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ORIGINAL ARTICLE

Quality of Life (Psychosocial Domain) of Adolescents with Acute Lymphocytic Leukemia Undergoing Chemotherapy at Hematology Center in Medical City

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ABSTRACT

Background: Measurement of Quality of Life (QoL) in adolescents with acute lymphocytic leukemia and their families is to be an essential indicator of their well-being. Detecting children and families with an expected lower QoL and guiding health providers with focused treatments to enhance it will be aided by measuring multiple QoL aspects.

Objectives: To assess the quality of life (psychosocial domain) of adolescents with acute lymphoblastic leukemia receiving chemotherapy.

Methods: A descriptive study design was performed on adolescents with acute lymphoblastic leukemia aged 13 to 18 years. The study started from November 20, 2020 to January 1, 2022. A sample of 45 adolescents diagnosed with acute lymphoblastic leukemia who were receiving chemotherapy from a teaching hospital in Baghdad. The researchers adopted the study instrument (questionnaire) based on: Adopted quality of life scale from the world health organization scale (WHOQoL, 1995).

Finding: there are significant relationships between quality of life (psychosocial domain) and socio-demographic characteristic of adolescents at p. value ≤ 0.05., except that residence and level of education are no significant relationship with the psychosocial domain.

Conclusion: adolescent age from 13 to less than 18 years have moderate to low effects on psychosocial domain of the quality of life.

Keyword: quality of life, adolescents with ALL undergoing chemotherapy.

INTRODUCTION

Quality of life is a multidimensional concept that refers to a person's perception of the impact of disease and treatment on their health, well-being, or functioning related to the physical, psychological and social aspects of life. (Eman, Maissa, Lobna, Sanna, & Inas, 2017).

ALL is the most common neoplasm that affects children under the age of 16 and during the first years of age, mostly children. It is described by the uncontrolled proliferation of immature lymphoblastic cells called lymphoblastic cells, which are prevalent in the bone marrow and alter normal hematopoiesis (Damascena et al., 2018).

Patients with acute leukemia will face intervention treatment such as corticosteroids, chemotherapy, and an increased risk of infection. This will reduce the quality of life of these adolescents (Hicks, Bartholomew, Ward-Smith &Hutto,2003). According to the clinical manifestation of leukemia, which results in pain, discomfort, and dysphagia, alongside difficulty swallowing, eating, drinking, inadequate nutrition, systemic weakness, and life-threatening infections in extreme cases. Psychological distress and impairment of QoL and functional status may result from these (Figliolia et al., 2008; Mendonça et al., 2015; Moslemi et al., 2016).

The QoL assessment is largely affected by the side effects of chemotherapy (Kobayashi et al., 2017). According to the study of Furlong et al., (2012) discovered that the phase of therapy intensification and continuation is associated with the worst quality of life, the should be remembered that depending on the therapy phase the measurement of QoL varies.

Several factors can affect the quality of life (QoL) of adolescents with acute lymphoblastic leukemia, including problems with spouses and family relationships, changes in body image, difficulty adjusting to these changes, changes in social support systems, mental health problems, loneliness Feelings of isolation, financial problems and fatigue are among the most prevalent, preventing people from carrying out their daily activities, affecting all aspects of quality of life (QoL) related to the treatment they receive, as well as the risk of death and disease recurrence. fear (DiŞsiz, İnce, Kocaoğlan, & Duyar, 2017).

Objectives of the Study

1. To assess the quality of life (psychosocial domain) of adolescents with acute lymphocytic leukemia undergoing chemotherapy
2. 2. To determine the relationship between quality of life (psychosocial domains) and sociodemographic characteristics of adolescents with acute lymphoblastic leukemia (gender, residence, level of education, family income).

