Anticipating the Amount of Hope for Infertile Women Undergoing IVF Treatment Based On Psychological Well-being and Spiritual Health

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Abstract

Intellectuals in psychology area have been seeking a new path in defining the human mental health for years to show relations between positive variables with a variety of disorders and mental health problems. Having a negative attitude to the definition of health, in their view, is a kind of underestimating human power; So they are to go to the battle of psychological disturbances by healthy human assets. Positive Psychology is a new force that requires cross-cultural researches to makemore evident its scientific power. Three variables of positive psychology were examined in this study; hope, mental health and spiritual health in order to find possible relations between these variables in vulnerable sect. of infertile women. Examine the variables involved in predicting hope can add to the knowledge related to factors associated with hope for infertile women, given the healing power of hope. The present study was performed to predict the amount of infertile women hope undergoing IVF treatment based on psychological well-being and spiritual health. This study design was descriptive, correlative and in predictive method. The statistical population of all infertile women undergoing IVF treatment reffered to Zahra Hospital and Milad Clinic of Tabriz citycomprised from 760 people. A number of 260 infertile women were selected by convenience sampling as statistical sample, according to Morgan and Krejcie tables. Miller hope, Palotzin and Ellison spiritual health and Reef psychological well-being questionnaires were used. Data were analyzed using Pearson correlation method and multiple regression analysis. The results showed that there was a significant and positive correlation between psychological well-being and hope and also spiritual health and hope in infertile women undergoing IVF treatment. The results of regression analysis showed that psychological well-being and spiritual health have the power of predicting hope in infertile women undergoing IVF treatment.

Key words: Hope, Infertile women, Treatment with IVF, Psychological well-being, Spiritual well-being

INTRODUCTION

The experience of having children is linked to every human life in the hope of a better, more beautiful and more productive tomorrow; and not having it is associated with a faceless state, mental confusion and frustration, especially among women. The World Health Organization (WHO) defines infertility as not getting pregnant after a year of marriage without using a couple of contraception methods (quoted Mousavi et al., 2014). Hence, infertility

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is considered to be a crisis in the life of couplesand this crisis is accompanied by physical, psychological and social stress, which affects all aspects of one's life. There are several therapeutic methods for infertility treatment in case of medical interventions, among which, in vitro fertilization focused treatment (IVF) enjoys a reputation and more applications. In vitro fertilization (IVF) is a medical procedure in which a mature egg cell is taken from womenand is fertilized with man's sperm outside the body and the resulting embryo is implanted in the womb of the woman or another woman to continue the normal pregnancy. According to experts, women undergoing in vitro fertilization treatment are worried and often suffer from depression in cycles of treatment lead to failure(Bootle et al 1999; Karso, Dorothy and Greenfield, 2000; Boyuen and Talkfman, 1995). Reviewing several studies (for example, Beljushy and Singh, 2009; Nawabi Rigi et al., 2016) have shown that infertility is considered

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as a crisis with the potential to threaten the stability of individuals and has always been associated with a variety of psychological problems, such as anger, anxiety, stress, depression, obsession, decrease in sexual functionand eventually, disappointment(Siegel, Astinhaver, Friedman, Thompson and Zase, 2011; Smith, Minhajudun and Jarrett, 2015).

Psychological therapies in the field of infertility treatments can also be considered as a complement to physiological treatments for infertility, in addition to psychological treatments and lack of efficiency in some cases;

