

## Nurses' Knowledge about Care of Children with Malignant Solid Tumors at Oncology Center in Al-Hussain Medical City in Holy Karbala

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### ABSTRACT

**Background:** The malignant solid tumor is one of the problems facing the early childhood and the common types of malignant solid tumors are (lymphomas, neuroblastoma, retinoblastoma, bone tumors, Ewing's sarcoma family of tumors and soft tissue sarcom).

**Objective:** Assessing the nurses' knowledge regarding children with malignant solid tumors and

### الخلاصة:

**خلفية البحث:** تعد الأورام الصلبة الخبيثة من أحد المشاكل التي تواجه الأطفال بسن الطفولة المبكرة ومن الأنواع الشائعة التي قد تصيب الأطفال هي (سرطان الغدة للمفاوية، ورم العقد العصبية، ورم شبكية العين، ورم الكلى، أورام العظام والعضلات).

**الهدف:** تقييم معارف الممرضين تجاه رعاية الأطفال المصابين بالأورام الصلبة الخبيثة وإيجاد العلاقة بين تلك المعارف وخصائص الممرضين الديموغرافية.

**المنهجية:** دراسة وصفية تحليلية تناولت عينة غرضية بشكل عشوائي من 40 ممرض يعملون في مركز الأورام بمدينة الامام الحسين الطبية. وصممت الاستبانة بجمع المعلومات. أجريت الدراسة للفترة ما بين ( 19 / ايلول / 2020 الى 15 / آذار / 2021). وتم تحليل البيانات من خلال تطبيق الاحصاء الوصفي ( التكرار والنسبة المئوية ) والاحصاء الاستنتاجي ( اختبار مربع – كاي).

**النتائج:** أظهرت الدراسة ان الممرضات الاناث المشاركات في عينة البحث كانت اكثر من الذكور، حيث مثلت نسبتهم (57.5%)، وأن أغلب افراد العينة كانت أعمارهم أكثر من 34 سنة وكانت نسبتهم (37.5%). وأظهرت الدراسة كذلك أن أغلب افراد العينة هم من خريجو المعاهد، وشكلت نسبتهم (52%)، فضلا عن أن اجمالي النتائج المتعلقة بمعارف الممرضين تجاه رعاية الأطفال المصابين بالاورام الصلبة كانت متوسطة.

**الاستنتاجات:** بينت هذه الدراسة أن هناك مستوى منخفض بنسبة (33.3%) من تقييم معارف الممرضين تجاه الأورام الصلبة الخبيثة للأطفال في الاختبار القبلي في كلا المجموعتين. ثم بينت النتائج بعد تنفيذ البرنامج التعليمي مستوى عالٍ من معارف الممرضين [ما بعد الاختبار 1 بنسبة (81.24%) وبعد الاختبار الثاني بنسبة (87.93%)].

**التوصيات:** أوصت الدراسة بضرورة إنشاء وتطوير برامج تعليمية مستمرة لتعليم وتدريب الممرضين فيما يتعلق بالأورام الصلبة الخبيثة.

**الكلمات المفتاحية:** معارف الملاك التمريضي، الأورام الصلبة الخبيثة، مركز الأورام، الاطفال.

find out the relationship between the nurses' knowledge about solid tumor and their socio-demographic data.

**Methodology:** Descriptive study dealt with object-analytical sample randomly from the 40 nurses working in the oncology center in Al-Hussain Medical City in Holy Karbala. The questionnaire was designed to gather information. And this study conducted to test a mini questionnaire questions from the period 19th / September / 2020 to 15th / March / 2021). Data

was analyzed by applying descriptive statistics (repetition and percentage) and deductive statistics (Chi-Square test) SPSS version (20).

**Results:** The study has shown that female participants in the study sample more than males, and the percentage (57.5 %) and over the sample aged more than 34 years, and the proportion (37.5%). And more sample members are graduates of the institutes, and the proportion (52%), the total score of nurse's knowledge was moderate.

**Conclusion:** The study concludes that there is low level (33.3%) of knowledge assessment toward

## INTRODUCTION

Pediatric solid tumors are a gathering of non-hematologic, extra cranial malignancies that happen during adolescence and childhood.

