INTERNSHIP TRAINING

AT

ROHILKHAND MEDICAL COLLEGE AND HOSPITAL, BAREILLY

"STUDY TO ASSESS KNOWLEDGE AND SKILLS OF NURSES IN ROHILKHAND MEDICAL COLLEGE AND HOSPITAL, BAREILLY"

By

BHAWNA KHATTAR

PG/14/016

Under the guidance

DR.A.K KHOKHAR

Post Graduate Diploma in Hospital and Health Management

2014-16

International Institute of Health Management and Research, New Delhi

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(Completion of Dissertation from respective organization)

The certificate is awarded to

BHAWNA KHATTAR

In recognition of having successfully completed her
Internship in the department of
Quality

And has successfully completed her Project on

"STUDY TO ASSESS KNOWLEDGE AND SKILLS OF NURSES IN ROHILKHAND MEDICAL COLLEGE AND HOSPITAL,BAREILLY(U.P)"

14 MAY 2014

ROHILKHAND MEDICAL COLLEGE AND HOSPITAL,BAREILLY(U.P)

He/She comes across as a committed, sincere & diligent person who has a strong drive & zeal for learning

We wish him/her all the best for future endeavors

Training & Development

Zonal Head-Human Resources

Certificate of Approval

The following dissertation titled "**A STUDY TO ASSESS KNOWLEDGE AND SKILLS OF NURSES IN ROHILKHAND MEDICAL COLLEGE AND HOSPITAL, BAREILLY (U.P)**" at "**ROHILKHAND MEDICAL COLLEGE AND HOSPITAL**" is hereby approved as a certified study in management carried out and presented in a manner satisfactorily to warrant its acceptance as a prerequisite for the award of **Post Graduate Diploma in Health and Hospital Management** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

Dissertation Examination Committee for evaluation of dissertation.

Name	Signature
Kush Udayai	Kush Udayai
A.K. KHOKHAR	

Rohilkhand Medical College & Hospital
Pilibhit bypass road Bareilly

May 14, 2016

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Bhawna Khattar** student of Post Graduate Diploma in Hospital and Health Management (PGDHM) from International Institute of Health Management Research, New Delhi has undergone internship training at Rohilkhand Medical College and Hospital, Bareilly from 14 March, 2016 to 14 May, 2016. During this period her assignment was as follows:-

- Knowledge & Skill assessment of nurses in Rohilkhand Medical College & Hospital, Bareilly.

The Candidate has successfully carried out the study designated to her during internship training and her approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements.

I wish her all success in all her future endeavors.

14/5/16

(Dr. Chander Mohan)
Medical Superintendent

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Dr. A.K. Agarwal
Dean academics and student affairs
(IIHMR, New Delhi)

Dr A.K Khokkar

Director IIHMR, (New Delhi)

INTERNATIONAL INSTITUTE OF HEALTH MANAGEMENT RESEARCH, NEW DELHI

CERTIFICATE BY SCHOLAR

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Enrollment No. **PG/14/016**
Under the supervision of **A.K. KHOKKAR**

for award of Postgraduate Diploma in Hospital and Health Management of the Institute carried out during the period from 14 MARCH to 14 MAY

embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

Bhattar
Signature

Rohilkhand Medical College & Hospital
Pilibhit bypass road Bareilly

FEEDBACK FORM

Name of the Student: **Miss Bhawna Khattar**

Dissertation Organisation: **Rohilkhand Medical College & Hospital, Bareilly**

Area of Dissertation: **Administration**

Attendance: **Very Good**

Objectives achieved:

Project assigned in the following department

- Quality

Deliverables:

Project Done:-

- Knowledge & Skill assessment of nurses in Rohilkhand Medical College & Hospital, Bareilly.

Strengths:

- Hard working
- Sincere

Suggestions for Improvement :-

- Can be more focused

Faiz Shamsi

Signature of the Officer-in-Charge/ Organisation Mentor (Dissertation)
(Dr. Faiz Shamsi)
Administrative Officer

Date:- 14 May 2016

Place:- Bareilly

INTERNATIONAL INSTITUTE OF HEALTH MANAGEMENT RESEARCH, NEW DELHI

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Administrative Officer

Date:- 14 May 2016

Place:- Bareilly

ACKNOWLEDGEMENT

I chose Rohilkhand Medical College and Hospital for my internship with anticipation for learning & Hands on Experience. I had a feeling that the office bearers of this hospital would provide me with immense guidance & support. I felt extremely privileged when I found that all my dreams have come true at Rohilkhand Medical College and Hospital.

At this juncture of time this Report would be incomplete if I forget to thank all people who made my learning a possibility & an unforgettable experience.

At the outset I would like to thank the **Almighty, Founders of Rohilkhand Hospital & IIHMR** for providing me with such unique learning experience.

I heartily thank **Dr. lata Agarwal and Dr.Keshav Kumar (chairperson)** who provided me support and guidance for my learning as well as project in the hospital.. In the end, I thank all the **hospital Staff** who provided me excellent guidance during my departmental visit and helped me enhancing my knowledge about practical hospital administration.

In the end, gratification to **Dr. Faiz shamsi (mentor), A.K Khokkar (IIHMR)** for guiding me about the various aspects of my study.

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INTERNSHIP REPORT

Rohilkhand Medical College & Hospital

Rohilkhand Medical College & Hospital Established in 2006 by Rohilkhand Educational Charitable Trust with an infrastructure comprising of 720 beds, 8 Operation Theatres, 41 ICU Beds, 24X7 Emergency facilities, full range of state-of-the-art diagnostic laboratories and a comprehensive rehabilitation facilities.

Rohilkhand Educational Charitable Trust & Promoters:

In 1998 Dr. Keshav Kumar Agrawal, Dr. Lata Agarwal, Dr. Ashok Agarwal and Dr. Kiran Agarwal created a trust to provide medical facilities and upliftment of medical education in Rohilkhand region. Dr. Keshav Kumar Agrawal professional excellence is an MBBS, MS, MRSH, FISS and Managing Director of a multi-specialty hospital known as Keshlata Hospital. The Hospital contains 100 beds and is situated just 3 kms from the college campus. Keshlata school of nursing and Keshlata Institute of Paramedical Sciences are also situated in the campus of Keshlata Hospital. Dr. Keshav Kumar Agrawal has also recieved various awards like Bharat Jyoti Award, Indira Gandhi Sadbhawna Award, Rashtriya Ekta Award, Rashtriya Ratna Award etc. He has also served various medical and social organizations like Indian Medical Association (Vice-President), U.P. Nursing Home Association (Vice-President), Indian Healthcare Federation, Association of Surgeons of India (President, Bareilly Branch), Central U.P. Chamber of Commerce and Industry etc. He is also life member of various medical and surgical associations of India and abroad.

Dr. Ashok Agarwal, MBBS. MD. DCH is running his own hospital known as Ashok Kiran Hospital. Ashok Kiran Hospital, a land mark for healthy Mother & healthy child is a success

story of Dr. Ashok Agarwal & Dr. (Mrs.) Kiran Agarwal, MBBS, MS (Obst. & Gyane). Since it's Establishment in 1987 this hospital has served the citizens of Bareilly and nearby cities with advanced medical treatments in the specialized field of Pediatrics and Obstetrics & Gynecology. Situated at a distance of only 8 km from the Medical College Campus, this hospital is a 60-bedded hospital equipped with 10 incubators along with advanced nursery unit and round the clock facilities like - Warmers, Phototherapy, C-PAP Blood Gas Analysis, etc.

Rohilkhand Medical College & Hospital is the city's first multi-specialty private hospital of Bareilly. Our aim has always been to bring world-class medical care within the reach of common man. Over the years it has progressed bringing in the latest and the most modern medical care in critical and life threatening areas. Our constant endeavor is to continuously upgrade our facilities, Preventive diagnostic and therapeutic services are the core of our eminent specialists, This Hospital is situated opposite Suresh Sharma Nagar Pilibhit Bypass Road Bareilly and is a 720 Bedded Hospital with satellite Centers at Rithora and Rampur Garden, Bareilly.

The specialties we have Trauma & Neuro-Surgery, Orthopedics & Joint Replacement, Medicine, Respiratory Medicine, Ophthalmology & ENT, Obstetrics & Gynecology, Pediatrics, Neonatology. MRI, CT, NICU, MICU, PICU, Critical Care, cardiology among others.

The Hospital has 24 hrs superbly backed emergency services for patient. We have a uniquely friendly environment, where the management has laid a great emphasis on creating a customer-based environment with pro-active and system driven procedures keeping the patient first. We

have inculcated a disciplined culture, to listen to, and recognize the need of the patients in pain, with tact, sympathy and compassion. We set standards for many others to emulate.

Today the hospital offers a tertiary level care in 12 specialties and has assembled the finest medical talent – Physicians, Surgeons, Nursing Professionals and Technicians. The skills of our Medical Professionals are enriched with international experience. This is line with the continuing ethos of the hospital to combine the best medical care with warmth and tenderness which is essential to the healing process.

Rohilkhand Medical College & Hospital commits itself to provide efficient, effective, timely and user-friendly healthcare to its patients, through best Medicare practices in a clean, healthy and rejuvenating environment.

Our Vision:

Rohilkhand Medical College & Hospital shall strive to be the leader in the area of quality healthcare.

Our Mission:

Rohilkhand Medical College & Hospital shall continuously engage itself in upgrading its comprehensive multispecialty healthcare delivery system through quality intervention, involvement of all functionaries and excellent leadership.

Our Quality Objectives:

1. Best quality patient care.

2. Judicious use of drugs and appropriate interventions.
3. Compliance with the highest standard of medical ethics.
4. Continued skills up gradation and keeping abreast of latest developments.

Our Quality Values:

1. Care, Compassion and Courtesy.
2. Community Health Provider - patient centric care with value for money to all sections of society.
3. Timely intervention.
4. Effectiveness - Sharing Knowledge and Best Practices.
5. Efficiency - Never ending improvements.
6. Maintenance of highest standard of hygiene and cleanliness.

Rohilkhand Medical College & Hospital was established in 2006 by Rohilkhand Educational charitable trust and is a unique example of multi-specialty of medical institution of modern time spread over 40 Acre of land. This Hospital is the first hospital of its kind in Private Sector in Bareilly with all the specialties under one roof.

1. It was a vision and philosophy of a far reaching dimension that inspired the founders of Rohilkhand Medical College & Hospital to provide excellent standards of medical services for all multi-specialties to cater the growing needs of medical care of the society.

2. The hospital is equipped with state-of-the-art Trauma Centre, dedicated Operation Theatres, Observation Ward and Resuscitation Unit, Labour Room, Pediatric Intensive Care Unit and Observation Nursery backed by the most modern diagnostic and support services, fully equipped ICU. The Operation Theatre Complex has seven technologically advanced Operation Theatres for Ophthalmology, Orthopedic, Septic, General Surgery, Otorhinolaryngology (E.N.T), Obstetrics & Gynecology. A Post Operative Intensive Care Unit has been designed within the same complex in order to provide maximum medical care to patients after surgery.
3. The Hospital has 41 Bedded Medical ICU with state-of-the-art monitoring and ventilatory facilities manned by ICU trained residents and in house consultant for round the clock care. ICU has separate isolation rooms with facilities for both positive and negative pressure chambers. Our MICU is rated as one of the most affordable and best intensive care units in the city.
4. We have a well-equipped state-of-the-art Cardiac Catheterization Laboratory with Echocardiography and Trade Meal Test (All invasive & Non Invasive Procedure) . 08 Bedded Cardiac Intensive Care Unit with round the clock monitoring is available.
5. A state-of-the-art 16 Slice CT Scan machine has been installed 3 years back which is used comprehensively for the evaluation of Heart, Lungs, Brain, Coronaries Peripheral Blood Vessels and all other organs of the body.
6. A state-of-the-art MRI machine has been installed 5 years back which is used comprehensively for the evaluation of Heart, Lungs, Brain, Coronaries Peripheral Blood Vessels and all other organs of the body.

7. Following its core philosophy of valuing human life above all, Rohilkhand Medical College & Hospital continuously strives to provide newer standards of medicare with human touch, it's no wonder then, that today, the name Rohilkhand Medical College & Hospital is synonymous with care.

