

## Effectiveness of an Instructional Program on Patients' Knowledge about Home Safety While Receiving Anti -Cancer Medications at Al- Karama Teaching Hospital in Al-Kut City

فاعلية البرنامج الإرشادي في معارف المرضى حول السلامة المنزلية عند إستلام الأدوية المضادة للسرطان في مستشفى الكرامة التعليمي في مدينة الكوت

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### المستخلص

**الأهداف:** تحديد فاعلية البرنامج الإرشادي في معارف المرضى حول السلامة المنزلية عند إستلام الأدوية المضادة للسرطان في مستشفى الكرامة التعليمي في مدينة الكوت.

**منهجية البحث:** تم إستخدام تصميم شبه التجريبي وهو تصميم مجموعتين مجموعة الدراسة والمجموعة الضابطة ثم اجري الاختبار القبلي، والاختبار البعدي لكلا المجموعتين. أجريت هذه الدراسة في مركز أمراض الدم والأورام في مستشفى الكرامة التعليمي في محافظة واسط للفترة من 5 شباط 2020 إلى 25 نيسان 2020. تم اختيار عينة غير احتمالية (غرضية) تكونت من (50) مريض ومريضة. تم تقسيمهم على مجموعتين: بواقع (25) مريض ومريضة لكل من المجموعة الضابطة ومجموعة الدراسة. تم بناء إستبانة كأداة لجمع البيانات وتكونت من جزئين هما الجزء الأول ويتضمن الخصائص الديموغرافية للمرضى وتشمل العمر و الجنس والمهنة والتعليم والحالة الزوجية والجزء الثاني الذي يهتم بتقويم معارف المرضى حول السلامة المنزلية عند إستلام الأدوية المضادة للسرطان ويتكون من (20) من الأسئلة متعددة الخيارات. تم التحقق من مصداقية وثبات الإستبانة والبرنامج التعليمي من خلال الدراسة الإستقرائية.

**النتائج:** أظهرت نتائج الدراسة أن معظم العناصر المدروسة لديها متوسط درجات منخفض (1.23) قبل تطبيق البرنامج الإرشادي. ومن ناحية أخرى أن معظم العناصر المدروسة لديها متوسط درجات مرتفع (1.77 و 1.70) في الإختبارين البعدي والثاني. بينما يُظهر تقويم معارف المرضى في المجموعة الضابطة خلال فترتين من القياسات تغييرًا طفيفًا جدا من المتوسط (1.26) إلى المتوسط (1.31) في الإختبار. **التوصيات:** توصي الدراسة إلى تشجيع وحدة التعليم التمريضي المستمر على مقابلة المرضى بالتعاون مع طبيب الأورام لتعليمهم على السلامة المنزلية للمرضى عند إستلام الأدوية المضادة للسرطان وتوجيه المستشفى إلى إقامة دورات تدريبية منتظمة ومحاضرات وورش عمل وبرامج حول السلامة المنزلية لتحسين معارف المرضى.

**الكلمات المفتاحية:** البرنامج الإرشادي، معارف المرضى، الأدوية السرطانية، السلامة المنزلية

### Abstract

**Objectives:** To determine the effectiveness of the instructional program on patients' knowledge about home safety while receiving anti-cancer treatment at Al- Karama Teaching Hospital in Al-Kut City.

**Methodology:** A quasi-experimental design is conducted through the application of a pre-test and post-test approach for the study and control groups from February 5<sup>th</sup>, 2020 to April 25<sup>th</sup>, 2020. A non-probability (purposive) sample of (50) patients treated at the Blood Disease and Oncology Center is selected and divided into two groups. Each group contains (25) patients as control and study groups. An instrument is constructed that is comprised of two parts; the first part consists of demographic data for a study sample which is consisted of (5) items of age, gender, occupation education and marital status. The second part is multiple choice questions related to patients' knowledge which is consisted of (20) items. Validity and reliability of the instrument are determined through pilot study.

**Results:** The findings of the study show that the evaluation of patients' knowledge in the study groups throughout three periods of measurements showed that most of the studied items had a low means of score (1.23) before applying the instructional program. Comparatively, most of the studied items had a high mean of score (1.77 and 1.70) in post-test I and post-test II after implementation of the program. Furthermore, the evaluation of patients' knowledge in the control group throughout two periods of measurement shows very slight change in the mean (1.26) to the mean (1.3).

