

# **Training Need Identification: A Performance Evaluation Project to assess Nursing Staff in a tertiary care multispecialty hospital**

A dissertation Proposal for

Post-Graduate Diploma in Health and Hospital Management

by

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PG/10/063



**International Institute of Health Management Research  
New Delhi**

**May 2012**

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A dissertation submitted in partial fulfillment of the requirements for the award of

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International Institute of Health Management Research  
New Delhi -110075  
May 2012



Sri Balaji

**Action Medical Institute**

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SBAMI/HR/2012/32

07 May 2012

## **Certificate of Internship Completion**

### **To Whomsoever It May Concern**

This is to certify that **Dr. Aditi Arora** has successfully completed her 3 months internship in our organization from February 7, 2012 to May 7, 2012. During this term she has worked on **“Training Need Identification: A Performance Evaluation Project to assess Nursing Staff in a tertiary care multispecialty hospital”** under the guidance of me and my team at Sri Balaji Action Medical Institute.

We wish her good luck for her future assignments.

**Dr. (Maj) YB Sharma**  
**Medical Superintendent**

## Certificate of Approval

The following dissertation titled **“Training Need Identification: A Performance Evaluation Project to assess Nursing Staff in a tertiary care multispecialty hospital”** is hereby approved as a certified study in management carried out and presented in a manner satisfactory 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

Kirti Vajpai

Kirti Vajpai

PRAGYA T. GUPTA

Pragya T. Gupta

## Certificate from Dissertation Advisory Committee

This is to certify that **Dr. Aditi Arora**, a graduate student of the **Post- Graduate Diploma in Health and Hospital Management**, has worked under our guidance and supervision. She is submitting this dissertation titled " **Training need Identification: A Performance Evaluation Project to assess Nursing Staff in a Tertiary care Multispecialty Hospital** in partial fulfillment of the requirements for the award of the **Post- Graduate Diploma in Health and Hospital Management**.

This dissertation has the requisite standard and to the best of our knowledge no part of it has been reproduced from any other dissertation, monograph, report or book.

  
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## **Abstract**

### **Training Need Identification: A Performance Evaluation Project to assess Nursing Staff in a tertiary care multispecialty hospital**

By

Aditi Arora

Training is an important tool for enhancing competencies, provided the gaps in desired and actual performance are identified. In order to assess the individual training needs of the nursing personnel a competency check list was developed and various elements such as use of Morse Scale, Tracheostomy care, Use of Braden Scale, Use of Defibrillator, & Care of Drains were identified as areas in which training was required. Based upon a knowledge questionnaire, 56% of the staff nurses working in wards were found to be moderately adequate, 37% as inadequate and 7% as adequate. The study showed that the problem was of skill and not of will, as 93% of the nurses were willing to undertake education and training program. A formal training session was favored by most of the respondents. Sister In charges felt that training for staff nurses should include identified areas of Hospital protocols and policies, Infection control practices, sessions on communication skills etc. The importance of practical exposure was expressed by staff nurses followed by the use of medical tools and equipments. There is a need to consistently and continuously improve the competencies of its personnel and training programs have been identified as a critical component, for the improvement of the process part in provision of these quality services. Hence identifying the individual training needs and ongoing in service training programs should be provided consistently and continuously to maximize the professional satisfaction of the human resources that would excel the performance and output of the organization in return.

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Dr. Aditi Arora

PGDHHM, IIHMR, New Delhi

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## ABBREVIATIONS

❖ SBAMI	Sri Balaji Action Medical Institute
❖ ISO	International Organization for Standardization
❖ NABH	National Accreditation Board for Hospitals and Healthcare Providers
❖ NABL	National Accreditation Board for Testing and Calibration Laboratories
❖ ICCU	Intensive Cardiac Care Unit
❖ ICU	Intensive Care Unit
❖ ERCP	Endoscopic retrograde Cholangiopancreatography
❖ CT	Computed Tomography
❖ MRI	Magnetic resonance Imaging
❖ OT	Operation Theatre
❖ AMS	Assistant Medical Superintendent
❖ HDU	High Dependency Unit
❖ MICU	Medical Intensive Care Unit
❖ SICU	Surgical Intensive Care Unit
❖ MRD	Medical Record Department
❖ CSSD	Central Sterile Supply Department

# **INTERNSHIP REPORT**

## **HOSPITAL PROFILE**

It is an ISO 9001-2000 and NABH accredited 450 bedded multi-specialty hospital with well equipped NABL accredited laboratory.

The infrastructure, equipment and technology have been integrated to provide globally compatible health care. The institute offers medical facilities of all specialty and super specialty. The institute is committed to improve the health and satisfaction level of patients by ensuring continual improvement by –

- Providing high quality of care according to the health need of the patients.
- Facilitating patient satisfaction by service and ensuring the dignity and rights of patients.

The hospital has –

- Hi-tech critical care units of ICCU, ICU, Neonatal ICU with motorized bed.
- Complete cardiology services including heart surgery, angioplasty, angiography, TMT, stress echo and a dedicated heart command unit for cardiac emergency.
- Mother and child complex with single room maternity care concept, gastroenterology services including ERCP, Gastrointestinal Endoscopy, liver clinic and Neuro service unit.
- Complete Urology and nephrology including dialysis unit.
- Full backup of laboratory service and blood bank with 24 hour services.
- Advanced imaging and radio diagnostics including X-ray, CT, MRI, ultrasonography, bone densitometry and mammography.

## **LOCATION –**

FC-34, A4, Paschim Vihar New Delhi, 110063.

## **VISION –**

To become the largest healthcare provider NGO in the country with the human touch.

## **MISSION –**

To provide world class affordable health care facilities to all sections of the society with a humanitarian touch, whilst maintaining high standards of ethical practices and professional competency with emphasis on training and education leading to research.

## **SPECIALITIES AND SUPER-SPECIALITIES –**

The hospital has over 35 medical specialties and over 10 special clinics.

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### **SPECIALITIES AND SUPER-SPECIALITIES**

<b>Anesthesiology</b>	<b>Psychiatry</b>
<b>Dentistry</b>	<b>Gastroenterology</b>
<b>Neurology</b>	<b>General Surgery</b>
<b>Pediatrics</b>	<b>Pediatric Surgery</b>
<b>Rehabilitation</b>	<b>Clinical Psychology</b>
<b>Urology</b>	<b>Gynae oncology</b>
<b>Cardiology</b>	<b>Cardiothoracic vascular surgery</b>
<b>Dermatology</b>	<b>ENT</b>
<b>Nephrology</b>	<b>Pediatric medicine</b>
<b>Oncology</b>	<b>Respiratory Medicine</b>
<b>Neurosurgery</b>	<b>Obstetrics and Gynecology</b>
<b>Ophthalmology</b>	<b>Occupational therapy</b>
<b>Plastic surgery</b>	<b>Internal/General Medicine</b>
<b>Rheumatology</b>	<b>Gastroenterology Surgery</b>
<b>Orthopaedics</b>	

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**SPECIAL CLINICS**

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<b>Liver Clinic</b>	<b>Spine Clinic</b>
<b>Knee Clinic</b>	<b>Interventional Radiology</b>
<b>Pancreato-Biliary Clinic</b>	<b>Endocrine Surgery</b>
<b>Asthma Clinic</b>	<b>Diabetic Foot Care</b>
<b>Child Development Clinic</b>	<b>Pain Clinic</b>
<b>Arthritis and Sports Injury Clinic</b>	<b>Stokes Clinic</b>
<b>Vitreo-Retina Clinic</b>	

**DEPARTMENTS & SERVICES—**

<b>GROUND FLOOR</b>	<b>OPD</b>
	Emergency
	Radiology
	Sample Collection Room
	Plaster Room
	Dressing-Vaccination Room
	Minor OT
	Health check-up
	Gastro Department
	Neuro ICU
	Front Desk (Registration, Admission)
	Billing
	Panel Desk
	OPD Pharmacy
	AMS Room

<b>FIRST FLOOR</b>	Heart Command 1
	Dialysis Unit
	Visitors Lounge and Canteen
	Mother and Child Complex
	Private, Semi-private, Economy Wards
<b>SECOND FLOOR</b>	Day Care
	HDU
	OT Complex
	MICU
	SICU
	Private, Semi-private, Economy Wards
<b>THIRD FLOOR</b>	Heart Command 3
	Cath Lab
	Cath Recovery
	CTVS OT (Cardiac OT)
	CTVS Recovery
	Private, Semi-private Wards
	Administration Block
<b>FOURTH FLOOR</b>	Semi-Private Ward
	Deluxe & Super Deluxe Suite
<b>BASEMENT</b>	Pharmacy
	Medical Store
	MRD
	CSSD
	Physiotherapy Department
	Pathology Lab
	Blood Bank
	CT/MRI
	Bone Densitometry

	Mammography
	EDP
	Conference Hall
	Library
	Housekeeping

## **OPD –**

All disciplines and super-specialities have OPD days. Three types of OPDs are run:

- General
- Panel
- Private

Timings of General OPD are 8:30 am - 10:20 am (Speciality) and 11:30 am – 12:30 pm (Super-speciality).

