Comparing the Effect of Acupressure and Learning Life Skills on Decreasing Infertile Females' Stress in Kerman

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ABSTRACT

The purpose of present study is to compare the effect of acupressure and learning life skills on decreasing infertile females' stress. The research method is semi-experimental with control and test groups. The study universe includes all infertile females referring to infertility clinic of Mehregan hospital of Kerman during 2013. The sample volume for each group (learning life skills, learning life skills & acupressure, acupressure, control) assessed 10 individuals. Sampling method is availability. First, the females' stress in all 4 groups evaluated by means of a questionnaire through a pretest before interference. After that, learning life skills, learning life skills + acupressure and acupressure done in the first 3 groups respectively and then the stress evaluated in all 4 groups through a posttest. The results proved that learning life skills and acupressure are effective on decreasing infertile females' stress while learning life skills + acupressure is not effective on it.

INTRODUCTION

Fertility is precious in most of cultures and wish to have a child is one of the most basic human motivations. If an attempt to become pregnant failed, it may lead to a destructive emotional experience [26]. Infertility called to a failure in pregnancy after a year of unprotected sexual intercourse. According to WHO report, 10-15 percent of the world females are infertile [5]. Based on studies, infertility prevalence in different regions is different 10-18 percent. In a study in US, rate of infertility of 4.5 million in 1982 reached 602 million in 1995 [7]. Among all infertility factors, 1/3 related to male, 1/3 to female and 1/3 is a combination of different reasons. Some of environmental factors like poisoning smoking, alcohol drinking, anesthetic gases and chemicals led to disorders in fertility. Facing with infertility effects males and females life significantly and exposed them to several emotional and mental problems [22]. Physical, mental and monetary challenges during application of fertility methods affected them too in a way infertility problem resulted in depression and stress during late 2nd and 3rd decades of life [3]. Beside public belief about the role couples play in infertility, some believe stress as infertility factor too. The relationship between stress and infertility often leads to a defected cycle in which they intensify each other. Infertile couple who believe infertility factor is themselves, blamed themselves and this situation results in increasing stress and as the result their problem becomes more severe [8]. Infertility stress is a series of symptoms which occurs after infertility and is similar to most of disorders symptoms resulted from PTSD and observed in thoughts and feelings related to infertility and attempts for realizing from these thoughts and feelings. Sleep, job and relationships (especially matrimony relationships) problem and tenderness towards any environmental stimulus related to reproduction observed in infertile females. In Kalan and Hansy study in primary and secondary infertility compared in terms of mental characteristics. Obtained results showed that as these two groups are similar in terms of mental health but females suffering from primary infertility have lower compatibility and life satisfaction and feel lonelier [31].

Moreover, Edelman and Connolly [10] confirmed these results in their research. Research findings reported primary infertile females suffer more from anxiety, depression and introversion and in terms of personal characteristics are different from control group [12].

Infertility is a great crisis and factor of mental stress for most people, which can create emotional stress and a vast spectrum of negative mental reactions such as: depression, anxiety, violence and feeling of sexual
inadequacy [19]. At the first stage, infertility is a clinical situation, but its diagnosis can affect on the emotional performance of infertile couple and in addition to mental dimension of infertility, it can effect on other life aspects of an individual such as: social and economic dimensions [1]. We should emphasize that only physical therapy of infertility is not enough and paying attention to mental requirements of an infertile couple is a necessary part of infertility therapy [14] and discussion about this problem in the form of consultation is appropriate for the above-mentioned group [28]. The effect of training and learning life skills on mental health of participants shows that these training mainly focus on methods of fighting against stress [13]. Life skills refer to a big group of mental-social and interpersonal skills which help individuals to make their decisions consciously, communicate effectively, develop their confronting and managerial skills and live healthy [23].

It should be mentioned that among different non-pharmacologic methods (especially CAM), acupressure is a therapeutic method which physicians, nurses and even patients can use it. Therefore, most studies show that acupressure has very positive results in nurse’s interventions and patients’ care procedure [21].