**Recommendations:** The study recommends that encouragement of continuous nursing education units to meet with patients under the care of Oncology Physicians to teach them about home safety during chemotherapy treatment and the hospital should establish regular training sessions, lectures, workshops, and programs to improve patients' knowledge about home safety during treatment.

**Keywords:** Instructional Program, Patient Knowledge, Anti-cancer medications, Home Safety

## Introduction

Chemotherapy is used to treat cancer or palliate the condition by shrinking tumors to reduce symptoms of cancer. Chemotherapy can be combined with hormonal treatment or surgical tumor excision in order to limit and reduce tumor size. Chemotherapy can also be utilized after surgery to help prevent the tumor from recurring. Chemotherapy kills cancer cells by interfering with its cellular function and reproduction <sup>(1)</sup>. The increase in cancer diagnoses will result in an increase in the demand for chemotherapy and other cancer treatments <sup>(2)</sup>.

Chemotherapy is a type of drug classified as a cytotoxic substance. This class of drugs can also kill healthy cells in the body. Healthy cells can usually mend themselves and return to their normal state after a short period of time. Chemotherapy has a great effect against cancer cells, but there is harm that can simultaneously occur when the medication spreads within body fluids. The harm affects the patient himself, and parents alive with them by proxy. Patients need education to reduce and avoid harm from chemotherapy. Chemotherapy stays approximately a week in the patient's body after the last dose of the drug, and begins to be excreted after 48 hour after the dose through feces, blood, semen, saliva, vaginal secretion, and vomiting. Therefore, the health team including the (physician,

nurse, and pharmacist) are responsible for educating the cancer patients <sup>(3)</sup>.

## Methodology

A quasi-experimental design was used, which is the design of two groups, the study group and the control group, then the pre-test and the post-test for both groups were used. This study was conducted at the Hematology and Oncology Center at Al Karama Teaching Hospital in Wasit Governorate for the period from February 5, 2020 to April 25, 2020. A non-probability (purposive) sample consisting of (50) male and female patients was selected. They were divided into two groups: (25) male and female patients for each of the control group and the study group. A questionnaire was built as a tool for data collection and it consisted of two parts, the first part includes demographic characteristics of patients, including age, gender, occupation, education, and marital status, and the second part is concerned with evaluating patients' knowledge about home safety when receiving anti-cancer drugs and consists of (20) multiple-choice questions. The credibility and stability of the questionnaire and the educational program were verified through an inductive study

### Ethical Consideration:

Scientific Research Ethical Committee at the University of Baghdad, College of Nursing has approved the study to be conducted. All patients who have participated in the study have signed consent form for the human subjects' rights.

