The Effect of Social Capital Enhancement on Quality of Life, Treatment Compliance and Pain in Patients with Breast Cancer

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Abstract

Background: Nowadays, research about quality of life in breast cancer patients is so important, because of progress in treatment procedure in health science. Breast cancer influences quality of life aspects and disrupts social relationships. This creates recluse lifestyle and speeds up disease trend.

Objectives: The aim of this study was to investigate the effect(s) of social capital on quality of life, treatment compliance, and pain in patients with breast cancer.

Materials and Methods: In a clinical trial, 29 patients with breast cancer (who referred to Kashany hospital in Shahrekord during 2010-2012) through non-probability (available) sampling were selected and randomly divided into two groups. The intervention group received some interventions to promote social capital and the non-intervention group took routine treatment.

Results: Before the intervention, both groups were similar in terms of the study variables. But after the intervention, in the intervention group social capital, Qol and treatment compliance increased and in the non-intervention group, these variables decreased. Pain in both groups was reduced, but this reduction was more noticeable in the intervention group.

Conclusions: Increasing the social capital results in promoting Qol, health behaviors, treatment compliance and pain relief. Then methods of promoting social capital can be used as a way to improve Qol and treatment compliance and relieve pain.

Keywords: Breast Cancer, Pain, Quality of Life, Social Capital, Treatment Compliance

1. Background

Cancer is one of the death causes all over the world (1). In developed countries, it is considered as the second cause of death after cardio-vascular diseases and as the third cause of death in developing countries (2). Breast cancer which stems from uncontrollable growth and malignant tumor of epithelial cells-lining ducts and lobes of breast tissue in women- is one of the most common cancers among women (3).

Increasing growth in breast cancer and its harmful effects on different physical, spiritual, social and economic dimensions result in more attention to this disease among people and scholarships in this century. So researchers have introduced it as a major health problem (4).

According to Pan American health organization (http://www.paho.org/hq), every year, more than 1.6 million new cases of breast cancer among women are recognized, that is about 10% of new cancer cases and 23% of all cancers in women. It is estimated that currently about 4.4 million of women who lived in the world over the past 5 years had been diagnosed with breast cancer (5).

The age specific incidence of breast cancer in the world is 38.9 per 100,000. This rate is 86.4 in the developed countries and 27.3 in developing countries (6). In Iran, the net incidence rate is 28.25 per 100,000 persons every year. Currently 30 million women live in Iran, so approximately 6000 new cases are diagnosed every year. Therefore, it is estimated that 0.1 women are affected with this type of cancer in this country (6).

Incidence and prevalence of breast cancer in Iranian women are 22 and 120 per 100,000 persons over 30 years old, respectively. The ASR of breast cancer is 28.25/100000 (http://yasalam.tums.ac.ir/). According to National cancer registration in 2009, breast cancer in women has the highest rate in all cancers (23.0%). Tehran (43.36), Esfahan (39.67), Yazd (38.52), Markazi (36.63), and Fars (36.17) are in the first to fifth places in ASR, respectively (6). According to researchers, patients in Iran are 10 years younger than other countries, so this indicates the importance of the investigation, diagnosis and control of this disease (7).

Traditionally, cancer diagnosis is considered as an early death and functional disability (8). But nowadays, with the modern medicine and facilities, this disease is considered a chronic disease in more than half of the cases (9). This may take a long time; therefore, it needs different treat-
The subjective nature of Qol deals with the perception of the severity of illness and understanding of the benefits of treatment. Observance is on a continuum whose one end is acceptance and the other is refusal. In general, consequence of refusal from the treatment is losing the opportunity to improve the health and losing medicine by health system. In other words, degree of compliance is directly associated with worse clinical outcome.

Despite the vast progress in cancer treatment that induces better tumor reaction into treatment and increases longevity, these measures are accompanied with many side effects, such as nausea and vomiting, mouth ulcer, anorexia, fatigue, constipation, diarrhea, infection, hair loss, sexual problems, decrease in blood cells, dysmenorrhea and Pain in chemotherapy site. Pain is one of the most important problems in this disease. Studies have shown that pain and pain related medical treatment for these patients is a major problem as the disease itself. As cancer related pain or measures side effects influence 50% to 90% of patients. Breast cancer patients suffer from auxiliary pain or pain in breast, chest and shoulder.

