The effect of positive psychology intervention on quality of life among women with unintended pregnancy

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Abstract:

BACKGROUND: Studies have shown that quality of life in women with unintended pregnancy is significantly less than the ones with wanted gestation. Therefore, this study was aimed to determine the effect of intervention based on the positive psychology interventions on women’s QoL with unintended pregnancies in Kermanshah, Iran.

MATERIALS AND METHODS: In this randomized clinical trial, 40 women with unintended pregnancy met the eligibility criteria and were randomized into experimental (n = 20) or control (n = 20) groups. The Short‑form 36‑item Questionnaire (SF‑36) was administered at pretest, post‑test, and six weeks after the intervention. Positive psychology interventions were performed in each session once a week for 10 weeks, with a duration of 90 minutes. The Friedman test and Mann–Whitney U‑test were used to analyze QoL and all eight domains for within‑group and between‑group comparisons, respectively. The level of confidence was set at 0.05 significant.

RESULTS: Distribution of matched variables was not significantly different between the two trial groups. Over the intervention period, the mean of total scores of QoL and seven dimensions showed significant improvement among the experimental group, whereas in the control group, it decreased significantly (P < 0.05). In addition, in the posttest and follow‑up stages, the mean score of six dimensions of QoL was higher than the control group (P < 0.05).

CONCLUSION: According to the results of the present study, unintended pregnancy has side effects on QoL in women. Positive counseling interventions can improve the quality of life in women with unintended pregnancy.

Keywords:
36‑Item Short Form Survey, life quality, positive psychology, randomized, unintended pregnancy

Introduction

Childbearing is an important phenomenon in demographic change and the axis of sustainable development, particularly in countries with low replacement level fertility.[1] In such countries, including the Islamic Republic of Iran (with a fertility rate of 1.9), fertility behavior is expected to occur based on prior intent and in accordance with rational decisions.[2,3] Unintended pregnancies, defined as mistimed or unwanted pregnancies, are one of the serious facets of reproductive health.[4] Studies have shown that the average prevalence of unintended pregnancy in low-, middle-, and high-income countries is 35% ranging from 13% to 82%.[5] In Iran, about one-third of pregnancies are unintended, and it seems to be higher in some provinces, including Kermanshah.[6,7]

It is well known that such pregnancies have adverse effects on socioeconomic development and promoting public health[8,9] and can provide difficulties and complications for both mother and
child such as unsafe abortion, premature delivery, low birth weight, infant mortality, less care and attention, and the possibility of not breastfeeding.[8,10] If unintended pregnancies continue, there is a risk of complications such as delayed prenatal care and fewer visits, decreased health-related lifestyle behaviors, and psychological distress. For example, there is a significant association between unintended pregnancy with maternal depression, anxiety, and low mental health-related quality of life (QoL).[8,10]

The World Health Organization has a broad definition of health that includes complete physical, mental, and social well-being, and not just the absence of disease. Therefore, in measuring health and evaluating health interventions, in addition to the frequency and severity indices of the disease, it is necessary to pay attention to other human values such as QoL.[11] Today, women’s care in developed countries includes comprehensive goals such as supporting, encouraging psychological adaptation, and acceptance of pregnancy, which reflects the concept of QoL.[12-14] It is authenticated that QoL is more than health status or functional ability. It can be defined as “an overall general well-being that comprises objective descriptors and subjective evaluations of physical, material, social, and emotional well-being together with the extent of personal development and purposeful activity, all weighted by a personal set of values.”[13]

Studies have shown that QoL is lower in unwanted pregnancies compared with wanted pregnancies.[16,17] There are several approaches to improving the QoL among pregnant women, such as hardiness training, Mindfulness training, resistance training, yoga, and positive psychology counseling.[18-22] Positive psychology is one of the recent methods to improve the QoL in various target groups.[23-25] This approach was first introduced by Martin Seligman (1998). He claimed that there are five fundamental elements of well-being: positive emotion, engagement, relationships, meaning, and accomplishment.[26]

In this approach, purposeful activities are designed to promote emotions and cognitions and perform healthy behaviors,[27,28] and by forming positive emotions, it reduces the negative interpretation of life events and improves people’s QoL.[22,29] Hence, increased attention to the use of positive psychology interventions has the potential to provide more effective health care than expected.[29] The aim of this study was to determine the effect of educational intervention based on positive psychology on the QoL of women with unwanted pregnancies.