Timings of Panel OPD are 10:45 am – 11:15 am (Speciality) and 12:45 pm – 1:15 pm (Super-speciality).

Timings of Private OPD are 9 am - 7 pm.

## **EMERGENCY –**

Services are provided 24 hours. A team of experts from all the departments is available round the clock with attached emergency OT and critical observation ward.

## **RADIOLOGY, CT & MRI –**

They are equipped with latest MRI 1.5 Tesla MAGNETOM AVANTO featuring total imaging matrix TIM which permits seamless whole body anatomical coverage without patient repositioning, SOMATOM EMOTION DUO CT Scanner dual slice, sub second with all advanced applications for CT angiography, volume rendering, AXIOM ICONOS remote controlled Digital Fluoroscopy, and Compound Radiography CR System and Colour Doppler, ultra-sonography.



Hologic Bone Densitometer DXA for detection of osteoporosis, thinning of bones and a dedicated mammography for early detection of breast cancer.

### **HEALTH CHECK-UP –**

Located along with Private OPD in South Wing. Various types of health check-up packages are offered like:

- General Health Check-up
- Preventive Health Check-up
- Executive Health Check-up
- Heart Health Check-up
- Comprehensive Health Check-up
- Child Health Check-up
- Women Health Check-up

### **FRONT DESK –**

Enquiries regarding admission, patient status etc can be made at the front desk. Round the clock admission facility is available.

### **PANEL DESK –**

It is for the various government and private employees. A list of empanelled companies is put on a board.

### **DIALYSIS UNIT –**

It is well equipped with 16 beds and 16 dialysis machines.

### **MOTHER & CHILD COMPLEX –**

It takes care of the new born, pre-term and critically sick babies. It is equipped with electronic labor table latest monitors, cardiotocograph for external foetal monitoring, Hi-tech Neo-natal resuscitation unit beside facilities of Servo control warmers, latest generation ventilators, transport incubators, multi-para monitoring, double surface photo therapy and pulsed Oximeter.

For the first time in Delhi the complex offers facility of latest international concept of natural child birth in a single room maternity care with special birthing bed.

### **HEART COMMAND & CATH LAB –**

The cardiac centre provides immediate intensive care to the critical patients. It is equipped with sophisticated investigative facilities and crucial decisions involving Intra-aortic Balloon Pump, Ventilator, Cardiac Pacing, Angioplasty or Bypass are taken without delay.

Non-invasive advanced diagnostic facilities include TMT, Color Doppler, Echocardiography machine, Holter monitoring system, Pulmonary Function Test Lab and Electrocardiogram. The diagnostic tests ensure complete picture of the patient before preventive and curative measures are worked out. Interventional Cardiology with high resolution flat panel Cardiac Catheterization Lab performs full range of invasive procedures of Coronary Carotid and Renal Angiography, Coronary and Peripheral Angioplasty, Stenting, Balloon Mitral, Aortic and Pulmonary Valvuloplasty.

Coronary Artery Bypass Graft for total arterial revascularization to provide long term patency of graft and surgery on the Beating Heart without use of heart-lung machine are carried out by a team of highly trained surgeons and anaesthesiologists. The intensive care units provide constant monitoring and critical care to the post operative patients.

### **OPERATION THEATER**

SBAMI has 11 state of the art Operation Theatres (O.T). These OT'S are designed as per international standards with central supply and laminar airflow , stainless steel cladding on walls and epoxy coating on the floor for electro static and infection free environment is equipped with specialized electrically operated tables, operating lights and anaesthesia machines.

Nearly, major/minor, elective/emergency operations are performed daily, round the clock, out of which are on day care basis.

## **Ergonomics of the Operation Rooms**

- Hermetically sealed modular theatres with both hand and foot operated sliding sensor doors (run on nylon wheels for smooth and effortless sliding), each door having a 300x300 mm viewing window.
- Seamless flooring, walls, slopping and ceiling made up of Zinc passivated galvanized steel sprayed with 400 micron thick antibacterial paint
- Washable anti static and conductive flooring resistant to mechanical stress and dynamic loads
- Each theatre with 4 air exhausts outlets one at each corner near floor is provided with HEPA filters and a central plain air covered with hand woven perforated polyester sheet. All combined together give the air flow a laminar pattern with 20 air changes per hour of fresh air to minimize the surgical site infections (SSI)
- The ceiling mounted laminar flow friendly Operating Lights emitting white and shadow less light.
- The electro hydraulic operating tables that offer maximum flexibility in their use for doing variegated type of surgeries
- Tile based membrane type control panel mounted flush in theatre wall comprising: Day time clock, Lapse time clock, dimmer for plain air and peripheral lights, (hand free telephone), medical gases status/alarm and indicators for temperature and humidity
- Twin plate X-Ray viewing box
- Cascade pressure stabilizer having 304grade SS blades
- 2 Bay stainless steel scrub sinks with photo electric sensors
- All theatres are provided with continuous central supply for Oxygen, Nitrous Oxide, high and low pressure air at required flow and pressures. 6 theatres are fitted with extra ceiling mounted endoscopic pendants with central supply of Carbon Dioxide for Laparoscopic surgeries
- Regular electricity supply through UPS is ensured in the theatres
- The spacious pre and postoperative areas are fitted with modern monitors along with other paraphernalia for continuous observation of patients.

## **MICU & SICU –**

The Medical and Surgical Intensive Care Units are attached to the OT Complex.

## **CSSD –**

Main responsibilities of CSSD are cleaning, processing and sterilization of surgical instruments, treatment trays, dressings, rubber goods etc. It receives supplies from ORs, ICUs, Cath Lab, IPD, HDU and wards.

## **MEDICAL RECORDS DEPARTMENT –**

It performs following functions:

- Proper storage and maintenance of medical records
- Maintenance of integrity and confidentiality of medical records
- Submission of required data to government
- Statistics
- Birth and death certificate
- MLC
- Retention of medical records.

## **PATHOLOGY LABORATORY -**

It offers full range of diagnostic facilities backed by world renowned hi-tech investigative equipments for accurate and reliable results with patient friendly sample collection system. Also there is Immuno Assay Laboratory with fully automated analyser for hormones, infections markers, tumour markers and drug levels, Elisa reader along with programmable Elisa plate washer for coverage of full range of immuno assays.

## **BLOOD BANK –**

Round the clock services of blood banking are available to support elective and emergency situations requiring blood. State of the art equipments have been installed (like Latest apheresis machine) for component separation for all platelets requirements and for component extraction

from whole blood and to facilitate component therapy and to minimize blood transfusion reaction. Whole blood and components storage is done in blood bank refrigerators, platelet agitator and deep freezers.

## **HOUSEKEEPING –**

Functions:

- Sanitation and hygiene
- Odour control
- Waste disposal
- Pests, rodents and animal control
- Interior decoration
- Prevention of fire
- Infection control.

## **PART II**

### **Training Need Identification: A Performance Evaluation Project to assess Nursing Staff in a tertiary care multispecialty hospital**

**“Training could be compared to this metaphor - if I miss one meal in a day, then I will starve to death. The survival of the organization requires development throughout the ranks in order to survive, while training makes the organization more effective and efficient in its day-to-day operations.”**

## **INTRODUCTION**

There is a growing awareness that organization's and individual's benefit from training and development program which is based on accurate analysis and is designed to address the right issues. Planning is the keystone of effective and efficient management. It is particularly crucial in training and development, because without careful and complete planning, resources are certain to be wasted.

Training and development programs must be based upon organization or institution goals, objectives and plans if they are to be effective. They must be geared to organization and manpower planning in terms of projected expansion, reduction, or diversification of operations as they relate to production and services.

The training and development programs should be in flow with the dynamic growth in science and technology.

The composition of the workforce is very important for the identification of training needs. Age, sex, educational levels, experience, in part, determine the types and levels of training required.

## **NEEDS ASSESSMENT**

A needs assessment is the process of identifying performance requirements and the "gap" between what performances is required and what presently exists.

## **TRAINING AND DEVELOPMENT**

Training is the formal and systematic modification of behavior through learning which occurs as a result of education, instruction, development and planned experience. Training has specific goals of improving one's capability, capacity, and performance.

Development is any learning activity, which is directed towards future, needs rather than present needs, and which is concerned more with career growth than immediate performance.