Institute of Dental Sciences

Institute of Dental Sciences is existing for the last 10 years and has modern well equipped Dentistries and OTS. The equipment which are used in Oral Maxillo Facial Surgery, Orthodontia, Prosthodontia, Periodontia, Endodontia and Paedodontia are very modern and we can really boast the state-of-art equipment & septic controlled which are necessary for a modern Lab, OTS and ICU are used in Our Institution.

Rohilkhand Medical College & Hospital specializes in Heart related invasive & non invasive procedure & treatment and has different Departments like Orthopedics, Neuro Surgery, Pulmonary Medicine, Obstetrics & Gynecology, General Surgery, Pediatrics, Otorhinolaryngology (E.N.T) General Medicine, Dental, Ophthalmology, Psychiatry and Dermatology, Radiology (MRI, CT Scan, Ultrasound, X-Ray & Digital X-Ray) and Pathology . All the departments have 24X7 Diagnostic facilities & Therapeutic facilities.

About the Hospital

OPD Block

A huge OPD complex has been provided with waiting lounge and separate reception counters for male & female patients with senior citizen. It can cater to more than 1500 OPD patients daily. It has separate examination rooms, for all medical fields, separate dressing room, injection rooms, dark room, room for eye-testing, child rehabilitation room, child guidance room, immunization room, cancer clinic, maternity room, antenatal check up room, audiology room, ECG room etc. This block has 11 demonstration rooms for students teaching, on patients.

Emergency Block

For patients of accident, gunshot, Stab injury, poisoning, burn, serious illness, heart attack etc, we have a separate emergency block. It has emergency operation theatre with emergency ward for male & female patients. The ward is provided with central oxygen and central suction along with crash cart, pulse oxymeters, non invasive blood pressure monitors & defibrillators, X-ray & Laboratory. It also has imported motorised ICU beds.

MICU and ICCU

A 14 bedded intensive care and intensive coronary care unit is available. This ward is fully air-conditioned with multiparameter monitors on each imported motorised electrical bed, defibrillators, ventilators, central nursing station, syringe pumps, infusion pumps etc. This unit also has TMT (stress test) and echo cardiography machine. Central oxygen, central suction and compressed air has been provided on each bed.

SICU

A Post Operative Intensive Care Unit has 5 beds & designed within the same complex in order to provide maximum medical care to patients after surgery. A specialized service that provides inpatient care for critically ill patients on surgical services. As opposed to other ICUs, the care is managed by surgeons trained in critical-care.

GICU

Management of major obstetrical emergencies and gynecological patients require an understanding of medical conditions' influence on the patients, and the physiological changes of normal and abnormal pregnancies. Intensive care unit management is an essential part in raising the level of patient care. Gynecological admissions to the surgical intensive care unit vary from the obstetrical cases. In pregnant women there are certain rare conditions or complications, which make the pregnant women's life, pass through a critical time. These are dealt with in a high dependency area, which is short of the intensive care unit. In our hospital there is a GICU with two beds attached with SICU, so the mildly affected and critically ill patients together are cared for in the surgical intensive care unit.

PICU

Pediatric patients are treated in this intensive care unit for life-threatening medical problems such as asthma, influenza, diabetic ketoacidosis, or traumatic brain injury. An air-conditioned 5 bedded paediatric intensive care unit is available for children. This unit has defibrillator multiparameter monitor, central oxygen & suction, syringe pumps, infusion pumps, ventilator etc.

NICU

This specialty unit cares for neonatal patients who have not left the hospital after birth. Common conditions cared for include prematurity and associated complications, congenital disorders such as Congenital diaphragmatic hernia, or complications resulting from the birthing process. Two air-conditioned neonatal intensive care units are available one for clean and other for infected cases. NICU has 10 beds. It has infant ventilator, multiparameter monitor, infusion pump, syringe pumps, photo therapy, radiant heat warmer etc.

RESPIRATORY ICU

An air-conditioned 5 bedded RICU is available with 3 ventilators. These beds have cardiac monitors, NIBP, Pulse Oxymeters, Syringe Pumps, Infusion Pumps, Defibrillators etc. Central oxygen, Central suction & compressed air is provided on all imported motorised beds.

BURN UNIT

This air-conditioned unit has 4 beds. Each bed is provided with cradles and emergency care system with multiparameter monitor.

DIALYSIS UNIT

A 3 bedded dialysis unit is also available. Each bed is provided with cradles and emergency care system with multiparameter monitor.

WARDS

There are 720 general beds located in different blocks. All wards have nurses duty room, doctor duty room, procedure room, pantry and laboratory. All the duty rooms are well connected through EPABX lines to all other facilities

PRIVATE WARD

34 private rooms are available. These have TV, Coolers, air conditioners and amenities for patients comfort.

OPERATION THEATERS

Twelve operation theaters are functional at present. These operation theaters are air-conditioned and are fitted with most modern life saving equipments like imported operation lights (Hanaulus Germany), imported operation tables (Eschhman, UK), 'C' arm image intensifier (Philips) operating microscopes (Carl Ziess), imported anesthesia machines (Ohmeda and Narcomed) with ventilators, anesthesia gas monitors, oxygen monitors, pulse oxymeters, NIBP, General Surgical diathermy (Valley lab) along with central oxygen and central suction.

Department of Otorhinolaryngology (ENT)

The department of Otorhinolaryngology, Speech Pathology & Audiology is one of the best equipped with the experienced specialists and instruments in Bareilly City.
The department has state of the art microscope to perform micro ear and micro laryngeal surgeries of various types of ear diseases e.g. OCCICULOPLASTY, TYMPANOPLASTY, STAPEDECTOMY, MASTOIDECTOMY, etc which are routinely done in our hospital.
We have dedicated team of Ear surgeon and Audiologist & Speech therapist for surgery & rehabilitation.

Speech Pathology and Audiology is associated with the department of Otorhinolaryngology. It has state of the art Audiometer, Impedance Analyzer, BSERA with free field facility and hearing aid testing facility also. All types of Speech, Hearing and Swallowing disorders are treated with great efficiency by very senior Audiologist and Speech Pathologist. We have nasal and nasopharyngeal endoscopes for diagnostic and video endoscopy facility for all types of endoscopic sinus surgeries including trans nasal pituitary and surgery for CSF Rhinorrhoea. We have Diode Laser in the department to do various Micro Laryngeal procedures, Palatopharyngoplasty, surgery for Laryngeal and Tracheal Stenosis. Department also has various sizes of Oesophagoscopes and Bronchoscopes to deal with any kind of foreign body or lesion in oesophagous and bronchus. Oesophagoscopies and Bronchoscopies are routinely done in our hospital.

Equipments available in Department:

Ear Suction, Suction Apparatus, OtoScope, Oto-Acoustic Emission, BERA (Medicaid 3000), Pure Tone Audiometer (ALPS), Impedance Audiometer, Tonsillectomy & Adenoidectomy Set, Nasal Bone Fracture Reduction Forceps, Septoplasty Set, Caldwel-Lue's Set, Fess Set, Mastoidectomy Set, Tympanoplasty Set, Tracheostomy Set, Direct Larngoscopy Set etc.

Department of Orthopedics

The Department is the embodiment of care and commitment, constantly reinventing itself to establish the highest level of ethical standards in patient care, clinical research and education in this region. It is regarded as the most specialized centre in the western region for Joint

replacement, Traumatology, Spinal Surgery, Pediatric Orthopedics, Arthroscopy injuries and head injury.

Services offered by this department are:

1. Trauma Primary and Polytrauma
2. Total Knee Replacement
3. Total Hip Replacement
4. Shoulder Replacement
5. Spinal Surgery
6. Arthroscopic Surgeries

Trauma Surgey:

AO Principles (Standard International Guidelines) are followed for simple and complicated trauma management.Trauma procedures that are performed by our Orthopedic Department on a regular basis are as follows:

1. AFN
2. DHS
3. PFN
4. LC LCPS (Locking Platform)
5. Locking Nails
6. Pelvic Fracture Surgery
7. Poly Traumas

Arthroplasty & Joint Replacement Surgery

Arthroplasty is an operative procedure in which the arthritic or dysfunctional joint surface is replaced with a prosthetic material to provide a painless mobile joint. We perform primary knee, hip, shoulder and elbow replacements.

Equipments available in Department:

Ortho C-Arm Table with Fracture table, Video Artho scope with Monitor, BMD Machine- X-Ray Based (Lunar Pixi), Fracture Reduction Set, LCPCP Set, DHS Set, Tibia Inter Locking Set, PFN Set, Austin Moore Prosthesis Set, ALD Set, K-Nail Set, Splints, Skin Traction, Walker etc.

Department of Pediatrics

Taking care of children who require special medical attention has always been a priority at Rohilkhand Medical College & Hospital. Equipped to undertake routine and complex pediatric medical cases round the clock, this department offers a variety of laboratory tests and imaging procedures supported by a medical team of experts in pediatric conditions. There is an exclusive pediatric ICU to attend to children suffering from acute and emergency illness like electric shocks, encephalopathies, meningitis and renal failure as well as cases of Pediatric Gastroenterology, Nephrology, Endocrinology and cardiology. It also includes treatment with Neurosurgical and Pediatric Surgical problems.

Neo Natalogy

Neonatology deals with the specialized care of the pre-term babies and full term babies with complication. Rohilkhand Medical College & Hospital has one of the best Neonatal ICU's, at par with international standards. Besides being equipped with conventional equipments like ABG Analyzer, incubators, and monitors for BP and oxygen levels. This neonatal Intensive Care unit also has the most sophisticated equipments such as artificial life support system, cardio respiratory monitors.

Pediatrics department caters to the age group from Newborns to 14 yrs of age. Infact the pediatrics department also deals with antenatal complications and advice for to be born neonates along with the obstetricians, so that the proper management is given to the high risk neonate. Indoor facilities are available 24 hours with a pediatrician on call around the clock. Specialized care for preterm babies with their problems, full term babies with complications etc are managed in our Neonatal Intensive care unit.

The Neonatal Intensive care unit is equipped with the best equipment required to treat even the smallest baby including administering surfactant therapy.

For the older patients the Pediatric Intensive care unit facilities are available which handle Pediatric Medical problems. The whole team works together in a good coordinated manner for the best care for our Pediatric patients.

Equipments available in Department:

Multi Parameter, Phototherapy Machine (CFI), Suction Machine, Over Head Warmers, Laryngo Scope, centralized Suction Point, Centralized O2 Point, Ventilator (SLF – 2000 INFANT)*New Born (SLE), Nebulizer, Central Compressed Air, CPAP/ Bi-PAP, Air Sterilizer etc.

Department of Gynaecology & Obstetrics

The department offers not only a comprehensive system of health checks up and management of Gynecological disorders but also pregnant mothers from the day of her first visit till the delivery of the child. It provides a full range of emergency and elective gynecology services, which include management of menstrual disturbances, endometriosis and hormones related problems.

Uro-gynaecology offers a comprehensive range of investigations and management options for the treatment of female urinary incontinence and pelvic organ prolapsed.

Services offered by this department are:

1. Routine pregnancy care
2. High risk pregnancy care
3. Painless labour
4. Most advanced special care baby unit for premature deliveries
5. Laparoscopic surgery for all gynaecological diseases
6. Hysteroscopic Surgery i.e. Hysteroscopic Myomectomy, Adhesiolysis,

Septum Resection, Tubal Cannulation, Endometrial Resection

7. Colposcopy

8. Thermachoice uterine ablation therapy (Non operative treatment for bleeding disorders of uterus)

9. Planned Parenthood services.

Equipments available in Department:

Abdominal Hysterectomy Set, Vaginal Hysterectomy Set, Diagnostic Laparoscopy Set, Hysteroscopy Set, Delivery Set, Portable Ultrasound, Multi Channel Monitors, Cervical Biopsy Set, High Suction Machine etc.

Department of General Surgery:

General and minimal surgery services are provided in the hospital by a dedicated team of exclusively trained and extensively experienced surgeons. A well organised multi tier system of surgical experts available round the clock all patients needing elective as well as as emergency surgical help. The surgical services are rendered strictly in accordance with the established protocols of pre and post operative surgical care in all disciplines of the subject. Our facility is one of the pioneers in offering minimal access (laparoscopic) surgery for a wide spectrum of surgical conditions. This includes general and gastrointestinal surgeries, all kind of laparoscopic hernia operations and gynecology operations too. Over the past few years, we have added video endoscopic thoracic surgery also in the list of services offered by our department. Whether primary or teritary level, we cater to all kinds of patients with various kinds of co-morbid

conditions in our exclusively provided modern operation theaters and well equipped surgical intensive care facility.

