

Relationship between perception of family and friends' support and psychosocial adaptation in adolescents suffering from cancer

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Abstract

Context: Cancer is a common chronic disease that affects all aspects of the patients' personal, familial, and social life, especially in adolescents.

Aims: The aim of this study was to identify the relationship between the perception of family and friends' support and psychosocial adaptation in adolescents with cancer.

Setting and Design: Among adolescents who were referred to two hospitals of Shiraz Medical University, 95 adolescents aged 11–20 years were selected according to the inclusion criteria and by available sampling method from July to November 2020.

Materials and Methods: In this descriptive-correlational study, data were collected through demographic characteristics form, perceived support by family, perceived support by friends, and psychosocial adaptation questionnaires.

Statistical Analysis Used: Data were analyzed using SPSS software version 16 and statistical tests such as independent *t*-tests, one-way analysis of variance, Chi-square, and Pearson correlation coefficients at the significance level of $P < 0.05$.

Results: Most patients had a moderate perception of family and friends' support. Psychosocial adaptation to the disease with a total score of 2.01 was at the level of strong adaptation. The perception score of family support was directly related to the score of psychosocial adaptation in the family environment dimension ($P < 0.05$), and the perception score of friends' supports was directly related to the total score of psychosocial adaptation and attitudes toward illness and social environment ($P < 0.05$).

Conclusion: According to this study's results, it was proved that there is a correlation between the perception of family and friends' support with psychosocial adaptation to the disease in adolescents suffering from cancer.

Keywords: Adolescents, Family, Cancer, Psychosocial, Adaptation, Support

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INTRODUCTION

Cancer is a common chronic disease that is growing in the eastern Mediterranean and Iran these days.^[1,2] The cancer mortality in Iran is approximately 4% of deaths in children under 5 years and 13% of deaths in children aged 5–15 years.^[3] Unfortunately, despite advances in cancer treatment, it still has severe psychological consequences, such that the incidence of mental disorders in cancer patients is estimated at 30%–40%.^[1]

Psychological problems caused by long-term treatment of this disease and coping with it are especially important in adolescents^[4] because adolescence is a transition period from childhood to adulthood and is accompanied by extensive social, psychological, cognitive, behavioral, and physical changes.^[5] The period of adolescence is characterized by abstract thinking, rational reasoning, and flexibility in problem-solving. This age emphasizes independence, self-sufficiency, and sexual tendencies. Physical attractiveness and self-confidence are among the main elements of this era.^[6] During this period, people are at increased risk of psychosocial problems and mental disorders. On the other hand, chronic diseases such as cancer lead to differentiation of adolescents from others and thus lead to their psychosocial incompatibility, so psychological adaptation to cancer is very important in this period.^[4,7,8]

Adaptation has been an active process, influenced by personal and environmental triggers, in which the individual has reached an acceptable level of physical, mental, and social health after coping with personal and environmental challenges.^[9] Compatible with illness is a positive attitude toward oneself and the world despite having physical problems.^[10] A person's attitude toward the disease is his outlook in relation to the disease and its symptoms, and a patient with a positive attitude better follows the treatment and prevention instructions, and, as a result, his psychosocial adaptation to the disease increases. Good adaptation allows the patient to make “guaranteed health changes.”^[11]

Psychosocial adaptation to cancer is a process of active adaptation using cognitive and behavioral resources in response to stressful events in an emotional, physical, interpersonal, and practical environment, and the result is a sense of physical and emotional well-being, a sense of control, and acquiring the resources to better communicate needs and concerns.^[12,13] In general, well-adapted individuals are constantly committed to and actively involved in the cancer management process and continue to seek meaning

in their lives.^[14] The results of various studies indicate that cancer, in addition to causing problems in all aspects of personal, familial, and social life, also increases the need for support.^[15]

