# An Observational Cross Sectional study to the assess Knowledge , Attitude & Practices level among Health care providers regarding Hand Hygiene at District Hospital Samastipur , Bihar

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# Background

- Hand  Washing in patients care was conceptualized in early 19$^{th}$ century
- Semmelweis conducted study in 1846 on maternal Mortality rate on Purpureal fever  in two clinics and  suspected that some unknown cadaverous material was caused puerperal fever  so he insisted the physician to wash their hands with chlorinated lime water in clinic (1 )in between two patients  then he observed that  maternal mortality rate decreases.

- In 1961 US  Public Health service recommended , the directed personnel to wash their hands with soap and water for 1or 2 mins before and after patient contact .

- 1975& 1985 CDC recommended that antimicrobial products were used before & after performing invasive procedure .

- In 1988& 1995 Alcohol based Hand rub used in situation where water and sink is not available

- WHO launched the Hand Hygiene campaign , In 2005, it introduced the first Global Patient Safety Challenge “Clean Care is Safer Care (CCiSC).

- The first Global Handwashing Day were celebrated on October 15, 2008.

- On May 5, 2009, the WHO highlighted the importance of hand hygiene and launched guidelines and tools on hand hygiene, based on the next phase of patient safety work programme “SAVE LIVES: Clean Your Hands”

- In 2011 Guidelines of these Healthcare Organization have been adopted by majority of Hospital, but adherence by healthcare providers to recommended Hand washing protocol remains low

# Introduction

- According Global Burden of Disease  thousands of people around the world die because of  Hospital acquired Infection. Health care providers are mainly exposed to various infectious agents . Hands are the main pathway of germ transmission during health care  .

- Transmission of healthcare associated pathogen generally occur via the contaminated hands of health care providers often transmitting virulent and multidrug strains,  so health care providers need to revising back the basics of infection prevention by Hand Hygiene.

- Hand hygiene is therefore the most important measure to avoid the transmission of harmful germs and prevent health care-associated .

## Hand Hygiene Definitions:

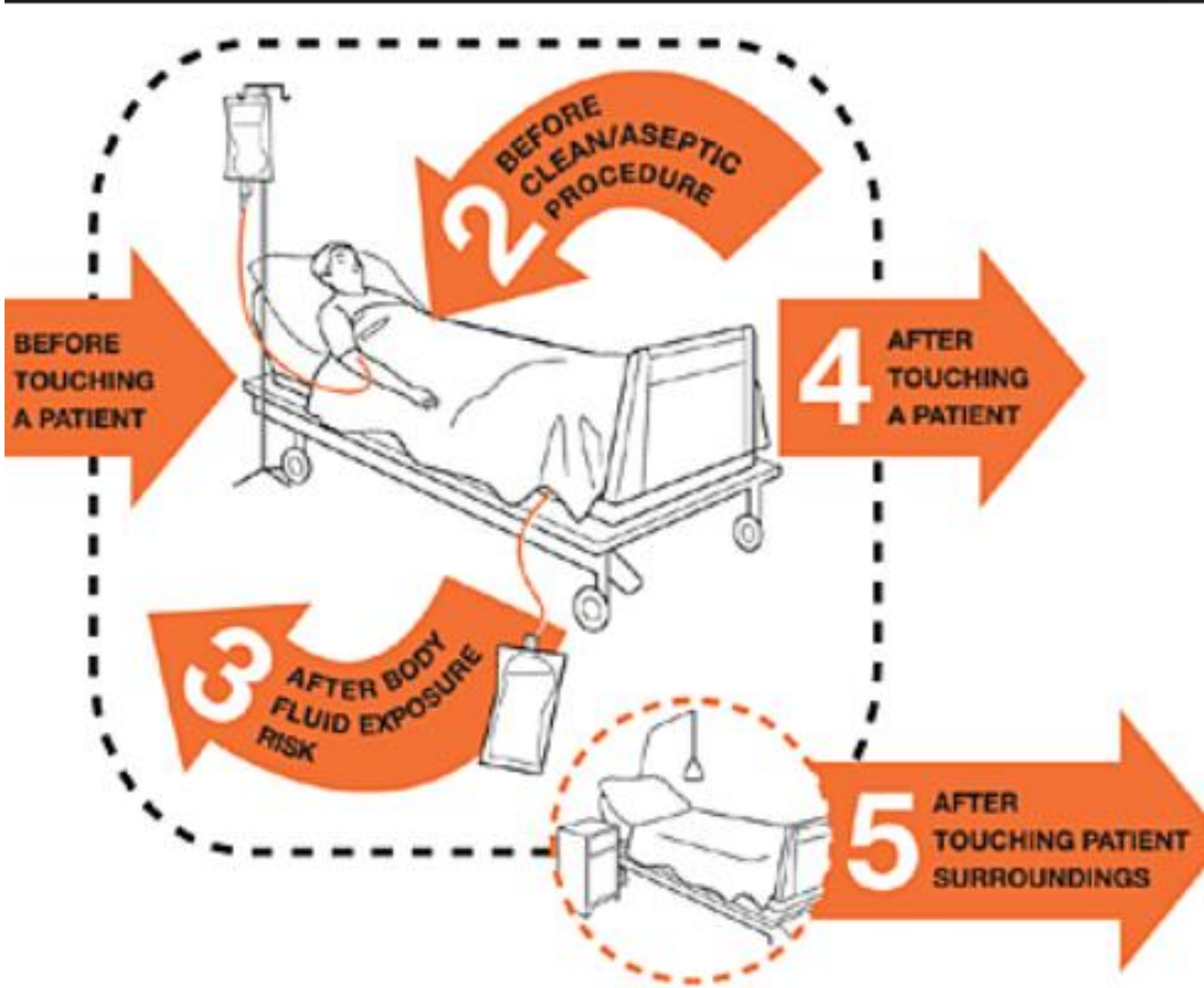
**Hand Washing –** Washing hand with plain or antimicrobial soap and water

