

Evaluation of Trainings under RHSDP

For

Rajasthan Health System Development Project

Submitted By:



State Institute of Health & Family Welfare, Rajasthan

Contents

Sl. No.		Page No.
1.	Acronyms	i
2.	Executive Summary	ii
3.	Prologue	1
4.	The Study	
	A. Scope	10
	B. Approach	10
5.	Results and Discussion	
	General Profile	14
	Process of training	15
	Hands-on Session	29
	Skill Utilization	33
	Knowledge recall	49
	Epilogue	55
6.	Recommendations	57



Acronyms used in the study:

ABG	Arterial Blood Gases
AV aids	Audio visual aids
CPR	Cardiopulmonary Resuscitation
DM	Disaster Management
Echo	Echo Cardiograph
ENT	Ear Nose Throat
Hb	Hemoglobin
HIV	Human Immunodeficiency Virus
HDMP	Hospital Disaster Management Plan
J.L.N. MC	Jawaharlal Nehru Medical College
LMA	Laryngeal Mask Airway
MO	Medical Officer
MT	Management Training
NS	Nursing Staff
Obst.& Gynae	Obstetrics and Gynecology
R.N.T. MC	Ravindra Nath Tagore Medical College
RHSDP	Rajasthan Health Systems development Project
S.M.S. MC	Sawai Man Singh Medical College
S.N. MC	Sampurnand Medical College
S.P. MC	Sardar Patel Medical college
SIHFW	State Institute of Health and Family Welfare
SMO	Senior Medical Officer
TMT	Tread Mill test
TNA	Training Need Assessment



Executive Summary

Rajasthan Health System Development Project (RHSDP) was launched with broad objective of improving effectiveness and quality of health care delivery system through strengthening of secondary level health institutions in the State.

The project had three main components, in order to achieve project objectives besides other interventions, a number of skill set based trainings were provided over a period of time.

To assess the effectiveness and efficiency of the training programs conducted for capacity building of Health care staff as envisaged under component -2 of the Health systems development project; State Institute of Health & Family Welfare took up the task of evaluating the trainings; with objective of assessing the effectiveness and efficiency of training process, improved knowledge and skills of trainees utilization of this acquired skills and knowledge and identifying the gaps in training if any that prevent to achieve the objective

A data base of 1203 trained manpower (Doctors and paramedical Staff) fewer than 13 training program was made available to SIHFW for the purpose of evaluation study. Evaluation was carried out in 32 Districts of Rajasthan; sample of 121 was selected using appropriate statistical technique.

Questionnaires were developed for data collection and filled by the respondents facilitated by SIHFW researchers at field only. The questionnaires attempted to acquire information on Training process, Hands-on Session, skill utilization and knowledge enhancement.

After undergoing these trainings, a remarkable improvement in professional competencies is perceived by majority of respondents (95.8%).

Both Managerial and Clinical skill enhancement have contributed in improving confidence level, Knowledge expansion, time management and performance of participants which in turn had improved patient satisfaction level and ability to handle increased patient load.

68.3% participants recognized the contribution of training in enhancement of access and utilization of health care services at facility.

Physical facilities and resources of training were rated "good" by majority of trained staff. Training arrangements, Training Hall arrangements and reading material were rated good by 75.8%, 66.7% and 62.5% respectively. Trainings were interactive in nature as accepted by majority of respondents (75.8%), a little more than half (52.4%) of respondents agreed that duration of hands on sessions was adequate.

In critical care management, 88.8% respondents stated that equipment related to Airway management is available at their facility and 95.8 % use it to treat critically ill patients at their health facility.



50% of respondents of Disaster Management training had a hospital disaster management plan, out of which 71.4% agreed that the plan is efficient to deal with any disaster situation. Only 3 out of the 17 respondents' organized the disaster mock drill at their facility after they received the training

Regarding geriatric trainings, all (100%) respondents said their diagnostic skills have improved after the training which in turn has benefited the geriatric patients in their catchment area.

In Managerial training for nursing staff 78.6% trainees were finding it easier to manage patients because of trainings.

Seventy one percent of respondents were able to apply the skills learnt during the trainings. Reasons of non applications of skills learnt included lack of supplies and improper placements.

For anesthesia trainings, respondents were asked about performing any procedure on eleven categories of patients; both the respondents said they did not perform any anesthetic procedures before the training was imparted due to lack of knowledge of the subject. Even after training, they were not able to apply anesthetic procedures on case such as ENT and thyroid surgery endocrinal, liver and kidney disease due to either unavailability of cases at their facility or lack of manpower (ENT, Super specialists).

For Neonatal trainings, 50 % of the respondents reported about performing clinical procedures on neonates whereas they perceived no change in the utilization of skills for the management of different type of neonatal cases before or after training program.

As far as short duration course on clinical pathology is concerned respondents were already performing the skills even before the training was given, and no major difference was found after the training process In laparoscopic surgery trainings, both the respondents were not able to apply learned skills, reason provided was lack of financial resources and infrastructure and scarcity of cases at their respective health facilities.

Visible improvement was seen after the participants were acquainted with the skills and knowledge regarding various procedures in skill utilization of Radio-diagnosis.

As far as trainings on Defibrillators, TMT and Echo are concerned, for defibrillators the skill utilization has increased but in Echocardiography it did not make any significant impact due to lack of equipment. All five respondents of TMT can easily operate the Tread Mill Machine after the trainings.

Maximum recall of knowledge was achieved in Disaster Management trainings (77.5%) followed by Neonatology Trainings (76.5%) and Training on Equipment- Cardiac defibrillator (64.9%).Participants of Six months course on clinical Pathology and Managerial Training for Nursing Staff were among the lowest scorer in recall test .

Overall the trainings have been beneficial for skill up-gradation of service providers which in turn improves health services.



Prologue:

Reaching out to exiguous population of Rajasthan, that too in hard to reach desert and tribal areas is a huge task. The State through its reasonably spread out Health facilities - Sub-centers, Primary Health Centers (PHCs), Community Health Centers (CHCs), dispensaries, districts & satellite hospitals and Teaching hospitals is trying to reach out people with Health care.

In the process, the human resource in health has to keep itself abreast with developments in the sector. Thirty thousand human resources engaged in health care delivery constantly and consistently need upgrading their knowledge and skills in view of the developments in health sector besides regular paradigm shifts based on sector priorities which keep shuffling regularly.

Also, once recruited, majority otherwise do not have opportunity to hone their skills-clinical or managerial. The trainings under different projects are fragmented and have narrow focus to a larger goal of improving the quality of health care delivery and achievement of comprehensive health indices.

Currently there are some 23 types of trainings that a Medical Officer has to undergo and thinking is on as to how these can be dovetailed without losing the focus. Trainings, a distinctly recognized genre, often are left unattended for obvious reasons: people not interested, nominations not made in time, weak physical infrastructure of training institutions, trainers not available, uniformity of content is not here, and duplications result in wastage and ilk.

Most of the in-service trainings in the health sector are part of centrally sponsored schemes or projects funded through NRHM/RCH; and consequently many of these trainings, be it Routine Immunization(RI), Intra Uterine Device (IUD) insertion, IDSP, Integrated Management of Childhood Illnesses (IMNCI), Emergency Obstetrics Care (EmOC), Medical Termination of Pregnancy (MTP), Laparoscopy, Adolescent Friendly Health Services (AFHS), Non Scalpel Vasectomy (NSV), Behavior Change Communication (BCC) and ilk; often go concurrently for the same level of professionals without any integration. The “project” mode of training is a plain duplication of effort, as Health has more than many cross cutting issues. NIHFW and GOI have pointed it out and have called for a comprehensive integration of Training to optimize on time and resources besides monitoring of contemporary content delivery.

The training institutions are often punctuated on account of manpower, infrastructure and logistics. Further, the parable of pedagogy, curriculum and content delivery; though known to everyone in hierarchy, is not taken into cognizance for any effective control over the quality of trainings (Terse, an ANM during 18 months of her training is never taken to visit a sub-centre where, after qualifying, she shall be for most of her service period).

SIHFW, Rajasthan, in March-May 2011, has done a study focusing on training institutions in Rajasthan and the observations are shocking. (Complete report available at www.sihfwrasthna.com)



The task force on National Council for Human Resource in Health in its report (Aug. 26, 2009) has ruminated over the training programs and cadres in view of variable quality of trainings and a clear disconnect between different councils regulating Medical and para-medical education and Training.

Another fiasco that follows the trainings closely relates to the objectives wherein it is intended that a trained/ skilled provider shall be in a position to bring in some change in approach and delivery of services. Abysmal lack of follow up of these training defies the very objective besides baring in indifference amongst the staff who is never questioned or has hand-holding opportunity although “supportive supervision” is a buzz word today.

World Bank supported Rajasthan Health Systems development Project (RHSDP) took a timely initiative towards capacity building as one of its mandates was to improve the skills of service providers.

Under this façade, an evaluation study of the trainings done under RHSDP was taken up on request, by State Institute of Health & Family Welfare, Rajasthan; in Sep.2011.

Objective of Training organized by RHSDP

- To improve and update managerial, clinical, diagnostic and surgical skills of specialists and MO's working at secondary level Hospitals.
- To improve the managerial and technical skills of staff Nurses/ANM, Lab. Tech. and In the process a number of skill set based trainings were provided over a period of time

Process:

a. Training needs assessment:

At the onset of the RHSDP project, IHMR conducted a facility survey in 2003-04 for need assessment of the infrastructure, supplies and trainings at the secondary level health facilities. Further these needs were fulfilled through procurement of the necessary equipments, drugs, hospital supplies, repair and renovation of the facilities.

The training need assessment (TNA) was carried out in the state by visiting the state level institutions, district level health facilities, sub district hospitals and CHC's. During TNA it was found that training is necessary for all categories of the personnel to improve the hospitals and health care facility's performance in the state. The TNA also set a ground for Capacity building through Trainings. Broadly following areas / subjects were selected to impart training to the personnel's for Clinical /Technical, managerial skills and knowledge up-gradation:

1. Critical care
2. Short duration courses on
 - Radio diagnosis
 - Obst.&Gynae
 - Clinical Pathology
 - Anesthesia
 - Laparoscopic Surgery



- Neonatology
- 3. Disaster Management training for
 - Doctors
 - Nursing staff
- 4. Managerial Training for Nurses
- 5. Geriatric Care Training
- 6. Equipments trainings for Specialist on
 - Cardiac Monitors and Defibrillators
 - Echocardiography
 - Tread Mill Test

b. Development of training curricula and materials:

Before implementing the training plan, training curricula and material was developed by expert working groups for all types of training programs to be conducted under the project. Some external consultants were hired to finalize the training curricula in collaboration with the working groups during the first six months of the project

The training were provided for different levels of health functionaries at various government (medical colleges) and private sector institutions inside and outside the state identified for providing different types of trainings.

Desk review on Training Objectives & Pedagogy:

In relation to different trainings, verifiable objectives were laid and pedagogical approach was engineered to be audience specific as reflected in the table here under:

S.no	Title	Objectives	Trainees	Pedagogy	batch size	Duration (Theory + Hands on)	Pre Test (av.)	Post Test (av.)
1	Critical Care	<ul style="list-style-type: none"> • Assess needs for critically ill patient. • Identify & Manage unstable patient. • Recognize & manage life-threatening conditions. • Select appropriate diagnostic tests. 	Specialists	Lectures, Discussions, Group exercises Hands on	35-40	9 days (2 +7)		13.15



		<ul style="list-style-type: none"> • consultation and/or timely patient transfer 						
2	Disaster Management	<ul style="list-style-type: none"> • Understand disaster and its management. • Enunciate principles, objectives & purpose of disaster planning • Specify composition, functions & responsibilities of disaster committee • Outline role and responsibilities of medical department doctors & nursing staff during disaster • Analyze facilities required for disaster management. • Develop disaster plans & modalities for response actions 	MOs & Paramedical Staff	Lecture, discussion, presentations/video demonstrations, case studies, group exercises, simulation, Hands on & mock drill.		Doctors- 7 days, Nursing- 3 days	17.81	29.19
3	Geriatric Care	<ul style="list-style-type: none"> • Develop overview of ageing scenario in Rajasthan. • Acquaintance about basic issues of elderly. • Knowledge of basic tools & techniques in geriatric. • Discuss health care problems faced by elderly. • Disseminate information about best practices adopted in field of geriatric care. 	MO, SMO, Specialists	Lectures, presentations, Group work and field visits, case demonstrations		6 days	10.92	15.18
4	Managerial Training for Nurses	<p>Improve -</p> <ul style="list-style-type: none"> • Managerial skills of nursing supdt. & Staff Nurses working at secondary level hospitals with special focus on management of nursing services, Wards & OT/Labour room. • Technical skills of staff working in wards & operation theatre. 	Nursing Supdt. & Staff Nurse /ANM	<ul style="list-style-type: none"> • Lectures • Discussions • Group exercises • Bed side / Hands on training 	15-20	10 days		



		<ul style="list-style-type: none"> •knowledge & management skills 						
5	Short term course (150)							
5.1	Anesthesia	<ul style="list-style-type: none"> •Provide basic knowledge of recent anesthesia techniques. •Improve knowledge of anesthetists at district & less affluent hospitals to provide anesthesia. •Acquaint doctors and specialists to handle anesthesia at hospitals in periphery, thereby reducing burden over tertiary level hospitals. 	MO and specialists	Hands on training		6 months		
5.2	Neonatology	<ul style="list-style-type: none"> •Conversant with common neonatal problems-their etiology, Pathophysiology, diagnosis, management and prevention. •Acquire knowledge of neonatal morbidity, mortality & prevention strategies. •Awareness of & multi-disciplinary approach in management of neonatal problems •Acquire knowledge <ul style="list-style-type: none"> - neonatal care in community - organizing and planning, managing neonatal intensive care units. 	MO/ Pediatricians/neonatologists	Hands on training		6 months		
5.3	Radio	<ul style="list-style-type: none"> •Improve the quality of 	MO and	Hands on		6		



	diagnosis (40)	<p>diagnostic services at district and referral hospital in Rajasthan.</p> <ul style="list-style-type: none"> •Develop skills and competency of doctors to diagnose various ailments at secondary level by ultrasonography and special radiological procedures. 	specialists	training		months		
5.4	Clinical Pathology	<ul style="list-style-type: none"> •Acquaint the doctors about latest tests, examinations and procedures of clinical pathology. •Increase the knowledge of doctors for interpretation of information provided by pathological tests and uses the same in timely diagnosis and management of a patient. 	MO and specialists	Hands on training		6 months		
5.5	Laparoscopic surgery	<ul style="list-style-type: none"> • Provide practical guidelines for use of laparoscopy by combining evidence based recommendations • Provide knowledge of latest laparoscopic procedures in several areas of surgery. 	MO and specialists	Hands on training		6 months		
6	Equipment	<ul style="list-style-type: none"> •Improve working knowledge on Clinical equipments. •Increase knowledge and skills of participants with recent advances in equipment based diagnosis or surgical procedures in clinical care. 						
6.1	TMT	Define the general principles, clinical indications and	MO/SMO/ Specialists		4-6	6 days	6.85	8.44



		complications of exercise testing						
6.2	Cardiac monitoring and defibrillators	<ul style="list-style-type: none"> •Improve skills in emergency procedures related to cardiac monitoring and use of Defibrillators •Define the difference between cardiac monitoring and defibrillation •Define the arrhythmias for which cardiac monitoring is required •Identify arrhythmias that endangers hemodynamic •Prevent development of ventricular fibrillation in presence of unstable ventricular tachycardia with pulse 	MO/SMO/ Specialists		5-7	6 days	6.36	8.69
6.3	Echo (72)	<ul style="list-style-type: none"> •Improve skills on Echo Cardiography •Define use of Doppler Effect 	MO/ SMO/ Specialists / Dy. Controller		5-7	14 days	11.41	14.1

Note: For some of the trainings the pre and / or post test scores were not made available and therefore are not reflected in the table

Based on the feedback made available by RHSDP, the précis observation is put as under:

Trainings on Critical Care Management were arranged to ensure that patient care staff have the confidence and skills to treat the critically ill and injured patient. It was a comprehensive training which addressed fundamental management principles for the first 24 hours of critical care.

Feedbacks of participants reveals that one fourth (25%) of the participants suggested for increase in practical/hands on exposure and strengthening the clinical aspect of training,

Others suggested that it should be residential trainings, and stay arrangements should be made at the venue of the training. While, three participants also suggested that this training should be repeated on a continuous basis, in form of 'refresher course'. Feedback forms received for four batches formed the basis of this analysis.



Trainings on Disaster Management in Hospitals were organized to enhance the disaster management capacities of health functionaries in the state, a training program on 'Disaster Management in Hospitals' was organized.