METHODOLOGY

A descriptive study design was performed on adolescents having acute lymphocytic leukemia who were between the ages of 13 years to less than 18 years. The study started from the period of 20th November 2020 to 1st January 2022. A non-probability purposive sample of (45) adolescents diagnosed with acute lymphocytic leukemia undergoing chemotherapy was chosen from the Baghdad teaching hospital. The researchers adopted the study instrument (questionnaire) based on: Adopted quality of life scale from the world health organization scale (WHOQoL, 1995). The study instrument consists of two sections: The first section consists of sociodemographic variables such as gender, age, residency, the child's education level, family income. The second section consists of the psychosocial domains of the quality of life measurement Scale which has (39 items) and was divided into (8) subdomains: positive feelings (4 items), negative feelings (5 items), self-esteem (5 items), thinking, memory, and concentration (5 items), school achievement (4 items), body image and appearance (7 items), personal relationship (5 items), and social support (5 items) (4 items). Rating and Scoring of Quality of Life (Psychosocial Domain) of Adolescents based on: Three-point Likert scales for rating the items as always=3, sometimes =2, never=1. Mean of score (low= 39-64, Moderate= 65-90, High= 91-117). A pilot study was done on (6) adolescents with Acute Lymphocytic Leukemia who were recruited from the hematology centers of Baghdad Teaching Hospital between the 4th to 28th of February 2021. The pilot study sample was excluded from the original sample of the study. Cronbach's alpha coefficient was used to measure the questionnaire's reliability, and it revealed that the r= 0.816.

Data in this study were analyzed using the Statistical Package for Social Sciences (SPSS) version 20. Data are evaluated using descriptive and inferential statistical methods such as the chi-square test. The reliability of the questionnaire was

determined using the correlation coefficient, and the statistical significance level was set at 0.05.

RESULTS

Table 1: Distribution of adolescents Age from 13 to less than 18 years with Acute Lymphocytic Leukemia according to their Socio-demographic Characteristics

No.	Characteristics		F	%
1.	Gender	Male	27	60.0
		Female	18	40.0
2.	Residency	Rural	12	26.7
		Urban	33	73.3
3.	Level of education	Primary School graduated	18	40.0
		Intermediate and more	27	60.0
4.	Family monthly income	Less than 300.000 ID	6	13.3
		From 300.000-600.000 ID	12	26.7
		From 601.000-900.000 ID	9	20.0
		More than 900.000 ID	18	40.0

No: Number, F: Frequency, %: Percentage

Table (1) offers that the most of adolescents in the study are 60% males. 73.3% of the adolescents live in urban regions, while 26.7% live in rural areas. The level of education of adolescents refers that 60% of them are graduated from intermediate school and more, also 40% of them are graduated from primary school. Around 40% of the monthly income of the families is more than 900.000ID.

Table 2: Assessment of the Level of Quality of Life (Psychosocial Domain) of Adolescents Age from 13 to less than 18 years with Acute Lymphocytic Leukemia Undergoing Chemotherapy

Levels (Psychosocial Domain)	F	%	M.S	SD
Low	15	33.3	1.6667	0.47673
Moderate	30	66.7		
High	0	0.0		
Total	45	100.0		

F: Frequency, %: Percentage, M.S: Mean of score, SD: Standard deviation

(low= 39-64, Moderate= 65-90, High= 91-117)

Table (2) illustrates that adolescents age from 13 to less than 18 years have moderate to low effects on psychosocial domains of the quality of life in which 66.7% of them are showing a moderate affected level and 33.3 % are showing low affected level.

Table 3: The Statistical Relationship between Quality of Life (psychosocial Domain) and Socio demographic Characteristics of Adolescents Age from 13 to less than 18 years with Acute Lymphocytic Leukemia Undergoing Chemotherapy

No.	Demographic Variables	Quality of Life Domains (Psychosocial Domain)			
		Chi-square	d.f	p-value	Sig.
1.	Gender	4.902	1	0.027	S
2.	Residence	0.019	1	0.889	N.S
3.	Level of education	3.002	1	0.083	N.S
4.	Family income	23.300	3	0.000	S

No: Number, d.f: degree of freedom, p: probability ≤ 0.05 level, N.S: Not significant, S: significant

Table (3) reveals that there are significant relationships between psychosocial domains and socio-demographic characteristic of adolescents at p. value ≤ 0.05., except that residence and level of education are no significant relationship with the psychosocial domain.

DISCUSSION OF RESULTS

Table 1 shows that most of the adolescents in the study are 60% males. The findings of this study correspond with those of Abd El-latif, Morsy, and Abd El Moniem (2021) who discovered that 66.7 % of the studied were male and 33.3 % were female. These results are also consistent with Novrianda and Khairina (2015), who found that the majority of participants were male (66.7 %). However, this conclusion contradicts a study by Robson et al., (2021) which found that female children (53.1%) outnumbered males (46.9%). Concerning the residency, the highest percentage of the present study 73.3% of the adolescents live in urban regions, while 26.7% live in rural areas. This result is consistent with the findings of Amare, Gelaw, Anagaw, and Gelaw (2013) that revealed that the majority of the participants lived in urban areas (61.8%). Also, this finding was consistent with a study by Mousavi et al., (2019) who found that more than half of the sample lived in urban regions (61.5%), with the other living in rural areas (38.5 %).