In 100 cases, WHO confirmed acupuncture and acupressure [20], but regarding traditional acupuncture needs invasive intervention and the patient should be bare [4] and also, Hepatitis and HIV risk is high (Rogers, 1981), individuals’ tendency toward acupressure has been increased. Acupressure is a kind of skill in traditional medicine which uses fingers for pressing key points in the skin. By using this method, body’s natural self-capabilities stimulate and induce.

Life is not without stress and pressure and human being faces various problems during his/her life. Every day these problems effect on human being with their qualitative and quantitative changes and specific methods. Stress is human being’s general reaction to the internal and external unpredicted and incompatible factors. This means that whenever individual’s balance and compatibility disappear, stress appears [2]. The present study attempts to find the answer of this question: are life skills and acupressure effective on decreasing infertile females’ stress?

**Research objectives:**
1. Studying the effect of life skills on decreasing infertile females' stress
2. Studying the effect of acupressure on decreasing infertile females’ stress
3. Studying the effect of life skills and acupressure on decreasing infertile females’ stress

**Hypotheses:**
1. Learning life skills is effective on decreasing infertile females' stress.
2. Acupressure is effective on decreasing infertile females’ stress.
3. Learning life skills and acupressure is effective on decreasing infertile females' stress.

**Research method:**
The present study is of semi-experimental plans with pretest-posttest plan.

**The universe:**
The statistical universe is total population who at least has one characteristic (this characteristic usually indicated by n). In this study, the statistical universe includes infertile females who are the patients of infertile clinic of Kerman Mehregan Hospital at 2014.

**Sample and sampling method:**
Because of inability for assessing total statistical universe and time and cost saving, the researcher tries to generalize her research results by choosing a correct sample as the real representative of total population. In the present study, sampling is of available type. Considered individuals were of infertile clinic of Mehregan Hospital patients and selected according to their personal desire and preparation for participation in training courses non-randomly. Sample volume for each group (learning life skills, learning life skills-acupressure, acupressure and control) was 10. Infertile females’ inclusion conditions were as following elapsing minimum 6 and maximum 10 months of diagnosing their infertility, ages between 20 to 45 years old, having no known physical and mental disease (Diabetes, Arthritis, and Schizophrenia etc.), Iranian nationality and Persian language.

**MATERIALS AND METHODS**

The present study conducted in two stages. After explaining required information to studied individuals (learning life skills, learning life skills-acupressure, acupressure and control) and receiving written testimonial, stress questionnaire completed by each group. About group of learning life skills, intervention done during 4 sessions (1.5 hours) and its interval was one day. About acupressure-life skills group, intervention done during 4 sessions (2.5 hours) with one day interval. In acupressure group, intervention done during 3 sessions (1 hour) individually and with 5 days interval. These sessions hold for training, marking and learning reflex points...
related to stress. In the second stage, after 12 days of the first visit, three intervention groups and control group received stress questionnaire.

**Tools and methods of data collection:**

In the present study, questionnaire used as the main tool for collecting data. This questionnaire includes two parts related to personal specifications and specific questions. Personal specifications include age, gender and period of infertility variables which evaluated in nominal measure. Specific questions designed in the form of questions related to stress and guide of life skills and acupressure.

a) Stress questionnaire: in this study, DASS21 questionnaire used for measuring the amount of stress. This questionnaire includes three sub-measures, which are as following depression (7 questions), anxiety (7 questions) and stress (7 questions). Questions were of multiple-choice type, which completed in the form of BSE. Responses scope is variable of never to always. Scoring considered from zero to three (zero for never, one for a little, two for sometimes and three for always). Total scores multiplied in two and interpreted according to table one. Samani and Jokar (1386) studied reliability and validity of this questionnaire in Iran. They reported retest reliability of 0.80, 0.76 and 0.77 and Chronbach’s Alpha of 0.81, 0.74 and 0.78 for depression, anxiety and stress measures.