**Antiseptic Hand Washing–** washing hand with water and soap or other detergents containing antiseptic agents

**Alcohol Based Hand rub** – an alcohol containing preparation designed for application to the hands in order to reduce the number of viable organisms and temporarily suppress their growth with maximum efficacy and speed **.**

**Antiseptic Hand rubbing –**Applying an antiseptic hand rub to reduce or inhibit the growth of micro organism without the need of water and requiring no rinsing or drying condition.

# WHO recommended 5 moments of Hand Hygeine



## Literature Review

(1). Knowledge, Attitude, and Practice of Hand Hygiene among Medical and Nursing Students at a Tertiary Health Care Centre in Raichur , This cross sectional study was conducted among 98 medical and 46 nursing students in a tertiary medical college in India. Knowledge was assessed using WHO hand hygiene questionnaire. Attitude and practices were evaluated by using another self-structured questionnaire. Z test was used to compare the percentage of correct responses between medical and nursing students. A "P" value less than 0.05 was considered significant. Results. Only 9% of participants (13 out of 144) had good knowledge regarding hand hygiene. Nursing student knowledge level is better than medical students

(2). Does the use of a theoretical approach tell us more about hand hygiene behavior? The barriers and levers to hand hygiene , This study reported the barriers and levers to hand hygiene and an evaluation of the use of theory in assessing barriers and levers to hand hygiene. Methods: Identification of barriers and levers occurred through interviews, questionnaires and focus groups. In each case two different question schedules were used, one based on psychological theory and the other with no explicit theoretical underpinning. Results: Although there was considerable overlap in the barriers and levers identified using the two schedules there were also marked differences. Conclusions: Identification of further barriers and levers may help us address lack of compliance with hand hygiene. Using a theoretical framework may prompt the identification of barriers that people may not ordinarily report but which have an important impact on behavior, particularly emotion.

## Rationale of Study

According to Global burden of disease 85% of disease among due to Hospital Acquired infections , health care providers are very prone to infections so need to do the study to assess the knowledge attitude and practices among health care providers . This study helps me to understand the Knowledge level, barrier of behavioural change and what are reasons for partial compliance of the Hand Hygiene practices.

## Research Question:

What is the Knowledge , Attitude & Practices level among Health care Providers regarding Hand Hygiene at District Hospital Samastipur, Bihar ?

## Objective

1) To Assess the Knowledge , Attitude & Practices level among Health care providers regarding Hand Hygiene .
2) To Assess the reason for non-compliance or partial-compliance in Hand Hygiene practices

**Research Methodology**

**Study design –** Cross sectional Observational study

**Place of Data Collection :** District Hospital Samastipur ,Bihar

**Duration of Study –** 3 months ( Feb – May )2019

**Study Population –**

- ✓ **Inclusion criteria –** All technical staff who consented for the study
- ✓ **Exclusion criteria –** all non technical staff & who don't consented
- ✓ **Respondents of study**

| S.no | Designation | Numbers |
|---|---|---|
| 1. | Nursing staff | 49 |
| 2 | Doctors | 3 |
| 3. | Feeding demonstrator | 1 |
| 4 | Family planning counsellor | 1 |
| 5 | OT Tech | 2 |
| 6 | Blood Bank Tech | 1 |
| 7 | Emergency tech | 1 |
| 8 | Hospital manager / Block manager | 2 |

