ABSTRACT

The study examined the relationships between perceived stress, coping strategies and resistant personality in women undergoing treatment for infertility from Concepción (Chile). Participants were 115 women, 20 to 47 years old. Perceived stress presented negative relationships with the dimension of control of hardy personality and with Problem-solving coping and Positive reappraisal, and positive relationships with Overt emotional expression and Negative auto-focused coping. All the dimensions of resistant personality showed positive relationships with Problem-solving coping. Diverse explanatory factors for obtained results are proposed.

Key words: Infertility, Stress, Coping, Hardy Personality

Introduction

Infertility is a health problem that occurs ever more in a greater number of partners. The infertility arises when one or both members of the couple are infertile or their fertility is severely reduced. A couple is considered clinically infertile when a pregnancy doesn’t happen after a minimum of twelve months of regular sexual activity without the use of contraceptives.

Despite that infertility occurs without physical symptoms and that it does not cause functional limitations in those who suffer from it, the problems to have a child naturally can generate changes in different areas of the lives of the people (intense emotional reactions, partner problems in social relationships, decline in self-esteem and self-concept, changes in plans and life expectations, etc.). Nevertheless, it has also been raised that a tendency to pathologize the sterile woman exists in the literature which would be in part due to an over diagnosis of emotional disturbances based on demonstrations that are normal (Carreño, Bium, Sanchez & Henales, 2008).

The new Psychology of reproduction (Moreno - Rosset, Antequera & Jenaro, 2008) focuses on the study of the characteristics of infertile couples, the impact of infertility and assisted reproduction techniques, adaptation and coping strategies and the effectiveness of psychological interventions in this area. Among the psychological factors associated with infertility problems usually include the emotional disorders (stress, anxiety and depression), marital adjustment, perceived social support, personality characteristics and coping strategies (Jenaro, Moreno-Rosset, Antequera & Flores, 2008).
Therefore it was considered relevant to investigate some of the above-mentioned variables in a group of Chilean women, specifically the relationship between the perception of stress, stress coping strategies used and the individual characteristics that make up the so-called «resistant personality».

According to the transactional model of stress, the experience of stress would be the result of the interaction between the individual and their environment, and specifically the relationship between the assessment of an event as stressful and the resources for coping that the individual has. This interaction in turn would be mediated by a set of psychosocial processes, such as social support (Barra, 2004) and some personality characteristics. From this interactive perspective, the perceived stress would correspond to the degree that people perceive their lives as unpredictable and uncontrollable situations, which are valued as stressful (Moscoso, 2009; Remor, 2006).

Numerous studies agree that the medical treatment and diagnosis with assisted reproductive techniques represent a stressful process with different emotional manifestations, which can lead to mood disorders (Burns, 2007; Castro, Borrás, Pérez-Pareja & Palmer, 2001; Iribarne, Mingote, Denia, Martin, Ruiz & De la Fuente, 2003; Moreno-Rosset, 2000; Palacios, Jadresic, Palacios, Miranda & Domínguez, 2002). Thus the psychological evaluation is required to detect the main problems associated with infertility and to put in place appropriate interventions to this issue of health.

Lazarus and Folkman (1986, cited in Bar, 2003) describe coping as cognitive and constantly changing behavioral efforts developed to handle external and/or internal specific demands that are evaluated as surplus or protruding from the individual resources. These authors suggest the distinction between coping aimed at regulating the emotional response product of the problem and the coping to manipulate or alter the source of the problem. Sandin and Chorot (2003) developed an instrument to measure stress coping strategies consisting of seven dimensions: a) Focus on problem solving, b) Negative Auto-focalisation, c) Positive reevaluation, d) Open emotional expression, e) Avoidance, f) Search for social support and g) Religion. These authors also make a distinction between two types of coping, a rational coping (focus on the solution of the problem, positive reevaluation and search for social support) and an emotional coping (negative Auto-focalisation and open emotional expression).

With respect to coping strategies that infertility patients put in place to deal with this stressful life event, Moreno-Rosset, et al. (2009) found that anxious and depressive symptomatology in patients with an infertility diagnosis was associated with the use of avoidant coping strategies, especially resulting negative for accommodation and adjustment of patients for both diagnosis and treatment adherence. On the other hand, the use of active coping strategies relates to the presence of interpersonal resources (Rodríguez-Marín, Pastor & Lopez-Roig, 1993).