Equipments available in Department:

Electro Surgical Unit Cautry Machine (RSS) with monopolar, Bipolar, TURP, Endoscopy and Hand and Foot Copntrol, Electro Cautry Machine, Ceiling Microscope, Operating Microscope, Faco Machine, Video Laproscopic Surgery Unit, Laproscopic instrument Set (Complete), Oesophagoscope (Rigid), Video Arthroscopic Unit, Electric Suction Machine, Colonoscope, Cystoscope & Biopsy foeceps, Resectoscope, Video- Bronchoscope, Multi Parameter Monitors etc.

Department of General Medicine:

The Department of Medicine at Rohilkhand Medical College & Hospital has Indoor, OPD and Intensive care facility available for both basic and highly advanced care for the need of all types of patients. The OPD facility is well equipped consulting rooms as well general OPD structure. The Indoor facility provides care right from deluxe rooms to general wards. The hospital has multiple intensive care units to cater to all the requirements of critically ill patients.

The Consultants in the department are highly qualified both in Uttar Pradesh as well as all over India with extensive experience. The consultants are supported by qualified resident doctors to provide round the clock supportive care to patients.

The Internal Medicine department deals with patients with infections, undiagnosed rare infections as well as common infections such as tuberculosis and HIV. In the intensive care all types of infection related complications such as multi-organ failure are effectively dealt with. Patients with autoimmune disorder, genetic disorder, metabolic syndromes, rheumatological diseases and hematological problems are accurately diagnosed and managed in the department.

Also, where multiple specialty problems exist in same patients the physicians have special role to play in adjusting medication and providing comprehensive care to the patients.

The department has facility for all diagnostic tests and advanced specialized procedures.

Equipments available in Department:

Upper G1 Endo Scope, Colonoscope, Ultrasound Machine, Fiberoptic Bronchoscope, Spirometer, Bed Side Monitor, Defibrilltors, Equipment for cardiac pacing, ECG Machines, Echo cardiography Machine, Tread Mill Test Machine, Haemodialysis Machine, Arterial Blood Gas Analyzer, Na/K Analyzer, EMG/NCV Machine, EEG Machine etc.

Department of Dental Science:

Institute of Dental Sciences, a unit of Rohilkhand Educational and Charitable Trust has a well-established Dental Department providing comprehensive dental care at affordable rates. State of art equipment at the hospital has revolutionized dental treatment in terms of patient comfort, operating time with special emphasis on highest standards of asepsis to eliminate cross

infections.

The Therapeutic facilities available in the DENTAL DEPARTMENT are:

- Orthodontics : In Child And Adult (Metal and Tooth Colored braces)
- Proshthodontics: Crowns, Dentures , Bridges, Implants etc
- Oral Surgery: Jaw fracture fixation(surgical / non surgical), Cyst removals.
- Periodontics: Scaling Curettage and gum treatment.
- Pedodontics/child dentistry : fillings , stainless steel crowns, pulp treatment
- Conservative dentistry / Endodontia: fillings (tooth coloured), root canals etc

Besides all the above an opportunity to cosmetically improve your smile with Bleaching, Smile designing and Orthodontics.

Orthodontics :

Correction and alignment of Irregular /crooked teeth by fixed/removable orthodontic appliances. Regulation of jaw growth in children with growth modulation orthodontic appliances. Transparent and tooth coloured orthodontic brackets and lingual orthodontic appliances are also available for those conscious of metal braces.

Prosthodontics :

Loss of teeth is a significant cause of impaired chewing ability, changed facial appearance and diminished self-confidence. Facilities for replacement of missing teeth with conventional acrylic/

flexible vinyl dentures (partial & complete), metal partial dentures, fixed crown and bridges .In addition, maxillofacial prosthesis are fabricated to rehabilitate patients with defects due to oral cancers.

Oral and Maxillofacial Surgery:

Extraction of simple and impacted teeth, apicoectomies, surgical removal of cysts and tumors of the jaws, reduction / fixation of fractured jaws by latest techniques.

Periodontics :

Treatment of gum diseases, Correction of deep Periodontal, bony defects are carried out by artificial bone grafting processes. Flaps surgery and various gum treatment procedures are also done besides ultra sonic scaling and polishing of teeth.

Dental Implantology :

Dental implants for rehabilitation of cases where conventional methods of tooth replacement are not feasible or as an adjunct to conventional single/ multiple tooth replacement. A patient with a single missing tooth can have it replaced solitarily and Denture wearers can benefit with a additional support to the existing denture or convert to completely fixed set of teeth in their mouth.

Preventive & Paediatric Dentistry:

Prevention and treatment of dental caries and interceptive procedures for prevention of developing dental abnormalities in children are available in the hospital.

Conservative Dentistry / Endodontics :

Restoration / filling of teeth, Root canal treatment is undertaken in the hospital. Also, cosmetic tooth colored restorations and bleaching or whitening of teeth are done in the department.

Diagnostic Facility

- Dental X-rays are available:
- IOPA Radiographs
- OCCLUSAL x-rays

Equipments available in Department:

Electric Dental Chair, Micro Motor, VDW Silver, Vareable intensity Polymerization, Centrifugal Casting Machine, Vibrator, Metal Grinder, Dipping Wax Unit, Intra Oral Camera, Operating Microscope, Dental X-Ray Machine, Articulator bioart, Microscope dentrisry, Sphygmomanometer, Digital OPG 8000 Kodak with dental imaging, Intra Oral Camera, Tens Machine, Typodent with Jaw Hings, Laserpin System, Pindex System, Implant Kit / Physio Dispenser etc.

Department of Pulmonary Medicine

It has facilities for diagnosis & treatment of chest diseases & respiratory problems. Pulmonary function test machine (PFT) and bronchoscopy are also available.

Bronchoscopy:

1. Diagnostic bronchoscopy for various conditions like non resolving pneumonia, suspected tumors, hemoptysis, etc.
2. Therapeutic bronchoscopy for foreign body removal, balloon bronchoplasty and electocautery for benign granulomas and tracheobronchial stenosis
3. Pediatric scopy – diagnostic and therapeutic.
4. Laryngoscopy – evaluation of the vocal cords and voice box.
5. Thoracocentesis (pleural tapping) diagnostic and therapeutic)

Respiratory Critical Care Services.

Fully equipped ICU beds where invasive and Non invasive Ventilators are available to manage patients e.g.

- ARDS
- Severe community acquired pneumonias
- Acute exacerbations of COPD and Asthma
- Various Interstitial Lung diseases

Co Ordination with CT and Ultrasound Department for imaging guided drainage and biopsies.

Management of Pleural Disorders.

Diagnostic and therapeutic pleural aspirations.

Intercostal tube insertions, pig tail catheter drainage and thoracsopy.

Equipments available in Department:

Computerized Pulmonary Function Test Machines, Video Bronchoscope, ABG Machine, Ventilator, Defibrilator, Peak flow Meter, Inter costal Drainage Facility, Pleural Biopsy Needle, Cardiac Monitor, Centrilized O2 Supply, Centrilized Suction Point, Air Compressor, Suction Machines etc.

Department of Ophthalmology

The Ophthalmology Department is dedicated to provide different types of remedy for vision related disorders. Our eye care services are not only supported by a wide range of equipments but also experienced consultants. This enables the department to treat and manage a panorama of eye diseases involving both anterior and posterior segments of the eye.

The hospital understands and always emphasizes the importance of prompt, timely intervention in conserving the quality of vision of the patient and thus ensures better quality of life for each individual visiting our Ophthalmology Department.

Hospital Organized Eye Camp in Rural Area and DBCS scheme is also running in the Hospital.

Our focal area of services is as follows:

Diagnostic Services:

1. Visual Field (Humphrey)

2. Pachymetry

3.Digital FFA (Fundus Fluorescein Angiography)

4. DCG

5. CT scan - DCG

Laser Therapy:

YAG –

1. Yag Laser Capsulotomy

2. Yag Laser Iridotomy

Argon Laser

Extremely effective for Retina, Macular and diabetic retinopathy

Surgeries :

We operate on patients with the following eye problems with a very high success rate:

1. Cataract

2. Retina Vitrectomy

3. Glaucoma

4. DCR

5. Oculoplasty

6. Squint Correction

Other Facilities Available for:

1. Retinal Work-Up

2. Diabetic Retinopathy

3. A & B Scan

4. Contact Lens

5. Lacrimal Surgery (DCR & Endonasal)

Equipments available in Department:

Anesthesia Machine, Operating Microscope, Ceiling Microscope, Phacoemulsification machine unit, Anterior vitrectomy set, Vision Screener, Indirect & Direct Opthalmoscope, Fundus Camera, USG Eye Scan A & B, Gonio lens 2 Mirror, Zeiss 3 Mirror Lens, 90 D Fundus Lens, Panfundoscope, A Scan Biometer Synaptophore, Optical Kerameter, Streak Retinoscope, Slit Lamp with Applanation Tonometer, Automated Computerized Perimeter, Computerized Autofractometer with Ketameter, Schiotz Tonometer, Bjerrum's Screen with Central field testing set etc.

Department of Psychiatry

The Department of Psychiatry provides comprehensive clinical services for a wide array of conditions. Patients seen in our department are those who suffer from a broad range of psychiatric and psychological problems.

The missions to which we dedicate ourselves are to provide excellent clinical care, explore the new horizons concerning the causes of psychiatric illness and emerging treatment, provide community outreach and teach the physicians of the future.

We offer the full spectrum of care including intensive inpatient, and outpatient general and specialty services.

General Psychiatry & Addictions- we treat psychosis, major depression bipolar disorder and other specific mood and anxiety disorders, marital conflicts and adjustment disorders. We also treat alcoholism and drug addiction

Neuropsychiatry

We treat mood and anxiety disorders in patients with sleep disorders, acquired brain injury and Tourette's disease

Geriatric Psychiatry

We treat mood, anxiety, and memory disorders that occur later in life

Women's Mental Health-

We treat mood and anxiety disorders in women with an eye to their special needs.

Children & Adolescents

We focus on child and adolescent emotional and Behavioral problems, academic decline, parental conflict etc.

Medical & Surgical Psychiatry

A hospital -based program that treats mood and anxiety disorders in patients recovering from other physical illnesses such as hypertension, stroke, kidney or liver disease

DIAGNOSTIC FACILITIES

1. History Taking and Interview
2. Behavioral Observation & Assessment
3. Psychological Assessment
4. Psycho-Diagnostic Evaluation
5. IQ & Educational Assessment
6. Personality Assessment
7. Neuro-Psychological Assessment
8. Behavior analysis

THERAPEUTIC FACILITIES

1. Medical Intervention
2. Psychological Intervention
3. Supportive psychotherapy
4. Cognitive Behavior Therapy

5. Marital Therapy
6. Family Therapy
7. Behavior Therapy
8. Behavior Modification

Equipments available in Department:

ECT Machine, Ambu Bag, OH Projector, Biofeedback Machine, EEG Machine, Sphygmomanometer, Suction apparatus, Ophthalmoscope, Boyle Apparatus, Patellar Hammer etc.

Department of Dermatology

The Department of Dermatology offers Expert Counseling in disorders pertaining to Pimples & Pimple Scars; Hair Loss & Dandruff; Pigmentation Disorders including Leucoderma; Ringworms, Boils & Scabies / Body Lice Infections / Nail Diseases, Acute and chronic. Eczemas, Psoriasis and Dry Skin Disorders. There are facilities to diagnose, counsel and expertly manage.

Sexually Transmitted Diseases and Leprosy patients. There are facilities to effectively treat Warts, Moles, Skin Tags and Blackheads with modern Cautery techniques.

There is availability of Cosmetic peels for treating Face Pigmentation, Acne and Anti-Ageing concerns.