Materials and Methods

Participants and procedure

The study was a randomized controlled trial. The Medical Ethics Committee of the Kermanshah University of Medical Sciences (KUMS) (KUMS. REC.1395.717) and the Iranian Registry of Clinical Trial (IRCT) (IRCT2017030714333N70) approved the research. Women with unintended pregnancy who were enrolled at eight academic centers affiliated with KUMS conducted from April to June 2017 entered the study. Following recruitment, subjects were requested to complete the consent form. Forty women who met eligibility criteria entered the study by a convince sampling method and were randomized into two groups including experimental (n = 20) and control (n = 20). Based on the minimum effect size, the sample size is (f = 0.25) found in the previous trial,[30] 20 subjects in each group with an α of 0.05 and a power of 0.80 selected.

Inclusion criteria for the study included unintended pregnancy from the perspective of woman, gestational age less than twenty weeks, marriage, lack of infertility, lack of diagnosed physical and mental illness, lack of addiction or substance use of illicit drugs, having ≥5 years of education, and consent to participate in the study. Having more than 20% absence in the training sessions, and termination of pregnancy during the research also were considered as exclusion criteria.

Instruments

The following tools were used for data collection:

1. A demographic inventory assessed age, level of the women and the spouse’s education and job, age of pregnancy, the number of children, type of unintended pregnancy, interval from previous pregnancy, spouse’s desire to pregnancy, and a history of contraception use. In the present study, five experts were chosen from related professions to estimate the content validity of the demographic inventory.

2. 36-Item Short Form Survey (SF-36) to evaluate the QoL, designed in 1992 by Ware and Sherbourne.[31] The purpose of this questionnaire is to assess the physical and mental condition of the participants, which is evaluated in eight structures including physical functioning, bodily pain, role limitations due to physical health problems, role limitations due to emotional problems, mental health, social functioning, vitality, and general health perceptions. The lowest and highest possible scores for each dimension are zero and 100, respectively. In Iran, the validity of the questionnaire was investigated using the method of “Comparison of known groups” and “convergent validity” and the reliability of the questionnaire was assessed using statistical analysis of “internal consistency” in the study of Montazeri and colleagues. Cronbach’s alpha of this questionnaire for the Iranian community was calculated to be 0.77-0.90.[32] In our study, all eight domains of the SF-36 showed good internal reliability, with Cronbach’s alphas ranging from 0.71 to 0.90.
All of the participants completed the questionnaires three times: pretest, posttest, and follow-up. The pretest was conducted before the intervention based on positive psychology, posttest at the end of the last session of the intervention, and follow-up 42 days after the end of the last session (16 week after baseline measurement). All participants were Persian speaking.

**Intervention**
In this study, participants in the experimental group in addition to routine pregnancy care received 10 weekly sessions each 90 minutes based on a positive psychology approach. However, the control group received only routine care during pregnancy by staff at health care centers.

The positive psychology intervention introduced in this paper is a 10-week group-based program. This is the result of the past researches that was applied in this area.\(^{[22]}\) Each of the 10 weeks focused on a different theme. These items are consistent with the standard approach of positive psychological intervention. A written statement of the interventions and weekly exercise was also provided by a team of researchers, who are the authors. The weekly outline and exercises are summarized in Table 1.

**Strengths of the study**
There was some considerable strength in this study. At first, throughout the process of conducting the research, strict rules were followed. For example, in this study, a well-experienced psychologist monitor the interventions and used a standard operating procedure.\(^{[26]}\) Furthermore, the follow-up period was relatively long (16 weeks after baseline measurement). Third, a written statement of the interventions and weekly exercise was also provided by a team of researchers. Furthermore, two experimental and control groups were adjusted for demographic variables such as age, educational status, number of children, and contraceptive method before recent pregnancy. At last, another strength of this study was the careful validation of the use of scales.

**Statistical methods**
Data were analyzed using SPSS 22 (version 22.0, SPSS Inc., Chicago, IL, USA). To test the normal distribution of continuous data, the Shapiro–Wilk test was used \((P < 0.05)\). Demographic variables between two experimental and control groups were analyzed by Student’s t-test for parametric data and Mann–Whitney U-test for non-parametric data. Categorical data were analyzed by Chi-square or Fisher’s exact test in instances where appropriate. The Friedman test and Mann–Whitney U-test were used to analyze the non-parametric statistics continuous variables (QoL and all eight domains) for within-group and between-group comparisons, respectively. The level of confidence was ≥95 \((\alpha = 0.05)\).