The need for training and development is determined by the employee's performance deficiency, computed as follows:

Training and development need= standard performance-actual performance

## **PURPOSE OF TRAINING**

- To increase productivity and quality
- To promote versatility and adaptability to new methods
- To reduce the number of accidents
- To reduce employee turnover
- To increase job satisfaction displaying itself in lower employee turn-over and less absenteeism
- To increase efficiency

## **ADVANTAGES OF TRAINING**

- Leads to improved profitability and/or more positive attitudes toward profits orientation.
- Improves the job knowledge and skills at all levels of the organization.
- Improves the morale of the workforce.
- Helps people identify with organizational goals.
- Aids in organizational development.
- Helps prepare guidelines for work.
- Aids in understanding and carrying out organizational policies.
- Provides information for future needs in all areas of the organization.
- Organization gets more effective decision-making and problem solving.
- Aids in development for promotion from within.
- Aids in developing leadership skill, motivation, loyalty, better attitudes, and other aspects that successful workers and managers usually display.
- Aids in increasing productivity and/or quality of work.

## **DISADVANTAGES OF TRAINING**

- Often takes people away from their job for varying periods of time;
- Equips staff to leave for a better job
- Bad habits passed on.



## COMPETENCY BASED TRAINING

High-performance organizations realize that their success depends on how capable their people are. They also recognize that formal education doesn't necessarily equip employees with the appropriate skills to thrive in the workplace. The solution lies in training staff to meet the **specific requirements of your organization**. This is where competency-based training comes in.

Competency-based training is developed around the competency standards that have been identified for a specific role. To be assessed as competent, a person must demonstrate the ability to perform a job's specific tasks.

**Competency** (often used interchangeably with **skill**) can be defined as a standardized requirement for an individual to perform a specific job properly. Competency maps identify the general areas of competence and the specific skills, knowledge, abilities, and behaviors required to operate effectively in a specific trade or profession.

## **PURPOSE OF THE STUDY**

This study is intended to provide better understanding of the actual and perceived training and support needs of the nurses working in wards. It focuses on the current view of the situation based upon observation and administration of knowledge questionnaire and competency checklist.

It is expected that the results will provide an important baseline of information on the training needs of the nurses which will not only guide the training providers but also help in achieving the desired standards of care for the patients as the nurses are the delivery arm in a hospital and their method of functioning determines the shape of the delivery of the services.

## REVIEW OF LITERATURE

Basic nursing activities are carried out for giving care and comfort to the patient. According to Handerson the unique function of a nurse is to assist individual sick or well in the performance of those activities contributing to health, which he could perform unaided if he had the necessary strength, will or knowledge. Central to this concept of nursing is basic nursing care, which includes helping patients with basic functions of respiration, eating, drinking, elimination, rest and sleep, clothing, cleaning, grooming etc. Basic nursing care is thus, basic function of all nurses irrespective of their level of specialization.

However, technical advancements demand highly specialized knowledge and technical skill and this mechanization is at the cost of basic nursing care. If the hospital nursing service has to provide the highest possible quality of nursing care in terms of total patient needs, then the knowledge of nurses in basic nursing care has to be assessed and strengthened through various training strategies so that this knowledge can be scientifically applied while performing nursing skills (P. Ravindran & A.K Sood).

Performance evaluation tools are essential to maintaining a workplace where quality patient care is an organization's most important goal. The Joint Commission publication, "Strategies for Addressing the Evolving Nursing Crisis," uncovers the underlying reason why nursing occupations especially need competency-based performance measurement tools: "The empowerment of staff nurses, in turn, acknowledges their role in making real-time, critical decisions at the point of care." Hospitals, clinics and other health care facilities use a number of different evaluation tools and methods to ensure optimum nursing standards.

Hennessy et al (2006) in his study on "the training and development needs of nurses in Indonesia" identified a need for specific job descriptions and competence levels by grade of nurse. This study has also shown the distinction in training needs by type of nurse and locality of work, which serves to demonstrate the importance of collecting systematic data prior to developing post registration training programs. Further the study also suggested the requirement of good pre-service theoretical and clinical education as an essential foundation on which structures and processes are built for developing high-quality health care.

Masson & Fain (1997) discuss the value of a competency-based system in cross-training, which is commonly used in today's cost-containment environment. They illustrate the effectiveness of a comprehensive system of competency validation for long-term staff, orientees, and nursing students.

Competency assessment is always outcome oriented; the goal is to evaluate performance for the effective application of knowledge and skill in the practice setting. Competency assessment techniques address psychomotor, cognitive, and affective domains. Competencies can be generic to clinical practice in any setting, specific to a clinical specialty, basic or advanced (Benner, 1982; Gurvis & Grey, 1995).

Del Bueno reports it took approximately eight months of clinical experience before new BSN graduates felt confident and competent in their clinical judgments. Given the array of individual differences in nursing performance, she recommends that employers and educators assess competencies before assigning nurses to practice settings or advancing them in educational programs (Del Bueno, 1990).

## **OBJECTIVES**

### **A. General**

To conduct a study on training need identification of nurses working in wards at Sri Balaji Action Medical Institute.

### **B. Specific**

1. To analysis the nurse's current knowledge.
2. To define the competencies required to achieve desired standards of care for the patients.
3. To identify the training needs for staff nurses and develop recommendations for the same.

## **METHODS AND DATA**

### **THE RESEARCH DESIGN/ METHODOLOGY:**

This study is an attempt to describe the training needs of nurses employed in Sri Balaji Action Medical Institute.

**Population under Study:** Staff nurses in the wards.

**Sample Size:** Hundred and ten (110) staff nurses participated in the study.

**Study Design:** Non Experimental Design

**Study Approach:** Survey Approach

**Sample Setting:** Sri Balaji Action Medical Institute.

**Limitations of study:** Time frame was short for such a study to be interventional.

## TOOLS AND TECHNIQUES

- **Competency Checklist:**

Analysis of the job description was done so as to get information about the key responsibilities of the position and indicators of the skills, knowledge and abilities required to competently perform the job, based upon the job description a competency checklist was developed which consisted 38 elements.

This checklist was given to the sister in charges of the respective staff nurses to assess the competency level of the staff nurses on a four point scale, which is as follows:

- ✓ Highly Proficient
- ✓ Competent
- ✓ Needs Assistance
- ✓ Needs Training

- **Demographic Data Sheet:**

A Demographic Data Sheet was administered to the staff nurses to understand the demographic profile of the staff nurses with respect to their qualifications, experience etc.

- **Knowledge Questionnaire:**

A Knowledge Questionnaire was developed consisting of 30 questions based on the competencies which are required to perform the job of a nurse in the ward. The questionnaire was administered to the staff nurses to assess their current knowledge level. For every right answer one mark was awarded and a score was given out of 30. Rating was done as follows:

- ✓ Inadequate = < 50%
- ✓ Moderately Adequate = 50-75%
- ✓ Adequate = > 75%.

TECHNIQUES	TOOLS
Observing	Eyes and other senses, pen/paper.
Interview: <ul style="list-style-type: none"> <li>• Un structured</li> <li>• Face to face</li> <li>• oral questioning</li> </ul>	Competency Checklist, Demographic Datasheet, Knowledge Questionnaire



## ANALYSIS:

The following parameters were tracked through the study:

- **Component I:** The number of nurses who required training as per the competency checklist.

S NO.	TOTAL NUMBER OF NURSES	NUMBER OF NURSES WHO REQUIRED TRAINING	NUMBER OF NURSES WHO DON'T REQUIRE TRAINING
1.	110	67	43

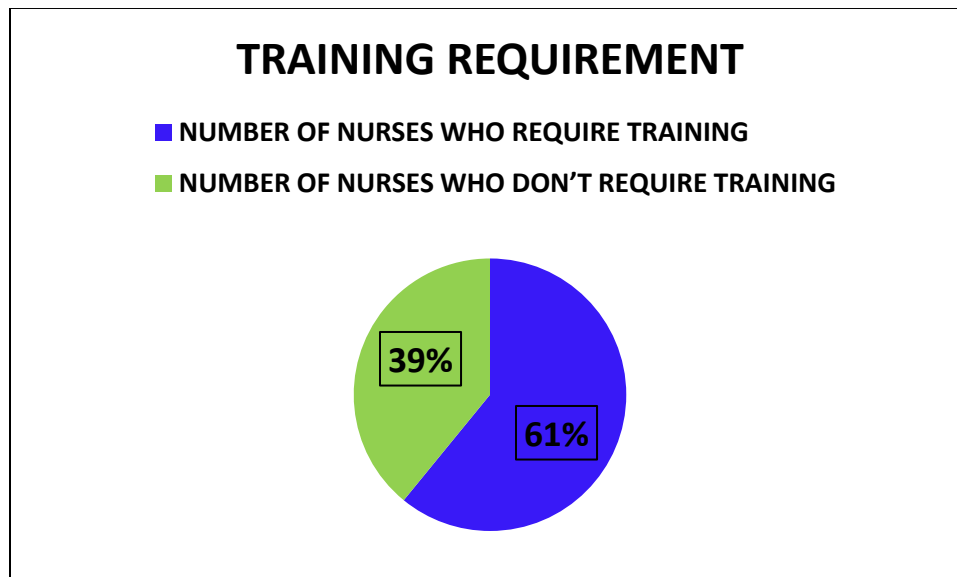


Figure 1: Training Requirement of the Staff Nurses.

