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Sense of Coherence: A Predictor of Quality of Life in Caregivers of Cancer Patients

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Abstract

Background: The caregivers of cancer patients go through numerous changes in their lives, caused by the complexity of cancer care, which then influence their quality of life (QoL). In this context, the sense of coherence (SoC) has been introduced as individuals' capacity to adapt to complex situations.

Objectives: This study aimed at examining the relationship between QoL and SoC among the caregivers of cancer patients.

Methods: This descriptive correlational study was performed on the caregivers of cancer patients referred to a teaching hospital in Tehran, Iran. In total, 200 eligible caregivers, selected by purposive and convenience sampling from September to December 2022, completed the research instrument comprised of a researcher-made demographic-clinical information form, the SoC Scale (13-item), and WHOQoL-BREF. The data were analyzed by the SPSS 20 software. To investigate the relationship between caregivers' SoC and QoL, first, the correlation was determined, and afterward, the significant variables were analyzed, using multiple linear regression.

Results: The overall mean score of QoL among the caregivers was 52.12 ± 14.45. In this way, the highest and lowest values were associated with the domains of physical health and social relationships, receiving the mean scores of 55.19 ± 11.46 and 38.40 ± 10.08, respectively. The overall mean score of SoC was also equal to 49.71 ± 9.34. As well, the results of the study demonstrated a significant positive correlation between SoC and QoL ($r = 0.585$, $P < 0.001$) as well as its 3 domains. Considering the demographic and clinical factors, the regression outcomes revealed that SoC was a predictor of QoL in the caregivers of cancer patients ($P < 0.001$, $B = 0.65$). Among the demographic factors, a significant correlation was accordingly observed between age, marital status, income level, employment status, and QoL and some of its domains ($P < 0.05$).

Conclusions: It was argued that SoC could be a positive predictor and a protective factor for QoL among the caregivers of cancer patients. In this vein, it was recommended to give a boost to the SoC dimensions during oncology and palliative care via an interdisciplinary approach and a variety of interventions. Upon developing QoL in the caregivers, QoL among the cancer patients could be then promoted.

Keywords: Caregivers, Quality of Life, Sense of Coherence, Cancer

1. Background

Cancer has been documented as one of the chronic conditions and even a big challenge facing health systems, characterized by the ever-increasing annual global burden of the disease (1). As presented by the latest statistics of the Global Cancer Observatory (GCO) in 2020, the new morbidity and mortality rates due to cancer will be around 20 and 10 million cases, respectively (2). Cancer in Iran is also known as the third leading cause of death. According to the most recent

statistics, 131 191 people are suffering from this condition and 79 136 individuals have lost their lives (3, 4).

Of note, cancer diagnosis and the ensuing treatments can have multiple adverse effects on patients and their caregivers. In this line, family caregivers are those such as the patient's spouse, children, relatives, or friends who are typically involved in their daily activities and provide care, assistance, and support related to an underlying disability at home (5, 6). Such care services are elective and unpredictable. In other words, family members feel called upon once cancer is diagnosed (7), but they often have little or no preparation to do so due to the complexity of cancer care. Given the multidimensionality of cancer care, the caregivers are subjected to a growth in the care burden, many physical symptoms, e.g., fatigue, psychological problems, such as depression, anxiety, and social anxiety disorder, and loads of economic difficulties, which can have destructive impacts on their quality of life (QoL) (3, 6, 8). In this regard, a survey reported that QoL among the caregivers in Albania had been at a low level (9).

Over recent years, the concept of QoL has come to be progressively influential in cancer care (10), so improving QoL in patients and their caregivers has been taken into consideration within the main goals of palliative care. As QoL is subjective, dynamic, and multidimensional, with different definitions, the World Health Organization (WHO) has described it as a person's perception of one's position in life based on their cultural framework and value system about their goals, expectations, standards, and concerns. This concept is comprehensive as it reflects on satisfaction with physical, psychological, and environmental health, as well as personal beliefs, levels of independence, and social relationships (11).

