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RESEARCH APPROACH ON NEEDLE STICK/SHARP INJURIES AND SAFETY HAZARD FACED BY NURSES

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ABSTRACT

Needle Stick/Sharp Injuries are a major occupational and safety hazard faced by health care workers. Physicians, nurses and laboratory-staff are frequently exposed to Needle Stick/Sharp Injuries. Nursing staff are at high risk for occupational exposure to needle stick injuries with 100% having experienced it. Health care workers frequently handle needles and sharp instruments in their patient care. Among all health care professionals nurses play an important role in providing patient care, so they are at risk for Needle Stick/Sharp Injuries. The reasons are lack of assistance or haste, heavy work load, inexperience with new equipments, followed by processing instruments and recapping of needles. The methodology of research indicates the general patterns of organizing the data, procedure of gathering the valid reliable data for the problem under investigation. Research methodology is a significant part of any study which enables the researcher to project the research undertaken. Research methodology enables the research to project a blue print of details, data, approach, analysis and findings of research undertaken. It is the blue print projected by the researcher of the research study. In the process of job functions nurses experience a variety of work related problems like heavy lifting , pushing, pulling and frequent bending, long standing, extra hours of work which directly impose stress on musculoskeletal system problems among nurses. Some time though they have knowledge not able to apply protective measures due to work pressure and lack of time or resources. The heavy work load is the major cause of injury. The education and training to be provided to nurses regarding using protective devices and proper handling of sharps, nurses and sharp handles are at great risk of acquiring blood borne diseases like HIV, HBS Ag. The institutions should follow the Government regulations to prevent needle stick injuries. Supervisors should encourage to report the incident. Organizations should encourage to follow the infection control techniques and should provide the post – exposure prophylaxis. Last but not least organizations should take initiation to recruit adequate staff so that work load decreases for nurses. Which is one of the major reasons of needle stick and sharp injuries.

Key words: nurse problems, needle stick/sharp injuries, nurses education, public education on nurses.

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INTRODUCTION

Needle Stick/Sharp Injuries are a major occupational and safety hazard faced by health care workers. Physicians, nurses and laboratory-staff are frequently exposed to Needle Stick/Sharp Injuries. Nursing staff are at high risk for occupational exposure to needle stick injuries with 100% having experienced it[1].

Health care workers frequently handle needles and sharp instruments in their patient care. Among all health care professionals nurses play an important role in providing patient care, so they are at risk for Needle Stick/Sharp Injuries. The reasons are lack of assistance or haste, heavy work load, inexperience with new equipments, followed by processing instruments and

recapping of needles[2].

Needle Stick/Sharp Injuries may be defined as introduction of blood (or) other potential infectious material by a hollow bore needle or sharp instruments, but not limited to needles, lancets, scalpels and contaminated broken glass. Needle Stick/Sharp Injuries are wounds caused by sharps such as hypodermic needles, blood collection needles, suture cannulas, winged needle of IV sets, needle recapping activity[3]. The commonest clinical activity to cause needle stick injuries was blood withdrawal (55%) followed by suturing (20.3%) and vaccination (11.7%). Majority of health care professionals received needle stick injuries post-usage but prior to disposal 13% of Health Care Workers received needle stick injuries due to aggressiveness and resistance of the patient.

According to WHO, 35.7 million workers all over the world are exposed to Needle Stick/Sharp Injuries. Globally, the estimated proportion of health care workers exposed to blood borne pathogens were 2.6% for HCV, 0.5% for HIV, 5.9% for HBV corresponding to 66,000 HBV infections, and 16,000 HCV infections worldwide. In Expanded Programme of Immunization study, Needle Stick/Sharp Injuries during needle use account for 38% and 42% occurred after usage before disposal[4].

Following a Needle Stick/Sharp Injuries, majority of Health Care Workers took immediate action (60%), while 14% took action later on the same day and 26% did not take any action. The measures taken include washing site with soap and water, cleaning with appropriate agents like alcohol, dettol or antiseptic agents, reporting incident to seniors/ supervisors and seeking advice on Needle Stick/Sharp Injuries and protocol from regional centre. Every health care facility should consist of an infection control committee and a control program of preventing Needle Stick/Sharp Injuries. It is an essential part of such programmes especially in prevention of blood borne pathogens. Post Exposure Prophylaxis should be started immediately following the review of the injury with doctor. Every nurse needs to know the severity of Needle Stick/Sharp Injuries, source of patient and treatment regimen. PEP should be started as early as possible. Post Exposure Prophylaxis (PEP) is the treatment of choice recommended in combination of drugs, protease inhibitor and reverse transcriptase inhibitors. If the patient is exposed to HIV urines, the standard PEP contains Zidovudine, Indinavir and lamuvudine which needs to be completed in four weeks of time. Post Exposure Prophylaxis includes counseling, confidential testing, treatment and follow up[5,6].

Vaccination against Hepatitis B virus, elimination of unnecessary injections and needles, avoiding recapping, following universal precautions and careful disposal of the sharps are some of the effective control measures to prevent exposure of nurses to blood borne pathogens or Infections. Providing education regarding preventive measures and Post Exposure Prophylaxis and safe work environment might decrease the number of Needle Stick/Sharp Injuries. In all clinical settings and patient rooms safe disposal of sharps should be managed[7].

According to traditional hierarchy, control measures to prevent Needle Stick/Sharp Injuries include replacement of hazards by substituting injections with medications, through other routes like inhalers, tablet or transdermal patches. Sharps and needles should be removed and all unnecessary injections need to be eliminated, jet injectors may substitute needles and syringes. Injuries at workplace can be prevented by placing sharp container at eye level and within reachable area, periodical checking of sharp containers and employing them before they get full[8]. According to preventive measures of PHAC (Public Health Agency of Canada) 2014, recapping of needles should be avoided, placing used items in puncture resistant containers which are easily accessible at point of care. Lesions on hands and arms should be covered by dry dressings all the time, hand hygiene is emphasized in care of procedures. If splashes of blood/body fluids spills are anticipated protective measures to cover eye, nose and ears have to be taken. Following exposure with blood and body fluids, report to the employer and follow the protocol available[9].

A strategy has been formulated by WHO in 2003, for the safe guarding health care worker from blood borne viruses which includes advices to health care workers on the establishment and empowerment of an infection control committee. Usage of surveillance to rule out procedures and situations at risk and to make necessary changes, attain compliance with universal precautions through ongoing commitment, training of all staff members and provision of supplies. Immunization of health workers against Hepatitis B in the beginning of their career. Confirm the availability of personal protective equipment for dealing with cases of exposure to blood and body fluids. Safe practices to be enforced through monitoring and supervision[10].

A project was conducted by World Health Organization and International Council for Nurses (2003). The study suggests that there is a need for integration between disciplines, following universal precautions and education of health care workers and nurses on preventive aspects.

NEED AND OBJECTIVES OF THE STUDY:

The main aim of the study is to identify the various psychosomatic and social problems among Nurses.

