

Knowledge and attitudes of mothers regarding care of children receiving chemotherapy in Radiation and Isotopes Centre, Khartoum, Sudan 2017

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ABSTRACT

Background Children and parents are confronted with side effects of chemotherapy at home without being under constant surveillance by the hospital. Therefore, Information and advice to help mothers to understand the side effects of chemotherapy is important. Adequate information is necessary in order that parents, siblings, and other relatives are prepared for the many possible emerging problems.

The aim of this study was to assess knowledge and attitudes of mothers regarding care of children receiving chemotherapy.

Methodology The study is a descriptive cross-sectional and hospital-based. It includes 250 mothers visiting the referral unit at the Radiation and Isotopes Centre of Khartoum (RICK), during the period from August to December 2017. Data was collected using a pretested and validated questionnaire to generate quantitative data.

Results Out of the total of 250, 150 (61.2%) mothers had good knowledge regarding chemotherapy. There was significant association between age and the level of knowledge ($p < 0.034$) as well as level of education and knowledge about care at home after chemotherapy session ($p < 0.003$). Only 20% of the mothers would wash their hands before and after preparing food to prevent infection

Conclusion The study concluded that most of the mothers had a good knowledge regarding chemotherapy and its side effect, fair knowledge about care of physical problems of chemotherapy, and good knowledge about care at home after chemotherapy session. The study found that there is a negative attitude about hygiene, isolation, infection control and food safety.

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INTRODUCTION

Although cancer in children is rare, it is the leading cause of death by disease past infancy among children in the United States where it is estimated that in 2018, 5,590 children and adolescents aged 0 to 19 will be diagnosed with cancer and 1,780 will die of the disease.¹ Survival probability has considerably changed during the past 30 years. Clinical research and practice at pediatric oncology centres has progressively increased the long term survival rate from 20 % before 1975 to 70-80% depending on the specific disease.²

Treatment normally requires 1-3 years, followed by checkup for the following 3-7 years. Usually a

newly diagnosed child with cancer is critically ill during the first 2-6 months, after that his/her life continues similar to that of a healthy child, except that periodical treatment adjustment and checkup is necessary. The initial treatment is carried out alternating between hospital care and home care; the latter including the general practitioner and paediatrician as well as external nursing under the guidance of paediatric cancer centre.² In the 1940s chemotherapy was introduced as a part of standard therapy for childhood cancer.³ The nursing care regime has to take into consideration the ability of the child and the parents to cope with

the oncological illness: they must be informed about the disease and they have to understand its consequences. Information needs to be adequate in quantity and quality regarding requirements of the child and their entire family, their age, physical and psychological state, their mental resilience, and their familial situation.²

Children and parents are confronted with side effects of chemotherapy at home without being under constant surveillance by the hospital.² Parents are the prime persons of reference as far as a social network is existent; therefore, parents should be involved in collaboration with the nursing care.² A previous study concluded that most of the mothers' knowledge regarding care of their children receiving chemotherapy at the National Cancer Institute in Gezira State of Sudan was inadequate.⁴ Undoubtedly, mothers can provide their children with comfort, protection from infection, activity regulation, nutrition, skin care, and emotional support. Therefore, they must be adequately informed about the nature of the disease, its course, treatment, complications and prognosis.⁵ The objective of this study was to assess knowledge and attitudes of mothers regarding care of children receiving chemotherapy.

METHODS

This is a descriptive cross-sectional hospital-based study conducted at Radiation and Isotopes Centre Khartoum (RICK), which is the first and largest oncology hospital in the country where children are referred from all other states in Sudan. RICK is a specialized hospital that includes nuclear as well as clinical departments with cancer expertise e.g. radiotherapists, medical/paediatric oncologists, nuclear medicine specialists, diagnostic radiologists, and patients' social and psychological services.

The study enrolled mothers of children receiving chemotherapy for more than 6 months and who attended RICK during the study period. The study adopted the non-probability (convenience) sampling technique. The sample size was calculated to be 250. The data was collected by interviewing the mothers. The questionnaire included personal, demographic

data, knowledge of the mothers about chemotherapy (concept, purpose, side effects, and care at home) and their attitudes towards care at home (physical hygiene, food, drug, activity). A 5-point Likert Scale using type forms of multiple choice questions was used to assess attitudes. A successful pilot test on mothers with the same criteria of the study population was done to validate the questionnaire. Data analysis was carried out using the Statistical Package for Social Sciences (SPSS) version 21 and p value < 0.05 was considered significant.

