ASSESS THE PATIENTS' KNOWLEDGE ABOUT SAFETY MEASURES RELATED TO BLOOD BORNE DISEASES IN HEMODIALYSIS UNITS, IN JAZAN HOSPITALS, SAUDI ARABIA

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Abstract

This study was conducted to assess the patients' knowledge about safety measures related to blood-borne diseases in hemodialysis units. There is a lack of knowledge of patients' knowledge about safety measures related to blood-borne diseases in hemodialysis units. The lack of knowledge of patients in hemodialysis centers was the leading cause of blood-borne disease outbreaks. The general objective is to assess the patients' awareness about safety measures related to blood-borne diseases in hemodialysis units. The study design is a descriptive study, which is hospital based-cross sectional study. The total number of the study subjects in this study revealed that the knowledge of patients' knowledge in the hemodialysis centers regarding safety measures related to blood-borne diseases in hemodialysis units show a significant lack of knowledge about safety measures related to blood-borne diseases in hemodialysis units, P-value <0.0001. We recommend increasing study cases, More researches, Health education for patients about the route of transmission of blood-borne diseases, Use the posters which carry pictures learn the patients and new staff the good behaviors to avoid infection, Employ only qualified staff, Supervise the newly staff, Make regular training for staff, Provide well-equipped laboratories for virology screening. There are no limitations of this study starting in 100 subjects and ended by 100 subjects.

Keywords: AIDS, Hepatitis B, Hepatitis C, Malaria

INTRODUCTION

Definition of Renal Failure

Renal failure results when the kidneys cannot remove the body's metabolic wastes or perform their regulatory functions [1, 2]. The substances normally eliminated in the urine accumulate in the body fluids as a result of impaired renal excretion, leading to a disruption in endocrine and metabolic functions as well as fluid, electrolyte, and acid–base disturbances. Renal failure is a systemic disease and is a final common pathway of many different kidney and urinary tract diseases. Each year, the number of deaths from irreversible renal failure increases (U.S. Renal Data System, 2004). Annual incidence rate: 11/10,000/year. Annual mortality rate: 7.3/10,000/year. We mention this data about renal failure because it is a cause that make those patients need regular hemodialysis and blood transfusion due anemia that causes by deficit of erythropotin which synthesis the RBCs this make him liable to get infected with blood borne diseases [3]. The blood borne disease is the potential for the spread of blood borne pathogens to workers and patients during the delivery of health care has long been recognized[4] .

Therapeutic injections, which are commonly overused and administered in an unsafe manner in developing Countries, [5]. In the United States, epidemiologic data suggest that health care–related exposures are not currently a primary source of HBV or HCV transmission[6].

Recently, 4 outbreaks of HBV and HCV infections in ambulatory care settings have been reported, all of which resulted from failures to adhere to basic principles of [7]. These outbreaks have raised concerns that some health care workers (HCWs) do not consistently adhere to fundamental infection control principles, aseptic techniques, and safe injection practices. Moreover, infection-control guidelines and recommendations that focus on the outpatient setting have been lacking[8].   Received 5 December 2003; accepted 28 January 2004; electronically published 12 May 2004.Reprints or correspondence: Dr. Ian Williams, Div of Viral Hepatitis, MS G-37, National Center for Infectious Diseases, Centers for Disease Control and Prevention, 1600 Clifton Rd., Atlanta, GA 30333 (iwilliams@cdc.gov). Clinical Infectious Diseases 2004; 38:1592–8 this article is in the public domain and no copyright are claimed. 1058-4838/2004/3811-0015 [9].

Justification

The blood borne diseases have high mortality and morbidity rates, especially among patients with renal failure because is: 11/10,000/year & annual mortality rate is 7.3/10,000/year[10]. Therapeutic injections, which are commonly overused and administered in an unsafe manner in developing Countries, are estimated to account for 121 million new hepatitis B virus (HBV) infections and approximately 2 million new hepatitis C virus (HCV) infections each year worldwide[11].

OBJECTIVES

General objective

Assess the patients' awareness about safety measures related to Blood Borne diseases in hemodialysis units.

Specific objectives

1. To assess patient knowledge about what is blood borne diseases.

2. To assess patient knowledge about the relationship between not isolation of infected patients & their machine & possibility of infection.

3. To assess the patient knowledge about is the staff of hemodialysis from doctors, nurses, nurse technicians, sisters & cleaners can be a cause of infection if they have some bad attitudes.

4. To assess the patient knowledge about the sterilization of machine & disinfectants of beds & machine from outside& its relation to infection.

5. To assess the patients' knowledge about the importance of virology screening test & its relation to the infection.

RESEARCH METHODOLOGY

Study Design

This study is a descriptive study, which is hospital based-cross sectional study.