Therefore, positive psychology and health psychology has a strong emphasis on increasing happiness, health and scientific study on the role of personal strengths and positive factors in health promotion in recent decades and happiness, hope and creativity constitute the main themes of positive psychology. Hope therapy is among the psychological therapies which considered the capabilities and capacities of human rather than focusing solely on his weaknesses, based on positive psychology approach. Hope for the future and life havedifferent impacts for people; that shows progress or stagnation of society at highest level(Schneider, 1994). Hope or goal-oriented thinking consists of two interrelated components, namely the ways of thinking and thinking sourcesand goals can be reached through a combination of sources and routes; achieve goalsis impossible if any of these two cognitive elements do not exist (Lopez, Schneider and Pedorothy, 2003). The concept of psychological well-being is one of the important concepts of positive psychology field that has the potential to be accompanied with hope. Accordingly, positive psychology are planning to redirect mental health, shift from human lacks to their assets; and give more importance to the issue of welfare. Reef (1995) considers the psychological well-being as striving for perfection in order to achieve the true potential of the individual. Psychological well-being means trying to transcend and upgrade in this perspective which is manifested in the realization of one's talents and abilities. Psychological well-being is the psychological component of quality of life andreflected the positive mood and vitality. Also, specialists are trying to use man's spiritual dimensions in the healing process by changing intervene process on the basis of human temperament. Therefore, spiritual health is one of the human health dimensions, which takes place in the physical, mental and social dimensions and promote public health and also coordinate the other dimentions of health and in this way enhances the compatibility and mental function. One dimention of our growth as humans is to grow in the spiritual realm. There is a great power in faith in God that gives spiritual power to a religious man and helps him to endure the hardships of life. This power prevents the person from worry, anxiety, and thus undesirable consequences such as suicide (Marcus and Marietta, 2013).

Bronk, Hill, Kapsly, Talib and Fanich (2009) examined the relationship between the purpose, hope and life satisfaction in a study. The results showed that identifying golas in life increases satisfaction with life and hope. Baljany, Kheshabi, Amanpour and Azimi (2011) examined the relationship between spiritual health, religion and hope in cancer patients in a study. The results of their study showed thatthere was a significant relationship between existential well-being and religious health (spiritual health subtypes) as well as between intrinsic religiosity and religious practices (of religion subgroups) with hope. Ghahremani and Nadi(2012) conducted a study entitled relationship between religious - spiritual components and mental health and hope for the future in staff of Shiraz public hospitals. The results showed that there is a significant relationship between existentialwell-being components with hope for the future, worship motivation and coping with hope for the future and mental health with hope for the future. All the spiritual-religious componentswere also significantly correlated with mental health. The results of Almasi et al. (2015) showed a significant difference as compared with the spiritual well-being and quality of life in fertile and infertile women, in mean scores of two groups of fertile and infertile women, in both religious and existential health. So that infertile women hadlower existential and religious health than fertile women. Also, other results of this study show thatthe average scores among infertile women were less than fertile women in existential health dimension. After Hematopoietic Stem Cell Transplantation, the results of Andrefski et al (2015) entitled as relationship between spiritual health and a long-term quality of life showed that spiritual health plays an important role in the mental dimention of quality of life in infertile women and psychological problems in infertile women decreases with increasing Spiritual health in community.

PSYCHOLOGICAL WELL-BEING

The World Health Organization considers psychological well-being as the ability to change and modify their social environment and proper and rational solving of emotional conflicts and their personal interests. In other words mental health is special state of mind which improves the growth and perfection of the human personality and helps the person to be consistent with themselves and others. The main purpose of psychological well-being is to help all people and achieving a fuller, happier, more harmoniouslife, widespread recognition, prevention of mood-emotional and behavioral disorders (Pouzesh, 2012).

Reef and Keys (1995) consider psychological well-being as "striving for perfection in order to realize the true potential capabilities of individual". Psychological well-being in this perspective, manifested in an effort to promote individual talents and abilities.

Reef Model

Reef and Singer (1998) have conceptualized and operationalized a multidimensional model of psychological health. Mental health have positive performance importance in this pattern which consists of various elements, such as:

1. Autonomy (sense of competence and ability in managing one's environment, etc.), 2. personal growth) (having a steady growth, etc.), 3. Positive relations with others (having warm relations, etc.) 4. Purpose in life (having a purpose in life) 5. Self-acceptance (having a positive attitude towards themselves and others) 6. Dominate the environment (ability to select and creation).