Equipments available in Department:

Star Light, Microdermabrader Crystal and diamond, Mega Sega Surg Gold High frequency Radiosurgery unit with fulguration & epilation made, Magnavision, Woods lamp, Iontophoresis Machine, Dermajet, UV Therapy system, Dermascope, Dark Field Microscope, Cryo Surgery Unit, Sphygmomanometer etc.

Department of Cardiology

The Cardiology Department provides the best of services in terms of accurate diagnosis and professional treatment. The experienced doctors specialise in cardiac interventional cardiology, and non-invasive cardiology. We also provide ambulatory systems for emergencies along with non-invasive image processing, echocardiography, stress tests, cardiovascular CT's among many others.

Department of Cardiology is one amongst the leader for non-invasive and invasive cardiology in the city of Bareilly. The center has evolved and progressed over the past decade in the field of cardiology in tandem with new emerging technologies and enhanced cardiac care to give heart patients recent modalities of treatment.

Procedures performed:

Coronary angiography And Cardiac Catheterization

Coronary and Peripheral Angioplasty with Stenting.

Digital Sustraction Angiography

Valvuloplasty [Pediatric and Adult]

Aortic Aneurysm Stent-Grafts.

Device Closure of Atrial Septal Defect.

Permanent Pacemaker Implantation.

Noninvasive Cardiograph [ECG]

Holter Monitoring

Treadmill Test

Dobutamine Stress Echocardiography

Carotid and Vascular Doppler Study

Coil Imbolisation

Colour Dopplar Echocardiography

TMT

The stress test (or exercise test) is one of the most common screening tests used to diagnose the presence of, and the extent of, coronary artery disease. Stress test, sometimes called a treadmill test or exercise test, helps the doctor find out how well your heart handles its workload

Holter monitoring

In Holter monitoring (ambulatory electrocardiography) a lightweight, portable monitor records the electrocardiogram for 24 hours while the wearer goes about his or her normal day. This study can be useful in diagnosing abnormal heart rhythm symptoms.

Echocardiography

Echocardiography is a painless, noninvasive test that can be performed at the hospital bedside or as an outpatient procedure. An echocardiogram uses high-frequency sound waves to provide a picture of the contracting heart, its valves and blood flow through the heart.

Tran Esophageal Echocardiogram (TEE)

Since sound waves travel poorly through bone, lung and thick chest walls, ultrasonic examination may be difficult in certain people. These patients may have a Tran esophageal echocardiogram (TEE), which uses a special probe passed into the esophagus so that an ultrasonic picture of the heart can be obtained without interference from the lungs or ribcage.

Coronary Angiography

This is a procedure to examine blood flow to the heart and test how well the heart is pumping. A thin plastic tube (catheter) is inserted into an artery in the arm or leg. From there, it is advanced into the chambers of the heart or into the coronary arteries. The Interventional Cardiologist who does this procedure is able to get the information about the pumping ability of the heart muscle and also the freeness of the blood flow in the Coronaries. The block if any in the Coronary arteries is evaluated through this diagnostic procedure.

Coronary Angioplasty

Coronary angioplasty is a medical procedure in which a balloon is used to open a blockage in the coronary artery which is narrowed by atherosclerosis. The opening of the blocks enables the blood flow to the heart. Atherosclerosis is a condition in which a material called plaque builds up

on the inner walls of the arteries. This can happen in any artery, including coronary arteries and such a condition is termed as coronary artery disease (CAD).

Angioplasty is aimed at:

• Improving symptoms of CAD, such a angina and shortness of breath.

• Reduce damage to the heart muscle from a heart attack.

• Reduce the risk of death in some patients

Equipments available in Department:

Cath Lab System, IABP Machine, Defibrillator, Echo Machine, TMT System, Holter Monitoring System

DEPARTMENT OF PATHOLOGY & MICROBIOLOGY

It has latest computerised machines and auto analysers for Testing of blood, culture, cytology, FNAC, biopsy etc. Elisa reader for hormonal assay, Cell counter and frozen section facilities are also available.

DEPARTMENT OF RADIO DIAGNOSIS

It has 5 fixed X ray machines (two 500mA, one 800mA, two 300mA), two 100mA (Mobile) & six 30mA (Portable). X-ray facilities is available round the clock. Three black & white **ultrasound** and three color dopplers are also available for quality diagnosis. High speed Spiral

C.T. Scan facilities are also available. **Digital fluroscopy** and **digital X-ray** is also available. **DSA**, **Mammography** and latest open **MRI (Hitachi Aperto Lucent)** also available.

Blood Bank

An ultramodern blood banks has been established in the hospital for supply of quality blood & its components round the clock. It has all the facilities for testing of blood & modern equipments for blood donation.

OTHER FACILITIES

MEDICAL STORE (HOSPITAL PHARMACY)

Nine big medical stores are available inside the hospital on different floors, which work round the clock and supply quality medicines at very economical price.

GENERAL FACILITIES

A 256 lines EPABX system has been installed with telephones & intercoms in all departments, including X-ray, pathology emergency services, reception. A Public announcement system covers the whole hospital. All the reception areas & patient record system is fully computerized with the help of online computers. Hospital has a huge parking area, big beautiful lawns; own HT transformer and 4 generators to ensure 24 hours availability of power. 60 CCD cameras have

been installed at all strategic places including all hospital corridors, all roads, lecture theatres etc.

TRANSIT HOSTEL (like a guest house)

it is also available within the campus. It has 27 AC rooms with dish TV, an air-conditioned conference room for 200 persons, canteen, food services etc. Parents of students are allowed to stay and use these facilities. Three canteens, general store and mechanized laundry is also available in the hospital premises to provide food and other services to patients and their relatives as well as medical students.

DEPARTMENTS

OPERATION THEATRE

There are 8 OT tables in Rohilkhand Medical College and Hospital.

- Bifurcation of OT tables is shown below:-
  - Surgery-3
  - Eye-2
  - ENT/Dental-1
  - Ortho-2
- Operating rooms are spacious, easy to clean, and well-lit, with overhead surgical lights, and have viewing screens and monitors.
- Operating rooms are windowless and feature controlled temperature and humidity.
- Electricity support has backup systems in case of a black-out.
- Rooms are supplied with wall suction, oxygen, and possibly other anesthetic gases.
- Key equipment consists of the operating table and the anesthesia cart.
- There is storage space for common surgical supplies.
- There are containers for disposables.
- Outside the operating room is a dedicated scrubbing area that is used by surgeons, anesthetists, ODPs (operating department practitioners), and nurses prior to surgery.

OPERATING ROOM EQUIPMENT

- The operating table in the center of the room can be raised, lowered, and tilted in any direction.
- The operating room lights are over the table to provide bright light, without shadows, during surgery.
- The anesthesia machine is at the head of the operating table. This machine has tubes that connect to the patient to assist him or her in breathing during surgery, and built-in monitors that help control the mixture of gases in the breathing circuit.
- The anesthesia cart is next to the anesthesia machine. It contains the medications, equipment, and other supplies that the anesthesiologist may need.
- An electronic monitor (which records the heart rate and respiratory rate by adhesive patches that are placed on the patient's chest).

- The pulse oximeter machine attaches to the patient's finger with an elastic band aid. It measures the amount of oxygen contained in the blood.
- Automated blood pressure measuring machine that automatically inflates the blood pressure cuff on patient's arm.

SURGEON AND ASSISTANTS EQUIPMENT

People in the operating room wear PPE (personal protective equipment) to help prevent germs from infecting the surgical incision. This PPE includes the following:

- a protective cap covering their hair
- masks over their lower face, covering their mouths and noses with minimal gaps to prevent inhalation of plume or airborne microbes
- vinyl gloves on their hands; latex is used as well, but much less common due to latex sensitivity which affects some health care workers and patients
- long gowns, with the bottom of the gown no closer than six inches to the ground.
- if x-rays are expected to be used, lead aprons/neck covers are used to prevent overexposure to radiation

PROBLEM AREAS:-

- Lack of co-ordination between different wards and operation theatre leading to unnecessary problem to patients.
- Consultants arriving late resulting into decreased no. of cases in a day.
- Patient’s long waiting time leading to patient dissatisfaction.
- Lack of proper information dissemination.
- Around 2% cases are cancelled or postponed due to various reasons.
- Delay in patient preparation.

NEONATAL INTENSIVE CARE UNIT

A **neonatal intensive-care unit** (**NICU**), also known as an intensive care nursery (**ICN**), is an intensive-care unit specializing in the care of ill or premature newborn infants.

Rohilkhand hospital has ten beds dedicated to NICU which further differentiates into clean and septic:-

5 beds for clean patients

5 beds for septic patients

NICUs concentrate on treating very small, premature, or congenitally ill babies.Besides prematurity and extreme low birth-weight, common diseases cared for in a NICU include perinatal asphyxia, major defects, sepsis, neonatal jaundice, and Infant respiratory distress syndrome due to immaturity of the lungs. In general, the leading cause of death in NICUs is necrotizing enter colitis. Complications of extreme prematurity may include intracranial hemorrhage, chronic broncho pulmonary dysplasia. An infant may spend a day of observation in a NICU or may spend many months there.

An **incubator** (or *isolette*) is an apparatus used to maintain environmental conditions suitable for a neonate (newborn baby). It is used in pre term births or for some ill full-term babies.
Possible functions of a neonatal incubator are:

- Oxygenation, through oxygen supplementation by head hood or nasal cannula, or even continuous positive airway pressure (CPAP) or mechanical. Infant respiratory distress syndrome is the leading cause of death in preterm infants,[16] and the main treatments are CPAP, in addition to administering pulmonary surfactant and stabilizing the blood sugar, blood salts, and blood pressure.
- Observation: Modern neonatal intensive care involves sophisticated measurement of temperature, respiration, cardiac function, oxygenation, and brain activity.
- Protection from cold temperature, infection, noise, drafts and excess handling:[17] Incubators may be described as bassinets enclosed in plastic, with climate control equipment designed to keep them warm and limit their exposure to germs.

- Provision of nutrition, through intravenous catheter or NG tube.
- Administration of medications.
- Maintaining fluid balance by providing fluid and keeping a high air humidity to prevent too great a loss from skin and respiratory evaporation.

- Bili lights
- Blood pressure monitor
- Cardiopulmonary monitor
- Central line
- Continuous positive airway pressure (C-PAP)
- Endo tracheal tube
- Incubator
- Intravenous (IV) line
- Nasal cannula or nasal prongs
- Oxygen hood
- Pulse oximeter
- Radiant warmer
- Respirator
- Umbilical catheter
- Ventilator

LEVELS OF CARE:

Rohilkhand has 3-tier system based on weight and gestational age of neonate-

- **Level I care**
  Neonates weighing more than 1800 grams or having gestational maturity of 34 weeks or more are categorized under level I care. The care consists of basic care at birth, provision

of warmth, maintaining asepsis and promotion of breastfeeding. This type of care can be given at home, sub center and primary health centre.

- **Level II care**
  Neonates weighing 1200-1800 grams or having gestational maturity of 30–34 weeks are categorized under level II care and are looked after by trained nurses and pediatricians. The equipment and facilities used for this level of care are include equipment for resuscitation, maintenance of thermo neutral environment, intravenous infusion, gavage feeding, phototherapy and exchange blood transfusion. This type of care can be given at first referral units, district hospitals, teaching institutions and nursing homes.
- **Level III care**
  Neonates weighing less than 1200 grams or having gestational maturity of less than 30 weeks are categorized under level III care. The care is provided at apex institutions and regional perinatal centers equipped with centralized oxygen and suction facilities, servo-controlled incubators, vital signs monitors, transcutaneous monitors, ventilators, infusion pumps etc. This type of care is provided by skilled nurses and neonatologists.

PROBLEM AREAS

- Fumigation of the ward becomes very difficult due to the high occupancy rate.
- High maintenance of the beds required due to the frequent breakage of the side rails.

ISSUES IN THE WARDS

- Maintaining hygiene is a major problem as 90% patients are from rural areas.
- Less number of toilets as compared to the number of patients.
- Improper handover of inventory resulting into pilferage and wastage.
- Used injections were not destroyed just after administration.