Every year nearly 35 million health care workers are exposed to risk of needle stick or sharp injuries In India on an average 3-6 million injections are administered annually of which 1/3 injections are unsafe due to usage of glass syringes and associated risks of infection. As physical activities are concerned after industrial jobs nursing is in 2nd rank in which work related musculoskeletal problems occur with high prevalence.

Though nurses have ascended the steps of prestige ranking on the professional ladder, public opinion ranks them 3rd position, next to engineers and physicians. Continuous treatment of violence leading to mental health problems among nurses, which in turn affect the work output. The personal and professional problems are affecting them with very poor life satisfaction. The other problems like low status, long working hours risk for infections, questions regarding sexual purity, their family background, low socio economic status, work load, less importance in organizations, decision making activities are some of them.

After extensive review of literature as many researchers did not peep into all these nurses problems though they are triggering factors. Keeping these aspects in the view the researcher felt that there is a quick need to study the various aspects of Psychosomatic and Social problem among nurses.

OBJECTIVES:

1. To study the Socio, Economic and Demographic profile of respondent nurses.
2. To identify the incidence of somatic problems like Needle Stick Injuries and Musculoskeletal problems among respondent nurses.
3. To undertake 20 case studies for deeper understanding of the specific problems of Nurses.

METHODS ANDMATERIALS:

The methodology of research indicates the general patterns of organizing the data, procedure of gathering the valid reliable data for the problem under investigation. Research methodology is a significant part of any study which enables the researcher to project the research undertaken. Research methodology enables the research to project a blue print of details, data, approach, analysis and findings of research undertaken. It is the blue print projected by the researcher of the research study.

Research approach is the most essential part of any research. The entire study is based on it. The research approach used in this study is descriptive quantitative research approach.

DESIGN AND ANALYSIS:

Research design incorporates the most important methodological decisions that a researcher makes in conducting a research study. It depicts the overall plan for organizing of scientific investigation. It helps the researcher in the selection of subjects, manipulation of variables and observation of a type of statistical method to be used to interpret the data.

STUDY AREA:

Research settings are specific places in a research where data collection is to be made. The selection of setting was done on the basis of feasibility of conducting the study, availability of subjects and permission of authorities.

In the present study two settings were selected. Setting-I is Government General Hospital, Guntur which contains 1177 beds and 342 Registered Nurses working in three shifts.

Setting-II is Private Hospital, NRI General Hospital of 1000 beds capacity consist of 510 Registered Nurses working in three shifts.

STUDY POPULATION:

Target population is the aggregate of cases about which the researcher would like to generalize.In the present study, the target population is Registered Nurses of Government and Private Hospitals in Guntur, Andhra Pradesh.

In this present study a random sample of 300 Registered Nurses of Government and Private 150 each who are working in different clinical settings were included in the study. The RN_s are from Government General Hospital, NRI General Hospital, Guntur, Andhra Pradesh State.

Inclusive Criteria

1. Nurses working in selected Government and Private hospital of Guntur.
2. Nurses who are able to understand and read English.
3. Registered Nurses only.
4. Nurses who are not attended for the training programme related to variables.

Exclusive Criteria

1. Nurses who were not willing to participate in the study.
2. Nurses who are working in other settings.
3. Nurses who are not available during the period of data collection.

RESULTS AND DISCUSSION:

Nursing as science of health focuses on serving patients with the intention to help and provide empathetic care but this caring attitude or nature will put them in to Physical (Musculoskeletal) and Biological (Infections due to Needle Sticks and other types) problems. In the process of job functions nurses experience a variety of work related problems like heavy lifting , pushing, pulling and frequent bending, long standing, extra hours of work which directly impose stress on musculoskeletal system problems among nurses. Some time though they have knowledge not able to apply protective measures due to work pressure and lack of time or resources.

Facing work related physical injuries and illness is an existing and emergency problem in nursing profession. In this section the researcher has presented analysis and interpretation of Musculoskeletal Problems, reporting behavior towards Physical Problems, awareness and concern about Work Place Hazards.

Nurses are an important group in health care settings. They are the busiest people and their working environment is uncertain due to emergencies and with the type of work they do. Nurses' work is one of the most hazardous work environment as they are involved in treatment of many kinds of diseases. They are busy with multi tasks and always on their toes to complete the work due to shortage of staff and emergencies. This busy schedule and emergencies will influence them to have variety of injuries especially Needle Sticks. Needle Stick Injuries are one of the most dangerous and common problems which are great sources of dreadful blood borne infections like Hepatitis- B & C, HIV and many other such kinds. A very high proportion of nurses had exposed to Needle Stick Injuries which has taken life of nurses.

In this section the researcher presented the analysis and interpretation of how often Needle Stick Injuries are occurring, in which areas it is occurring most frequently, what action the nurse and nurse managers has taken towards it.

The above **Table 1** reveals the frequency and percentage distribution of Nurses by Needle Stick/Sharp Injuries. Results revealed that majority 92 (61.3%) of Government and 99 (66%) of private nurses sustained Needle Stick/Sharp Injuries in the last 12 months. Moreover 58 (38.7%) of Government nurses and 51 (34%) of private nurses didn't have Needle Stick Injuries in the last 12 months.

This shows that there is no significant difference in the exposure to Needle Stick/ Sharp Injuries between Government and private nurses (χ^2 0.706, p=0.401).

The above **Table 2** shows the frequency and percentage distribution of number of Needle Stick/Sharp Injuries in the last 12 months. Results shows that majority of 120 (80%) of Government and 127 (84.6%) of private nurses had Needle Stick/Sharp Injuries twice, moreover 23 (15.3%) of Government and 20 (13.4%) of private nurses had Needle Stick/Sharp Injuries 3-5 times, Furthermore 2 (1.3%) of Government and 2(1.4%) of private nurses had Needle Stick/Sharp Injuries between 6 – 9 times, Fourthly 4 (2.7%) of Government and 1 (0.6%) of private nurses had Needle Stick/Sharp Injuries between 9-12 times, whereas 1 (0.7%) of Government nurses had needle stick/sharp injuries more than 12 times. To conclude that there is no significant difference with the number of Needle Stick/Sharp Injuries in last 12 months at χ^2 3.21, df 4 was statistically not significant at P=0.524.

The above **Table 3** reveals the percentage distribution of area of Needle Stick/Sharp Injuries of respondent nurses. Results depicts that majority 41 (27.3%), 37 (24.7%) of Government nurses had Needle Stick/Sharp Injuries at injection room and emergency ward respectively, whereas 37 (24.7%) of private nurses had Needle Stick/Sharp Injuries at injection room and emergency ward respectively. Moreover 38 (25.3%) of Government nurses had Needle Stick/Sharp Injuries at I.C.U and 23 (15.3%) of private nurses had Needle Stick/Sharp Injuries at General ward and I.C.U respectively. Whereas 35 (23.3%) of Government nurses had Needle Stick/Sharp Injuries at General ward. Fourthly 19 (12.7%) of Government nurses and 9 (6%) of private nurses had Needle Stick/Sharp Injuries at Operation theatre. Fifthly 7 (4.7%) of Government nurses and 6 (4%) of private nurses had Needle Stick/Sharp Injuries at Delivery room.

