THE EFFECT OF PET THERAPY ON GENERAL HEALTH QUALITY IN ADDICTED WOMEN IN FEMALE REHABILITATION CENTER IN SARI CITY

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ABSTRACT
This study aimed to investigate the effect of pet therapy on general health quality of addicted women in female rehabilitation center in Sari. It is applied in both qualitative (clinical and unstructured interview) and quantitative (semi-experimental in pre-test and post-test design with control group) methods. The data population included all addicted women of female rehabilitation center in Sari, in January and February of 2013, who was recently completed two 28 day periods of staying in camp. The sample group was 30 of them, had the highest score in Goldberg's General questionnaire (GHQ-28) (The higher score means more pathologic symptoms). They were matched in term of their age and kind of drug abuse, then divided in to two 15 experimental and control groups. Data were analyzed using SPSS software and through covariance analysis. The qualitative data was collected through interview then considered. Results: Data analysis indicated that pet therapy has a significant positive effect to improve the general health quality (P<0.05, F= 17.80) and its components included anxiety (P<0.001, F= 24.290), somatic symptoms (P< 0.05, F= 6.506), depression (P< 0.05, F= 6.102) and social dysfunction (P<0.01, F= 9.0) in female drug abusers. In addition, according to the interview, the addicts reported lower feeling of loneliness, drug obsession and more sense of worth, responsibility and self-efficacy as their improvement factors after this intervention. Conclusion: Pet therapy has a significant positive effect on improve of general health quality in addicted women (p<0.05). This method has an appropriate clinical capability for applying intervention and relapse prevention in addicts.

KEYWORDS: addiction, General health, Pet therapy.

INTRODUCTION
Drug dependency is a mental, social and economic illness (Monajati and Farnam, 2005). Unfortunately, according to WHO, Iran with 2.8 percent of the addicts had the highest rate of drug dependent persons in the world in 2005 (Sohrabi, 2008). A burden social, health and economic consequences such divorce, prostitution, theft, murder, AIDS, hepatitis, and a harmful 29 percent of national income are the effects of addiction in our country (Nazari, Momen Nasab, Foroughi and Varshouchi, 2008, 4. p. 3). Drug dependence is adaptive pattern of drug abuse that is presented clinically by discomfort and disorder within 12 months with three or more of the following cases:

1. Tolerance is characterized by the drug in one of the following states: A) The need to substantially increase the amount of drug to achieve the desired effects; B) Substantially reducing the impact of drug by continuous use of a fixed amount of material.
2. Withdrawal symptoms or discontinuation of consumption that are specified by one of the following cases: A) Deprivation of physical and psychological symptoms (agitation, anxiety, insomnia, muscle pain, diarrhea and vomiting) and conditions specific to any particular drug when cut off reduce their consumption.; B) Require the use of the drug (or similar) to fix or avoid discomfort caused by material deprivation.
3. The drug is often consumed more or longer period than what is desired.
4. The constant desire to abuse or unsuccessful efforts to cut down or control drug use were made.
5. Spending a plenty of time to obtain the drug (e.g. visiting multiple physicians or driving long for procurement) or consumption it (Repeated fumigation) and for improvement of consumption effects also need to large time.
6. Important social, occupational or recreational activities has fallen or set aside due drug use.
7. Continued drug use, despite the knowledge of resonance or catching to stable and recurrent psychological or somatic problem of consumption caused by drug(continuous cocaine consumption despite the knowledge of depression would create caused by cocaine or continuous alcohol consumption despite the knowledge of gastric ulcer becomes more severe (Naderi, Bina Zadeh, Sefatian and Peyvandi, 2008).
Drug dependence is the most common mental health disorders (Najafi, 2005). On the other hand, many studies have emphasized on the prevalence of concomitant psychiatric disorders such as anxiety and depression among drug-dependent patients (Janina, Gallus and Susa, 2005). Epidemiologic data show that 53 percent of drug abusers are having a serious mental illness (Drake, 2009). Existence of concomitant psychiatric disorders is an important challenge since it can cause resistance to treatment and relapse to addiction. Depression, anxiety, sleep disorders and social interaction, including common symptoms of withdrawal for many addicts that have being nagging for them during period of withdrawal and increase the possibility of relapse (Kazemian and Delavar, 2011). In fact, these factors affect addicts’ general health that is a perception of physical and psychological features (Badger, 1992) and therefore has an impact on the treatment of addiction. General Health is a widespread problem so that Carson Butcher and Coleman (1988) consider it as a profound and important concept that is obtained from the combination of physical health and Welfare, so this concept is very important in process of addiction treatment. Also on the topic of addiction, being multidimensional and complexity of factors involved in the treatment of drug dependence requires a multi-faceted and long-term treatment (Mokri, 2002), so the effectiveness of pharmaceutical with non- pharmaceutical treatments for addicts, especially if it leads to a change in their lifestyle can increase the success and sustainability of drug treatment (Rajabi and Moqadas, 2011).