**Sample Size** – 60

**Sampling technique** – Convenient sampling

**Ethical Considerations** :Written Informed consent

**Data Collection Tool :** Questionnaire reference taken form WHO guidelines and research papers

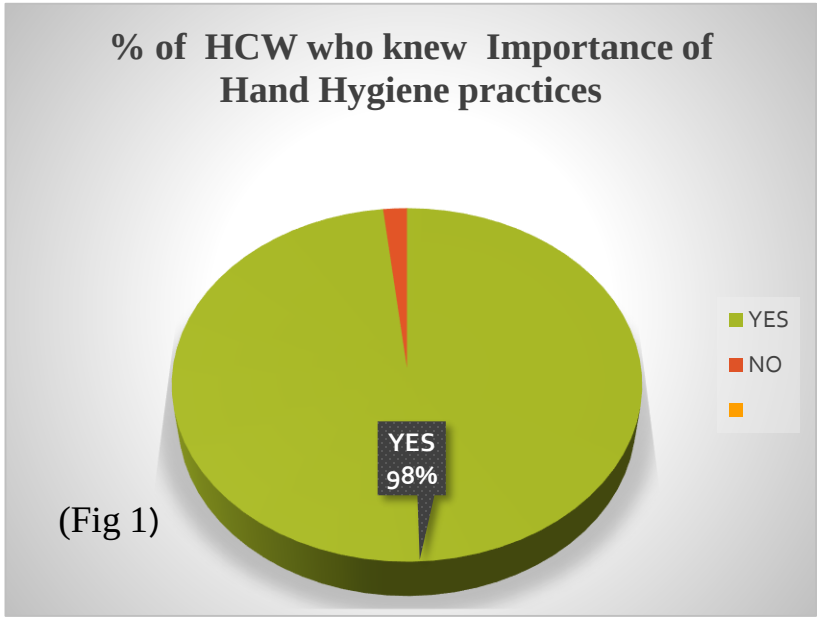
**Data collection method :**Questionnaire interviewed with Direct observation

**Data Analysis:** with the help of Microsoft excel and % calculated

**District Hospital Staff Profile – Copy of Format for DH important .xlsx**

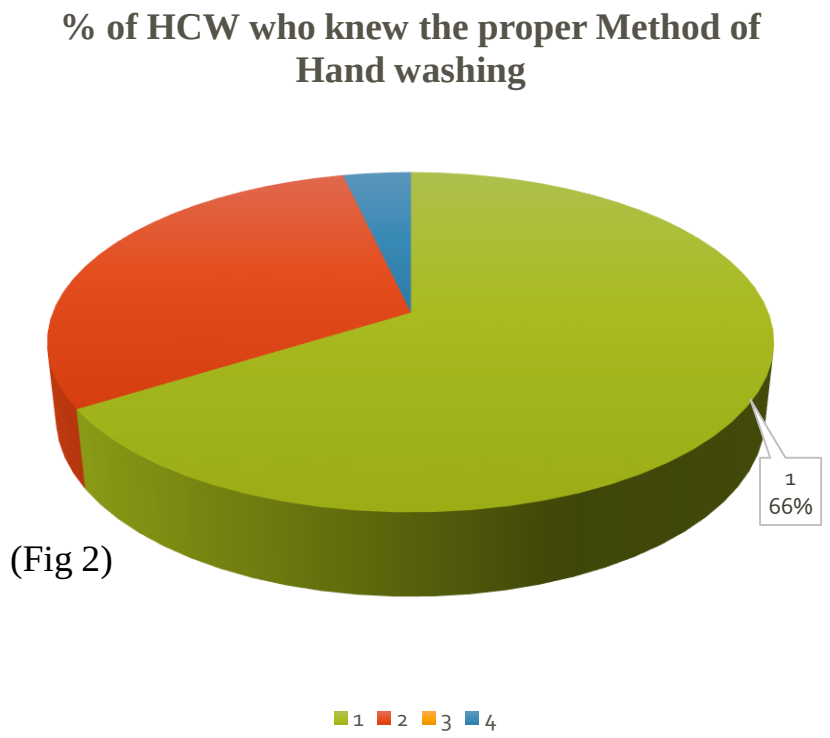
**Results** : Knowledge level Findings

- 100 % Staff knew the term Hand Hygiene ,but only 98% knew the importance of Hand hygiene (see in fig 1)




(Fig 1)