As evidenced, a mixture of factors, such as demographic, psychological, social, and clinical ones can affect QoL in caregivers. Among the psychosocial qualities that arise during exposure to various stressors such as cancer is the sense of coherence (SoC) (12), which was first presented by Antonovsky in 1989. In his salutogenic model, he accordingly explicated why some people were in good health even if encountered stressful factors (13, 14). Sense of coherence is, thus, a general orientation in a person's life, which helps them find and utilize existing resources to maintain health, especially under pressure (15). Otherwise stated, SoC mediates the effects of external stressors and internal resources in the course of psychological disorders, and its impression is much more extensive than adaptation strategies (16). It consists of 3 dimensions comprehensibility, denoting the cognitive performance of individuals and their ability to receive information; meaningfulness, referring to people's capacity to clarify and understand meaningful events in life as a challenge; and manageability, which means a person's capability to adapt to states of affairs to influence life situations and make conclusions, using prior experiences (17). Studies in the context of SoC and caregivers showed that a strong SoC moderates the burden of caregiving in parents with children undergoing liver transplantation (18). In another study, its negative relationship with the caregiving burden of anxiety and depression of elderly caregivers was pointed out (19). Also, the positive relationship between the SoC and the self-efficacy of caregivers of patients with severe disabilities has been expressed (20). In the context of cancer caregivers, a study showed that a strong SoC reduces the distress and depression of caregivers of advanced cancer patients (21). Also, one study in Iran found that SoC could have a predictive role in the care burden among the caregivers of cancer patients (22). Moreover, a series of investigations about SoC in cancer patients revealed that those with a stronger sense had experienced a reduction in some symptoms such as depression, and had further lived through better QoL (23-25).

1.1. Conceptual Framework

Conceptually, the caregiving role is a stressful event with a high caregiving burden (26), which has negative consequences on the emotional health and QoL of caregivers. A strong SoC is a source of resilience that increases people's capacity to face such an event (19, 27). For people who have a stronger SoC, its meaningfulness dimension increases their motivation in caring so that they see the daily activity of caring as meaningful. This focus on the meaning of the caregiving experience helps regulate the caregiving burden and improves feelings of worth and life satisfaction. Its comprehensibility dimension helps to understand the daily activities and to know about the available resources. The manageability aspect empowers the caregivers in mobilizing the available resources to overcome the daily challenges and increases the self-efficacy of the caregivers (26, 27). Therefore, caregivers with a strong SoC believe that they are not affected by internal and

external problems, and this helps to increase self-confidence and improve the ability to care, and QoL (28).

Given the utmost importance of QoL among the caregivers in oncology and palliative care and its impact on QoL and treatment in patients, it was crucial to consider the relevant factors influencing QoL in the caregivers of cancer patients to develop complete treatments as a step toward mitigating symptoms among them and improve their performance. As no survey had examined the relationship between SoC and QoL in the caregivers of cancer patients, to the best of the authors' knowledge, the present study was to fill this gap.

2. Objectives

This study aimed at examining the correlation between QoL and SoC among the caregivers of cancer patients.

3. Methods

3.1. Study Design and Setting

This descriptive correlational study was conducted in the oncology departments and clinics of one of the hospitals affiliated with Shahid Beheshti University of Medical Science in Tehran.

3.2. Sample Size and Sampling

The statistical population in this study included the caregivers of cancer patients who had been referred to the oncology and radiotherapy departments and clinics of the mentioned teaching hospital with the patients for treatment purposes after the definite diagnosis of cancer. The sample size was accordingly calculated by 200 patients, based on what was reported by Ngai and Loke (29), using the formula of sample size determination in descriptive research,

$$n = \frac{z^2_{1-\frac{\alpha}{2}} \times \sigma^2}{\delta^2}$$

and considering α = 0.05 and the test power of 0.80. The participants were selected, using purposive and convenience sampling, between September and December 2022, once meeting the inclusion and exclusion criteria. In this respect, the inclusion criteria were a tendency to take part in the study, taking care of cancer patients during the day, and the ability to read and write in Persian. Also, the participants must be 20 to 60 years old, and caregivers of patients who were in stage IV and at the end of life were not included in the study. Failure to complete the questionnaires was used as the exclusion criterion.