Social support is one of the emotional coping methods and, in fact, an indicator of exchanging resources and satisfying emotional, belonging, and security needs between two or more people in certain circumstances in order to increase the level of receivers' well-being. Social support is provided from various sources, such as one's spouse, family, and friends.^[16] Social support, especially in adolescents, is currently considered to be the most important facilitator of health behaviors and the most powerful way of successfully coping in stressful situations, making it easier for adolescents to endure problems.^[17] The family is often seen as the primary source of care and support by patients.^[15] The supportive role of parents is very complex: a teenager who has just become independent of his family once again becomes dependent on his parents after being diagnosed with cancer and relies on them as his most important and strongest supporters, and this is the most common way that teenagers adapt to illness.^[6,18] Sociobiological models and the family system also show that the quality of performance in a family is related to the adolescent's ability to adapt.^[19]

Peers also play a vital role in children and adolescents' lives and are directly related to their academic achievement, social competency, and general adaptation, and, also, interaction with peers promotes adolescent social understanding, as peer rejection and reduced interaction occur following impaired social skills of adolescents with chronic illnesses. Ultimately, poor social competency and rejection by peers lead to psychosocial maladaptations and inefficiencies in adulthood.^[6]

The adolescent flexibility model is also used to calculate the effect and importance of the peer system on young people's adaptation outcomes. It emphasizes the effects of the structural factors (i.e., size, access, and frequency of contact) and performance factors (i.e., perception of support) of the peer network as predictors of youth adaptation.^[19]

Van Schoors *et al.*, in a systematic review of the meta-analysis entitled “The relationship between family functioning and child adjustment after pediatric cancer diagnosis,” conducted several studies to examine the relationship between family functioning structure as a whole and child adaptation after cancer diagnosis. The results of the meta-analysis of the studies showed that better family functioning was

significantly associated with patient-sibling adjustment after pediatric cancer diagnosis, and provided evidence that in particular greater cohesion, communication and expression, and more family support and fewer family conflicts, each which was associated with greater adaptation and better consequences of child adaptation (e. g., social competence and less internalization symptoms). This general finding applies to all patients and their siblings.^[20] Suzuki and Kato (2019) conducted a review study entitled “Psychosocial Support for Children with Cancer: The Impact of Parents, Schools, Peers, and Technology.” This article reviews past literature on how parents, schools, and peers influence the coping and adjustment of children with cancer, and the issues that these children often face in dealing with their parents, schools, classmates, and peers, and summarizes interventions to improve the performance of these resources. It also had a special focus on the role of technology (such as video games, CD-ROMs, and the Internet) in improving patient support and providing new forms of support in these areas. The results of this study showed that coping behaviors and the appropriate level of support of parents and family members, the quality of parents’ marital relationships, cooperation and optimism of parents, open communication, and lack of simultaneous tension in the family are associated with effective coping and adjustment of children with cancer and also psychosocial support provided by parents, teachers, classmates, and peers to children with cancer is really important in their psychosocial adjustment, and a variety of interventions are available to improve interpersonal interactions and combat the disease.^[21]

Jafari *et al.* conducted a study entitled “Study of Perceived Social Support and Its Related Factors in Adolescents with Chronic Illness” with the same purpose. This was a descriptive-correlational study in which 172 adolescents aged 11–16 years (average 12.5 years) with chronic diseases referred to selected pediatric hospitals in Tehran were included in the study through purposive sampling. The results showed that the total score of perceived social support (45.46 ± 5.88) was in the high range of social support. Among demographic factors, gender, ethnicity (cultural and social factors), parents’ education, family income, number of children, birth rate, and having insurance ($P < 0.01$) were significantly associated with perceived social support. Furthermore, the type of chronic illness and frequency of hospitalization and academic failure ($P < 0.01$), illness prevention from group activities, and the rate of absenteeism ($P = 0.003$) were significantly associated with the perception of social support. Finally, it was found that the five factors of girl gender, higher education of parents, especially mothers, lower birth rates, having insurance as a form of financial support,

and less absenteeism from school (leading to reduced relationships with peers) are the most influential factors on increasing perception. on increasing the social support of adolescents with chronic illness. Contrary to some research, Jafari *et al.* believed that the large social network of these samples (families with more children) was directly related to increasing their perception of social support.^[4] Mehrparvar *et al.* also stated in their study on the increase in the prevalence of nausea and vomiting in women that social support is a key strategy in adapting to cancer.^[1]

Given the increasing prevalence of cancer in developing countries, especially Iran, and with the advancement of medical science, cancer has evolved from a deadly disease to a chronic disease with a high survival rate, and also based on the proposed principles that cancer as a traumatic event requires adaptation and strong support from others, so the importance and necessity of psychosocial adaptation to cancer is doubling than before, especially in adolescents, so the researchers sought to investigate the relationship between the perception of support from family and friends and psychosocial adaptation to cancer in adolescent patients.

