

Relationship between psychological well-being and social capital and resilience among cancer patients

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Abstract

Context: Research revealed resilience can decrease the effects of stress and improve quality of life among cancer patients. The role of positive factors such as psychological well-being and social capital is separately studied in cancer.

Aims: The aim of the present study was to determine the relationship between the psychological well-being and social capital with resilience among cancer patients.

Setting and Design: This descriptive correlational study conducted on 163 cancer patients were selected patients referring to Touba Specialized Clinic in Sari from May to December 2018.

Materials and Methods: The data collection tools included Demographics Questionnaire, Riff's Psychological Well-being Scale (-2002), Onyx-Bullen's Social Capital Questionnaire (2000), and Connor-Davidson's Resilience Scale (2003).

Statistical Analysis Used: SPSS 20 and descriptive and inferential statistical methods (Mann-Whitney, Kruskal-Wallis and linear regression, Spearman correlation coefficient,) were employed. $P < 0.05$ was considered as the level of significance.

Results: The results revealed that the mean (standard deviation) of the psychological well-being, social capital, and resilience were 69.71 ± 5.49 , 118.60 ± 8.51 , and 78.48 ± 8.68 , respectively. The study showed a positive and significant correlation between psychological well-being and resilience ($r = 0.797$; $P = 0.001$), and between social capital and resilience ($r = 0.716$, $P = 0.001$). The findings revealed that psychological well-being and social capital explained 70% of the resilience variation.

Conclusion: The results showed that psychological well-being and social capital have high relationship with cancer patients' resilience and it suggested through developing appropriate interventions on psychological well-being and social capital, it is possible to improve the cancer patients' resilience.

Keywords: Cancer, Resilience, Social capital, Well-being

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INTRODUCTION

Diagnosing cancer is an unpleasant experience for any person more than any other illness due to its challenging nature and its uncertain consequences, from the onset of diagnosis and during the therapeutic follow-ups.^[1] It was estimated by the year 2030, the incidence of cancer patients will rise to 21.6 million.^[2] Earlier cancer diagnoses and therapies also led to an increase in survival of the cancer. The psychosocial impacts of the cancer on patients and their families include emotional problems, supportive care needs, and quality of life of cancer patients and their families.^[3] Cancerous patients have different degrees of psychological problems and disorders; the range of which can vary from stress, depression, anxiety, decreased life quality and fearing disease relapse and death.^[4]

There are several relevant studies conducted, which emphasize the role of the psychological and social factors separately about resilience in cancer. Resilience viewed as ability for dealing with stress, successfully. It is an important aim of treatment in anxiety, depression, and stress reactions.^[5] Psychological well-being includes individual growth, self-acceptance, the sense of autonomy, the goal of life, positive relationships with others, and environmental domination (the potential to effectively manage personal life and the surrounding world).^[6] Well-being also refers to a sort of feeling healthy resulting from being fully aware of the integrity of individual aspects and consists of spiritual elements of life.^[7] Some studies were done on psychological well-being among cancer patients. A study showed the cancer patients in compared with individuals who have chronic condition or without a previous cancer diagnosis and serious chronic condition experienced poorer health and well-being following cancer and cancer treatment.^[8] Another study also revealed the breast cancer survivors in Jordan in compared with patients from Western countries have good quality of life scores. On the other hand, their psychological well-being is more impaired.^[9,10] Social capital is a construct that concerning social relations at both individual and societal levels. It consists of social networks, norms of reciprocity, or social support and social trust.^[11] An exploratory study of social capital among cancer survivorship revealed the importance of including social capital as an integral part of the approach to the cancer patient experiences.^[12] On the other hand, a systematic review study among the studies on the association between all cause of mortality and social capital, cancer and cardiovascular disease revealed there was not an adequate association between social capital and health outcomes.^[13] In addition, a retrospective comparative study in Iran pursuing the goal to determine

health inequalities and social capital of the cancer-suffering patients and cancer-free individuals concluded that health inequalities and cancer result from the concurrent interaction between behavioral–psychological and biological factors with various components of social capital.^[14] Furthermore, a descriptive and explanatory study revealed that the correlation level between social support and resilience is 0.66, and social support can predict 44% of resilience variance in cancer patients.^[15] Studies are increasing on the role of positive mental health constructs such as resilience, psychological well-being, and social capital for adjustment to life after cancer successfully.^[12,13,16]

As mentioned above, the results of studies has suggested explore of the relationship between both the psychological and social factors with resilience. To the best of our knowledge, there are no studies on the resilience and psychological well-being and social capital among cancer patients in Iran. Therefore, we conducted a study on cancer patients to assess their resilience, psychological well-being and social capital and relationship between resilience with them. Other objectives of the study were to determine association between resilience with psychological well-being, as an individual, and social capital, as a social factor among the patients referring to Touba Specialized Clinic.