This shows that there is no significant association with the area of Needle Stick /Sharp Injuries at χ^2 4.45, df 5 was statistically not significant at p=0.486. This reveals that there is no difference between Government and private nurses in the area of exposure to Sharp Injuries.

The above **Table 4** depicts the percentage distribution of causative procedure for Needle Stick/Sharp Injuries of respondent nurses. Results shows that majority 54 (38%) of Government nurses had Needle Stick/Sharp Injuries while recapping the needles whereas 57 (36%) of private nurses had Needle Stick/Sharp Injuries while breaking ampoules. Besides this, 47 (31.3%) of Government nurses had Needle Stick/Sharp Injuries while breaking ampoules and 36 (24%) of private nurses had Needle Stick Injuries during recapping the needle. Moreover 39 (26%) of Government nurses and 21 (14%) of private nurses had Needle Stick/Sharp Injuries while performing procedures like injection, vein puncture. However, 30 (20%) of Government nurses had Needle Stick/Sharp Injuries while disposing sharps container whereas 19 (12.7%) of private nurses while cleaning the preparatory room. Furthermore, 28 (18.7%) of Government nurses had Needle Stick/Sharp Injuries while processing instruments where as 10 (6.7%) of private nurses had Needle Stick/Sharp.

Injuries while processing instruments and during disposing of sharps into container respectively. Lastly, 7 (4.7%) of Government and private nurses had Needle Stick/Sharp Injuries while handling the area containers which should not have sharps. And only 1 (0.7%) of Government nurses had Needle Stick/Sharp Injuries in other situations.

The results shows that there is significant association with the area of causative procedure of Needle Stick/Sharp Injuries at χ^2 16.7, with df 7 was statistically significant at P=0.019.

This reveals that there is a significant difference in the causative procedure for Needle Stick / Sharp Injury between Government and private nurses.

The above **Table 5** reveals the frequency and percentage distribution of factors responsible for Needle Stick/Sharp Injuries of respondent nurses. Results shows that majority 69 (46%) of Government and 67 (44.7%) of private nurses had Needle Stick/Sharp Injuries due to heavy workload. Moreover 60 (40%) of Government and 34 (22.7%) of private nurses had Needle Stick/Sharp Injuries due to lack of protective measures. Furthermore 36 (24%) of Government nurses had Needle Stick/Sharp Injuries due to tiredness. Whereas 25 (16.7%) of private

nurses and 21(14%) of Government nurses had Needle Stick/Sharp Injuries due to in attention / haste and 12 (8%) of private nurses had Needle Stick/Sharp Injuries due to tiredness. Lastly 5 (3.3%) of Government and 11 (7.3%) of private nurses had Needle Stick/Sharp Injuries due to other factors.

The results shows that there is a significant association with the area of factors responsible for Needle Stick/Sharp Injuries at χ^2 16.9 with df 4 was statistically significant at P=0.002. This shows there is a significant difference in the responsible factor for Needle Stick / Sharp Injury between Government and private nurses.

The above **Table 6** reveals the percentage distribution of response to Needle Stick/Sharp Injuries of respondent nurses. Results shows that majority 62 (41.3%) of Government and 47 (31.3%), 43 (28.7%) of private nurses washed the site under running water and with antiseptic/spirit and water respectively. In addition, 38 (25.3%), 35 (23.3%) of Government nurses washed with soap and water, and some pressed the site for not to bleed respectively, whereas 28 (18.7%), 26 (17.3%) of private nurses washed area with soap and water and some squeezed the blood from pricked site respectively. Furthermore, 29 (19.3%), 28 (18.7%), 26 (17.3%) of Government nurses applied plaster over the Needle Stick/Sharp Injuries wound, some drawn blood from pricked site and washed the site with antiseptic/spirit and water respectively. Whereas, 24 (16%), 19 (12.7%) of private nurses applied plaster on the needle stick / sharp injury site and some nurses pressed the site for not to bleed. respectively. And only 17 (11.3%) of Government and 12 (8%) of private nurses followed other measures as response to Needle Stick/Sharp Injuries.

This shows that there is no significant association with the response to Needle Stick/Sharp Injuries at χ^2 11, df 6 was statistically not significant at P=0.088. Finally it concludes that there is no significant difference in the immediate response of Government and private nurses after the Needle Stick / Sharp Injury.

The above **Table 7** shows the percentage distribution of reporting of Needle Stick/ Sharp Injuries of respondent nurses. This shows that majority 58 (38.66%) of Government and 51 (34%) of private nurses reported Needle Stick/Sharp Injuries, whereas 34 (22.66%) of Government and 48 (32%) of private nurses didn't report Needle Stick/ Sharp Injuries.

Table 8 shows the percentage distribution of nurses by reason for not responding reporting the Needle Stick/Sharp Injuries of respondent nurses. Results shows that majority 45(30%) of private and 39(26%) of Government nurses thought that Needle Stick /Sharp Injuries is not important to respond and however 27 (18%) of private nurses thought registration takes lot of time and 24 (16%) of Government nurses thought registration takes lot of time and some of Government nurses did not know where to register respectively. Lastly 11 (7.3%) of Government and 17 (11.3%) private nurses did not report and respond due to other reasons.

To conclude there is no significant difference with regard to reason for not responding and reporting of the Needle Stick/Sharp Injuries at (χ^2 3.79, df 3, P=0.285) between respondent groups.

The above **Table 9** depicts the percentage distribution of prophylaxis taken to Needle Stick/Sharp Injuries of respondent nurses. This shows that majority 31(20.66%) of Government nurses have not taken prophylaxis whereas 29 (19.33%) of private nurses had taken prophylaxis. However 19 (12.66%) of Government nurses had prophylaxis treatment whereas 15 (10%) of private nurses have not taken prophylaxis. However 8 (5.33%) of Government and 7 (4.7%) of private nurses can't remember whether prophylaxis taken or not. To conclude there is a significant difference with the prophylactic treatment to Needle Stick/ Sharp Injuries at (χ^2 7.30, df 2, p=0.026) between Government and private nurses.The above **Table 10** reveals the percentage distribution of nurses by training received on prevention of Needle Stick / Sharp Injuries. This shows that 58 (38.7%) of private and only 35 (23.3%) of Government nurses received training. However majority 115 (76.7%) of Government and 92 (61.3%) of private nurses didn't receive training. To conclude there is a significant difference with regard to training received on prevention of Needle Stick/ Sharp Injuries. (χ^2 8.24, df-1, P=0.004) between Government and private nurses.

