A CROSS SECTIONAL STUDY ON KNOWLEDGE, ATTITUDE AND PERCEPTION OF HEALTHCARE WORKERS IN CONTROL AND PREVENTION OF HOSPITAL ACQUIRED INFECTION

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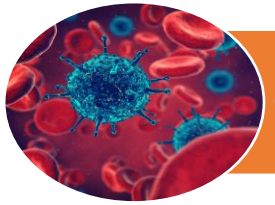
INTRODUCTION

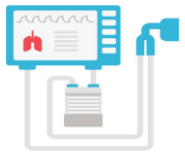
Nosocomial infection/ Hospital Acquired Infection- An infection that is obtained in a hospital or other healthcare facility or it is the illness that patients acquire while undergoing treatment but weren't already afflicted with at the time of admission. The forms of HAI are essentially categorised by the Centres for Disease Control and Prevention are-



Central line-associated bloodstream infections (CLABSI)

Catheter-associated urinary tract infections (CAUTI)

Surgical site infections (SSI)



Ventilator-associated pneumonia (VAP)

OBJECTIVES

To assess the knowledge of healthcare workers on nosocomial infection and prevention techniques

To know the perception and practice of healthcare workers on nosocomial infection and prevention techniques

To determine if knowledge is dependent on perception of employees on nosocomial infection and prevention techniques

To assess the attitude of staff towards attending training sessions on control and prevention of nosocomial infection

HOSPITAL/COMPANY PROFILE

Daya General Hospital Limited was founded in the year 2001, on the vision of Dr. V. K. Abdul Azeez and a group of medical professionals to offer the average person access to high-quality, reasonably priced healthcare. By providing its patients with high-quality, reasonably priced healthcare, Daya has carved out a unique place for itself in Kerala's healthcare industry. "**Caring with compassion**" is the hospital's motto, and it is adhered to.

- **Vision**: To be a centre for excellence which provides high quality patient-centred care affordable and accessible for all

- **Mission**: Daya is committed to providing the best yet affordable healthcare service upholding the code of medical and social ethics. We strive to deliver maximum value to the patients through our focus on clinical excellence and value-based scientific health care delivery. Our dedicated staff put patients first- every time

- **Quality Policy**: To provide high quality, patient-centred care at affordable cost through continuous quality improvement

RESEARCH METHODOLOGY

Study Design:

The study utilized a cross sectional design.

Population:

All clinical employees of Daya General Hospital Limited

Duration of the Study:

The study was conducted from 20th Feb 2023 to 19th May 2023, a period of three months.

Sample Size:

Number of samples: 150

Sampling Technique:

Convenience sampling method is used for selecting sample for the study.

Pilot study:

A pilot study was conducted by circulating the questionnaire to **25** employees in Daya General Hospital to check the viability of the questions. It was found that the questions were clear and was conveying the same idea to everybody. The questionnaire was then approved by infection control officer and hospital statistician. Since there was no change made in the questionnaire for data collection, the data collected for pilot study was included to analyse for the study.

Data Collection Procedure:

1. Questionnaire
2. Personal interview
3. Observation

Data Analysis Procedure:

