

**Research Article****The Relationship between Social Support and Mental Health in Infertile Women: The Mediating Role of Problem-focused Coping****Seyyede Samira Mousavi<sup>1</sup>, Majid Najafi Kalyani<sup>2</sup>, Shahnaz Karimi<sup>2\*</sup>, Roya Kokabi<sup>3</sup>, Salehe Piriaee<sup>1</sup>**<sup>1</sup>Faculty of Education and Psychology, Shahid Chamran University, Ahvaz 61357831351, Iran

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**Abstract:** It is known that the Social support and Problem-focused coping have important roles on improving mental health in the infertile women. The purpose of this research was to test a model for the effect of social support on mental health considering the mediating role of problem-oriented coping strategy. In this correlation study, 95 infertile women that had referred to Fasa public and private medical centers were selected through available sampling. Participants completed Multidimensional Scale of Perceived Social Support (MSPSS), Mental Health Inventory (MHI) and Coping Inventory for Stressful Situations (CISS-21). Fitness of the proposed model was examined through structural equation modeling (SEM), using SPSS-18 and AMOS-18 software packages. The indirect effects were tested using the bootstrap procedure. Findings indicated that the proposed model fit the data properly and social support has direct and indirect effect on mental health in infertile women. The results also supported the mediating role problem-oriented coping strategy in the relationship between social support and mental health. The study results revealed that the perceived family support can have a powerful impact on how a woman experiences infertility stress, both directly and indirectly. Also, high levels of perceived support from friends can decrease women's social stress levels through the use of active-confronting coping strategies, too.

**Keywords:** Social support, Mental health, Coping, Infertile women.

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**INTRODUCTION**

Infertility, the inability for a woman to conceive after one year of regular sexual relation without using contraceptives, is perceived as a crisis in all societies [1]. This stressful experience places a barrier between the couples and their ability to fit into gender roles prescribed by their culture [2]. The stress of the non-fulfillment of a wish for a child has been associated with emotional related problems such as anger, depression, anxiety, marital problems, sexual dysfunction, and social isolation. Among infertile couples, in general, women show higher levels of distress than their male partners [3] and these feelings may remain for 18 months after unsuccessful treatment [4]. Previous research has demonstrated that internal and external variables such as coping strategies and social support can be related to stress infertility [5, 6]. Social support may have an important protective role against infertility-related stress [7]. Social support resources should be perceived as adequate to meet the needs required by the stressor [8] and perceived adequacy of social support predict self-efficacy

related to coping with the demands of fertility treatment. Social support can be defined as an exchange of resources between at least two individuals perceived by the provider or the recipient to be intended to enhance the wellbeing [9]. Differences in how individuals respond and adapt to stressful life events can be accounted for by a number of psycho-social factors. When psycho-social resources are available, an individual may cope with the occurrence of negative stressful events [10]. According to Ghazanfari and Kamranpour, "Coping strategies are collection of one's cognitive and behavioral efforts which are used to interpret, analyze, and reform a stressful condition, resulting in the reduction of its discomfort" [11]. Lazarus and Folkman's theory of stress and coping posits that adjustment to stressful experiences (e.g. infertility) is determined by the interaction of situational variables, cognitions (e.g. controllability) and the selection of effective coping strategies [12]. One of the coping strategies is problem-focused method. Problem-focused coping is used when the individual

perceives that direct effort will change a situation [13]. For example, an infertile individual may seek out information regarding the success rate of a certain infertility clinic, or investigate a specific treatment plan with an infertility specialist [14]. Women with higher levels of fertility related stress, state anxiety and depressive symptoms more frequently employed avoidance and emotional-focused coping strategies and less frequently problem-appraisal coping [12]. Women emphasized the importance of the husband, family and friends' support and they experience greater social effects of infertility than men [15]. Investigating the social and psychological impact of infertility is very important. As demonstrated in the past researches, social support and Problem-focused coping have important roles on improving mental health in the infertile women. So, the purpose of this research was to test a model for the effect of social support on mental health considering the mediating role of problem-oriented coping strategy.

