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RESEARCH ARTICLE

KNOWLEDGE, ATTITUDE AND PRACTICES TOWARDS STANDARDS OF WORKING IN A PERIPHERAL INSTITUTE THROUGH APPLICATION OF ISQUA (INTERNATIONAL SOCIETY FOR QUALITY IN HEALTHCARE) ACCREDITED NQAS (NATIONAL QUALITY ASSURANCE STANDARDS) GUIDELINES

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Abstract

Objective: To study change in knowledge, attitude and practices of healthcare employees through implementation of quality standards for a period of one year.

Inclusion criteria: All healthcare employees including doctors and paramedics who were supposed to be posted at our hospital for next two years.

Exclusion criteria: Employees with impending transfer to other institutions.

Methodology: A cross sectional study was carried out after implementation of quality standard (NQAS) National quality assurance standards. The study was carried out for one year from January 2023 to December 2023.Our sample size was N=70.(20 doctors and 50 paramedics). Data was taken from all sections using NQAS indicators and questioniires PSS (Patient satisfaction survey), ESS (Employee satisfaction survey). Data was analysed using SPSS-29.

Results: The data was analyzed in terms of knowledge, attitude and practices of health staff in pre and post application of NQAS standards. There was a significant improvement in knowledge ,attitude and practices of healthcare employees post NQAS . our sample size was 70 ,including 50 paramedics and 20 doctors (N=70). Results showed significant changes in knowledge ,attitude and practices of employees through implementation of quality standards in a peripheral care hospital as shown in tables 1a to 7c in discussion part.

Conclusion: Study results showed significant statistical changes in knowledge attitude and practices through implementation of quality standards at a peripheral institute and highlights the need to implement same standards in other hospitals.

Declaration : This was an observational study carried out at our hospital Since NQAS is a new concept in INDIA ,it is a pure research work with no external aid or funding as is evident from the literature regarding quality parameters in peripheral health institutions. This work has not been published previously in any journal.

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Introduction:-

Health services are that part of the health system, which focuses specifically on the provision of health care services in the society. A health system includes a complex set of structural relationships between populations and institutions that have an impact on health [1]. The successful delivery of health services is largely a function of the knowledge, skills, motivation, and development of employees who are responsible for the organization and delivery of health services [2]. Globally, a growing number of countries, both developed and developing, are adopting a system of healthcare assessment to get hospital accreditation (Greenfield and Braithwaite, 2008)[16].The National Quality Assurance Standards (NQAS) program was launched by Government of India in 2013 with an aim to improve the Quality of Care in Public Health Facilities of India. These standards for District Hospitals, Community Health Centers, Primary Health Centers and Urban Primary Health Centers have been developed over the years. In the year 2020, the standards for Ayushman Bharat Health and Wellness Centers, Sub Center s have also been developed, to ensure the quality of promotive, preventive and primary health care services; early screening and identification; timely referrals and regular follow ups. The NQAS continue to meet the global benchmark and have once again been awarded with accreditation under the International Society for Quality in Healthcare (ISQua) till August' 2024.; An impact assessment study of NQAS certification was done by Population Research Centre, Dharwad, Karnataka in three (03) States of India i.e. Chhattisgarh, Karnataka and Maharashtra[1]. Study results indicate various advantages of NQAS accreditation of Public Health Facilities. Study respondents perceived NQAS accreditation as a good tool for improving the quality of healthcare. It was also observed that, in order to make accreditation an effective regulatory instrument, there is a need to assess quality based on patient outcome indicators . As on 31st December 2020, a total of 700 public health facilities are certified under the NQAS.