**Results**
In this study, 40 unintended pregnant women participated in two groups of experimental and control, each consisting of 20 participants. The mean age of all participants in both intervention and control groups was 29.92 ± 8.26 years and ranged from 17 to 44 years. The mean gestational age was 13.9 ± 3.35 weeks; ranged from 8 to 20 weeks. Furthermore, the mean interval from the previous pregnancy was 2.52 ± 2.41 years, ranged from 2 to 12 years. The findings showed that the two groups of experimental and control in terms of age, gestational age, interval from previous pregnancy, and monthly income statistics were not significantly different \((P > 0.05)\).

As shown in Table two, 75% of participants were housewives, 25% had academic degrees, and 77.5% had ≥3 children. Among all participants, 72.5% of women’s husband was reluctant to continue the current pregnancy. Table 2 provides detailed information and a comparison of the demographic status of the two groups in terms of the similarity of the variables.

The results of Fisher’s exact test showed that the two groups did not significantly differ in terms of job and the number of children \((P > 0.05)\). The results of the Chi-square test also showed a similarity between the variables of education, the spouse’s desire for the current pregnancy and contraception method before recent pregnancy in the two groups of intervention and control \((P > 0.05)\).

As shown in Table 3, the results of the Friedman test showed a significant increase in mean score of QoL before and after the intervention among women in the experimental group \((P < 0.01)\). However, the analysis of data showed a significant decrease in the mean score of the QoL in the control group \((P < 0.05)\).

Also in the experimental group, the results showed a significant increase in the mean scores of the seven dimensions of QoL, including General health perceptions, Physical functioning, Role limitations due to physical health problems, Role limitations due to emotional problems, bodily pain, social functioning, and Vitality (Energy/Fatigue) with 95% confidence after intervention \((P < 0.05)\).

But in the control group, the mean score of two dimensions, including General health perceptions, and Role limitations due to physical health problems significantly decreased from baseline \((P < 0.05)\), and the differences found in other dimensions were not statistically significant \((P > 0.05)\).

The results of The Mann–Whitney U-test showed that there was no significant difference between the mean
score of QoL in the experimental and control groups in the pretest stage ($P = 0.385$); however, in the time immediately after the last session of intervention and 42 days after the intervention, a significant difference was observed in the mean score of QoL in the two groups ($P < 0.01$), [Table 3]. Also, there was no significant difference in the two groups between the mean of all eight dimensions of QoL in the pretest stage ($P > 0.05$),
but after intervention it was different. The result are shown in Table 3.

### Discussion

The aim of this study was to determine the effect of positive psychology interventions on the Quality of life among women with unintended pregnancy. The results showed an improvement in the QoL scores in the experimental group compared to control, which indicates the effectiveness of interventions based on positive psychology. In addition, this improvement remained stable for at least 42 days after the intervention.

The results of the similar studies conducted by other researchers also confirm this finding. For example, Casellas-Grau et al. (2014) showed that interventions based on positive psychology can lead to improved QoL, well-being, hope, and optimism. Mostafaei et al., confirmed the effectiveness of this approach on the QoL of pregnant women. In contrast, a study of Seyedi-Asl and colleagues showed that psychotherapy intervention...
based on the positive psychology approach in infertile women, despite increasing life satisfaction, does not significantly change the QoL of women.\cite{34} However, in the mentioned study, the instrument used to measure the QoL was the SF-12 questionnaire (a short form of SF-36 questionnaire). This tool does not examine all the dimensions of QoL and may not be appropriate for evaluating the effectiveness of interventions on aspects of the QoL, while in the present study we used the SF-36 questionnaire to measure QoL.

Between-group analysis indicated that the mean of Physical functioning sub-scale in each of the two groups in the post-test and follow-up stages did not differ significantly from the pre-test. However, within-group comparisons showed that the mean level of Physical functioning sub-scale improved significantly in the experimental group over time, but decreased in the control group.