This heterogeneous gathering of tumors speaks to roughly 40% of every pediatric disease. Numerous pediatric solid tumors are alluded to as embryonal or formative diseases since they emerge in small kids or youths because of adjustments in the cycles of organogenesis or typical development (1).

Solid tumors are unnatural masses of tissues that do not always contain cysts or even liquid areas. Solid tumors may be benign (non-cancerous) or even malignant (cancerous) some types of solid tumors are typically named for the type of tissue in which the cells from them are found. Solid tumor samples typically contain sarcomas, carcinomas, and lymphomas (2).

Many types of cancer can develop during childhood, such as carcinoma, thyroid cancer due to Hashimoto's thyroiditis, Hodgkin and non-Hodgkin lymphomas, leukemia, neuroblastoma, Wilms tumor, rhabdomyosarcoma, retinoblastoma, bone cancer (including osteosarcoma and Ewing sarcoma), tumors of the brain and spinal cord (2, 3).

While cancer mortality rates have decreased during this period, there are still more than (100,000) individuals lost among U.S. children each year (4). The

malignant solid tumors of children at the pre-test in the both group. The results show the implementation of the educational program at a high level of nurses knowledge post-test 1 represented (81.24%) and post-test 2 represented (87.93 %) for the study group regarding malignant solid tumors.

**Recommendation:** The study recommended the necessity of developing continuous educational programs to educate and train nurses regarding malignant solid tumors.

**Keyword:** nurse's knowledge, malignant solid tumors, oncology center, children.

number of pediatric cancers has risen all over the world. Malignancy, data processing for 10 percent-12, is the 2nd most typical reason for child death in the developed world, 3% of all deaths in children's years (5).

The oncology nurse should have instructions for determining cultural values that, following a cancer diagnosis, could affect the coping style of the family. By reviewing the family condition at home, the nurse could offer assistance; it could be helpful if parents contact a teacher or counselor in school about the changes taking place at home (6).

Self-management education services enable patients with serious cancer to learn or retain the skills needed to handle their lives with a chronic illness. This entails medical disease management, changing responsibilities and relationships, controlling the emotional and psychosocial effects of disease and care, and maintaining a balanced lifestyle to improve health through the solid tumor's pathway (7, 8).

## AIMS OF THE STUDY

This study aims to assess the nurses' knowledge regarding children with malignant solid tumors and find out the relationship between the nurses' knowledge about solid tumor and their socio-demographic data.

## METHODOLOGY

A descriptive study was conducted assessment of nurses' knowledge. This study was conducted in the oncology center in Al-Hussain Medical City in Holy Karbala for the period from (19th \ September \ 2020 to 15th \ march \ 2021) on a non-probability (purposive) sample consisting of (40 nurses) working in Oncology unit. A questionnaire was built as a data collection tool and consisted of four parts:

**First part:** Include socio-demographic data of nurses includes gender, age, level of education, social status, years of experience in general nurses and years of experience inside oncological unit, did you participate in oncology-related training courses, do you have a training courses related to oncology nursing.

**Second part:** It consists of three domains, the first domain contains (10) multiple-choice questions about the nature of malignant solid tumors, while the second domain contains (6) multiple-choice questions about the signs and symptoms of malignant solid tumors, while the third domain contains (2) multiple-choice questions diagnoses and treatment of malignant solid tumors.

**Third part:** Include knowledge of nurses regarding nursing care for children with malignant solid tumors (20 items).

The validity of the questionnaire was verified by presenting it to (16) experts. Descriptive and inferential statistics were used to analyze the results of the study using the Statistical Package of Social Sciences (SPSS) version 25 and Microsoft Excel (2010).

## RESULTS

**Table (1): distribution of the sample (40) nurse according to the demographic characteristics**

Demographic Data	Rating And Intervals	Frequency	Percent %
Gender	Male	19	42.5
	Female	21	57.5
	<b>Total</b>	<b>40</b>	<b>100.0</b>
Age / Years	19 – 23	6	15
	24 – 28	12	32.5
	29 – 33	6	15
	34 - and more	16	37.5
	<b>Total</b>	<b>40</b>	<b>100.0</b>
Education Levels	Secondary School	13	32.5
	Technical Institute / Nursing	18	52.5
	College of Nursing	9	15
	<b>Total</b>	<b>40</b>	<b>100.0</b>
Years of Experience	< 5	20	52
	5 – 9	9	28
	10 – 14	8	16
	15 –20	3	4
	<b>Total</b>	<b>40</b>	<b>100.0</b>
Have you participated in	YES	25	62.5