SPIRITUAL HEALTH

Spiritual health is one of the dimentions of human health along with physical, mental and social dimensions and promote public health and also coordinates other aspects of health and thereby increases the compatibility and mental function(Hosseini et al., 2014). Spiritual health has two dimensions of religious and existential health (Dehshiri et al., 2009). Spiritual health is important because it is an important componentrelated to health and quality of life (Johnson et al., 2011). Religious well-being leads us to God, while the existential well-being dimentionleads us beyond ourselves and towards others and the environment. Miller (1995) has defined the spiritual health as the basic and intrinsic quality of human that includes believing in something greater than self and believe that it certainlyapproves and confirmes life. In other words, spiritual health is defined as a sense of well being that comes from spiritual attitude and determination.

STATISTICAL POPULATION

The study sample comprised all infertile women undergoing IVF treatment reffered to Tabriz city Alzahra Hospital and Milad Clinic in 2016 that was the number of 760 according to statistics obtained from officials.

Statistical Sample and Sampling Method

A number of 260 infertile women undergoing IVF were considered as subjects for this study, according to the statistical population of the present study, using Morgan and Kerjecie tables. The convenience sampling method was used to choose an statistical population; With regard

to the fact that access to all the women in the study was not possible; A number of 260 were selected with this method, during the two days of the referral, from the women who had been referred for treatment of their infertility (using IVF).

MEASUREMENT TOOLS

Miller Hope Questionnaire

Miller hopes questionnaire was built in 1988 by Miller and Powers and considered as the best tools to measure hope. The initial questionnaire has 40 questions, which later rose to 48 questions. This questionnaire is scored on a Likert scale from strongly disagree (score 1) to strongly agree (score 5). A minimum score of each person is 48 and its maximum is 240 and the more the person get score, he has more hope. The reliability of this tool was calculated using Cronbach's alpha, 0.89, in the present study.

Reef Psychological Well-being Scale

This scale was designed and built in 1980 by Reef. The original form had 120 questions but shorter forms of 84, 54 and 18 questions were also suggested in subsequent studies. 84-question form of this scale was used in this study. Psychological well-being scale has six subscales of self-acceptance, positive relations with others, self-autonomy, purposeful life, personal growth and environment domination. Each element has 14 questions in 84-questions form that measures subjects' responses in 4-point Likert scale (from strongly disagree to strongly agree) and higher scores indicate greater psychological well-being in each of the six subscales. The reliability of this scale have been reported by Reef and Keys (1995), 0.83 to 0.91; Cronbach's alphawas obtained 0.87 for this tool to display reliability, in the current study.

Spiritual Health Questionnaire

This questionnaire was built in 1982 by Palotzin and Ellison and consists of 20 questions and two subscales. Test odd questions relates to religious health subscales and examines the individual's experience from satisfying relationship with God and even questions is related to existential health subscales which measures the sense of purposiveness. Responding to questions as 6-point Likert scale from strongly agree to totally disagree. The reliability of this tool was calculated using Cronbach's alpha for the total scale and spiritual well-being subscale and existential well-being, respectively, 0.90, 0.86 and 0.89, in the present study.

RESEARCH PLAN

The research is descriptive, correlative and in prediction method, considering the fact that the present study is to predict the amount of hope in infertile women undergoing IVF treatment based on psychological well-being and spiritual health. The explanation is that, the relationship between variables in correlation studies is analyzed on the basis of the research objective. The dependent variable is called criterion variable and the independent variable is called predictive variable in these studies, if the goal is to predict the dependent variable based on independent variables. Also, the distinction between correlative research with experimental research is thatindependent variables (predictive) can not be manipulated here (Sarmad, Bazargan and Hejazi, 2015). Hope was the criterion variable and psychological well-being and spiritual health were the predictive variables.

All three questionnaires were administered simultaneously on women treated with IVF, considering the nature of the present correlative study.

DATA ANALYSIS METHOD

Descriptive section contains descriptive statistics such as frequencies, percentages, mean, standard deviations and chartsand Pearson correlation coefficient for analyzing first and second hypothesis and multiple regression for analyzing the third hypothesis were used in the inferential part. It should be noted that data analysis was performed using SPSS software version 21.

DESCRIPTIVE FINDINGS

Mean and Standard Deviation of the Study Variables

Table 1 shows the mean and standard deviation of psychological well-being dimensions in the total sample.