MATRA SHISHU KANYAN YOJNA

- Under MSKY, Patient will be charged Rs 415 and will be given an insurance of Rs 25000.
- Basic investigation like ABO Rh, Haemoglobin, Random blood sugar and urine(albumin,sugar) will be done for free of cost.
- At first contact,following things will be conducted:-
  - Antenatal check up
  - USG for Rs 50
  - Medicines like iron,folic acid and calcium will be provided free of cost.
- At 32 week of gestation following services will be provided:-

  Antenatal check up

  On admission investigations like haemoglobin,USG,Viral markers,RBS,urine will be conducted and the money will be deducted under the insurance scheme.
- On admission for delivery following services will be provided:
  - Free ambulance service 24*7
  - Operation charges for normal vaginal delivery or LSCS will be covered under the scheme.
  - Investigation as ordered by the gynaecologist will be covered under the scheme
  - Medicine as ordered by the gynecologist and will be covered under the scheme.
  - Post discharge medication for 3 days
- Expenses above Rs 25000 will be born by the patient.

DISSERTATION REPORT

ABSTRACT

A cross sectional studies was conducted in Rohilkhand Medical college and Hospital with the aim to assess the knowledge and skills of staff nurses regarding sterilization, bio medical waste management, dose calculations, hand hygiene and medical abbreviations to determine their competency level.

100 staff nurses were selected by convenient sampling technique from various departments of the hospital which include (surgery, medicine, pediatrics, orthopedics', NICU,etc….)A structured knowledge questionnaire was used to collect data. It was found that 75% staff had difficulty in understanding English and solving logical reasoning questions.70% staff could not calculate dose as per the requirement. There was significant association between knowledge and professional qualification and there was association found between knowledge and period of experience.

The study findings indicated that the nurses don't have adequate knowledge of hand hygiene, injections, dose calculations and medical abbreviations while understanding of bio medical waste management was found to be adequate as compared to others.

A strong association was found between knowledge and practices i.e. more is the practice, more is the knowledge and vice versa indicating that the staff practicing more was found to be competent than others.

INTRODUCTION

The contribution of nurses to the health and wellbeing of any community, society or nation is almost incalculable. From its inception, nursing has been a profession which has promoted public health, eased pain and suffering, advocated for the weak and the vulnerable, and educated the community, to achieve a better quality of life

As the largest health profession, and one with multiple specialties, nurses work everywhere health care is provided. No other health professional group offers the same capacity for health care delivery as nurses. Care provided by qualified nurses has the capacity to save lives, prevent complications, prevent suffering, promote wellbeing, and save money. To understand how they do this, it is first important to understand exactly what nurses do. American journalist and nursing advocate, Suzanne Gordon, offers this summary: “Using their considerable knowledge, [nurses] protect patients from the risks and consequences of illness, disability, and infirmity, as well as from the risks and consequences of the treatment of illness. They also protect patients from the risks that occur when illness and vulnerability make it difficult, impossible, or even lethal for patients to perform the activities of daily living - ordinary acts like breathing, turning, going to the toilet, coughing, or swallowing… Nurses, regular, ordinary, bedside nurses, not just nurse practitioners or advanced practice nurses, are constantly participating in the act of… diagnosis, prescription, and treatment and thus make a real difference in …outcomes." 2 Across the globe, the contribution and significance of nursing to the wellbeing of the human population is recognised by many - demonstrated by the acknowledgement by the World Health Assembly of the importance of nursing and midwifery to "health systems, to the health of the people they

serve, and to efforts to achieve the internationally agreed health-related development goals".3 A combined statement from the World Health Organization, the International Council of Nurses (ICN) and the International Confederation of Midwives (ICM) in March 2007 declared that increasing nursing workforce capacity, improving skill mix and creating positive workplace environments were "critical… to the general health of all nations".

However unskilled nurses results in avoidable deaths and injury, causing nurses to abandon the profession, and compromising the health . The contribution of good health to the social and economic attributes of any nation cannot be underestimated. As the largest health profession in the world, the work of nurses is integral to achieving good health.

BACKGROUND OF THE STUDY

Healthcare organizations monitor patient experiences in order to evaluate and improve the quality of care. Because nurses spend a lot of time with patients, they have a major impact on patient experiences. To improve patient experiences of the quality of care, nurses need to know what factors within the nursing work environment are of influence. The main focus of this research was to determine the level of competency in nurses.

Following elements were taken into consideration to determine the level of competency

Aptitude

Basics

Biomedical waste management

Hand hygiene

Infusions and dose calculations

Aptitude test, examination that attempts to determine and measure a person’s ability to acquire, through future training, some specific set of skills (intellectual, motor, and so on). The tests assume that people differ in their special abilities and that these differences can be useful in predicting future achievements. An aptitude test is a measurement of a person’s ability to learn or to perform. Aptitude tests determine a person’s competency level. This test may measure a person’s physical or mental ability.

Basics include questions regarding medical abbreviations, sterilization techniques which helps to determine awareness about various sterilization techniques. Sterilization and disinfection in hospitals is a significant concern for both the medical and the general community. There has been an increase in many infectious diseases such as Acquired Immunodeficiency Syndrome (AIDS) and Hepatitis B because of inadequate sterilization. Abbreviations are commonly used in medical records to save time and space. Abbreviations can be confusing and may convey different meaning in different contexts (eg, DOA is interpreted as either 'date of admission' or 'dead on arrival' by different disciplines). The General Medical Council's (GMC) 'Good Medical Practice' advice to doctors is to keep clear, accurate and legible medical records in order to provide good clinical care to patients.improper understanding of abbreviations can lead to confusions and hence to medication errors.

Hand hygiene is recognized as the leading measure to prevent cross-transmission of microorganisms. Regarding hospital acquired infections, the compliance of nurses with hand washing guidelines seems to be vital in preventing the disease transmission among patients.

Despite the relative simplicity of this procedure, compliance with hand hygiene among health care providers is as low as 40% [3. To address this problem, continuous efforts are being made to identify effective and sustainable strategies. One of such efforts is the introduction of an evidence-based concept of "My five moments for hand hygiene" by World Health Organization. These five moments that call for the use of hand hygiene include the moment before touching a patient, before performing aseptic and clean procedures, after being at risk of exposure to body fluids, after touching a patient, and after touching patient surroundings. This concept has been aptly used to improve understanding, training, monitoring, and reporting hand hygiene among healthcare workers

Nurses constitute the largest percentage of the health care workers (HCW) and they are the "nucleus of the health care system" . Because they spend more time with patients than any other HCWs, their compliance with hand washing guidelines seems to be more vital in preventing the disease transmission among patients

Administration of medication in proper amount is the important nurses responsibility. The ability to perform drug calculation is imperative to patient safety. Drug doses for infant and young children are usually smaller than those given to adult. To ensure safe medication administration the nurses should practice six rights of medication administration which include

right medication, right dose, right client, right route, right time, right documentation. Report all medication errors that do and don't harm the patient. Understanding potential errors or near misses may provide key information on how medication errors as a whole can be prevented. Nurses working in an environment where individuals are punished for making mistakes will discourage error reporting and encourage hiding mistakes, ultimately making it difficult to identify errors and to prevent them from happening. Know the medication before administering. Lack of drug knowledge and lack of important patient information cause medication errors. Regardless of what is ordered, nurses need to be able to recognize when a prescribed dose of medication is too high. More education and experience are associated with improved patient safety. When administering medication nurses are accountable for knowing why the medication is being used, what possible side effects are.

REVIEW OF LITERATURE

Mukwato K.et a l4 carried a study to determine the level of health-care workers' compliance with Infection Prevention Guidelines and identify factors that influence compliance at Ronald Ross General Hospital, Mufulira District. Data was obtained using a self administered interview schedule and an observation checklist. A total of 77 health care workers who included Doctors, Registered Midwives and Nurses, Enrolled Midwives and Nurses, clinical Officers, Laboratory Technicians and physiotherapists took part in the
study. Additionally, 40 out of the 77 interviewed health workers were observedcarrying out at least one procedure requiring compliance with the Infection Prevention (IP) guidelines. The study revealed that, high compliance was associated with inclusion of Guidelines in the

Curricular, high knowledge of infection prevention/ hospital acquired infections, positive attitude towards infection prevention and availability of materials for infection prevention. The study further reviewed revealed varied levels of compliance on different components of infection prevention. The highest level of compliance (100%)was with single use of needles and syringes while the lowest (35.1) was with decontamination of needles and syringes with 0.5% chlorine solution prior to disposal. Compliance with hand hygiene was moderate (61%).

The study findings suggested a need for inclusion of Infection Prevention Guidelines in the health workers' curricular, provision of in service training in infection prevention protocols and improvements in the supply of materials for infection prevention.

Vij A.et al carried out a descriptive study of exploratory natureat Main Hospital, AIIMS. Subjects for study were 50 registered staff nurses working in the institute selected by systematic random sampling. A questionnaire comprising of 35 questions was developed in which knowledge and practice regarding infection control measures was tested. It was found that mean knowledge about Hospital acquired infections of staff nurses working at the hospital was 73.1% and the mean practice of staff nurses regarding infection control measures was 62.7%.

Essani et al (2011) conducted a quantitative descriptive study to identify the knowledge practice gap as perceived by the registered nurses in pediatric unit. The study setting was a tertiary hospital in Karachi, Pakistan. The samples used for the study were nurses involved in pediatric care for more than six months at the time of data gathering in a tertiary care hospital. Among 45 nurses, only 40 who consented to participate in the study were included.. The investigator concluded that the findings of this study provided the support needed for the observed gaps in

knowledge and practice among nurses, through scientific research. The gaps identified by the respondents were based on their own experiences, as they experience them in their professional practice. The study enabled the researcher to recognize that the attitude for lifelong learning as presented by the respondents. If quality of patient care remains to be the ethos of nursing, then these gaps need to be bridged with both nursing education and nursing services working in unison.

Schneider et al (1998), conducted a prospective study based on the observation of nurses activities associated in the preparation and administration of medication in a pediatric intensive care unit. The data were collected over a period of 10 weeks. The study was conducted at the University Hospital in Lausanne (Switzerland). The objectives of the study were to determine the frequency and the types of errors which occur regarding the preparation and the administration of medication and to identify the main causes of these errors in pediatric intensive care unit (PICU). In this study the researchers classified errors based in the American Society of Hospital Pharmacy (ASHP) definition. The frequency of errors was calculated as the sum of all noted errors divided by the total administered drugs, plus the sum of all omitted drugs, multiplied by 100. The sum of all given doses plus all omitted doses gives the total opportunity for errors. This total was 275 and the total frequency of errors was 26.9%. The most frequent error were wrong time errors (32.4%), wrong-administration-technique errors (32.4%) and preparation errors (23.0%). In relation with other studies conducted under comparable conditions, a lesser number of omissions and wrong time errors were observed. The investigators concluded the study that a

program of systematic assistance and survey by professional pharmacists could improve the quality of the preparation and administration of medication in PICU.

Hajebi et al (2010) performed a study to determine the knowledge, attitude and practice of nurses towards pharmacovigilance in the taleqani medical teaching and treatment center in Tehran before and after an adverse drug reaction education programme. This study was conducted using a questionnaire through two steps. In every steps 150 questionnaire were distributed in various wards of the Taleqani Hospital. According to the statistically less than the knowledge after the seminar (p==0.0001), but there was no significant effect on the attitude (p=0.05). Based on the results of this study, it is necessary to conduct continuous adverse drug reaction educational programme until voluntary monitoring of adverse drug reaction become conventional and habitual among nursing staff.

Stewart et al (2010) performed a study to evaluate knowledge, core competencies, communication and team working skills in pediatric drugs prescribing and administration at under graduate level. The practical, ward based workshop was delivered to fourth year medical and third year nursing students in B.M.C medical education and evaluated using a pre and post work shop questionnaire with open ended response questions. Following the work shop students reported an increase in their knowledge and awareness of pediatric medication safety and the causes of medication errors. Highly significant changes in students attitude to shared learning were observed indicating that safe medication practice is learned more effective with students from other health care disciplines. Qualitative data revealed that students participation in the work shop improved communication and team work skills and led to greater awareness of the

role of other health care professionals. Study had helped to bridge the knowledge skill gap demonstrating how an inter-professional approach to drug prescribing and administration has the potential to improve quality and safety with in health care.