One of the treatments which has been used in other countries and everyday its application and academic performance are increased, is Animal - assisted therapy and in more detailed is Pet Therapy. Although Pet therapy is a treatment method that has not previously been in Iran (before this research), no a comprehensive or group review, or a systematic and structured study has been done on it, but this approach can be used in many different conditions and for rehabilitation and treatment of many illnesses in which animals are used as beads and facilitating factor for health and reform health conditions (Dimitrijevi , 2009, p. 236). Human and animal interaction history dates back to the far past. Ancient peoples valued the profound connections between humans and animals. Animals interact a relation with unconditional love and free of criticism with humans. Recent studies, including evidence that supports the physiological, psychological, logical and social benefits of interaction of humans and animals and potential therapeutic programs dependent on the presence of animals in a wide range of setting (Walsh, 2009, p. 462). Positive effect of keeping pets on dealing with chronic diseases like dementia, cancer, heart disease (Friedman and T. Sai, 2006; cited in Walsh, 2009) and improving depression in patients with AIDS has been proven (Siegel et al. 1999, cited in Walsh, 2009). The effect of pet therapy is such that even with increasing neurochemicals associated with relaxation and bonding, can improve human immune system functioning (Charnetsky, Riggers and Brennan, 2004; cited in Walsh, 2009). Animals are capable to create a deeply and shared feeling between us and other creatures. Many people have reported that in this way; have found a deep sense of connection and unity with nature and life. As a native and ancient people also had believed, the animals can teach us valuable lessons about life. (Kruger,Trachtenberg, Symme & Serpell, 2004).

According to a study conducted in the UK Waltham, attachment to a pet can help reduce anxiety, blood pressure, triglyceride levels, loneliness and moderate the stress effects and in addition creating the feeling of empathy. In general, affection and attachment, creates a bond that undeniably has a role in the case of health, happiness, a sense of belonging and gives value to life (Meunier, 2003).

Coakley & Mahoney (2009) ) have been conduct other research entitled “creating a Therapeutic and Healing Environment with a Pet Therapy program to evaluate the effectiveness of interventions of pet therapy to improve physiological, behavioral, mood and experiences outcomes of patients. Method is a quasi-experimental of pretest-posttest which was performed on 59 patients who were hospitalized. The difference from the situation before and after coping with two sample t-test, were evaluated. Qualitative data were also analyzed using content analysis method. The results showed that after the intervention, the patients had experienced a significant reduction in pain, respiratory rate and negative mood state and a significant increase in perceived energy level. Quantitative and qualitative findings provide support for decreased tension, anxiety and fatigue, inertia and improved overall mood.

In 2007, Cole, Galinsky, Striz and Ketelerman conducted an experimental research entitled as "Animal- Assisted Therapy in patients hospitalized with heart failure". The goal of the researcher was to investigate the effectiveness of a
12-minute meeting of the dog therapy on improving hemodynamic status (e.g., stroke volume and resistance blood vessels of the heart), level of neurotransmitters hormones and reduce anxiety in patients with heart failure. During this experimental research, 76 eligible adult in three group-based longitudinal study and measuring continuous of variables were analyzed. The first group met for 12 minutes with therapeutic dog, visiting a number of subjects in the second group and the third group or the control group research, conventional care to be received. Results showed that the treatment using animals can improve level of nervousness hormones, anxiety and heart condition (pulmonary arterial hypertension) of hospitalized patients.

As noted above, since several animals are used in pet therapy methods, the necessity of the traditions and cultural beliefs of the individual and society is very important to select the desired organism. Birds can be a selection among the organisms that can be used for the therapy. Finch is also an ornamental, playful and inexpensive bird which reacts happily toward speaking or whistling. They are very sensitive and have to keep away them from smoke, Kitchen strong odor or disinfectant (Mogadas, 2009). Thus, with respect to such attributes can benefit them in the treatment program. This study sought to see whether can had an impact on general health of addicted women with the help of pets?

It should be noted that countless of these types of treatment programs are used in a number of countries and places such as hospitals, schools, prisons and rehabilitation centers (Walsh, 2009). However, given the recent and unprecedented use of the treatment method in Iran and lack of doing serious and organized research (before this research), accomplishing such interventions to add to the richness of individual and social knowledge is important, as well, the advantage of this research are low cost and selecting the desired animal (finches) with respect to the cultural and religious context of Iranian society.