Feedbacks of Trainees of Disaster trainings tells that refresher trainings should be organized on continuous bases, hands on/Clinical sessions should be organized in Hospitals, administrative officials should be involved in the training program and scope of training should be widened by imparting the training to a wide range of medical and health personnel, also should be organized at District level

For the purpose of orienting health personnel on health needs of the elderly, trainings on Geriatric Care Management were organized by RHSDP

The elderly are prone to chronic non communicable diseases and disabilities. Health personnel, particularly those who are involved in primary health care and in community health, need to be oriented towards the health needs of the elderly. It is also important to ensure that the elderly have access to adequate health services .Feedbacks of these trainings include , increasing Duration and Practical sessions.

Managerial Trainings for Nurses were organized to develop knowledge and managerial skills of health professionals for improving professional efficiency in Management of Nursing Services including management of Wards & Labour room for Nursing Supdt. & Staff Nurse/ ANM.

Short term courses on Anesthesia, Radio diagnosis, Neonatology, Obstetrics and Gynecology, Laparoscopic Surgery and clinical pathology **were** mainly organized at Medical colleges of Rajasthan.

Based on the premise that there is an acute shortage of specialists for which system can't wait till sufficient numbers are available or IPHS grounded, RHSDP took the initiative to design short term courses to train doctors and specialists in anesthesia, Neonatology Obstetrics and Gynecology, Laparoscopic Surgery and clinical pathology.

Training on Equipment like Cardiac Defibrillators, Echo Cardiography and TMT was provided.

A rave review of the material made available by RHSDP reveals that:

- In all the trainings there has been an increase in the post test scores of trainees. The average rise was 3-5 points.
- All the **trainings had practical** orientation with trainees having hands-on sessions to learn.
- Number of participants was conducive to learning. The trainees were divided in sub-group of 2-5 participants each for the hands-on sessions.
- Pedagogy was a method mix in all trainings.
- Hands-on-training was supervised by subject experts with observation-learning- supervised practice sequence.



SIHFW: ISO: 9001:2008 Certified institution
Study report on Training Evaluation: RHSDP

In order to have a feel of the effectiveness and efficiency of the these training programs as envisaged under component -2 of the Health systems development project; it was intended to have these trainings assessed by an external Agency.

State Institute of Health & Family Welfare (SIHFW) being the zenith of trainings in the State; has been approached and agrees to take up the task for evaluating the trainings.



The Study:

Scope of work-

1. Study design
2. Development of protocols in consultation with RHSDP Officials.
3. Desk Review
 - a. Pre and post training evaluation report.
 - b. Training schedule and module of each training program.
 - c. Training reports.
 - d. Training feedbacks.
4. Selection & orientation of investigators
5. Data collection
6. Software development Data entry and analysis
7. Report writing

Objectives:

The main objective of the evaluation is to review the training program supported by RHSDP and validate the achievements of the objectives ascribed to it.

The specific objectives are:

- i. To assess the effectiveness and efficiency of training plan, course selections, trainee identification, training methodology and actual training and outputs.
- ii. To assess the improved knowledge and skills of trainees.
- iii. To assess the utilization of new skills and knowledge.
- iv. To identify the best practices and methodologies that has potential for replication/intensification.
- v. To identify the gaps in training if any that prevented to achieve the objective

Approach:

To accomplish these objectives, the following approach was adopted.

A. Sampling method:

Using stratified random sampling method, in the first stage the 32 districts of the state were divided into three categories – Plain (19), Tribal (7) and Desert (6).

In the second stage, out of the total trained participants in the state, trained manpower was divided in three categories of district as per their availability

A sample size of 121 from a population (Total trained participants) of 1203 achieves 95% power to detect a Mean of paired Differences of 15 with an estimated Standard Deviation of differences of 1.0 and with a significance level (alpha) of 0.05

The participants from three categories of districts were **selected using the random number table with Proportionate Sampling Method, for different trainings.**



Rajsamand district was not included in training evaluation, as no trainee was identified from this District, from the data base.

This sample size is calculated using PASS (Power analysis and Sample size calculation) software.

B. Study universe:

The study universe identified from all the beneficiaries of trainings under RHSDP, across the State of Rajasthan are listed below:

S. No.	Training	Total trained	Plain			Tribal			Desert			Total respondents
			T	S	I	T	S	I	T	S	I	
1	Critical Care	249	169	17	18	32	3	4	48	5	5	27
2	Disaster Mgt: Doctors	128	87	9	9	24	2	2	17	2	2	13
	Disaster Mgt: Nurses	152	80	8	8	51	5	7	21	2	2	17
3	Mgt.Training: Nurses	143	85	9	9	28	3	2	30	3	3	14
4	Geriatric Care	141	80	8	10	29	3	1	32	3	4	15
5	TMT	69	48	5	4	11	1	1	10	1		5
	ECHO	72	50	5	3	10	1	1	12	1	1	5
	Cardiac monitor & Defibrillator	99	67	7	9	15	1	1	17	2	1	11
6	Short duration course	150			10			1			1	12
	Total	1203	666	68	81	200	19	20	187	19	19	120

*(T- Trained, S- Selected, I- Interviewed)

C. Tools:

For assessment of impact of capacity building by RHSDP, 13 training specific questionnaire were developed and shared with RHSDP and World Bank. After incorporating suggestions of RHSDP and World Bank, questionnaires were finalized for the following trainings:

1. Disaster management for Doctors and Nurses
2. Critical Care
3. Geriatric Care
4. Managerial Training for Nurses
5. Six months course-Anesthesia
6. Six months course-Clinical Pathology
7. Six months course-Radio diagnosis
8. Six months course-Obstetrics and Gynecology
9. Six months course-Laparoscopic surgery
10. Six months course-Neonatology
11. Equipment-TMT



12. Equipment-Defibrillator

13. Equipment-ECHO

The questionnaires had information grouped under following areas::

Section A: Training related information

Section B: Hands-on Session

Section C: Skill Utilization

Section D: Knowledge Based Questions

Section A and Section B were common for all the trainings.

Questionnaires were developed for data collection and filled by the respondents. Before finalizing the list of respondents, posting status of doctors and nursing staff were identified. The Current posting list of Doctors and paramedics was collected from Directorate.

For the messed up information provided with duplicate and similar names, District Project Coordinators were consulted to cross check the status and postings of trained Human resource. Telephonic confirmation was had from the respondents on their place of posting before proceeding.

D. Orientation of Researchers:

The research staff from SIHFW, involved in the study were oriented about the concept, objective and detailed frame work of the study. As lot of technical issues was involved so thorough training was conducted by subject experts and trainers.

E. Data Collection: Identified Medical Officers trained some time back in the past were visited by SIHFW Research staff and data collection was done during first week of September. There were 10 teams, and each team collected data from at least three districts.

F. Software development, data entry and analysis

Simultaneous activity of software development and dummy tables for tabulation was done to facilitate the data entry and data analysis..After entry of collected data, data cleaning was done. Data was arranged as per tabulation plan and **analysis of data was done with help of SPSS software.**

G. Report Writing

Report writing started in Third week of September, 2011.



SIHF: ISO: 9001:2008 Certified institution
Study report on Training Evaluation: RHSDP

Results and Discussions



Results and Discussions:

General Profile:

A total of 120 respondents (medical professionals) were interacted during the study; of which fifty were Specialists, 37 were MOs and 31 nursing staff. Thirty four of these respondents were presently posted at a CHC, 13 at sub district hospital & 72 were placed at district hospitals. One of the specialists earlier posted in District Hospital got retired recently.

Table 1: Profile of the Trainees

SN	Trainings (n)	Cadre of respondents			Place of posting		
		Specialists	MO	N. staff	CHC	SDH	DH
1	Critical Care (27)	12	15	0	7	3	17
2	DM : Doctors (14)	10	4	0	2	1	11
3	DM : Nurses (17)	0	0	17	4	5	8
4	Geriatric Care(15)	9	6	0	4	1	10
5	MT : Nursing Staff (14)	0	0	14	3	3	8
6	Anesthesia (2)	0	2	0	2	0	0
7	Neonatology (2)	0	2	0	1	0	1
8	Clinical Pathology (2)	0	2	0	2	0	0
9	Laparoscopy (2)	0	2	0	1	0	1
10	Radio diagnosis (4)	0	4	0	3	0	1
11	Cardiac Monitoring (11)	10	1	0	4	0	7*
12	Echocardiography (5)	4	1	0	1	0	4
13	Tread Mill Test (5)	5	0	0	0	0	5
	Total (120)	50	39	31	34	13	73

* includes 1 retired Specialist

Out of 12 specialists interviewed for critical care trainings 10 are posted at District Hospitals one at ESI hospital and one at CHC. One of the respondents was retired.

Medical officers trained for critical care, Clinical Pathology and Radio-diagnosis are posted at PHC: where chances of their skill utilization are very rare.



Table 2: Cadre wise Posting Status

SN	Trainings (n)	Specialist				SMO/MO/RMO				Nursing Staff		
		DH	SDH	ESI/MSU	CHC	DH	SDH	CHC	PHC	DH	CHC	SC
1	Critical Care (27)	10		1	1	9		5	1			
2	DM : Doctors (14)	8			2	4						
3	DM : Nurses (17)									12	5	
4	Geriatric Care(15)	6		1	2	4		1	1			
5	MT : Nursing Staff (14)									9	3	1
6	Anesthesia (2)							2				
7	Neonatology (2)					1		1				
8	Clinical Pathology (2)					1			1			
9	Laparoscopy (2)					1		1				
10	Radio diagnosis (4)					1		1	2			
11	Cardiac Monitoring (11)	7			3			1				
12	Echocardiography (5)	3			1		1					
13	Tread Mill Test (5)	4	1									
	Total (120)	38	1	2	9	21	1	12	5	21	8	1

Section A: Process of Training

The capacity building (trainings being inherent integral component) is a continuous endeavor on part of Health system to keep the human resource in Health abreast with the development and paradigm shift in effort to hone their skills. The Normative approach for conduct of trainings (saturation trainings, mandatory once in two yrs training) have not delivered in the past there is a growing concern on how to prioritize these trainings?, Incremental trainings (only new components be included for trainings), TNA based on gap analysis and trainings sculpted accordingly, Integrate clinical trainings and dovetail management with these issues like HR, Logistics, Finance and PPP management; is suggested as an alternative.

The HR and Strategic Planning cell at RHSDP after a lot of divergent discourse reached to a convergence that Trainings are essential to overall process of human development, for which after a lot of consultative process, the design and pedagogy was developed for target specific trainings.

To assess effectiveness and efficiency of training plan, course selection, trainee identification, training methodology, actual trainings and their outcomes, the questionnaires were developed, containing a set of 19 questions in section A.

The answers threw light towards some of the important aspects relating to the training process i.e. duration of the training, methodology ,reference material used, logistics, choice and selection of trainers



and finally professional, managerial and clinical competencies gained by the participants during the training program.

The kernel of trainings refers to soul, substance and spirit which often is relegated to background for indifference and apathy on part of trainees, poor trainers, lack of infrastructure, delayed nomination, repeat nominations and frequent relocation of trained manpower, making mockery of the entire effort and inputs.

The simple principle of ergonomics calls for right people at right place with right skills and functions. The beneficiaries of the trainings in the past (respondents) were asked about their placement following trainings.

Table 3: Relocation /Transfer of Trainees after Training

SN	Trainings (n)	Place of posting		Relocated after training		
		Same	Relocated	Specialists	MO	Paramedical staff
1	Critical Care (27)	25	6	4	2	
2	DM : Doctors (14)	6	0			
3	DM : Nurses (17)	14	1			1
4	Geriatric Care(15)	16	2	1	1	
5	MT : Nursing Staff (14)	3	0			
6	Anesthesia (2)	13	1		1	
7	Neonatology (2)	13	0			
8	Clinical Pathology (2)	1	0			
9	Laparoscopy (2)	4	0			
10	Radio diagnosis (4)	2	1		1	
11	Cardiac Monitoring (11)	2	5	5		
12	Echocardiography (5)	2	1	1		
13	Tread Mill Test (5)	2	0			
	Total (120)	103	17	11	5	1

The substantial sanguinity emerging out of this analysis shows that of the total sample of 120 participants (39 MO's, 31 paramedical staff and 50 specialists) just 17 (14.16%) were relocated, rest 102 continued at the same health facility (1 retired from the district hospital after the training).

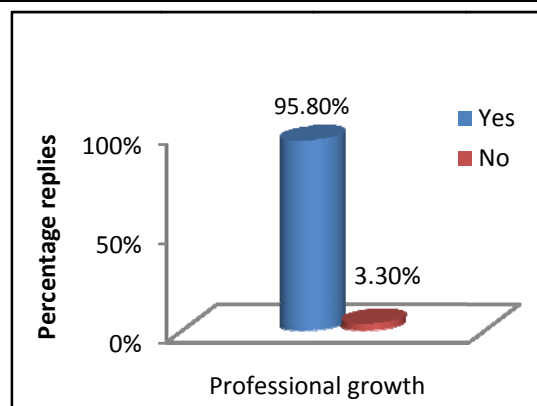


Fig 1: Professional Growth



Only one respondent (nursing staff) did not attend the complete duration of the training as he had to leave the training following an official order.

The respondents were then asked whether the trainings brought any relevant improvement in their professional competence, to which 95.8% (115) were in agreement, rest 3.3%(4) did not find any relevance of this training in their professional sphere on account of varied reasons.

One of the cherished objectives was to improve upon managerial capacity of Medical Officers besides clinical skills. The observations from 26.7% of the detached are a bit disturbing.

Table 4: Managerial skills enhancement

Area of Improvement (n = 120)	Strongly disagree (%)	Disagree (%)	Neither agrees nor disagree (%)	Agree (%)	Strongly Agree (%)
Confidence level	0.8	1.7	12.5	67.5	17.5
Patient satisfaction	2.5	6.7	14.2	62.5	14.2
Handle increased patient load	4.2	9.2	20.8	51.7	14.2
Skill improvement	0.8	0.8	14.2	65.0	19.2
Stress Mgmt	3.3	6.7	24.2	53.3	12.5
Knowledge	0.0	3.3	11.7	60.8	24.2
Time management & performance	0.8	3.3	21.7	63.3	10.8
Help in operational aspects	2.5	6.7	23.3	56.7	10.8
Help in maintenance	1.7	5.8	26.7	56.7	9.2

Majority (67.5%) agreed and 17.5% strongly agreed that the trainings certainly helped them address day to day managerial issues.

62.5 % of the respondents agreed that the level of patient satisfaction increased at their health facility, as they could handle the pressure and stress on account of patient load with improved skills and application of management tools.

A majority of 51.7% were of the opinion that the trainings provided by RHSDP improved their ability to handle the increased load of patients at the facility. A variety of skill based trainings provided by RHSDP, proved beneficial and 65% agreed to the fact supported by another 19.2% who strongly approved of the skill enhancement.



Respondents also agreed that these trainings added to their knowledge. The other indicators of improved managerial skills, like time management & performance, reduced stress levels, operational aspects and maintenance parts also showed marked improvements after the training.

Table 5: Clinical skill enhancement

Area of Improvement (n=120)	Strongly disagree (%)	Disagree (%)	Neither agrees nor disagree (%)	Agree (%)	Strongly Agree (%)
Confidence level	0.8	0.8	32.5	57.5	8.3
Patient satisfaction	0.0	5.0	38.3	45.0	11.7
Handle increased patient load	0.8	5.8	38.3	44.2	10.8
Skill improvement	0.0	0.8	37.5	53.3	8.3
Stress Mgt	1.7	5.0	40.0	42.5	10.8
Knowledge expansion	0.0	2.5	30.0	51.7	15.8
Time management & performance	0.8	2.5	35.8	50.0	2.5
operational aspects	4.2	40.8	45.8	6.7	1.7
Equipment maintenance	4.2	42.5	45.8	5.8	2.5

Regarding the impact of these trainings on their clinical acumen, 57.5 % agreed that it boosted their confidence; however, 32.5% felt that the trainings had nothing to do with their confidence.

For 45% of respondents, patient satisfaction levels have improved with their performance. Level of skills positively showed a marked improvement in majority (53.3%) vouching for verity.

42.5% said that the trainings have undeniably reduced the stress levels. A majority confirmed the increase in knowledge after the trainings were undertaken.

The negativity conveyed on operational and maintenance issues by 40.8% and 42.5% respectively who disagreed and some even strongly disapproved (4.2% each); the grey area that needs to be addressed, henceforth in totality.

Time management and performance has improved after the trainings (Table 4).

These findings stay in conformance to the Desk review findings showing improvement in post test scores.

Put together the clinical and managerial trainings have been complimentary for performance (Knowledge, skill, time mgt. and patient load handling) and patient satisfaction.