The level of education of adolescents refers that 60% of them are graduated from intermediate school and more, also 40% of them are graduated from primary school. This finding is consistent with Ma'ala (2001) study, which found that the majority of participants (47%) were intermediate school graduates. In the researcher's opinion, this level of education is best suited for this age range of 13 to less than 18 years.

Around 40% of the monthly income of the families is more than 900.000ID. This result contradicts the findings of a study conducted by Jeejo and Noori (2021) which found that the average monthly income of many of these families was (601,000 - 900,000 ID).

Table (2) illustrates that adolescents age from 13 to less than 18 years have moderate to low effects on psychosocial domains of the quality of life in which 66.7% of them are showing a moderate affected level and 33.3 % are showing low affected level. This result is in agreement with Golchin et al., (2011), who found treatment side effects and their impact on teenagers' quality of life has gained enormous relevance as a result, and the QoL issue will be given more attention than living duration. Additionally, this finding agrees with the study done by Robison (2011) that found Adolescents diagnosed with acute lymphocytic leukemia begin on a treatment plan that is hindered by multiple side effects such as nausea, vomiting, exhaustion, and anorexia. These side effects compounded the severity of their underlying malignancy's symptoms. Participation in social activities is frequently restricted, which can result in normal teenage rites of passage like identity building and independence being missed. Isolation and loneliness can result from a lack of social engagement with peers. There have also been reports of despondency and worry. A cancer diagnosis in a young person can cause changes in family dynamics and have an influence on their relationships with their parents, brothers, and significant others. Although a few acute psychosocial repercussions go away after treatment, others might have a long-term influence on the survivor's psychosocial health. Long-term cancer survivors had worse health outcomes than other young individuals their age, including greater rates of obesity, anxiety, and depression. Some people also suffer from cognitive impairment, which can have an influence on their ability to work and complete their schooling. Acute lymphocytic leukemia diagnosis and treatment during childhood has the potential to affect survivors' social development, mental health, and intellectual advancement.

Table (3) reveals that there are significant relationships between psychosocial domains and socio-demographic characteristic of adolescents at p. value ≤ 0.05., except that residence and level of education are no significant relationship with the psychosocial domain. This finding is in agreement with Sung et al., (2011) who stressed a significant association between gender and psychosocial domains. Regarding the residence, the results indicate a statistically no significant relationship between residence and psychosocial domain. The findings contradict with Al-Qaisi (2012), who claimed that there was a significant relationship between residency and both (physical and psychosocial domains). In regard to the level of education, there is no significant relationship with the psychosocial domain. The findings contradict those of Al-Qaisi (2012), who claimed that there was significant relationship with the psychosocial domain. In regard to family

income, there are significant relationships with psychosocial quality of life domains. The findings of the present study disagree with the study done by Al-Jabiri et al., (2015) their findings indicate that there was no significant association between all quality of life domains (physical, psychological, independency, social, environment, spiritual) and family income.

CONCLUSIONS

1. According to the finding of the present study, the researchers concludes that acute lymphocytic leukemia is more prevalent in males than females, and it is more common in patients living in urban than in rural areas.
2. Adolescents aged 13 to less than 18 years are moderately affected in psychosocial domain of quality of life.
3. there are significant relationships between psychosocial domains and socio-demographic characteristic of adolescents except that residence and level of education are no significant relationship with the psychosocial domain.

Recommendations:

1. Identifying adolescents with a lower quality of life and participating them in supportive care treatments that enhance their health by assessing their quality of life on a regular basis.
2. Counseling sessions and education programs for all Acute Lymphoblastic Leukemia Adolescents and their parents on leukemia, medical management, attempts to overcome side effects, nutrition, and support systems, all of which contribute to enhancing the adolescent's quality of life.
3. Specific nursing personnel in oncology wards, as well as training staff on acute lymphocytic leukemia and chemotherapy, may assist to enhance the quality of care and quality of life for Adolescents with acute lymphocytic leukemia.
4. Adolescents should have regular clinical assessments to monitor their treatment compliance for enhance quality of life.
5. More studies on large numbers of adolescents with acute lymphocytic leukemia in various age groups and in other hematology centers are needed.

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