In terms of factors associated with the coping with infertility and assisted reproduction processes, it can also be included the personality traits of individuals, even when focused on infertility studies are very scarce. Among such personal factors are included certain features related to the so-called «resistant personality» which consists of three components: commitment, control and challenge (Peñacoba & Moreno, 1998).

The commitment includes the tendency to engage in all activities of life, including work, interpersonal relations and social institutions. People with commitment have both the skills and the desire to successfully confront stress situations. The control characteristic refers to the tendency to think and act with conviction of personal influence on the course of events. People who have this characteristic feel capable of effectively acting against stressful events. The challenge has to do with the ability to understand the change as an opportunity and an incentive for personal growth.

The resistant personality would be a modulator which reduces the likelihood of experiencing stress or to attenuate its negative consequences (Hernández, 2009; Latorre, 2008). This pattern provides the necessary motivation to face the stressful circumstances and become a possibility for growth and therefore plays an important role as a mechanism for resilience (Maddi, 2006). According to Jenaro et al. (2008), the resistant personality exerts a protective effect of stressful situations, since it is linked to a greater social support, with the coping strategies focused on the resolution of problems and the promotion of personal well-
being. In this regard, Moreno-Rosset et al. (2009) found a relationship between the resistant personality and the use of coping strategies that favored the health status.

While each time more importance is granted to the psychological aspects related to infertility, studies in general tend to think of it as a problem and to emphasize their negative emotional impact, being much less common to scan resources and strengths that can help infertile people to increase their well-being. Therefore this study is aimed to analyze the relationship between coping strategies to the emotional and rational type of stress, the resistant personality and perceived stress in women with an infertility diagnosis; waiting for the results of this research to provide increasing scientific knowledge about the topic in our Latin American environment.

Method

Participants

The study sample was conformed by 115 women with an infertility diagnosis which were in treatment in the program of assisted reproduction of the public Hospital of Concepción (Chile), they were aged between 20 and 47 years old (average age of 33 years). The participants had an infertility diagnosis since at least 6 months, 58% per cent of them had secondary education or higher, 47% worked outside the home and 79% of them were in treatment for a period between 6 months and two years.

Instruments

• Scale of perceived stress, Spanish version (Remor, 2006): intended to assess the degree to which individuals during the last month have perceived his life as unpredictable, uncontrollable and overloaded. Consists of 14 items with 5 Likert-type response format alternatives, from 0 (Never) to 4 (Very often). This study yielded internal consistency reliability through the alpha coefficient of Cronbach of 0.84.

• Stress coping questionnaire (CAE): instrument developed by Sandin and Chorot (2003), to investigate the frequency with which individuals have used different coping strategies to cope with problems or stressful situations lived during the last time. It is composed by 42 items with 5 Likert-type response format alternatives, from 0 (Never) to 4 (Almost always). Includes 7 dimensions or strategies: a) Focus on problem solving, b) Auto negative focus, c) Positive reevaluation, d) Open emotional expression, e) Avoidance, f) Search for social support g) Religion. In the present study the Cronbach alpha coefficients for the different strategies vary between 0.62 (Avoidance) and 0.91 (Religion).

• Resistant personality questionnaire: instrument of Moreno, Garrosa and González (2000), which consists of 21 items designed to evaluate the three dimensions of the construct (control, commitment and challenge). Scores of each of the subscales and also a total score of resistant personality can be obtained. The response of the items range between 1 (Totally in disagreement) to 4 (Fully in agreement). Moreno, Morett, Rodriguez and Morante (2006) report on indices of reliability (Cronbach’s alpha) of 0.74, 0.79 and 0.83 for control, commitment and challenge, respectively. In the present study the respective coefficients are 0.89, 0.83 and 0.91.

Procedure

Before the final implementation of the instruments a pilot study was carried out with a sample of 20 women with similar characteristics to the participants who were included in the final study, in order to verify the adequacy and reliability of the instruments used. Participants were contacted in the controls carried out at the Hospital and invited to answer the instruments. Participation in the study was voluntary through the signing of a letter of consent.