MATERIALS AND METHODS

The statistical population of this descriptive-correlational study consisted of all 11–20-year-old adolescents with cancer in Shiraz. Because of Amir’s cancer hospital and Imam Reza (AS) clinic of Shiraz are two centers that will services to adolescents with cancer, so these two centers were selected as the research environment. The samples were 95 adolescents aged 11–20 years suffering from cancer who were referred to these two hospitals from July to November 2020. Samples were selected by the available method. For calculating the sample size, we used the level of α error = 0.05 and test power as 80% then $\beta = 0.2$ and minimum the value of correlation coefficient for the significance of the relationship as 0.3, therefore the 85 people were required to participate in the sample but by considering the 10% probability of sample loss, 95 people were selected.

Inclusion criteria included: Iranian citizenship, adolescence (ages 11–20 years), suffering from cancer and at least 6 months after definitive diagnosis, the adolescent and family’s prior knowledge of cancer diagnosis, having at least one friend, and the adolescent and parents’ satisfaction from participating in the research. Exclusion criteria included: discontinuation of treatment by the patient, the adolescents’ mental disorders, and other chronic illnesses based on the cases recorded in the file.

The data collection tool was a questionnaire that was completed by the adolescent in the form of self-report.

The questionnaire used in this study consisted of four parts. In the first part, demographic characteristics, including age, sex, birth rank, educational level, type of cancer, duration of illness, and history of a similar disease in the family, were examined. The second and third parts included the Perceived Family Support Questionnaire (PSS-FA) and the Perceived Friends' Support Questionnaire (PSS-FR), which were both developed by Procidano and Heller in 1983, and in them, the level of support received from family and friends was assessed and measured. These two scales are two separate self-report questionnaires, and each includes 20 items with three answers and scoring based on the Likert scale (check the agreement) as "Yes = 2," "No = 0," and "I do not know = 1" and the total scores of each scale is in the range of 0–40.^[22] The reliability of these two questionnaires in Iran was obtained with a family scale alpha coefficient between 0.88 and 0.91 and a friend scale alpha coefficient between 0.84 and 0.9. This test also has good concurrent validity. In Safari *et al.*'s study, Cronbach's alpha coefficient was calculated to be 0.8 for (PSS-FA) and 0.82 for (PSS-FR).^[23]

The fourth section of the questionnaire was the Psychosocial Adaptation to the Disease (PAIS), which was designed by Derogatis in 1986 to assess how psychosocial adaptation occurs for chronic illnesses. This questionnaire includes 7 domains and 46 items, including attitudes toward illness (8 questions), work/study environment (6 questions), family environment (8 questions), sexual relations (6 questions), scope of family relationships (5 questions), social environment (6 questions), and psychological disorders (7 questions). The answers are scored on a 4-point Likert scale from 0 to 3 as "totally = 0," "somewhat = 1," "slightly = 2," and "absolutely = 3."^[24] Feghhi *et al.*, after translation, localization, and alterations to it, had the validity of the questionnaire confirmed, using the content validity method, by ten respected professors of Birjand University of Medical Sciences and calculated its reliability using Cronbach's alpha coefficient of 0.94.^[9]

The researcher, after obtaining the code of ethics with the ID IR.IAU.KHUISF.REC.1397.155 and making the necessary coordination with the relevant departments, including obtaining permission from the treating physicians and informed written consent of the samples or parents, providing explanations about the process and purpose of the research, and ensuring the confidentiality of information and the possibility of canceling the research at any time to the samples or parents, had the questionnaires

self-reported in his presence in the period from July to November 2020.