1. Percentage Analysis

PERCENTAGE= (number of responses ÷ total no. respondent) × 100

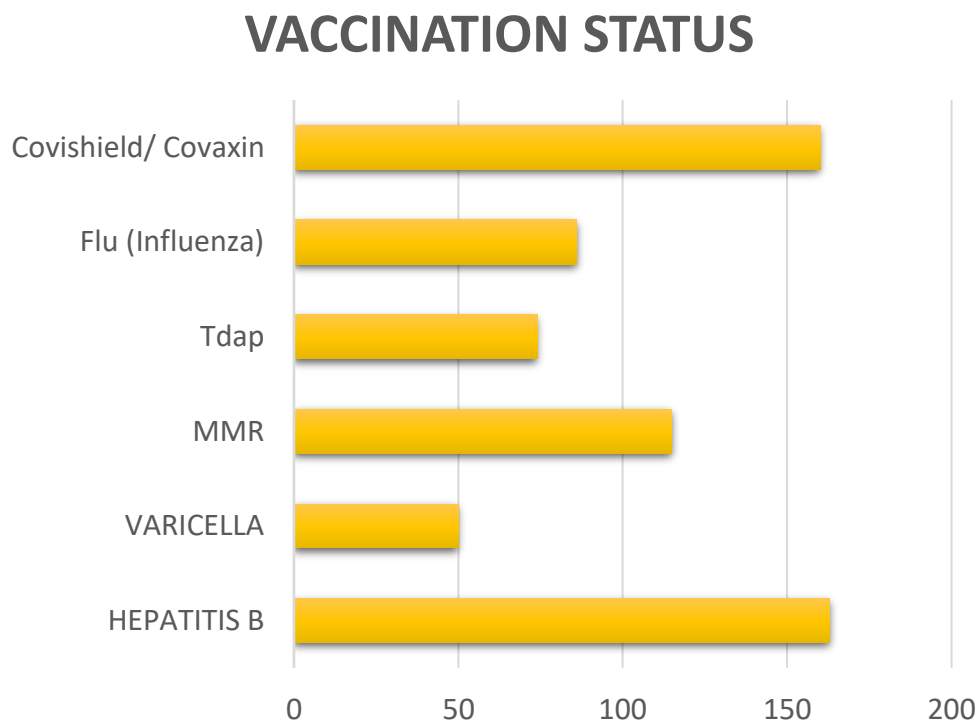
2. Chi Square Analysis- SPSS

$$\chi^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

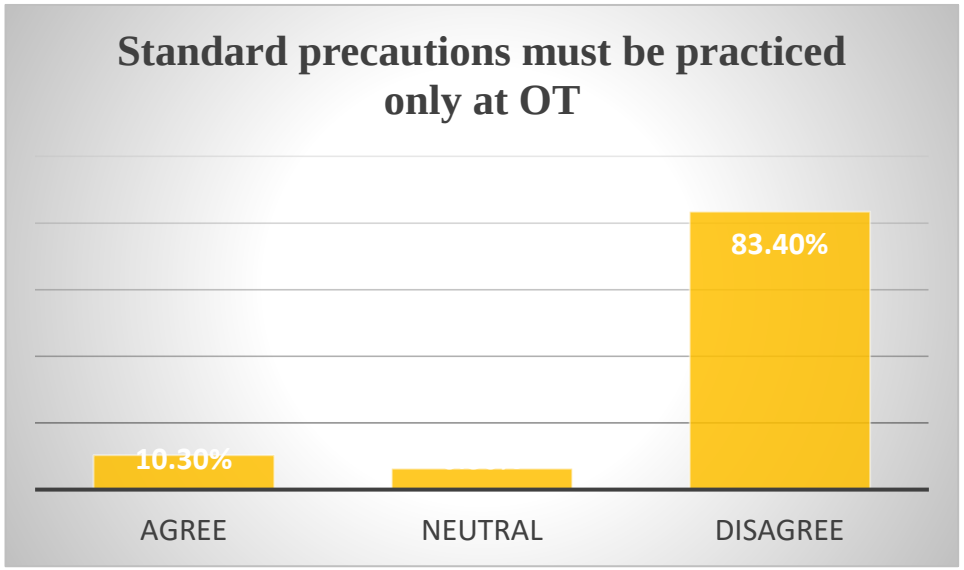
RESULT