Pain is a multidimensional phenomenon, so it makes its definition difficult. Because the personal and subjective experiments cannot be investigated through an objective measurement. According to the international association of pain, pain is what the patient says and every time he says it exists. This definition focuses on the subjective nature of pain and its management.

This pain can affect Qol. Many studies have shown that these patients suffer from depression, anxiety, helplessness, avoidance behaviors, physical disability and activity limitation. The feeling of dependency, loss of confidence, feeling of vulnerability, confusion, pain, physical vulnerability, disorganized thinking and impaired daily functions are their problems. In addition to these, social activities and peace of mind will be disturbed so much that it inhibits patients from participating in social activities and introduces new roles, and causes patients dependency. Moreover, prolonged hospitalization, repeated visits to the doctor, and high cost of health care system will reduce the Qol.

Qol is a dynamic and subjective structure that compares past life with recent event at all the pros and cons details. The subjective nature of Qol deals with the personal perception about their life instead of other reports and according to Ferrans and Powers definition, Qol is originated from the satisfaction or dissatisfaction with areas of life that are important for individuals.

WHQOL defines Qol as a person’s perception as their situation in life in cultural context and value system; it deals with their goals, expectations and problems, also it includes physical health, psychological status, independence level, social relationship, personal belief and relation with environment dimension. Qol is related to subjective assessment of environmental, social and cultural context.

As prior studies concluded, supportive measures are effective in improving public health and Qol during the chemotherapy. In other words, during such course, it is possible to empower family supportive network and strength family life through consultative meetings with patients and their families. This will improve the physical, mental and emotional ill person.

Therefore developed relationship network and social ties, improves access to socio-economical sources. These links can be named as a social capital, in bonding and bridging form that can bridge social elements and facilitate plural actions, which improve Qol.

Social capital is source or rent from individual’s membership in social network. Interaction in social network produces source and rent, and these outputs of network are considered as a social capital. In a simpler definition, ties between individuals in a social communication network are called social capital.

Nan Linn in her social resource theory (1982) suggests: accessing community resource and using them can lead to better economic and social opportunities, therefore in 1998, she introduced concept of social capital as a resource embedded in the social structure that are accessed by meaningful interactions.

From Linn’s view point, two important elements of social capital are embedded resources and network situation. Results of membership in social network are classified as: implement action and statement action. For implement action, three types of economic efficiency (wealth), political (power) and social (reputation) are considered and in statement action, social capital is a tool to consolidate resources and defend against source losing and leads to three types of resources: physical health, mental health and quality of life.

Previous studies had recognized respect between social capital and Qol mainly through correlation and experimental studies, investigating the impact of social support, consultative, group therapy etc. on Qol. However, it remained unclear whether the increased social capital can enhance the Qol or not. In other words,
causality direction was obvious. In addition, relationship between social capital and treatment compliance or pain has not been studied yet.

So we designed an interventional study to survey the effects of social capital (through increased communication, access to resources and enhancing knowledge) on QoL in four areas of Health/Functioning (H/F), socio/economic (S/E), psychological/spiritual (P/S) and family, and treatment compliance and pain in patients with breast cancer.

2. Materials and Methods

This study was conducted as a clinical trial in patients with breast cancer (who referred to Kashani hospital in Shahrekord during 2010-2012) in 2013. For sample size determination, we used the same study method and 14 were assigned in each group.

From this population, 29 patients, based on inclusion criteria (detection of breast cancer in stages 1 and 2, ability of writing and reading, desire and consent to participate in the study, age between 25 to 65 years, history of mastectomy, absence of historical disease, absence of malignancy or metastasis in other organs, and receiving chemotherapy) with non-probability sampling (available) were selected and randomly divided into two groups (intervention and non-intervention groups). Before holding briefings and intervention, social capital, QoL, treatment compliance and pain in both groups were measured. Tools used in this study included:

1) Demographic questionnaire (including criteria such as age, education, marital status, number of children, employment status and socio-economic status).

2) Ferrans and Powers QoL index for measuring QoL that includes four areas: health and functional, socio/economic, psychological/spiritual and family. The reliability and validity of this questionnaire were tested by Rafiee (24).

As of constructive validity, there was a strong correlation between the total score of this scale and converse, and Rodgers’s and Campbell life satisfaction criteria. Cronbach’s alpha was between 63% to 99% for overall QoL. In health and function it was 60% to 94%, in psychological and spiritual it was 78% to 96%, in socio-economic it was 61% to 92%, and in family it was 63% to 92% in 23 studies (24).