The above **Table 11** shows the percentage distribution of nurses by procedure to deal with Needle Stick Injuries. Results shows that 46 (30.7%) of Government and 76 (50.6%) of private nurses had protocols for dealing with Needle Stick/Sharp Injuries. Majority 104 (69.4%) of Government and 74 (49.3%) of private nurses didn't have protocols for dealing with Needle Stick/Sharp Injuries. To conclude there is highly significant difference (P=0.000) between Government and private nurses with regard to procedures to deal with Needle Stick Injuries. (χ^2 12.4 df 1, P = 0.000).

The above **Table 12** depicts the percentage distribution of support of employer in response to needle stick/ sharp injuries of respondent nurses. Results shows that only 54 (36%) of Government and majority 81 (54%) of private nurses had support from employer. However 96 (64%) of Government and 69(46%) of private nurses didn't have support from employer. This shows that there is a highly significant difference with regard to support from employer as a response to Needle Stick / Sharp Injuries (χ^2 =21.2, df 1, P=0.000).When the incidence of training received and occurrence of Needle Stick/Sharp Injuries are observed. It clearly indicates that majority of nurses are not practicing the protocols for dealing with Needle Stick/Sharp Injuries. Continuous training, frequent observations in work area and post prophylaxis, treatment should be provided for safe practices. The reporting system must be made simple and quick through which it

can be noted the reason of injury and how to prevent it. The safety devices to be provided though it is expensive it is ethical responsibility of the organization to protect the staff and also to maintain adequate nurse patient ratio. Organization should motivate nurses but displaying the policies and where to report the incidents.

Table 1: Percentage Distribution of Nurses by Incidence of Needle Stick/sharp Injuries.

N= 150+ 150

Sl. No	Sustained Needle Stick Injuries	Working Sector				Chi-square	'p' value
		Government		Private			
		Frequency	Percentage	Frequency	Percentage		
1.	Yes	92	61.3	99	66	0.706	df=1 0.401 NS
	No	58	38.7	51	34		

NS: Not Significant (p > 0.05)

Table 2. Percentage Distribution of Nurses by Number of Needle Stick / Sharp Injuries.

N= 150+ 150

Sl.no	Number of Needle Stick Injuries in last year	Working Sector				Chi-square	'p' value
		Government		Private			
		Frequency	Percentage	Frequency	Percentage		
2.	0 – 2	120	80	127	84.6	3.21	df=4 0.524 NS
	3 – 5	23	15.3	20	13.4		
	6 – 9	2	1.3	2	1.4		
	9 – 12	4	2.7	1	0.6		
	> 12	1	0.7	0	0		

NS: Not Significant (p > 0.05)

Table 3: Percentage Distribution of Nurses by Area of Needle Stick Injuries.

N=150+150

Sl. No	Area of Needle Stick Injuries	Working Sector				Chi-square	'p' value
		Government		Private			
		Frequency	Percentage	Frequency	Percentage		
3.	Injection room	41	27.3	37	24.7	4.45	df=5 0.486 NS
	Emergency ward	37	24.7	37	24.7		
	General ward	35	23.3	23	15.3		
	Operation theatre	19	12.7	9	6		
	I.C.U	38	25.3	23	15.3		
	Delivery room	7	4.7	6	4		

NS: Not Significant (p > 0.05)

Table 4: Percentage Distribution of Nurses by Causative Procedures of Needle Stick / Sharp Injuries.

N=150+150

Sl. No	Procedure causing Needle Stick/Sharp Injury	Working Sector				Chi-squire value	'P' value
		Government		Private			
		Frequency	Percentage	Frequency	Percentage		
4.	Recapping the needle	54	38	36	24	16.7	* df – 7 0.019
	Breaking ampoules	47	31.3	57	36		
	During injection, vein puncture	39	26	21	14		
	Processing instruments	28	18.7	10	6.7		
	During cleaning	23	15.3	19	12.7		
	While disposing	30	20	10	6.7		

	sharps container						
	Handling the area/ containers which should not have sharps	7	4.7	7	4.7		
	Others	1	0.7	0	0		

*** Significant (p < 0.05)**

Table 5: Percentage distributions of Nurses by factors responsible for Needle stick / sharp Injuries.

N=150+150

Sl. No	Responsible Factors for Needle Stick / Sharp Injuries	Working Sector				chi – squire	'p' value
		Government		Private			
		Frequency	Percentage	Frequency	Percentage		
5.	Heavy work load	69	46	67	44.7	16.9	* df – 4 0.002
	Lack of protection measures	60	40	34	22.7		
	In attention / haste	21	14	25	16.7		
	Tiredness	36	24	12	8		
	Others	5	3.3	11	7.3		

*** Significant (p < 0.05)**

Table 6: Percentage distribution of Nurses by immediate response of self towards Needle Stick / Sharp Injuries.

N=150+150

Sl. No	Self response to Needle Stick/Sharp Injuries	Working Sector				Chi - square	'p' Value
		Government		Private			
		Frequency	Percentage	Frequency	Percentage		
6.	Drawing out the blood from pricked site.	28	18.7	26	17.3	11	df - 6 0.088NS
	Washing the site under running water.	62	41.3	47	31.3		
	Washing the site with Antiseptic/spirit and water.	26	17.3	43	28.7		
	Pressing the site for not to blood.	35	23.3	19	12.7		
	Washing area with soap and water.	38	25.3	28	18.7		
	Putting plaster on the wound.	29	19.3	24	16		
	Others.	17	11.3	12	8		

NS: Not Significant (p > 0.05)

Table 7: Percentage distribution of Nurses by whether reported Needle Stick / Sharp Injuries.

N=150+150

Sl. no	Needle Stick/Sharp Injury Reporting Status	Working Sector				Chi - square	'p' value
		Government		Private			
		Frequency	Percentage	Frequency	Percentage		
7.	Yes	58	38.66	51	34	2.59	df – 3 0.285 NS
	No	34	22.66	48	32		

NS: Not Significant (p > 0.05)

Table 8: Percentage distributions of Nurses by reason for not reporting Needle Stick/Sharp Injuries.

N=150+150

Sl. No	Reason for not Reporting	Working Sector				Chi - squire	'p' value
		Government		Private			
		Frequency	Percentage	Frequency	Percentage		
8.	Did not think it is important.	39	26	45	30	3.79	df - 3 0.285 NS
	Registration takes lot of time.	24	16	27	18		
	Did not know where to register.	24	16	15	10		
	Others.	11	7.3	17	11.3		

NS: Not Significant (p > 0.05)

Table 9:Percentage distributions of Nurses by whether prophylaxis taken or not to Needle Stick / Sharp Injuries.

N=150+150

Sl. No	Prophylaxis taken	Working Sector				Chi - squire	'p' value
		Government		Private			
		Frequency	Percentage	Frequency	Percentage		
9.	Yes	19	12.66	29	19.33	7.30	* df – 2 0.026
	No	31	20.66	15	10		
	Can't remember	8	5.33	7	4.7		

*** Significant (p < 0.05)**

Table 10: Percentage distribution of Nurses by training received on prevention of Needle Stick / Sharp Injuries.