<b>Oncology-related training courses?</b>	No	15	37.5
	<b>Total</b>	<b>40</b>	<b>100.0</b>

Table (1) refers to an assessment of the nursing staff demographic data. The study results indicated that (57.5%) of the nursing staff are female, (37.5%) are more than 34 years old, (52.5%) graduated from Technical Institute / Nursing, and (52%) have < 5 years of experience. (62.5%) of the nursing staff participate in the training courses.

**Table (2): nurses' knowledge toward malignant solid tumors**

L.	Items	Right Answers	Wrong Answers	M.S	RS	Ass.
1	Malignant solid tumors are characterized	19	21	1.47	M.S	73.5
2	Solid tumors characterized fixed or moveable.	15	25	1.37	M.S	68.5
3	One of malignant solid tumors is	29	11	1.72	H.S	86.0
4	Non Hodgkin Lymphoma target	20	20	1.50	M.S	75.0
5	Wilms tumor localized in:	28	12	1.70	H.S	85.0
6	Neuroblastoma is a tumor characterized by:	22	18	1.55	M.S	77.5
7	Retinoblastoma is:	32	8	1.80	H.S	90.0
8	Ewing's Sarcoma tumor is:	16	24	1.40	M.S	70.0
9	Rhabdomyosarcoma cancer is:	12	28	1.30	L.S	65.0
10	Among the causes of malignant solid tumors are all of the following answers, except one:	31	9	1.77	H.S	88.5
11	Symptoms of Hodgkin's disease.	17	23	1.42	M.S	71.0
12	Symptoms of Wilm's Tumor.	12	28	1.30	L.S	65.0
13	Symptoms of Neuroblastoma.	17	23	1.42	M.S	71.0
14	Symptoms of Retinoblastoma.	16	24	1.40	M.S	70.0
15	Symptoms of Rhabdomyosarcoma	16	24	1.40	M.S	70.0
16	Symptoms of Ewing's Sarcoma	23	17	1.57	M.S	78.5
17	The diagnosis of solid tumors	28	12	1.70	H.S	85.0
18	The stages of solid tumors	22	18	1.55	M.S	77.5
19	Treatment of the solid tumors.	29	11	1.72	H.S	71.0
<b>Total</b>		<b>404</b>	<b>356</b>	<b>1.53</b>	<b>M.S</b>	<b>76.5</b>

Mean of Score (MS) = Low Less than (1.33), Moderate = (1.33-1.67), High= More than (1.67)

Table 2 demonstrated the total mean of scores (1.53) is moderate for nurses' knowledge.

**Table (3): The association nurses' knowledge concerning solid tumors' and their sociodemographic variable**

Source of Variations			Nurses' Knowledge Responses Concerning Solid Tumors		Total	C.S.
			Correct answer	Wrong answers		
Gender	Male	Count	170	155	325	N.S
	Female	Count	234	201	435	
	Total	Count	404	356	760	
Age	19 – 23	Count	65	55	120	N.S
	24 – 28	Count	124	110	234	
	29 – 33	Count	65	55	120	
	34-and more	Count	150	136	186	
	Total	Count	404	356	760	
Education level	College graduate	Count	70	50	120	S
	Institute	Count	210	160	370	
	Secondary School	Count	124	146	270	
	Total	Count	404	356	760	
Have you participated in Oncology-related training Courses?	Yes	Count	260	140	120	N.S
	No	Count	144	216	370	
	Total	Count	404	356	760	

Education level:  $\chi^2=8.88$ , P. Value=0.01, gender:  $\chi^2= 0.165$ , P-Value=0.68 DF=2, Sig. = S, DF= 1, Sig. = N.S, age:  $\chi^2=0.159$ , P-Value=0.98, Training courses:  $\chi^2= 47.55$ , P-Value=0.000, DF=3, Sig. = N.S, DF = 1, Sig. = N.S.

Table (3) shows that there is no significant relationship between nurses' knowledge toward tumors with their sociodemographic variable except level education variable there is significant relationship.