<table>
<thead>
<tr>
<th>Table 1: interpreting DASS21 scale</th>
<th>Depression</th>
<th>Anxiety</th>
<th>Stress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ranking</td>
<td>Normal</td>
<td>Mild</td>
<td>Medium</td>
</tr>
<tr>
<td>0-9</td>
<td>10-13</td>
<td>14-20</td>
<td>21-27</td>
</tr>
<tr>
<td>0-7</td>
<td>8-9</td>
<td>10-14</td>
<td>15-19</td>
</tr>
<tr>
<td>0-14</td>
<td>15-18</td>
<td>19-25</td>
<td>26-33</td>
</tr>
</tbody>
</table>

b) Learning life skills:

Learning life skills conducted according to UNICEF life skills guide. UNICEF classifies life skills in three levels: the first level includes main and basic psychological and social skills. These skills affected by social values and culture (such as self-awareness and empathy). The second level skills are those, which only used in specific conditions (such as negotiation, courageous behavior and conflict resolution). The third level includes applied skills (such as fighting against traditional gender roles or not abusing drug). In addition, UNICEF and UNESCO introduced 10 main life skills. These skills are decision-making, problem solving, creative thinking, critical thinking, ability of effective communication, creating and maintaining individual relationships, self-awareness, empathy, dealing with excitement and stress skill.

c) Learning acupressure:

In this study, six reflex points used for decreasing infertile females’ stress. These points include Lu7 point: along forearm radial bone, upper part of styloid excrescence (1.5chun, since it stands on the top of wrist transverse crease). H7 point: along ulna bone (little finger of our hand) on crease lines of wrist, junction of ulna bone to wrist bones, there is a dent between ulna bone and hand flexor internal ligament called H7 point. SP6 point: in the internal part of leg (3chun, since it stands on the top of medial malleolus bone and posterior-interior part of TB1 bone). K1 point: on the feet, along metatarsal bone, between second and third fingers, it intersects with the crease line of thumb. DU 20 point: Growth of hair on the front of the head, the top 5 chun, of the sagittal suture or a long the line from the apex, divided in to two halves to listen to the confluence of the sagittal suture, it is called DU20 point. P6 point: 2chun, since it stands upper than forearm crease lines between two tendons of flexor carpi radialis muscle and flexor Palmaris langus muscle. In the first session of acupressure, these points trained and marked. Then, we asked them to stimulate each point by pressure (by top of their thumb, so that 1/3 of nail bed becomes white). This procedure should be done during 2 minutes (one minute continuous pressure and one minute pulse pressure). This method conducted daily and with 18 minutes interval by infertile females. It is recommended to them to cut their contact with surrounding environment and pay attention to their feelings and bodies. None of their muscles should be contracted and their body should locate in a place calmly, so that other reflex points cannot stimulate. After 5 days, in the second session researcher studies considered points and their stimulation. After 5 days of the second session, in the third session researcher conducts posttest and acupressure. Researcher follows subjects’ performance by phone call.

**Data analysis:**

After determining research method and using appropriate tools for collecting required data, research hypotheses evaluated by appropriate statistical techniques. Then, variables analyzed and their significance studied by inferential statistics. In this study, we used test, coefficient of difference test, averages and covariance analysis for studying research hypotheses.

**Results and findings:**
**Descriptive results:**

Results of table 2 show that 11 individuals of respondents (24.44) treated by acupressure. 13 individuals (28.88) learned life skills and 11 individuals learned life skills and treated by acupressure altogether.

**Table 2: frequency and frequency percent of sample group.**

<table>
<thead>
<tr>
<th>Sample groups</th>
<th>acupressure affected group (group 1)</th>
<th>life skills received group (group 2)</th>
<th>life skills and acupressure received group (group 3)</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>11</td>
<td>13</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>Frequency %</td>
<td>24/44</td>
<td>28/88</td>
<td>24/44</td>
<td>22/22</td>
</tr>
</tbody>
</table>

Moreover, results of table 3 show average, standard deviation, minimum and maximum stress score of test and control group in pretest and posttest stage.