MATERIALS AND METHODS

Design

This is a descriptive-correlational study.

Participations and setting

The statistical population of this study was cancer patients (gastro-intestine, breast cancer, lymphoma and skin cancer) referred to a research and educational cancer Clinic named Touba specialized clinic, in Sari Mazandaran province in Iran. Samples were selected by convenient sampling method from 2018 May to December 2018. The study inclusion criteria included: (1) Suffering from cancer (common cancer in Mazandaran province: gastrointestinal cancer, skin, breast and lymphoma), (2) Definitive diagnosis of cancer based on the specialized tests and the oncologist's comments, (3) Having medical record in Touba Specialized Clinic affiliated cancer department, (4) Not participating in another study during the present study implementation, (5) the age group 18. (6) No suffering from any sort of psychological disorder concurrently with cancer, (7) no participating in another research, (8) not being in the end stage of cancer.

After that, with ethical considerations, the samples filled the research questionnaires.

The study sample size was calculated using regression analysis with 12 variables, overall, 150 individuals were estimated. Moreover, by considering loss as 10%, it increased to 163 individuals.

Data collection

Data collection tools included Demographics Questionnaire [Table 1] and Riff's Psychological Well-being Scale, Onyx-Bullen's Social Capital Questionnaire, and Connor-Davidson's Resilience Scale. (a) Demographics questionnaire (the patient and the caregivers): the patient's and caregivers' demographics showed in Table 1.

Riff's Psychological Well-being Scale (short form)

It has 6 dimensions including the purpose in life, self-acceptance, autonomy, personal growth, positive relations with others, and environmental mastery. Each of these dimensions consists of 3 items. The answers to the items in this part were developed and scored in 6-point Likert scale from 1 (strongly disagree) to 6 (strongly agree) for positive items and vice versa, and overall, the score range of 18 items has been the minimum = 18 and maximum = 180 score. The negative items of the questionnaire (items 1, 3, 4, 5, 9, 10, 13, and 17) have been inversely scored. The score range 18–42 low, 43–63 average, and 64 and higher score as higher psychological well-being. The reliability and validity of this scale have been assessed in the some studies.^[17,18] In Iran, construct validity of this questionnaire has been tested by exploratory and confirmatory factor analysis. Furthermore, reliability tested by test–re-test and by Alpha-Cronbach and approved in Iran. The internal consistencies ranged from 0.51 to 0.76 for six subscales and for total was 0.71.^[19] In the present study, internal consistency of the scale has been estimated as 0.83 by Alpha-Cronbach.

Onyx-Bullen's social capital questionnaire

It has two main dimensions as cognitive and structural and also 8 subfactors of the social capital. The social capital's cognitive dimensions encompass 19 items including participating in formal community (7 items), neighborhood connections (6 items), connections with family and friends (3 items), and work connections (3 items). In addition, the structural and relational dimensions of the social capital cover 17 items including proactivity (8 items), trust and politics (5 items), tolerance of diversity (2 items), and the value of life (2 items). The answers to the items in this part were developed and scored in 5-point Likert scale from 1 (very low) to 5 (very high), and overall, the score range of 36 items has been the minimum = 36 and maximum = 180. The score range 36–64 indicated very low, 65–96 low, 97–122 average,

Table 1: Medical-demographic characteristics of cancer-suffering patients referring to tuba specialized clinic in Sari in 2018

Medical-demographics	Frequency (%)
Gender	
Man	59 (36.2)
Woman	104 (63.8)
Marital status	
Single and widow	8 (4.9)
Married	155 (95.1)
Education	
Illiterate	45 (27.6)
Underdiploma	57 (35)
Diploma and associate degree	40 (24.5)
Bachelor	21 (12.9)
Residency	
Urban	77 (47.2)
Rural	86 (52.8)
Job	
Employed	41 (25.1)
Homemaker	94 (57.7)
Jobless	16 (9.8)
Retired	12 (7.4)
Family cancer history	
No	113 (69.3)
Yes	50 (30.7)
Cancer history in relatives	
No	42 (25.8)
Yes	121 (74.2)
Type of cancer	
Breast	50 (30.7)
Skin	41 (25.2)
Gastrointestinal	48 (29.4)
Lymph nodes	24 (14.7)
Cancer phase	
Stage 1	3 (1.8)
Stage 2	83 (50.9)
Stage 3	75 (46)
Stage 4	2 (1.3)
The present treatment type	
Chemotherapy	98 (60.1)
Medicinal	27 (16.6)
Radiotherapy	38 (23.3)
Relapse history	
No	30 (18.4)
Yes	133 (81.6)
Surgery history	
No	84 (51.5)
Yes	79 (48.5)
Disease duration	
1 year	17 (10.4)
2 years or more	146 (89.6)
Age	
Lowest thru 40	31 (19)
41-60	80 (49.1)
61 thru highest	52 (31.9)
Mean±SD	52.82±12.58
Range	18-70
Resilience	
Mean±SD	78.48±8.68
Range	59-91
Median	81
Psychological well-being	
Mean±SD	77.73±8.73
Range	57-92
Social capital	
Mean±SD	118.6±8.51
Range	97-136