- **Component II:** Proficiency of nurses while performing their jobs was identified.

NUMBER OF NURSES IDENTIFIED AS HIGHLY PROFICIENT
30

- **Component III:** Priority wise elements identified for training:

There were in all 38 elements in the competency checklist based upon which the nurses were assessed.

ELEMENTS	FREQUENCY
Use of Morse Scale	46
Tracheostomy Care	45
Use of Braden Scale	45
Use of Defibrillator	39
Care of Drains	16

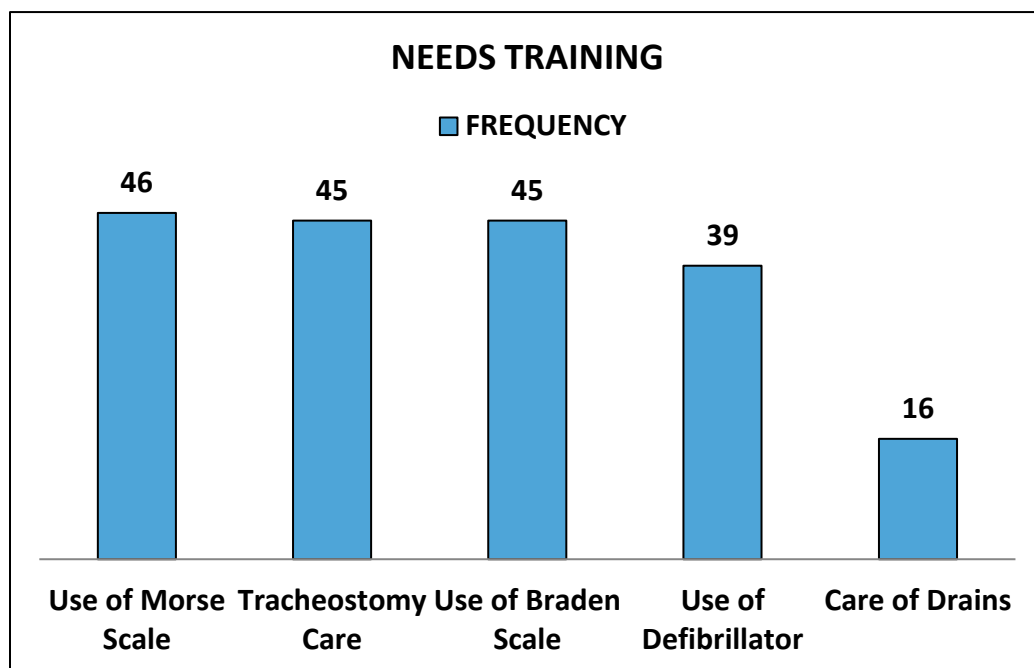


Figure 2: Priority areas in which Training is required.

- **Component IV:** Priority wise elements identified in which the nurses required assistance.

ELEMENT	FREQUENCY
Use of HIS	32
Use of Syringe Pump	26
Tracheostomy Care	25
Use of Braden Scale	24
Blood Transfusion	24

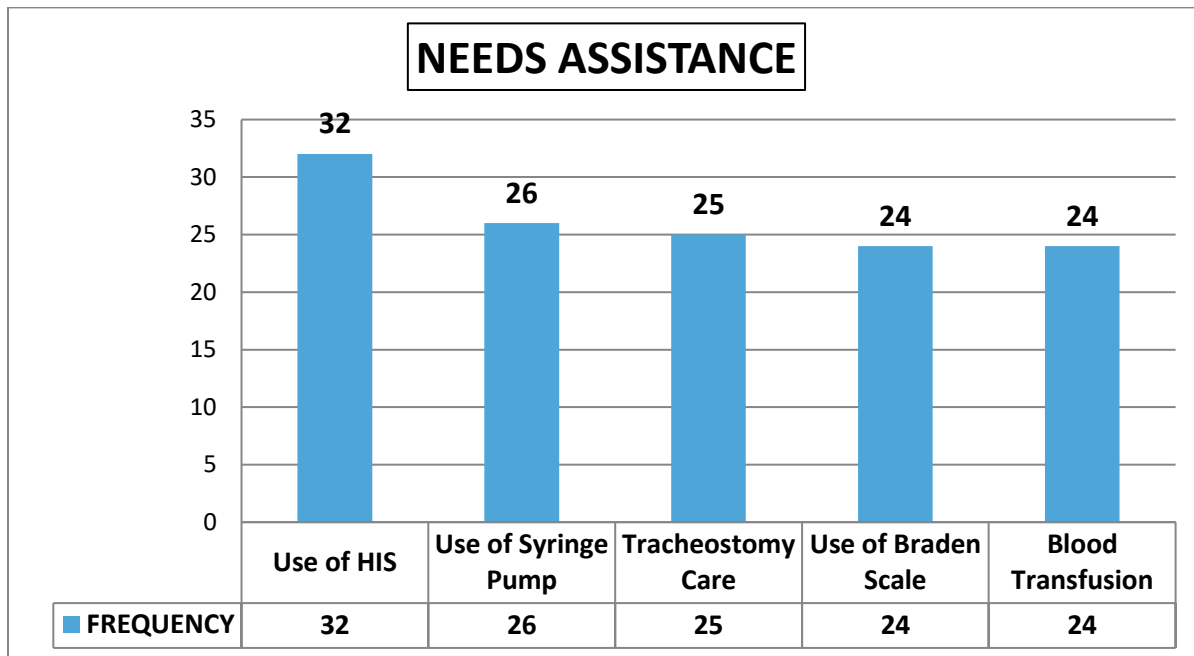


Figure 3: Areas according to priority in which assistance is required.

- **Component V:** Based upon the knowledge questionnaire, the knowledge level of the nurses was categorized as the following:
  - i. Inadequate = < 50%
  - ii. Moderately adequate = 50-75%
  - iii. Adequate = > 75%

S NO.	KNOWLEDGE LEVEL	PERCENTAGE OF NURSES
1.	Inadequate	37%
2.	Moderately Adequate	56%
3.	Adequate	7%

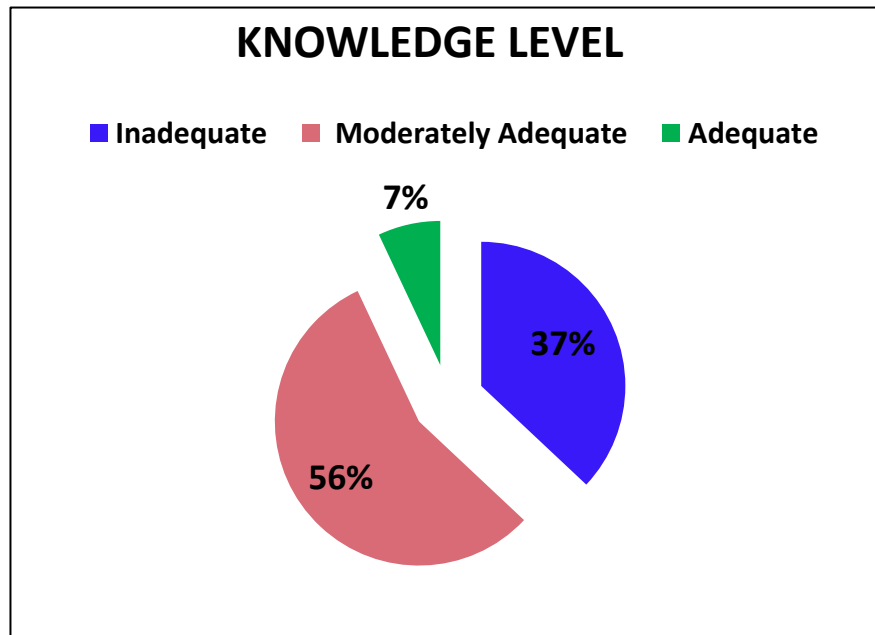


Figure 4: Categorization of nurses according to their knowledge level

**Component VI: Trend analysis of inadequacy of knowledge level with respect to experience.**

EXPERIENCE IN YEARS	PERCENTAGE OF NURSES WITH INADEQUATE KNOWLEDGE LEVEL
FRESHER	33%
WITH 1-3 YEARS OF EXPERIENCE	26%
WITH 3-6 YEARS OF EXPERIENCE	50%