N=150+150

Sl. No	Training received	Working Sector				Chi - sqaire	'p' value
		Government		Private			
		Frequency	Percentage	Frequency	Percentage		
10.	Yes	35	23.3	58	38.7	8.24	* df – 1 0.004
	No	115	76.7	92	61.3		

*** Significant (p < 0.05)**

Table 11: Percentage distribution of Nurses by procedure for dealing Needle Stick/ Sharp Injuries.

N=150+150

Sl. No	Procedures for dealing Needle Stick Injuries	Working Sector				Chi - square	'p' value
		Government		Private			
		Frequency	Percentage	Frequency	Percentage		
11.	a) Yes	46	30.7	76	50.6	12.4	* df – 1 0.000
	b) No	104	69.4	74	49.3		

*** Significant (p < 0.05)**

Table 12: Percentage distribution of Nurses by employer's support provided or not as response to Needle Stick/ Sharp Injuries.

N=150+150

Sl. No	Support of Employer	Working Sector				Chi - square	'p' value
		Government		Private			
		Frequency	Percentage	Frequency	Percentage		
12.	Yes	54	36	81	54	21.2	* df – 1 0.000
	No	96	64	69	46		

*** Significant (p < 0.05)**

Fig 1: Percentage Distribution of Nurses by Incidence of Needle Stick/sharp Injuries.

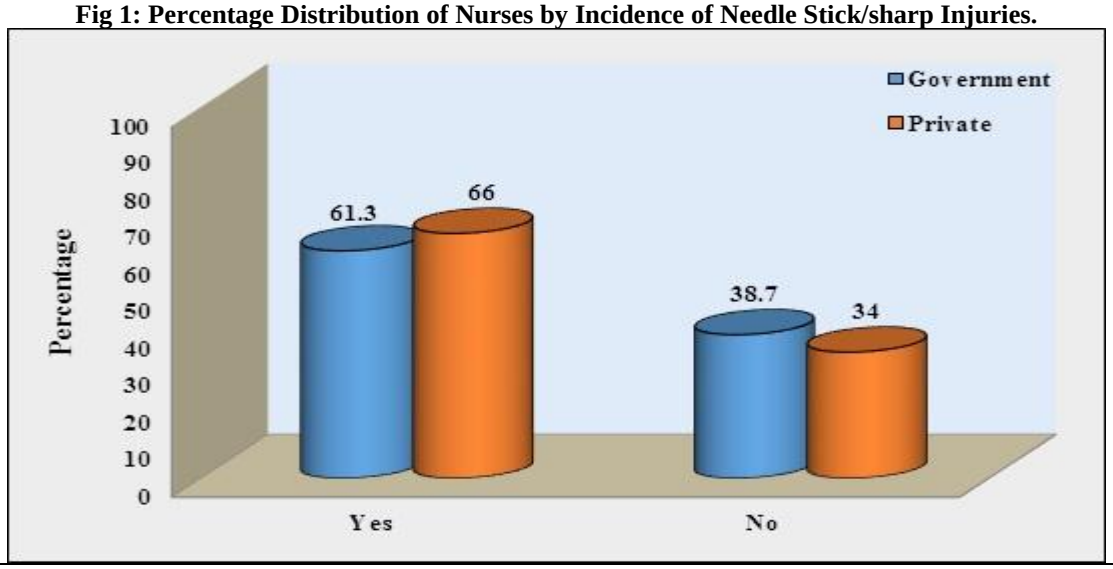


Fig 2: Percentage Distribution of Nurses by No.of Needle Stick/Sharp Injuries.

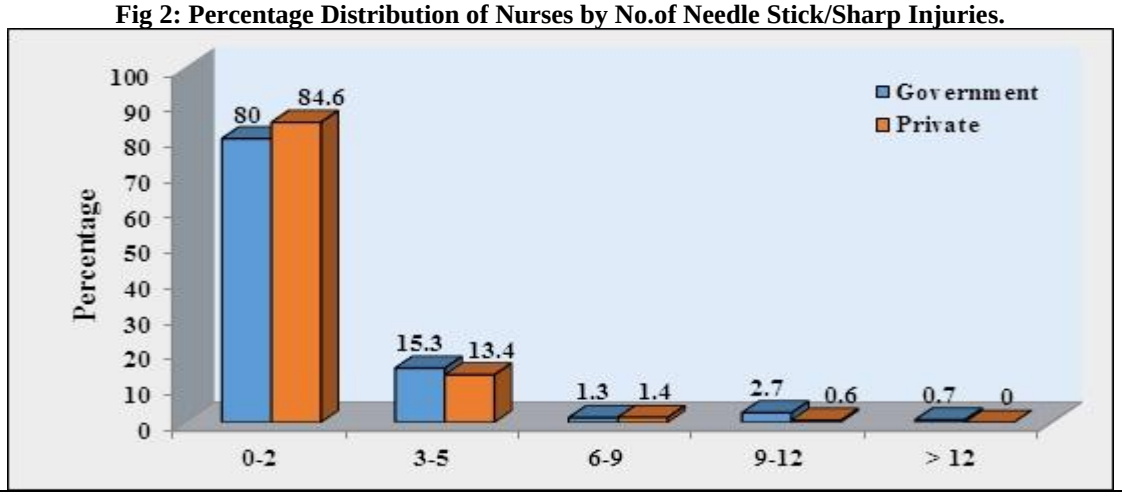


Fig 3: Percentage Distribution of Nurses by Area of Needle Stick Injuries.

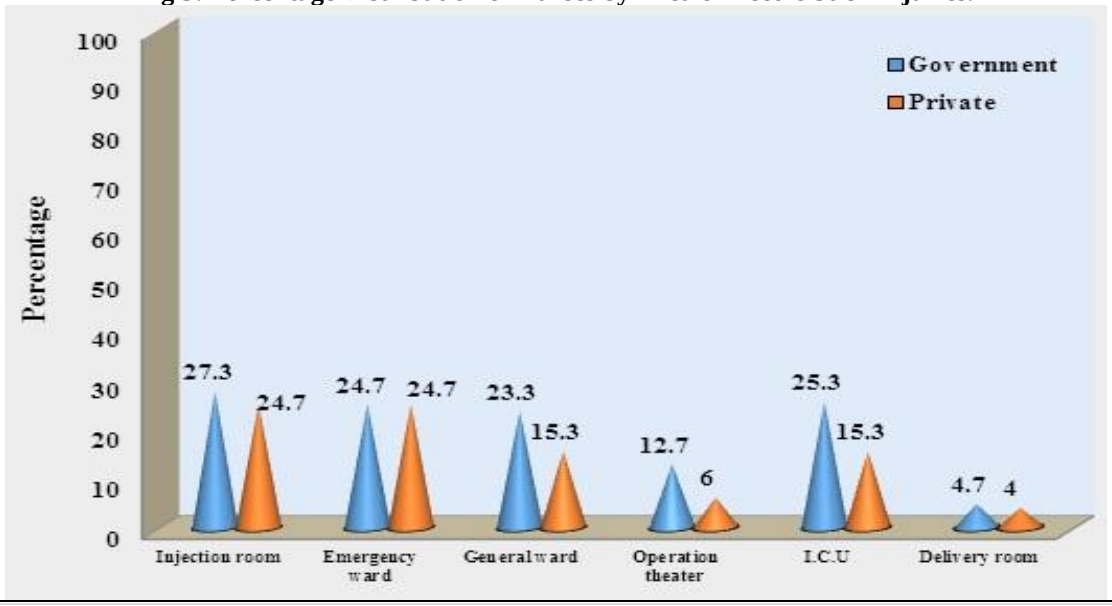


Fig 4: Percentage Distribution of Nurses by Causative Procedures of Needle Stick / Sharp Injuries.