On the issues related to physical arrangements, content, pedagogy, resource material and Trainer's competence; the responses were analyzed.



Table 6: Contribution of training in improving access and utilization of services at facility

SN	Trainings (n)	Contribution of training in enhancement of access and utilization of health care services at facility				
		Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	Critical Care (27)	0 (0.0)	1 (3.7)	3 (11.1)	22 (81.5)	1 (3.7)
2	DM : Doctors (14)	1 (7.1)	2 (14.3)	3 (21.4)	7 (50.0)	1 (7.1)
3	DM : Nurses (17)	0 (0.0)	0 (0.0)	4 (23.5)	12 (70.6)	1 (5.9)
4	Geriatric Care(15)	0 (0.0)	2 (13.3)	1 (6.7)	10 (66.7)	2 (13.3)
5	MT : Nursing Staff (14)	1 (7.1)	0 (0.0)	0 (0.0)	11 (78.6)	2 (14.3)
6	Anesthesia (2)	0 (0.0)	0 (0.0)	0 (0.0)	2 (100.0)	0 (0.0)
7	Neonatology (2)	0 (0.0)	0 (0.0)	0 (0.0)	2 (100.0)	0 (0.0)
8	Clinical Pathology (2)	0 (0.0)	1 (50.0)	0 (0.0)	1 (50.0)	0 (0.0)
9	Laparoscopy (2)	0 (0.0)	0 (0.0)	0 (0.0)	2 (100.0)	0 (0.0)
10	Radio diagnosis (4)	1 (25.0)	0 (0.0)	1 (25.0)	0 (0.0)	2 (50.0)
11	Cardiac Monitoring (11)	0 (0.0)	1 (9.1)	0 (0.0)	7 (63.6)	3 (27.3)
12	Echocardiography (5)	1 (20.0)	0 (0.0)	2 (40.0)	2 (40.0)	0 (0.0)
13	Tread Mill Test (5)	0 (0.0)	0 (0.0)	0 (0.0)	4 (80.0)	1 (20.0)
	Total (120)	4 (3.3)	7 (5.8)	14 (11.7)	82 (68.3)	13 (10.8)

For 68.3%of respondents the trainings provided for their skill up gradation proved useful but trainees of Anesthesia, Laparoscopic Surgery, and Neonatology feel that these trainings contributed enormously. These in comparison to Geriatric and Disaster management were more appealing for the direct relevance to patient care.

Table 7: Training Arrangements

Statements (n)	Total Interviewed	Strongly disagree (%) Bad	Disagree (%) Unsatisfactory	Neither agrees nor disagree (%) Satisfactory	Good (%)	Excellent (%)
Training duration	120	5.8	25.0	5.8	55.8	7.5
Resource/reference material	106(88.3%)	1.9	1.9	9.4	70.8	16.0
Expectations discussed & fulfilled after trainings	106(88.3%)	3.8	5.7	6.6	77.4	6.6
program schedule followed	120	1.7	4.2	5.0	78.3	10.8
The training hall arrangements	120	0.8	5.0	15.0	66.7	12.5
Training pedagogy	120	1.7	2.5	6.7	77.5	11.7
Sessions interactive	120	0.8	4.2	6.7	75.8	12.5



106 (88.3%) vouched for resource material provided to them during the training.

One fourth respondents felt that the duration of the training was inappropriate with respect to the skills and content. More than 70% were positive on approach, interational opportunity, scheduling and reading material; reflecting on overall quality of trainings.

Table 8: Training duration

SN	Training (n)	Opinion of trainees on training duration				
		Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	Critical Care (27)	0 (0.0)	8 (29.6)	3 (11.1)	16 (59.3)	0 (0.0)
2	DM : Doctors (14)	1 (7.1)	2 (14.3)	0 (0.0)	10 (71.4)	1 (7.1)
3	DM : Nurses (17)	2 (11.8)	4 (23.5)	0 (0.0)	9 (52.9)	2 (11.8)
4	Geriatric Care(15)	0 (0.0)	2 (13.3)	1 (6.7)	11 (73.3)	1 (6.7)
5	MT : Nursing Staff (14)	1 (7.1)	1 (7.1)	1 (7.1)	9 (64.3)	2 (14.3)
6	Anesthesia (2)	0 (0.0)	1 (50.0)	1 (50.0)	0 (0.0)	0 (0.0)
7	Neonatology (2)	0 (0.0)	1 (50.0)	0 (0.0)	1 (50.0)	0 (0.0)
8	Clinical Pathology (2)	0 (0.0)	1 (50.0)	0 (0.0)	1 (50.0)	0 (0.0)
9	Laparoscopy (2)	0 (0.0)	0 (0.0)	0 (0.0)	1 (50.0)	1 (50.0)
10	Radio diagnosis (4)	3 (75.0)	0 (0.0)	0 (0.0)	1 (25.0)	0 (0.0)
11	Cardiac Monitoring (11)	0 (0.0)	5 (45.5)	0 (0.0)	4 (36.4)	2 (18.2)
12	Echocardiography (5)	0 (0.0)	4 (80.0)	0 (0.0)	1 (20.0)	0 (0.0)
13	Tread Mill Test (5)	0 (0.0)	1 (20.0)	1 (20.0)	3 (60.0)	0 (0.0)
	Total (120)	7 (5.8)	30 (25.0)	7 (20.0)	67 (55.8)	9 (7.5)

63.3% of the respondents agreed that the training duration was sufficient while 30.8% were not satisfied with the training duration. More Doctors were satisfied with the duration of Disaster Management Training which was of six days and Geriatric Care.



Table 9: Reading material

SN	Trainings (n)	Reference Material		Usefulness of reading material				
		provided	Not provided	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	Critical Care (27)	27 (100)	0	1 (3.7)	0 (0.0)	2 (7.4)	21 (77.8)	3 (11.1)
2	DM : Doctors (14)	14 (100)	0	1 (7.1)	0 (0.0)	2 (14.3)	8 (57.1)	3 (21.4)
3	DM : Nurses (17)	15 (88.23)	2	0 (0.0)	0 (0.0)	2 (13.3)	12 (80.0)	1 (6.7)
4	Geriatric Care(15)	14 (93.33)	1	0 (0.0)	1 (7.1)	1 (7.1)	10 (71.4)	2 (14.3)
5	MT : Nursing Staff (14)	9 (64.28)	5	0 (0.0)	0 (0.0)	0 (0.0)	6 (66.7)	3 (33.3)
6	Anesthesia (2)	2 (100)	0	0 (0.0)	0 (0.0)	1 (50.0)	1 (50.0)	0 (0.0)
7	Neonatology (2)	0	2	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
8	Clinical Pathology (2)	1 (50)	1	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (100.0)
9	Laparoscopy (2)	2 (100)	0	0 (0.0)	0 (0.0)	0 (0.0)	1 (50.0)	1 (50.0)
10	Radio diagnosis (4)	4 (100)	0	0 (0.0)	0 (0.0)	0 (0.0)	3 (75.0)	1 (25.0)
11	Cardiac Monitoring (11)	8 (72)	3	0 (0.0)	1 (12.5)	0 (0.0)	5 (62.5)	2 (25.0)
12	Echocardiography (5)	5 (100)	0	0 (0.0)	0 (0.0)	2 (40.0)	3 (60.0)	0 (0.0)
13	Tread Mill Test (5)	5 (100)	0	0 (0.0)	0 (0.0)	0 (0.0)	5 (100.0)	0 (0.0)
	Total (120)	106 (88.33)	14	2 (1.9)	2 (1.9)	10 (9.4)	75 (70.8)	17 (10.0)

88.3% said that some kind of reading /reference material was provided to them during the training and of that a majority of 70.8% agreed that it was useful during and after the training while another 16.0% strongly agreed to the fact that the reference material was helpful to them in better understanding of the subject taught.

Interesting observation is that for the trainings which were of Hands-on nature, the reference / reading material was not available to participants probably because the “busy faculty” at Medical colleges did not have it or thought it was not needed.



Table 10: Program schedule/session plan followed

SN	Trainings (n)	Program schedule/session plan was followed				
		Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	Critical Care (27)	0 (0.0)	0 (0.0)	1 (3.7)	24 (88.9)	2 (7.4)
2	DM : Doctors (14)	1 (7.1)	0 (0.0)	0 (0.0)	13 (92.9)	0 (0.0)
3	DM : Nurses (17)	0 (0.0)	0 (0.0)	0 (0.0)	13 (76.5)	4 (23.5)
4	Geriatric Care(15)	1 (6.7)	0 (0.0)	0 (0.0)	11 (73.3)	3 (20.0)
5	MT : Nursing Staff (14)	0 (0.0)	0 (0.0)	0 (0.0)	11 (78.6)	3 (21.4)
6	Anesthesia (2)	0 (0.0)	0 (0.0)	1 (50.0)	1 (50.0)	0 (0.0)
7	Neonatology (2)	0 (0.0)	1 (50.0)	0 (0.0)	1 (50.0)	0 (0.0)
8	Clinical Pathology (2)	0 (0.0)	1 (50.0)	0 (0.0)	1 (50.0)	0 (0.0)
9	Laparoscopy (2)	0 (0.0)	1 (50.0)	0 (0.0)	1 (50.0)	0 (0.0)
10	Radio diagnosis (4)	0 (0.0)	0 (0.0)	0 (0.0)	4 (100.0)	0 (0.0)
11	Cardiac Monitoring (11)	0 (0.0)	1 (9.1)	3 (27.3)	6 (54.5)	1 (9.1)
12	Echocardiography (5)	0 (0.0)	0 (0.0)	1 (20.0)	4 (80.0)	0 (0.0)
13	Tread Mill Test (5)	0 (0.0)	1 (20.0)	0 (0.0)	4 (80.0)	0 (0.0)
	Total (120)	2 (1.7)	5 (4.2)	6 (5.0)	94 (78.3)	13 (10.8)

Majority 78.3 % agreed that the program schedule/session plan was followed by the trainers during the training program against 4.2% who said that it was not followed. While only 1.7% of the sampled respondents strongly disagreed on the statement.

Once again, at Anesthesia, Neonatology, Clinical Pathology and Laparoscopy trainings, having 2 trainees each, 50% showed discontent with scheduling.

Table 11: Training hall arrangements

SN	Trainings (n)	The training hall arrangements were good				
		Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	Critical Care (27)	0 (0.0)	0 (0.0)	4 (14.8)	21 (77.8)	2 (7.4)
2	DM : Doctors (14)	1 (7.1)	0 (0.0)	1 (7.1)	12 (85.7)	0 (0.0)
3	DM : Nurses (17)	0 (0.0)	0 (0.0)	3 (17.6)	10 (58.8)	4 (23.5)
4	Geriatric Care(15)	0 (0.0)	1 (6.7)	1 (6.7)	8 (53.3)	5 (33.3)
5	MT : Nursing Staff (14)	0 (0.0)	0 (0.0)	2 (14.3)	10 (71.4)	2 (14.3)
6	Anesthesia (2)	0 (0.0)	0 (0.0)	1 (50.0)	1 (50.0)	0 (0.0)
7	Neonatology (2)	0 (0.0)	1 (50.0)	1 (50.0)	0 (0.0)	0 (0.0)
8	Clinical Pathology (2)	0 (0.0)	0 (0.0)	0 (0.0)	2 (100.0)	0 (0.0)



9	Laparoscopy (2)	0 (0.0)	0 (0.0)	0 (0.0)	2 (100.0)	0 (0.0)
10	Radio diagnosis (4)	0 (0.0)	0 (0.0)	0 (0.0)	4 (100.0)	0 (0.0)
11	Cardiac Monitoring (11)	0 (0.0)	3 (27.3)	3 (27.3)	4 (36.4)	1 (9.1)
12	Echocardiography (5)	0 (0.0)	0 (0.0)	1 (20.0)	3 (60.0)	1 (20.0)
13	Tread Mill Test (5)	0 (0.0)	1 (20.0)	1 (20.0)	3 (60.0)	0 (0.0)
	Total (120)	1 (0.8)	6 (5.0)	18 (15.0)	80 (66.7)	15 (12.5)

A large percentage (66.7%) agreed that the training arrangements were good and conducive to the training environment, leaving aside a minority (5%) who felt that the arrangements were not good enough and certain improvements can be made for trainings in future.

Likewise 75.8% of respondents said that the trainings were interactive enough with inclusion of exercises, question-answers sessions, and hands on sessions; to muffle up.

Fig 2: Expectations discussed

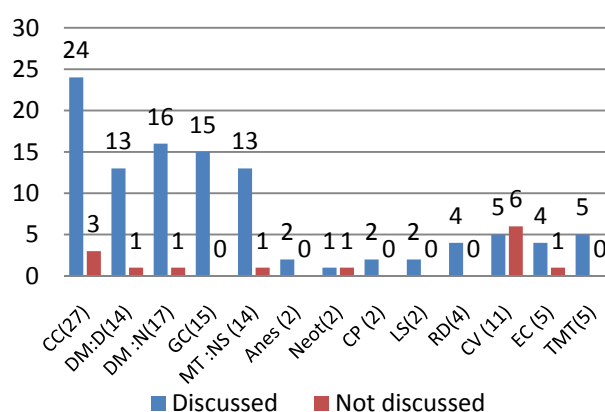


Table 12: Expectations

SN	Trainings (n)	Expectations discussed	Expectations not discussed
1	Critical Care (27)	24 (88.9)	3 (11.1)
2	DM : Doctors (14)	13 (92.9)	1 (7.1)
3	DM : Nurses (17)	16 (94.1)	1 (5.9)
4	Geriatric Care(15)	15 (100.0)	0 (0.0)
5	MT : Nursing Staff (14)	13 (92.9)	1 (7.1)
6	Anesthesia (2)	2 (100.0)	0 (0.0)
7	Neonatology (2)	1 (50.0)	1 (50.0)
8	Clinical Pathology (2)	2 (100.0)	0 (0.0)
9	Laparoscopy (2)	2 (100.0)	0 (0.0)
10	Radio diagnosis (4)	4 (100.0)	0 (0.0)
11	Cardiac Monitoring (11)	5 (45.5)	6 (54.5)
12	Echocardiography (5)	4 (80.0)	1 (20.0)
13	Tread Mill Test (5)	5 (100.0)	0 (0.0)
	Total (120)	106 (88.3)	14 (11.7)



Table 13: Fulfilling the expectations of participants

SN	Trainings (n)	Expectations of participants were fulfilled				
		Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	Critical Care (27)	1 (4.2)	1 (4.2)	4 (16.7)	16 (66.7)	2 (8.3)
2	DM : Doctors (14)	0 (0.0)	3 (23.1)	1 (7.7)	8 (61.5)	1 (7.7)
3	DM : Nurses (17)	1 (6.3)	0 (0.0)	1 (6.3)	13 (81.3)	1 (6.3)
4	Geriatric Care(15)	1 (6.7)	0 (0.0)	1 (6.7)	12 (80.0)	1 (6.7)
5	MT : Nursing Staff (14)	0 (0.0)	0 (0.0)	0 (0.0)	12 (92.3)	1 (7.7)
6	Anesthesia (2)	0 (0.0)	0 (0.0)	0 (0.0)	2 (100.0)	0 (0.0)
7	Neonatology (2)	0 (0.0)	0 (0.0)	0 (0.0)	1 (100.0)	0 (0.0)
8	Clinical Pathology (2)	0 (0.0)	0 (0.0)	0 (0.0)	2 (100.0)	0 (0.0)
9	Laparoscopy (2)	0 (0.0)	1 (50.0)	0 (0.0)	1 (50.0)	0 (0.0)
10	Radio diagnosis (4)	0 (0.0)	1 (25.0)	0 (0.0)	3 (75.0)	0 (0.0)
11	Cardiac Monitoring (11)	0 (0.0)	0 (0.0)	0 (0.0)	4 (80.0)	1 (20.0)
12	Echocardiography (5)	0 (0.0)	0 (0.0)	0 (0.0)	4 (100.0)	0 (0.0)
13	Tread Mill Test (5)	1 (20.0)	0 (0.0)	0 (0.0)	4 (80.0)	0 (0.0)
	Total (120)	4 (3.8)	6 (5.7)	7 (6.6)	82 (77.4)	7 (6.6)

Table 14: Usefulness of training Pedagogy

SN	Trainings (n)	The pedagogy was useful for learning at the training				
		Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	Critical Care (27)	1 (3.7)	1 (3.7)	2 (7.4)	23 (85.2)	0 (0.0)
2	DM : Doctors (14)	0 (0.0)	0 (0.0)	0 (0.0)	10 (71.4)	4 (28.6)
3	DM : Nurses (17)	0 (0.0)	0 (0.0)	0 (0.0)	12 (70.6)	5 (29.4)
4	Geriatric Care(15)	0 (0.0)	1 (6.7)	0 (0.0)	13 (86.7)	1 (6.7)
5	MT : Nursing Staff (14)	0 (0.0)	0 (0.0)	0 (0.0)	13 (92.9)	1 (7.1)
6	Anesthesia (2)	0 (0.0)	0 (0.0)	0 (0.0)	2 (100.0)	0 (0.0)
7	Neonatology (2)	0 (0.0)	0 (0.0)	0 (0.0)	2 (100.0)	0 (0.0)
8	Clinical Pathology (2)	0 (0.0)	0 (0.0)	0 (0.0)	1 (50.0)	1 (50.0)
9	Laparoscopy (2)	0 (0.0)	0 (0.0)	1 (50.0)	1 (50.0)	0 (0.0)
10	Radio diagnosis (4)	0 (0.0)	0 (0.0)	0 (0.0)	3 (75.0)	1 (25.0)
11	Cardiac Monitoring (11)	1 (9.1)	1 (9.1)	3 (27.3)	5 (45.5)	1 (9.1)
12	Echocardiography (5)	0 (0.0)	0 (0.0)	1 (20.0)	4 (80.0)	0 (0.0)
13	Tread Mill Test (5)	0 (0.0)	0 (0.0)	1 (20.0)	4 (80.0)	0 (0.0)
	Total (120)	2 (1.7)	3 (2.5)	8 (6.7)	93 (77.5)	14 (11.7)



Did someone at the outset bother to ask you of your expectations? and 88.3% said, yes! The training was not just an academic exercise as 77.4% of respondents agreed that their expectations were largely met with (Table: Fulfilling the expectations of participants).