**Table 3: describing stress score of test and control group in pretest and posttest stage.**

<table>
<thead>
<tr>
<th>Stage</th>
<th>Statistical index</th>
<th>Average</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>Group 1</td>
<td>8/27</td>
<td>3/03</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>Group 2</td>
<td>9/76</td>
<td>4/33</td>
<td>0</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Group 3</td>
<td>7/63</td>
<td>4/17</td>
<td>2</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>8/5</td>
<td>4/03</td>
<td>2</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Posttest</td>
<td>Group 1</td>
<td>6/27</td>
<td>3/28</td>
<td>2</td>
<td>13</td>
</tr>
<tr>
<td>Group 2</td>
<td>6/3</td>
<td>2/86</td>
<td>3</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Group 3</td>
<td>6/36</td>
<td>4/05</td>
<td>2</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>9/14</td>
<td>6/01</td>
<td>2</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

**Inferential results:**

1. **Learning life skills is effective in decreasing infertile females’ stress:**

In order to study the effect of learning life skills in decreasing stress, univariate covariance analysis used. As results of table 4 show, F is stress score equals to 22.51 which this amount is significant at (p=0.001) level. This means there is significant difference between test group (a group who learned life skills) and control group in terms of our considered variable (stress). Therefore, regarding table 4, after post-test stage, average of stress score in test group (6.3) is less than control group (9.14). Therefore, learning life skills resulted in decreasing stress. Moreover, it is observed Eta coefficient related to the stress variable is (0.58) which shows 58% of test group’s total variance resulted from the effect of learning life skills independent variable.

**Table 4: univariate covariance analysis on average of stress score in test group (a group who learned life skills) and control group.**

<table>
<thead>
<tr>
<th>Variable</th>
<th>total averages</th>
<th>freedom degree</th>
<th>average square</th>
<th>F</th>
<th>significance level</th>
<th>Eta coefficient</th>
<th>test power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress</td>
<td>146.92</td>
<td>1</td>
<td>146.92</td>
<td>22.51</td>
<td>0.001</td>
<td>0.58</td>
<td>0.99</td>
</tr>
</tbody>
</table>

2. **Acupressure is effective in decreasing infertile females’ stress:**

Results of table 5 show that F (stress score) equals to 6.1 which this amount is significant at (p=0.02) level. This means there is significant difference between test group (a group who affected by acupressure) and control group in terms of our considered variable (stress). Therefore, regarding table 5, after post-test stage, average of stress score in test group (6.27) is less than control group (9.14). Therefore, acupressure resulted in decreasing stress. Moreover, it is observed Eta coefficient related to the stress variable is (0.28) which shows 28% of test group’s total variance resulted from the effect of acupressure independent variable.

**Table 5: Results of univariate covariance analysis on average of stress score in test group (a group who received acupressure) and control group.**

<table>
<thead>
<tr>
<th>Variable</th>
<th>total averages</th>
<th>freedom degree</th>
<th>average square</th>
<th>F</th>
<th>significance level</th>
<th>Eta coefficient</th>
<th>test power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress</td>
<td>97.42</td>
<td></td>
<td>97.42</td>
<td>6.1</td>
<td>0.02</td>
<td>0.28</td>
<td>0.63</td>
</tr>
</tbody>
</table>

3. **Learning life skills and acupressure are effective in decreasing infertile females’ stress:**

Results of table 6 show that F (stress score) equals to 1.53 which is significant at (p=0.23) level. This means there is no significant difference between two groups; a group who received acupressure and learned life skills synchronously. Therefore, learning life skills and acupressure at the same time has no effect on stress. Moreover, it is observed Eta coefficient related to the stress variable is (0.09) which shows 0.09% of test group’s total variance resulted from the effect of acupressure and learning life skills independent variables.

**Conclusion and discussion:**

The present study conducted in order to compare the effect of acupressure and learning life skills in decreasing infertile females’ stress. Results of covariance analysis showed that after post-test stage, there significant difference between test group (a group who learned life skills) and control group in terms of our
considered variable (stress). Learning life skills resulted in stress decrease in test group. Moreover, results of the present study showed that 58% of test group’s total variance is effective in the stress variable (resulted from the effect of learning life skills).

### Table 6: Results of univariate covariance analysis on average of stress score in test group (a group who received acupressure and learned life skills) and control group.