Study Area

Gazan General, Prince Mohammed Bin Nasser hospitals.

Study Populations

Patients in Jazan General, Prince Mohammed Bin Nasser hemodialysis unit.

Inclusion Criteria

A Patient diagnosed with renal failure who agreed to be included in this study.

Exclusion Criteria

Those who disagreed to be included in this study.

Sampling and Sample Size

Sampling Technique

Simple randomized sampling.

Sampling Size

Will Be Calculated According To This Formula

N = p-q

(E/1.96)²

Where

N: is maximum size required.

P: is the maximum expected prevalence rate (%).

Q: 100-p.

E: is the margin of sampling error tolerated (%) = 0, 05

100 samples.

DATA COLLECTION

Data Collection Tools

By using, self-administer the questionnaire.

Data Collection Technique

Interviewing & checking list questionnaire method.

Data Processing and Analysis

By using SPSS version 19.

Ethical Considerations

After approval of university & hemodialysis centers managers & patients start my research on 27 February 2023.

RESULTS

Table 4.1: The Socio-demographic characteristics

Item		Frequency	Percent	Valid percent	Cumulative percent
Level of education	Primary	45	45.0	45.0	45.0
	Secondary	50	50.0	50.0	95.0
	University	5	5.0	5.0	100.0
Sex	Male	69	69.0	69.0	69.0
	Female	31	31.0	31.0	100
Period of dialysis	6months-1year	42	42.0	42.0	42.0
	2years	26	26.0	26.0	68.0
	3years or more	32	32.0	32.0	100
		100	100.0	100.0	

This table shows that there is 45 patients have a primary level of education & represent 45% of the total sample, & 50 patients are having secondary level of education & represent 50% of the total sample, &5 patients are graduating from universities. The number of males in this study 69 & represents 69% of the total sample, the number of females is 31 & represent 31% of the total sample. The number of patients that receiving regular hemodialysis for a period of 6months to one year or 42 & this represent 42% of the total sample, the number of patients receiving dialysis for 2 years or 26 & represent 26% of the total sample, the number of patients receiving dialysis for 3years or more are 32 & represent 32% of the total sample.

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Table 4.2: What are the diseases transmitted by blood and in any way can be transmitted?

Item		Frequency	Percent	Valid percent	Cumulative percent
Q1	AIDS	28	28.0	28.0	28.0
	Hepatitis C	15	15.0	15.0	43.0
	Hepatitis B	11	11.0	11.0	54.0
	Malaria	46	46.0	46.0	100.0
Q2	Shake hands with the patient	10	10.0	10.1	10.1
	Participating vessel drinking or eating	37	37.0	37.4	47.5
	Using a blanket or cover	17	17.0	17.2	64.6
	Using the shaving tools of the patient	35	35.0	35.4	100.0
Q3	Hemodialysis set(Line)	38	38.0	38.0	38.0
	Synthetic kidney (Dialyzer)	10	10.0	10.0	48.0
	Hemodialysis solution(Acid)	29	29.0	29.0	77.0
	Hemodialysis powder(Bicard)	23	23.0	23.0	100.0

The number of patients that answer right answers in Q1 are 28 patients &represent 28% from the total sample, & the number of patients who answer wrong answers are 72 & represent 72% from the total sample, In Q2 there are 35 patients having true answers & represent 35% from the total sample, & the number of patients having false answers are 65 patients & those represent 65% from the total sample, In Q3 the number of patients having true answers are 38 patients & those represent 38% from total sample, & 62 patients having false answers, & those represent 62% of the total sample.

Table 4.3: Isolation of infected patients and their machine

		Frequency	Valid percent	Cumulative percent
Q4	Yes	87	87.0	87.0	87.0
	No	13	13.0	13.0	100.0
Q5	Yes	72	72.0	72.0	100.0
	No	28	28.0	28.0	100.0
Q6	Yes	65	65.0	65.0	65.0
	No	35	35.0	35.0	100.0
Q7	Yes	49	49.0	49.0	49.0
	No	51	51.0	51.0	100.0
Q8	Help in transferring	50	50.0	50.0	5.0
	Does not help in Transfer	50	50.0	50.0	100.0
	Total	100	100.0	100.0	

In Q4 87 Patients answer the true answers & those represent 87% of the total sample, the number of patients choosing the false answers is 13 patients & those represent 13% of the total sample, In Q5 the number of patients select true answer are 72 patients & those represent 72% of the total sample, & the number of patients select false answer are 28 patients & those represent 28% from the total sample. InQ6 the number of patients' select true answer is 65 patients & those represent 65% of the total sample, the number of patients select the false

answer are 35 patients & those represent 35% of the total sample. In Q7 the number of patients selects the true answer is 49 patients, which represent 49% of the total sample, & the number of patients select the false answer are 51 patients &those represent 51% of the total number of the sample. In Q8 the number of patients selects the true answers are 50 patients, which represent 50% of the total sample, & the number of the patients select the false answer are 50 patients which represent 50% of the total sample.