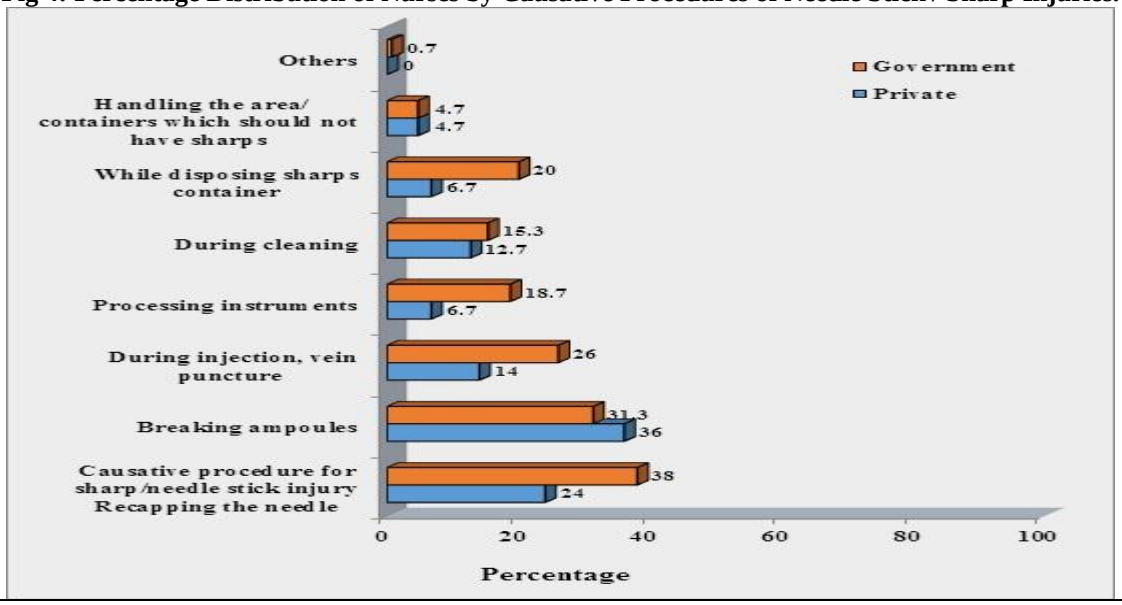


Fig 5: Percentage distributions of Nurses by factors responsible for Needle stick / Sharp Injuries.

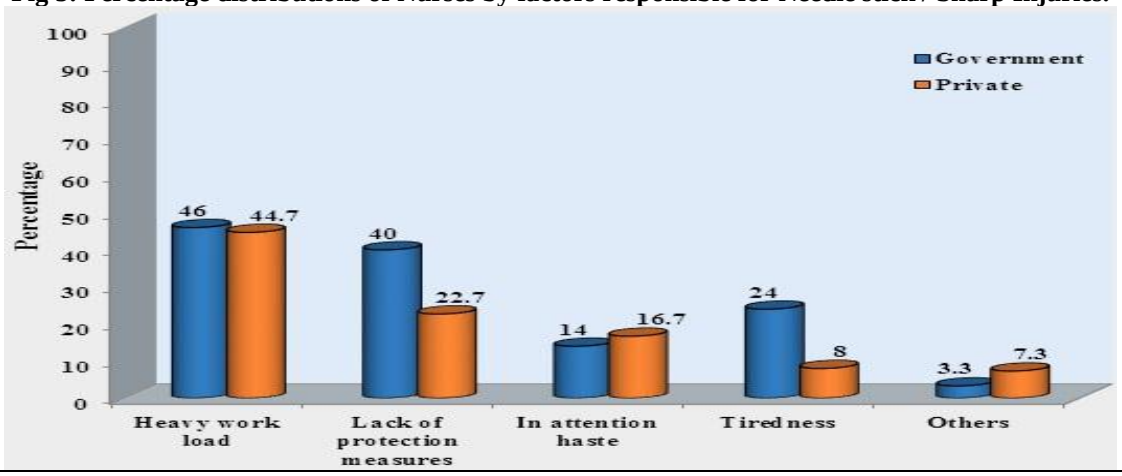


Fig 6: Percentage distribution of Nurses by immediate response of self towards Needle Stick / Sharp Injuries.

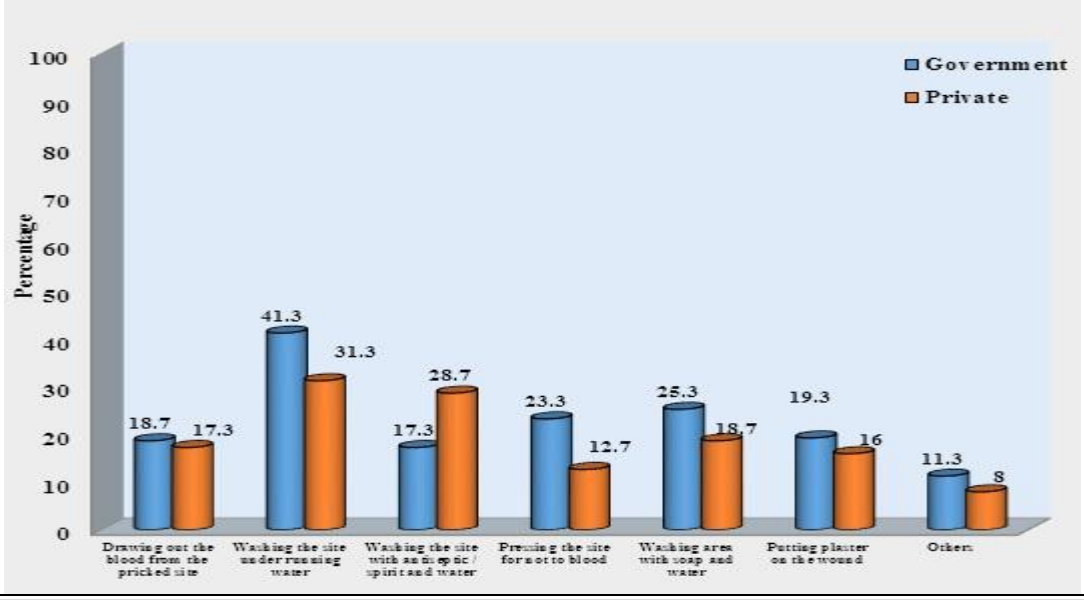


Fig 7: Percentage distribution of Nurses by whether reported Needle Stick / Sharp Injuries.