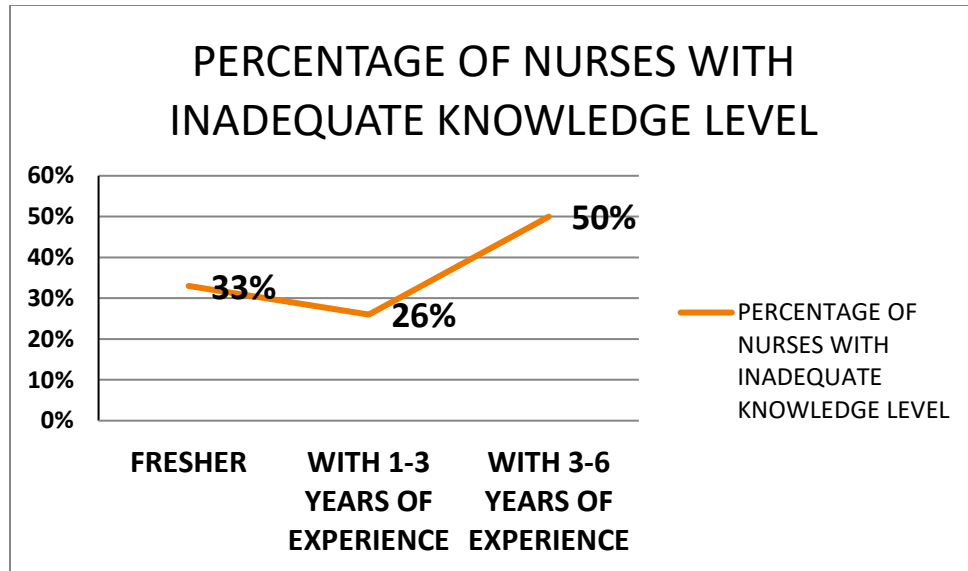


Figure 5: Trend analysis of inadequacy of knowledge level with respect to experience.

**Component VII:** Number of nurses who were willing to take education and training programs.

SNO.	WILLING TO UNDERTAKE EDUCATION AND TRAINING PROGRAM	PERCENTAGE OF NURSES
1.	YES	93%
2.	NO	7%

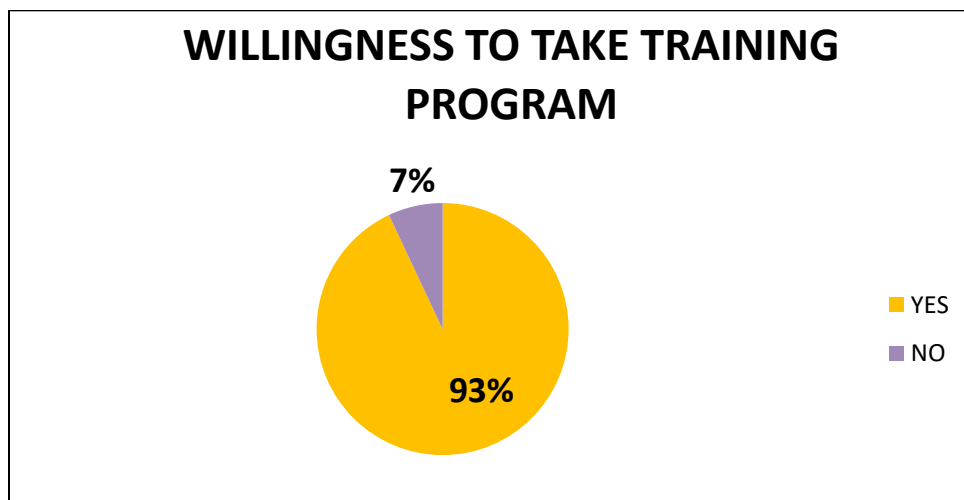


Figure 6: Percentage of nurses willing to undertake training programs

**Component VIII:** Current training sessions were rated by the nurses as:

S NO.	RATE THE TRAINING SESSIONS	PERCENTAGE OF NURSES
1.	Needs Improvement	40%
2.	Satisfactory	28%
3.	Good	32%
4.	Excellent	0%

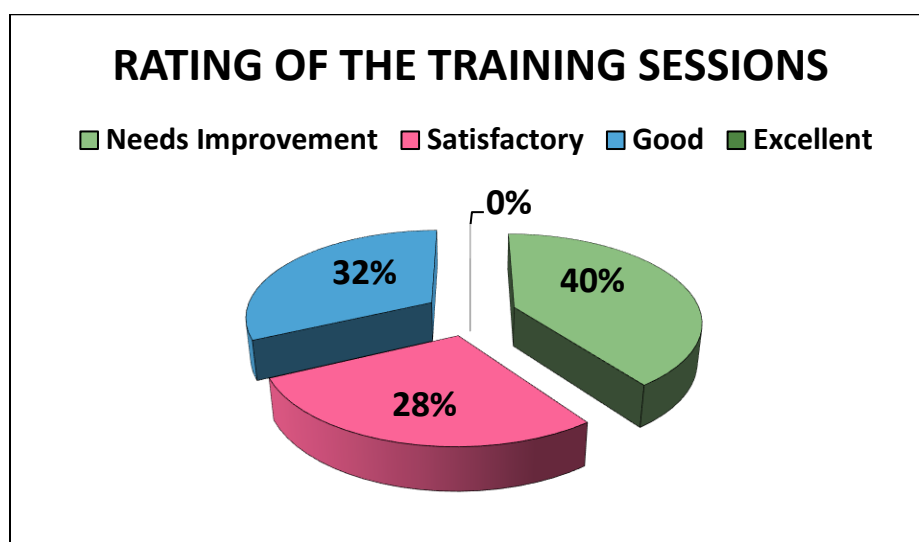


Figure 7: Rating of the current Training sessions as per the nurses.

**Component IX:** The preferred modes of teaching were identified.

S NO.	MODES OF TEACHING	PERCENTAGE OF NURSES PREFERRED
1.	Formal Sessions	35%
2.	Face to Face Sessions	25%
3.	Session in a Clinic Setting	12%
4.	Group Work	8%
5.	Weekday Training	12%
6.	Weekend Training	8%
7.	Night School Training	0%

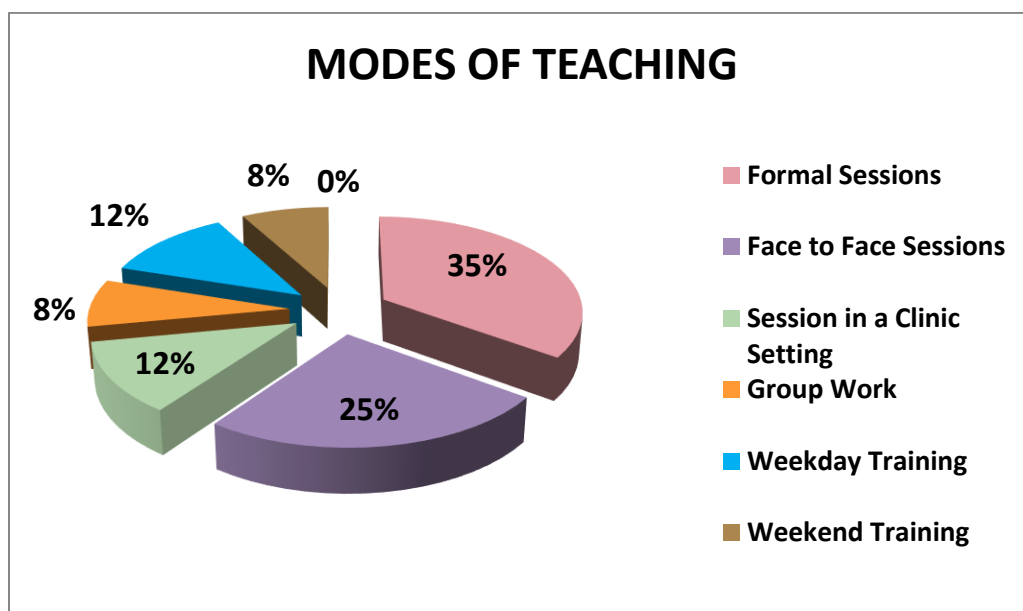


Figure 8: Preference of nurses for different modes of teaching

## **RESULTS:**

### **Key Findings:**

1. The percentage of nurses who required training was found out to be 61% and individual training needs were identified.
2. The number of nurses who were highly proficient in performing the nursing tasks was 30.
3. As per the competency checklist, priority wise training need for elements is as follows:

**Use of Morse Scale > Tracheostomy Care > Use of Braden Scale > Use of Defibrillator > Care of Drains.**

4. Floor wise training need analysis:
  - 1<sup>st</sup> Floor – Use of Braden Scale, Use of MORSE Scale, Tracheostomy Care.
  - 2<sup>nd</sup> Floor - Care of Drains, Tracheostomy care, Use of Defibrillator.
  - 3<sup>rd</sup> Floor – Use of Braden Scale, Use of MORSE Scale, Infection control Practices.
  - 4<sup>th</sup> Floor - Use of Braden Scale, Use of MORSE Scale, Use of Syringe Pump.

