathic understanding of others. Research has also shown that

maladaptive emotion regulation may lead to higher aversive affect, such as personal distress and less empathic concern towards others. In addition, compassion training has also been shown to be effective in reducing the use of expressive suppression emotion regulation strategies in times of stress and anxiety, therefore leading to more acceptance of those emotions [29]. Moreover, in a recent 2021 study, emotion concern and perspective taking were shown to be negatively correlated with difficulties in emotion regulation [30]. Studies have also shown a positive relationship between the ability to understand the emotional states of others and the use of reappraisal, as an emotion regulation strategy [31, 32].

The results further indicated that self-compassion was significantly positively correlated with the use of adaptive emotion regulation strategies. Individuals high in self-compassion are more likely to use adaptive emotion regulation strategies, such as positive reframing, acceptance, and support-seeking, and less likely to use maladaptive coping strategies such as avoidance, escape coping, distraction, denial, and venting of emotions [33-34] . Another study also found that compassion cultivating training reduces emotional suppression, leading to experiencing emotions with less judgment, inhibition, and blocking [35]. Individuals who are high in self-compassion are more able to feel painful and unwanted emotions without suppressing them [36]. They are simply aware of their negative emotions without letting them consume or overwhelm them [19]. These can all lead to adaptive emotion regulation strategies mentioned above.

Finally, even though the correlation analyses revealed that self-compassion and compassion were significantly correlated, the relationship between self-compassion and compassion towards others did not reach significance in the model, indicating the strong mediating role of another variable, namely adaptive emotion regulation strategies. In other words, the results showed that the relationship between self-compassion and compassion were related via the mediating role of adaptive cognitive emotion regulation strategies. This is in line with previous research showing the mediating role of emotion regulation on mental health issues such as depression, trauma, and perceived stress in different populations and stress among psychologists [12, 16, 37-40].) The mediating role of cognitive emotion regulation strategies has also been explored in the relationship between mindfulness and prosocial behavior (41)and resilience in socio-economically disadvantaged adolescents (42) . In summary, the results of this study showed that self-compassion was significantly correlated with compassion and that adaptive emotion regulation strategies mediated the relationship between self-compassion and compassion.

The limitations of the present study include that the majority of the study's participants (77%) held a bachelor's degree or post-graduate degree, which is not representative of the general population. Therefore, further research can focus on the role of cognitive emotions regulations strategies in self-compassion and compassion towards others in more diverse socio-economic contexts.

Furthermore, the present study relied on self-report measures to gather data, which can lead to response bias in order to appear more socially desirable. Especially, answers on the compassion for others scale may be influenced by social expectations. Using online sampling from all over Iran could also be another limitation.

Conclusion

The present study contributes to our understanding of the relationship between self-compassion, compassion, and cognitive emotion regulation strategies, namely that self-compassion was significantly positively correlated with adaptive cognitive emotion regulation strategies and compassion towards others and that adaptive emotion regulation strategies mediated the relationship between self-compassion and compassion. These findings can be used in planning interventions for compassion cultivation and emotion regulation by targeting self-compassion.

Conflict of Interest

Authors declare that they have no conflicts of interest.

Ethical Approval

The ethics code IR.SBU.REC.1400.082 was obtained from the Family Institute of Shahid Beheshti University. All the participants of the study also provided an informed consent.

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