Public Health System in India has been organised at three levels, namely primary, secondary and tertiary. While Primary Health Care is being provided at PHCs and Sub centers, the secondary health care is being provided at Community Health Centres (CHCs) and other higher level facilities such as Sub-District Hospitals (SDH) and District Hospitals (DH). The CHCs are expected to function as First Referral Unit (FRU), thereby providing referral linkage to the Primary Health Centres and Sub centres. A FRU should have facilities for Emergency Obstetric Care including facilities for LSCS and Anesthesia, Blood Storage Unit and NBSU. Indian Public Health Standards (IPHS) guidelines divide services at CHC into two categories , Essential and Desirable. A CHC is expected to have 30-beds and provide specialist care in Medicine, Surgery, Obstetrics and Gynaecology, Paediatrics, Dental and AYUSH. Providing an equitable, accessible and affordable primary healthcare, which is of an assured quality, would be a mandatory pre-requisite before the dream of 'Health for All' can be realized In earlier times quality of care was primarily framed on what is delivered rather than what is needed by the customer (Petersen, 1963). The general framework of a system and the degree of government regulation are likely to determine the extent of integration and therefore the overall efficiency and responsiveness of health services [3]. In most nations, funding for health care services is provided by a combination of government and private spending, and external funding. In many nations, funding for health services remains a challenge due to a lack of financial resources. Securing funding, ensures access to health services and protects individuals from paying high fees for using health services [4] Certain dimensions of health service quality, such as consistency, completeness, and effectiveness, are also difficult to be measured, apart from the subjective evaluation by the client. But even subjective evaluation by the client can be difficult and the results will be different from the evaluation of services done by other parties, such as health professionals. While the latter evaluate the design and delivery of the service, the customers evaluate the service based on their overall perception of its provision. Thus,it is obvious that the concept of quality of health care means different things to differentstakeholders involved in the health care system [5]. This review aims to investigate the relationship between the quality of health services and health in general. The quality of healthcare is one of the most frequently mentioned concepts in health policy principles and is currently high on the agenda of policy makers at national, European, and international level. At the national level, addressing the issue of the quality of healthcare can be raised for several reasons, characteristically by the generalcommitment to provide high quality healthcare, because health is a public good [6]. The European Commission, for example, recognizes quality as an important element of health system performance, that is the degree to which health systems meet their objectives [7]. At the international level, quality is receiving increasing attention in thecontext of the Sustainable Development Goals. (SDGs), as they include the urgent needto achieve global health coverage, including access to qualitative basic health care services and access to safe, effective, qualitative, and affordable basic medicines and vaccines for all. These positions are also reflected in the World Health Organization (WHO) reports published in 2018, which constitute a handbook of

national quality policies and strategies [8] and a guide facilitating a global understanding of quality as part of global health coverage aspirations [9]. The concept of quality in the field of healthcare has many different dimensions and itsdefinition has evolved significantly over the years. The first definitions of healthcare quality were formulated almost exclusively by healthcare professionals and healthcareresearchers. In this context, the definition of Institute of Medicine (IOM) is probably the most frequently mentioned in the literature. According to this definition, publishedin 1990 and stated by Chung & Shauver (2008: 73), quality in health care is "the degreeto which health services for individuals and for the population increase the likelihood of the desired health outcomes and is consistent with current professional knowledge "[10]. The desired health outcomes reflect patient satisfaction and well-being. The IOM definition also emphasizes health services in general to individuals and populations (and not patients) and the link between quality with prevention and health promotion. Current professional knowledge is also important, emphasizing that the care provided must be evidence based. This indicates that the concept of quality of healthcare is dynamic and evolving and that health care providers should assess the current state of knowledge, so that their services can be considered qualitative [6]. Today is increasingly recognized that the preferences and views of patients, the public and otherkey actors are also important in determining the quality of healthcare [11]. World Journal of Advanced Research and Reviews, 2021, 12(01), 498–502 500 4. Quality in Health Services Although many researchers argue that the "real" quality of a service cannot be accurately reflected through patients' perceptions, patients will always draw their own conclusions about the quality of a service. In the field of healthcare management, patients' perception refers to perceived quality, as opposed to the actual or absolute quality required by critical management. Therefore, health care providers are under constant pressure to provide qualitative health services [12]. Reproduction of consistent health services becomes another challenge, as the services provided differ significantly between providers, customers, places, and time. This "heterogeneity" arises from the fact that different health professionals (e.g., doctors, nurses, etc.) are involved in their provision, as well as from the fact that patients can have varieties and very different needs from each other. The services offered by healthcare professionals are different, they also depend on factors such as education / training, experience, and individual skills. Another special feature of health services is that they are produced and consumed at the same time and cannot be stored for future use. This makes quality control difficult, because the customer cannot judge the "quality" before buying and consuming [13]. Patients' perspective on the quality of health care is important for several reasons. First, the high level of quality of services offered by health facilities is related to issues such as patient satisfaction, willingness to re-use services in the future, etc. Second, patient feedback and perceptions are significantly required in many health care quality assessment programs. Third, the perceived high level of service quality is positively related to the financial performance and efficiency of health care institutions [12]. Various scales have been developed to assess the quality of healthcare structural aspects, processes, and outcomes. There are many dimensions to the quality of health services in this context. For example, Upadhyai et al., (2019) distinguished between dimensions that are medical and non-medical in nature. The medical aspects of the quality of health services include three sub-dimensions, namely the techniques, the outcome, and the interpersonal ones [14]. The technical dimension of healthcare quality includes the knowledge, skills and evaluation of the care provider and the available medical facilities [15]