MATERIAL AND METHODS
This research was conducted by two quantitative (semi-experimental with pretest - post-test with control group) and qualitative (clinical and unstructured interviews) methods. The population consists of all addicted women of female rehabilitation center (according to the definition of addiction, continuous use of drugs, for at least a year is considered by the researcher) in Sari city, in January and February 2013 who had completed two 28 days detoxification periods and staying in camp. Addicts’ age range was between 18 and 43 and their average age was estimated 29.60. The sample group was 30 of them, had the highest score in Goldberg's General questionnaire (GHQ-28) (The higher score means more pathologic symptoms). They were matched in term of their age and kind of drug abuse, then divided in to two 15 experimental and control groups. First, clinical interview was conducted with the members of sample group and their psychological status was assessed. Then, while informing about the research, the willingness of all of them to participate in the study and approval of the group members to keep the family of finches, including a pair of finches and their future chickens for 5 months after leaving camp was considered. After the explanation, the entire sample, subject to confidentiality of their identity were willing to participate in the study, thus, informed consent forms has been fill out by each of them. The researchers also noted that after 5 months if birds kept properly, they would be awarded to all members of the group. Then, 15 pairs of male and female finches, their wooden cages and other gaming and maintenance facilities (Container of water, birdseed, swing and instruction for relax and maintenance of Finches) were given to them, then the researcher examined the patient interaction status with the birds every two weeks until the end of the experiment. At the end of the fifth month’s course the post-test (GHQ-28) were conducted on control and experimental groups and the results were recorded. Quantitative data were analyzed using covariance method by SPSS, and qualitative data were summarized and recorded by both clinical and unstructured interview. It should be noted that during the intervention, the researcher was exposed to addicts and their families.

Research Tools:
1. 1. Questionnaire of Demographic information: the questionnaire included questions about back ground and duration of drug abuse: Goldberg's General Health Questionnaire (GHQ-28): The questionnaire was constructed in 1979 by Goldberg and Miller. General health questionnaire can be considered as a set of questions that have been formed by the lowest levels of illness common symptoms that exist in different psychiatric disorders, and thus could separate mental
illness as the broader category of those who consider themselves healthy. So, the purpose of this questionnaire is not to obtain specific diagnostic in psychiatric disorders hierarchies, but its main purpose is create the distinction between mental illness and mental health. The questionnaire consists of four subscales.

1. The physical symptoms or physical signs include cases associated with people feeling toward their health status and tiredness. This subscale evaluates physical sensory perceptions that are often associated with emotional arousal.
2. Anxiety symptoms and sleep disorders, including those associated with anxiety and insomnia.
3. The social function evaluates the extent of individual's ability to cope with the demands of professional and everyday life issues and reveals their feelings about how to cope with common life position.
4. Depressive symptoms including cases which associated with severe depression and suicidal tendencies

Reliability of the questionnaire was checked by three methods of Test-re Test, split-half method and Cronbach's alpha. The coefficients have been obtained 0.70, 0.93 and 0.90, respectively. To study the validity of this questionnaire three methods including Concurrent validity, evaluating the correlation between subtests of questionnaire with the total score and factor analysis was used. Its concurrent validity (0.55) was also calculated through concurrent run with Middlesex test. As well, the variable of correlation coefficients between the subscales of the questionnaire with a total score achieved satisfactorily between range 0.72 to 0.87 (Taghavi, 2001).

Scoring: among 28 items of the questionnaire questions of 1 to 7 are related to physical symptoms. Items of 8 to 14 investigate symptoms of anxiety and sleep disorders and questions of 15 to 21 are related to the assessment of social functioning symptoms and finally items of 22 to 28 measures symptoms of depression. To sum up the scores as were told, 0, 1, 2 and 3 scores are awarded to A, B, C and D, respectively. On each scale, from score of 6 to a high and totally from 22 to a high score is indicative of morbid symptoms.

Table 1. Slice scores of each of the subscales of the GHQ–28 questionnaire

<table>
<thead>
<tr>
<th>Subscales</th>
<th>Scores on the subscales</th>
<th>Scores on the whole questionnaire.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No or minimal</td>
<td>0-6</td>
<td>0-22</td>
</tr>
<tr>
<td>Slight</td>
<td>7-11</td>
<td>23-40</td>
</tr>
<tr>
<td>Medium</td>
<td>12-16</td>
<td>41-60</td>
</tr>
<tr>
<td>Severe</td>
<td>17-21</td>
<td>61-84</td>
</tr>
</tbody>
</table>

RESULTS
As we know, the use of ANCOVA test requires compliance with a set of basic assumptions included equal variance, normality of variables distribution and homogeneity of regression slope. Comply with the assumptions made in the analysis and then to compare the two groups, the covariance analysis was used.

• Research Hypothesis: Pet therapy would increase general health quality in addicted women of female rehabilitation center in Sari city.