Purposeful life component had the highest mean (53.79) and self-autonomy component had the lowest average (49.12) of the study participants, considering the results obtained.

The Mean and standard deviation of spiritual health of the participants is shown in Table 2.

The religious health dimension had the highest mean (28.58) and existential health had the lowest mean (27.23) in the total sample, considering the results obtained in this table.

The mean scores of hope in infertile women undergoing IVF treatment is 122.4 and the standard deviation is 25.06, according to Table 3 contents.

Examine the Defaultnormality of Variables Distribution

Results of examining the defaultnormality of data using Kolmogorov-Smirnoff test is shown in Table 4.

Table 1: Mean and standard deviation of psychological well-being dimensions in the total sample

Psychological well-being diminsions	Mean	Standard deviation
Self acceptance	49.92	8.198
Positive relations with others	52.80	8.816
Self autonomy	49.12	8.346
Environment domination	51.25	9.758
Purposeful life	53.79	11.502
Personal growth	52.49	10.496

Table 2: Mean and standard deviation of spiritual health in the total sample

Spiritual health diminsions	Mean	Standard deviation
Religious health	28.58	5.77
Existential health	27.23	6.61

Table 3: Mean and standard deviation of hope in the total sample

Number	Mean	Standard deviation
260	122.4	25.06

Table 4: Kolmogorov - Smirnoff tests to evaluate the normality of data distribution

Variables	Kolmogorov-Smirnoff	Significance level
Self acceptance	1.13	0.08
Positive relations with others	1.32	0.23
Self autonomy	1.07	0.187
Environment domination	1.21	0.072
Purposeful life	0.92	0.25
Personal growth	1.03	0.196
Religious health	1.25	0.085
Existential health	1.03	0.239
Норе	0.89	0.399

Distribution of data obtained from study variables is normal based on results and does not have a significant difference with normal distribution, therefore default normality is established. Thus Pearson correlation coefficient and regression tests can be used for data analysis.

RESEARCH HYPOTHESES TEST

The First Hypothesis Test

There is a relationship between psychological well-being and hope in infertile women undergoing IVF treatment.

Pearson correlation test was used to analyze the first hypothesis and the results are presented in Table 5.

There is a significant positive relationship between the components of self-acceptance and hope in infertile women undergoing IVF treatment (p=0.05) r=0.148, between the components of positive relations with others and hope (p=0.01) r=0.266, between the components of self-autonomy hope (p=0.01) r=0.288, between the components of environment domination and hope (p=0.01) r=0.396, between the components of purposeful life and hope (p=0.01) r=0.335, between the components of personal growth and hope (p=0.01) r=0.387, accounding to Table 5 contents. In other words, the amount of scores of hope in women treated with IVF increases with increasing scores of the components of psychological well-being. The first hypothesis is accepted on the basis of statistical information obtained.

Second Hypothesis Test

There is a relationship between spiritual health and hope in infertile women undergoing IVF treatment. Pearson correlation test was also used to analyze the second hypothesis, and the results have been presented in Table 6.

There is a significant positive relationship between religious health dimension and hope (p=0.01) r=0.488, between existential health and hope infertile women undergoing IVF treatment(p=0.05) r=0.398, accounding to Table 5 contents. This means that the spiritual health of infertile women undergoing IVF increases with hope. According to the statistical obtained data, the second hypothesis is also accepted.

Table 5: Results of Pearson's correlation analysis between psychological well-being and hope in infertile women undergoing IVF

Row	Variable	1	2	3	4	5	6	7
1	Self-acceptance	1						
2	Positive relations with others	0.528	1					
3	Self-autonomy	0.376	0.461	1				
4	Environment domination	0.403	0.402	0.567	1			
5	Purposeful life	0.371	0.482	0.512	0.570	1		
6	Personal growth	0.365	0.46	0.519	0.623	0.538	1	
7	Норе	0.148	0.266	0.288	0.396	0.335	0.387	1

Table 6: Correlation between spiritual health and hope in infertile women undergoing IVF treatment

Variable	Religious health	Existential health	Hope
Religious health	1		
Existential health	0.65	1	
Норе	0.488	0.398	1

Third Hypothesis Test

Psychological well-being and spiritual health can predict hope in infertile women undergoing IVF treatment.