Results:-

The data was analyzed in terms of knowledge, attitude and practices of health staff in pre and post application of NQAS standards. There was a significant improvement in knowledge ,attitude and practices of healthcare employees post NQAS . our sample size was 70 ,including 50 paramedics and 20 doctors (N=70). Results showed significant changes in knowledge ,attitude and practices of employees through implementation of quality standards in a peripheral care hospital as shown in tables 1a to 7c. This is a cross sectional study which was carried out after implementation of quality standard (NQAS) National quality assurance standards. The study was carried out for one year from January 2023 to December 2023.. Data was taken from all sections using NQAS indicators and questionairres PSS (Patient satisfaction survey), ESS (Employee satisfaction survey). Data was analysd using SPSS-29. P value less than 0.05 was considered statistically significant using Chi-Square. Table 1a-1c showing change in knowledge regarding NSI(needle stick injury), p value is less than 0.5 showing significant changes ,as shown by an another study [17]. **Table 2a -2c demonstrates significant changes in KAP regarding PPE as shown by Simillar studies [18].**The findings demonstrated that the healthcare workers had an overall good knowledge and a positive attitude but a poor practice regarding PPE. This study also highlighted the factors influencing KAP towards PPE that must be addressed in future education, awareness, and counseling programs. Table 3a-4c shows significant changes in KAP regarding spill management in our hospital.

Table 1a:- Table showing change in knowledge regarding NSI(needle stick injury), p value is less than 0.5 showing significant changes.

KNOWLEDGE (NSI)		**Doctors**				**Paramedics**			
		Pre		**Post**		**Pre**		**Post**	
		N	**Percent**	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**
What is NSI	Yes	17	85.0	19	95.0	45	90.0	49	98
	No	3	15.0	1	5.0	5	10.0	1	2
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
		p=0.03				p=0.05			
Are Infections transmitted through NSI	Yes	13	65.0	18	90.0	32	64.0	46	92
	No	7	35.0	5	25.0	18	36.0	4	8
	Total	**20**	100.0	**23**	115.0	**50**	100.0	**50**	100
Protocol on disposal of needles	Yes	12	60.0	16	80.0	34	68.0	40	80
	No	8	40.0	4	20.0	16	32.0	10	20
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
	p=0.01					p=0.01			

Table 1b:- Change in attitude regarding NSI (needle stick injury) ,significant changes in paramedics p value 0.01.