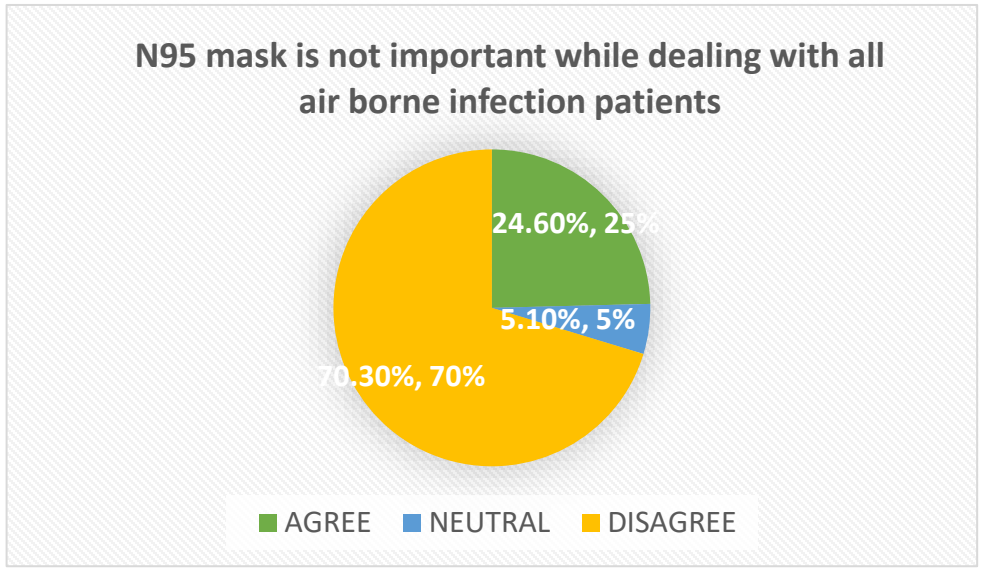
Vaccination status of employees:

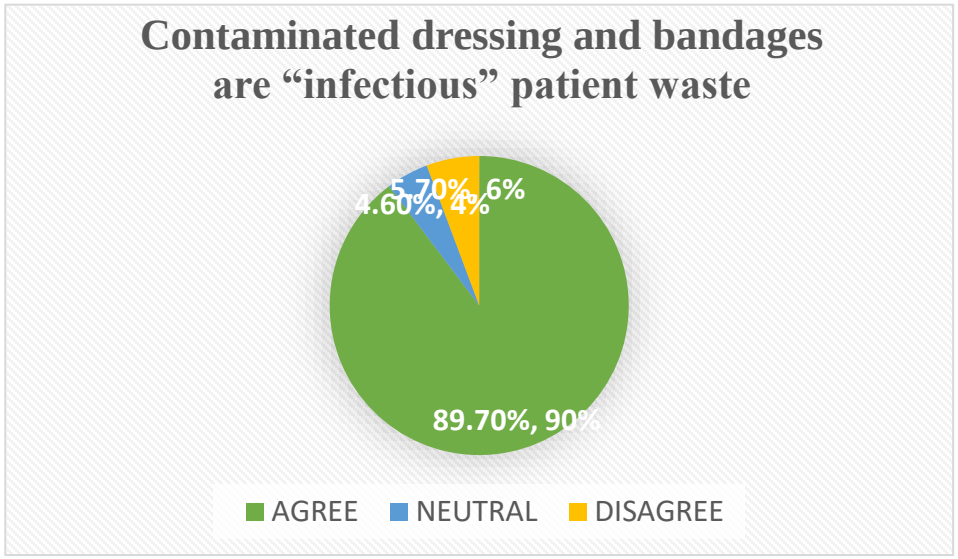
VACCINATION STATUS		
Vaccine	Number	Percentage
Hepatitis B	163	93.10%
Varicella	50	28.60%
MMR	115	65.70%
Tdap	74	42.30%
Flu (Influenza)	86	49.10%
Covishield/ Covaxin	160	91.40%