Some of them, however, said that it was not at all gainful for them as the facilities they were posted at either lacked the equipments or their selection for the course did not suit their present qualification.

The training pedagogy was appreciated by a bulk of respondents (77.5%) who strongly agreed that the training pedagogy structured according to content and audience. A majority said that it included a mix of lecture method, group work and practical hands on session and discussion on related topics of study which proved helpful and enhanced the learning.

Table 15: Type of Training Pedagogy

SN	Trainings (n)	Training Pedagogy					
		lecture	Group work	Practical & hands on	Discussion	Mix of all	Any Other
1	Critical Care (27)	4 (14.8)	2 (7.4)	0 (0.0)	3 (11.1)	23 (85.2)	0 (0.0)
2	DM : Doctors (14)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	14 (100.0)	0 (0.0)
3	DM : Nurses (17)	1 (5.9)	1 (5.9)	1 (5.9)	1 (5.9)	15 (88.2)	0 (0.0)
4	Geriatric Care(15)	1 (6.7)	0 (0.0)	0 (0.0)	1 (6.7)	14 (93.3)	0 (0.0)
5	MT : Nursing Staff (14)	1 (7.1)	0 (0.0)	0 (0.0)	0 (0.0)	13 (92.9)	1 (7.1)
6	Anesthesia (2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (100.0)	0 (0.0)
7	Neonatology (2)	0 (0.0)	0 (0.0)	1 (50.0)	1 (50.0)	0 (0.0)	0 (0.0)
8	Clinical Pathology (2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (100.0)	1 (50.0)
9	Laparoscopy (2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (100.0)	0 (0.0)
10	Radio diagnosis (4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4 (100.0)	0 (0.0)
11	Cardiac Monitoring (11)	2 (18.2)	1 (9.1)	1 (9.1)	2 (18.2)	7 (63.6)	0 (0.0)
12	Echocardiography (5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4 (80.0)	1 (20.0)
13	Tread Mill Test (5)	2 (40.0)	1 (20.0)	2 (40.0)	1 (20.0)	3 (60.0)	0 (0.0)
	Total (120)	11 (9.2)	5 (4.2)	5 (4.2)	9 (7.5)	103 (85.8)	2 (1.7)

In conformance to the expectations and content, the pedagogy according to 85.8% was a method-mix involving lecture, group work, and demonstration and the versatility of training methods were good enough to hold the attention of the trainees.



Table 16: Trainers' compatibility

SN	Trainings (n)	Opinion on trainer's compatibility					
		shared example/case studies	assessed skills learnt	friendly & established good rapport	responded to queries	All	None
1	Critical Care (27)	1 (3.7)	2 (7.4)	4 (14.8)	0 (0.0)	20 (74.1)	0 (0.0)
2	DM : Doctors (14)	2 (14.3)	1 (7.1)	2 (14.3)	1 (7.1)	11 (78.6)	0 (0.0)
3	DM : Nurses (17)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	17(100.0)	0 (0.0)
4	Geriatric Care(15)	0 (0.0)	0 (0.0)	3 (20.0)	0 (0.0)	12 (80.0)	0 (0.0)
5	MT : Nursing Staff (14)	1 (7.1)	0 (0.0)	1 (7.1)	2 (14.3)	9 (64.3)	1 (7.1)
6	Anesthesia (2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (100.0)	0 (0.0)
7	Neonatology (2)	0 (0.0)	0 (0.0)	1 (50.0)	0 (0.0)	1 (50.0)	0 (0.0)
8	Clinical Pathology (2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (100.0)	0 (0.0)
9	Laparoscopy (2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (50.0)	1 (50.0)
10	Radio diagnosis (4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4 (100.0)	0 (0.0)
11	Cardiac Monitoring (11)	3 (27.3)	1 (9.1)	4 (36.4)	2 (18.2)	2 (18.2)	2 (18.2)
12	Echocardiography (5)	0 (0.0)	0 (0.0)	2 (40.0)	0 (0.0)	3 (60.0)	0 (0.0)
13	Tread Mill Test (5)	1 (20.0)	0 (0.0)	1 (20.0)	0 (0.0)	3 (60.0)	0 (0.0)
	Total (120)	8 (6.7)	4 (3.3)	18 (15.0)	5 (4.2)	87 (72.5)	4 (3.3)

In the participatory adult learning process, it is essential that trainees feel comfortable with trainers so that they can “open” up and interact. Eighty seven (72.5%) respondents gave an affirmative response. The overall rating on trainer's compatibility was based on cumulative score on ability to build rapport with the trainees and establishing a good rapport, sharing cases and examples from his own experience, resolving all the queries of the participants and ability to assess the skills learnt by the trainees after the session.

Table 17: Types of AV AIDS used

SN	Trainings (n)	AV aids		Types of AV aids used					
		used	not used	Chart	Posters	Pamphlets	White/Black board	Film /video/electronic	Flip book
1	Critical Care (27)	24	3	10(41.7)	8 (33.3)	5 (20.8)	12 (50.0)	17 (70.8)	3 (12.5)
2	DM : Doctors (14)	14	0	9 (64.3)	8 (57.1)	7 (50.0)	9 (64.3)	14 (100.0)	0 (0.0)
3	DM : Nurses (17)	15	2	8 (53.3)	8 (53.3)	9 (60.0)	8 (53.3)	15 (100.0)	2 (13.3)
4	Geriatric Care(15)	14	1	7 (50.0)	6 (42.9)	4 (28.6)	5 (35.7)	12 (85.7)	1 (7.1)
5	MT : Nursing Staff (14)	13	1	6 (46.2)	6 (46.2)	5 (38.5)	7 (53.8)	7 (53.8)	1 (7.7)



6	Anesthesia (2)	1	1	1 (100.0)	1 (100.0)	0 (0.0)	0 (0.0)	1 (100.0)	1 (100.0)
7	Neonatology (2)	0	2	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
8	Clinical Pathology (2)	1	1	1 (100.0)	1 (100.0)	1 (100.0)	1 (100.0)	1 (100.0)	1 (100.0)
9	Laparoscopy (2)	2	0	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (100.0)	0 (0.0)
10	Radio diagnosis (4)	4	0	1 (25.0)	0 (0.0)	0 (0.0)	2 (50.0)	1 (25.0)	0 (0.0)
11	Cardiac Monitoring (11)	3	8	1 (33.3)	1 (33.3)	0 (0.0)	1 (33.3)	2 (66.7)	0 (0.0)
12	Echocardiography (5)	3	2	1 (33.3)	0 (0.0)	0 (0.0)	0 (0.0)	1 (33.3)	2 (66.7)
13	Tread Mill Test (5)	3	2	1 (33.3)	0 (0.0)	0 (0.0)	1 (33.3)	0 (0.0)	2 (66.7)
	Total (120)	97	23	46 (47.4)	39 (40.2)	31 (32.0)	46 (47.4)	72 (74.2)	21 (13.4)

The analyzed responses show that the AV aids were used in almost all the trainings. Majority of respondents (80.8%). agreed to this, while only 19.2% said that no AV aids were used during the trainings. The AV aids most commonly used were the films and videos related to the subject of study followed by the use of charts and black / white boards, posters and pamphlets. The least used teaching aid was flip book. Apart from these some books were referred by the participants, which helped them in gaining in-depth knowledge of the concerned subjects.

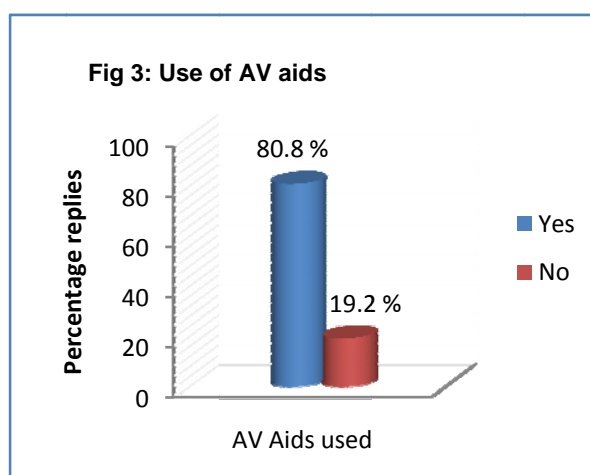


Table 18: Nature of training

SN	Trainings (n)	Nature of training	
		Residential	Non residential
1	Critical Care (27)	12 (44.4)	15 (55.6)
2	DM : Doctors (14)	11 (78.6)	3 (21.4)
3	DM : Nurses (17)	17 (100.0)	0 (0.0)
4	Geriatric Care(15)	7 (46.7)	8 (53.3)
5	MT : Nursing Staff (14)	12 (85.7)	2 (14.3)
6	Anesthesia (2)	1 (50.0)	1 (50.0)
7	Neonatology (2)	0 (0.0)	2 (100.0)
8	Clinical Pathology (2)	1 (50.0)	1 (50.0)
9	Laparoscopy (2)	1 (50.0)	1 (50.0)
10	Radio diagnosis (4)	1 (25.0)	3 (75.0)
11	Cardiac Monitoring (11)	8 (72.7)	3 (27.3)
12	Echocardiography (5)	3 (60.0)	2 (40.0)



13	Tread Mill Test (5)	2 (40.0)	3 (60.0)
	Total (120)	76 (63.3)	44 (36.7)

People are more receptive when they do not have preoccupations and encumbrances on account of their routine and that is why training prescriptions had venue arrangements far from their normal work place which provides more time and opportunity to interact and concentrate.

Taking cognizance of the above, RHSDP ensured that majority of trainings were residential and when they were not e.g. in 6 month short duration courses; it posed a lot of problems as participants had to make their own arrangements in strange places that too from their own pocket and the expenditure does not match their eligibility for DA.

These courses are at Medical college levels and the State need to join hands with Medical Education by creating a small hostel to accommodate 30 people with boarding facility at each Medical college. Besides, all managerial trainings should be held only at SIHFW.

Table 19: Interactive Nature of Sessions

SN	Trainings (n)	Interactive sessions				
		Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	Critical Care (27)	1 (3.7)	0 (0.0)	2 (7.4)	21 (77.8)	3 (11.3)
2	DM : Doctors (14)	0 (0.0)	1 (7.1)	0 (0.0)	11 (78.6)	2 (14.3)
3	DM : Nurses (17)	0 (0.0)	0 (0.0)	1 (5.9)	13 (76.5)	3 (17.6)
4	Geriatric Care(15)	0 (0.0)	0 (0.0)	0 (0.0)	12 (80.0)	3 (20.0)
5	MT : Nursing Staff (14)	0 (0.0)	0 (0.0)	0 (0.0)	12 (85.7)	2 (14.3)
6	Anesthesia (2)	0 (0.0)	0 (0.0)	0 (0.0)	2 (100.0)	0 (0.0)
7	Neonatology (2)	0 (0.0)	1 (50.0)	0 (0.0)	1 (50.0)	0 (0.0)
8	Clinical Pathology (2)	0 (0.0)	0 (0.0)	0 (0.0)	1 (50.0)	1 (50.0)
9	Laparoscopy (2)	0 (0.0)	0 (0.0)	0 (0.0)	2 (100.0)	0 (0.0)
10	Radio diagnosis (4)	0 (0.0)	0 (0.0)	0 (0.0)	4 (100.0)	0 (0.0)
11	Cardiac Monitoring (11)	0 (0.0)	3 (27.3)	2 (18.2)	5 (45.5)	1 (9.1)
12	Echocardiography (5)	0 (0.0)	0 (0.0)	1 (20.0)	4 (80.0)	0 (0.0)
13	Tread Mill Test (5)	0 (0.0)	0 (0.0)	2 (40.0)	3 (60.0)	0 (0.0)
	Total (120)	1 (0.8)	5 (4.2)	8 (6.7)	91 (75.8)	15 (12.5)



As an inbuilt cross check to responses, when asked about nature of sessions, 75.8% “agreed” to the interactive nature of sessions.

Section B: Hands on Session

The structural design of most of the trainings was supposed to be in consonance to the objective of building on the skill set of clinicians, paramedical and administrative staff that accessed the trainings by extending the opportunity of “learning by doing”.

To evaluate the same, a set of questions was developed relating to the duration, adequacy of the practice sessions, and availability of the resources (equipments/devices/tools/materials etc.), adequate supervision during the sessions and availability of clinical material for hands on practice.

These questions were included in the entire group of 13 questionnaires except geriatric care training where practical sessions were not provided during the training. Hence, evaluation was undertaken for total of 105 respondents.

Table 20: Adequate duration of hands on session

SN	Training (n)	Adequate duration of hands on session				
		Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	Critical Care (27)	1 (3.7)	9 (33.3)	2 (7.4)	15 (55.6)	0 (0.0)
2	DM : Doctors (14)	1 (7.1)	5 (35.7)	1 (7.1)	7 (50.0)	0 (0.0)
3	DM:: Nurses (17)	2 (11.8)	4 (23.5)	0 (0.0)	11 (64.7)	0 (0.0)
4	MT for NS (14)	0 (0.0)	2 (14.3)	0 (0.0)	12 (85.7)	0 (0.0)
5	Anesthesia (2)	0 (0.0)	1 (50.0)	0 (0.0)	1 (50.0)	0 (0.0)
6	Neonatology (2)	0 (0.0)	0 (0.0)	1 (50.0)	1 (50.0)	0 (0.0)
7	Clinical Pathology (2)	0 (0.0)	1 (50.0)	0 (0.0)	0 (0.0)	1 (50.0)
8	Laparoscopic Surgery (2)	0 (0.0)	1 (50.0)	0 (0.0)	0 (0.0)	1 (50.0)
9	Radio diagnosis (4)	1 (25.0)	2 (50.0)	0 (0.0)	1 (25.0)	0 (0.0)
10	Cardiac Monitoring (11)	1 (9.1)	4 (36.4)	2 (18.2)	3 (27.3)	1 (9.1)
11	Echocardiography (5)	0 (0.0)	3 (60.0)	1 (20.0)	1 (20.0)	0 (0.0)
12	Tread Mill Test (5)	0 (0.0)	2 (40.0)	0 (0.0)	3 (60.0)	0 (0.0)
	Total (105)	6 (5.7)	34 (32.4)	7 (6.7)	55 (52.4)	3 (2.9)

With accent on skill learning through “hands-on”, the duration of hands-on is critical even if this is training specific.

The attendees of critical care training (33.3%) felt that the duration was not adequate to practice the skills. Similarly, for Echocardiography, 60% of the 5 were dissatisfied. For the short term course in Radio-diagnosis, 75% of participants felt that the duration should have been longer.



For clinical pathology and trainings in laparoscopic surgery each, only one trainee (out of two) was satisfied with “Hands-On” opportunity during the course of trainings.

In general trainees did not feel good about the duration they had the opportunity to “practice” in a program where skills are critical inputs and this makes mockery of the entire effort and input reflecting on design and involvement of Trainers. There could have been one more reason, the Residents pursuing the discipline for their post-graduation, might not have allowed the trainees to handle the limited clinical material in Teaching hospitals.