Studies related to medication errors

Kashul et al (2001) conducted a prospective cohort study on medication errors and adverse drug events in pediatric inpatient. The study is conducted in 1120 patients admitted to 2 academic institutions during 6 weeks in April and may of 1999. The objective of the study is to assess the rates of medication errors, adverse drug events, and potential ADEs, and to compare pediatric rates with previously reported adult rates; to analyse the major errors and to evaluate the potential impact of prevention strategies. During the study the investigator identified medication errors, potential ADEs. These are identified by clinical staff reports and review of medication order sheets, medication administration records and patient charts. The investigators reviewed 10778 medication orders and found 616 medication errors(5.7%). 115 potential ADEs (1.1%), and 26 ADEs (0.24%). Of the 26 ADEs, 5 (19%) were preventable. The rate if potential ADEs was significantly higher in neonates in the neonatal intensive care unit. Most potential ADEs occurred at the stage of drug ordering (79%) and involved incorrect dosing (93.4%), anti-infective drugs (28%) and intravenous medications (54%). The researchers concluded that medication errors are common in pediatric inpatient settings, and further efforts are needed to reduce them.

Pourrat et al (2003), conducted a prospective survey in three types of care units(medicine, surgical intensive care and pediatric vascular surgery) over a period of 30 day period in each

unit. The objective of the study was to review on the errors in drug prescription in order to implicate the medical professionals in its development. During this survey a resident pharmacist studied the preparation and administration of drugs and compared them to the prescription and recommendation in the literature. The investigator also conducted the pharmaceutical analysis of the prescription (dose, drug interaction, administration timetable). Among the 3,023 drugs prescribed, the error rates was of 0.04, 44% of which scored 2. The errors in preparation or administration were 0.134. Among the 1,632 drug administrations observed, 19% of which scored 2. Regarding errors in prescription and administration, no significant difference was revealed between the three unit ($p>0.09$). This study enhanced the awareness of the nursing and medical staff and the hospital management with regards to the reality of medical errors. Mark et al (2003), conducted a prospective review of medical records and staff interviews to determine the incidence and causes of adverse drug events and potential ADEs in hospitalized children, and to examine the consequences of these events. The study was conducted in a general pediatric unit and pediatric intensive care unit in a metropolitan medical center. A total of 1197 consecutive patient admission were studied from September 15, 2000, to may 10, 2001. The admission represented a total of 922 patients and 10164 patient-days. In this study the investigators found that the ADEs (6/100 admissions, 7.5/1000 patient days) and potential ADEs (8/100 admissions, 9.3/1000 patient days) were common in hospitalized children. Demographic variables associated with the occurrence of these event were the length of the hospital stay, casemix index, and of medication exposure. After adjusting the length of hospital stay, medication exposure continued to have a significant influence on ADEs and potential ADEs. The researchers concluded the

study that both the ADEs and potential ADEs were common among hospitalized children with greater disease burden and medication exposure.

McDonnell et al (2009), performed a prospective, observational study in pharmacotherapy in pediatric critical illness. The investigators found that pharmacotherapy is an under evaluated element of critical care medicine. To understand the pharmacotherapy in pediatric critical illness, the researchers evaluated a cohort of emergency admission to a university affiliated pediatric intensive care unit(PICU). The investigators selected the eligible patients were admitted to this medical surgical ICU for atleast 24 hours. They studied 100 patients with median age of 40 months, who were admitted for a total of 851 ICU days. These patients received 4419 drug orders and 11911 intermittent dose administration of 241 different medications, and 58 drug administration while in the ICU. The most frequent orders were for morphine 457 (10.6%), furosemide 337 (7.8%), potassium 237 (5.5%), lorazepam 226 (5.2%), and albuterol (salbutamol) 158 (3.7%). At the end of the study the investigators conclude that pharmacotherapy is an active component in the practice of pediatric critical care medicine. They demonstrated that increasing numbers of ordered medications, drug orders, and drug administration were associated with increasing duration of ICU therapies and the length of ICU stay. These data underscore the potential importance of improved safety and efficiency of medicines used to treat critically ill children.findings suggest that these events were a consequence, rather than a cause, of more severe illness.

Rainu et al (2001) conducted a prospective cohort study on medication errors and adverse drug events in pediatric inpatients. The study is conducted in 1120 patients admitted to 2 academic

institution during 6 weeks in April and may 1999. Through this study the investigator assessed the rates of medication errors, adverse drug events (ADEs), and potential ADEs, to compare pediatric rates with previously reported adult rates etc. One hospital is a freestanding pediatric institution and other hospital treats both adult and pediatric patients. One of the investigator trained the data collectors which include nurses, pharmacists and physicians. These data collectors identified and reported the errors. During the 36 days of study period the investigators included 1120 admissions and 3932 patient days, during which 10778 orders were written. The patients included 183 (16%) neonates, 326 (29%) infants, 223 (20%) preschoolers, 161 (14%) school aged children, 191(17%) teenagers. There were 616 medication errors (5.7%). In total, 320 patients accounted for these medication errors and 64 patients had 3 or more errors. They found 26 ADEs (0.24%), of which 5 (19%) were preventable. The investigators concluded the study that medication errors are common in pediatric inpatient settings, and further efforts are needed to reduce the occurrence.

OBJECTIVES

GENERAL OBJECTIVE:-

To assess knowledge and skills of nursing staff of different departments in Rohilkhand Medical college and hospital to determine their competency level.

SPECIFIC OBJECTIVES:-

To assess the reasoning and logical skills of nursing staff

- to assess the knowledge of staff nurses regarding sterilization
- to assess the knowledge of staff nurses regarding bio medical waste management.
- To assess the knowledge of staff nurses regarding hand hygiene.
- to assess the knowledge of staff nurses regarding infusions
- to assess the knowledge of staff nurses regarding dosage calculation

STUDY METHODOLOGY

STUDY DESIGN

The study employed a descriptive cross-sectional study design. A quantitative method was chosen because it enabled the researcher to collect numerical data and perform quantitative analysis using statistical procedures, in order to determine the level of knowledge among nurses at Rohilkhand medical college and Hospital. A cross-sectional design was the most appropriate design. This is because it enabled the researcher to systematically determine and report the level of knowledge and skill just the way they are among a cross section of the nurses at one point in time.

STUDY AREA

The study was carried out Rohilkhand medical college and Hospital. **Rohilkhand Medical College & Hospital** is situated in the heart of the city of Bareilly. The city is about 245 kms from Lucknow, it is about 255 kms from Delhi. It is well connected to both by Road and Rail. It is situated near the junction of National highway 24 and National highway 74. The hospital has a

capacity of 650 beds and is Bareilly's premier teaching hospital. . Nurses are qualified with diplomas, a bachelor's degree.

STUDY POPULATION

The population is nurses working at Rohilkhand hospital, Bareilly. Rohilkhand Hospital has about 264 nurses **.** These included nurses working on the intensive care unit, Burns' unit, post-operative unit or wards, emergency wards.

DESCRIPTION OF STUDY TOOL

Quantitative data was collected using a self administered questionnaire. It was an instrument developed, piloted in NICU and re-evaluated for its validity and reliability .Discussion with evaluators with respect to the content of the questionnaire was done.

The questionnaire will contain five parts:

Part A-The first part had questions regarding aptitude.

Part B-The second part had questions regarding basics.

Part C-Third part had questions regarding BMW.

Part D-fourth part had questions about hand hygiene

.**Part E-**Fifth part had questions about infusions and dose calculations.

Sampling technique: Convenient random sampling**.**

Sample size : 100 nurses

Inclusion criteria: Nurses

Exclusion criteria: Those not present at the time of the study

DATA ANALYSIS

Data analysis was performed with SPSS version 14.0 and Microsoft excel. Total marks for the questionnaire is 30 where aptitude is for 10 marks while the remaining four sections for 5 mark each. Each correct answer was assigned a score of 1 and an incorrect answer assigned a zero score on each item. Then a total of the scores for correct responses were obtained for each individual and a percentage calculated.
Using SPSS, means based on level of education, at the unit and in Nursing were established.