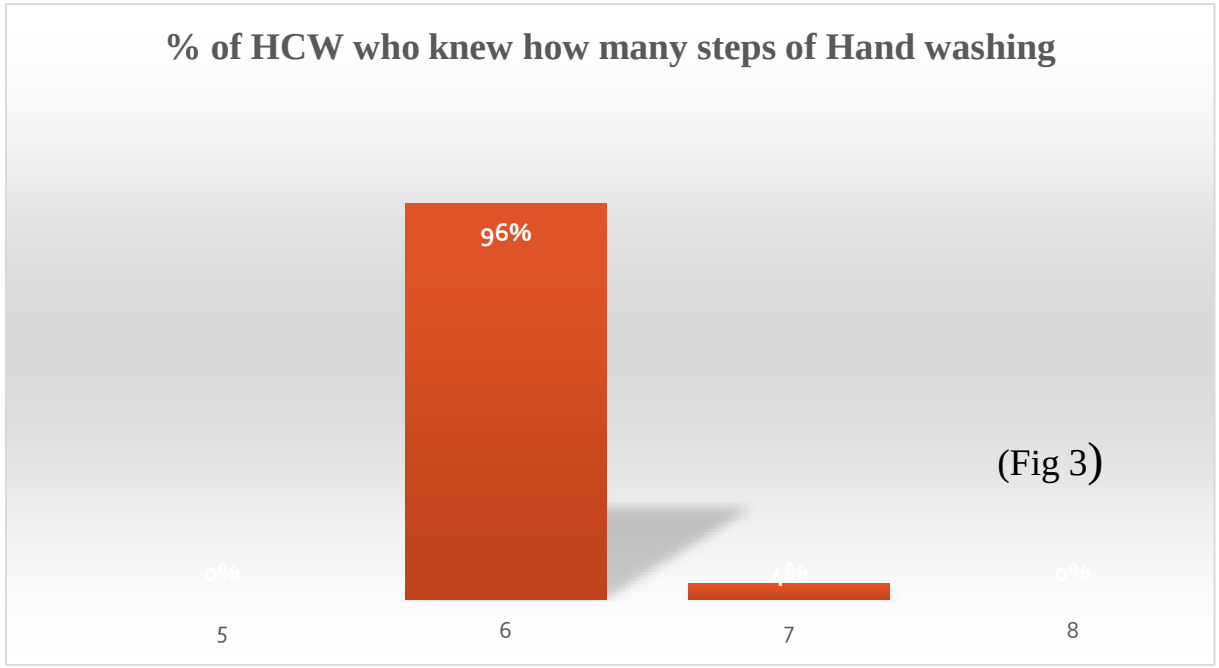
- In below figure only 66% staff knew about the Proper method of Hand washing with soap and water rest 34 % staff still don’t knew about which is the proper method of hand washing ( see in fig 2)




(Fig 2)

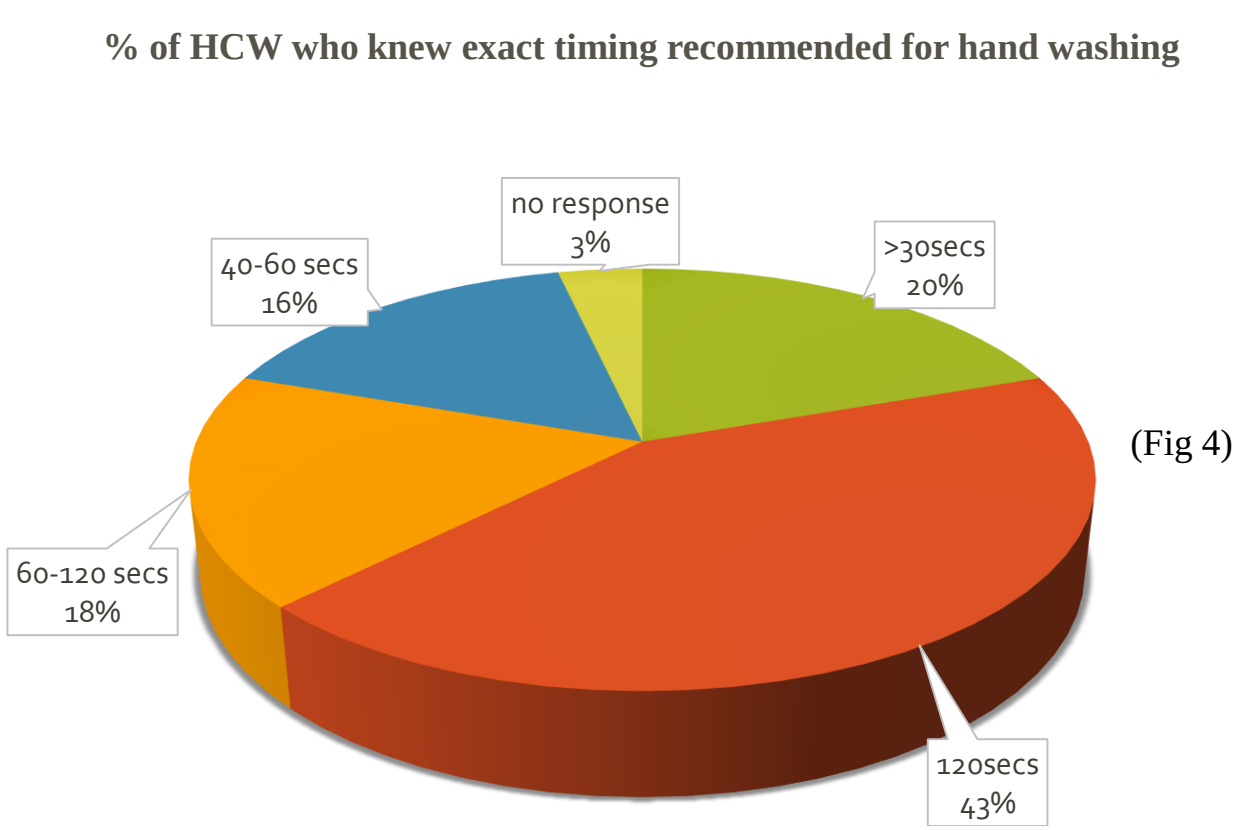
- 96% Staff knew the 6 steps of  Hand washing  guidelines