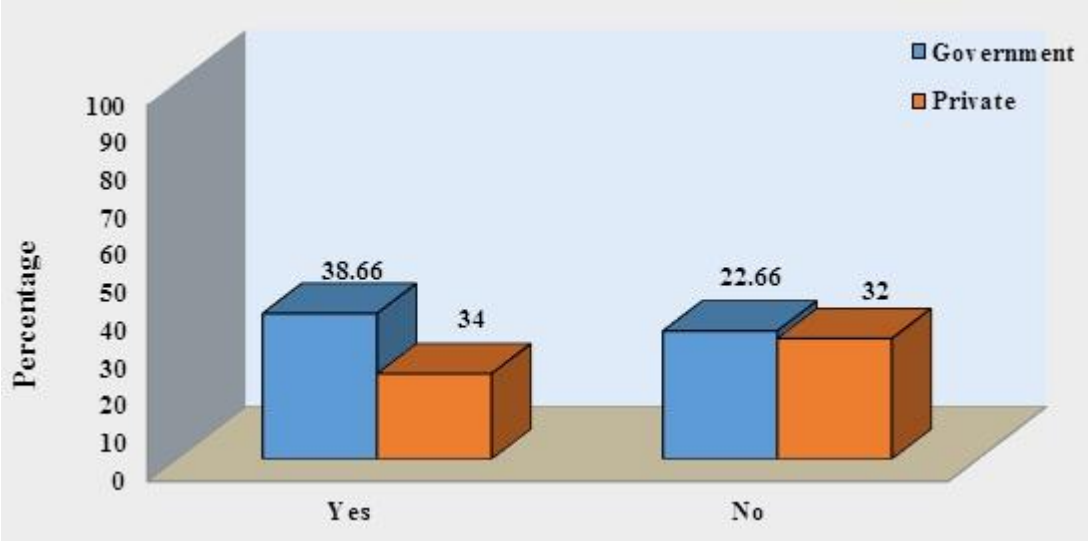


Fig 8: Percentage distributions of Nurses by reason for not reporting Needle Stick/Sharp Injuries.

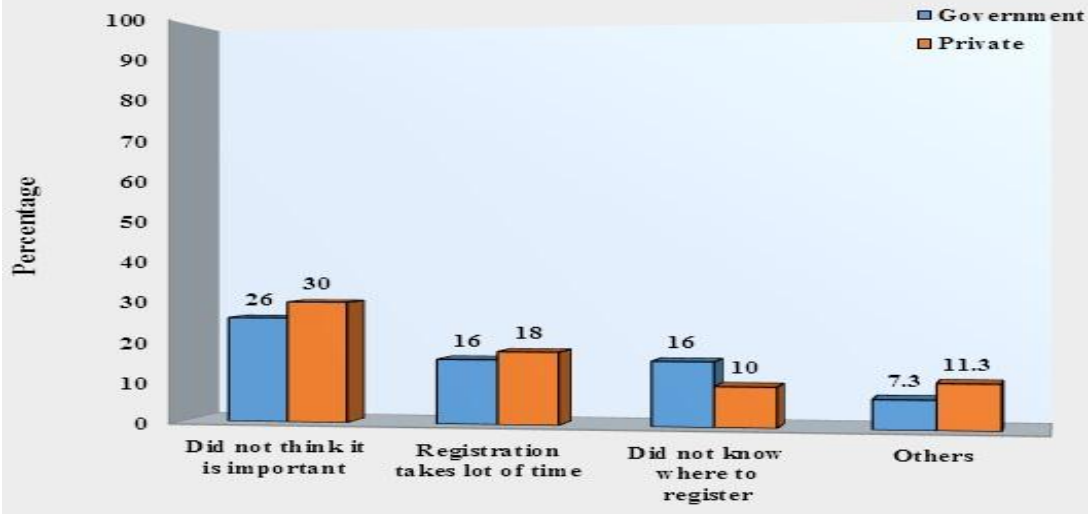


Fig 9: Percentage distributions of Nurses by whether prophylaxis taken or not to Needle Stick / Sharp Injuries.

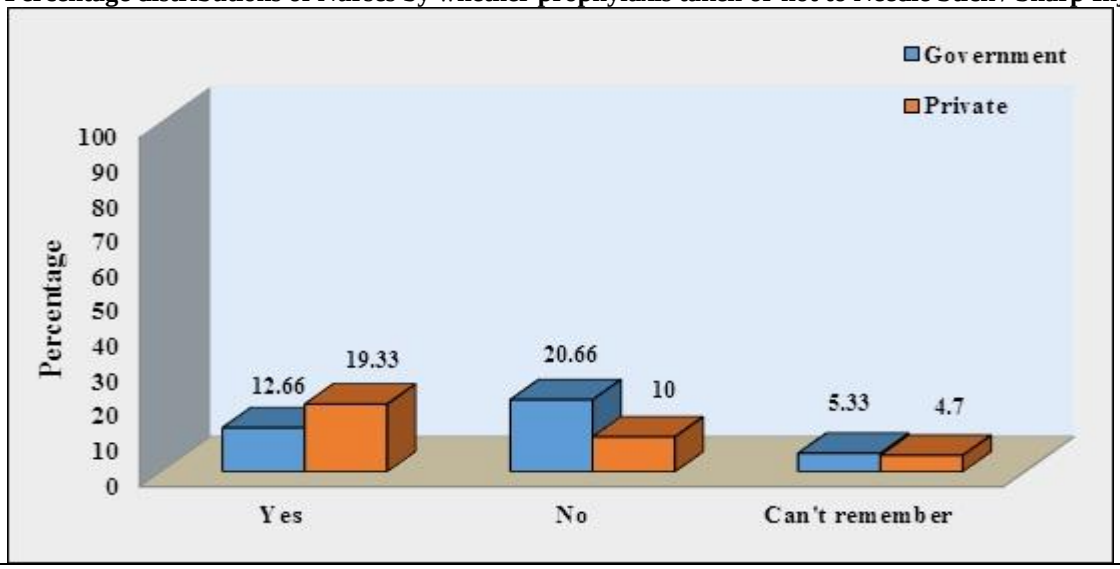


Fig: 10: Percentage distribution of Nurses by training received on prevention of Needle Stick / Sharp Injuries.

