

Incidence and Related Factors of Depression in Adolescents with Cancer

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Abstract. This study aimed to investigate the prevalence of depression among adolescents with cancer. A sample of 174 adolescents diagnosed with cancer along with one of their parents, respectively completed Beck Depression Inventory for Primary Care (BDI-PC) and Beck Depression Inventory (BDI) as well as a demographic questionnaire. Results revealed that 29.9% of adolescent participants were diagnosed with depression disorder. Furthermore, there were positive correlations between adolescent depression with parents' depression, cancer relapse, and number of children in the family. However no significant correlation was indicated between adolescent depression with adolescents' age, gender, the age when diagnosis was made, duration of illness, amount and kind of treatment methods, intensity of disease, and family income.

Keywords: depression, adolescents, cancer.

Introduction

Cancer in adolescents is uncommon yet more of a stressful phenomenon stemming from some specific and unique changes which occur for the patient and her or his family [1, 2]. The threatening nature of cancer and its aggressive treatment methods may lead to substantial emotional stresses [3] which in turn could disturb the family environment and ultimately have the adolescent's internalizing problems ensued. Beside the cancer related medical issues, the adolescents may experience multiple stressors that may stem from both the illness and the adolescence proper normal developmental tasks [4]. There is evidence indicating that adolescent with cancer, more likely experience significant psychological maladjustment [5, 6, 7]. On the other hand, some studies suggest that adolescents with cancer were no more anxious or depressed than the normal adolescents [8, 9]. Furthermore, among co-morbid psychological issues and various problems with pediatric cancer, depression is known as the most common psychiatric disorder [10, 11, 12]. The prevalence of depression, co-morbid with cancer, varies between 8% and 36% depending on the site of cancer, diagnostic criteria based on the rating scales used [13, 14]; other risk factors for depression include being female, a family history of depression particularly in a parent [15], and disease severity [16]. Depression is a risk factor for delayed diagnosis of cancer as well as a significant agent for rejection of medicine by the patients [17, 18, 19]. It has negative effects on individual functioning, quality of life, duration of hospitalization, and efficiency of medical treatment [20]. Lowering the function of immunity system, depression could predict cancer progression and mortality [16]. In general, in its co-occurrence with cancer, depression has several miserable effects in deferent areas of individual and social life, physical and psychological health, and treatment or Progression of illness. Hence, prevention, diagnosis and early intervention for depression in cancer patient adolescents are vital. The present study was designed and conducted with the purpose of investigating prevalence of depression and its related factors in adolescents afflicted with cancer.

Methods

Subjects

174 adolescent cancer patients (77 female and 97 male) and one of their parents were selected through convenient sampling from a number of cancer treatment centers and hospitals in three cities (Tehran, Isfahan, and Shiraz) of Iran.

Instrument

Beck Depression Inventory for Primary Care (BDI-PC): This questionnaire has been used as a screening instrument in depression for patients with medical problems and is a 7-item questionnaire. These items include symptoms of sadness,

past failure, self dislike, loss of pleasure, self criticalness, pessimism, and suicidal thoughts and wishes. These items are according to the criteria for major depressive disorder (MDD) in the 4th edition of Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) [21]. Winters et al. have reported high internal consistency and Cronbach's alpha coefficient in adolescent sample. They found that a BDI-PC cutoff score of 4 and above had both 91% sensitivity and specificity rates respectively for identifying adolescents with and without MDD [22].

Beck Depression Inventory (BDI): This questionnaire is one of the best depression diagnostic tests and more customarily used in researches and clinical situations. It has 21 items with answers for each item scoring in 4 point likert scale. In a meta-analysis study on the BDI, it was discovered that its internal consistency estimate yielded a mean coefficient alpha of 0.86 and 0.81 respectively for the psychiatric patients and non psychiatric subjects [23].

Demographic Questionnaire: A researcher designed questionnaire was used to collect information regarding the patients' demographic and treatment data such as age and gender of adolescent, age at which diagnosis was made, illness duration, quantity and kind of treatment methods, intensity of disease, type of cancer, cancer relapse, family income, and the number of family children.

Data Analysis

After completing the questionnaires by the participants, data were coded and entered into the SPSS16.0 software. Descriptive statistics, correlation coefficient, and independent samples T-test were used for statistical analysis.

Results

Results revealed that 29.9% of adolescent participants were diagnosed with depression disorder. There were significant positive correlations between adolescent depression with both parent depression (0/155, $P < 0.05$) and the number of children in the family (0/152, $P < 0.05$). However no significant relations were indicated between adolescent depression with adolescents' age and gender, the age when diagnosis was made, duration of illness, amount and kind of treatment methods, intensity of disease, and family income. Incidentally adolescents with cancer relapse were significantly more depressed ($P < 0.3$) than adolescents without cancer relapses.

Table 1. frequency and percent frequency of depressed and non depressed adolescents.

Depression position	Frequency	Percent frequency
Depressed adolescent	52	29/9
Non depressed adolescent	122	70/1

Table 2. mean discrepancy adolescent depression score in relapsed and non relapsed groups.

Relapse position	Frequency	Mean	Standard diversion	t	Significant level (p)
With relapse	53	5/01	5/47	-2/18	0/03
With out relapse	121	3/52	3/43		

Discussion

The correlation of the number of children in the family and the parent depression with adolescent's depression may suggest that family and parental factors have a significant role in the mental health of adolescents with cancer. Contrary to typical expectations, girl adolescent participants were not more depressed than the boys [9]; indeed there was no difference in depression between sexes. This could be due to the type of instrument that was used for assessment of depression (BDI-PC) in this research which excluded the somatic symptoms more frequently seen in the female sample. Perhaps lack of significant correlation between the prevalence of depression in adolescent with cancer and illness related factors may be related to the array of cancers and their proper treatment methods in subjects. Future studies with more homogeneity in the samples may bind different results.

Concurrence of depression disorder with cancer has several and miserable effects in different areas in individual and social life, psychological and physical health, treatment and illness advancing of adolescents. Considering the incidence

of depression among adolescents with cancer (equal 1/3), diagnose and treatment of this psychological disorder at its outset is important and indispensable. Arriving at this vital objective entails compiling and executing preventive measures such as family-focused interventions, informing parents and medical staff on the symptoms and their effects, and application of psychological tools related to depression.

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