Collected data were entered into SPSS version 16 (IBM Corp., Released 2009. IBM SPSS Statistics for Windows, Version 16. Armonk, NY, USA: IBM Corp.) and by using descriptive statistics (mean and standard deviation for quantitative variables and amount and ratio for qualitative variables) and analytical (independent *t*-tests, one-way analysis of variance, Chi-square, and Pearson correlation coefficients) were analyzed, and a $P < 0.05$ was considered as a significant level.

RESULTS

For this study, 95 adolescents with cancer who were referred to two hospitals affiliated with Shiraz University of Medical Sciences were selected. First, all research variables were examined for the normality of data distribution, and after obtaining the normality condition, the relevant statistical tests were used, based on which the Pearson correlation coefficient showed that there was no significant relationship between the scores of the perception of family support and the perception of friends' support with age, duration of cancer, and history of similar diseases in the family ($P > 0.05$). Furthermore, the Pearson correlation coefficient showed that the score of psychosocial adaptation was inversely related to the age of patients ($P = 0.035$) but was not significantly related to the duration of cancer and the history of similar diseases ($P > 0.05$) [Table 1].

The independent *t*-test showed that the mean score of perception of family support in girls was significantly higher than in boys ($P = 0.02$), but the mean scores of perceptions of support from friends and the total score of psychosocial adaptation were not significantly different between girls and boys ($P > 0.05$) [Table 1].

The overall score of the sample's perception of support from family and friends was moderate. The mean total score of the patients' psychosocial adaptation was at a strong level, and most patients had moderate psychosocial adaptation to the disease, and none of them were at a poor level of adaptation [Table 2].

According to the results, the highest adaptation was related to the dimension of attitude toward the disease, and the lowest adaptation was related to the dimension of psychological disorders. The Pearson correlation coefficient showed that the perception of support from family was directly related to the score of psychosocial

Table 1: Demographic characteristics of research samples and their relationship with research variables

Individual variables and disease	Frequency (%) or mean±SD	Perception of family support		Perception of friends' support		Psychosocial adaptation	
		Mean±SD	Test result	Mean±SD	Pearson test result	Mean±SD	Pearson test result
Age (year)	14.3±2.7	P=0.811	r=-0.02	P=0.111	r=0.16	P=0.035	r=-0.18
Sex							
Girl	36 (37.9)	27.81±6.73	t=2.33	24.34±5.48	t=1.39	2.00±0.38	t=0.08
Boy	59 (62.1)	25.15±4.37	df=93 P=0.022	22.57±6.28	df=93 P=0.173	2.00±0.44	df=93 P=0.941
Birth rank							
Single child	11 (11.6)	P=0.63		P=0.502		P=0.641	
First child	23 (24.2)	r=-0.05		r=-0.07		r=0.04	
Middle child	22 (23.1)						
Last child	39 (41.1)						
Grade							
Elementary	30 (31.6)	P=0.392		P=0.221		P=0.111	
Middle school	32 (33.7)	r=-0.08		r=0.12		r=-0.16	
high school	23 (24.2)						
Diploma	6 (6.3)						
Student	4 (4.02)						
Type of cancer							
Leukemia	61 (64.2)	25.68±4.82	t=1.33	23.34±6.35	t=0.17	2.05±0.44	t=0.86
Other cancers	34 (35.8)	27.24±6.41	df=91 P=0.19	23.56±5.21	df=91 P=0.86	1.97±0.37	df=91 P=0.393
Duration of cancer (year)	1.9±1.8	P=0.921		P=0.882		P=0.882	
		r=-0.01		r=0.01		r=0.01	
History of similar disease							
Yes	33 (34.7)	P=0.521		P=0.563		P=0.21	
No	62 (65.3)	r=-0.63		r=-0.58		r=-1.2	

SD: Standard deviation

Table 2: Scores of perception of support from family and friends and the total score of psychosocial adaptation in patients

Variable	Mean±SD
Perception of family support	5.51±26.16
Perception of friends' support	6.03±23.24
Psychosocial adaptation	0.42±2.01

SD: Standard deviation

adaptation in the family environment ($P = 0.030$), but there is no significant relationship with the total score of psychosocial adaptation ($P = 0.270$) and other dimensions ($P > 0.05$).