## Results

Table (1): Study Sample Demographic Data

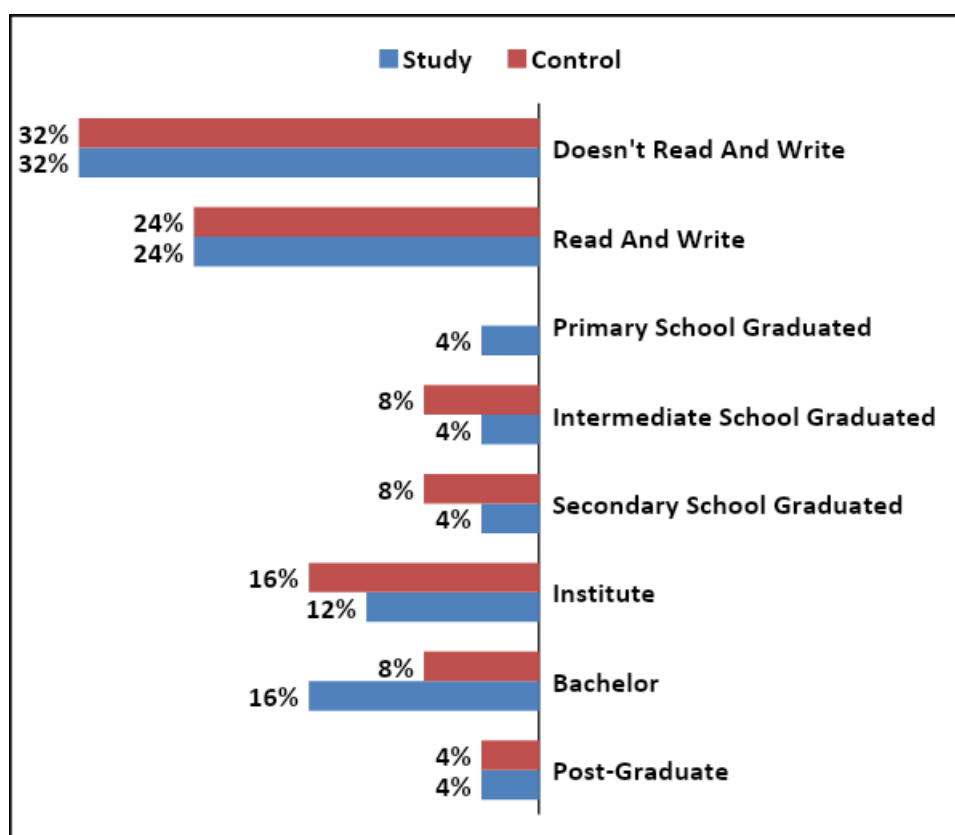
Demographic Data	Rating And Intervals	Statistical Parameters	Groups	
			Study	Control
Age / years	20-24	Frequency	0	1
		%	0.0%	4.0%
	25 – 29	Frequency	3	3
		%	12.0%	12.0%
	30 – 34	Frequency	1	0
		%	4.0%	0.0%
	35 – 39	Frequency	3	3
		%	12.0%	12.0%
	40 – 44	Frequency	2	0
		%	8.0%	0.0%
	45+	Frequency	16	18
		%	64.0%	72.0%
Mean (Standard Deviation)			48.12 (12.1)	48.48 (12.9)
Gender	Male	Frequency	8	10
		%	32.0%	40.0%
	Female	Frequency	17	15
		%	68.0%	60.0%
Occupation	Employee	Frequency	5	7
		%	20.0%	28.0%
	Housewife	Frequency	12	9
		%	48.0%	36.0%
	Free Business	Frequency	5	7
		%	20.0%	28.0%
	Retired	Frequency	1	0
		%	4.0%	0.0%
	Student	Frequency	2	2
		%	8.0%	8.0%
Marital status	Single	Frequency	4	5
		%	16.0%	20.0%
	Married	Frequency	17	14
		%	68.0%	56.0%
	Divorced	Frequency	2	1
		%	8.0%	4.0%
	Widowed	Frequency	2	5
		%	8.0%	20.0%

#: Percentage

The above table shows that the majority of the sample in the study and control group are aged more than (45) years old who were accounted for (64%) with a mean age (48.12) for the study group and (72%) with a mean age (48.48) for the control group. Most of the sample are females (68%) in the study group and (60%) in the control group.

In regard to their occupation, most of the sample were housewives who accounted (48%) for the study group and (36%) for the control group.

According to the subjects marital status, the majority of the sample are married (68%) in the study group and (56%) in the control group.



**Figure (1): Distribution of the Study Sample According to Their Education**

This figure (1) illustrates that the greater number of patients who are unable to read and write who are accounted for (32%) for study and control groups. Only (4%) have post-graduate education in both groups.

**Table (2): Overall Evaluation of Patients' Knowledge in the Study Group throughout Three Periods of Measurements**

Main Studied Domain	Levels	Pre-Test		Post-Test I		post-test II	
		Freq.	%	Freq.	%	Freq.	%
Overall Evaluation of Patients' Knowledge	Low	22	88.0	1	4.0	1	4.0
	Fair	3	12.0	2	8.0	8	32.0
	Good	0	0.0	22	88.0	16	64.0
	Total	25	100.0	25	100.0	25	100.0
	Mean	1.23		1.77		1.70	
	Overall Evaluation	Low		Good		Good	

Low = (mean 1-1.33), Fair = (mean 1.34-1.67), Good = (mean 1.68-2.1)

The overall evaluation of patients' knowledge in the study group throughout three periods of measurements shows that most of the studied items have low mean of scores (1.23) before applying the instructional program. Comparatively, most of the studied items have

high mean scores of (1.77 and 1.70) in posttest I and posttest II after the implementation of the instructional program.