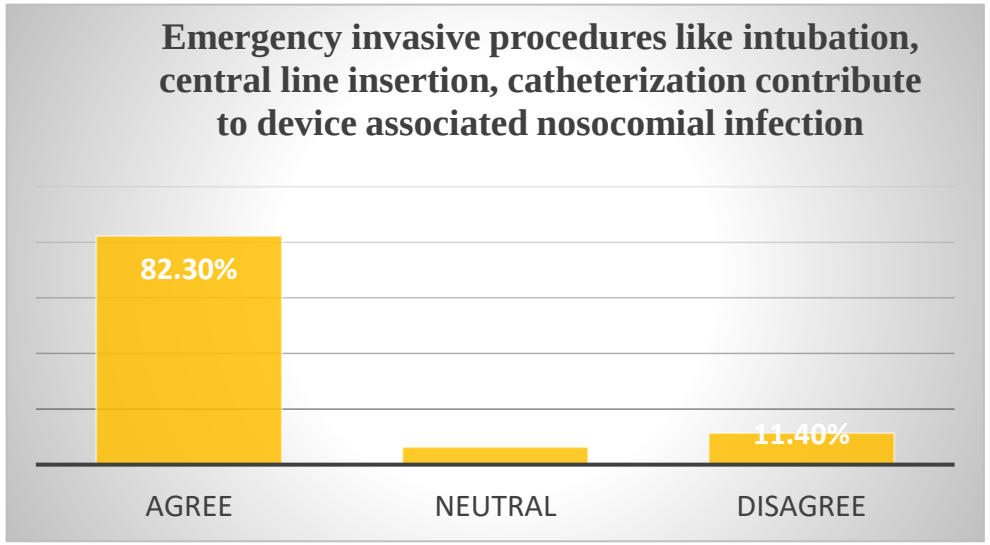


Knowledge Assessment

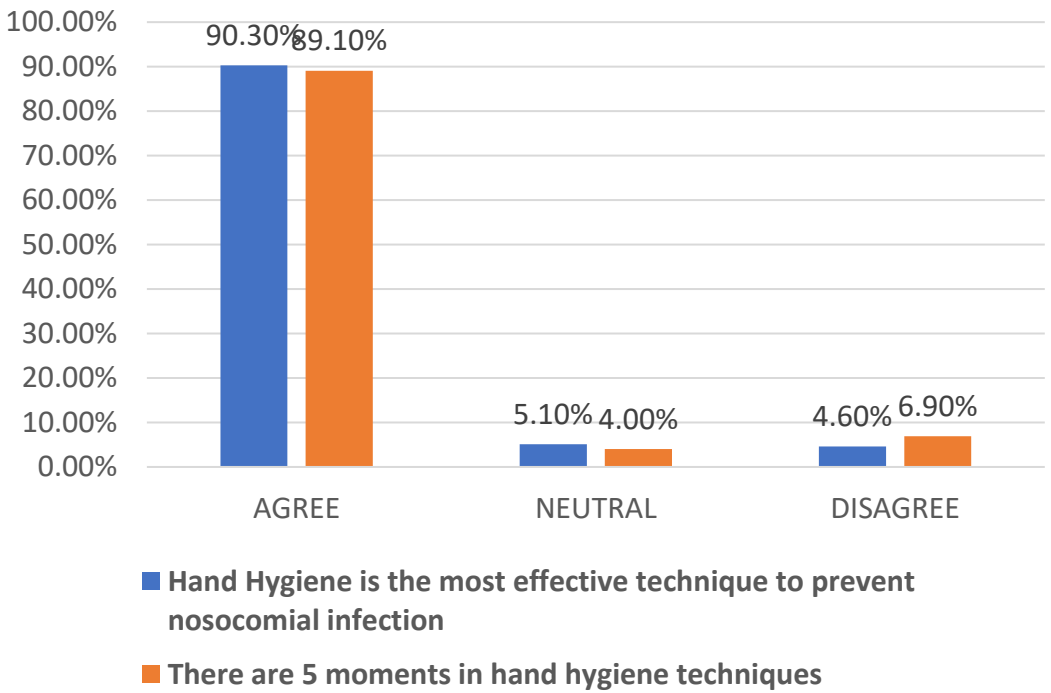




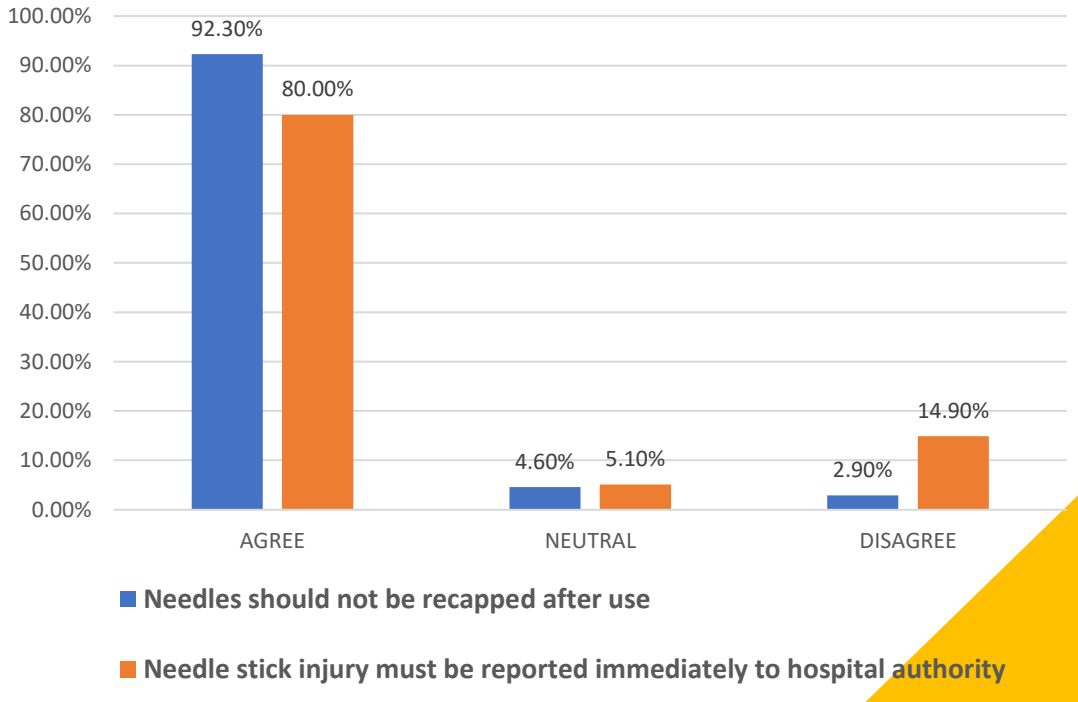




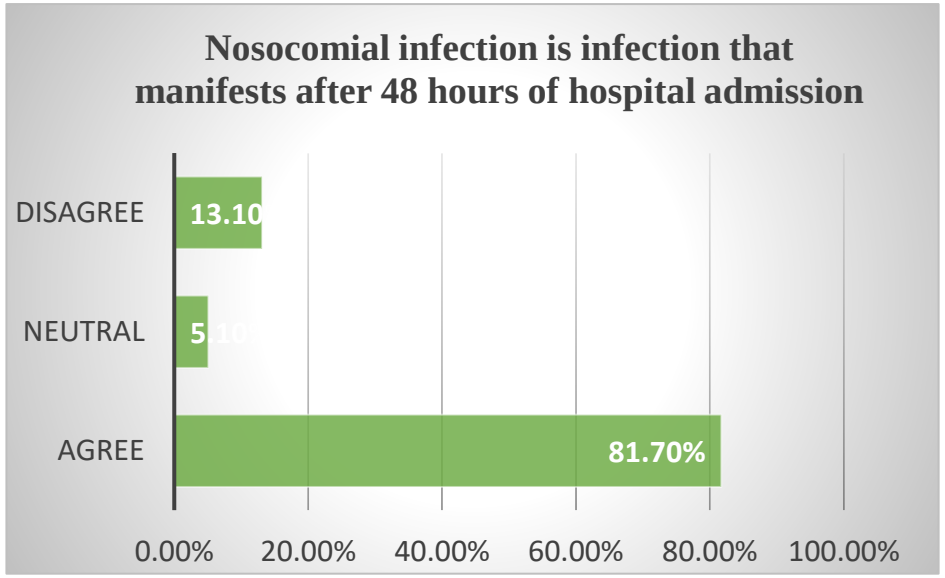
Responses on Hand Hygiene

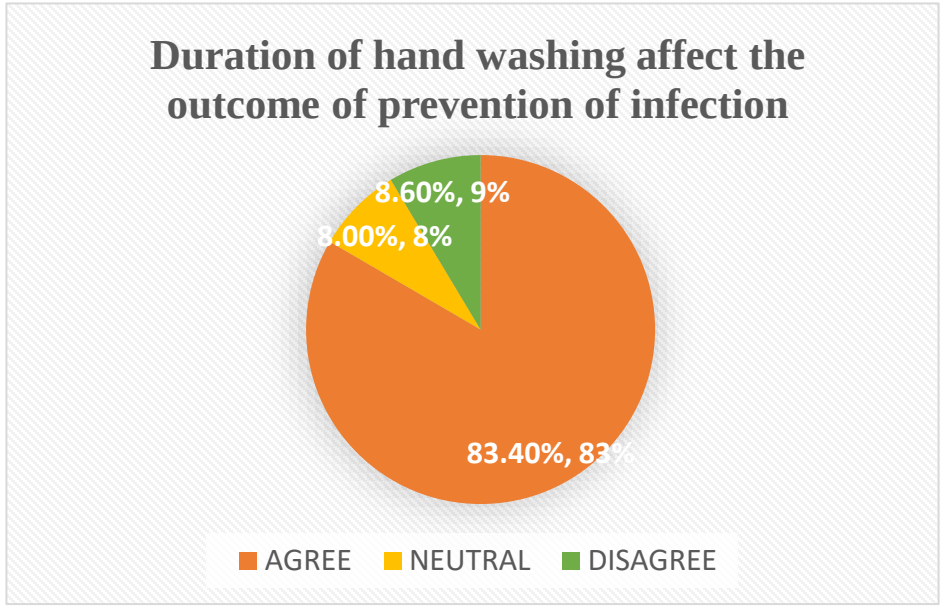