The Pearson correlation coefficient also showed that the perception score of support from friends was directly related to the total score of psychosocial adaptation ($P = 0.026$) and the dimensions of attitudes toward illness ($P = 0.032$) and social environment ($P = 0.001$), but it did not have a significant relationship with the score of other dimensions of psychosocial adaptation ($P > 0.05$) [Table 3].

DISCUSSION

In this study, the score of psychosocial adaptation was inversely related to the age of patients ($P = -0.035$); therefore, with increasing age, psychosocial adaptation decreased. The results of Abrams *et al.* showed that older adolescents are at greater risk of poorer psychological

performance and a hopeless outlook on life. Adolescents have been consistently shown to have a higher rate of failure to adapt to cancer and other life-threatening diseases than younger children and adults.^[6]

The results of von Weiss *et al.* showed that older age is associated with adaptation and psychological problems.^[25] In this regard, a study of Korkmaz and Küçük showed that older children are more harmed than younger children due to their greater understanding of the disease process and the physical problems associated with the disease and its treatment. As a result, they need special attention when performing interventions.^[26]

All three of the aforementioned studies are consistent with the results of the present study, but Mazanec *et al.* considered younger age as one of the causes of poor psychosocial adaptation,^[12] which is inconsistent with the present study and the abovementioned results. The different conclusions may be because of differences in the age group of the samples.

Furthermore, the perception of parental support in girls was significantly higher than in boys, which was consistent with von Weiss *et al.*'s study.^[25]

Furthermore, Jafari *et al.*^[4] (2016) found that females receive more social support and seek more help from others

Table 3: Scores of psychosocial adaptation dimensions and its relationship with perception of support from family and friends in patients

Dimensions of psychosocial adaptation	Mean±SD	Perception of family support (Pearson)		Perception of friends' support	
		r (Pearson)	P	r (Pearson)	P
Attitude toward the disease	2.29±0.47	0.12	0.230	0.19	0.032
Job/study environment	1.68±0.68	0.08	0.431	0.01	0.910
Family environment	1.98±0.15	0.19	0.030	0.03	0.710
Scope of family relationships	2.15±0.58	-0.01	0.922	0.13	0.210
Social environment	2.01±0.80	0.03	0.710	0.33	0.001
Psychological disorders	1.74±0.82	0.03	0.781	0.10	0.003
Total score	2.01±0.42	0.11	0.273	0.19	0.026

SD: Standard deviation

than males. Some studies in adolescents with cancer did not report a significant relationship between gender differences and social support,^[22] which is inconsistent with the results of this study; however, the difference may be due to the small number of samples in the above researches.

Findings from this study showed that the overall scores of perceptions of support from family and perception of friends' support were moderate, and none of the individuals had a weak perception of support from family, and only a small percentage of them had a poor perception of friends' support. Although a small percentage were at a strong level of both perceptions of support from family and friends, overall perception of family support was higher than perceptions of friends' support.

Researches of Sanjari *et al.*, Decker, and Jafari *et al.*^[4] (2016) showed that family members are the most important source of support and the most influential factor in the child support system, making the above studies consistent with the present results.^[8,22,27]

Some researches found that both family and friend support were equally important, but some of them found that adolescents with cancer had less support from friends than healthy adolescents and that there was no difference in family support.^[26] Jagenow *et al.* showed that the perception of friends' support for adolescents 9–15 years old was equal to the perception of family support, but adolescents aged 16–18 years considered the perception of family support as their source of support. Adolescents with cancer rely on various sources of social support to cope with the diagnosis and treatment of their disease.^[28] Families, especially mothers, and peers play a significant role in providing the emotional and social support they need. Adolescents have generally been reported to have experienced higher levels of family adaptation and cohesion during illness.^[6]

However, in another study, it was found that adolescents with cancer had significantly more arguments with

their parents than healthy adolescents, but there was no significant difference in relation to siblings and friends.^[29]