5. Priority wise elements identified in which the nurses required assistance are:

**Use of HIS > Use of Syringe Pump > Tracheostomy Care > Use of Braden Scale > Blood Transfusion**

4. According to the knowledge questionnaire, 37% of the nurses were found inadequate as far as their knowledge is concerned, 56% of the nurses fell in the category of moderately adequate and 7% were rated as adequate.
5. As per the trend analysis, the percentage of staff nurses with inadequate knowledge level was 33% in case of freshers, decreased to 26% with 1-3 experience but again peaked to 50% with 3-6 years of experience.
6. The number of staff nurses who were willing to undertake education and training programs was 93% and who were not willing was 7% indicating that the problem is of skill and not of will.
7. 40% of the staff nurses rated the current training session as needs improvement, 28% as satisfactory and 32% as good.



8. As rated by the staff nurses, the most preferred mode of teaching is a formal session and whereas the least preferred mode is night school training.
9. The importance of practical exposure was expressed by staff nurses followed by the use of medical tools and equipments.
10. Based upon the observation and unstructured interviews with the sister in charges some areas were identified in which training was required:
  - ✓ Communicating with the patients in Hindi
  - ✓ Nasogastric tube feeding
  - ✓ Hospital protocols and policies
  - ✓ Infection control Practices
11. As per the staff nurses some of the areas in which trainings should be conducted are as follows:
  - ✓ Emergency Medical Management
  - ✓ Hospital Policies
  - ✓ Ventilator Procedures
  - ✓ Nasogastric Tube Feeding
  - ✓ Lumbar Puncture
  - ✓ Training on language Hindi.

## **DISCUSSION:**

Most of the respondents wanted orientation training for a duration of two to four weeks.

Methodologies like practical exposure in addition to making use of medical tools and equipment were found mostly preferred.

93% of the staff nurses were willing to undertake educational and training sessions and expressed formal sessions as their preferred mode of teaching followed by face to face sessions.

In a similar study, Williamson (2002) advocated opportunities for in service education programs for all nurses through formal training programs using the technological advancements in the field to improve the quality of nursing services.

The findings in the study reveal that there was an agreement between the expressed opinion of the sister in charges regarding training requirements of their staff nurses and the expressed need of the staff nurses in several areas such as guiding and helping patients with special feeding problems, communicating with the patients. Through the study different areas were identified where training was required which were common to most of the staff nurses.

In the opinion of the staff nurses, practical exposure was the most essential and helpful of all to understand and perform their job responsibilities well.

## **RECOMMENDATIONS:**

- Training need analysis should be done regularly and individual training needs should be identified.
- The areas which have been identified for training are mostly those which require practical training, thus, interactive training styles such as workshops, group discussions, case studies, and practical problem solving approaches should be organized.
- Formal Training can be arranged but it is equally important to arrange practice sessions and feedback sessions.
- Theoretical sessions can be conducted twice in a year so that the nurses are able to keep a track of their knowledge.
- Job rotations can be more frequent so that they learn to cope up with different situations.
- The 30 highly proficient staff nurses who were identified can be mentors to those who require training.
- Sensitize the sister in charges that they should be more prompt in helping the newly joined employees so that they adapt to the organization and become a part of it.
- A buddy system can be introduced to orient new employees so that they become comfortable.
- Simulations can be used for different situations to train the nurses.

## **CONCLUSION:**

Since nurses are the cornerstone of the hospital care delivery and are accountable for a patient's participation in health promotion, maintenance and restoration, their method of functioning determines the shape of the delivery of the services. Nurses are the hospital's most costly and valuable resource; their efficiency and effectiveness are central to any effort directed towards the patient care. With each passing day the client's demand for quality services is getting stronger. Additionally, keeping pace with the rapid technological advancements, nursing too demands new challenges in every sphere of providing quality health care.

There is a need to consistently and continuously improve the competencies of its personnel and training programs have been identified as a critical component, for the improvement of the process part in provision of these quality services. Hence identifying the individual training needs and ongoing in service training programs should be provided consistently and continuously to maximize the professional satisfaction of the human resources that would excel the performance and output of the organization in return.

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## ANNEXURE A

### NURSES TRAINING CALENDER

~ May 2012 ~						
SAT	SUN	MON	TUE	WED	THUR	FRI
			1 1pm – 2pm How to handle Admissions and assessment	2 1pm – 2pm Training on usage of Braden Scale & MORSE Scale	3 1pm – 2pm IV Cannulation & removal Administration of injections	4 1pm – 2pm Insulin Administration & Blood Transfusion
5	6	7	8 1pm – 2pm Training on Use of HIS	9 1pm – 2pm Training on infection control Practices	10 1pm – 2pm Training on Care of Drains & Tracheostomy Care	11 1pm – 2pm Training on Communication with Patients
12	13	14	15 1pm – 2pm Discharge Protocol	16 1pm – 2pm Use of Equipments	17 1pm – 2pm Use of Equipments	18 1pm – 2pm Hospital Policies and Protocols
19	20	21	22 1pm – 2pm Training on Use of HIS	23 1pm – 2pm Nursing Documentation	24 1pm – 2pm Training on Radiology and Laboratory protocol	25 1pm – 2pm Fire Training
	27	28	29 1pm – 2pm IV Cannulation & removal Administration of injections	Note: All staff nurses in evening shift must attend.		

## ANNEXURE B



### SRI BALAJI ACTION MEDICAL INSTITUTE

#### COMPETENCY CHECKLIST FOR STAFF NURSES WORKING IN WARDS

Name of the employee: \_\_\_\_\_ Area: \_\_\_\_\_

Years of association: \_\_\_\_\_ Evaluated by: \_\_\_\_\_

S. No	Elements	Highly Proficient	Competent	Needs Assistance	Needs Training
1	Admission of Patient				
2	Assessment of Patient				
3	Use of Braden Scale				
4	Use of MORSE scale				
5	IV Cannulation & removal				
6	Administration of Oral Medications				
7	Administration of Injections				
8	Blood Glucose Monitoring				
9	Insulin Administration				
10	Blood Transfusion				
11	Dressing Technique				
12	Answering nurse call bell				
13	Laboratory protocol				
14	Radiology protocol				
15	Diet Requisition				
16	Use of HIS				
17	Pre operative preparations				
18	Post operative care				
19	Documentation				
20	Infection Control Practices				
a.	Hand Hygiene Practices				
b.	Biomedical Waste Management				
c.	Personal Protective Equipment				

21	Basic Nursing Care				
a.	Sponge Bath				
b.	Mouth Care				
c.	Back Care				
22	Care of Invasive Lines				
23	Care of Drains				
24	Tracheostomy Care				
25	Ryles Tube Feeding				
26	Communication				
27	Transfer of Patients				
28	Discharge protocol				
29	Equipments				
a.	ECG Machine				
b.	Syringe Pump				
c.	Pulse Oximeter				
d.	Glucometer				
e.	Defibrillator				
f.	Crash Cart				



## ANNEXURE C

### DEMOGRAPHIC DATA SHEET

NAME:

AGE IN YEARS: 20-23 ☐ 24-27 ☐ 28-31 ☐ 32-35 ☐ 36-39 ☐ <40 ☐

GENDER: MALE ☐ FEMALE ☐

QUALIFICATIONS: ANM ☐ GNM ☐ B SC ☐ PB BSC ☐

EXPERIENCE IN YEARS: FRESHER ☐ 1-3 ☐ 3-6 ☐ >6 ☐

CURRENT WARD ALLOCATED:

KINDLY RATE THE TRAINING SESSIONS: NEEDS IMPROVEMENT ☐ SATISFACTORY ☐

GOOD ☐ EXCELLENT ☐

SUGGESTED AREAS IN WHICH TRAINING CAN BE CONDUCTED:

Communication ☐

Nursing procedures, if any specify ☐ \_\_\_\_\_

Others ☐ \_\_\_\_\_

ARE YOU WILLING TO UNDERTAKE EDUCATION & TRAINING PROGRAMS: YES ☐ NO ☐

IS THE CURRENT NURSING TRAINING PROGRAM ABLE TO OFFER THE SKILLS NEEDED BY NURSING PROFESSIONALS?

a) Yes ☐

b) No ☐

WHICH OF THE FOLLOWING ACCORDING TO YOU ARE PREFERRED MODES OF TEACHING?

a) Formal Sessions ☐

- b) Face-to-face sessions ☐
- c) Session in a clinic setting ☐
- d) Group work ☐
- e) Weekday training ☐
- f) Weekend training ☐
- g) Night school training ☐

WHICH OF THE FOLLOWING FULFILL THE NURSING TRAINING IMPARTED TO YOU?

- a) Classroom ☐
- b) Online ☐
- c) One- on-one training ☐
- d) Using medical tools and equipments ☐
- e) Using other technological devices ☐
- f) Theoretical ☐
- g) Practical ☐

WERE TASKS, ROLES AND RESPONSIBILITIES OF NURSES DRAWN AND DISCUSSED IN THE TRAINING?

