

summary

Hepatitis C virus (HCV) is a major public health problem with an estimated 170 million infected person around the world. HCV causes both acute and chronic hepatitis. children undergoing hemodialysis are at high risk of acquiring this blood borne pathogen, since HCV is efficiently transmitted by the parenteral route. However, infected children have an increased tendency to develop chronic hepatitis and to be also a potential reservoir for its transmission, possibly contributing to the nosocomial spread of (HCV) in dialysis centers and explaining the high prevalence of (HCV) infection among haemodialysis patients.

The aim of this study was to assess the nurses' knowledge about Hepatitis C virus infection in children under hemodialysis and to assess the nurses' practice about Hepatitis C virus infection under hemodialysis.

Research design:-

The present study follows a descriptive design to achieve the purpose.

Technical design :-

Technical design included the setting, subjects as well as tools of data collection.

Settings:-

This study was conducted in Pediatric Hemodialysis Units at Benha University Hospital and Benha Teaching Hospital .

Subjects:-

Sample composed of all nurses (100) who are working in the Pediatric Hemodialysis Units in previously mentioned settings 60 nurses from Benha university hospital and 40 nurses from Benha teaching hospital regardless their age, years of experience and qualification.

Tools of data collection:-

Data was collected through the use of the following tools:-

I - Questionnaire sheet:

It was designed by the researcher after reviewing literature and under supervision of the supervisors, it was written in a simple Arabic language and to assess the following:-

- 1- sociodemographic data of nurses such as age, qualification, and years of experiences, occupation training period.
- 2- sociodemographic data of children such as age, gender, education and ranking.
- 3- Knowledge of nurses about hepatitis C virus infection for children under haemodialysis such as definition, signs & symptoms, causes, mode of transmission, complications, prevention and nursing care.

Knowledge Scoring system:-

Scoring system for knowledge of the studied nurses was designed as follows:-

- Knowledge contents HCV, hemodialysis, infection control were divided into (47) question and total score is 62).
- Nurses scores regarding knowledge about HCV in children under hemodialysis categorized as following:-
 - Good score level from 80-100%.
 - Average score level from 60-<80%.
 - Poor score level from < 60 %.

II - Observational checklist sheet:

An observational checklist (*Bowden & Greenberg 2003*) developed and modified by the researcher and reviewed by supervisors in order to observe nursing care provided for children with hepatitis C virus

under hemodialysis . It included the procedures carried out to children with HCV under hemodialysis such as vital signs, intravenous therapy, blood transfusion, central venous catheter , accessing central venous catheter and washing hands.

Practice Scoring System:-

The score of practice content 108 step with grad 108 it was divided into two levels, where nurses who were their practices scores above 80 grades, they considered on competent level and those who were score below 80 grades were on incompetent level.

Operational Design:-

Preparatory Phase:-

A review of current and past local and international related literatures to get acquainted with various aspects related to hepatitis C virus for children under hemodialysis such as definition, causes, nursing care, and nursing practice to nursing care for these children the study to develop the study tools.

Pilot Study:-

A pilot study was carried out for 10% from predetermined sample to test the applicability, clarity validity and variability of the study tools also to determined the time needed to fulfill the tool. The necessary modifications were done in the form of adding or omission of some questions, the nurses involved in the pilot study were included in the study.

Field Work:-

The field work was carried out at the first week of November 2010 up to the end April 2011for data collection . The researcher attended the

previously mentioned settings by rotation, two days per week at morning 9-2p.m and afternoon shifts 3-8 p.m. In each setting each nurse was individually interviewed using the questionnaire sheet while their performance was assessed by using observational checklist during their actual practice, time used to observe the nurses about three hour.

Administrative Design:-

An official approval of the design of the study was obtained from administrators of the previously mentioned setting to carry out the study, a clear explanation was given about the natural and expected outcomes of the study to administrators and study sample.

Ethical Considerations:-

Follow research ethics as the nurse had the freedom to be involved in the study or to go out at any time she wants. Her rights are secured and all data will be confidential and informed used only for the research purpose.