In Heydari's research in line with the present study, patients had the least support from friends, which leads Heydari to believe that today's friendships are transactional and that with the injury of one party and his inability to compensate for the support, the relationship ends.^[15] At the same time, frequent hospitalizations prevent them from having a strong presence in society, causing them to gradually lose many opportunities for socialization.^[30]

Adolescents have also attributed the change in their friendships to the reduction of time spent interacting with friends due to the dimensions of the disease.^[26] Absence from school is often due to medical conditions or treatment, which, of course, can be related to the fear of being rejected by classmates or the fear of overly protective parents. It is estimated that 11% of children with cancer suffer from school phobia.^[31]

Adolescents with cancer require social isolation during treatment due to compromised immunity, which, in turn, will necessitate the absence of social activities, even if physicians eliminate this need for social isolation. Adolescents, from various internal causes, such as loss of physical attractiveness, avoid contact with peers, but, if they do communicate with peers, they also experience social anxiety, especially if they are not ready for complex social interactions, such as making friends and romantic relationships.^[32] Therefore, the reason for the lower score of perception of friends' support than family support in this study can be due to this distance from the social environment and network of friends, and even the fact that 3.5% of adolescents in this study are at a low level of perception of support from friends can be justified.

The results of the present study showed that the overall psychosocial adaptation of patients in this study was at a strong level. The highest adaptation belonged to the attitude toward the disease and the lowest adaptation

belonged to the dimension of psychological disorders. Most patients had moderate psychosocial adaptation to the disease, and none were poorly adjusted. The above results are consistent with some studies.^[25]

The findings of this study showed a direct relationship between perception of family support and psychosocial adaptation score in the family environment dimension, but no relationship was observed with overall psychosocial adaptation to the disease and its other dimensions. The findings of this study showed a direct relationship between perception of family support and psychosocial adaptation score in the family environment dimension, but no relationship was observed with overall psychosocial adaptation to the disease and its other dimensions. This correlation is consistent with the results of the studies of Pakenham and Rinaldis, von Weiss *et al.* and therefore will demonstrate the family environment to be a strong predictor of psychosocial adaptation.^[25,32]

It should be noted that the results of the study show that the perception score of support from friends is in a constant relationship with the total score of psychosocial adaptation and the dimensions of attitude toward the disease and the social environment, but it had no significant relationship with the score of other psychosocial dimensions. This finding is consistent with the results of some studies.^[33] Mehrparvar *et al.* stated that social support is a major strategy in coping with cancer,^[1] consistent with the results of the present study.

The use of available sample and limited statistical population, having the limit time for conducting the study, the impossibility of full time presence of the researcher in the research environment, the effect of psychological conditions of the research units on the adolescents when they answering the questions, and pointed out the possibility of adolescents' inaccuracy in answering the questions, were the limitations of this study.

CONCLUSION

According to the results of this study, it can be stated that there is a direct relationship between the perception of support from friends and family with psychosocial adaptation to cancer in adolescents with the disease. The family as a source of support can play a key role in controlling and reducing the stress of cancer by giving a sense of security and confidence in the home environment and providing encouragement from the existence of supporters and family members who will not abandon patients in any special or critical situation, and, in this way,

it helps the person achieve better psychosocial adaptation to the disease. Moreover, the direct relationship between the perception of support from friends and the total score of psychosocial adaptation and the dimensions of attitudes toward illness and social environment in the analysis of the results also confirms the effect of social relationships of adolescents with friends and peers on adaptation to cancer in psychological dimensions (attitudes toward disease) and social (social environment). Considering the results of the present study and other similar studies, it can be stated that the support of family and friends as supportive resources can help a person in better coping and psychosocially adapting to the disease and its challenges. It seems that adolescents with cancer, with a good understanding of the support provided by family and friends, will have the power and motivation to accept and cope with the disease and can feel positive about social and family relationships and manage the stress of cancer. Additionally, it will enable them to reduce psychological anxiety, deal with illness, and adapt to new situations.

Conflicts of interest

There are no conflicts of interest.

Authors' contribution

All authors were involved in the conceptualization of the study, revising the manuscript and interpreting the results.

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