See in fig (3)



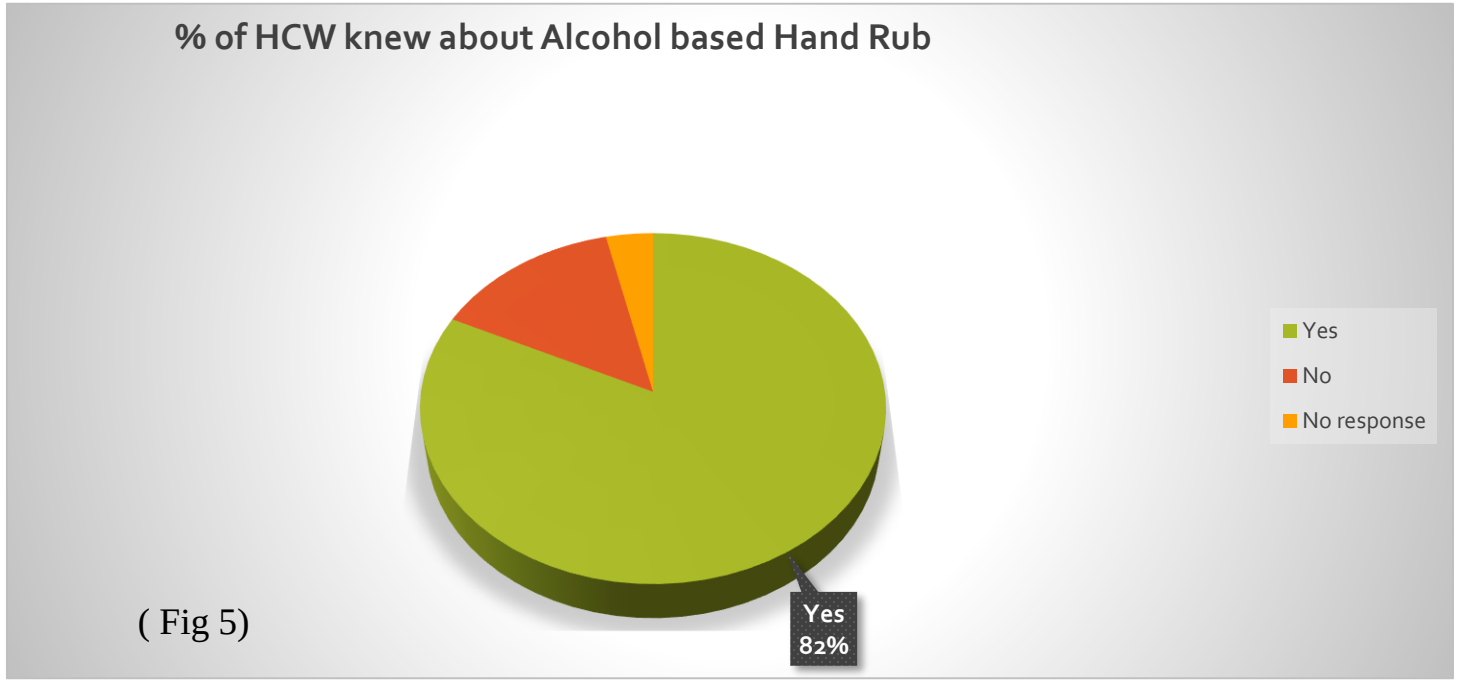

(Fig 3)

Only 43% staff knew about the exact time for Hand washing see in fig (4)




(Fig 4)

82%  Hospital staff Knew about the Alcohol Based Hand Rub see in Fig (5)




( Fig 5)

48% Health care providers knew the exact time required for Alcohol based hand Rubbing see in fig (6)