Ethical approval was obtained from the Research Committee at Al-Neelain University and a written agreement was obtained from the State Ministry of Health, Department of Research, as well as from the managers of the RICK. An informed verbal consent was obtained from each participant.

RESULTS

A total of 250 mothers of children receiving chemotherapy were interviewed; their characteristics are shown in Table 1. Most of the mothers' age ranged between 31-40 years, nearly one-third (32.8%) completed university education, the majority of them (68.4%) were housewives, 31.6% were employees and 68% of them had low income.

The majority (61%) of the interviewed mothers had good knowledge about the side effects of chemotherapy (Figure 1); 121(48.4%) and 70(28.0%) mothers had good and fair knowledge, respectively, about the physical problems of chemotherapy. More than half of the participant had very good knowledge about care at home after chemotherapy session (Figure 2). There was significant association between the level of the mothers' knowledge about care at home after chemotherapy session and their age ($p < 0.034$) as well as their educational level ($p < 0.003$) as shown in Table 2.

About one-third of the mothers would put their children in bed to rest when they feel pain (Table 3). However, only 20% of the mothers would wash

their hands before and after preparing food to prevent infection (Table 4).

Table 1. Demographic data of mothers

Percentage	Item	Frequency%
Age		
less than 20	5	2.0
20-25	0	0
26-30	78	31.2
31-40	133	53.2
above 40	34	13.6
Total	250	100.0
level of education		
Illiterate	50	20.0
Basic education	38	15.2
Secondary school	70	28.0
University	82	32.
Above university	10	4.0
Total	250	100.0
Monthly income		
High	40	16.0
Moderate	39	15.6
Low	171	68.4
Total	250	100.0
Marital status		
Married	159	63.6
Divorced	10	4.0
Widowed	81	32.4
Total	250	100.0
Housing condition:		
Rent	104	41.6
Own house	146	58.4
Total	250	100.0

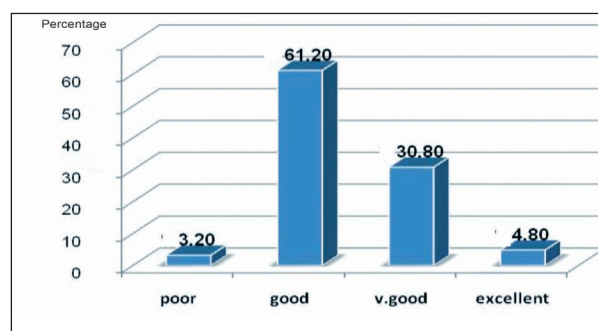


Figure 1. Level of mothers' knowledge about the side effects of chemotherapy

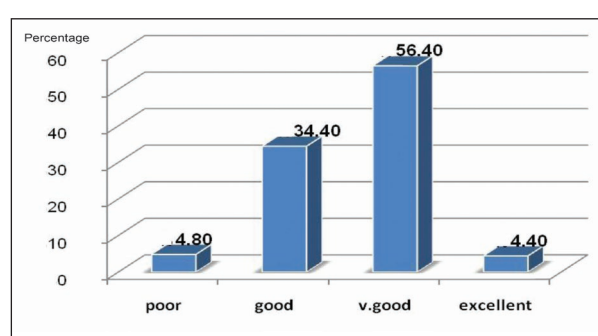


Figure 2. Level of mothers' knowledge about care at home after chemotherapy session

Table 2. Association between mothers' age, level of education and the level of mothers' knowledge about care at home after chemotherapy session

Background variable	Dependent variable	p-value
Mother age	Level of knowledge about care at home after chemotherapy session	0.034
Mother Education level	Level of knowledge about care at home after chemotherapy session	0.003

Table 3. Attitude of mothers when the child feels pain

	Strongly Agree		Agree		Neutral agree		Disagree		Strongly Disagree	
	n	%	n	%	n	%	n	%	n	%
1. Limit movement	17	6.8	77	30.8	0	0	52	20.8	9	3.6
2. Bed rest	17	6.8	81	32.4	0	0	61	24.4	9	3.6
3. massage	16	6.4	60	24.0	0	0	33	13.2	2	0.8
4. Watching TV	16	6.4	58	23.2	0	0	24	9.6	2	0.8