In the evaluations immediately after the intervention and 42 days later, the QoL in the control group had a significant decreasing trend ($P = 0.026$). The results of other studies also indicated the adverse effect of increased gestational age on various aspects of women’s QoL.\cite{22,34,35} Rezaei et al. found that the QoL of pregnant women decreased as their sleep patterns were disrupted.\cite{35} Munch et al. also reported that nausea and vomiting during pregnancy is a factor in reducing the QoL in pregnant women.\cite{35} A study by Tendais et al. showed a reduction in the physical dimensions of the QoL in pregnant women; however, they noted a significant increase in the psychological dimension of QoL along with the increased gestational age, while both physical and mental dimensions of QoL in the control group of the present study decreased during the follow-up stage.\cite{37}

The unintended nature of pregnancy may be considered a factor in reducing the QoL in the psychological dimension of the control group in the present study. In fact, the adverse effect of unintended pregnancy is a reason for the significant decrease in the mean scores of quality of life of dimensions in the control group. Consistent with the present study, some studies have found that the QoL of pregnant women is affected by the pregnancy intention. Gariepy et al. (2017) found that women who experienced any type of unexpected, unintended, or unplanned pregnancy had a lower QoL compared to those that had an expected, desired, and a planned pregnancy.\cite{12} Ali (2016) showed that the QoL of women with unintended pregnancy at all scales of the SF-36 questionnaire was lower than the QoL of women with intentional and planned pregnancies. In addition, the low scores in the mental dimensions (9 times) and especially fatigue or vitality was observed in the group of women with unintended pregnancies compared to the group with planned pregnancies.\cite{17}

Several explanations can be presented to explain how the positive psychology approach affects the QoL. Simultaneously, with the combination of positive psychology and QoL, researches require the conceptualization of each. A fundamental question that arises at this stage is how positive psychology relates to QoL. One of the proposed methods of this approach is based on the Seligman’s PERMA Model to achieve mental well-being as well as assessing and addressing people’s strengths.\cite{38} Seligman (2019) proposed a model consisting of five elements called PERMA model based on which psychological well-being was the result of five dimensions of positive emotions, engagement, relationships, meaning, and accomplishments,\cite{20} and each of the pillars proposed by Seligman is a kind of focus for research on QoL.\cite{26}

Since the international definition of QoL in recent years has been consistent with the new definition of subjective well-being derived from expert panel studies,\cite{15} Seligman’s model can be considered as a path of influencing the positive psychology on improving QoL. In fact, positive psychological interventions, through helping people to achieve and equip themselves with PERMA components, lead to increased self-actualization, happiness, and improved QoL.\cite{26,39}

In addition, the structures of a positive psychology approach play their roles in improving the QoL and well-being by focusing on promoting one’s strengths (as key aspects of positive psychology).\cite{26,38,40} Efforts to form and promote one’s strengths can lead to experiences of positive emotions, engagement, positive relationships, meaning, and accomplishments, and thereby promoting well-being and QoL.\cite{38,41} People who use their strengths, experience higher level of mental well-being, and this increase in mental well-being is related to the physical and psychological dimensions of QoL.\cite{40} Gander et al. found that interventions based on Seligman’s theory of well-being (positive emotions, engagement, positive relationships, meaning, and accomplishment) are effective strategies for increasing well-being and improving depressive symptoms.\cite{42} Louro et al. confirmed the association between positive emotions and dimensions of QoL (including general health, social functioning, and well-being) in patients with colorectal cancer.\cite{43} A study by Damásio (2013) also found that meaning in life was a strong predictor of psychological well-being and QoL, and that both variables had a significant correlation with meaning in life, which is consistent with the results of the present study.\cite{44}
the effectiveness of strength-based interventions in improving QoL and well-being are also considered to be consistent with current research.\textsuperscript{[24,45]}

\section*{Conclusion}

According to the results of the present study, unintended pregnancy has side effects on QoL in women. The positive psychological interventions can improve the QoL in these subjects. Hence, it is recommended to integrate this approach with the routine care during pregnancy. Longer follow-up studies will be necessary in the future, in order to assess the long-term effects of positive psychological interventions.

\section*{Research suggestions}

Given to the special effects of physical and psychological conditions of pregnancy on QoL, which results in limited use of existing instruments for measuring QoL, it is recommended that a valid and reliable tool be designed, evaluated and used to assess the QoL of pregnant women. Furthermore, we suggest that future researches based on a positive psychology approach be designed and conducted as counseling processes and beyond merely educating individuals.

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\section*{Conflicts of interest}

There are no conflicts of interest.