Table 4.4: The sterilization of machine, & disinfectant of machine from outside and beds

Q9	Yes	75	75.0	75.0	75.0
	No	25	25.0	25.0	100.0
Q10	Yes	32	32.0	32.0	32.0
	No	68	67.0	67.0	100.0
Q11	Yes	72	72.0	72.0	72.0
	No	28	28.0	28.0	100.0
Q12	Sufficient for the non-occurrence	46	46.0	46.0	46.0
	Is not sufficient for the non-occurrence	54	54.0	54.0	100.0
Q13	Yes	66	66.0	66.0	66.0
	No	34	34.0	34.0	100.0
Q14	Yes	67	67.0	67.0	67.0
	No	33	33.0	33.0	100.0
Q15	Yes	62	62.0	62.0	62.0
	No	38	38.0	38.0	100.0
Q16	Yes	83	83.0	83.0	83.0
	No	17	17.0	17.0	100.0
	Total	100	100.0	100.0	

Table 4.5: When can the staff of the hemodialysis unit of doctors, nurses, nurse technicians, sisters & cleaners are cause of infection?

Q17	Not wear gloves	62	62.0	62.0	62.0
	Use the same gloves to the other patient	11	11.0	11.0	73.0
	Throwing intravenous set (line) for the prime in the basket and then connects the patient	20	20.0	20.0	93.0
	Use of drips or injections from one patient to another	7	7.0	7.0	100.0
Q18	When the dressing for the catheter does to a patient is isolated & another not isolated with the same gloves?	66	66.0	66.0	66.0
	When using sterile gloves & instruments sterile	10	10.0	10.0	76.0
	When do dressing for catheters without gloves	11	11.0	11.0	87.0
	When do dressing for fistula without gloves	13	13.0	13.0	100.0
Q19	Because they sometimes unload packages of acid solution (hemodialysis) in each other	79	79.0	79.0	79.0
	When transfer normal saline drip from the machine to the other	21	21.0	21.0	100.0
Q20	Is a major cause of transmission	86	86.0	86.0	86.0
	Cannot be a cause of transmission	14	14.0	14.0	100.0
Q21	Can	68	68.0	68.0	68.0
	Cannot be	32	32.0	32.0	100.0
Q22	Does not have a virology screening of the patient before the catheter insertion	79	79.0	79.0	79.0
	If the doctor has a virology screening of the catheter	21	21.0	21.0	100.0
	Total	100	100.0	100.0	

This table show: In Q17 the numbers of patients selects the true answer are 62 patients whom represent 62%, & the number of patients select false answers are 38 patients whom represent 38 % of the total sample. In Q18 the numbers of patients' select true answers are 66 patients whom represent 66 %, the number of patients select false answers are 34 patients whom represent 34 % of the total sample. In Q19 the number of patients' select true answer is 79 patients whom represent 79%, & the number of patient's select false answers are 21 patients whom represent 21% of the total sample. In Q20 the number of patients selects true answer are 86 patients whom represent 86%, & the number of patients select false answers are 14 patients whom represent 14% of the total sample. In Q21 the numbers of patients' select true answers are 68 patients whom represent 68%, & the numbers of patients' select false answers are 32 patients whom represent 32% of the total sample. In Q22 the numbers of patients' select true answers are 21 patients whom represent 21%, & the numbers of patients' select false answers are 79 patients whom represent 79% of the total sample.

DISCUSSION

In this chapter, the results which have been analyzed in the previous chapter will be discussed and compared with the previous studies of the total number of the study subjects (69), it was found that are represent 69% of the total sample and 31 subjects are female whom represent 31% of the total sample. The subjects have a primary level of education are 45 subjects whom represent 45%, and 50 patients have a secondary level of education whom represent 50%, and 5 subjects are graduating from universities whom represent 5% from the total sample. The subjects were also distributed into three groups about the period of dialysis The number of patients that receiving regular hemodialysis for a period of 6months to one year are 42 & this represent 42% of the total sample, the number of patients receiving dialysis for 2years are26 & represent 26% of the total sample, the number of patients receiving dialysis for 3years or more are 32 & represent 32% of the total sample. Table No (1).

The number of patients that answer right answers in Q1 are 28 patients &represent 28% from the total sample, & the number of patients who answer wrong answers are 72 & represent 72% from the total sample, In Q2 there are 35 patients having true answers & represent 35% from the total sample, & the number of patients having false answers are 65 patients & those represent 65% from the total sample, In Q3 the number of patients having true answers are 38 patients & those represent 38% of the total sample, & 62 patients having false answers, & those represent 62% of the total sample. Table No (2).