SD: Standard deviation

123–151 high, and 152–180 as very high social capital. The reliability and validity of this questionnaire have been verified in the domestic and foreign studies.^[20,21] In Iran, the psychometric properties (construct, concurrent and face validities, internal consistency, test–retest reliability) of the Persian Version of Onyx Social Capital Scale were done, and the results showed an acceptable validity and reliability.^[22,23] The internal consistency of this questionnaire in this study has been calculated as 0.74 by Alpha-Cronbach.

The Connor-Davidson Resilience Scale

This questionnaire has been efficiently able to separate the resilient individuals from the nonresilient ones and can be used in research and clinical situations. The answers to the items in this part were developed and scored in 4-point Likert scale from 0 (absolutely incorrect) to 4 (always correct), and overall, the score range of 25 items has been the minimum = 0 and maximum = 100 score. The cut-off point for this questionnaire is 50, which means the score above 50 indicates resilient ones, and the higher this score than 50, the individual will be in the higher resilience level and vice versa. The factor analysis-derived results suggest that this test has 5 factors: 1 – personal competence, high standards, and tenacity; 2 – trust in one's instincts, tolerance of negative affect, and the strengthening effects of stress; 3 – positive acceptance of change and secure relationships; 4 – control; and 5 – spiritual influences. Connor-Davidson reported the Alpha-Cronbach of the resilience scale as 0.89 and also reliability coefficient yielded by test–retest in a 4-week interval as 0.87.^[5] Furthermore, the psychometrics of the scale has been approved in the other study.^[24] In Iranian population, the scale's psychometric properties have been tested and approved.^[25] The internal consistency of the resilience scale in the present research has been estimated as 0.86 by Alpha-Cronbach.

Data analysis

The SPSS 20 software has been employed to analyze. The descriptive statistics indicators including the mean and standard deviation have been used to describe the research samples and the inferential statistical tests, including spearman correlation coefficient, Mann–Whitney, Kruskal–Wallis, and linear regression, have been applied. $P < 0.05$ was considered as the level of significance.

Ethical considerations

This research study was approved by the Ethics Committee of the Mazandaran University of Medical Sciences, by the code of ethics No: IR.MAZUMS.REC.1397.1596 in 2018. The written information about the purpose and the nature

of the study was given to the participants. Moreover, the research individuals were assured that their responses would be used for the research purposes, and all their information would remain confidential by preserving the etiquette of anonymity.

RESULTS

Summary of the samples, medical–demographic characteristics is shown in Table 1.

The study showed a significant positive relationship between psychological well-being and social capital with resilience ($r = 0.78$; $P = 0.001$) ($r = 0.75$; $P = 0.001$), respectively.

The study showed a significant negative relationship between age with resilience ($r = -0.209$; $P = 0.008$).

Table 2 showed statistical difference between the mean of scores the resilience with some medical–demographic variables.

The study revealed no significant statistical difference between the mean of scores the psychological well-being, social capital, and resilience with other medical–demographic variables.

Multiple regression analysis showed that psychological well-being and social capital could explain approximately 70% of the resilience variation [Table 3].

DISCUSSION

The current research analyzes the relationship between the psychological well-being and social capital with resilience in the cancer patients referring to Touba Specialized Clinic in Sari, 2018. The results implied that both variables, i.e., the psychological well-being and social capital have a significant and positive relationship with resilience. Thus, in the continuation, some studies somewhat pursuing the present study goals are mentioned. A review study showed there is not strong evidence of social capital affecting cancer patients.^[13] Other study showed associations between resilience and levels of social capital among HIV patients.^[26]

A study results showed there was a relation between subjective well-being with the Perception of Future dimension of the resilience that measured by the Resilience Scale for Adults (RSA). Individuals who view their future in a positive and optimistic way have better subjective well-being than individuals who perceive their future to

Table 2: Mean and standard deviation of resilience of cancer patients according to the medical-demographics variables