ATTITUDE		**Doctors**				**Paramedics**			
		Pre		**Post**		**Pre**		**Post**	
		N	**Percent**	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**
Do you think NSI is a cause of concern	Yes	18	90.0	19	95.0	26	52.0	38	76
	No	2	10.0	1	5.0	24	48.0	12	24
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
	p=0.04					p=0.01			
Is NSI preventable	Yes	12	60.0	15	75.0	32	64.0	36	72
	No	8	40.0	5	25.0	18	36.0	14	28
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
In case of needle stick Injury, should we report to ICC	Yes	18	90.0	19	95.0	15	30.0	35	70
	No	2	10.0	1	5.0	5	10.0	15	30
	Total	**20**	100.0	**20**	100.0	**20**	40.0	**50**	100
	p=0.05					p=0.01			

Table 1c:- Significant change in practices in doctors p value o.oo.

PRACTICE		**Doctors**				**Paramedics**			
		Pre		**Post**		**Pre**		**Post**	
		N	**Percent**	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**
In case of NSI, do you wash your hands	Yes	19	95.0	1	5.0	42	84.0	48	96
	No	1	5.0	19	95.0	8	16.0	2	4
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
	p=0.01					p=0.05			
Status of vaccination(how often do you get vaccinated)	Yes	12	60.0	16	80.0	28	56.0	34	68
	No	8	40.0	5	25.0	22	44.0	14	28
	Total	**20**	100.0	**21**	105.0	**50**	100.0	**48**	96
	p=0.03					p=0.02			
Do you use gloves	Yes	20	100.0	0	0.0	43	86.0	47	94
	No	0	0.0	20	100.0	7	14.0	3	6
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
	p=0.00					p=0.08			

Table 2a:- Change in knowledge regarding PPE ,Donning ,Doffing, Mask wearing and importance of Hand washing.

knowledge		**Doctors**				**Paramedics**			
		Pre		**Post**		**Pre**		**Post**	
		N	**Percent**	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**
Components of PPE	Yes	11	55.0	19	95.0	26	52.0	42	84
	No	9	45.0	1	5.0	24	48.0	8	16
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
	p=0.03					p=0.02			
Donning and doffing	Yes	12	60.0	15	75.0	32	64.0	36	72
	No	8	40.0	5	25.0	18	36.0	14	28
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
	p=0.05					p=0.02			
Difference between a surgical, cotton and N95 mask	Yes	13	65.0	19	95.0	30	60.0	35	70
	No	7	35.0	1	5.0	20	40.0	15	30
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
	p=0.00					p=0.04			
Importance of hand wash along with PPE	Yes	11	55.0	13	65.0	22	44.0	27	54
	No	9	45.0	7	35.0	28	56.0	23	46
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
	p=0.21					p=0.09			

Table 2b:-

ATTITUDE		**Doctors**				**Paramedics**			
		Pre		**Post**		**Pre**		**Post**	
		N	**Percent**	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**
Wearing PPE is important	Yes	15	75.0	18	90.0	32	64.0	37	74
	No	5	25.0	2	10.0	18	36.0	13	26
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
	p=0.05					p=0.07			
Do you find donning Difficult	Yes	8	40.0	11	55.0	22	44.0	27	54
	No	12	60.0	5	25.0	28	56.0	23	46
	Total	**20**	100.0	**16**	80.0	**50**	100.0	**50**	100
	p=0.00					p=0.05			
Do u find doffing difficult	Yes	7	35.0	9	45.0	18	36.0	21	42
	No	13	65.0	11	55.0	32	64.0	29	58
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
	p=0.01					p=0.04			

Table 2c:-

PRACTICE		**Doctors**				**Paramedics**			
		Pre		**Post**		**Pre**		**Post**	
		N	**Percent**	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**
Attended any training on PPE	Yes	5	25.0	12	60.0	22	44.0	32	64
	No	15	75.0	8	40.0	28	56.0	18	36
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100

	p=0.01					p=0.05			
Do you wear PPE regularly	Yes	9	45.0	12	60.0	21	42.0	30	60
	No	11	55.0	5	25.0	29	58.0	20	40
	Total	**20**	100.0	**17**	85.0	**50**	100.0	**50**	100
	p=0.00					p=0.05			
Do u properly dispose off PPE	Yes	5	25.0	9	45.0	12	24.0	28	56
	No	15	75.0	11	55.0	38	76.0	22	44
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
	p=0.05					p=0.02			