3.3. Research Instrument

The main research instrument implemented in this study was a demographic-clinical information form, the 13-item Sense of Coherence Scale (the SoC Scale), and the WHOQoL-BREF.

The demographic-clinical information form contained items on age, gender, marital status, educational level, occupational status, economic status, type of cancer, type of relationship with patients, and time spent as a caregiver per day.

The 13-item SoC Scale was also the Persian version of the shortened form of Antanovsky's 29-item Orientation to Life Questionnaire. It included 3 dimensions comprehensibility, manageability, and meaningfulness. Each item also had 7 options, rated from 1 to 7, wherein 1 and 7 reflected strong feelings. The respondents could accordingly indicate their agreement based on each item by confirming 1 to 7. Each selected number was, thus, the score of each person, but 5 items were scored in reverse. Finally, the sum of the selected numbers was assumed as the test score. The SoC Scale total score was 13 to 91, and higher scores implied stronger SoC. This score was divided into 3 categories, i.e., weak (13 - 45), moderate (46 - 74), and high (75 - 91). The validity and reliability of the Persian SOC scale were approved in Iran (30). To measure its reliability, the questionnaire was administered to 20 caregivers of cancer patients, and its internal consistency was, then, calculated as α = 0.74.

The WHOQoL-BREF was developed in 1996 by a panel of WHO experts following the modification of the 100-item form. This 26-item scale could, thus, measure a person's overall QoL in 4 domains of physical health (7 items), psychological health (6 items), social relationships (3 items), and environmental health (8 items), which was a total of 24 items based on a 5-point Likert-type scale in the range of 120 to 24. (31). The Persian version of this instrument had received acceptable reliability, but it was once again given to 20 caregivers of cancer patients and its internal consistency was calculated as α = 0.87.

3.4. Data Collection

Upon obtaining the code of ethics and the required permits, the researchers referred to the oncology department and clinic of the given teaching hospital and selected the eligible caregivers. Sampling was done in two shifts, morning and evening, when caregivers were visiting the hospital for their patients' chemotherapy. When the patients were receiving chemotherapy drugs and the caregivers were present in the waiting room, the researchers asked them to participate after signing a written consent form and providing oral explanations to ensure data confidentiality. For data collection, the demographic-clinical information form, the SoC Scale, and the WHOQoL-BREF were, then, completed by the participants, respectively. The approximate time to complete the questionnaires was 20 minutes and the researcher was present during the completion of the questionnaires to answer possible questions. The researchers explained more about the purpose of the study to the caregivers who did not want to participate, and if they did not sign the consent form, their decision was respected.

3.5. Data Analysis

All analyses were conducted, using SPSS statistical software (version 20.0; SPSS, Inc., Chicago, IL, USA). First, by summing up the score of each item in each scale, we determined the total score of the scales. The normality of variables including total score of scales was approved by the Kolmogorov-Smirnov test and, therefore, we used a parametric test for statistical analyses. The Pearson Correlation test was used to investigate the relationship between the caregiver's SoC and the QoL dimensions of cancer caregivers. For a more detailed analysis, Multivariable linear regression was used to investigate the relationship of each demographic variable including age, sex, marital status, and QOL dimensions. The statistical significance level was 0.05.

3.6. Ethical Considerations

The Ethics Committee of the Clinical Development Unit of Loghman Hakim Hospital, Tehran, Iran, approved the current study under the code (IR.SBMU.RETECH.REC.1401.231). At the beginning of the study, objectives were explained to participants and informed consent was obtained from them, and were assured that they would be given access to the findings upon request.