In Q4 87 Patients answer the true answers & those represent 87% of the total sample, the number of patients choosing the false answers is 13 patients & those represent 13% of the total sample, In Q5 the number of patients selects true answer are 72 patients & those represent 72% of the total sample, & the number of patients select false answer are 28 patients & those represent 28% of the total sample. In Q6 the number of patients' select true answer is 65 patients & those represent 65% of the total sample, the number of patients select the false answer are 35 patients & those represent 35% of the total sample. In Q7 the number of patients selects the true answer is 49 patients, which represent 49% of the total sample, & the number of patients

select the false answer are 51 patients &those represent 51% of the total number of the sample. In Q8 the number of patients selects the true answers are 50 patients, which represent 50% of the total sample, & the number of the patients select the false answer are 50 patients which represent 50% of the total sample. Table No (3).

This table show: In Q9 the numbers of patients selects the true answer are 75 patients, which represent 75% of the total sample, & the number of patients select false answer are 25 patients whichrepresent 25% of the total sample. In Q10 the numbers on patients' select true answer are 32 patients, which represent 32%, & the numbers of patients' select false answers are 68 patients which represent 68% of the total sample. In Q11the numbers of patients select true answers are 72 patients who represent 72% of the total sample, the number of patients select the false answer are 28 patients which represent 28% of the total number of samples. In Q12 the numbers of patients select the true answer are 54 patients whom represent 54% of the total sample, the number of patient select false answers are 46 patients whom represent 46 % of the total sample. In Q13 the numbers of patients' select true answers are 66 patients whom represents 66% of the total sample, the number of patients selects false answers are 34 patients whom represent 34% of the total sample. In Q14 the numbers of patient select the true answer are 67 patients whom represent 67% of the total sample; the number of patients' select false answer is 33 patients whom represents 33% of the total sample. In Q15 the numbers of patients select true answers are 62 patients whom represent 62%, the number of patients have false answers are 38 patients whom represent 38 % from the total sample. In Q16 the numbers of patients' select true answers are 83 patients whom represent 83%, the number of patients select false answers are 17 patients whom represent 17% of the total sample. Table No (4).

This table show: In Q17 the numbers of patients selects the true answer are 62 patients whom represent 62%, & the number of patients select false answers are 38 patients whom represent 38 % of the total sample. In Q18 the numbers of patients' select true answers are 66 patients whom represent 66 %, the number of patients select false answers are 34 patients whom represent 34 % of the total sample. In Q19 the number of patients' select true answer is 79 patients whom represent 79%, & the number of patient's select false answers are 21 patients whom represent 21% of the total sample. In Q20 the number of patients selects true answer are 86 patients whom represent 86%, & the number of patients select false answers are 14 patients whom represent 14% of the total sample. In Q21 the numbers of patients' select true answers are 68 patients whom represent 68%, & the numbers of patients' select false answers are 32 patients whom represent 32% of the total sample. In Q22 the numbers of patients' select true answers are 21 patients whom represent 21%, & the numbers of patients' select false answers are 79 patients whom represent 79% of the total sample. Table No (5).

CONCLUSION

From the previous chapter (discussion) this study revealed that the knowledge of the patient in the total number of the study subjects (69), it was found that are represent 69% of the total sample and 31 subjects are female whom represent 31% of the total sample. The subjects have a primary level of education are 45 subjects whom represent 45%, and 50 patients have a

secondary level of education whom represent 50%, and 5 subjects are graduating from universities whom represent 5% from the total sample. The subjects were also distributed into three groups about the period of dialysis The number of patients that receiving regular hemodialysis for a period of 6months to one year are 42 & this represent 42% of the total sample, the number of patients receiving dialysis for 2years are26 & represent 26% of the total sample, the number of patients receiving dialysis for 3years or more are 32 & represent 32% of the total sample. Table No (1).

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This table show: In Q9 the numbers of patients selects the true answer are 75 patients, which represent 75% of the total sample, & the number of patients select false answer are 25 patients which represent 25% of the total sample. In Q10 the numbers on patients' select true answer are 32 patients, which represent 32%, & the numbers of patients' select false answers are 68 patients which represent 68% of the total sample.

RECOMMENDATIONS

- Increase study cases.
- More researches.
- Health education for patients about the route of transmission of blood borne diseases.
- Use the posters which carry pictures learn the patients and new staff the good behaviours to avoid infection.
- Employ only qualified staff.
- Supervise the newly staff.

- Make regular training for staff.
- Provide well equipped laboratories for virology screening.

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