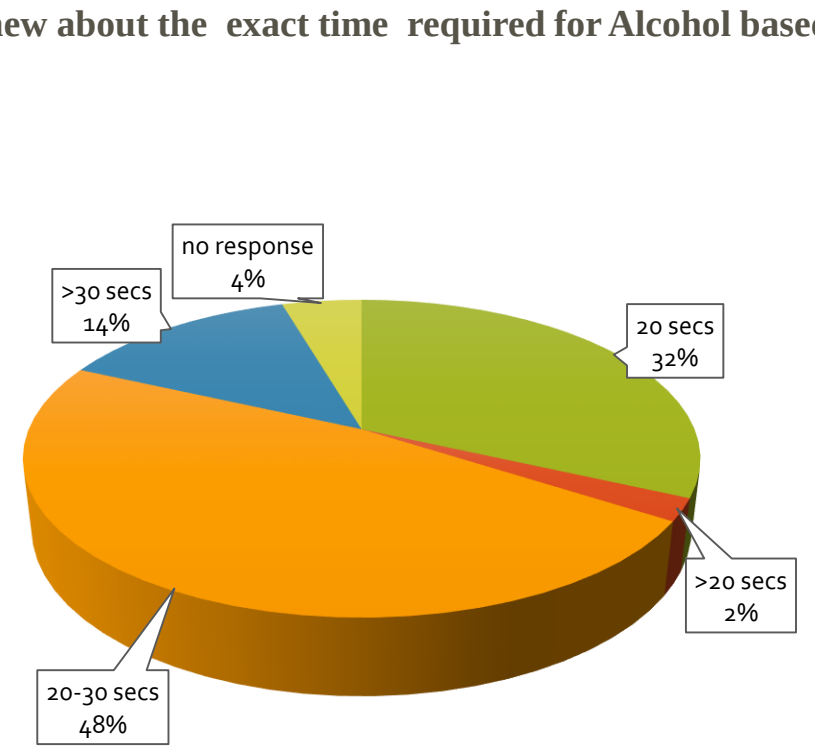



Fig 6

96% Staff knew that Running Tap Water required for Hand washing see in fig (7)

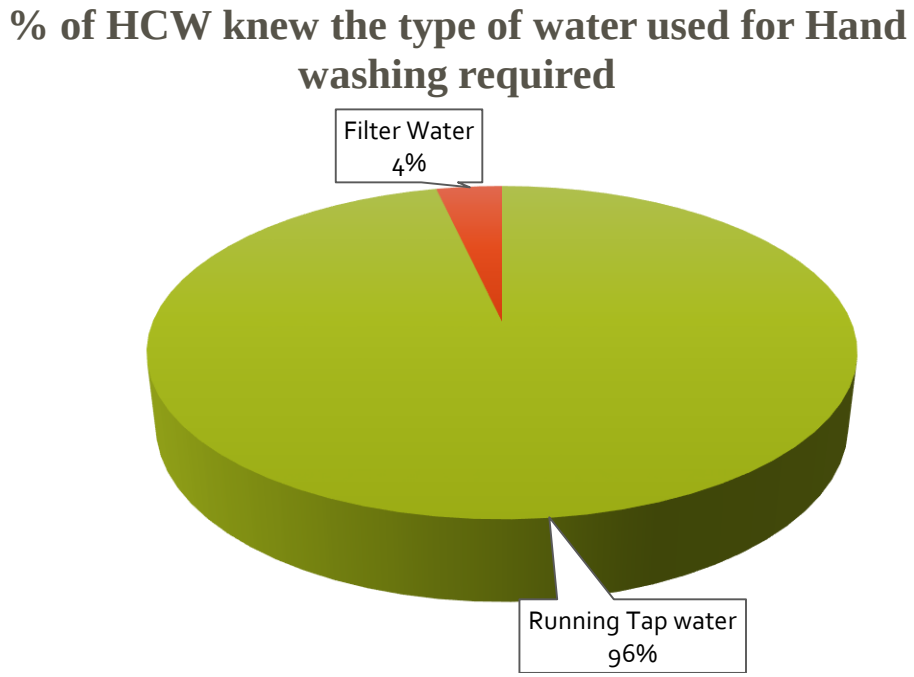



Fig 7

Soap and water is best means of killing germs scientifically proven but still  health care providers don’t knew about this . This figure showed 50% staff knew about soap and water germ killing capacity see in fig (8)