4. Results

4.1. Participants' Characteristics

The participants' mean age was 39.10 ± 9.00. Almost half of the participants were female, and the rest were male. Children as the largest group of caregivers included 61% of the participants. The results of other demographic characteristics are listed in Table 1.

4.2. Quality of Life and Sense of Coherence

The mean score of SoC and its dimensions as well as QoL domains are provided in Table 2. Given that, the overall mean score of QoL among the caregivers was 52.12 ± 14.45. Also, the caregivers had higher levels of QoL in the domain of physical health, 55.19 ± 11.46, and the lowest in social relationships, 38.40 ± 10.08. The overall mean score of SoC among the caregivers was 49.71 ± 9.34. Moreover, comprehensibility (3.79) scored 17.81 as the highest, and the mean value of manageability was 15.83 ± 3.96 as the lowest dimension.

4.3. Predictors of Quality of Life and Correlations

The results of the correlation between SoC and QoL as well as their dimensions and domains are depicted in Table 3. Accordingly, a significant positive but moderate correlation was observed between SoC and the overall QoL, as well as physical, psychological, social relationships, and environmental domains ($P < 0.001$). In this way, the most significant correlation was associated with psychological health ($r = 0.585$).

Table 4 illustrates the results of multivariate regression to evaluate the significance of the correlations with QoL. Considering the demographic and clinical factors, the regression outcomes established a significant positive correlation between SoC and QoL in the caregivers ($P < 0.001$ and $B = 0.65$); so, it was expected that an increase by one unit in SoC could elevate QoL by 0.65. Similarly, a positive correlation was found between SoC and the QoL domains. Among the demographic factors, being married, having a higher income level, and having a job showed a significant positive correlation, but there was

Table 1. Participants' Demographic Characteristics [a]

Variables	Values
Gender	
Male	99 (49.5)
Female	101 (50.5)
Marital status	
Married	119 (59.5)
Single	57 (28.5)
Divorced	19 (9.5)
Widowed	4 (2)
Education level	
High school	58 (29)
Diploma	55 (27.5)
Above the diploma	87 (43.5)
Occupational status	
Employed	39 (19.5)
Housewife	49 (24.5)
Non-employed	112 (56)
Economic status	
Low	30 (15)
Moderate	145 (72.5)
High	25 (12.5)
Relation	
Partner	34 (17)
Children	123 (61)
Parent	5 (2.5)
Sibling	17 (8.8)
Other	21 (10.5)
Type of cancer	
Digestive	91 (45.5)
Head and neck	21 (10.5)
Breast	34 (17)
Lung	8 (4)
Leukemia	27 (13.5)
Gynecology	9 (4.9)
Prostate	3 (1.5)
Bladder	5 (2.5)
Bone	2 (1)
Age	39.10 ± 9.00
Time of relation (mon)	8.16 ± 9.72
Time of day (h)	4.75 ± 1.75

Abbreviation: SD, standard deviation.

[a] Values are expressed as No (%) or mean ± SD.

a significant negative correlation between age and QoL and some of its domains.

5. Discussion

Investigating the correlation between SoC and QoL in the caregivers of cancer patients, this study showed a positive but moderate correlation between SoC and QoL and its various domains, especially psychological health. It was, thus, argued that chronic diseases, such as cancer, could affect patients and their caregivers simultaneously. The family caregivers of cancer patients could also encounter many care challenges diminishing

Table 2. The Mean Scores for Sense of Coherence, Its Dimensions, and Quality of Life

Variables	Mean ± SD
SOC	49.71 ± 9.34
Me	16.07 ± 4.63
Ma	15.83 ± 3.97
Co	17.81 ± 3.79
Total	52.12 ± 14.45
Physical	55.19 ± 11.46
Psychological	49.25 ± 10.80
Social	38.40 ± 10.08
Environment	43.20 ± 14.25

Abbreviation: SoC, sense of coherence.