**Table (3): Association between the Overall Assessment of Patients' Knowledge (Post-test) in the Study Group and their Demographic Data**

Demographic data	Rating and intervals	Post-test			Chi-square value	d.f.	p-value
		Low	Fair	Good			
Age/years	25 - 29	0	0	3	6.72	8	.983 NS
	30 - 34	0	0	1			
	35 - 39	0	0	3			
	40 - 44	0	0	2			
	45+	1	2	13			
Gender	Male	0	0	8	1.2	2	0.68 NS
	Female	1	2	14			
Occupation	Employee	0	0	5	7.1	8	.945 NS
	Housewife	1	1	10			
	Free Business	0	1	4			
	Retired	0	0	1			
	Student	0	0	2			
Marital status	Single	0	0	4	11.05	6	.069 NS
	Married	0	1	16			
	Divorced	0	1	1			
	Widowed	1	0	1			
Levels of education	Doesn't read and write	1	1	6	15.14	14	.995 NS
	Read and write	0	1	5			
	Primary school graduate	0	0	1			
	Intermediate school graduate	0	0	1			
	Secondary school graduate	0	0	1			
	Institute graduate	0	0	3			
	Bachelor graduate	0	0	4			
	Postgraduate	0	0	1			

**Note: For the cells with expected count less than 5, the results are corrected by Fisher Exact Test**

The results indicate that there is no association between the overall mean of the patients' knowledge and selected variables at the p-value of more than (0.983) to age variable and ( 0.68) to the gender.

## Discussion

### Part I: Discussion of Socio-

#### Demographic Data of Patients

#### Receiving Anti-Cancer

#### Medications (Study and Control Groups)

The characteristics of the sample which included age group, the majority is (more than 45) years old within a mean (48.12%) in study group and within a mean (48.48%) in control, the result is consistent with another study that finds that the highest percentage (30.0%) is within the age group of (50-59) years in the study group with mean age (44.8±11.1)

While the control group (30.0%) of the sample is within the age group (50-59) years with mean age (48.4±11.6). The American Cancer Society in (2019) reported that cancer is rare in cases less than (40) years and many types of cancer the older age is the main risk factor beyond the other factors like pharyngeal cancer older than (40) years<sup>(4)</sup>.

Based on the study results, most of the patients are females, in the study group and (60%) from the sample was female in the control group. These results come along with the findings of a study in Sudan who found higher percentages of the study

sample are females. The current findings are also supported by another study in my country findings were the majority of the samples are females. In addition, this finding is consistent with the result of another research in the same country that reports that the majority (75%) of the group study are females<sup>(5)</sup>.

According to the subjects' marital status, most of the samples are married. This finding of the current study comes along with a study which is done in Iraq that reports that the majority of the present study (90%) are married. Also, this finding is consistent with the results of another research that finds that (75.5%) are married<sup>(6)</sup>.

In addition to that, another study finds that most of the participants in the study and control groups are married (70.0%) and (76.6%) respectively. According to the mostly related articles, there is no significant difference between single and married patients relative to their exposure to cancer.

Regarding the occupation, less than half of the study sample is housewives. This result is supported by a study that finds that the study and control groups are unemployed who are accounted (26.4%) for the study group and (33.2%) for the control group.

The result of this study represents less than half of the sample where do not read and write for both study and control group.

### **Part II: Overall Evaluation of Patients' Knowledge in the Study Group throughout three Periods of Measurements**

Overall assessment of patients' knowledge in the study group throughout three periods of measurements shows most of the studied items has a low mean of score (1.23) before applying the instructional program on the other hand, most of the studied items has high mean of score (1.77 and 1.70) in posttest 1 and posttest 11 (follow up) after the implementation of the program. This reflects the positive influence of the health instructional program in enhancing patient's knowledge about home safety of anticancer medications.

### **Part III: Discussion of the Association between the Overall Evaluation of Knowledge (Post-test) in the Study Group and their Demographic Data**

Concerning the association between patients' age, gender and their during treatment

knowledge about home safety during receiving anti-cancer medications there is no statistically significant association between the overall mean of the patients' knowledge and selected variables of (age, gender and education level). Since more than half of the sample from the age group of (45) and over, most of the sample are females and more than half of the sample are from the group whose low level of education, so everyone is affected by the same level of the instructional program. This results is inconsistent with a study in Iraq, who found that there was a statistical significant between patients knowledge and their (age and level of education)<sup>(1)</sup>.

### **Recommendations**

The study recommends that encouragement of continuous nursing education units to meet with patients under the care of Oncology Physicians to teach them about home safety during chemotherapy treatment and the hospital should establish regular training sessions, lectures, workshops, and programs to improve patients' knowledge about home safety

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