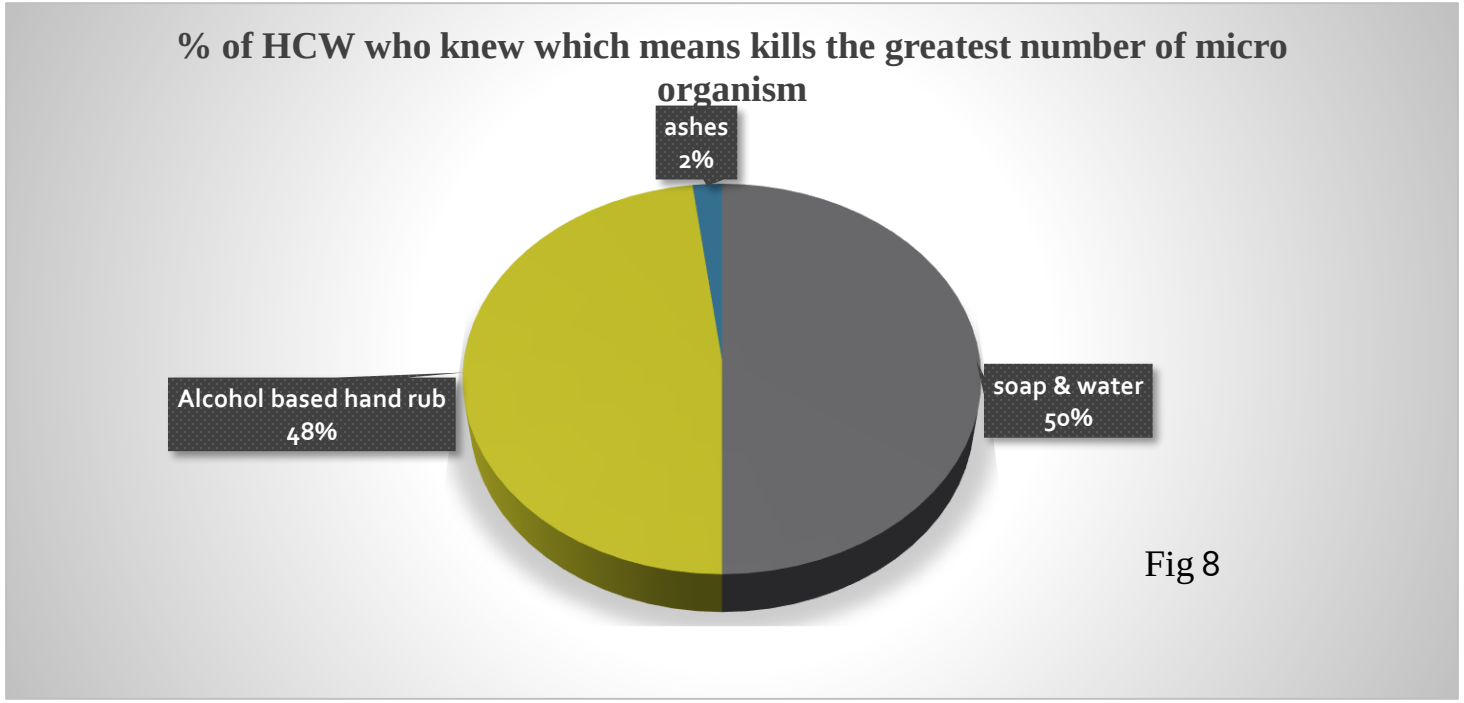



Fig 8

Only 62% staff received Hand hygiene education in last 1 year rest 32% didn’t recive any education on Hand Hygeine see in fig (9)

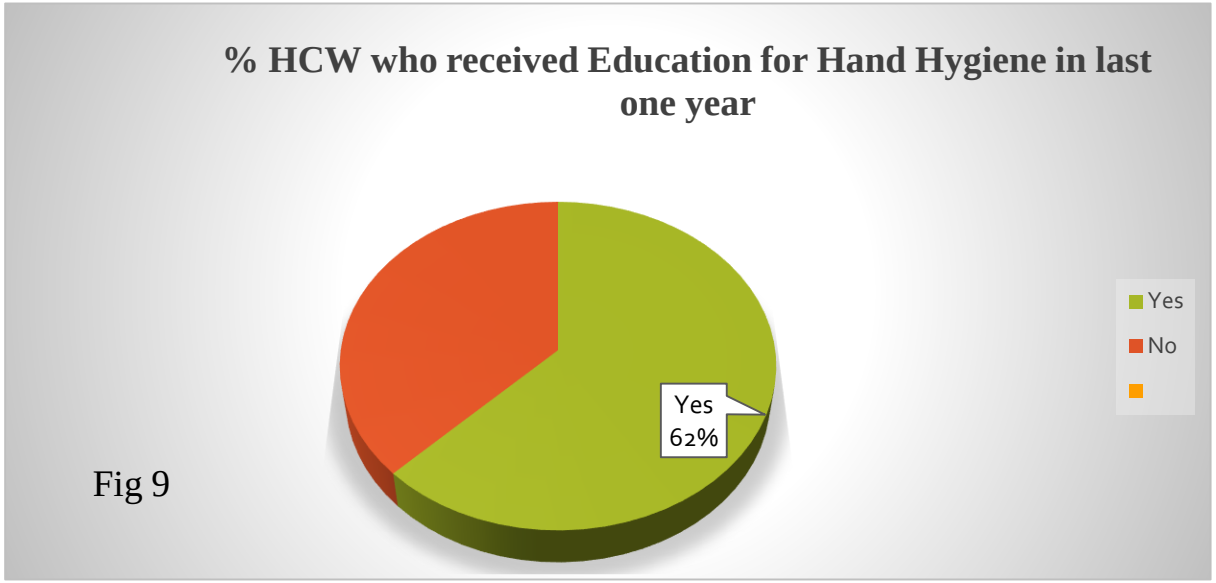



Fig 9

25% HCW fully understand and satisfied with IEC material displayed at their facility see in fig (10)