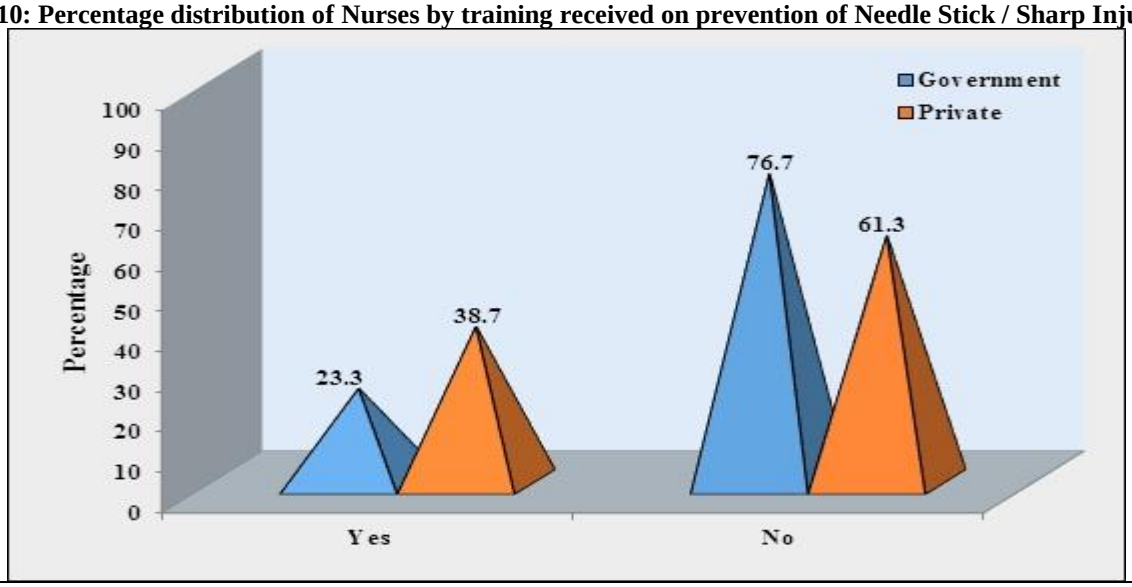


Fig 11: Percentage distribution of Nurses by procedure for dealing Needle Stick/ Sharp Injuries.

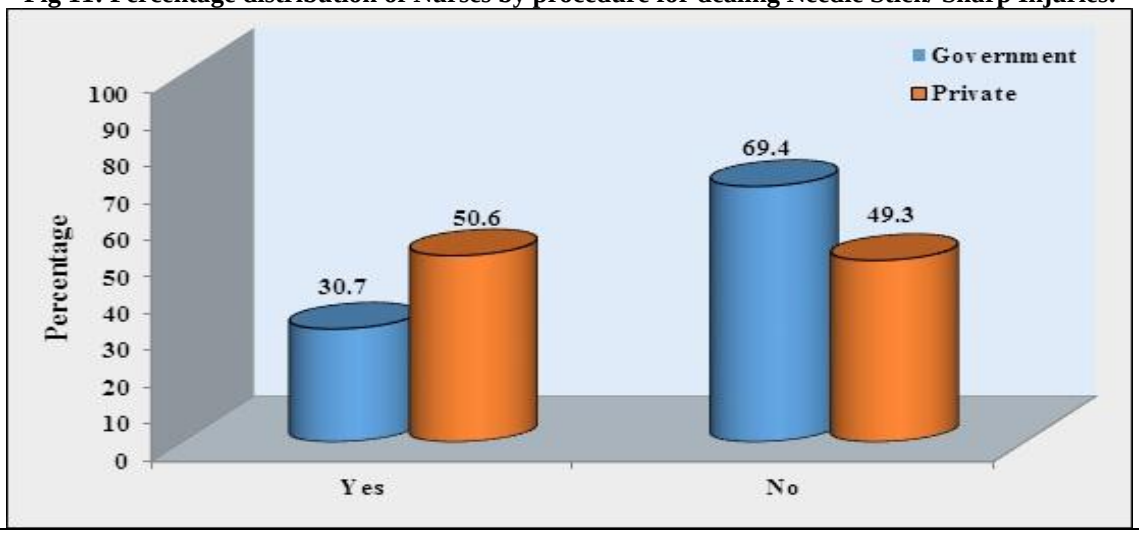
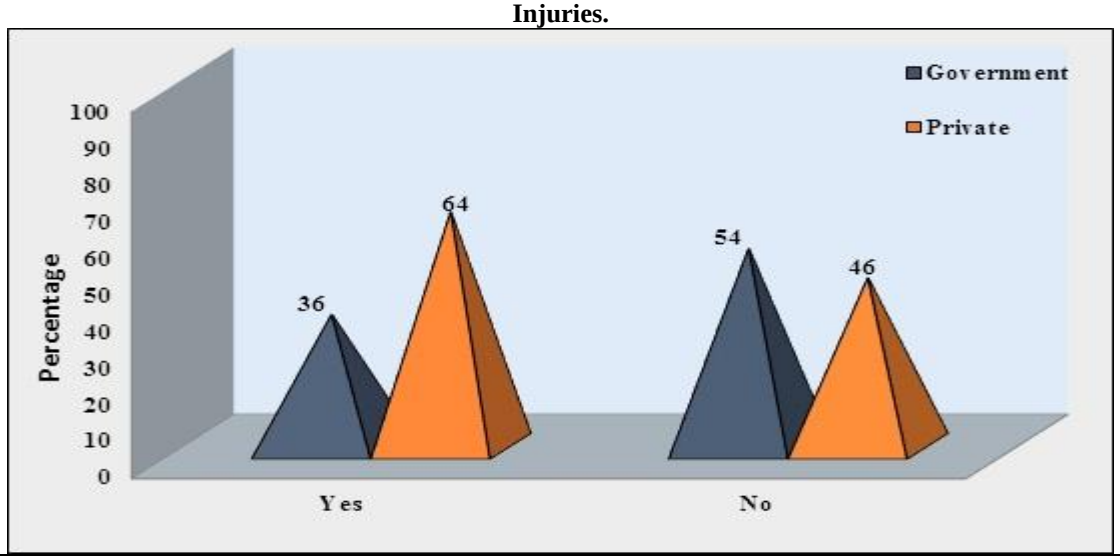


Fig 12: Percentage distribution of Nurses by employer's support provided or not as response to Needle Stick/ Sharp Injuries.



CONCLUSION:

The study indicates a high rate of Needle Stick/Sharp Injuries among Government and private nurses. The heavy work load is the major cause of injury. The education and training to be provided to nurses regarding using protective devices and proper handling of sharps, nurses and sharp handles are at great risk of acquiring blood borne diseases like HIV, HBS Ag. The institutions should follow the Government regulations to prevent needle stick injuries. Supervisors should encourage to report the incident. Organizations should encourage to follow the infection control techniques and should provide the post – exposure prophylaxis. Last but not least organizations should take initiation to recruit adequate staff so that work load decreases for nurses. Which is one of the major reasons of needle stick and sharp injuries.

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