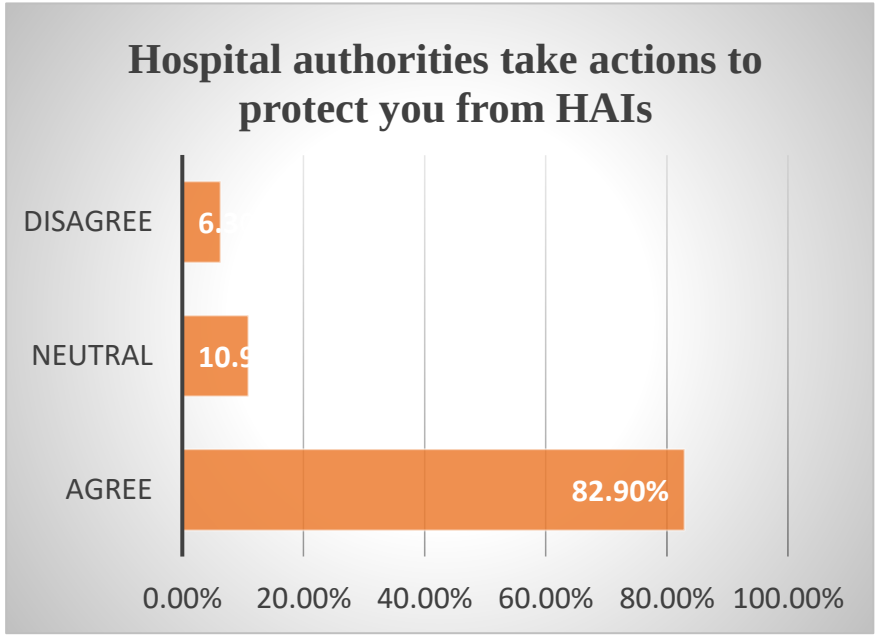
Responses on Needle Stick Injury



Perception Assessment







Chi-Square Analysis:

		Yellow bins are used for disposing infectious waste			Total	df	Chi-square value
		Agree	Neutral	Disagree			
Waste segregation is important during disposal	Agree	158	0	2	160	4	57.535[a]
	Neutral	8	2	2	12		
	Disagree	1	1	1	3		
Total		167	3	5	175		

$H_{0:}$ Knowledge is independent of perception on waste disposal

H_1: Knowledge is dependent on perception on waste disposal

Calculated P- Value: 0

Inference:

We set the level of significance $\alpha=0.05$.

