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**"A study to assess the practice and perceived barriers towards  
infection control measures among Health Care Workers (HCWs)  
in dialysis unit of a tertiary hospital, Udupi District, Karnataka "**

JACKLINE PRATHIBHA

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## "ABSTRACT

A descriptive study to assess the practice and perceived barriers towards infection control measures among Health Care Workers (HCWs) in dialysis unit of a tertiary hospital, Udupi District, Karnataka was conducted by Jackline Prathibha in partial fulfilment of the requirements for the award of Master of Science in Nursing at Manipal College of Nursing Manipal, Manipal University.

The objectives of the study were to assess the knowledge of practice among healthcare workers regarding infection control measures, to assess the perceived barriers in following the infection control measures and to assess the practices among healthcare workers regarding infection control measures.

The conceptual framework of the study was based on Rosenstock, "Health Belief Model".

Data collection instruments used for the study were demographic proforma, structured knowledge of practice questionnaire on infection control measures in dialysis unit, checklist to assess the barriers on infection control measures in dialysis unit, observation checklist on infection control measures in dialysis unit, resources checklist necessary to practice infection control measures in dialysis unit. To ensure the content validity, the instruments were submitted to seven experts. The instruments were pretested among the four healthcare workers and the reliability (0.95) was also established. The pilot study was conducted by observing 61 events and administering knowledge of practice tool to 10 healthcare workers.

Administrative permission obtained from Institutional Research Committee, MCON Manipal, Head of the Institution, MCON Manipal, Institutional Ethical Committee KH, Manipal No-760/2016, CTRI registration- CTRI/2017/03/008109, Head of the Department of concerned dialysis unit, Medical Superintendent, Kasturba Hospital Manipal, Nursing Superintendent, Kasturba Hospital Manipal and informed written consent of participants.

The data were collected from 2nd January 2017 to 4th February 2017. Data collection on practice of infection control measures in dialysis unit was done by observing 602 events. The concealed observation of the events of infection control measures followed while caring for the patients undergoing dialysis and resources in dialysis unit using observational checklist were done. After the completion of the practice observation, the purpose of the study was explained to the participants and tools such as demographic proforma, knowledge of practice questionnaires and barriers on infection control measures checklist in dialysis unit were administered and data were collected using total enumerative sampling technique, after explaining the participant information sheet and obtaining the informed consent.

The data were analysed using SPSS version 16. Descriptive statistics were used to analyse the data. The study findings revealed that majority healthcare workers 39 (78%) had good knowledge of practice on infection control measures in dialysis. Among 50 healthcare workers, most 36 (72%) of the healthcare workers were between the age group of 20-25years, 36 (72%) of the healthcare workers had more than two years of experience and 35 (72%) were technicians, 29 (58%) were females, and 10 (20%) had infection control training for more than four times.

Most 32 (64%) of healthcare workers perceived that wash basin for hand washing is away from patient area as one of the barrier towards infection control measures in dialysis unit, 30 (60%) perceived lack of appropriate staffing was the barrier and 29 (58%) perceived that there was high work load, 19 (38%) perceived that washing agents caused irritation to hands, 16 (32%) perceived nobody checks whether infection control measures followed or not as barrier, 5 (10%) perceived they were too busy to follow infection control measures in dialysis unit as the barrier.

Other barriers expressed by the participants were staff shortage, no separate eating room for patients, lack of organisation, more number of patients, less dialysis machines, sometimes forgets guidelines and protocol, busy in the night duty, busy due to increased workload, feel uncomfortable to wear goggles, adhesive plasters and antimicrobial ointments are not designated to each patients, lack of appropriate staffing due to continues ward change for senior staff, inadequate slippers, non-availability of sphygmomanometer for each block, no separate isolation room, no regular classes for newly joined staffs, no needle puncture resistance container for each patient cubicle. They also expressed that there is only one common hand washing area which is away from the patient cubicle.

In practice observation 54 (59%) did not perform hand hygiene before, 33 (36%) after arteriovenous fistula/ graft cannulation, 66 (72%) did not perform hand hygiene before and 41 (45%) after the arteriovenous fistula / graft decannulation and 89 (97%) put on new, sterile gloves as per the technique before cannulation, 79 (86%) wore new gloves for priming, majority 92 (100%) were not performing medication preparation in bedside medication trolley with sterile tray and 84 (91%) not performing hand hygiene before injectable medication preparation. Dressing were not applied aseptically by 38

(41%) as they did not use sterile gloves and touched unsterile equipment's before applying dressing

with sterile gloves, 86 (93%) times priming bucket has not been emptied and the same bucket was used for another patient and 70 (76%) of them were not placing the tubing and dialyzers in a leak-proof container instead it was carried to reprocessing area with the gloved hand and 44 (48%) did not perform hand hygiene after termination of dialysis.

During reprocessing 92 (100%) times health care workers did not wear personal protective gear like goggles and mask but gloves and plastic aprons were used all the time, 82 (89%) times dialyser was backwashed for 15 minutes and direction of flow reversed in 5 minutes was not done after reprocessing dialyser and tubings. Removal of glove and hand washing need to be done after reprocessing of dialyser and tubing of each patient but 77 (84%) times hand hygiene after reprocessing of each dialyser and also tubings was not done instead gloves were removed after each shift and hand hygiene was done. The reprocessing operator as per hospital policy and guidelines is dialysis technician but reprocessing was done by class four workers. All the tubings and dialyser of different patients which was supposed to be reprocessed separately but it was not reprocessed separately instead they were dumped in the same wash basin and reprocessed.

All 25 (100%) times dialysis beds were not disinfected after each patient with 1% hypochlorite, 25 (100%) times disinfection of the reusable jugs for sodium bicarbonate using 1:100 dilution bleach at least weekly and priming bucket disinfection with 1:100 bleach were not done, 23 (92%) times monitors were not disinfected with virkon 1% 4 times a day, 21 (84%) all high touch surfaces were not cleaned.

During observation of resources in dialysis unit 13 (52%) times hand rub was not present in all medication trolley, 23 (92%) times povidin iodine anti-microbial solution was not present in all medication trolley, 20 (80%) AHD solution not present in all medication trolley, 7 (28%) times spirit solution present in all medication trolley biomedical waste bins were in every cubical but puncture resistant container to dispose fistula cannula was not present in all the patient care cubicles.

Thus the study concluded that healthcare workers had good knowledge but majority healthcare workers did not follow infection control measures in dialysis unit. It is alarming and mandates the need for reinforcing the healthcare workers to follow the infection control measures to prevent the healthcare associated infections which are the most common cause of preventable infections in patients undergoing dialysis.

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