- a) Yes ☐
- b) No ☐

## **ANNEXURE D**



## KNOWLEDGE QUESTIONNAIRE FOR THE STAFF NURSES

NAME: \_\_\_\_\_ DEPARTMENT: \_\_\_\_\_

1. At the time of admission all of the things are to be followed **except**
  - a) Greet the patient
  - b) Smile and introduce yourself
  - c) Explain about the follow up care
  - d) Show the way to the room
2. For diet requisition you have to do
  - a) Check the prescribed diet
  - b) Assess any food allergy
  - c) Information to dietician
  - d) All of the above
3. A client asks to be discharged from the health care facility against medical advice (AMA). What should the nurse do at first?
  - a) Prevent the client from leaving.
  - b) Notify the physician.
  - c) Have the client sign an LAMA form.
  - d) Call a security guard to help detain the client.
4. Braden Scale is administered for assessment of
  - a) Pressure risk
  - b) Muscle weakness
  - c) Fall risk
  - d) Pain
5. The nurse notes that a client's I.V. insertion site is red, swollen, and warm to the touch. Which action should the nurse take first?
  - a) Discontinue the I.V. infusion.
  - b) Apply a warm, moist compress to the I.V. site.
  - c) Check the I.V. infusion for patency.
  - d) Apply an ice pack to the I.V. site.
6. A client has a nasogastric (NG) tube. How should the nurse administer oral medication to this client?
  - a) Crush the tablets and wash the powder down the NG tube, using a syringe filled with saline solution.
  - b) Heat the tablets until they liquefy, and then pour the liquid down the NG tube.
  - c) Crush the tablets and prepare a liquid form, and then insert the liquid into the NG tube.

- d) Cut the tablets in half and wash them down the NG tube, using a syringe filled with water.
7. The nurse is assessing a client for the risk of falls. The nurse should use
- a) Glasgow coma scale
  - b) MORSE scale
  - c) Braden scale
  - d) Wong-Baker Scale
8. A client suddenly loses consciousness. What should the nurse do first?
- a) Call for assistance.
  - b) Assess for responsiveness.
  - c) Palpate for a carotid pulse.
  - d) Assess for Pupillary response.
9. A Patient is ordered benzyl penicillin 900mg. On hand is benzyl penicillin 600mg in 5ml (once diluted). What volume is to be drawn up for injection?
- a) 7.5 ml
  - b) 1.5 ml
  - c) 0.7 ml
  - d) 3.3 ml
10. The nursing staff has just been trained how to use and care for a new blood glucose monitor. Which nursing intervention demonstrates proper use of a blood glucose monitor?
- a) Squeeze the capillary blood for effective drops
  - b) Match the machine code with strip code after installing
  - c) Drop the first drop of blood into the reagent strip
  - d) Start the timer on the machine while gathering supplies
11. To prepare for insulin administration, the nurse disinfects the injection site. Before giving the injection, the nurse should allow the disinfected area to dry for:
- a) 10 seconds.
  - b) 30 seconds.
  - c) 1 minute.
  - d) 2 minutes
12. The physician orders a blood transfusion for a client. The nurse should anticipate using an I.V. access device of which size?
- a) 23G
  - b) 21G
  - c) 18G
  - d) 25G
13. When changing the surgical dressing, the nurse first must
- a) Wash hands
  - b) Apply sterile gloves.

- c) Remove the old dressing with clean gloves.
  - d) Open sterile packages, and moisten the dressings with sterile saline solution.
14. What is mid stream urine sample specimen?
- a) Collect at the early morning
  - b) Discard first urine and collect middle urine
  - c) Collect the whole day urine
  - d) None of the above
15. A client with a suspected brain tumor is scheduled for computed tomography (CT). What should the nurse do when preparing the client for this test?
- a) Immobilize the neck before the client is moved onto a stretcher
  - b) Determine whether the client is allergic to iodine, contrast dyes, or shellfish.
  - c) Place a cap over the client's head.
  - d) Administer a sedative as ordered.
16. When using Hospital Information System, The Nurse must:
- a) Review the entries which she has entered into the software before saving it.
  - b) Correct errors in the entries immediately.
  - c) Inform sister In charge if she is not able to do it.
  - d) All of the above.
17. The nurse is transferring the patient to operation room, which of the following action she should do that time?
- a) Ensure that the patient is voided
  - b) Administer all the daily medications
  - c) Have the patient to practice breathing exercise
  - d) Verify client has not eaten for 24 hours
18. An obese, malnourished client has undergone abdominal surgery. While ambulating on the 4th postoperative day, she complains to the nurse that her dressing is saturated with drainage. Before this activity, the dressing was dry and intact. Which of the following is the best initial action for the nurse to take?
- a) Splint the abdomen with a pillow and call the surgeon.
  - b) Apply an abdominal binder.
  - c) Reinforce the existing dressing with another dressing.
  - d) Lift up the dressing to assess the wound.
19. When documenting information in a client's Nurses record, the nurse should:
- a) Erase any errors.
  - b) Use pencil to write
  - c) Leave one line blank before each new entry.
  - d) End each entry with the nurse's signature with date
20. Policy and procedure dictate that hand washing is a requirement when caring for clients. Which statement about hand washing is true?

- a) Frequent hand washing reduces transmission of pathogens from one client to another.
- b) Wearing gloves is a substitute for hand washing.
- c) Bar soap, which is generally available, should be used for hand washing.
- d) Waterless products shouldn't be used in situations where running water is unavailable.

21. Standard precautions include which of the following measures?

- a) Wearing gloves when changing a dressing
- b) Disposing of needles in a puncture-resistant container
- c) Wearing eye protection during tracheal suctioning
- d) All of the above

22. When providing oral hygiene for an unconscious client, the nurse must take which essential action?

- a) Swabbing the client's lips, teeth, and gums with lemon glycerin
- b) Cleaning the client's tongue with gloved fingers
- c) Placing the client in semi-Fowler's position
- d) Placing the client in a side-lying position

23. When removing IV cannula the nurse should

- a) Use 2 x 2 gauze
- b) Use adhesive tape
- c) Betadine swab
- d) Elastic wrap

24. A client is unable to take a deep breath and doesn't want to get out of bed because his chest tube is causing discomfort. To increase client compliance with ambulation and deep breathing, the nurse should:

- a) Administer pain medication before having the client deep breathe, cough, or get out of bed.
- b) Tell the client the importance of lung expansion.
- c) Arrange a care schedule to provide rest periods.
- d) teach the client how to use an incentive spirometer

25. The nurse is assigned to care for a client with a tracheostomy tube. How can the nurse communicate with this client?

- a) By providing a tracheostomy plug to use for verbal communication
- b) By placing the call button under the client's pillow
- c) By supplying a magic slate or similar device
- d) By suctioning the client frequently

26. Which position you will provide to patient before Ryle's tube feeding

- a) Supine position

- b) Semi fowler's position
- c) Lateral position
- d) All the above

27. When communicating with patient the nurse has to

- a) Maintain eye contact
- b) Active listening
- c) Talk in terms of others interest
- d) All the above

28. The nurse is transferring a client from the bed to a chair. Which action does the nurse take during this client transfer?

- a) Positions the head of the bed flat
- b) Helps the client to move towards the edge of the bed
- c) Stands behind the client
- d) Places the chair facing away from the bed

29. When discharge the patient from the ward the nurse should

- a) IV cannula is removed
- b) Hand over the Reports
- c) Health education to patient
- d) All the above

30. Pulse oximetry is used to measure the

- a) Saturation of oxygen in the blood
- b) Pulse rate
- c) Respiratory rate
- d) All the above

## ANNEXURE E

MASTER CODE SHEET	
HIGHLY PROFICIENT	
SAMPLE NUMBER	ELEMENT NUMBER
1.	-
2	-
3	1,2
4	1,2,5,6,7,8,12,13,14,15,16,17,18,21a, b, c 29a, c, d,26,27,28
5	-
6	2,5,6,7,8,9,10-23,25,26-29
7	1,2,5,6-28, 29a, c, d, f
8	-
9	-
10	9, 12,15,29d
11	8,9,12,14,17,18,19,20b, 29d
12	-
13	-
14	-
15	-
16	-
17	-
18	-
19	-
20	-
21	-
22	-
23	-
24	26



25	2,6-11, 15-18,20a
26	1-19,20b,21,25,26-29
27	1,2,6-12,14,28,29a, c, d
28	-
29	-
30	-
31	1,2,5,20a,27,28,29d, e, f
32	21,22,23,25
33	5,6,7-19, 20a,21
34	5-9, 11-15, 19-21, 29a, c, d
35	1,2,5-9,12-21, 23,25,26-29a, b, c, d
36	1,2,5-9, 11-19, 20a, b,21,22,23,25,26-28, 29a, b c, d, f
37	1,2,5-18, 20,21,23,25,26-28, 29 a, b, c, d
38	1,2, 5-18, 20-23, 25,27,28,29a, b, c, d, f
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46	-
47	29d
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53	4, 6-11,15,17-19,20a, b,26-28,29a, b, c, d
54	1,2,5-19,20a, b,21-23, 25,26-28, 29a,b,c,d,f