Table 4. Attitudes of mothers towards preventing infection

	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	
	n	%	n	%	n	%	n	%	n	%
1. Hand washing before and after preparing food	33	13.2	30	12	50	20	23	9.2	5	2
2. Avoid contact with ill Child	34	13.6	31	12.4	45	18	20	8	4	1.6
3. Avoid over crowding	33	13.2	29	11.6	44	17.6	34	13.6	2	0.8
4. Avoid staying in dusty area	35	14	24	9.6	41	16.4	25	10	1	0.4
5. Give balanced diet	34	13.6	21	8.4	40	16	14	5.6	4	1.6

DISCUSSION

The present study revealed that the ages of over half of the mothers enrolled, ranged between 31-40 years and that the level of education of one third of the participants was at the university level. Maternal academic education has been linked to increased knowledge of mothers about the care of their children; therefore, literacy acquired at school ensures that mothers are more capable of identifying health problems in their children. A study conducted in Egypt which aimed to assess knowledge and home practices of caregivers having children with leukemia found that: more than half (55.8%) of the caregivers were aged between 35-45 years and 41.4% of them had secondary school education.⁶ The present study revealed that most of the mothers (68.4%) were housewives. This latter

result is comparable with the study conducted in Nanakali Hospital in Erbil City (North of Baghdad, Iraq) which aimed to assess home care management for caregivers having leukemic adolescent patients and which found that 76.3% of mothers were housewives.⁷ In the current study, 68.4% of the families had low income. Regarding marital status, the study found that most of the interviewed mothers (60.0%) were married. This percentage is comparable to a percentage scored by a corresponding result of a study done in Thailand which found that 74% of mothers were married.⁸ The present study found that 61% of the interviewed mothers had good knowledge about the side effects of chemotherapy. The known side effects of chemotherapy are: fatigue, nausea and

vomiting, loss of appetite, diarrhea, hair loss, low blood cell counts (CBC), sore mouth and throat, tiredness, confusion, and depression.⁷ Knowledge about the side effects is vitally important for early treatment and prevention of complications.

Regarding the level of mothers' knowledge about the physical problems of their children receiving chemotherapy, the study found that nearly three quarters of the interviewed mothers proved to have good (and fair) knowledge. This result is in disagreement with a study done by Mawad at Banha University aiming to assess mothers' knowledge about the physical problems of their children receiving chemotherapy which found only 16% of the mothers reported good knowledge.⁹ Regarding mothers' knowledge about care at home after chemotherapy session and continuity of care, the study revealed that 56.4% of the mothers reported very good knowledge. This result compares with Mawad's study mentioned above which found that most of the mothers enrolled in that study showed excellent knowledge about care at home after chemotherapy.

Approximately one-third of the mothers enrolled in this study would put their children in bed to rest when they feel pain. This result is in disagreement with the information provided in the reviewed literature on the management of symptoms caused by cancer or cancer therapy at home in which the following interventions were enumerated: massage therapy, telephone intervention, self-efficacy improvement, coping enhancement and multi-dimensional intervention.¹⁰

In this study, only twenty percent of the mothers would wash their hands before and after preparing food to prevent infection. This result is in disagreement with Mawad's study which showed that most of the mothers care was excellent as detailed as: gentle hygiene (91%), safe food (86%) and hand washing (84%).⁹ Prevention of infection is very important when the child is receiving chemotherapy as the child usually has compromised immune system.

The present study indicated significant association between the demographic variables namely age and level of education and the level of the mothers' knowledge about care at home after chemotherapy session ($p < 0.034$ and $p < 0.003$, respectively). This result compares with Mawad's study which revealed statistically significant association between the level of the respondents' knowledge with age and level of education ($p < 0.05$, and $p < 0.001$, respectively).⁹

In conclusion, this study showed that mothers of children receiving chemotherapy had good knowledge about chemotherapy, the side effects and home care after chemotherapy session. However their attitude towards hygiene, isolation, infection control and food safety is not satisfactory. This emphasizes the need for health education and sympathetic coaching.

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