<table>
<thead>
<tr>
<th>Variable</th>
<th>total averages</th>
<th>freedom degree</th>
<th>average square</th>
<th>$f$</th>
<th>significance level</th>
<th>Eta coefficient</th>
<th>test power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress</td>
<td>33.25</td>
<td>1</td>
<td>33.25</td>
<td>1.53</td>
<td>0.23</td>
<td>0.09</td>
<td>0.21</td>
</tr>
</tbody>
</table>

Learning life skills is effective in developing and increasing capabilities such as decision making, self-motivation, responsibility, positive relationship with others, positive self-esteem, problem solving, self-ordering and self-sufficiency [27]. Effectiveness of learning problem solving skills appears in emotional competence such as depression and stress decrease [17]. Life skills are those skills which trained for increasing individuals’ mental and social capabilities. According to obtained results of the present study learning life skills is effective in decreasing infertile females’ stress. These results are in line with findings of Jeffry [16] Shulmans [29], Edward [9] and Irma. Sondlousky [30] concluded in his research that stress, depression and feeling of loneliness are results of infertility. Infertility is an important stressor in the life and accepting infertility is difficult. Most couples use a repetitive, painful and unprogressive therapy period and finally feel weakness and failure [6]. Life skills include a collection of capabilities which increase individuals’ compatibility power and positive and effective behavior. As a result, an individual can accept his/her social responsibilities without hurting himself/herself and others and face daily challenges and problems of the life effectively. Researchers confirmed the positive effect of life skills in decreasing drug abuse, using of IQ and cognitive capacities and capabilities, preventing violent behaviors, increasing self-sufficiency and self-confidence and etc. it should be mentioned that in decreasing drug abuse key role of life skills emphasized. In addition, training these skills emphasized as a general method for preventing personal and social damages [24]. Based on this we can say correct training is one of the most important strategies in decreasing infertile females’ stress and securing their environment against this limitation and problem. This means if we train them life skills and methods of fighting against problems and problem solving, their stress will decrease. Results of covariance analysis about the effect of acupressure on infertile females’ stress show that after post-test stage there is significant difference between test group (a group who affected by acupressure) and control group in terms of our considered variable (stress). Therefore, acupressure decreased test group’s stress. Also, 28% of test group’s total variance resulted from acupressure (related to the stress variable). Results of the research showed that acupressure is effective in decreasing infertile females’ stress and these results in line with findings of Wang et al, Fassoula et al [11], Yang and Kin et al Barker et al [4] and Cooper et al [7]. For most individuals, infertility is a main crisis and mental stress factor which can result in emotional stress and a wide spectrum of negative mental reactions such as depression, anxiety, violence, feeling of sexual inadequacy and etc. [19]. Based on this we can say acupressure is a factor which can be used in preventing infertile females’ stress. Acupressure is a skill in traditional therapy, which uses fingers for pressing key point on the skin surface for motivating and inducing natural self-therapy capabilities. In Chinese medicine hands used only (without needle, drug or other therapeutic tools). Therefore, by means of traditional therapeutic methods and without applying chemical materials and drugs we can decrease individuals’ stress (by pressing some key points of their skin). Finally, results of covariance analysis showed that there is no significant difference between test group (two above-mentioned groups) and control group. Despite effectiveness of these methods in decreasing infertile females’ stress, but using them at the same time has no effectiveness in decreasing stress. Moreover, results show that 0.09% of test group’s total variance resulted from synchronous life skills training and acupressure (in the stress variable).

### Suggestions:

1. Women health authorities try to held life skills classes for infertile females regularly and consider some incentives for their participation in these classes. 2. It suggested them instead of grieving and imposing mental stress, participate in life skills classes and learn methods of fighting against this problem. 3. TV authorities try to train infertile females through life skills programs and talk with famous psychologists and experts in these programs. 4. Health ministry authorities try to institutionalize acupressure clinics and health centers. 5. TV authorities try to introduce advantages and effects of acupressure in their programs through available documents (such as the present study findings). 6. It is suggested that infertile females at least once experience acupressure for treating their psychological problems (such as stress). 7. Health centers authorities try to provide some brochures and explain advantages of acupressure and its effect in decreasing stress, depression, anxiety etc. and this brochure should distribute among infertile female freely.
REFERENCES