**DISCUSSION**

**Part I: Discussion of the nursing staffs' demographic characteristics, as shown in table (1)**

The results of the present study reveal that the gender highest percentage (57.5 %) is female, (42.5 %) is male this result agrees with study <sup>(10)</sup> was

conducted on nurses who worked in hemodialysis ward in Baghdad, reported that more than three quarters of the study sample were female and remaining were male.

The result of the present study concerning the age that revealed that the majority of participants is

age more than 34 years, these finding agreed with study was conducted on nurses who worked in oncology ward in Baghdad, reported that the results 45.7% of nurses were at the age (31-40) <sup>(12)</sup> and disagree with study was conducted on nurses who worked in oncology ward in Baghdad, reported that more than half of sample were in age (20-30 years) <sup>(11)</sup>. Furthermore, the current study found that the highest percentage nurses were from the intermediate level of education (institute) (52.5%), this results are agree with study was conducted on nurses who worked in cardio ward in Kirkuk's, that reported educational status most of the nurses ( 37.5%) were institute <sup>(13)</sup>.

In addition, the present results disagrees with a study conducted in Baghdad city stated that seventy-five percent of the nurses were university graduates <sup>(14)</sup>.

Based on the years' experience the study found of the half participates was within of (1-5 years) experience in nursing field, this study agree with study who mentions the majority of the study sample (40%) having 1-5 years of experience in hospitals for a total sample of 25 nurses <sup>(15)</sup>.

These results disagreed with study conducted in Bagdad which revealed that the highest percentage are (44.3%) between (6-10) years of experience in general nursing <sup>(16)</sup>.

Distribution of sample according to participating nurses of training course, it indicates that the highest percentage (62.5 %) for sharing training course. This result supported by the study conducted in Bagdad reported that nurse participated in training courses (25.0%) <sup>(13)</sup>.

### **Part II: Nurses' knowledge toward malignant solid tumors, as shown in tables (2).**

The table (2) demonstrates the total mean scores (1.53) is moderate for nurses' knowledge toward malignant solid tumors, and the table also shows that the high score (1.80) for nurses answers were adequate knowledge concerning item (7) which

is centered around retinoblastoma and the low score (1.30) of nurses answers were inadequate knowledge concerning the item (9) which is centered around the rhabdomyosarcoma.

These results supported by study about nurse's knowledge and attitude, and Pain Management Practices of postoperative Pediatric in Bangladesh <sup>(17)</sup>. Which revealed that, total, nurses level of knowledge and attitudes to postoperative pain management in children was at the moderate level  $M=66.79\%$ . Also the current study result was disagreed with the study <sup>(18)</sup> that report the showed knowledge score of pain management the mean total right score was low ( $M=9.49$ ) with range from (4 to 16) score.

### **Part III: Discussion the association between nurses' knowledge and their sociodemographic variable. As shown in table (3)**

Concerning the association between the nursing staffs' (gender, age) and their knowledge about malignant solid tumors the study showed that there was no significant association between nursing staffs' knowledge and their (gender, age). It's agreed with result that there is no significant relationship between nurse's (ages, gender) and their knowledge <sup>(19)</sup>.

About the level of education, the study result detects that there was significant association between nursing staffs' knowledge and the educational level these findings of current study supported with study was conducted on nurses' knowledge toward children with solid tumors malignant in Baghdad pediatrics hospital, the result indicated that there is a significant association between nurses' knowledge and their level of education <sup>(20)</sup>.

Regarding the training courses, that there is significant relationship between nurses' knowledge toward solid tumors' and their training courses, this result agreed with results that there is significant association between nurse's participant training course and nurses' knowledge <sup>(21)</sup>.

## CONCLUSION

The study concludes that there is low level (33.3%) of knowledge assessment toward malignant solid tumors of children at the pre-test in the both group. The results show the implementation of the educational program at a high level of nurses knowledge; [post-test 1 represented (81.24%) and post-test 2 represented (87.93%)] for the study group regarding malignant solid tumors.

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## RECOMMENDATIONS:

The study recommended the necessity of developing continuous educational programs to educate and train nurses and all health care workers regarding malignant solid tumors, as well as further studies are required to evaluate the nurse's practice toward management of children with malignant solid tumors.

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