\section*{References}

1. Vollset S, Goren E, Yuan C, Cao J, Smith A, Hsiao T, et al. Fertility, mortality, migration, and population scenarios for 195 countries and territories from 2017 to 2100: A forecasting analysis for the Global Burden of Disease Study. Lancet. 2020; 396 (10258):1285-1306.
2. Ciritel A-A, De Rose A, Arezzo MF. Childbearing intentions in a low fertility context: The case of Romania. Genus 2019;75 (1):4-9.
3. Kaboudi M, Karim H, Ramezankhani A, Kaboudi B, Manouchehri H, Hajizadeh E. A survey on fertility trend of the women born in Kermanshah in 1956-95. J Clin Res Paramed Sci 2015;3:286-93.
4. Everett BG, McCabe KF, Hughes TL. Sexual orientation disparities in mistimed and unwanted pregnancy among adult women. Pers Peope Health Promot 2017;49 (3):157-65.
5. Ali SA, Tikmani SS, Qidwai W. Prevalence and determinants of unintended Pregnancy: Systematic review. World Family Medicine Journal: Incorporating the Middle East J Fam Med 2016;99 (3671):1-10.
6. Moosazadeh M, Nekoei-moghadam M, Emrani Z, Amiresmali M. Prevalence of unintended pregnancy in Iran: A systematic review and meta-analysis. Int J Health Plann Manag 2014;29 (3):e277-e90.
7. Azizi A, Amirian F, Amirian M. Prevalence of unwanted pregnancy and its relationship with health-related quality of life for pregnant Women’s in Salas city, Kermanshah-Iran. 2007. Iran J Obs Gynecology Inferti 2011;14 (5):24-31.
8. Kaboudi M, Dehghan F, Ziapour A. The effect of acceptance and commitment therapy on the mental health of women patients with type II diabetes. Ann Trop Med Public Health 2017;10(6):1709.
9. Yazdkhasti M, Pourreza A, Pirak A, Abdi F. Unintended pregnancy and its adverse social and economic consequences on health system: A narrative review article. Iran J Public Health 2015;44 (1):12-21.
10. Khanghahi ME, Azar FE. Direct observation of procedural skills (DOPS) evaluation method: Systematic review of evidence. Med J Islamic Republic Iran 2018;32:45.
11. Organization WH, WHO Working on ethical, legal, human rights and social accountability implications of self-care interventions for sexual and reproductive health, 12-14 March 2018, Brocher Foundation, Hermance, Switzerland: Summary report. World Health Organization; 2018.
12. Gariepy A, Lundsberg LS, Vilardo N, Stanwood N, Yonkers K, Schwarz EB. Pregnancy context and women’s health-related quality of life. Contracept 2017;95 (5):491-9.
13. Lagadec N, Steinecker M, Kapassi A, Magnier AM, Chastang J, Robert S, et al. Factors influencing the quality of life of pregnant women: A systematic review. BMC Pregnancy Child 2018;18 (1):455-63.
14. Safari Y, Yoosefpour N, Darvishmotavalli M, Vasseghian Y, Karimyan K, Gupta VK, et al. The dataset on rural women’s awareness and attitudes about residential constructions in accordance with the health standards A case study of Gilan-e-Gharb, Iran. Data Brief 2018;20:715-22.
15. Karimi M, Brazier J, Health, health-related quality of life, and quality of life: What is the difference? Pharmacoeconom 2016;34 (7):645-9.
16. Rezapour A, Azar FE, Aghdash SA, Shokouh SM, Yousefzadeh N, et al. Measuring equity in household’s health care payments (Tehran-Iran 2013): Technical points for health policy decision makers. Med J Islamic Republic Iran 2015;29:246.
17. Ali A. Relationship between unwanted pregnancy and health-related quality of life in pregnant women. J College Physic Surg—Pakistan 2016;26 (6):507-16.
18. Maryam GA, Shohre GS, Javad K. Effectiveness of hardiness training on anxiety and quality of life of pregnant women. Proc-Soc Behav Sci 2013;84:1785-9.
19. Yazdanimehr R, Omidi A, Akbari H, Sadat Z. Mindfulness training and quality of life among pregnant women: A randomized clinical trial. Nurs Mid Stud 2017;6 (2):e32570.
20. O’Connor PJ, Poudavigne MS, Johnson KE, de Araujo JB, Ward-Ritacco CL. Effects of resistance training on fatigue-related domains of quality of life and mood during pregnancy: A randomized trial in pregnant women with back pain. Psychosomat Med 2018;80 (3):327-35.
21. Rakhshani A, Maharana S, Raghuram N, Nagendra HR, Venkatram P. Effects of integrated yoga on quality of life and domains of quality of life among pregnant women: A systematic review. Journal of Integrative Medicine 2017;15 (1):1-10.