Results Table 2 shows a significant difference among the turned out subjects of the experimental group (F= 17.80, P< 0.05). Thus, this hypothesis is approved and concluded that pet therapy resulted in increased general health of addiction women in female rehabilitation center in Sari city. Also in Table 3 the results of the covariance analysis for each of the subscales of general health variables, including anxiety, physical symptoms, depression and social functioning are shown.

According to results of covariance analysis of Table 3, the difference between experimental and control groups on the variable of anxiety (F = 24.290, P < 0.001), physical symptoms (F = 6.506, P < 0.05), depression (F = 6.102, P < 0.05) and social functioning (F = 9.945, P < 0.01) is significant. The mean scores of two groups on the studied variables are proud that scores of post-test of the experimental group in each of the four subscales of anxiety, physical symptoms,
depression and social functioning, compared with pre-test scores of the same group, is less. That is, with control the subjects’ individual differences by ANCOVA, pet therapy had a significant impact on reducing the variables of anxiety, depression, somatic symptoms and social functioning in the experimental group.

Qualitative findings:
Researcher’s findings base on having relationship with the members of the experimental group suggests that regardless of the quantitative results, pet therapy, until the end of 5 months intervention (generally 7 month after drug withdrawal including two months presence in the camp and 5 months for intervention), practically have been in line with no relapse in 14 of 15 members of experimental group. While in the same interval, among the 15 members of control group, 8 of addicts had relapse. The sample members said that drug relapse is the result of a denial of family and community, lack of appropriate occupation, decentralization and lack of self-esteem, sadness, feelings of worthlessness, inability to control different situations (interpersonal relations, economic dislocations, etc.) and the temptation. In addition, according to the unstructured interview, the addicts reported lower drug obsession, feeling of loneliness, more sense of worth, responsibility and self-efficacy as their improvement factors after this intervention.

Table 2. Results of ANCOVA test of variable of general health

<table>
<thead>
<tr>
<th>Source of variance</th>
<th>Sum of squares</th>
<th>Degrees of freedom</th>
<th>Mean square</th>
<th>F</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>0.469</td>
<td>1</td>
<td>0.469</td>
<td>60.04</td>
<td>0.000</td>
</tr>
<tr>
<td>Between the groups</td>
<td>0.139</td>
<td>1</td>
<td>0.139</td>
<td>17.80</td>
<td>0.000</td>
</tr>
<tr>
<td>Error</td>
<td>0.211</td>
<td>27</td>
<td>0.008</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>64.24</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3. Results of analysis of covariance of the experimental and the control groups on subscales of general health variable after controlling for pre-test

<table>
<thead>
<tr>
<th>Sum of squares</th>
<th>Degrees of freedom</th>
<th>Mean square</th>
<th>F</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety</td>
<td>66.996</td>
<td>1</td>
<td>66.966</td>
<td>24.290</td>
</tr>
<tr>
<td>Physical Symptoms</td>
<td>4.596</td>
<td>1</td>
<td>4.506</td>
<td>6.506</td>
</tr>
<tr>
<td>Depression</td>
<td>36.679</td>
<td>1</td>
<td>36.679</td>
<td>6.102</td>
</tr>
<tr>
<td>Social function</td>
<td>71.10</td>
<td>1</td>
<td>71.10</td>
<td>9.945</td>
</tr>
</tbody>
</table>

DISCUSSION AND CONCLUSIONS
The aim of this study was to examine the effects of pet therapy on general health of addicted women in female rehabilitation center in Sari city. Results indicated that pet therapy has a significant positive effect on increasing general health of drug addicted women (F = 17/80, P< 0.05). In a field of general health quality, several factors are involved. Physical, psychological, social and spiritual factors are affecting on general health. According to addicts' statements, maintenance of finches and help them to birth their chicks awarded a combination of value, self-esteem, sense of responsibility and ability to them. Sense of value and self-esteem, has a great impact on mental health problem such as depressing (Maxwell, 1992) and stress (Mathews, 1989). This result is consistent with the result of Raina et al (1999), Coakley and Mahoney (2009) researches that have been investigating the therapeutic effects of pet therapy on mental and physical health of seniors, improvement of their mood and behavioral-physiological consequences. So, findings present the effectiveness of pet therapy on reducing illness symptoms and increasing general health of addicted women and show its clinical capabilities to perform therapeutic intervention with the aim of increasing general health and preventing relapse of drug abuse.

Research Proposals
Given the promising results of pet therapy, this method can be used in prisons, schools, drug rehabilitation centers, education and probation centers. As well, according to findings and effects of this intervention on general health and loneliness, it can be helpful in nursing homes and mental institutions with considering the circumstances.

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REFERENCES