#### MATERIALS AND METHODS

In this correlation study, data collection method was cross-sectional. The study is one-group, one-stage and multi-variables. 95 women referred to Fasa public and private medical centers seeking for professional infertility treatments were selected through available sampling by considering the including criteria. The tools used for data collection in this study were The Mental Health Inventory (MHI), Multidimensional scale of perceived social support (MSPSS) and The Coping Inventory of Stressful Situations (CISS).

The Mental Health Inventory (MHI) is a 38-item self-report measure. All of the 38 MHI items, except two, are scored on a six-point scale (range 1-6). Items 9 and 28 are the exception, each scored on a five-point scale (range 1-5). The MHI may be aggregated into: Six subscales – Anxiety, Depression, Loss of Behavioral / Emotional Control, General Positive Affect, Emotional Ties and Life Satisfaction and two global scales - Psychological Distress and Psychological Well-being and a global Mental Health Index score. The results of psychometric analysis of this scale in previous studies showed that the Cronbach's alpha of this scale was 0.93 [16].

Multidimensional scale of perceived social support (MSPSS, designed by Zimet *et al.*) [17], measures the adequacy of perception of social support in three sources of family, friends and other important individuals. The highest score for a scale is 20 and the lowest is 4. Using MSPSS is strongly advised because it is easy and convenient to use. This scale consists of 12 questions in Liker scale ranging from '1' strongly disagree to '5' strongly

agree. The results of studies by Zimet *et al.* [17], with the goal of psychometric analysis of the scale, showed that it was an accepted and stable tool for studying perceived social support. The results of the study by Bruwer [18], in evaluating the psychometric characteristics of multidimensional scale of perceived social support- using confirmatory factor analysis showed that the structure of the three factors in MSPSS have an acceptable fitting with the data. In the present research, some questions were omitted by the expert due to overlapping of some of them in the three sources of family, friends and important others. The used questionnaire had 6 questions [19].

The Coping Inventory of Stressful Situations (CISS) is a 48-item self-report measure that asks respondents to indicate how much they engage in various coping activities during a stressful situation, using a Likert scale ranging from 1 (not at all) to 5 (very much). The CISS is composed of three 16-item scales assessing task-oriented coping, emotion-oriented coping, and avoidance-oriented coping. The reliability and validity of this scale confirmed in the previous study [20].

After completing scales by subjects, fitness of the proposed model was examined through structural equation modeling (SEM), using SPSS-18 and AMOS-18 software packages. The indirect effects were tested using the bootstrap procedure.

Prior to the study, the aim of the research and method were explained to the subjects, written informed consents were obtained from them. Moreover, the principle of anonymity was observed, as well.

#### RESULTS

Before all proposed relationships were tested simultaneously, first a correlation analysis by Pearson correlations was conducted among variables included in this study. The correlations of variables, means, and standard deviations are reported in Table 1.

Structural modeling results suggested that the hypothesized model fit the observed data adequately (Table 2).

All of the hypothesized relationships were supported based on the structural modeling results. The structural model and standardized parameter estimates shown in Fig. 1 indicates that all hypothesis regarding the direct paths were supported. Because of the proposed mediation effect, and to determine the significance of the mediating effect, bootstrapping procedure was used. Bootstrapping procedure (using 1000 re-samples) was used to determine the 95% bias-

corrected confidence intervals around this effect. A confidence interval that did not span zero indicated a statistically significant effect. Table 3 indicates the results for bootstrapping analysis.

As shown in Table 3 the confidence interval, with one mediator (problem-solving coping) did not span zero that indicates statistically significant mediating effect. The emerged pattern suggests mediating role of problem-solving coping.

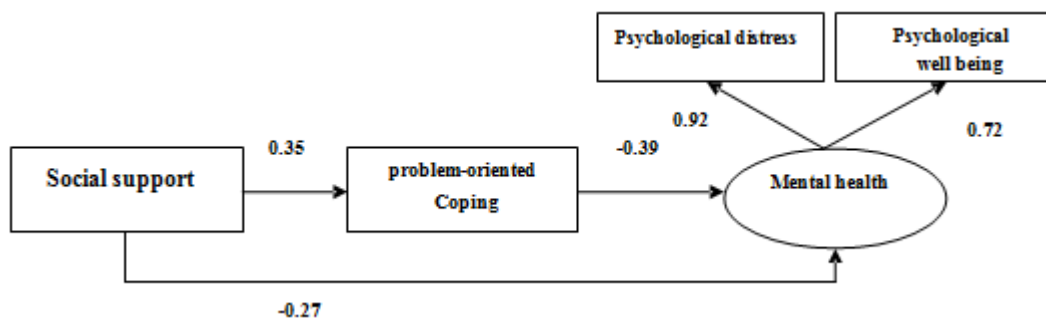
**Table 1: Descriptive statistics and inter-correlations for study variables**