3) For social capital measure, we used the social capital questionnaire which Qassemzade composed and calculated reliability and validity of this questionnaire. Cronbach’s alpha in bonding social capital was % 931 and in bridging social capital was % 812, which showed that the scale has high reliability coefficient. Also he used the Kaiser Mayer test and Bartlet for validity and achieved high level of validity (33).

Interventions were collected via check list.

4) For Treatment compliance, we used creative check list (proportion of referred chemotherapy meeting as recommended meetings, the degree of adherence to diet, exercise and drug regimen).

5) We used visual analogue scale (VAS) for pain assessment. It is a ruler with 10 cm. Zero represents no pain and 10 represents the most severe pain. Points 1-3 indicate mild pain, 4-6 moderate pain and 8-10 represents the pain is severe (17).

After variables measurement, patients were divided into two groups based on random selection. For intervention group beside standard cures, some intervention had been administered. Before the main intervention, 8 sessions in order for patient’s justification were holed. In these sessions, method and details of intervention were explained and the aim of this session is to establish rapport between patients and researchers.

After that, in order to start the main intervention, an inventory delivered to every patient to fill in. Every week patients gathered together and spoke about their works and experiences, and delivered their filled check list and took a new one for the next week. The total time of intervention lasted 3 months, 12 sessions. The non-intervention group took a routine treatment during this time. 2 weeks after the intervention ended, variables were measured again and the results were compared. Based on the literature review, it was found that the 3-month intervention is sufficient to observe the effects of the independent variable so interventions after three months ended.

3. Results

To perform statistical tests for hypotheses testing, one should first check data for normality that represent in Table 1.

With respect to the above variables, social capital and QoL had a normal distribution (P > 0.05); therefore, parametric tests were used for hypothesis testing. The demographic variables, pain and compliance were not normally distributed (P ≤ 0.05) and non-parametric tests were used.

Information about demographic characteristics of the sample units is shown in Table 2. According to Table 2, in the intervention group, age mean was 45.85 years old and in non-intervention group was 40.21.
93.3% of intervention group and 78.6% of non-intervention group had a higher education than high school. 73.3% of intervention group and 64.3% of non-intervention group had more than 3 children.

In terms of the socio-economic status, 93.4% in intervention group and 64.3% in the non-intervention group were of middle to high income. Both groups were identical in terms of demographic variables (P > 0.05) and these variables did not have normal distribution (P ≤ 0.05). So we used non-parametric test.

After normality calculation, it was determined that social capital and its dimensions followed a normal distribution (P > 0.05) so parametric statistical tests were used. As it is shown in Table 3, in the intervention group, mean of social capital in pretest, was 109.6 which was slightly lower than the non-intervention group. Independent T test showed that in pre-test stage, there was not any significant difference between two groups in terms of the social capital (P > 0.05).

But in the post test with paired T-test, meaningful statistical changes were seen (P ≤ 0.05). So in this group social capital and its dimensions increased and in non-intervention group social capital and bridging dimension decreased, but bonding Social capital did not have statistical changes (P > 0.05).

Also after calculating the difference between pre-test and post-test in both groups and using the U-Mann-Wietney test, statistical changes were observed (P ≤ 0.05) that confirmed the effects of intervention on social capital incensement.

According to Table 4, both groups in Qol in pre-test were similar (P > 0.05). But in post-test using independent T-test, there were meaningful differences between both groups (P ≤ 0.05). After paired T-test calculation in each group, we realized that Qol, H/F, (S/E) and (S/P) area were increased in intervention group (P ≤ 0.05), but family scale did not have statistical changes (P > 0.05).