Since the p-value is less than α, we reject the null hypothesis. There is a direct and significant relation between knowledge and perception of waste disposal. Hence, we conclude that knowledge is dependent on perception on disposal of waste.

$H_{0:}$ Knowledge is independent of perception on needle stick injury

H_2: Knowledge is dependent on perception on needle stick injury.

Calculated P-Value: 0.000543339

Inference:

We set the level of significance $\alpha=0.05$.

Since the p-value is less than α, we reject the null hypothesis. There is a direct and significant relation between knowledge and perception on needle stick injury. Hence, we conclude that knowledge is dependent on perception on needle stick injury.

		Needles should not be recapped after use			Total	df	Chi-square value
		Agree	Neutral	Disagree			
Needle stick injury result in transmission of blood borne virus	Agree	135	3	2	140	4	19.814[a]
	Neutral	6	3	0	9		
	Disagree	23	3	0	26		
Total		164	9	2	175		

		N95 mask is not important while dealing with all air borne infection patients			Total	df	Chi-square value
		Agree	Neutral	Disagree			
Patient diagnosis influence your decision in using PPE	Disagree	100	7	16	123	4	10.574[a]
	Neutral	5	3	1	9		
	Agree	36	2	5	43		
Total		141	12	22	175		

$H_{0:}$ Knowledge is independent of perception on PPE.

H_3: Knowledge is dependent on perception on PPE.

Calculated P-Value: 0.031792727

Inference:

We set the level of significance $\alpha=0.05$.

Since the p-value is less than α, we reject the null hypothesis. There is a direct and significant relation between knowledge and perception on PPE. Hence, we conclude that knowledge is dependent on perception on PPE.

H_0: Knowledge is independent of perception on Hand Hygiene

H_4: Knowledge is dependent of perception on Hand Hygiene

Calculated P-Value: 0.000230762

Inference:

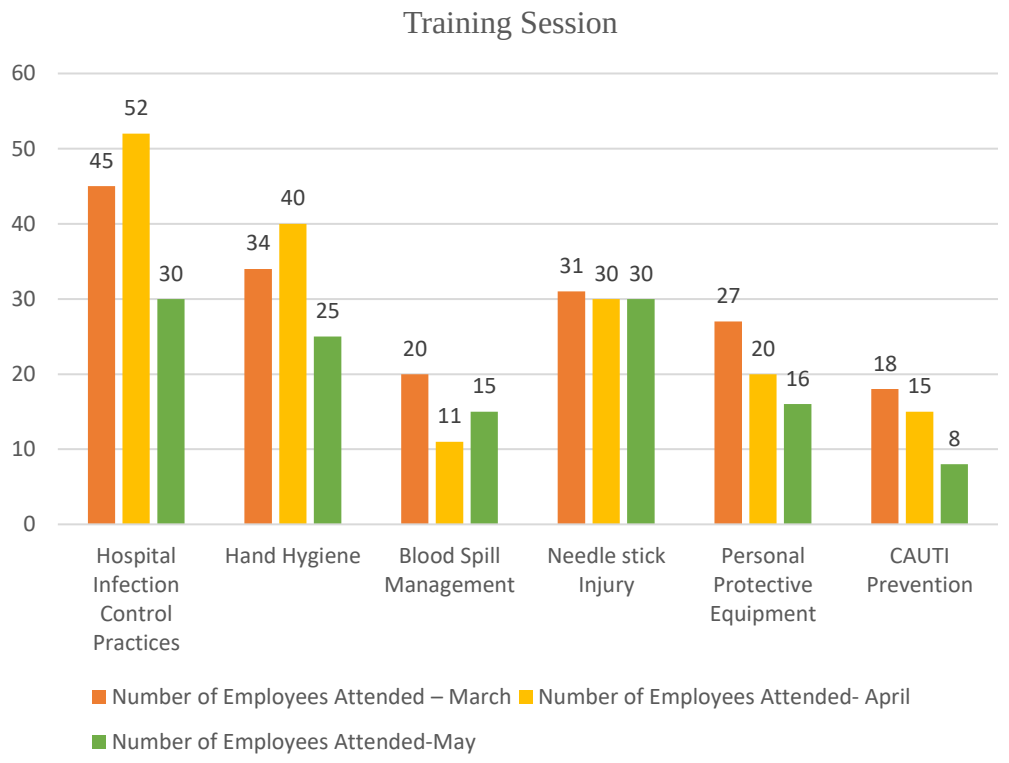
We set the level of significance $\alpha=0.05$.