Variables	M	SD	1	2	3	4	5
Social support	47.084	9.184	-				
Problem-focused coping	23.168	4.333	0.35	-			
Mental health	112.34	13.452	-0.44	0.53	-		
Psychological distress	54.557	11.681	0.37	0.46	-0.93	-	
Psychological wellbeing	68.842	17.892	-0.36	-0.30	0.75	-0.66	-

\*\* p<0.001

**Table 2: Fit indices of structural equation modeling and final model**

Fitness model	$\chi^2$	df	$\chi^2/df$	GFI	AGFI	IFI	TLI	CFI	NFI	RMSEA
Proposed model	2.199	1	2.199	0.98	0.88	0.98	0.92	0.98	0.97	0.03



**Fig. 1: Hypothetical pattern of relationship between research variables**

**Table 3: Results for bootstrapping analysis with one mediator and final model**

Variable	Data	Boot	Bias	SE	Confidence interval	
					Lower	Upper
Problem-solved coping	-0/1402	-0/1401	0/0001	0/0790	-0/3240	-0/0155

**DISCUSSION**

In many cultures, womanhood is defined through motherhood and the status of women in society is affected by their reproductive capacity [15]. Women facing infertility experience any number of distressing feelings, including anxiety, depression, loss of control, shame, and lowered self-esteem [4]. Based on past researches, the purpose of this study was to examine perceived social support in relation to the mental health. Consistent with previous infertility researches perceived social support has a positive effect on mental health [5, 6, 19, 21]. This pattern provides a more detailed insight into the significant role of social support on improving mental health. Support from social networks can benefit a woman’s adjustment when dealing with the stress of

infertility [6]. The "stress-buffering" hypothesis argued that social supports positively influenced health and well-being by protecting people from the pathogenic effects of stressors [8]. The most basic and powerful measure of social support is whether or not an individual has a close relationship with someone in whom they can confide [22]. It seems that social support helps women to think that they are not alone and can share their painful experiences with others. So, they can relief of tension and anxiety through the expression of intrusive thoughts and feelings. In additions, social support can prevent from manifestation of negative emotions such as guilt, shame, anger, depression and anxiety. Also, supportive relationships provide a number of things that mitigate illness effects, including intimacy, a

sense of belonging, and reassurance of one's self worth, instrumental assistance, and guidance and advice [23]. In addition, the study found that perceived adequacy of social support may interact with mental health considering the mediating role of problem-focused coping. Similarly Martins *et al.* supported this finding when reported that social support from a given context, among other factors, can affect the cognitive appraisal of a stressful encounter and, coupled with a coping strategy [6]. Partner support is related to decreases in rejection of a childfree lifestyle through meaning-based coping, suggesting that having a supportive partner can also facilitate the process of accepting a childfree lifestyle, if one views infertility in a positive light or focuses on new life goals. Perceived family support can have a powerful impact on how a woman experiences infertility stress, both directly and indirectly. Also, high levels of perceived support from friends can decrease women's social stress levels through the use of active-confronting coping strategies, too. The coping processes influence the relationship between the person and the environmental stressor, which is then reappraised, leading to a change in emotional response. In this way, coping has been discussed as a mediator of the emotional reaction, which stems from and leads to various emotional reactions [24]. One of these strategies is problem-focused coping. The aim of this strategy is to change the objective problematic situation for the better and generates alternative solutions. In response to low-control situations, it is likely that problem-focused coping strategies aimed at managing the situation actively may have deleterious effects [3]. Those women who had social support, utilized more effective problem solving skills had less distress and reported greater positive affect and women who can't avoid the problems cognitively, mull over their difficulties and experience psychological distress.

## CONCLUSION

In sum, finding of this study demonstrates how social support can have direct and indirect effect on mental health in infertile women. So planning on improving women's mental health by providing consultation and training courses is suggested.

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