RESULTS:-

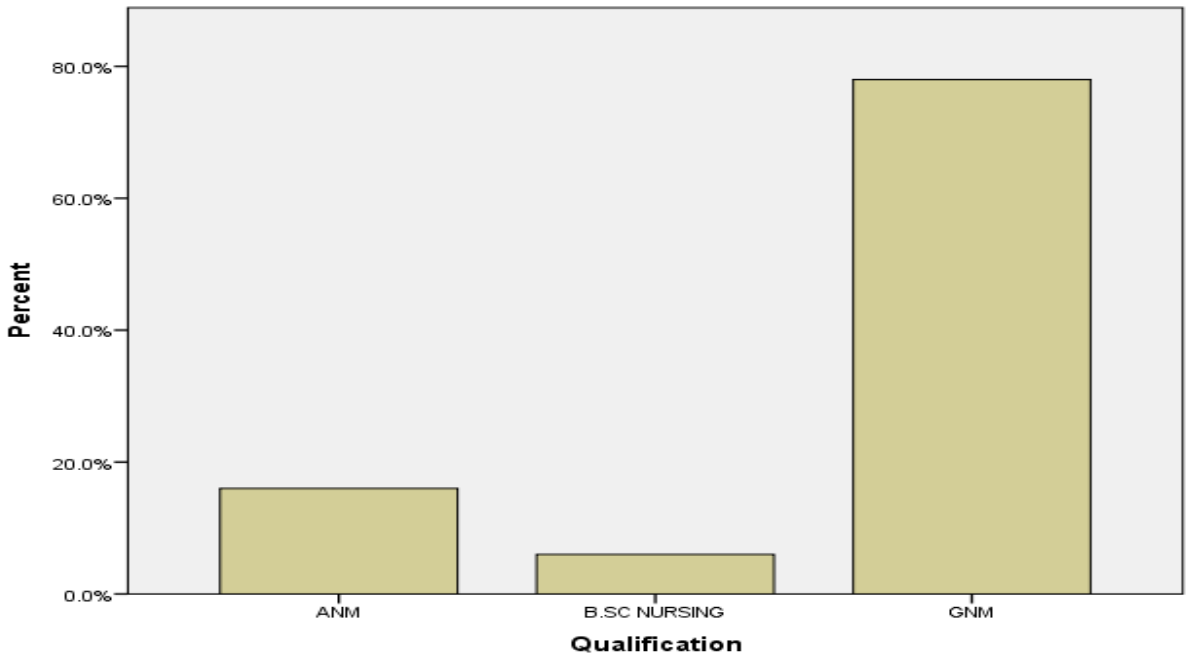

Figure 4.1 Percent distribution of nurses by qualification

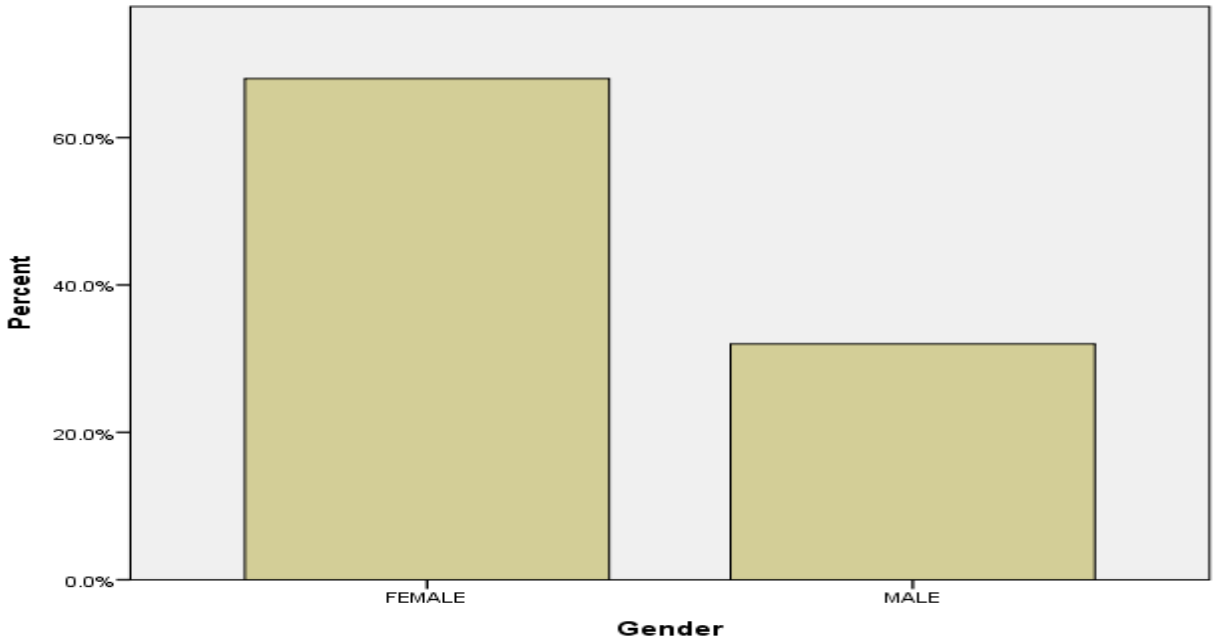

Figure 4.2: Percent distribution of male and female nurses

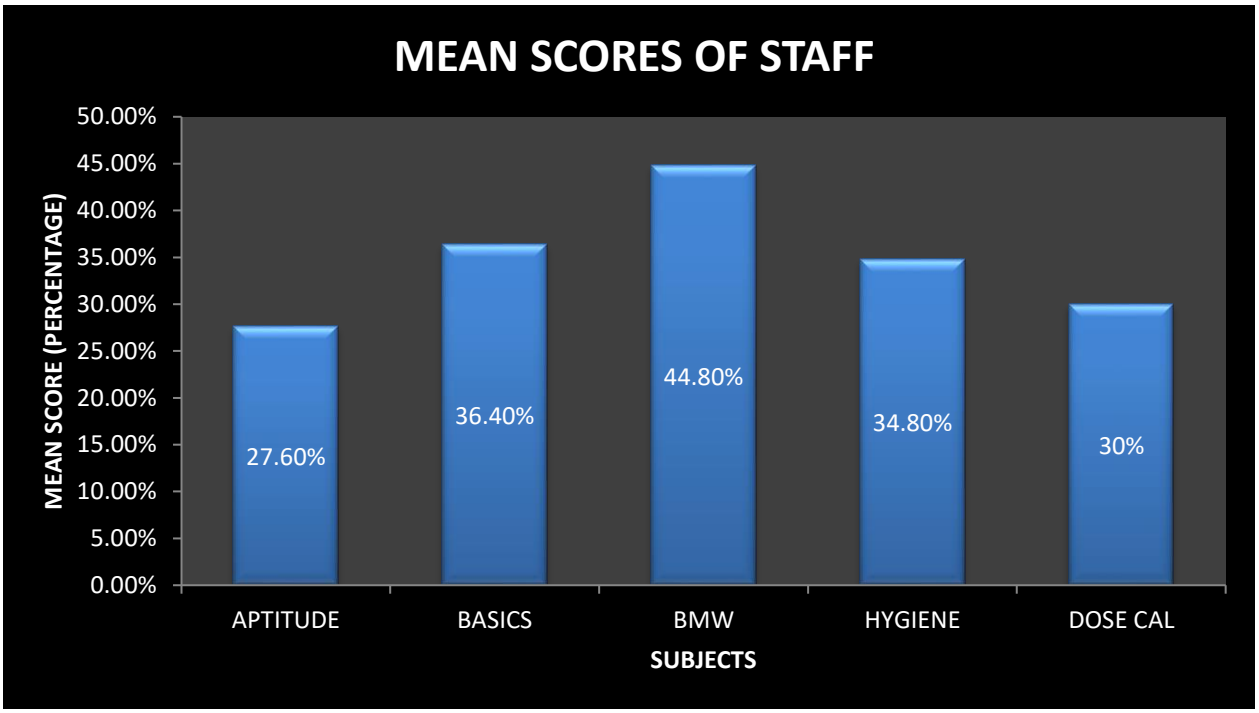

Figure 4.3 Mean scores achieved in different subjects

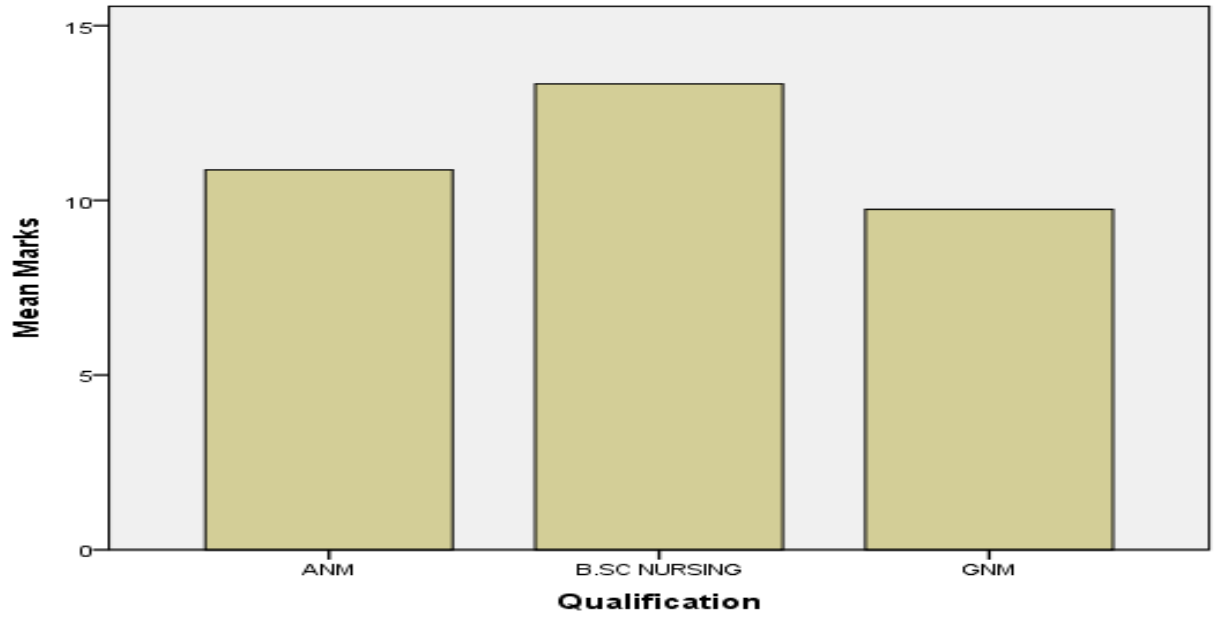

Figure 4.4: Mean marks achieved by nurses as per their qualification

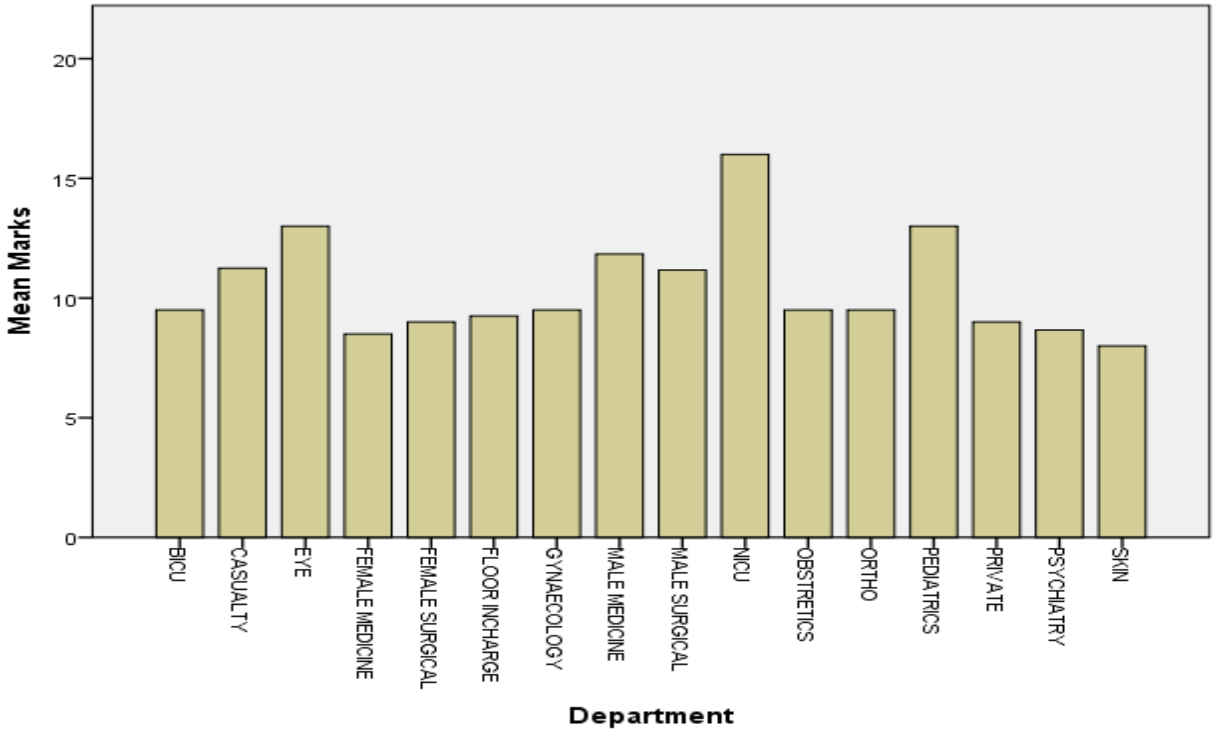

Figure 4.5: Scores achieved by different departments

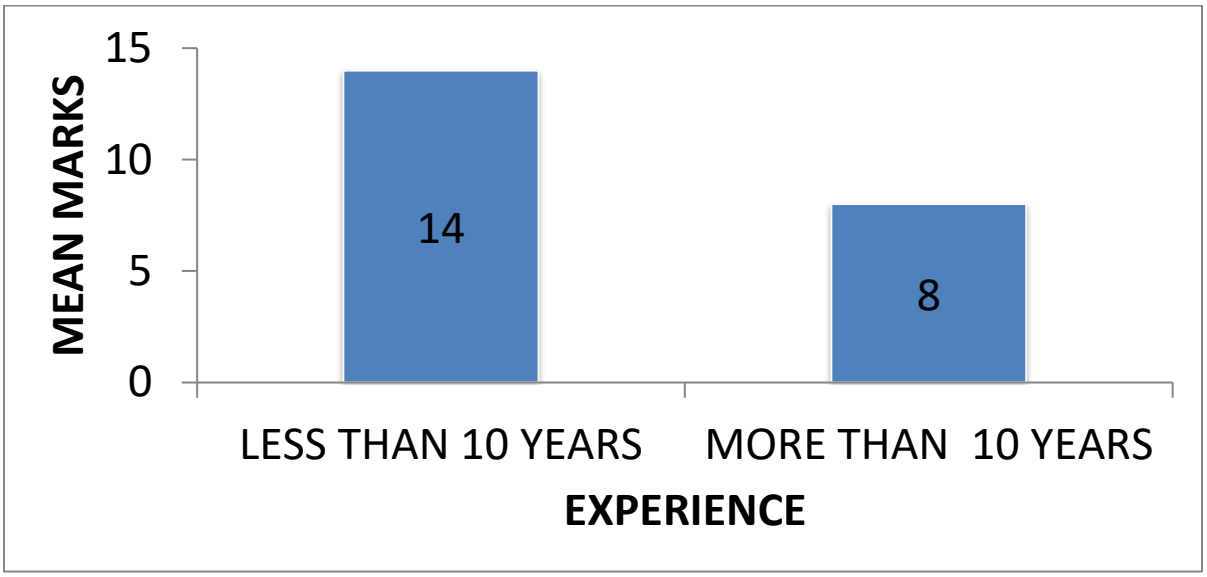

Figure 4.6: Scores achieved as per the experience

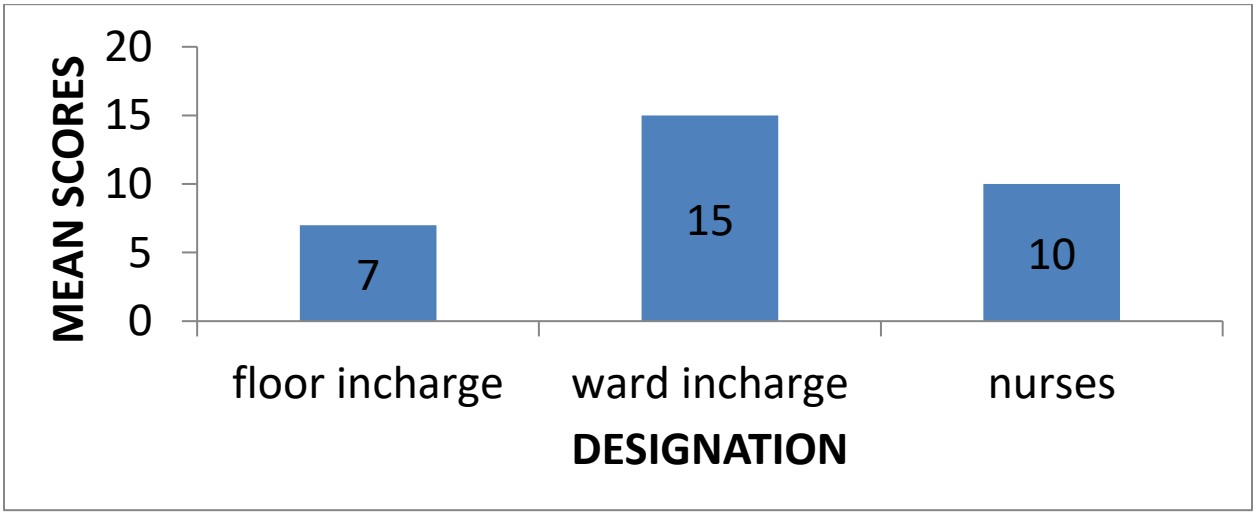

Figure 4.7: Scores achieved by different profiles

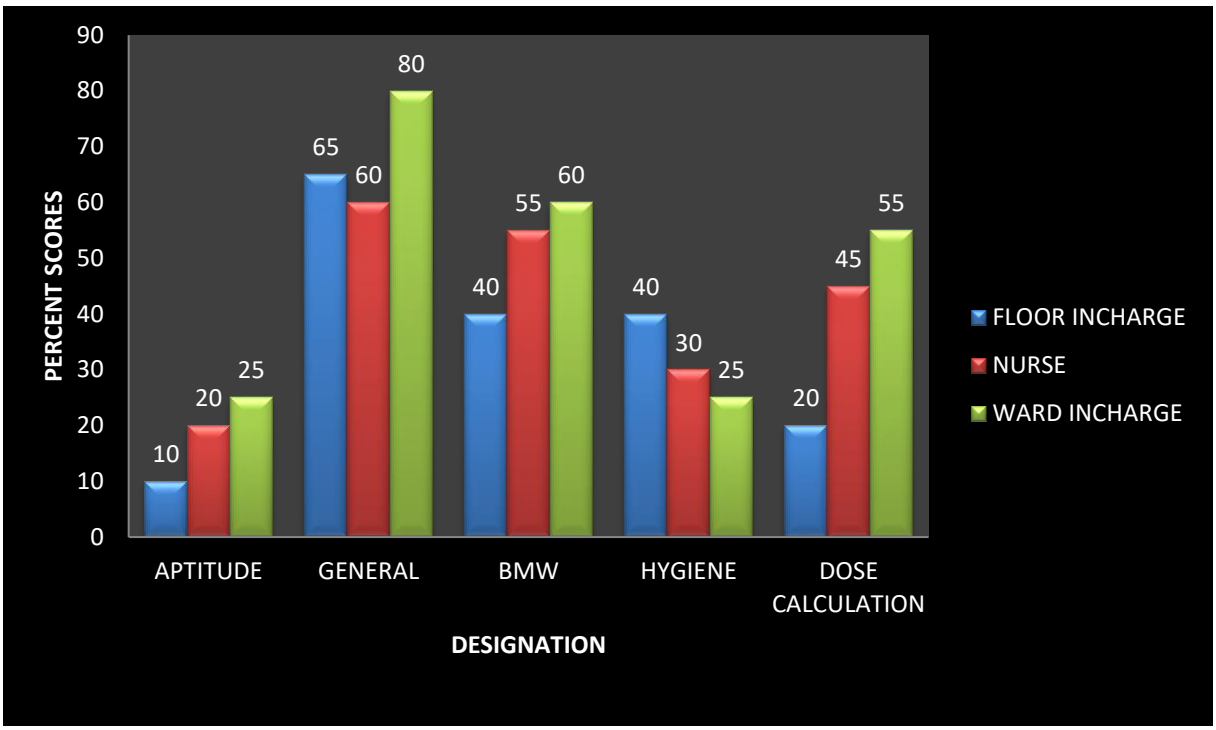

Figure 4.8: Comparative scores of staff of different designation

DISCUSSION

- The age group of respondents range between 19-65.
- The range of total scores lies between 5 to 17.
- Mean marks were highest in Bio Medical waste management while lowest in aptitude indicating that the staff has less logical and reasoning skills.
- 80% of the staff felt difficulty in understanding and interpreting English.

- Findings show dosage calculation was inappropriate in staff which may result into more medication errors.
- Findings depict than the knowledge and skills decrease with time as staff with more experience have scored less as practices decrease with time.
- Designation has strong impact on the knowledge base and skills as the mean score was highest for the ward incharges followed by nurses and floor incharges which indicates since that knowledge is closely associated with practice.
- The scores were highest in NICU department while lowest in Skin ward which explains that competent staff is distributed in more sensitive areas of hospital.

RECOMMENDATIONS:-

- ❑ Training calendar should be designed for the nursing staff as per the requirement of the staff.
- ❑ Ward incharges being more competent should be trained as trainer to train other nurses in their respective wards which could save time ,money and additionally can act as a source of motivation.
- ❑ Reorientation and management based programs for the floor incharges .
- ❑ Special sessions on English must be organized.
- ❑ Brain storming sessions are must to improve the logical skills of staff.
- ❑ Pre and post Monitoring of the effectiveness of training session.

- ❑ A booklet containing information about different topics can be distributed to the staff which can be read by the nurses at any point of time in a day.
- ❑ Awareness about the importance of hand hygiene and appropriate dose calculations should be made to the nursing staff.

CONCLUSION

The study conducted in Rohilkhand medical college and hospital depicts that the overall scores achieved range between 5 to 17 which is not a very high score. Overall marks are not good but comparatively biomedical waste management was found to be stronger than other areas.

Study suggests that there is stronger association between knowledge and practices i.e. level of knowledge was found to be higher in ward incharges(constantly practice) while lowest in floor incharges who are more involved in management rather than the actual practice.

LIMITATIONS OF THE STUDY

- Respondents did not answer every question which limited comparisons of responses.
- There is limited literature available on the same subject.
- Pilot studies could not be carried out due to lack of time.

QUESTIONNARE

Please answer the following questions. Fill the circle which seems most appropriate to you. Please do not write name on the questionnaire since all the responses are confidential and anonymous. The following questionnaire should not take more than fifteen minutes.

GENDER- AGE-

QUALIFICATION- EXPERIENCE-

MARITAL STATUS- DESIGNATION-

GENERAL APTITUDE

1. **AZ,GT,MN,?YB:**
   - KF
   - RX
   - SH
   - TS

2. **Read the following information to answer: six books are kept on top of each other. The history book is just above accountancy. Math's book is between Punjabi and Urdu. English is between history and Punjabi**.

a. Which book is between math and English book?

- Accountancy
- History
- Urdu
- None of the above

b. Which book is at the bottom?

- Accountancy
- Punjabi
- Urdu
- None of the above

3. **In certain diseases antibiotics are administered. The object is to**:

- stimulate production of white blood cells for fighting the disease
- Stimulate production of antibodies
- inhibit the growth of bacteria
- produce toxins against bacteria

4.Select the odd man out:

- Bird
- Kite
- Crow
- Pigeon
- Sparrow

5.**Old woman's son is my daughter's uncle, then what relation has the old woman to me**