Variable	Independent variables' levels	Resilience		Test (P)
		Mean±SD	Mean rank	
Sex	Female	79.16±8.78	84.29	Mann-Whitney (P=0.31)
	Male	77.28±8.43	75.31	
Education	Illiterate	75.42±8.83	65.81	Kruskal-Wallis (P=0.017)
	Underdiploma	79.89±7.77	88.39	
	Diploma and associate degree	78.22±9.21	80.80	
	Bachelor	81.71±8.15	97.00	
Disease phase	Stage 1	67.66±7.23	26.67	Kruskal-Wallis (P=0.022)
	Stage 2	79.97±8.47	89.99	
	Stage 3	77.08±8.68	74.29	
	Stage 4	73.00±14.14	50.00	
Cancer type	Breast	70.4±5.79	99.78	Kruskal-Wallis (P=0.001)
	Skin	66.71±3.28	56.51	
	Gastrointestinal	71.12±4.95	81.86	
	Lymphoma	76.11±6.47	88.77	
Treatment type	Chemotherapy	80.08±8.52	88.87	Kruskal-Wallis (P=0.001)
	Medicinal	80.77±9.11	95.13	
	Radiotherapy	72.73±6.07	51.24	
Family cancer history	Yes	78.80±9.52	81.40	Mann-Whitney (P=0.771)
	No	78.34±8.32	83.36	

SD: Standard deviation

Table 3: Multiple linear regression analysis of treatment type, disease duration, surgery history, psychological well-being, and social capital associated for resilience scores

Dependent Variable	Independent Variable	B	SE	Standard β	t	P	R ²
Resilience scores	Psychological well-being	0.575	0.058	0.575	9.92	<0.001	0.69
	Social capital	0.342	0.059	0.335	5.78	<0.001	

SE: Standard error

be less positive and promising.^[26] The study drawn results are compatible with those of the present research. In fact, resilient individuals with optimistic and positive view are less disappointed and are more tolerant of the problems. The individuals with powerful sense of coherence have the potential for perceiving, predicting, and organizing the internal and external stresses and apply the available resources coping with stress.^[27] Another study also revealed that resilience contributes to low emotional stress in cancer patients.^[28] The study showed high and positive relationship between psychological well-being and social capital with the cancer patients, resilience. Furthermore, those variables could predict 70% of resilience variation in cancer-stricken patients [Table 3].

In congruent with our results, a study concluded a significant positive relationship between social support and resilience among Chinese patients with cancer bladder.^[29] Regression test results in another study showed the social support could predict only 44% of the resilience variance among the cancer sufferers.^[15]

Furthermore, the present study showed weak and negatively significant relationship between the resilience with age. This way, as age increases, resilience decreases

and vice versa; an exploratory cross-sectional study on association of resilience and age in individuals with colorectal cancer revealed older patients reported higher resilience and lower emotional distress.^[30] The study is inconsistent with our study. Our results can attribute to this as the age rises, responsibility increases, and psychological, social, economic, and personal burden of disease increase, consequently psychological well-being, social capital, and resilience decreases.

Furthermore, the present study showed statistically significant relationship between the resilience with the educational level of the patients. Education plays a remarkable role in employing coping strategies; this way that the individuals with higher education meaningfully use effective coping strategies more, while those with lower education significantly employed more maladaptive strategies.^[31] This study revealed that there was a significant difference between resilience with the types of cancer. The patients with breast cancer and skin cancer had higher and less resilience in the study, in comparison with the rest of the cancers, respectively [Table 2]. Although many studies revealed there are different levels of emotional distress according to type of cancers, few studies were down on relationship between resilience and type of cancer among cancer patients. A study showed that there was a significant relationship between caregivers, resilience and types of cancer of their patients.^[32]

The study had two limitations. This study was done by a cross-sectional method with a convenient sampling; thus, generalization and causality cannot be implied from the

results. On the other side, the study had some strengths such as a board range of age, variety in type of cancers, samples included from a large and central cancer center in Mazandaran Province ,and an adequate sample size of cancer patients.

CONCLUSION

The present study indicated that psychological well-being and social capital play a remarkable role in cancer stricken patients' resilience, and the therapists and researchers can consider the role of the psychological interventions and strengthening social capital in boosting the patients' resilience.

Further studies are needed to increase the understanding of the ways to improving resilience. Well-designed intervention studies suggested for strengthening resilience in cancer patients with emphasize on the effects of improving psychological well-being and social capital on resilience.

Conflicts of interest

There are no conflicts of interest.

Authors' contribution

Z. Kordan contributed with data collection, writing the first draft of the article. H Azimi Lolaty designed and supervised the work. S. N Mousavinasab contributed data analysis and interpretation results. J. Haydari Fard was advisors of the article.

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