Since the p-value is less than α, we reject the null hypothesis. There is a direct and significant relation between knowledge and perception on Hand Hygiene. Hence, we conclude that knowledge is dependent on perception on Hand Hygiene.

		Hand Hygiene is the most effective technique to prevent nosocomial infection			Total	df	Chi-square value
		Agree	Neutral	Disagree			
Hand hygiene techniques is carried out when there is High touch surface exposure	Agree	127	4	27	158	4	21.692a
	Neutral	5	3	1	9		
	Disagree	6	0	2	8		
Total		138	7	30	175		

Attitude towards attending training sessions:

Name of the Training Session	Number of Employees Attended – March	Number of Employees Attended- April	Number of Employees Attended- May
Hospital Infection Control Practices	45	52	30
Hand Hygiene	34	40	25
Blood Spill Management	20	11	15
Needle stick Injury	31	30	30
Personal Protective Equipment	27	20	16
CAUTI Prevention	18	15	8



DISCUSSION

Systematic and periodic evaluation play a major role in getting an idea about employee's knowledge, attitude and perception on control and prevention of nosocomial infection.

Organizing inter and intra hospital workshops in which employees can participate will help in expanding knowledge horizon on control and prevention of nosocomial infection.

Continuous proper channel of education program is the most efficient way to spread knowledge and awareness to all staff and nurses catering to specific departments which needs advance knowledge on prevention techniques.

It is important to have knowledge about the reporting authorities in the hospital like Infection Control Officer or the Infection Control Nurse etc

Bundle care awareness can be given to make the tool (bundle checklist) effective. This can be done by giving training on CAUTI, CLABSI, VAP and SSI commonly to every member of staff.

Apart from nursing staff, employees working in linen and laundry, dietary, mortuary and other utility services can be educated about hospital infection control and its policies.

"Hand Hygiene" can be made as mantra to reduce hospital acquired infection.

Any task done proactively can have a better outcome. Thus, it is important to push employees out of their comfort zone and take actions to prevent nosocomial infection from spreading proactively

It is important that they must be encouraged to get complete vaccination especially Tdap, Varicella. Hepatitis B and Flu (influenza) vaccines.

CONCLUSION

The study named **“A Cross Sectional Study on Knowledge, Attitude and Perception of Healthcare Workers in Control and Prevention of Hospital Acquired Infection”** is a study is carried out by assessing knowledge and perception along with the attitude to attend trainings of 175 healthcare workers working in Daya General Hospital, Limited, Thrissur, Kerala. A self-constructed questionnaire which contains three demographic questions and ten questions each which allows to study about the knowledge and perception of healthcare workers on control and prevention of nosocomial infection.

The questionnaire was approved by the hospital statistician and infection control officer. To analyze the data collected from 175 employees in a period of three months, tools like chi square, bar charts and pie charts are used. The investigation concludes that perception of nosocomial infection control and prevention completely determines knowledge of those topics. Since every chi-square study demonstrates this, it follows that personnel will have the correct perception of nosocomial infection provided they receive good education or are imparted knowledge over time, in the appropriate manner, and with the suitable post-assessment.

THANK YOU