In the non-intervention group, statistical changes were

<table>
<thead>
<tr>
<th>Variable</th>
<th>Intervention</th>
<th>Non-Intervention</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Intervention</td>
<td>0.921</td>
<td>0.198</td>
</tr>
<tr>
<td></td>
<td>Non-intervention</td>
<td>0.797</td>
<td>0.005</td>
</tr>
<tr>
<td>Job</td>
<td>Intervention</td>
<td>0.606</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Non-intervention</td>
<td>0.645</td>
<td>0.000</td>
</tr>
<tr>
<td>Marriage</td>
<td>Intervention</td>
<td>0.284</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Non-intervention</td>
<td>0.652</td>
<td>0.000</td>
</tr>
<tr>
<td>Education</td>
<td>Intervention</td>
<td>0.896</td>
<td>0.082</td>
</tr>
<tr>
<td></td>
<td>Non-intervention</td>
<td>0.751</td>
<td>0.001</td>
</tr>
<tr>
<td>Child number</td>
<td>Intervention</td>
<td>0.874</td>
<td>0.039</td>
</tr>
<tr>
<td></td>
<td>Non-intervention</td>
<td>0.889</td>
<td>0.077</td>
</tr>
<tr>
<td>Socio-economic status</td>
<td>Intervention</td>
<td>0.734</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Non-intervention</td>
<td>0.769</td>
<td>0.002</td>
</tr>
<tr>
<td>Social capital</td>
<td>Intervention</td>
<td>0.963</td>
<td>0.746</td>
</tr>
<tr>
<td></td>
<td>Non-intervention</td>
<td>0.921</td>
<td>0.226</td>
</tr>
<tr>
<td>Qol</td>
<td>Intervention</td>
<td>0.929</td>
<td>0.265</td>
</tr>
<tr>
<td></td>
<td>Non-intervention</td>
<td>0.933</td>
<td>0.615</td>
</tr>
<tr>
<td>Compliance</td>
<td>Intervention</td>
<td>0.840</td>
<td>0.013</td>
</tr>
<tr>
<td></td>
<td>Non-intervention</td>
<td>0.826</td>
<td>0.011</td>
</tr>
<tr>
<td>Pain</td>
<td>Intervention</td>
<td>0.851</td>
<td>0.018</td>
</tr>
<tr>
<td></td>
<td>Non-intervention</td>
<td>0.733</td>
<td>0.011</td>
</tr>
</tbody>
</table>

*Exact Fisher test.
observed (P ≤ 0.05), but these changes were negative. We found that the S/E, P/S and family scales decreased (P ≤ 0.05), but there was not any meaningful changes in the H/F scale and Qol overall (P > 0.05).

So after difference calculation between pretest and posttest in each group and using independent T-test, we found meaningful differences between both groups in post-test stage (P ≤ 0.05), that emphasizes the effects of intervention on Qol and its scales.

According to Table 5, in pre-test, through comparing two groups in term of Treatment compliance and pain, these variable were identical (P > 0.05), but in post-test through Wilcoxon test, we found meaningful differences between pre-test and post-test in terms of treatment compliance variable in intervention group (P ≤ 0.05).

The treatment compliance in intervention group increased and this change was not seen in the non-intervention group. After differences between group in pre-test and post-test and use of U-Mann-Witney test, we inferred meaningful differences between two groups in post-test (P ≤ 0.05).

According to Table 5, after intervention in both groups meaningful difference were seen in terms of pain variable. Pain decreased in both groups (P ≤ 0.05) but the reduce was more noticeable in the intervention group. After differences calculation between two groups in pre-test and post-test and use of U-Mann-Witney test, we inferred meaningful differences between two groups in post-test (P ≤ 0.05).

For more definite conclusion about the effect of social
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Table 5. Treatment Compliance and Pain Comparison in Intervention and Non-intervention Group in Pretest and Posttest

<table>
<thead>
<tr>
<th>Variables</th>
<th>Group</th>
<th>Pre-Test</th>
<th>Post-Test</th>
<th>P Value^a</th>
<th>P Value^b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment compliance</td>
<td>Intervention</td>
<td>11.6 ± 2.41</td>
<td>14.13 ± 0.99</td>
<td>0.005</td>
<td>0.008</td>
</tr>
<tr>
<td></td>
<td>Non-Intervention</td>
<td>11.1 ± 1.90</td>
<td>11.64 ± 1.73</td>
<td>0.161</td>
<td></td>
</tr>
<tr>
<td>Pain</td>
<td>Intervention</td>
<td>7.6 ± 2.6</td>
<td>2.53 ± 1.6</td>
<td>0.0000</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Non-Intervention</td>
<td>8.2 ± 2.4</td>
<td>6.36 ± 2.24</td>
<td>0.003</td>
<td></td>
</tr>
</tbody>
</table>

^aWilcoxon-test.
^bU Mann-Whitney test.

capital to improve Qol, compliance and relief pain and calculation of dose response association, the correlation between these variables were calculated and represented in Table 6. According to this table, the correlation between social capital and Qol and social capital and compliance were direct, positive, and meaningful (P ≤ 0.05), and its amount was high and at an acceptable level. Increase in social capital in two dimensions induced Qol improvement by 4 scales, as well as increased treatment behaviors and treatment compliance.