Table 3a:-

KNOWLEDGE (Blood spill)		**Doctors**				**Paramedics**			
		Pre		**Post**		**Pre**		**Post**	
		N	**Percent**	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**
Procedure for cleaning up a blood spill	Yes	0	0.0	9	45.0	4	8.0	12	24
	No	20	100.0	11	55.0	16	32.0	38	76
	Total	**20**	100.0	**20**	100.0	**20**	40.0	**50**	100
	p=0.00					p=0.03			
3 cs of spill mx	Yes	1	5.0	2	10.0	3	6.0	28	56
	No	19	95.0	5	25.0	47	94.0	22	44
	Total	**20**	100.0	**7**	35.0	**50**	100.0	**50**	100
	p=0.01					p=0.00			
Types of blood spill	Yes	7	35.0	11	55.0	17	34.0	29	58
	No	13	65.0	9	45.0	33	66.0	21	42
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
	p=0.05					p=0.02			
Dangers of blood spill	Yes	14	70.0	16	80.0	16	32.0	26	52
	No	6	30.0	4	20.0	34	68.0	24	48
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
	p=0.09					p=0.05			

ATTITUDE		**Doctors**				**Paramedics**			
		Pre		**Post**		**Pre**		**Post**	
		N	**Percent**	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**
Should we use PPE while handling a blood spill	Yes	15	75.0	17	85.0	32	64.0	38	76
	No	5	25.0	3	15.0	18	36.0	12	24
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
	p=0.07					p=0.14			

PRACTICE		**Doctors**				**Paramedics**			
		Pre		**Post**		**Pre**		**Post**	
		N	**Percent**	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**
Use of caution	Yes	1	5.0	11	55.0	4	8.0	15	30

board	No	19	95.0	9	45.0	46	92.0	35	70
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
	p=0.00					p=0.02			
Use of ppe	Yes	16	80.0	17	85.0	38	76.0	42	84
	No	4	20.0	5	25.0	2	4.0	8	16
	Total	**20**	100.0	**22**	110.0	**40**	80.0	**50**	100
	p=0.27					p=0.05			
Use of absorbant paper	Yes	1	5.0	11	55.0	2	4.0	28	56
	No	19	95.0	9	45.0	18	36.0	22	44
	Total	**20**	100.0	**20**	100.0	**20**	40.0	**50**	100
	p=0.00					p=0.00			
Cleaning using 1% hypochlorite solution	Yes	3	15.0	17	85.0	22	44.0	34	68
	No	17	85.0	3	15.0	28	56.0	16	32
	Total	**05**	100.0	**20**	100.0	**50**	100.0	**50**	100
	p=0.00					p=0.05			

KNOWLEDGE (Mercury spill)		**Doctors**				**Paramedics**			
		Pre		**Post**		**Pre**		**Post**	
		N	**Percent**	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**
Is mercury toxic/harmful to health	Yes	19	95.0	19	95.0	15	30.0	35	70
	No	1	5.0	1	5.0	35	70.0	15	30
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
	*******					p=0.01			
Sources of mercury in a hospital	Yes	15	75.0	17	85.0	18	36.0	38	76
	No	5	25.0	5	25.0	32	64.0	12	24
	Total	**20**	100.0	**22**	110.0	**50**	100.0	**50**	100
	p=0.16					p=0.00			
Importance of ppe while handling mercury	Yes	11	55.0	17	85.0	18	36.0	42	84
	No	9	45.0	3	15.0	2	4.0	8	16
	Total	**20**	100.0	**20**	100.0	**20**	40.0	**50**	100
	p=0.05					p=0.04			
Can mercury vapour inhalation occur during spills	Yes	3	15.0	11	55.0	30	60.0	47	94
	No	17	85.0	9	45.0	20	40.0	3	6
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
	p=0.00					p=0.03			