Little more than half of respondents (52.4%) agreed to adequacy of duration of Hands-on. Similarly, a small percentage, almost (2.9%) strongly agreed to this. While almost one third respondents disagreed to this, expressing that the duration of hands-on was inadequate. For practicing certain key clinical/technical skills, a long time is requires, also to master the skill, one needs to practice again and again. This may not be possible in a training course with limited duration, which possibly resulted in considering the duration of practice session inadequate.

Table 21: Availability of resources

SN	Training (n)	Proper availability of resources				
		Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	Critical Care (27)	0 (0.0)	3 (11.1)	4 (14.8)	19 (70.4)	1 (3.7)
2	DM : Doctors (14)	0 (0.0)	0 (0.0)	4 (28.6)	9 (64.3)	1 (7.1)
3	DM:: Nurses (17)	0 (0.0)	4 (23.5)	1 (5.9)	11 (64.7)	1 (5.9)
4	MT for NS (14)	0 (0.0)	0 (0.0)	1 (7.1)	12 (85.7)	1 (7.1)
5	Anesthesia (2)	0 (0.0)	0 (0.0)	1 (50.0)	1 (50.0)	0 (0.0)
6	Neonatology (2)	0 (0.0)	1 (50.0)	0 (0.0)	1 (50.0)	0 (0.0)
7	Clinical Pathology (2)	0 (0.0)	0 (0.0)	0 (0.0)	1 (50.0)	1 (50.0)
8	Laparoscopic Surgery (2)	0 (0.0)	1 (50.0)	0 (0.0)	1 (50.0)	0 (0.0)
9	Radio diagnosis (4)	0 (0.0)	0 (0.0)	1 (25.0)	3 (75.0)	0 (0.0)
10	Cardiac Monitoring (11)	1 (9.1)	3 (27.3)	2 (18.2)	4 (36.4)	1 (9.1)
11	Echocardiography (5)	0 (0.0)	0 (0.0)	1 (20.0)	4 (80.0)	0 (0.0)
12	Tread Mill Test (5)	0 (0.0)	1 (20.0)	0 (0.0)	3 (60.0)	1 (20.0)
	Total (105)	1 (1.0)	13 (12.4)	15 (14.3)	69 (65.7)	7 (6.7)

Responding to proper availability of resources like equipments/devices/tools/materials etc. as a support tool for the “hands on” session, a majority (65.7%) of the participants were of the view that the resource material was adequately provided in each type of training and it assisted in the learning of new skills .Only a marginal percentage of 12.4% criticized the arrangements relating to the availability of the resource material.



For skill based trainings, prior arrangement of mannequins, dummies, equipments, devices, tools and materials is an essential input. 73.4% respondents agreed that they were provided resources during hands-on sessions.

The highest percentage of respondents, agreeing to availability of resources, were trainees of managerial training for nurses (85.7). Incidentally, these training were held at CMC Ludhiana.

Table 22: Adequacy of supervision

SN	Training (n)	Adequacy of supervision				
		Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	Critical Care (27)	1 (3.7)	5 (18.5)	2 (7.4)	17 (63.0)	2 (7.4)
2	DM : Doctors (14)	0 (0.0)	0 (0.0)	1 (7.1)	11 (78.6)	2 (14.3)
3	DM:: Nurses (17)	0 (0.0)	2 (11.8)	2 (11.8)	11 (64.7)	2 (11.8)
4	MT for NS (14)	0 (0.0)	0 (0.0)	2 (14.3)	10 (71.4)	2 (14.3)
5	Anesthesia (2)	0 (0.0)	0 (0.0)	0 (0.0)	2 (100.0)	0 (0.0)
6	Neonatology (2)	0 (0.0)	0 (0.0)	0 (0.0)	2 (100.0)	0 (0.0)
7	Clinical Pathology (2)	0 (0.0)	0 (0.0)	0 (0.0)	1 (50.0)	1 (50.0)
8	Laparoscopic Surgery (2)	0 (0.0)	0 (0.0)	0 (0.0)	2 (100.0)	0 (0.0)
9	Radio diagnosis (4)	0 (0.0)	1 (25.0)	0 (0.0)	3 (75.0)	0 (0.0)
10	Cardiac Monitoring (11)	1 (9.1)	3 (27.3)	4 (36.4)	2 (18.2)	1 (9.1)
11	Echocardiography (5)	0 (0.0)	0 (0.0)	2 (40.0)	2 (40.0)	1 (20.0)
12	Tread Mill Test (5)	0 (0.0)	2 (40.0)	0 (0.0)	3 (60.0)	0 (0.0)
	Total (105)	2 (1.9)	13 (12.4)	13 (12.4)	66 (62.9)	11(10.5)

Put together, 73.4% vouched for the adequacy of supervision, naturally so as these were clinical material based trainings at Medical Colleges but what needs to be appreciated that faculty of Teaching Hospitals had shown interest.

Table 23: Availability of relevant cases

SN	Training (n)	Availability of relevant cases for hands on practice				
		Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	Critical Care (27)	0 (0.0)	8 (29.6)	4 (14.8)	14 (51.9)	1 (3.7)
2	DM : Doctors (14)	0 (0.0)	5 (35.7)	2 (14.3)	6 (42.9)	1 (7.1)
3	DM:: Nurses (17)	0 (0.0)	3 (11.8)	2 (11.8)	12 (70.6)	0 (0.0)
4	MT for NS (14)	0 (0.0)	1 (7.1)	1 (7.1)	10 (71.4)	2 (14.3)
5	Anesthesia (2)	0 (0.0)	0 (0.0)	0 (0.0)	2 (100.0)	0 (0.0)
6	Neonatology (2)	0 (0.0)	1 (50.0)	0 (0.0)	1 (50.0)	0 (0.0)
7	Clinical Pathology (2)	0 (0.0)	0 (0.0)	0 (0.0)	1 (50.0)	1 (50.0)
8	Laparoscopic Surgery (2)	0 (0.0)	1 (50.0)	0 (0.0)	1 (50.0)	0 (0.0)
9	Radio diagnosis (4)	0 (0.0)	1 (25.0)	1 (25.0)	2 (50.0)	0 (0.0)
10	Cardiac Monitoring (11)	1 (9.1)	5 (45.5)	1 (9.1)	3 (27.3)	1 (9.1)



11	Echocardiography (5)	0 (0.0)	0 (0.0)	1 (20.0)	3 (60.0)	1 (20.0)
12	Tread Mill Test (5)	0 (0.0)	1 (20.0)	1 (20.0)	3 (60.0)	0 (0.0)
	Total (105)	1 (0.95)	26 (24.8)	13 (12.4)	58 (55.2)	7 (6.7)

On an average, 61.9% respondents felt that there was adequate clinical material available for hands-on practice. Some (24.8%) disagreed and felt that the number of cases they handled / assisted during the hands-on session in the training program were not adequate to practice the theoretical learning.

Of the total 105 respondents, 81.9 % stated that they were evaluated after the hands on session against 10.5 % who said that no evaluation was done; rest 7.6 % respondents failed to recollect.

Of the 81.9 % evaluated after the hands on session in their respective trainings, 88.4% (76 respondents) said that the trainers shared the results of the assessment.

Rest 11.6 percent (10 respondents) did not get the opportunity to see the result of the assessment they underwent.

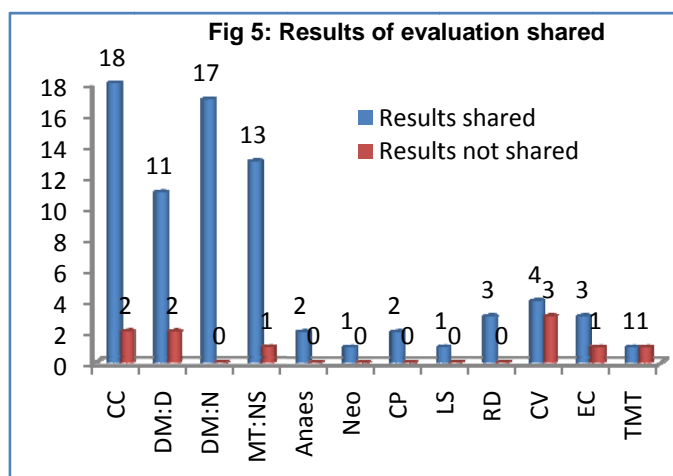
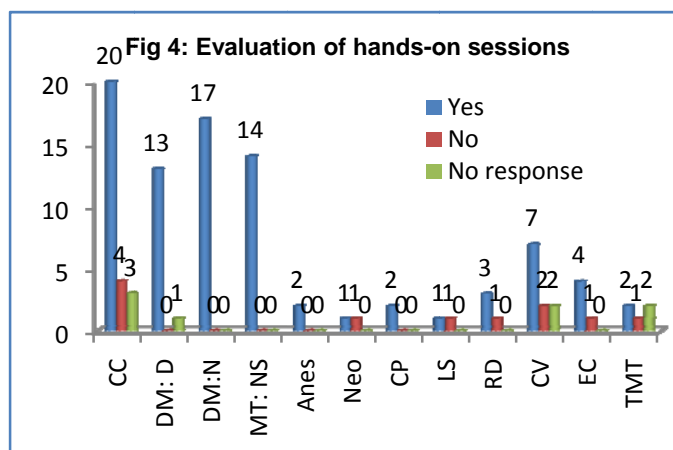


Table 24: Self assessment test

SN	Training (n)	Yes	No	No Response
1	Critical Care (27)	18 (66.7)	7 (25.9)	2 (7.4)
2	DM : Doctors (14)	8 (57.1)	5 (35.7)	1 (7.1)
3	DM:: Nurses (17)	16 (94.1)	1 (5.9)	0 (0.0)
4	MT for NS (14)	11 (78.6)	2 (14.3)	1 (7.1)
5	Anesthesia (2)	2 (100.0)	0 (0.0)	0 (0.0)
6	Neonatology (2)	1 (50.0)	0 (0.0)	1 (50.0)
7	Clinical Pathology (2)	2 (100.0)	0 (0.0)	0 (0.0)
8	Laparoscopic Surgery (2)	1 (50.0)	1 (50.0)	0 (0.0)
9	Radio diagnosis (4)	4 (100.0)	0 (0.0)	0 (0.0)
10	Cardiac Monitoring (11)	5 (45.5)	5 (45.5)	1 (9.1)
11	Echocardiography (5)	1 (20.0)	4 (80.0)	0 (0.0)



12	Tread Mill Test (5)	3 (60.0)	2 (40.0)	0 (0.0)
	Total (105)	72 (68.6)	27 (25.7)	6 (5.7)

Self efficacy test were used by 68.6% respondents during hands-on. Quite a large number of respondents (6) did not respond to the question on use of self efficacy test, probably a poor memory recall might have been a reason.

Section C-Skill utilization

Critical care

During the critical care trainings, specialists such as Physicians, Surgeons, Gynecologists and Pediatricians, were included in the list of trainees. The trainees were attached to expert clinicians in their specialty for providing hands-on-training.

During training, the trainees were required to observe & practice clinical/technical skills & procedures. The trainees repeated the procedures under observation of the expert clinician/technicians who assessed the level of competence attained by the trainees. Interactive skills sessions were arranged during the training.

To assess the level of improvement in handling critically ill patient, questionnaire contained a set of questions relating to availability of necessary equipments at the health facility, their usage at the health facility, and the reason behind not using the equipments, if any.

Table 25: Availability of equipments (Critical Care)

Equipments	Yes	No	No Response
Airway management	24(88.8)	3(11.1)	0(0.0)
Arterial blood gases	8(29.6)	18(66.6)	1(3.7)
CPR	22(81.4)	4(14.8)	1(3.7)
Mechanical Ventilation	17(62.9)	10(37.0)	0(0.0)

Table 26: Performance of the related skills at the facility

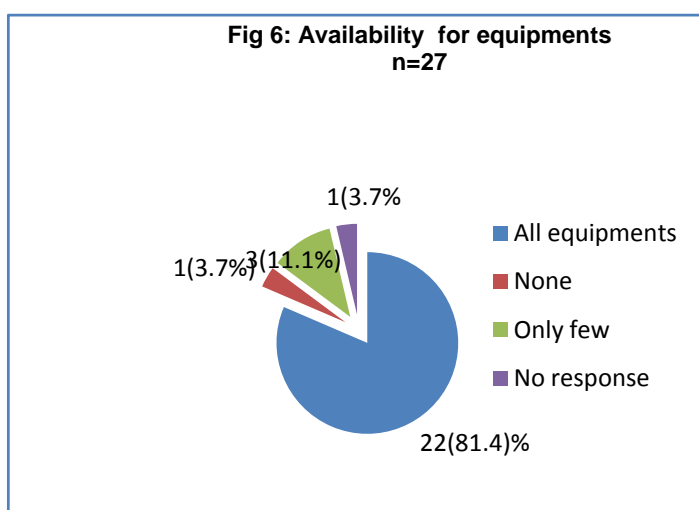
Equipments	Total respondents	Yes	No
Airway management	24	23(95.8)	1(4.2)
Arterial blood gases	8	7(87.5)	1(12.5)
CPR	22	22(100.0)	0(0.0)
Mechanical Ventilation	17	14(82.3)	3(17.6)



The respondents (27) were asked whether they have the necessary equipments required for airway management, ABG, CPR, and Mechanical ventilation. 88.8% agreed that they had the equipment for airway management but out of the aforesaid only 23 respondents said that they put it to use to treat critically ill patients at their health facility. When the same questions was put forth for the availability of ABG, only 29.6% (8) of the respondents reported having it at the facility they were working at and out of them only 7 accepted that they put it to some use. Thirdly, they were asked regarding the availability of CPR, 81.48 % admitted to having the equipment at the facility and a 100 % usage was reported .As for mechanical ventilator, 62.9% admitted having the equipment while only 14 respondents reported its usage at their facility.

Of the 5 respondents who were not performing various skills at their facility cited complicated technique and insufficient machinery as reason for the not performing the respective skills.

Now with the availability ensured by RHSDP and trainings done, it is a matter of attitude and confidence for which some still are reluctant to use the equipment for life saving. This requires a little closer monitoring and may be refresher trainings for shorter duration.



They were asked whether all the equipments required for different procedures-for example Oxygen supply mask, Airways (oral and nasal), Laryngoscope, Endotracheal tubes, Monitoring (pulse oximetry and ECG), Emergency drugs, Self inflating bag valve resuscitator/ Ambu Bag, Suction apparatus. involved into treating a critically ill patient were available at their health facilities , to this 81.4% gave a positive response against 11.1% who had only few of them while 3.7% did not had any of them at their facility , rest 3.7% who did not respond to the question asked.

Disaster Management

After Rescue, Relief, and Rehabilitation; comes the role of Medical care. This realization led to design of Disaster Management trainings for doctors which hitherto was a neglected area. Doctors /MO's and paramedical staff were trained to enhance the disaster management capacities of health functionaries in the stat through a training program on Disaster Management in Hospitals.



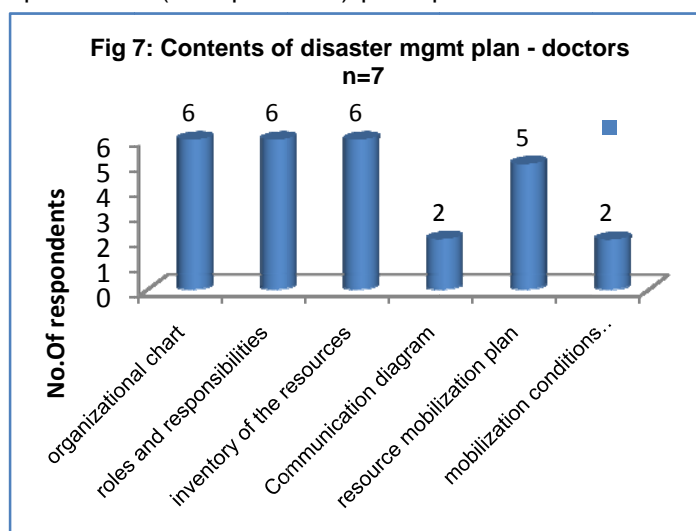
Two separate training courses, one for doctors (7 days) and one for nursing staff (3 days) were organized keeping in mind their varying capacities.

The skills learnt after the completion of the training, were assessed using set of questionnaire, which focused mainly on the development of the hospital disaster management plan for the hospital , modifying the plan after attending the training, contributions made towards the development of the hospital disaster management plan, having better understanding of disaster situations, organizing mock drills .