Table 3. Association Between Sense of Coherence and Quality of Life's Dimensions of Cancer Caregivers

Variables	Physical		Psychological		Environment		Social		Total	
	r	P	r	P	r	P	r	P	r	P
Me	0.390	< 0.001	0.547	< 0.001	0.406	< 0.001	0.470	< 0.001	0.581	< 0.001
Ma	0.370 P	< 0.001	0.375	< 0.001	0.334	< 0.001	0.382 P	< 0.001	0.394	< 0.001
Co	0.239	0.001	0.381	< 0.001	0.368	< 0.001	0.388 P	< 0.001	0.352	< 0.001
SOC	0.448	< 0.001	0.585	< 0.001	0.493	< 0.001	0.553	< 0.001	0.599	< 0.001

Abbreviation: SoC, sense of coherence.

their physical, social, psychological, and spiritual well-being and threatening their QoL. In this line, it was of utmost importance to devote much attention to QoL in the caregivers of cancer patients and identify the psychological factors influencing this concept in oncology and palliative care. Besides, SoC as an unchanging construct over time could help understand stressors better and improve QoL. In this regard, one study on caregivers reported that SoC could be a source of resilience to promote adaptation to stressful conditions in infertile families, with a mediating role in their QoL (29). In addition, various studies have demonstrated that QoL in caregivers could drop with a rise in the care burden (32). From this perspective, SoC in the caregivers could significantly relieve family tension and the burden caused by care for cancer patients, which could, then, shape their QoL (33, 34). In other words, it can be said that it gives meaning to daily care activities and increases their motivation and self-efficacy. One other survey on the caregivers with dementia had correspondingly suggested that SoC had an inverse correlation with the care burden; so, a strong SoC could aid adapt to stressful situations because the caregivers who lacked SoC seemed to be stronger and could understand the life challenges meaningfully (35). They use all available resources to effectively increase their care capacity. The study conducted on parents with children undergoing liver transplantation showed that a strong SoC moderates their care burden. Also, another study showed that the self-efficacy of caregivers should increase with a strong SoC.

Regarding physical health, the findings of the study showed a positive correlation between physical health and SoC. In this regard, previous research has reported that SoC could be a protective factor against the burden caused by care among caregivers (33), which could then improve their QoL. It could also be a buffering agent in cancer patients to reduce their symptoms while receiving chemotherapy (36). In one study conducted on older adults, SoC was found to influence health-related outcomes, as there was a positive correlation between QoL and its physical, psychological, and environmental domains in this age group, particularly the hospitalized ones (37). In terms of psychological health, the caregivers of cancer patients were mainly challenged by some problems of an emotional nature and then social, physical, and environmental ones. In this line, Tang et al. show that SoC as a personal adaptation strategy could

Table 4. Multivariable Linear Regression to Quality of Life Dimensions According to Demographic Information