Variables of components of psychological well-being and spiritual health were entered into the analysis as predictive variable and hope as criterion variable in the regression equation to determine the predictive power of hope in infertile women undergoing IVF based on psychological well-being and spiritual health.

Predictors: components of psychological well-being and spiritual health

Criterion variable: Hope

About 51% of the variance relates to hope explained by components of psychological well-being and spiritual health, as it can be seen in Table 7.

The amount of F (F=40.578) at the level of 0.001 is significant based on the results of Table 8, this represents the significant amount of regression (R) obtained. Also significant amount of F represents the linear relationship between predictor and criterion variables.

Self-acceptance component with impact coefficient (β =0.134),considering the results obtained from Table 9 and given the significant t statistic with 95% certainety can significantly predict changes of hope. Also, positive relations with others component with impact factor of (β =0.29), self-autonomy with impact factor of (β =0.119), Envirnment domination with impact factor of (β =0.304), purposfull life with impact factor of (β =0.352), personal growth with impact factor of (β =0.118) have the ability to

Table 7: The results of simultaneous regression and psychological well-being determination coefficient and spiritual health on hope

Model	Value of regression R	Coefficient of determination (R²)		Standard error of estimate
1	0.728	0.53	0.517	12.45

Table 8: Psychological well-being simultaneous regression analysis of variance results and spiritual health on hope

Model	Sum of squares	Degrees of freedom	The mean of squares	Value of F	The significance level
Regression	44056.769	7	6293.824	40.578	0.001
Residual	39086.535	252	155.105		
Total	83143.304	259			

Table 9: Analysis regression coefficients of the psychological well-being impact and spiritual health on hope

Source of changes	B nonstandard coefficients	Standard error	Beta standardized coefficients	Value of t	The level of significance
Constant value	7.199	7.513	-	0.958	0.339
Self-acceptance	1.117	0.532	0.134	2.099	0.037
Positive relations with others	1.800	0.379	0.290	4.750	0.001
Self-autonomy	0.743	0.278	0.119	2.671	0.008
Environment domination	1.575	0.263	0.304	5.980	0.000
Purposeful life	2.211	0.328	0.352	6.748	0.000
Personal growth	0.765	0.356	0.118	2.153	0.032
Religious health	1.072	0.180	0.232	5.959	0.001
Existential health	1.337	0.265	0.221	5.053	0.001

significantly anticipate changes related to hope; considering the significant t statistic with 95% certainety.

Religious health with impact factor of $(\beta=0.232)$ and existential health with impact factor of $(\beta=0.221)$, based on Table 9 contents can also predict changes of hope significantly, due to the significant t statistic with 95% certainety; Accordingly, it can be deduced psychological well-being and spiritual health can predict hope for infertile women undergoing IVF treatment; Therefore, the third hypothesis is accepted on the basis of statistical information obtained.

CONCLUSION

The results of data analysis showed that there was a significant positive relationship between all components of psychological well-being and hope in infertile women undergoing IVF treatment Therefore people who have higher psychological well-beinghave more compatibility with problems. On the other hand, the person will enjoy better mental health and more hope as he is less exposed to mental and emotional disturbances.

According to the results of data analysis it was observed that there was a significant positive relationship between spiritual health and existential health and hope in infertile women undergoing IVF treatment. Spiritual health makes the person having an integrated identity, satisfaction, joy, love, respect, positive attitudes, inner peace and purpose and direction in life. In other words, spirituality and religion has been a shield against difficulties and problems of people and acts as a buffer, and promote people's mental health and hope.

And it was also observed that all the factors examined, have the ability to predict hope in infertile women treated with IVF. Meanwhile, the purposeful life component was the strongest predictorby 35% and personal growth and self-autonomy was the weakest predictor of hopeby 11 percent in infertile women undergoing IVF.

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