Table 27: Disaster Management for Doctors

Skill utilization after training	Yes	No	No response
Hospital Disaster Management Plan(HDMP) (n=14)	7(50)	6(42.9)	1(7.1)
HDMP in existence before the participant attended the training (n=7)	5(71.4)	2(28.6)	0(0.0)
Modifying the plan as per the learning from the training (n=7)	6(85.7)	0(0.0)	1(14.3)
Significant contribution in the development of the HDMP (n=7)	6(85.7)	0(0.0)	1(14.3)
Help in having a better understanding of disaster situations (n=14)	10(71.4)	1(7.1)	3(21.4)
Involvement in a disaster management work, in situation of disaster(n=14)	4(28.6)	10(71.4)	0(0.0)
Organizing a disaster mock drill at the health facility(n=14)	6(42.9)	8(57.1)	0(0.0)
Availability of ' tags' at the health facility for identifying patients (n=14)	3(21.4)	10(71.4)	1(7.1)

On availability of a hospital disaster management plan 50 % (7 respondents) participants were able to recollect its availability at their facility and could describe main components of the plan. Out of 7 respondents 6 (85.7%) said that their disaster management plan contained an organizational chart, an explicit layout on roles and responsibilities, and an up-to-date inventory of the resources available, while only 2 out the 7 respondents said that their plan is inclusive of a diagram of communication and transmission network as well as conditions for the mobilization and methods for the coordination for external assistance. Another 71.4% (5 respondents) agreed that their management plan for dealing with any kind of disaster situation includes a plan for the mobilization of the resources and networks.





Rest of the 6 respondents who did not had a disaster management plan at their health facility, spelled out various reasons for the same as:

1. Transfer just after the training
2. No Administration initiative
3. Not aware of the preparation of disaster management plan.
4. Administrative problems
5. Trained staff not present

The respondents were asked if they were ever involved in a disaster management work to which only 7 respondents said “yes” and 1 respondent narrated how he was involved in a mass causality following road accident in his area.

All the 14 respondents were asked whether they ever organized a mock drill at their health facility to which 6 respondents said yes and elucidated the disaster at IOC in July 2011.

Finally they were asked to throw some light on the availability of ‘ tags’ at the health facility for identifying patients to which a majority of 71.4% said no while only a meager 21.4% said yes, rest 7.1% did not answer the question.

Disaster management for nurses

Table 28: Skill utilization after the training (Nurses)

Skill utilization after the training	Yes	No	No response
Hospital Disaster Management Plan(HDMP) (n=17)	6(35.3)	11(64.7)	0(0.0)
HDMP in existence before the participant attended the training (n=6)	3(50.0)	3(50.0)	0(0.0)
Modifying the plan as per the learning from the training (n=6)	5(83.3)	1(16.6)	0(0.0)
Significant contribution in the development of the HDMP (n=6)	6(100.0)	0(0.0)	0(0.0)
Help in having a better understanding of disaster situations (n=17)	14(82.3)	1(5.9)	2(11.7)
Involvement in a disaster management work, in situation of disaster(n=17)	7(41.2)	8(47.0)	2(11.7)
Organizing a disaster mock drill at the health facility(n=17)	3(17.6)	14(82.4)	0(0.0)
Availability of ‘ tags’ at the health facility for identifying patients (n=17)	4(23.5)	12(70.6)	1(5.9)

Only 6(35.29%) out of the interviewed 17 respondents confirmed the availability of the Hospital Disaster Management Plan for their hospital which was further improvised following training. Of those who responded affirmatively (6) for the HDMP at the facility, 50% of the respondents said that this plan existed even before they attended the training, rest 3 asserted that they have made efforts to build the plan after the training.



11 respondents, who did not have the hospital disaster management, plan even after the training were defensive with expected reasons like shortage of staff, non availability of equipments at CHC, inappropriate system at the hospital along with the excess patient load.

82.3% of the total respondents (17), agreed to the fact that this training has improved their understanding of the disaster situations.

Only 41.2% (7 respondents) said that they were involved in a disaster management work, in situation of disaster ever after they received the training. The other 47% said they never got the opportunity to handle the disaster situation at their area of work.

Seven Respondents involved in the disaster management work were asked to explain their role in the activity and the improvement that can be credited to training program. The responses were:

1. Better understanding and explanation to other staff
2. Assist the patient regarding immediate nursing care by proper identification of individual patient need & handle the situation effectively besides referral to a higher facility, if need be.
3. Able to bring about improvement in patient satisfaction and treatment level.

An incident as quoted by a respondent "In Mount Abu once a bus fell down, 17 people died on spot & rest 50 injured. Casualties were carefully shifted to ambulance & Trauma Centre".

Only 3 out of the 17 respondents ever organized a mock drill at their facility after they received the training. 1 responded that it was organized when the district was hit by a flood.

Only 4 respondents(23.5%) confirmed the availability of the 'tags' at their facility for identifying patients, rest 12 respondents (70.6%) were ignorant about it

The 6 respondents having the hospital disaster management plan (HDMP) at their facility were asked about the contents of the plan. 50 % of the respondents said their plan contained the up-to-date inventory of the resources available along with a

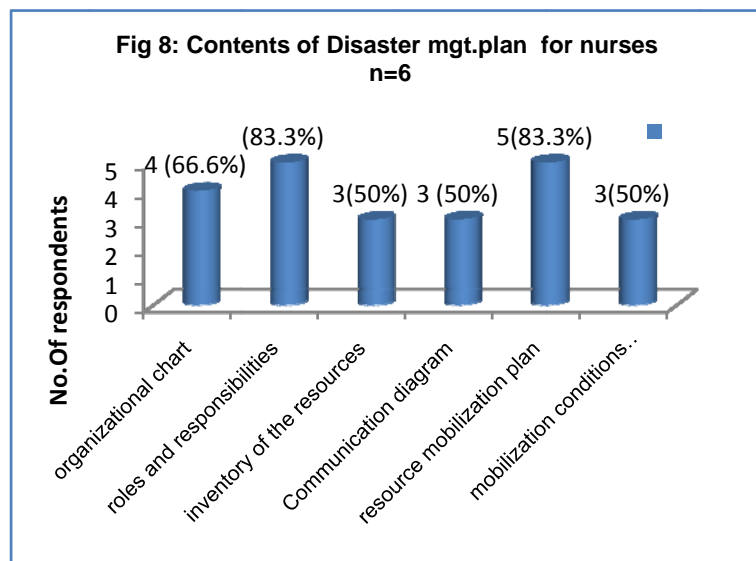




diagram of communication and transmission networks and also mentions the conditions for the mobilization and methods for the coordination with external agencies.

Role and responsibilities and a plan for the mobilization of these resources and networks more commonly found, as mentioned by 83.33% of the respondents (n=6).

Geriatric care:

Another area which normally is not the priority in the System-“Geriatric care” as an initiative was included for trainings under RHSDP, for orienting health personnel towards health needs of the elderly.

The skills learnt during the process were evaluated, findings for which are summarized as follows:

Table 29: Skill utilization in geriatric care

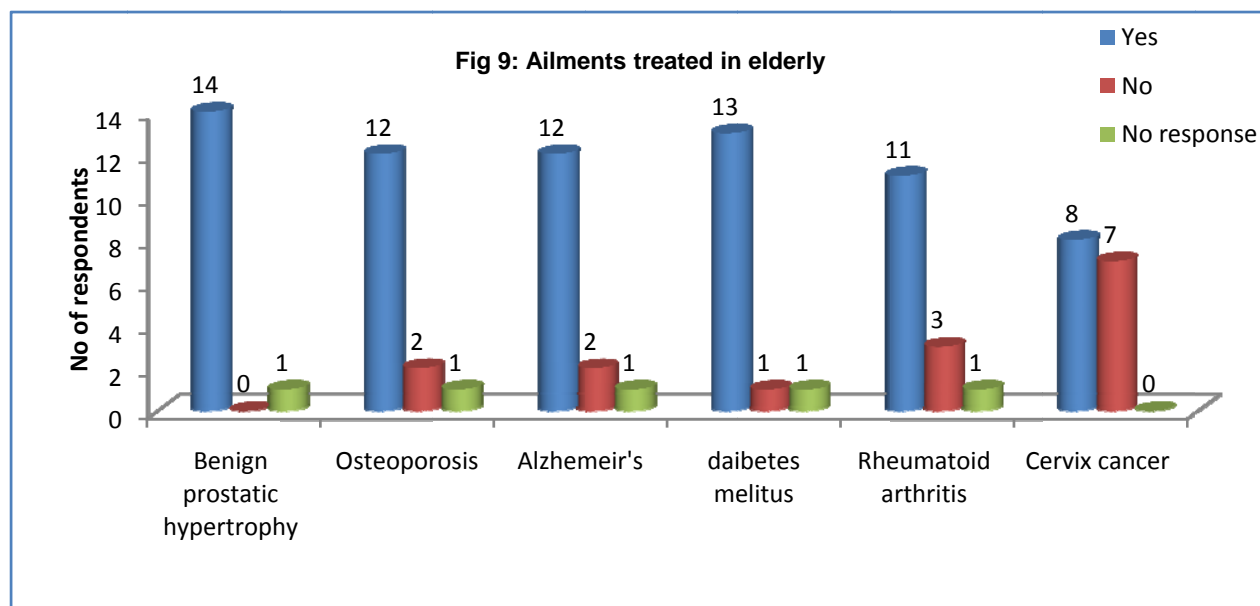
Skill utilization after training (n=15)	Yes	NO	%
Improved diagnostic skills for common ailments	15(100)	0(0.0)	0
No of cases of elderly abuse reported	2(13.33)	13(86.66)	86.66

Only 2 respondents reported handling the case of elderly abuse where counseling the patient and family, treatment at the health facility and arrangement of ambulance/emergency care (108) were the major approaches that followed identification of the case. All 15 (100%) respondents said their diagnostic skills have improved after the training which in turn has benefited the geriatric patients in their catchment area.

Table 30: Strategy to help the abused

n=2	Yes	No
Counseling to patient	1	1
Counseling to family	1	1
Treatment/Health care	1	1
Arrangement of Ambulance/Emergency care (108)	0	2

Only one respondent from the two reporting cases of abusive behavior with elderly, counseled patient and his family and provided health care, as a strategy to help the abused.

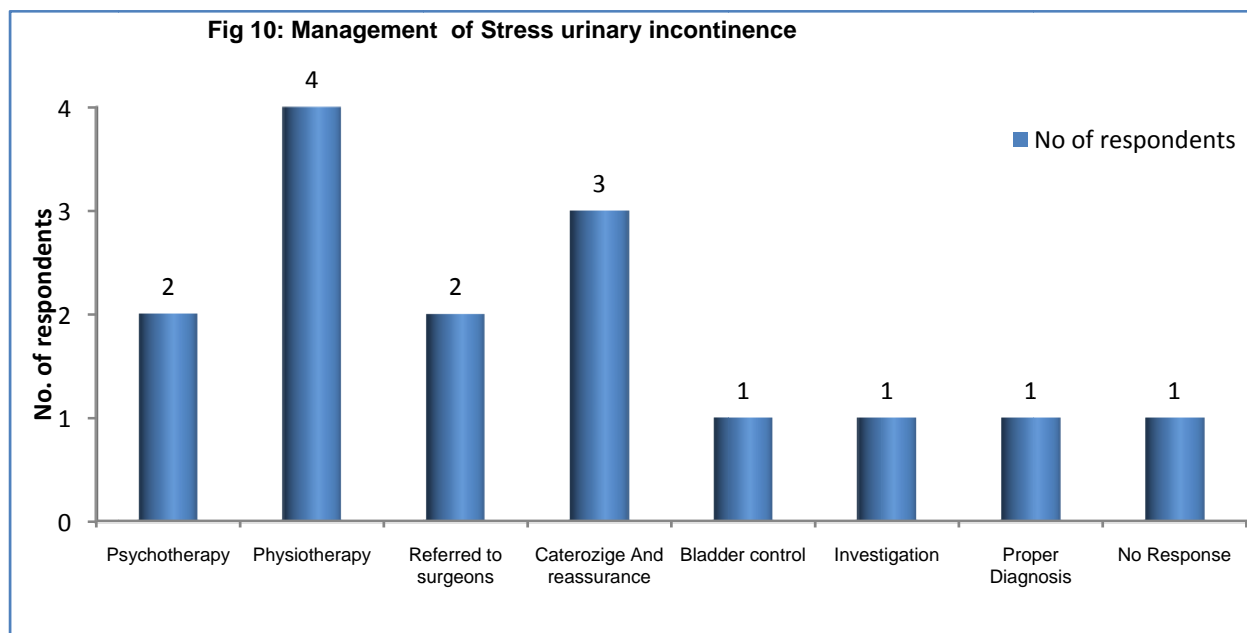


Almost all respondents (14) were treating cases of Benign prostatic hypertrophy, while equal number of respondents (12) were treating giving treatment for osteoporosis and Alzheimer's.

Table 31: Management plan for Geriatric ailments

n=15	Yes	No
Therapeutic	14	1
Physiotherapy and rehabilitation	13	2
Referral to surgeon/ specialist	8	7
Referral to psychiatrist	8	7
Referral to higher facility	7	8

The respondents reported the availability of all equipments related to geriatric ailments in the facilities. Most of the respondents were giving Treatment (14 respondents), physiotherapy and rehabilitation (13 respondents) advices for the various geriatric ailments. Equal number (8 respondents) was referring patients either to a surgeon/specialist or to a psychiatrist. Referral to higher facilities was again reported by 7 respondents



The respondents were also asked about the management of stress urinary incontinence. Of the total 15, maximum respondents referred them for physiotherapy and reassurance as the major treatment. Psychotherapy, bladder control, investigation, proper diagnosis and referral were other treatment plans followed.

Managerial training for nursing staff:

The broad objective of the training programme was to inculcate managerial skills amongst nursing professionals for improving professional efficiency including management of Wards & Labour room. Following were asked to the respondents and the summary of the responses on skill related questions received are elaborated below.

Table 32: Skill utilization after training

	Yes (%)	No (%)	No response (%)
Is it easier to care and manage patient at your facility after the training	11 (78.6)	1 (7.1)	2 (14.3)
Are you able to apply the skills learnt during the trainings	10 (71.4)	3 (21.4)	1 (7.1)

If the training was useful and respondents were quite affirmative as 78.6% felt that with the approach learnt they found managing patients easier and another 71.4% were able to apply the skills learnt.



Further the participants were asked some relevant example showcasing the benefits of training sessions

1. A respondent told that he has saved a life of the patient by calling 108 and given CPR to the patients. He has used the skills which he learnt in the training.

Respondents also did point out some positives of the training, like:-

1. Trainers and hospital equipment
2. OT management
3. Pedagogy
4. Modules
5. Discipline and administration of Ludhiana hospital
6. Behavior and knowledge of trainers

However, long continuous sessions to squeeze the content in short training duration were not appreciated.

Some suggestions for the improvement of the training (management and session related) for future trainings were also quoted by the respondents, like:

1. Frequency of training
2. Regular refresher trainings
3. Trainings should not be imposed, only interested candidates be nominated
4. Reduce training Hours per day, Training duration can be increased.

Interestingly, all these conform to principles of “Androgogy”.

Anesthesia:

Over the years, scope of anesthetists work has been widened to assessments, pre and peri-operative care and post operative care, besides pain management. Working in periphery even the trained anesthetists have lost touch with mainstream and need continuous updating on account of developments in the field.

Further the shortage of specialist in the discipline, increasing role and demand, standards like IPHS and low turnout of anesthetists (just 800 every year across the country with 4600 CHCs), it was felt just and apt to introduce a short term course for doctors and even specialists in anesthesia.

Table 33: Number of cases followed during the last one year

Procedures	Nil	1-10	11-20	More than 20
Surgeries	0	0	0	2
Endotracheal intubation technique	0	2	0	0



Airway management	0	1	0	1
LMA insertion ventilation	1	1	0	0
Using Oxygen therapy devices	0	1	0	1
Ventilator Management	1	1	0	0
Intravenous and central cannulation	0	0	0	2
General anesthesia	1	1	0	0
Epidural anesthesia	2	0	0	0
Spinal anesthesia	0	0	0	2
Caudal anesthesia	2	0	0	0

To assess the skills learnt, the procedures done in the last one year at their health facility were enquired about. Though the sample (2) interviewed was too small to draw any inference, still it is indicative of the skills learnt and subsequently applied.

The procedures like epidural anesthesia and caudal anesthesia were not performed even once during preceding one year and others like general anesthesia, ventilator management, LMA insertion, endotracheal intubation technique etc were used occasionally only at one health facility. They could not single out a reason for it but for the generic ones: patients not there, equipments not there or not functional, no confidence and like.

Table 34: Total no of respondents Using Anesthesia

Category of Patients	Before training		After training	
	Yes	No	Yes	No
1. Pediatric	0	2	2	0
2. Geriatric patients	0	2	1	1
3. Obst. & Gyne. cases	0	2	1	1
4. Eye surgery	0	2	2	0
5. ENT surgery	0	2	0	2
6. Thyroid surgery	0	2	0	2
7. Diabetic patients	0	2	1	1
8. Endocrinal diseases	0	2	0	2
9. Liver diseases	0	2	0	2
10. Kidney diseases	0	2	0	2
11. Spinal Anesthesia	0	2	2	0

Their work was further categorized based on the category of the patient treated. They were asked whether they performed any procedures on these 11 categories of patients.