However, the relationship between social capital and pain was negative and there was a meaningful correlation (P ≤ 0.05). High levels of social capital are associated with lower levels of pain. So Qol and compliance had direct, positive and meaningful correlation (P ≤ 0.05) but these variables had negative correlation with pain.

4. Discussion

Several theories exist about the impact of social capital on Qol which have been documented in many studies often through cross-correlation methods. But the big problem of these studies is lack of direction of causality. For this reason, in this study we sought to design an intervention to enhance social capital and investigate its effect on Qol.

This arrangement as pre-test and post-test intervention study with a non-intervention group of 29 women with breast cancer. The results of this study indicated that interventions caused social capital enhancement in a successful first step in the intervention group which in turn leads to enhanced Qol, compliance and reduced pain.

Nevertheless, in non-intervention group these variables declined and this shows regardless of measures to help these patients, their Qol will deteriorate and so they did not follow their treatment as ordered.

Two groups were matched in terms of demographic variables at pre-test and this means that differences in demographic variables cannot explain the differences in average social capital between two groups. Among demographic variables, only socio-economic status has a significant relationship with social capital and other variables did not relate to it.

Nategh Pour found that age, education, marital status, employment and income to the elements of knowledge, attention to public affairs, formal, and informal participation are directly related to the social capital [34]. Mohammadi pointed out that gender, native status and place of birth, income, and education are correlated with social capital [35]. Andishmand realized the positive impact of education and residence area on social capital [36].

Sharbatian asserted that variables such as gender, marital status, place of residence and place of birth are not associated with the enjoyment of social capital. However, social class, family relationships, personal resources, educational status, and social interactions on campus and in the community are the most important predictors of social capital [37]. These findings have not been established in our study.

Evaluation of Qol showed that In H/F, S/E, P/S and family was 48/4 %, 51/6 %, 44/8 %, 69 % of subjects had moderate levels, respectively. 48/3 % of these patients followed up their treatment at a moderate level and 27/6 % at an acceptable level. 69 % of patients reported their pain as severe and 20/7 % as moderate and 10/3 % as low level. In other words, the majority of patients have medium or poor Qol and very few people have a high level of Qol.

Several studies had highlighted the negative effects of cancer on Qol [27, 38, 39]. Nematollahy concluded that the majority of patients (366) had a moderate level of Qol [29], that is consistent with the result of the present study, but Moshtagh reported Qol in these patients as low [41]. Nurtoush showed a relatively high Qol for African-American women. They were generally optimistic, had effective family function, and symptom of stress generally were low in them [42].

Ferrell pointed out the majority of women had moderate mental and psychological status and this was due to medical issue [43]. However, Sammarco reported good Qol [26].

These differences may be due to differences in the cul-
Table 6. Correlation between Social Capital and Quality of Life, Treatment Compliance and Pain

<table>
<thead>
<tr>
<th>Variable</th>
<th>Social Capital</th>
<th>Bonding Social Capital</th>
<th>Bridging Social Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of life</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation coefficient</td>
<td>0.811</td>
<td>0.826</td>
<td>0.626</td>
</tr>
<tr>
<td>P value</td>
<td>0.001</td>
<td>0.001</td>
<td>0.001</td>
</tr>
<tr>
<td>Health and functional scale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation coefficient</td>
<td>0.506</td>
<td>0.604</td>
<td>0.440</td>
</tr>
<tr>
<td>P value</td>
<td>0.001</td>
<td>0.001</td>
<td>0.008</td>
</tr>
<tr>
<td>Socio economical scale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation coefficient</td>
<td>0.769</td>
<td>0.814</td>
<td>0.533</td>
</tr>
<tr>
<td>P value</td>
<td>0.001</td>
<td>0.001</td>
<td>0.001</td>
</tr>
<tr>
<td>Psychological spiritual scale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation coefficient</td>
<td>0.816</td>
<td>0.806</td>
<td>0.677</td>
</tr>
<tr>
<td>P value</td>
<td>0.001</td>
<td>0.001</td>
<td>0.001</td>
</tr>
<tr>
<td>Family scale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation coefficient</td>
<td>0.491</td>
<td>0.476</td>
<td>0.427</td>
</tr>
<tr>
<td>P value</td>
<td>0.003</td>
<td>0.005</td>
<td>0.001</td>
</tr>
<tr>
<td>Treatment compliance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation coefficient</td>
<td>0.693</td>
<td>0.753</td>
<td>0.476</td>
</tr>
<tr>
<td>P value</td>
<td>0.005</td>
<td>0.001</td>
<td>0.001</td>
</tr>
<tr>
<td>Pain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation coefficient</td>
<td>-0.509</td>
<td>-0.468</td>
<td>-0.472</td>
</tr>
<tr>
<td>P value</td>
<td>0.002</td>
<td>0.004</td>
<td>0.005</td>
</tr>
</tbody>
</table>