ATTITUDE		**Doctors**				**Paramedics**			
		Pre		**Post**		**Pre**		**Post**	
		N	**Percent**	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**
Should spilled mercury be disposed off	Yes	11	55.0	17	85.0	18	36.0	47	94
	No	9	45.0	3	15.0	2	4.0	3	6
	Total	**20**	100.0	**20**	100.0	**20**	40.0	**50**	100
	p=0.05					p=0.04			

Is it important to get any training on mercury spill mx	Yes	19	95.0	19	95.0	28	56.0	48	96
	No	1	5.0	5	25.0	22	44.0	2	4
	Total	**20**	100.0	**24**	120.0	**50**	100.0	**50**	100
	p=0.28					p=0.05			
Is there a need for keeping a separate mercury kit	Yes	7	35.0	17	85.0	10	20.0	40	80
	No	13	65.0	3	15.0	40	80.0	10	20
	p=0.00					p=0.00			

Table 4c:-

PRACTICE		**Doctors**				**Paramedics**			
		Pre		**Post**		**Pre**		**Post**	
		N	**Percent**	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**
Sop for spilled mercury followed	Yes	7	35.0	14	70.0	18	36.0	42	84
	No	13	65.0	6	30.0	2	4.0	8	16
	Total	**20**	100.0	**20**	100.0	**20**	40.0	**50**	100
	p=0.00					p=0.02			
Mark area in case of mercury spill	Yes	5	25.0	17	85.0	13	26.0	37	74
	No	5	25.0	5	25.0	7	14.0	13	26
	Total	**10**	50.0	**22**	110.0	**20**	40.0	**50**	100
	p=0.00					p=0.01			

Table 5a:-

KNOWLEDGE(Disaster mx)		**Doctors**				**Paramedics**			
		Pre		**Post**		**Pre**		**Post**	
		N	**Percent**	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**
Basic knowledge about a disaster	Yes	12	60.0	17	85.0	16	32.0	38	76
	No	8	40.0	3	15.0	34	68.0	12	24
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
	p=0.06					p=0.01			
Types of disasters	Yes	9	45.0	15	75.0	10	20.0	38	76
	No	11	55.0	5	25.0	40	80.0	12	24
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
	p=0.01					p=0.00			
Role of Rapid response teams	Yes	8	40.0	16	80.0	12	24.0	34	68
	No	2	10.0	4	20.0	38	76.0	16	32
	Total	**10**	50.0	**20**	100.0	**50**	100.0	**50**	100
	p=0.00					p=0.01			
Role of triage	Yes	8	40.0	17	85.0	11	22.0	39	78
	No	12	60.0	3	15.0	9	18.0	11	22
	Total	**20**	100.0	**20**	100.0	**20**	40.0	**50**	100

	p=0.00	p=0.00

ATTITUDE		Doctors				Paramedics			
		Pre		Post		Pre		Post	
		N	Percent	N	Percent	N	Percent	N	Percent
Is Role of health workers in disaster management important	Yes	11	55.0	17	85.0	32	64.0	46	92
	No	9	45.0	3	15.0	18	36.0	4	8
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
	p=0.01					p=0.02			
Do you think Disaster mx is a teamwork	Yes	12	60.0	16	80.0	22	44.0	44	88
	No	8	40.0	5	25.0	28	56.0	6	12
	Total	**20**	100.0	**21**	105.0	**50**	100.0	**50**	100
	p=0.05					p=0.03			
Do you think mock drills play an important role in sensitization of staff	Yes	8	40.0	17	85.0	21	42.0	38	76
	No	12	60.0	3	15.0	29	58.0	12	24
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
	p=0.01					p=0.00			