- Sister
- Mother
- Grandmother
- Mother - in – law

6. **If 2505 / 0. 5 = 5010 then 25. 05 / 0. 5 =?**

- 5. 010
- 50. 10
- 501. 0
- None of these

7.**Find the missing pattern:**

BOQD: ERTG: ANPC:

- DQSF
- FSHU
- SHFU

- DSQF

8.Find the next number in the series 1, 6, 13, 22, 33 . . .

- 44
- 45
- 46
- 47

9. Ramu was facing East. He walked 4 km forward and then after turning to his right walked 6 km. Again he turned to his right and walked 7 km Which direction was he facing at the time?

- East
- North
- South
- West
- North-East

10. Raman is not wearing purple and Aman is not wearing black different colors. Avinash alone wears green wearing different colors. What color is Aman wearing?

- Green
- Black
- Purple
- Can't say

General Questions

1. A. C. (abte cibum)means:-

- Before the meal
- After the meal
- At bed time
- Don’t know

2.Bis means:-

- Thrice a day
- Once a day
- Twice a day
- Don’t know

3.In which of the following method high temperature and pressure is used:-

- Autoclaving
- ETO
- Boiling
- Heating

4.Which of the following is used to sterilize the surgical equipment:-

- Autoclaving
- ETO
- Boiling
- Heating

5.**Though which route insulin is given:-**

- Intra dermal
- Intravenous
- Subcutaneous
- Intra muscular

BIOMEDICAL WASTE MANAGEMENT

1. **Which statement describes one type of BM waste?**

- Materials that may be poisonous, toxic, or flammable and do not pose disease-related risk. ‰
- Waste that is saturated to the point of dripping with blood or body fluids contaminated with blood. ‰
- Waste that does not pose a disease-related risk
- Don't know

2. **Objects that may be capable of causing punctures or cuts, that may have been exposed to blood or body fluids including scalpels, needles, glass ampoules, test tubes and slides, are considered biomedical waste. How should these objects be disposed of? ‰**

- Black bags ‰
- Yellow bags ‰
- Clear bags ‰
- Sharps container

3**. The color code for disposal of normal waste from the hospital is: ‰**

- Red ‰
- Black ‰
- Yellow ‰
- Blue

4**. The color code for segregation of chemical waste in hospital**:

- Red
- Black
- Yellow
- Blue

5. **Liquid waste includes:**

- Waste from laboratory and washing
- Blood
- Liquid chemicals
- Insecticides

HAND HYGIENE

1. **In which of the following situations should hand hygiene not be performed :**

- Before having direct contact with a patient
- Before inserting an invasive device (e.g. catheter)
- When moving from a contaminated body sits to a clean body site during an episode of patient care
- After having direct contact with a patient or with items in the immediate vicinity of the patient
- After removing gloves
- All of the above

2. **If your hands are not visibly soiled or visibly contaminated with blood or other material, which is most effective for reducing the number of disease causing bacteria? (Circle one letter corresponding to the single best answer)**

- Washing hands with plain soap and water
- Washing hands with an antimicrobial soap and water
- Applying 1.5ml to 3 ml of alcohol-based hand rub to the hands and rubbing hands together until they feel dry

3. How are antibiotic-resistant bacteria most frequently spread from one patient to another in health care settings? (Circle one letter corresponding to the single best

answer)

- Airborne spread resulting from patients coughing or sneezing
- Patients coming in contact with contaminated equipment
- From one patient to another via the contaminated hands of clinical staff
- Poor environmental maintenance

4. **Duration of entire procedure of hand wash**

- 20 -30 sec
- 30-40 sec
- 40-60 sec
- 60-80 sec

5**. Duration of the entire procedure of hand rub**

- 20 -30 sec
- 30-40 sec
- 40-60 sec
- 60-80 sec

INFUSIONS, INJECTIONS AND I.V. FLUIDS

1. **A blood transfusion is initiated at a slower rate to:**

- Avoid chilling the client
- Assess client response
- Avoid overcrowding the vascular system
- Prevent development of thrombophlebitis at the site

2.I.V securement tape should be changed every 24 hours to reduce the infection at the IV

site:

- False
- True

3. Which of the following cannot occur as complications of IV therapy?

- Infection
- Phlebitis
- Pulmonary edema
- Aspiration

4. A patient is to receive 100 ml of normal saline, I.V .If the infusion pump is set to deliver 150ml/hr, and how long will the infusion take?

- 50 min
- 40 min
- 30 min
- 1 hour and 30 minutes

5. Heparin is available at a strength of 5000 units/5ml.What volume is needed to give 800 units?

- 0.8 ml
- 6.25 ml
- 0.2 ml
  1.5 ml

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