ROLE OF MICROBIOLOGY IN NURSING

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Introduction

Microbiology touches life of a nurse while he/she works in a medical health care setting. Medical microbiology deals with the study of microorganisms responsible for various diseases of low to high intensity and it can be divided into:

1. Bacteriology, which deals with study of unicellular bacteria.
2. Virology, which facilitates study of viruses.
3. Parasitology, which involves unicellular to multicellular parasites.
4. Mycology, that deals with various fungal microorganisms.

Why ?

Nurses are involved in managing all aspects of patient's health and infection control in the hospitals. Nurse must know microbiology to take care of patient and to protect oneself from pathogenic microorganisms.



Implementation of microbiology in nursing

1. To combat infectious diseases

Not only cross infection could occur during a hospital stay but there is danger of patient's normal flora turning pathogenic in immunocompromised individuals. So knowledge of microbiology helps in combating infectious diseases.



2. Clinical microbiology

To identify the organism responsible for infection, laboratory tests are done in clinical microbiological labs.



3. Proper collection of clinical specimen

It is required for bacteriological investigation.

4. Targeted treatment

Mutational changes in microorganisms make treatment difficult, therefore, identification of specific pathogen and administration of recommended antibiotic treatment for a particular duration is must.

5. Sterilisation and disinfection

Procedures and chemicals are used to create and maintain a sterile field in healthcare setting.



6. Asepsis

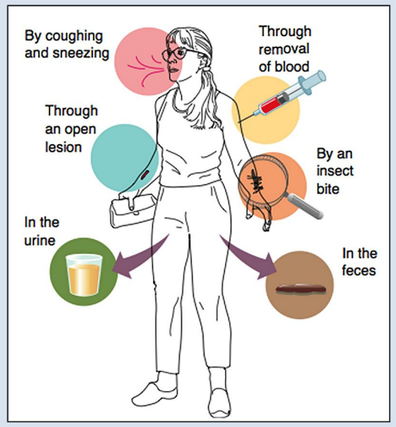
Principles of asepsis are followed to control and prevent transmission of infection.

7. Disposal of biomedical waste

The proper disposal of biomedical waste is based on principles of microbiology.

8. Mode of entry and exit of microorganism

Understanding it, helps in prevention of spread of infection in community.



9. Hand washing

This simple yet over looked act can prevent or reduce the chances of spreading infections.



10. Immunisation

Knowledge of immunisation schedule and vaccine cold chain is required for successful vaccination pro-

Conclusion

Nurses must have sufficient knowledge of microbiology to perform different roles of duty in a healthcare setting like collection of specimen, administration of antibiotics, biomedical waste management, immunisation, maintaining sterile conditions in OTs, using aseptic techniques during invasive or non-invasive procedures, etc.

Identification of microorganism helps in targeted treatment.

Proper disposal of biomedical waste generated in healthcare settings helps in checking environmental pollution and associated health hazards.

Knowledge of immunology makes a nurse well prepared for vaccination and protection of vaccines by using cold chain.

Hand washing technique reduces load of microorganisms on hands of a nurse which further helps in restricting risk of hospital acquired infection.

It is clear from the above mentioned facts that in order to provide effective nursing care, sound knowledge of microbiology is required. It must be attained through training.

References

Cruickshank R, Duguid JP, Marmion BP, Swain RHA (1980). 'Medical microbiology.' 12th Edition. Churchill Livingstone. Edinburgh, London & New York.

Pelczar MJ, Chan ECS & Krieg NR (1986). 'Microbiology.' 5th edition. Mcgraw Hill Education (India) Private Ltd. ISBN 139780074623206.

Paniker A (2010). 'Textbook of microbiology.' Edited by Ashbee HR & Mathews MS. Published by Universities Press (India) Private Limited. ISBN 9788173717185.

Tyagi R (2014). 'Advanced applied microbiology.' Swastik Publications, New Delhi. ISBN 9789381991541.

Wani I (2012). 'New concepts in microbiology.' An imprint of Medical Publishers, India. ISBN 9789381390801.