Table 5c:-

PRACTICE		Doctors				Paramedics			
		Pre		Post		Pre		Post	
		N	Percent	N	Percent	N	Percent	N	Percent
Do u maintain buffer stocks	Yes	-	-	0	0.0	0	0.0	32	64
	No	-	-	0	0.0	50	100.0	18	36
	Total	-	-	**0**	0.0	**50**	100.0	**50**	100
	*********					p=0.00			
Is there a Disaster mx plan in section	Yes	0	0.0	13	65.0	0	0.0	31	62
	No	20	100.0	5	25.0	50	100.0	19	38
	Total	**20**	100.0	**18**	90.0	**50**	100.0	**50**	100
	p=0.00					p=0.00			

Table 6a:-

QUALITY CONTROL (Knowledge)		Doctors				Paramedics			
		Pre		Post		Pre		Post	
		N	Percent	N	Percent	N	Percent	N	Percent
Tools of quality mx	Yes	6	30.0	16	80.0	2	4.0	32	64
	No	14	70.0	4	20.0	48	96.0	18	36
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100

	p=0.00					p=0.00			
What is quality assessment	Yes	4	20.0	14	70.0	12	24.0	28	56
	No	16	80.0	5	25.0	38	76.0	22	44
	Total	**20**	100.0	**19**	95.0	**50**	100.0	**50**	100
	p=0.00					p=0.01			

Table 6b:-

Attitude		**Doctors**				**Paramedics**			
		Pre		**Post**		**Pre**		**Post**	
		N	**Percent**	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**
Is quality assessment important	Yes	9	45.0	19	95.0	6	12.0	42	84
	No	11	55.0	1	5.0	44	88.0	8	16
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
	p=0.00					p=0.01			

Table 6c:-

Practice		**Doctors**				**Paramedics**			
		Pre		**Post**		**Pre**		**Post**	
		N	**Percent**	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**
Using quality tools in section	Yes	4	20.0	14	70.0	12	24.0	36	72
	No	16	80.0	6	30.0	38	76.0	14	28
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
	p=0.00					p=0.00			

Table 7a:-

HAND HYGIENE (Knowledge)		**Doctors**				**Paramedics**			
		Pre		**Post**		**Pre**		**Post**	
		N	**Percent**	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**
Steps of handwash	Yes	8	40.0	17	85.0	18	36.0	40	80
	No	12	60.0	3	15.0	32	64.0	10	20
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
	p=0.00					p=0.00			
Moments of handwash	Yes	5	25.0	15	75.0	15	30.0	38	76
	No	15	75.0	5	25.0	35	70.0	12	24
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
	p=0.00					p=0.03			
Time for handwash	Yes	7	35.0	17	85.0	18	36.0	42	84
	No	13	65.0	3	15.0	32	64.0	8	16

	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
	p=0.01					p=0.01			

Table 7b:-

Attitude		**Doctors**				**Paramedics**			
		Pre		**Post**		**Pre**		**Post**	
		N	**Percent**	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**
Do you think regular hand hygiene important	Yes	11	55.0	17	85.0	35	70.0	45	90
	No	9	45.0	3	15.0	15	30.0	5	10
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
	p=0.05					p=0.7			

Table 7c:-

Practice		**Doctors**				**Paramedics**			
		Pre		**Post**		**Pre**		**Post**	
		N	**Percent**	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**
Do you hand wash before and after touching patients	Yes	12	60.0	16	80.0	32	64.0	46	92
	No	8	40.0	4	20.0	18	36.0	4	8
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
	p=0.05					p=0.01			
Do you hand wash before and after a procedure	Yes	11	55.0	17	85.0	31	62.0	46	92
	No	9	45.0	5	25.0	19	38.0	4	8
	Total	**20**	100.0	**22**	110.0	**50**	100.0	**50**	100
	p=0.04					p=0.05			
Do you hand wash before and after touching a patient's surroundings	Yes	12	60.0	18	90.0	22	44.0	38	76
	No	8	40.0	2	10.0	28	56.0	12	24
	Total	**20**	100.0	**20**	100.0	**50**	100.0	**50**	100
	p=0.02					p=0.02			

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