Both the respondents said they did not perform any aesthetical procedures before the training was imparted due to lack of knowledge of the subject. Even after training, they were not able to treat few cases such as ENT and thyroid surgery, endocrinal disorders, liver and kidney disease due to either unavailability of cases at their facility or lack of manpower (ENT, Super specialists).

Commonly treated category of patients at their health facilities were pediatric cases, spinal and eye surgery.

Neonatology:

In view of the large contribution of Neonatal deaths out of the total Infant deaths, training course on neonatology was offered to MO/Pediatricians with the objective to make them conversant with common neonatal problems-their etiology, Patho-physiology, Diagnosis, Management and Prevention along with acquiring knowledge regarding neonatal morbidity and mortality and prevention strategies.

Table 35: Skill utilization with neonates

Number of cases assisted in one year		All three procedures done			
Less than 20	More than 20	YES	%	NO	%
1	1	1	50	1	50

Few questions relating to acquisition of skills were asked and of the two, one of the respondents said that he had assisted more than 20 and another between 11 to 20 neonatal case assist during the last one year. 50 % of the respondents performed all the three procedure including opening and cleaning the airway, cry stimulation, and Oxygen administration if required.

Table 36: Use of Skills for Neonatology

Category	Before training		After training	
	Yes	No	Yes	No
Management of -				
Neonatal jaundice	2	0	2	0
Hyperthermia	2	0	2	0
Metabolic disorder	1	1	1	1
Neonatal fluid therapy	2	0	2	0
Preterm infant	1	1	1	1
septicemia	2	0	2	0
Congenital malformation	1	1	1	1
Birth injuries	1	1	1	1
Neonate with danger	1	1	1	1

Other skills include management of neonatal jaundice, hyperthermia, metabolic disorders, neonatal fluid therapy, managing preterm infant, septicemia, congenital malformation and birth injuries.



Unfortunately there is no change in the in the practice and utilization of skills for the management of neonatal illnesses after training program.

Clinical Pathology:

A training of six months course was planned by RHSDP for specialists and doctors with the objective to acquaint with clinical pathology and to increase the knowledge of doctors for interpretation of information provided by pathological tests and use the same in timely diagnosis and management of a patient.

Two respondents were asked to spell out the use of various skills in the period of one year. Following were the results:

Table 37: Skill utilization in clinical pathology

Skill utilization (n=2)	Before training		After training	
	Yes	No	Yes	No
Interpretation of report and treatment given	2	0	2	0
Staining Procedures	2	0	2	0
PBF Examination	2	0	2	0
Counting of Blood Cells as RBCs, WBCs, eosinophils & platelets*	2	0	2	0
Estimation of Hb, PCV, ESR*	2	0	2	0
Reticulation count	1	1	1	1
Sickling test	1	1	1	1
Fetal Hb estimation	1	1	1	1
BT,CT, PT & PTTK estimation*	1	1	2	0
Cytopathological Examination of routine FNACs	1	1	1	1
Pap smears	1	1	1	1
Body fluids and Bronchial washing	2	0	1	1
Management of Blood Bank	2	0	1	1
Blood grouping and cross matching *	2	0	2	0
Pregnancy tests	2	0	2	0
Hb*	2	0	2	0
HIV	1	1	1	1
Syphilis	1	1	1	1

Both the respondents were already performing the tests before the training was given, and **no difference** was found after the training process.



Laparoscopy:

The hands-on training in laparoscopic surgery was provided to the Medical officers and specialists with a view to provide practical guidelines for the use of laparoscopy and knowledge of latest laparoscopic procedures in surgery.

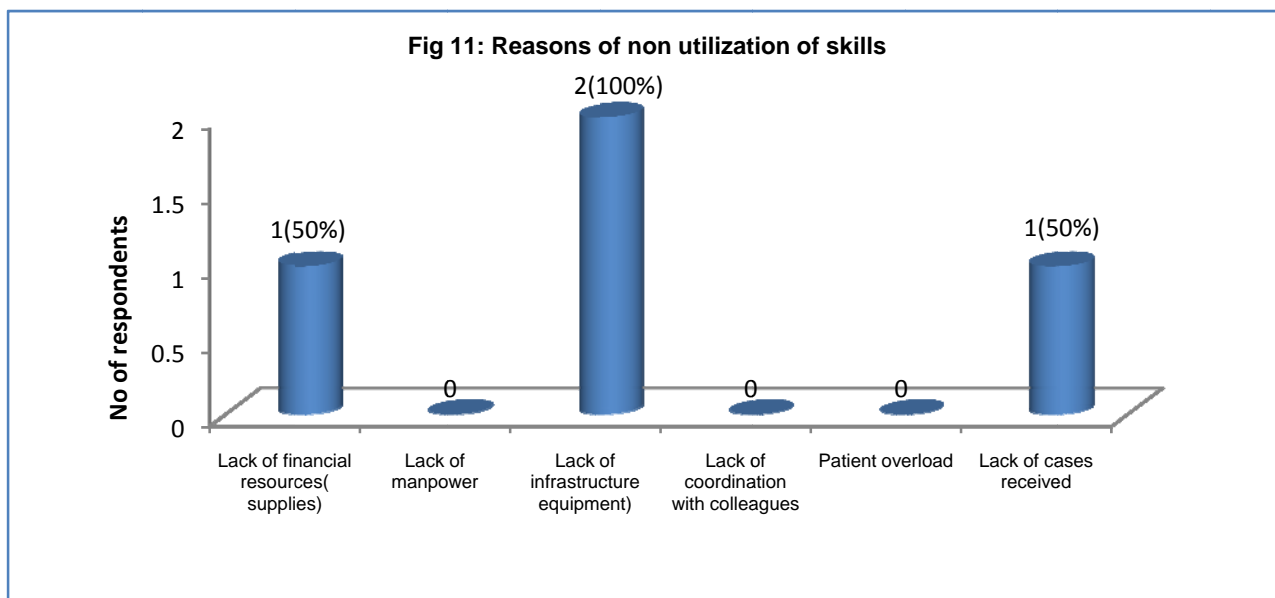
The respondents were asked to opine on improvement in skills and its utilization after the training.

Table 38: Skill utilization for laparoscopic surgery trainings

Skill utilization after training(n=2)	Yes	No
Is it easier to perform laparoscopic surgery after the training	1(50)	1(50)
Are you able to apply the skills learnt during the trainings	0	2(100)

The randomly selected sample of 2 doctors were asked to fill in the questionnaire.1 of the respondent quoted that it is easier to perform laparoscopic surgery after the training if it is now easier to perform laparoscopic surgery and are they able to practice it? One said yes it is easier but none could apply the learnt skills in practice. The main reason cited were: lack of financial resources, lack of infrastructure and scarcity of cases at their respective health facilities.

When asked about the number of surgeries performed/ assisted during last one year, at their facility, both the respondents said that they did not conduct any surgeries on account of transfer-posting, lack of facilities or absence of cases.



Radio diagnosis:

With majority of secondary level health facilities equipped with Radio-imaging services, it was thought to reorient the Radiologist and train the Medical officers in Radio-diagnosis so that for minor diagnostic procedures they shall not be referred.

A sample total of 4 respondents were interviewed with a view to assess the skill utilization of the respondents before and after the trainings to get a feel of the impact of trainings.

Table 39: Skill utilization in Radio diagnosis

Category	Before training		After training	
	Yes	No	Yes	No
X Ray	3	1	4	0
Sonography of Hepatobilliary	0	3	2	1
Renal Sonography	0	3	2	1
Obstetrics. and Gynecology :Sonography	0	3	2	1
USG for Abdomen	0	3	2	1
USG of small parts such as Thyroid, Scrotum, Breast etc	0	3	2	2
Radiography of Skull	0	4	3	1
Radiography of spine	0	4	3	1
Radiography of Pelvic girdle	0	4	3	1



The utilization of the skills after and before the training has been assessed. It was found that except X-ray, no other skill was in use prior to the trainings and a visible improvement was seen after the participants were acquainted with the skills and knowledge regarding various procedures

It was reviewed that after the training all the four respondents were able to successfully perform various types of sonography procedures at their facilities. It was found that lead apron and other protective devices was used by only 50 % of the respondents while one respondent said no, and one respondent did not respond.

Use of lead apron and other protective devices

None of the respondents were using the protective gears before the training but a marked improvement occurred in practice after training.

Cardiac Monitoring:

The training was organized under RHSDP for skill up gradation of the MO/Specialists and SMO's with the following objectives:

- Improve skills in emergency procedures related to Cardiac Monitoring
- Define the difference between Cardiac Monitoring and defibrillation
- define the dys arrhythmias for which Cardiac Monitoring is required
- To convert tachydysarrhythmias that endangers a hemodynamic status
- To prevent the development of ventricular fibrillation in presence of unstable ventricular tachycardia

Some questions were asked to the respondents to review the skills performance:

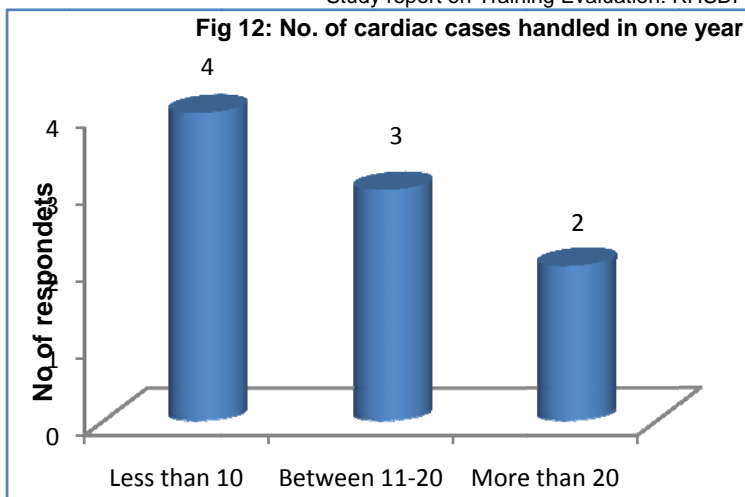
Table 40: Skill utilization on Cardiac defibrillator

Skill utilization	Yes	No	With Help from seniors
Easily handle the cases of cardiac arrest	9(81.8%)	1(9.0%)	1(9.0%)
Easily understand electro cardio gram	11(100%)	0(0.0%)	0(0.0%)
Easily conduct CPR	11(100%)	0(0.0%)	0(0.0%)

81.8% of the total respondents felt that after the training they could now easily handle the cases relating to cardiac arrest. Next the respondents were asked whether they understood the electro cardio gram and whether they could easily perform the CPR, positive replies were received from all the 11 respondents, which clearly indicated the efficiency of the trainings.



Later they were also asked about the number of cases handled by them after the training to which larger percentage (36.4%) responded that they performed “approximately” less than 10 cases in the period of one year at their facilities. Only two of the respondents were able to recall the exact number of cases handled.



Echocardiography:

The training on echocardiography was held for MO/ SMO/ Specialists/ Dy. Controller. Skills taught basically related to the use and maintenance of equipment for echocardiography. Hence the respondents were asked about the use of echocardiography at their facility after the training to **all the 5 respondents gave a negative response for lack of equipments**, which reflects on ill designed study where basis principle of ergonomics were defied making jest out of trainings.

Tread Mill test:

The training on TMT was organized for MO/ SMO/ Specialists. Out of 5 respondents 3 were familiar with the use of the TMT before training and after training all the 5 respondents are able to easily use the machine.

Table 41: Skill utilization with respect to TMT training

Skill utilization	Yes	No
Familiarity with use of TMT before training	3	2
Easily operate Tread mill machine	5	0

Table 42: TMT’s conducted in last one year

	Respondent				
	One	Two	Three	Four	Five
Number of TMT’s conducted in last one year	5	12	22	11	10



Section D-Knowledge recall

To assess the improved knowledge and skill set of service providers who had under gone these trainings. A set of questions related to the subject of study was kept under section D to assess the knowledge gained at the time of trainings.

The questions placed there in mainly pertained to the skills used in every day context as per the subject.

A summary score of responses is as follows:

Table 43: Knowledge recall

Trainings	Yes (Positive recall of knowledge)	No (wrong answers)	No response
Critical Care	50.5	41.5	8.0
Disaster Management : Doctors	77.5	22.5	0.0
Training on Disaster Management : Nurses	64.7	34.8	0.5
Geriatric Care	61.2	38.8	0.0
Managerial Training for Nursing Staff	38.1	57.1	4.7
6 months Course - Neonatology	76.5	23.5	0.0
6 months course-Clinical Pathology	36.5	29.3	34.2
Equipment- Cardiac defibrillator	64.9	31.9	3.2
Echocardiography	55.0	45.0	0.0
Tread Mill Test	45.7	54.3	0

Table 44: Average responses obtained

	Correct	Partially correct	Incorrect
6 months course-Anesthesia	46.0	28.0	26.0
6 months course- Laproscopic Surgery	45.0	0.0	55.0
6 months course- Radiodiagnosis	35.6	36.5	27.9

Of all the trainings knowledge recall was above 50% except for Managerial Training for Nursing Staff, Clinical Pathology and Tread Mill Test. Trainings were conducted from 2005 to 2010 and in the absence of skill utilization learning tends to recede. So it can be suggested that those able to recall better had received the opportunity to utilize their skills. Incorrect responses came more from trainees of Laparoscopic Surgery Training. Respondents from Anesthesia and Radio-diagnosis were able to give some answers as partially correct.

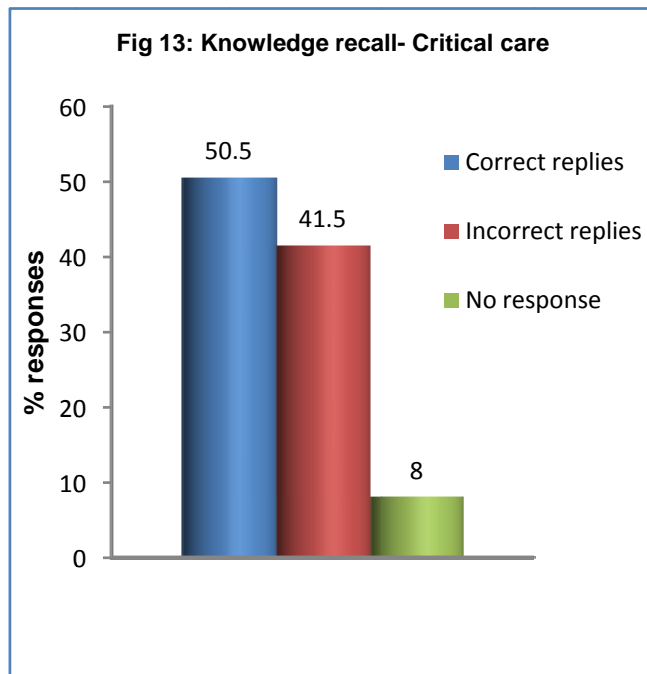
The biggest limitation with the study is that every response is based on re-call of an event that had happened some 5 years back and unless in practice, the responses can't generalize the effectiveness and / or fiasco these efforts have been.



Training on critical care

The questionnaire related to the critical care training contained a set of 24 questions related to different types of shocks and the related parameters, hyper apnea with respiratory failure, common causes of distributive shock, LMA, use of laryngoscope, fiber optic intubation, complications of endotracheal intubation, mean alveolar pressure, Oxygenation improvement, CO₂ elimination, tidal volume, diagnostic tests for ARDS, Indirect clinical measures for tissue blood flow assessment, Hemorrhage, use of Vasopressors, cerebral perfusion pressure, rapid reduction of ICP, nutrition at the time of treatment of the critically ill, rate of infusion of tube feeds.