22. Mostafaie M, Khooshehchin TE, Dadashy M, Zanjani PM. Effect of hardiness training and quality of life among pregnant women: A randomized clinical trial. J Nurs Sci 2016;5:327-35.
24. Taebi M, Simbar M, Abdolahian S. Psychological empowerment strategies in infertile women: A systematic review. J Educ Health Promot 2018;7:68-75.
25. Mohamadi J, Ghazanfari F, Drikvand FM. Comparison of the effect of dialectical behavior therapy, mindfulness based cognitive therapy and positive psychotherapy on perceived stress and quality of life in patients with irritable bowel syndrome: A pilot randomized controlled trial. Psychiatric Q 2019;90 (3):565-78.
26. Seligman ME. Positive psychology: A personal history. Ann Rev Clin Psychology 2019;15:1-23.
27. Lianov LS, Fredrickson BL, Barron C, Krishnaswami J, Wallace A. Positive psychology in lifestyle medicine and health care: Strategies for implementation. Am J Lifestyle Med 2019;13 (5):480-6.
28. Bandura A. A social cognitive perspective on positive psychology. Revista de Psicología Soc 2011;26 (1):7-20.
29. Lianov LS, Fredrickson BL, Barron C, Krishnaswami J, Wallace A. Positive psychology in lifestyle medicine and health care: Strategies for implementation. Am J Lifestyle Med 2019;13 (5):480-6.
30. Ashrafi z, Ebrahimi H, Sarafha J. The relationship between hemodialysis adequacy and quality of life and spiritual wellbeing in hemodialysis patients. J Clin Nurs Mid 2014;3:44-51.
31. Ware Jr JE, Sherbourne CD. The MOS 36-item short-form health survey (SF-36): I. Conceptual framework and item selection. Med Care 1992;30:473-83.
32. Montazeri A, Goshtasebi A, Vahdaninia M, Gandek B. The Short Form Health Survey (SF-36): I. Conceptual framework and item selection. Med Care 1992;30:473-83.
33. Casellas-Grau A, Font A, Vives J. Positive psychology interventions in breast cancer. A systematic review. Psychol Oncology 2014;23 (1):9-19.
34. Seyedi AST, Sadeghi K, Bakhtiari M, Ahmadi SM, Anamagh AN, Khayatan T. Effect of group positive psychotherapy on improvement of life satisfaction and the quality of life in infertile women. Int J Fert Sterility 2016;10 (1):105.
35. Munch S, Korst L, Hernandez G, Romero R, Goodwin T. Health-related quality of life in women with nausea and vomiting of pregnancy: The importance of psychosocial context. J Perinatolology 2011;31 (1):10-20.
36. Rezaei E, Moghadam ZB, Saraylu K. Quality of life in pregnant women with sleep disorder. J Fam Reproduct Health 2013;7 (2):87-93.
37. Tendais I, Figueiredo B, Mota J, Conde A. Physical activity, health-related quality of life and depression during pregnancy. Cadernos de Saúde Publica 2011;27 (2):219-28.
38. Park CL. Integrating positive psychology into health-related quality of life research. Q Life Res 2015;24 (7):1645-51.
39. Seligman ME. Authentic happiness: Using the new positive psychology to realize your potential for lasting fulfillment: Simon and Schuster; 2004.
40. Rezapour A, Ebadifard Azar F, Azami Aghdash S, Tanoomand A, Ahmadzadeh N, Sarabi Asilbar A. Inequity in household’s capacity to pay and health payments in Tehran-Iran-2013. Med J Islam Repub Iran 2015;29:245.
41. Proctor C, Maltby J, Linley PA. Strengths use as a predictor of well-being and health-related quality of life. J Happin Stud 2011;12 (1):153-69.
42. Gander F, Poyer RT, Ruch W. Positive psychology interventions addressing pleasure, engagement, meaning, positive relationships, and accomplishment increase well-being and ameliorate depressive symptoms: A randomized, placebo-controlled online study. Frontiers Psychology 2016;7:686-95.
43. Louro AC, Fernández-Castro J, Blasco T. Is there a relationship between positive affect and quality of life in colorectal cancer patients? An de Psic/Ann Psychology 2015;31 (2):404-13.
44. Damásio BF, de Melo RLP, da Silva JP. Meaning in life, psychological well-being and quality of life in teachers. Paidéia 2013;23 (54):73-82.
45. Trapp SK, Perrin PB, Aggarwal R, Peralta SV, Stolfi ME, Morelli E, et al. Personal strengths and health related quality of life in dementia caregivers from Latin America. Behav Neurology 2015;2015:15-24.