Variables	Physical		Environment		Social		Psychological		Total	P-Value
	B (SE)	P-Value	B (SE)	P-Value	B (SE)	P-Value	B (SE)	P-Value	B (SE)	
Age	-0.28 (0.10)	0.006	0.06 (0.13)	0.639	-0.05 (0.85)	0.529	-0.05 (0.09)	0.591	-0.29 (0.13)	0.021
Gender (ref. male)	-1.66 (3.20)	0.603	-1.36 (3.94)	0.730	3.01 (2.57)	0.243	-2.52 (2.75)	0.361	-0.44(3.93)	0.912
Marital status (ref. single)										
Married	0.26 (2.07)	0.902	10.03 (2.5)	< 0.001	4.28 (1.84)	0.21	6.21 (1.68)	< 0.001	4.25 (2.60)	0.104
Divorced	0.22 (0.31)	0.486	1.10 (0.27)	< 0.001	0.39 (0.18)	0.035	0.82 (0.18)	< 0.001	0.63 (0.26)	0.017
Widow	-0.18 (0.31)	0.553	0.56 (0.25)	0.026	0.23 (0.16)	0.155	0.52 (0.18)	0.006	0.04 (0.26)	0.877
Education (ref. low diploma)										
Diploma	-0.15 (0.21)	0.463	-0.35 (0.27)	0.207	0.03 (0.18)	0.872	-0.08 (0.19)	0.665	-0.36 (0.28)	0.191
Above diploma	0.21 (0.20)	0.307	-0.20 (0.25)	0.423	0.16 (0.16)	0.328	0.15 (0.17)	0.398	0.25 (0.25)	0.323
Occupation (ref. employed)										
Unemployed	0.10 (0.29)	0.731	-0.18 (0.36)	0.626	-0.28 (0.24)	0.235	-0.93 (0.27)	0.001	0.93 (0.38)	0.016
Housewife	0.44 (0.21)	0.035	-0.03 (0.27)	0.915	0.08 (0.17)	0.645	0.09 (0.19)	0.602	0.23 (0.27)	0.270
Relation (ref. partner)										
Girl	-0.41 (0.31)	0.186	0.42 (0.38)	0.270	-0.114 (0.25)	0.650	-0.35 (0.28)	0.203	0.18 (0.40)	0.657
Boy	-0.07 (0.26)	0.787	0.18 (0.33)	0.586	0.15 (0.22)	0.473	-0.24 (0.22)	0.277	-0.03 (0.31)	0.910
Sister	-0.71 (0.463)	0.102	0.45 (0.54)	0.409	-0.06 (0.35)	0.859	-0.74 (0.36)	0.043	-0.61 (0.52)	0.248
Brother	0.36 (0.41)	0.387	-0.49 (0.51)	0.343	0.09 (0.33)	0.792	0.04 (0.33)	0.906	0.16 (0.48)	0.742
Parent	0.17 (0.51)	0.730	0.09 (0.63)	0.883	0.11 (0.41)	0.779	1.08 (0.45)	0.018	0.22 (0.65)	0.734
Other	0.37 (0.29)	0.203	0.21 (0.36)	0.567	-0.17 (0.24)	0.479	-0.002 (0.25)	0.994	0.45 (0.35)	0.187
Economic (ref. low)										
Moderate	0.76 (0.33)	0.023	0.41 (0.39)	0.302	1.35 (0.26)	< 0.001	1.11 (0.26)	< 0.001	1.70 (0.37)	< 0.001
High	0.15 (0.23)	0.526	0.18 (0.27)	0.498	0.45 (0.17)	0.010	-0.02 (0.19)	0.889	0.27 (0.27)	0.310
Time-day	-0.31 (0.46)	0.497	0.410 (0.57)	0.478	-0.55 (0.37)	0.143	0.50 (0.39)	0.203	-0.33 (0.56)	0.558
SOC	0.54 (0.08)	< 0.001	0.62 (0.1)	< 0.001	0.46 (0.07)	< 0.001	0.44 (0.08)	< 0.001	0.65 (0.11)	< 0.001

Abbreviation: SoC, sense of coherence.

mitigate distress and depression among the caregivers of cancer patients by expanding their confidence in providing end-of-life care and minimizing the negative effects of stress on the caregivers, thereby promoting adaptation positively and QoL in the patients (21). In this context, a systematic study found that some personality traits, including SoC, were most closely related to the psychological aspects of QoL (38). In the surveys on such patients in agreement with the study findings, SoC had been similarly introduced as an independent predictor of QoL, especially in the psychological domain. It even had a protective role by diminishing the effect of stigma on QoL (39). Besides, stronger SoC was associated with higher hope and less anxiety and, then, less depressive symptoms in the patients and their families (40).

Considering social relationships, the findings of the study proved a positive correlation between the social domain of QoL and SoC. In this vein, one study had shown that SoC could act as a mediating construct and the effect of traumatic events, such as war, on the anxiety and social performance of the healthcare workers involved could thus be reduced in war-torn countries (41). In a survey of young women in Japan, SoC was further found to be positively related to social support and its structural and emotional dimensions, which could, then, lower stress (42). Cancer was accordingly a critical situation, and SoC as an internal factor could be influenced by social support, which was by itself effective in accepting the disease in the patients (43).