Results

First the scores obtained by the participants were described in the variables measured by instruments applied.

In connection with the resistant personality, the total score may vary between 21 and 84 points and the score of each of the dimensions may vary between 7 and 28 points. As shown in table 1, in each of the dimensions the maximum score was reached in the sample. In terms of the total score, the retrieved averaged 70.6 indicating a high level of the characteristics of the resistant personality in this group (84% of the possible maximum), which is also reflected in the average scores for each dimension representing between 82% and 86% of the maximum possible gain.
With respect to the perceived stress, scores can vary between 0 and 56 points. In this case the obtained values were between 12 and 40 points, while the average was 24.8 points, which represents only a 44.3% of the possible maximum. This would indicate a moderate single level of stress perceived in the total sample.

Finally, in terms of the stress coping strategies, scores on each dimension can vary between 0 and 28 points, obtaining in this case average scores that ranged from 8.5 to 15.1 points.

Comparing the average scores of the different strategies, it shows that the most widely used is the Positive reevaluation, followed by the Focus in problem solving, and Religion. Instead lesser-used strategies would be Open emotional expression and Self negative focus.

After describing the scores obtained in the different variables, the results of the analysis of correlation between the variables studied are presented. The coefficients of Pearson’s correlation between perceived stress and resistant personality and its dimensions are presented in Table 2.

Table 2 shows that the unique dimension of the resistant personality that shows a significant relationship with the level of perceived stress is the control component, being a negative type relationship and from a modest magnitude.

**Table 1**

Descriptive statistics of the variables considered

<table>
<thead>
<tr>
<th></th>
<th>Min</th>
<th>Max</th>
<th>Middle</th>
<th>Sample</th>
<th>Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resistant personality</td>
<td>33</td>
<td>84</td>
<td>72</td>
<td>70.56</td>
<td>7.96</td>
</tr>
<tr>
<td>Commitment</td>
<td>11</td>
<td>28</td>
<td>24</td>
<td>24.10</td>
<td>2.84</td>
</tr>
<tr>
<td>Challenge</td>
<td>9</td>
<td>28</td>
<td>24</td>
<td>23.41</td>
<td>2.95</td>
</tr>
<tr>
<td>Control</td>
<td>13</td>
<td>28</td>
<td>23</td>
<td>23.05</td>
<td>3.14</td>
</tr>
<tr>
<td>Perceived stress</td>
<td>12</td>
<td>40</td>
<td>24</td>
<td>24.77</td>
<td>6.44</td>
</tr>
<tr>
<td>Search for social support</td>
<td>0</td>
<td>24</td>
<td>11</td>
<td>10.73</td>
<td>6.73</td>
</tr>
<tr>
<td>Open emotional expression</td>
<td>0</td>
<td>24</td>
<td>7</td>
<td>8.50</td>
<td>4.33</td>
</tr>
<tr>
<td>Religion</td>
<td>1</td>
<td>24</td>
<td>11</td>
<td>12.05</td>
<td>6.08</td>
</tr>
<tr>
<td>Focus on problem solving</td>
<td>2</td>
<td>24</td>
<td>14</td>
<td>13.90</td>
<td>5.15</td>
</tr>
<tr>
<td>Avoidance</td>
<td>0</td>
<td>20</td>
<td>10</td>
<td>10.77</td>
<td>4.57</td>
</tr>
<tr>
<td>Auto negative focus</td>
<td>0</td>
<td>22</td>
<td>9</td>
<td>9.50</td>
<td>4.61</td>
</tr>
<tr>
<td>Positive reevaluation</td>
<td>3</td>
<td>24</td>
<td>15</td>
<td>15.10</td>
<td>4.30</td>
</tr>
</tbody>
</table>

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Table 3 presents Pearson’s coefficients of correlation between the coping strategies of stress, perceived stress, and the overall level of resistant personality and of each of its dimensions.

As shown in Table 3, the strategy of coping that shows a significant relationship with both the resistant personality and perceived stress is the focus on solving problems, on the one hand taking a negative with the perceived stress relationship and on the other hand positive relationships with the resistant personality and its dimensions, being greater the reference to the Control.