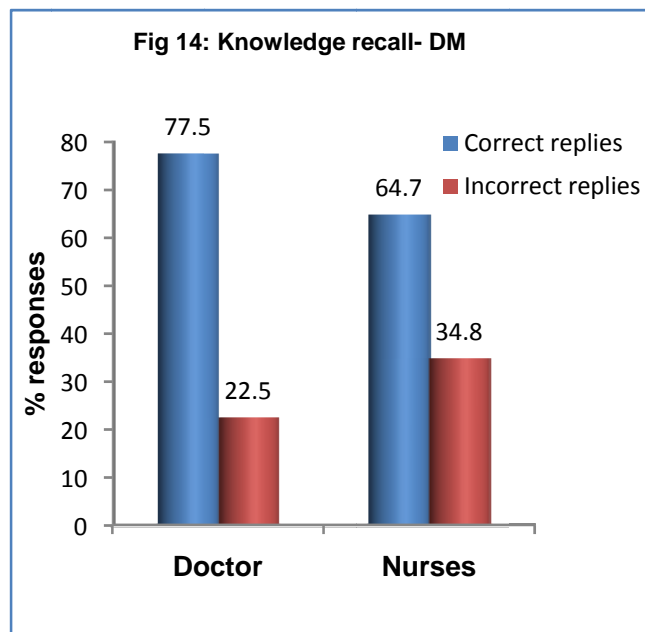
The middling responses from the 27 respondents had an average score of 50.5% correct and 41.5% incorrect responses were attained, leaving aside 8.0% questions left unattended; and that is not encouraging in the area of critical care where life does not give a second chance. Primarily outsourced critical care trainings again appear to be ill designed and poorly monitored



Disaster management for Doctors and nurses:

The knowledge recall section on disaster management training contained 22 questions. Same questionnaire was followed for both the categories of trainees. Following topics were covered on the subject:

1. Basics of Disaster and types of Disasters.
2. Effects of disaster
3. Warning signs of disaster
4. Measures aimed at reducing the impact of disaster on the community
5. Different disasters which may affect the state of Rajasthan
6. Methods of gathering information after a disaster is struck

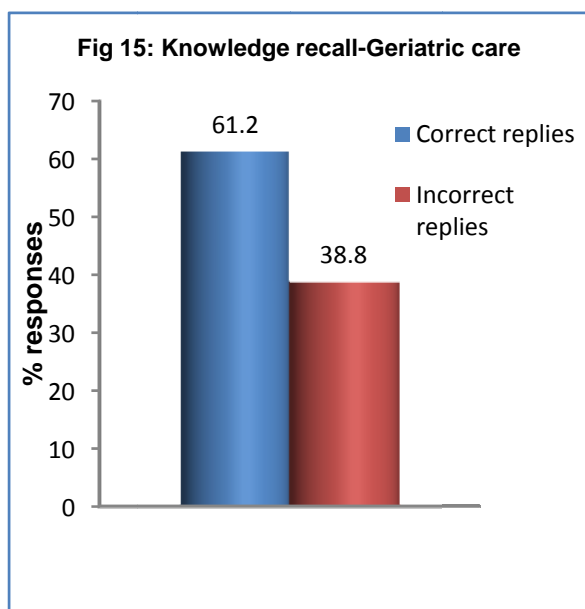


7. Sequence of priorities in ‘Triage’

The respondents (doctors: 14; nurses 17) were interviewed to review their familiarity with the subject. Doctors an average scored better with 77.5 % correct replies while on the same questionnaire Nurses scored an average of 64.7% correct responses.

Training on Geriatric care:

The training on geriatric care was organized by RHSDP to control over the cases of elderly abuse and



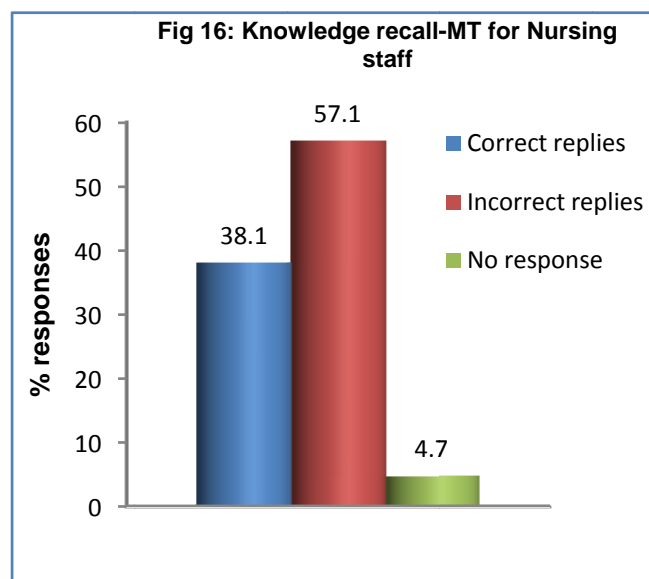
training the MO/Specialists to treat the common ailments affecting the elderly population. The knowledge level of the respondents were evaluated using a structured questionnaire containing 11 questions pertaining to the most accepted theories of Ageing, Determinants of functional disability, Discovering alcohol abuse in older patients, Common feature of geriatric clinical practices, Common problem in old age, Form of elder abuse, common ailments of elderly and factors for common cancers found in old age.

The respondents scored an average of 61.2% correct replies and 38.8% incorrect replies.

Managerial training for nurses:

Managerial training was organized by RHSDP at CMC Ludhiana for the nursing staff to brush up their skills in managing the in- patients in a better way. The main topics taught at the training were Auxiliary accommodation in ward, Type of wards, Ward Management, use and importance of Personal protective gears, Zones of Operation Theater, waste disposal, HEPA filters.

The total of 14 staff members were interviewed. The analyses revealed a poor response with only 38.1% correct responses while 57.1 % wrong replies were received.4.7% no responses

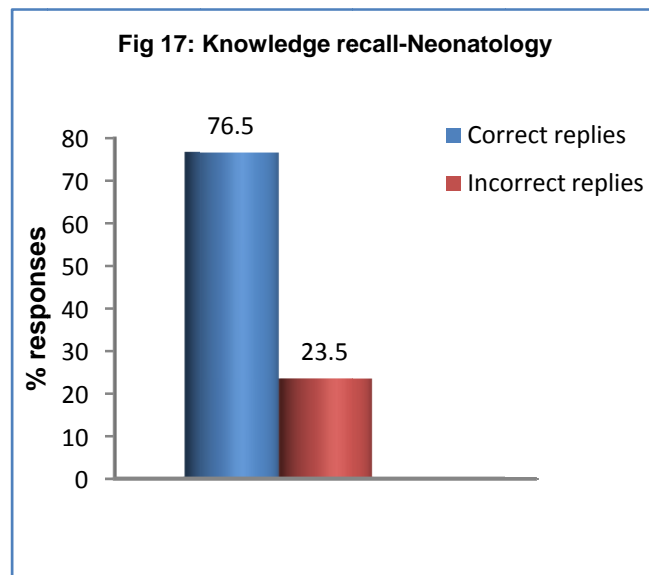


were obtained.

Neonatology :

To assess the knowledge gained over a period of six months , the respondents were asked to fill a questionnaire containg 20 questions related to topics covered under training.Referring to the list:

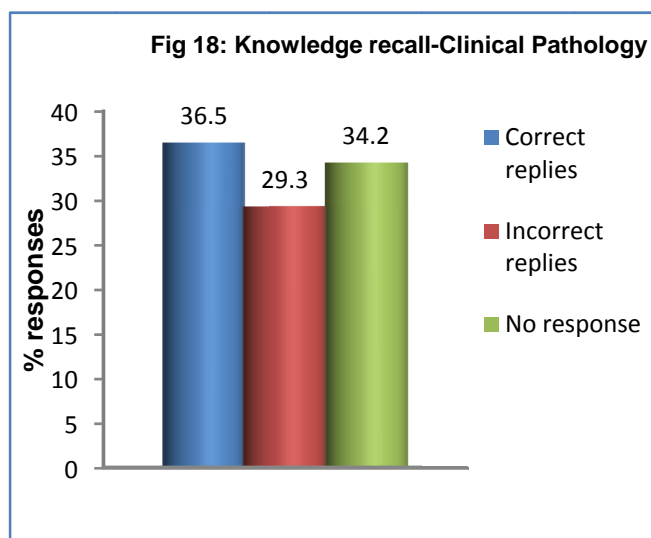
1. Chest compression and artificial respiration during resuscitation of Newborn
2. Basics of suction machine for Clearing the air ways during resuscitation
3. Storage of expressed breast milk at room temperature before feeding a Newborn
4. Initial steps in resuscitation (Q 5)
5. Most common fracture as a result of birth injury
6. Diagnosis of Hypoglycemia n neonatal period
7. Breast milk jaundice
8. Feeding practices
9. Conjugated hyper-bilirubinemia
10. Late onset septicemia
11. Acute phase proteins
12. Characteristics of caput succedaneum
13. Cold injury of neonate
14. Foetal scalp blood pH;



The analysis shows that 76.5% were able to respond correctly.

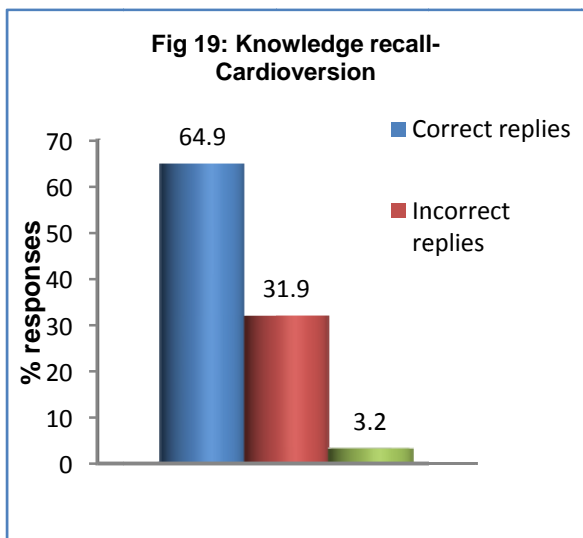
Clinical Pathology:

Clinical pathology course was conducted over a period of six month. A total of 2 respondents were assessed for knowledge recall. Over all poor response was generated from the respondents which pin pointed the weakness on the part of the either the trainers selection criteria along with the methodology adopted for the teaching process. Following were the main responses obtained on an average basis.



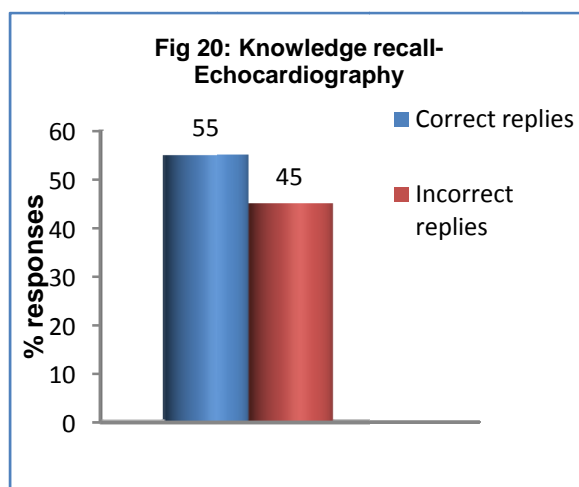
Training on Equipments : Cardiac Monitoring , Ecocardiography and Tread mill test

Training on equipmnets was primarily for 3 courses viz. Cardiac Monitoring , Ecocardiography and Tread mill test. For all the three courses 5 sample respondents, each, were selected .



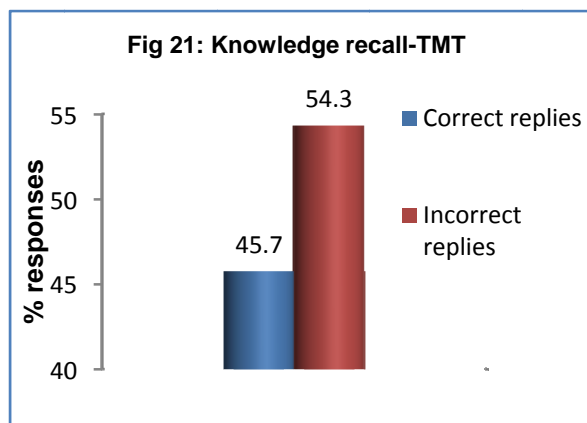
For analyzing knowledge upgradation on Cardiac Monitoring , the questionnaire contained a set of 14 questions realted to the subject of study viz. A. E.D, working on A.E.D, application of Cardiac Monitoring, Cardiac Monitoring method, limitation of using AED,Benefits of Biphasic AED .

Following the process of data collection, the responses of the respondents were analyzed . the same are depicted grahically.



For the equipment training on Ecocardiography, the same procedure was adopted as for Cardiac defibrilator. The question pertaining to their subject of study were analyzed . The main topics covered in section D (knowledge recall) of the questionnaire are summarized below :

1. Basics of Echocardiography
2. Diagnosed by echocardiography except(Q.10)
3. Doppler echocardiography
4. Measuremnet of velocity of myocardium
5. Transoesophageal echo cardiography
6. Ebstein Anamoly
7. Right Ventricular outflow tract obstruction;



Only 55% of the trained Doctors could coorectly reply.

The third training on equipment was for TMT (5 respondents). The topics covered in the questionnaire included Indications for terminating exercise testing, causes for false positive or false negative test



results, contraindication to exercise testing , major complications of exercise testing, operating the treadmill machine, emergency/ Complication of TMT.

The 5 respondents answered 45.7 % of questions correctly on an average.

Summarily, for some trainings like Disaster management for Doctors and nurses, Geriatric care, Neonatology, Cardiac Monitoring, the responses were correct up to 60%, while for some like critical care, echocardiography TMT, Anesthesia and laparoscopy the respondents gave average correct replies ranging from 40-60% and respondents from training on managerial training for nurses , radio diagnosis and clinical pathology showed poor performances with less than 40% correct responses.



Epilogue:

The study reveals that trainings organized by RHSDP have remarkably **improved professional competencies** of health care/ medical staff (95.8%).

Physical facilities (training arrangements, training hall arrangements) and reading material and resources were rated as **'Good'** by majority of trainees; with close to 60% participants rating them as Good.

The trainings were **interactive in nature**, with smaller sub-groups and experience sharing adding value to these trainings.

All the trainings, but for geriatric care trainings, had **"Hands-On"** sessions. More than half of the trainees found duration of Hands-On as adequate.

The majority of respondents were having equipment for treatment at their facilities and almost all of them were using these equipments. Similarly, all trainees of Geriatric care training agreed that their diagnostic skills have improved attributed to training which they received. Also, the nursing staff, that attended Managerial training, finds it easier to manage patients after trainings. Majority of trainees (71%) are applying skills learnt during the trainings they attended. However those finding difficult to use the skills, did single out lack of supplies and improper placements as major bottlenecks which can be removed with a little prudent transfer-placement policy in the System.

The training on hitherto neglected areas like Geriatric care and 'Disaster Management' was a welcome step.

After the trainings, half of the respondents accepted that they have the 'Hospital Disaster Management Plan' at their facilities, with majority of them being confident about efficiency aspect of their Plans. Having such a plan is a principal requirement for dealing with a disaster situation and this also reflects the medical staff's preparedness to deal with it. However, a gap was identified in practicing disaster management on a regular basis through mock drills. The hospital and district administration should take this into consideration.

Trainees have identified lack of trained support manpower as a factor responsible for non-use of new skills learnt at the training. Given the fact, health care service delivery shall be a team exercise, requiring compatible team-mates, in absence of which the trainings alone will not be able to deliver the expected results.

Some of the trainings particularly those related to equipment use, Trainings on critical care which were outsourced had a design defect and were not properly monitored as reflected in the scores and aired opinion of trainees. Henceforth, the credentials of the implementing agencies need to be checked with



regard to physical facilities, equipments, clinical load, and competence of trainers at their command besides departmental monitoring.

Ideally, a lot of planning should go to address training need, based on which a detailed session plan be developed before actually taking of.

The study also concludes that there is a need for organizing training programs on a regular basis, with a wider horizon of medical staff and spectrum of training specializations. Having timely nominations from interested lot may bring in good set of return on investments for training expenditures.



Recommendations

1. A thorough training need assessment dovetailed with existing resources, possibility of use, and nature of services at each level; should be done before planning the trainings.
2. Reorientation and Refresher trainings should also be planned on regular basis to refresh knowledge gained during training programs.
3. The Medical Education Department should be taken into confidence for clinical trainings as they have better faculty, resources and clinical material.
4. The trained staff should be placed in view of the availability of support (equipment, support manpower,) and clinical load at a Health facility so that they can use the skills.
5. A close monitoring mechanism should be put in place to ensure that skills are being practiced with a penal clause for those not putting the learnt skills in use.
6. Updated data base of trained Human Resource in Health be created and sustained to facilitate placements in consonance to principles of ergonomics.
7. Equipments and required resources should be made available for utilization of skills.
8. Training need assessment should be done on regular basis and accordingly trainings should be planned.
9. The duration of training again should be based on TNA and not be governed by Funds and or compulsions to swell up numbers.
10. Only those interested be nominated, on priority, based on the opportunity given to each staff for “exercising choice” at the start of every financial year which will even help in working out the yearly training load and Training calendar.
11. The training hierarchy should be created in the State under an apex body which should be responsible for all training related activities including TNA, nominations, course design, material development/ compilation, identification of executing agency, monitoring, and evaluation.