For environmental health, the findings of the study indicated a positive correlation between the environmental domain of QoL and SoC, which was an important construct in patients living with chronic conditions, such as inflammatory bowel disease. This could affect the stress caused by the disease and QoL, and further disturb other physical and social domains. Likewise, there was a positive correlation between SoC and environmental health within QoL (44).

In general, in most of the studies, a positive relationship between the SoC and the QoL was found. Although the strength of this correlation was different in different cultures; for example, this relationship was more in collectivist cultures such as the people of the

Middle East than in individualistic cultures (45), According to the definition of WHO, the positive aspects of health such as coping, resilience, and satisfaction are considered to be the main part of the QoL in all individuals (46). In other words, a salutogenic framework could serve as a stress-resisting resource, providing prerequisites for a good life (47). Among the demographic factors, a positive correlation was observed between some variables, e.g., marital status, income level, and employment status, but there was a negative correlation between age and QoL and some of its domains, according to the study findings. In this regard, Almugti et al. in their survey in Saudi Arabia established an inverse correlation between age and QoL; so, older caregivers could experience lower QoL, which could be attributed to the decline in performance with aging (48). It could also increase their care burden and reduce their QoL. In line with the study findings, a survey in Ethiopia indicated that lower income levels were negatively correlated with QoL in the caregivers of cancer patients (6), mainly due to the financial challenges occurring during the treatment of patients and the provision of financial support, which could be, thus, justified.

The studies that were conducted so far in the context of SoC and caregivers focused on important variables in caregivers such as caregiving burden, caregiving ability, self-efficacy and self-confidence and psychological constructs such as anxiety, distress, and depression and the study on the impact of this psychosocial structure on the QoL of caregivers was less. Considering the multifactorial structure of QoL and the SOC, these concepts may be affected by many variables, including population characteristics. So, it is beneficial to investigate this relationship in different populations and cultures. This study increased our understanding of the predictive power of SOC in determining the QoL of cancer caregivers. Therefore, it is recommended to strengthen it in psycho-oncology care.

5.1. Limitations

This study had some limitations. First, sampling was of the convenience type; so, the generalizability of the findings and their interpretation needed to be done with much caution. Second, a cross-sectional research design was implemented in this study, but it was recommended to conduct longitudinal studies to shed light on the predictive role of SoC. This study was also conducted only in a teaching hospital in Tehran, Iran. Considering the cultural differences in this region and its impact on QoL, it was, then, suggested to perform more studies in this field and investigate the related factors in different ethnic groups. Fourth, more psychological factors need to be investigated to increase the adaptability and performance of the caregivers of cancer patients. Furthermore, it was recommended to examine the factors mediating between QoL and SoC in future research.

5.2. Conclusions

The caregivers of cancer patients grapple with many physical, emotional, social, and financial problems that reduce their performance, increase the care burden, and ultimately demote their QoL. Various psychological factors can accordingly affect the caregivers' perceptions of their health during stressful situations, such as cancer, and their QoL. As a psychological construct, SoC can help the caregivers of cancer patients understand the meaning of life and adapt to these conditions. Therefore, a comprehensive assessment of caregivers seems to be necessary when they face cancer diagnosis in their family members. As well, therapeutic strategies should be focused on improving SoC and its consequences through personal and group-based interventions and psychotherapy. This is, thus, fulfilled by keeping to an interdisciplinary approach to enhance QoL in the caregivers, which ultimately promotes that in patients.

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Footnotes

Authors' Contribution: N. D., conceived the presented idea and designed the study with the help of M. P.; N. Y., collected the data; M. T., analyzed the data; N. D., wrote the draft of the paper, which was edited and approved

by other authors. The critical revision was done by, M. P., N. Y., S. K., and M. V.

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