Is also observed in Table 3 that the level of perceived stress has significant relationships with 4 of the 7 coping strategies analyzed. Shows positive relationships with open emotional expression and Auto negative focus, while it presents negative relations with focus on problem solving and positive re-evaluation.

**Discussion**

The obtained results allowed to obtain relevant information in relation to variables of resistant personality, perceived stress, and strategies for coping with stress in a specific population such as women with an infertility diagnosis.

It is important to note that the results obtained in the various variables examined show a rather positive picture regarding this group of women in treatment for infertility. On the one hand they get relatively high scores in the variable resistant personality and its dimensions, and as group shows a relatively low level of perceived stress. And on the other hand, most commonly used stress coping strategies are those considered more adaptive, specifically Positive re-evaluation and Focus on problem solving, while the lesser-used correspond to those focused more on emotion than to find solution to the problems, specifically Open emotional expression and self negative focus. These findings seem to support the claim of Carreño et al. (2008) that there would be a tendency to over-diagnosis of psychological disorders in infertile women, leading often to his pathologization.

The fact that the relationship between perceived stress and resistant personality is negative but not significant, is consistent with several studies that highlight the importance of the resistant personality as variable modulator of stress, since personality characteristics as feeling and believing itself capable of acting effectively against stressful events (dimension control of tough personality) would create the perception of a lesser stress (Barra, 2004; Jenaro et al., 2008; Kobasa & Maddi, 1984; Maddi & Hightower, 1999).

The low magnitude of the negative relationship observed between perceived stress and resistant personality could be explained in part by the fact that the participants showed in general a high level of resistant
personality and a low average variability. In addition it was also observed a single moderate level of perceived stress, which would be consistent with studies showing that enduring infertility originates only moderate levels of depression (Brasile, Katsoff & Check, 2006).

Thus we also found that at a higher level of perceived stress is observed an increased use of two strategies of emotional coping, Open emotional expression and Self negative focus. This would be explainable because it defines them as passive strategies and which relate the lower perception of interpersonal resources, so it might be greater in individuals who tend to perceive the stressful conditions as little possible change (Rodriguez-Marín et al., 1993; Lazarus & Folkam, 1986 cited in Barra, 2003).

In the case of women with an infertility diagnosis, emotional coping strategies would be greater in those assessing that they can do nothing to modify adverse conditions, and that they are subjected to emotional disturbances associated with the effects of the diagnosis and having to undergo a treatment that can be for a long period.

The positive relationship between the level of global resistant personality and each of its dimensions with the use of one of the coping strategies of rational type and focus on the problem agree with the issues raised by Kobasa (1982), in the sense that the resistant personality characteristics can moderate the effects of stimuli that are perceived as stressful, facilitating the use of adaptive coping strategies or inhibiting the use of little adaptive coping strategies (Peñacoba & Moreno, 1998).

Considering the relationship between focus on problem solving and the dimensions of the resistant personality, the dimension of control can become an essential factor in this strategy in the studied women. The beliefs in changing or influencing their living circumstances would activate adaptive strategies, and may eventually reduce the level of perceived stress, which shows a significant negative relationship with that type of coping strategy on them.

As a conclusion of the study it can be noted that the sample studied showed a high level of the features that make up the resistant personality and an only moderate level of perceived stress, aspects that can provide motivation and commitment needed to cope with adverse circumstances, as it could be infertility and turn them into a possibility of growth (Maddi, 2006).

This does not reduce the importance of incorporating psychological variables that may contribute to the integrality of attention, as well as understanding not only infertility from a biological perspective, but also from the reactions of the person in front of it, since it affects all dimensions of their lives and indeed also influences in the attitudes and behaviors towards the treatment (Roa, 2008).

In future research it should be continued investigating on these variables and more, such as self-efficacy, social support, psychological well-being, etc. It could also be investigated the influence of social and cultural aspects in the adaptation of persons against their condition of infertility, as well as their attitudes towards different aspects and challenges that represents the prolonged treatment of their condition.

References
Perceived Stress, Coping and Hardy Personality in Infertile Women