Statistical Design:-

The collected data were organized, categorized, tabulated and analyzed. Data were presented in the tables using descriptive statistics in the form of frequencies, percentage, mean scores, standard deviation and other statistical tests such as chi-square test and correlation test by using SPSS version 11.

The finding of this study can be summarized as follows:-

- The mean ages of the studied nurses were 29.03 ± 9.70 years. The mean years of experience were 5.6 ± 2.7 years and 72% of them had nursing secondary school.
 - Majority of the studied nurses didn't attend any training program about care HCV and hemodialysis and infection control practice.
 - The mean ages for children had HCV were 11.4 ± 2.80 years.
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- The majority (83%) of the studied nurses had good knowledge about definition of HCV.
 - About two thirds (65%) of the studied nurses had good knowledge about general causes of HCV.
 - More than two thirds (70%) of studied nurses had in correct knowledge about signs and symptoms of HCV incubation period.
 - About one third of studied nurses (31%) had poor knowledge about treatment of HCV.
 - More than half (67%) of the studied nurses had an average knowledge about nursing care for children with HCV.
 - More than two thirds (68%) of nurses had incompetent level of practice about accessing central venous catheter.
 - More than one third of nurses (43%) had incompetent level of practice about blood pressure.
 - About more than one third (44%) of the studied nurses had competent level of practice about hand washing.
 - The present study revealed that, the majority of the studied nurses had an average score level of knowledge and incompetent level for their practice.
 - The present study showed that there was a highly statistical significance correlation between nurses' knowledge and their practice.
 - The present study reflected, that there was a highly significance relation between nurses' knowledge and their academic qualification.
 - The present study revealed, that there was a highly a statistical significance relation between nurses' performance and their attending training courses.
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Conclusion:-

In the light of the present study findings, it was concluded that the majority of nurses had secondary nursing school and about half of them with years of experience >5. The most of children with HCV under hemodialysis were female and had ages between 9-12 years and more than half of them were second child. The majority of nurses had an average knowledge and incompetent practice regarding nursing care for children with HCV under hemodialysis. Also nurse's knowledge and practice related to hepatitis C virus information in children under hemodialysis was deficient as the minority of them had good level of knowledge and competent practice. This would have a negative impact on their ability to care perfectly for those children also the present study reflected that several characteristics of nurses had their reasonable impact on their knowledge and practice, such as age, years of experience, qualifications and attendance of training related courses. This means that the research hypothesis that nurses haven't enough knowledge and practice about children with hepatitis C virus infection under hemodialysis was achieved throughout the study

Recommendations

Based on the findings of the current study, the following recommendations are proposed:

- 1) Periodically check up and medical examination to all staff nurses for Anti HCV markers.
 - 2) HBV vaccination is recommended for all dialysis patients.
 - 3) Dialysis patients should be screened monthly for newly acquired hepatitis B so that they can be appropriately isolated during dialysis,
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- 4) Dialysis patients who are known to be infected with hepatitis B should isolated for dialysis in a separated room, with dedicated machine and other equipment.
 - 5) Staff caring for a hepatitis B positive patient during dialysis shouldn't care for HBV negative patient on the other day.
 - 6) Hepatitis C negative dialysis patients should be tested every six months for antibodies to HCV to detect patients with newly acquired infection.
 - 7) Suggested strategies to control HCV transmission in HDUs include strict adherence to universal precautions, careful attention to hygiene, sterilization of dialysis machines and routine serology testing and surveillance for HCV and infection.
 - 8) Hemodialysis machines were sterilized after each session of and externally cleaned with soap and water.
 - 9) Hemodialysis Unit should be adequately staffed and well equipped through three shifts with systematic continuous supervision to evaluate nursing care, detect deficiencies and carry out the correction for these defects in order to ensure the provision of competent children care at Hemodialysis Unit.
 - 10) Periodical educational trainingprogram about infection control,HCV and HD for nurses and staff members working at HDUs is mandatory and periodical monitoring for children with HCv and raising nurses awareness about this nursing care through up dating nurses knowledge and practice in HDunit.
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