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90	1,2,8,9,11-16
91	1,2,5-25,26-28,29a, b, c, d
92	1,2,5-25, 26-28
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94	1,2,5-29
95	1,2,5-25,26-29
96	1,2,5-9,13,15-19,20c,21-25,29
97	1-9,13-19,20c, 21-25,29
98	1,2,5-11, 13,15,17,18,19,20c,21-25
99	1-9,13,15-20,21-25,29
100	1-10,12,13,15-19,20c,21-25,29
101	1,2,5-11,13-19,20c,21-25,29
102	1-9,11,13,15-19,20c,21-25,29
103	1-8,13-19,20c,21-25,29
104	1-19,20c,21-25,29
105	1,2,5-9,11,13,15-19,20c,21-25,29
106	1,2,5-10,11-13,16-19,21-25,29
107	1-11,13,15-20c,21-25,29
108	1,2,5-10,11-13,16-19,21-25,29
109	1-11,13,15-19,21-25,29
110	1-11,13,15-18,20c,21a, c,22-25,29

## ANNEXURE F

MASTER CODE SHEET	
NEEDS ASSISTANCE	
SAMPLE NUMBER	ELEMENT NUMBER
1.	13,14,15-18,20 b, c, 21, 22, 23, 25, 28, 29 a, f
2	9-20, 22, 23, 25-28, 29 a, b, f
3	10-16, 20 a, b, 25,28, 29
4	3,9 ,11, 20 a, 24, 29 b
5	16, 20 c, 23, 25, 26-28
6	3,4
7	3, 29 b
8	2, 9-18, 20, 25, 28, 29
9	10-15,17, 20-25, 27-29
10	3,4
11	24
12	16, 20 b, 22,25,26-29
13	16, 23, 25
14	24
15	22,23,25
16	1,2,10,11,13-16,19, 20 b, c, 22,23,25,27-29
17	1,9-20, 23, 25, 26-29
18	1,2, 10-16, 19,20,22,23,25,26,27,28,29 a, d
19	13-16, 19,20,24,27,28,29
20	1,2,10,11,13-19,20 a, b,22, 25,26-29
21	3,4, 22,23,24,26-29
22	3,4,22,24
23	3,4,22,24

24	1,2,5-25, 27, 29
25	-
26	-
27	-
28	-
29	-
30	-
31	-
32	-
33	-
34	-
35	-
36	-
37	-
38	-
39	1-5,10,11, 14, 16,22,23,25,28,29 b,d,f
40	-
41	10,22,24,29,b,e,f
42	1-4,10,13-16,22,25,29,b,c,d
43	1,2,10,16,20c, 22,28,29 b
44	24, 29 e, f
45	3,4,10,11,14,17,18,22,27,28,29,b,e,f
46	13,29 b, f
47	3,4,13,14,16
48	3,4,
49	3,4
50	-
51	-
52	-
53	3,4

54	-
55	-
56	-
57	1-4,9,10,13,14,16,22,29,b,f
58	1-4,10,11,13,14,16,20,22,23,24,27,28,29,a,b,f
59	1-4,10,13,14,16-18,20 b, c, 22,23, 29 b, c, f
60	1-4, 10, 11,13,14, 16,20,21 a, 22,23,24,29 b, c, f
61	1,3,4,13,14,16,22,23,24,29,b,f
62	3,4,11,13,14,22,24,29,b,f
63	5,16,20a
64	12,24,29 e, f
65	10,20 b
66	5,16, 29 e, f
67	17
68	-
69	13.16.19,20a
70	7,9,10,14,16,28,29 e, f
71	9,10,16,18, 28,29 e, f
72	7,9,10,14,17,20 a
73	9,10,13,14,20 b, 23,24
74	20 a, b, 23,24 ,29 e, f
75	5,7,9,10,14,16,24,25,28
76	5,7,9,16,20 b
77	7,24,29 c, e, f
78	24
79	3,9,14, 16,20a, c, 24,25,28,29 d ,e, f
80	1,2,3,5,9,10,14,16,20c,23,24,29e. f
81	3,4,5,7,9,10,14,16,17,20c,23,24,27-29 e, f
82	1,5,13,14,17-19,20a, c,21,26,29a , b, c
83	1,5,13,14,17-19,20a,21,26,29a, b, c

84	-
85	-
86	-
87	-
88	-
89	-
90	22,23.24,28
91	-
92	-
93	-
94	-
95	-
96	3
97	-
98	-
99	-
100	-
101	-
102	-
103	27,28
104	-
105	-
106	-
107	-
108	27,28
109	-
110	-

## ANNEXURE G

MASTER CODE SHEET	
NEEDS TRAINING	
SAMPLE NUMBER	ELEMENT NUMBER
1.	3,4,24,29 b, c, d, e
2	3,4,24,25,29c, d, e
3	2,3,4,23,24
4	4,20b, 29e
5	3,4,24
6	-
7	4,29e
8	3,4,23,24
9	3,4
10	3,4,22,23,24,29e
11	3,4,29e
12	3,4,23,24
13	3,4,24
14	3,4
15	3,4,24
16	3,4,24
17	2.3.4,24
18	3,4,24,29b c, e, f
19	3,4,22,23
20	3,4,23,24
21	-
22	-
23	-
24	3,4,29 a, b, c, d, e
25	3,4



26	-
27	-
28	-
29	-
30	-
31	3,4,26,29 a, b, c
32	-
33	-
34	-
35	-
36	-
37	-
38	-
39	24, 29 e, f
40	-
41	3,4
42	24,26,27,28,29a, b, e, f
43	3,4,24,29e, f
44	3,4
45	24
46	3,4,24,29e
47	24,29e
48	3,4,24,29e
49	24,29e
50	24,29e
51	24,29e
52	3,24,29e
53	23,24,29e
54	24,29e
55	24,29e

56	24,29e
57	23,24,29e
58	24,29e
59	24,29e
60	22,23,24,29e
61	3,4,23,24,29e
62	29e
63	3,4,24,29e, f
64	-
65	2,3,4,24
66	3,4,9,10,24
67	-
68	-
69	-
70	3,4,20,24,25
71	3,4,14,20a, b, c,23,24
72	3,4,23,24,29e, f
73	3-6, 29 e, f
74	-
75	-
76	3,4,24
77	-
78	-
79	-
80	-
81	-
82	2,3,4,10,11,15,16,20 b,22, 23,24,27,28,29e, f
83	2,3,4,10,11,15,16,20 b,22,23,24,27,28,29e, f
84	1-29
85	-

86	1-29
87	1-29
88	-
89	3,4,29e, f
90	29e, f
91	-
92	-
93	-
94	-
95	-
96	--
97	20a, b
98	3,4,20a, b
99	-
100	10,11,20a, b
101	3,4, 20a, b
102	-
103	10,11,20a, b
104	-
105	3,4, 29a, e, f
106	-
107	-
108	3,4
109	-
110	-

**ANNEXURE H**

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38	2	2	2	2	1	1	1	2	7	6	20	Inadequate
39	2	2	2	2	3	1	1	1	7	7	23	Inadequate
40	2	2	2	2	3	1	1	5	4	18	60	Mod. Adequate
41	2	2	2	2	3	1	1	1	7	12	40	Inadequate
42	1	2	3	2	3	1	1	2	4	16	53	Mod. Adequate
43	1	2	2	2	2	1	1	5	7	18	60	Mod. Adequate
44	1	2	2	2	1	1	2	3	7	15	50	Mod. Adequate
45	1	2	2	1	3	1	1	3	7	6	20	Inadequate
46	2	2	2	3	1	2	2	6	3	16	53	Mod. Adequate
47	2	2	2	3	3	1	1	2	3	14	47	Inadequate
48	2	2	2	3	2	1	1	2	7	14	47	Inadequate
49	2	2	2	2	3	1	1	6	7	20	67	Mod. Adequate
50	2	2	2	3	2	1	1	2	7	19	63	Mod. Adequate
51	1	2	2	2	1	1	1	1	7	16	53	Mod. Adequate
52	2	2	2	3	1	1	1	2	1	19	63	Mod. Adequate
53	2	2	2	3	2	1	1	4	7	23	77	Adequate
54	1	2	2	2	2	1	1	4	4	11	37	Inadequate
55	1	2	2	1	3	2	1	1	1	21	70	Mod. Adequate
56	2	2	2	3	1	1	2	1	6	13	43	Inadequate
57	1	2	2	2	3	1	1	1	4	22	73	Mod. Adequate
58	1	2	2	1	1	1	1	1	7	4	13	Inadequate
59	1	2	2	2	1	1	1	1	7	19	63	Mod. Adequate
60	1	2	2	1	1	1	1	2	4	17	57	Mod. Adequate