tural background, age of subjects, data collection instruments, and patients’ heterogeneity in terms of cancer level and type of treatment.

Based on the findings of this study, age was not significantly associated with any of the dimensions of Qol. Marriage and the number of child had a negative correlation with health and functional dimension that can be explained with decrease in energy, hopelessness, worry about future, lack of opportunities for expectant future, and awful disadvantages which can lead to decreased Qol.

Education and employment had positive and meaningful correlation with Qol generally with H/F and S/E scales. This may be due to mind engagement and deviance from disease to other issues, finance independency, social relationships, more information and better access to supportive and informative sources.

These findings have been supported in several studies such as Safaei (23), Lehto in Finland (20) and Pandey in India (22). Socio-economic status had meaningful relationship with family scale, probably due to high levels of livelihood and ability to continue treatment.

Northouse in Michigan, in his study on Qol in African American women with breast cancer, did not observe any meaningful relationship between demographic variables with Qol (42). Furthermore, in the Schultz and Winstead Analytical-discretionary study there was not any relationship between age and education with Qol and its scales (21).

Treatment compliance generally had positive correlation with Qol and its scales. High level of treatment compliance may be accompanied with higher level of Qol. This finding has been confirmed by Malekpour (44). Pain obviously had a negative correlation with Qol.
According to the results, change in social capital, Qol, compliance and pain in breast cancer patients during intervention and after that indicated positive effects of the intervention on these variables.

Social capital, Qol, and treatment compliance in the intervention group increased and in the non-intervention group decreased or remained stable. Pain decreased in both groups but this was significantly higher in intervention group.

Differences between two groups in posttest were meaningful, and this emphasizes on intervention usefulness. Correlation between social capital with Qol and compliance was positive and with pain was negative.

4.1. Limitation

An intrinsic limitation of this study was as follows: parts of the results obtained were due to chemotherapy and should not be attributed entirely to the intervention (both groups received chemotherapy and this research was done in that period). Perhaps, if chemotherapy treatment was not successful, the present results could have changed and would not relieve in pain so much lack of patient’s cooperation.

This study was conducted in patients with cancer and may not have that effect on other patients or can be more effective in healthy individuals. Because cancer is a chronic disease and these results achieved should not be attributed to the other people.

Over the period of intervention, an expectance effect has been declined and we have come to the conclusion that 12 sessions were boring for patients. The recommended number of sessions is limited to 6 - 8 sessions.

However, this study represents the first clinical study on how to enhance social capital and the form of a protocol has been prepared. Also the impact of social capital on pain and compliance is tested for the first time that had noticeable finding and this protocol has been registered in IRCT.

Therefore, it is suggested that the study will be done in a spring or summer when patients do not have restrictions and it is better to study in larger sample.

until more definite conclusions can be obtained about the impact of social capital on pain relief and perform this intervention in other chronic, painful, deadly and threatening the self-concept of the individual disease.

4.2. Conclusion

Based on results of this study, patients need social and emotional support more than anything to survive diagnosis and treatment process with less stress. It seems that participation in cooperative groups, team works, spending more time with friends and family members through increasing in social capital cause spiritual improvement, compatibility with circumstance, stress refraction, enjoying social support and thus acquired more information about this disease that can help to improve Qol and treatment compliance.

So it is suggested to use methods that enhance social capital for improving Qol and survival in patients through increasing knowledge, emotional and information support about adherence benefits and increasing in spirit and happiness for continuing the treatment.

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References