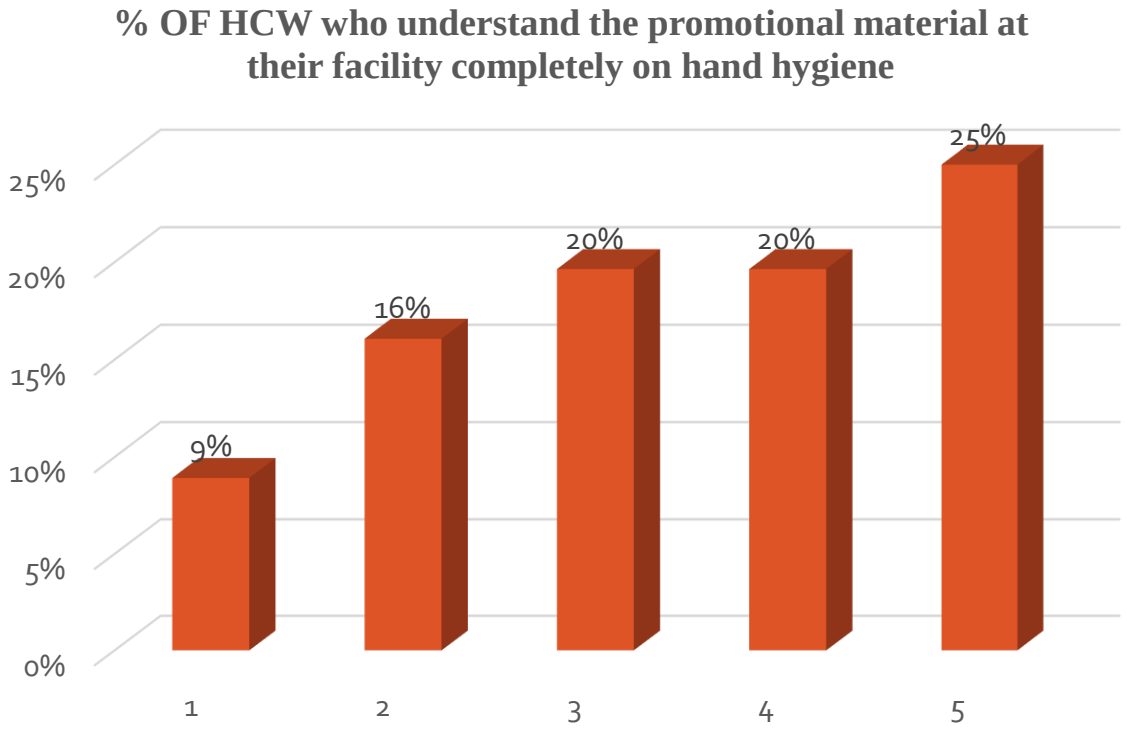



Fig 10

## Attitude Level Findings

- 30% Staff fully satisfied with product used at their facility see in fig (11)

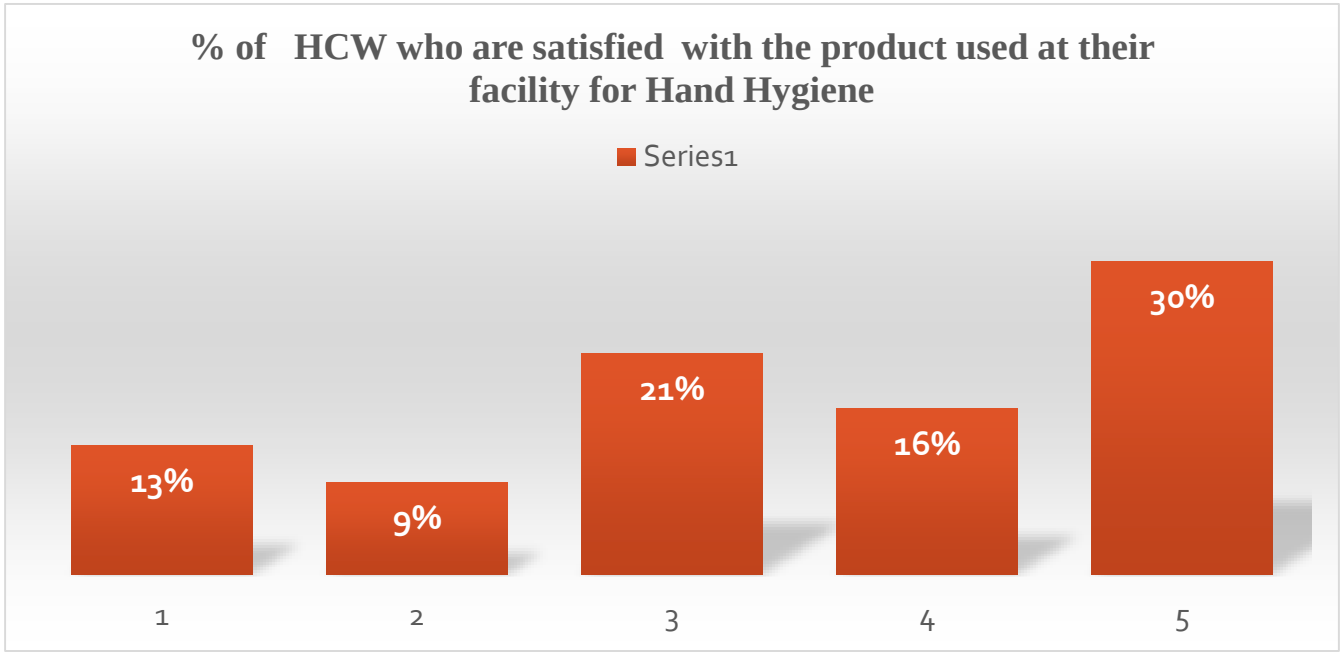



Fig 11

- 37% Staff have issue of lack of timings the barrier for Hand Hygiene see in fig (12)

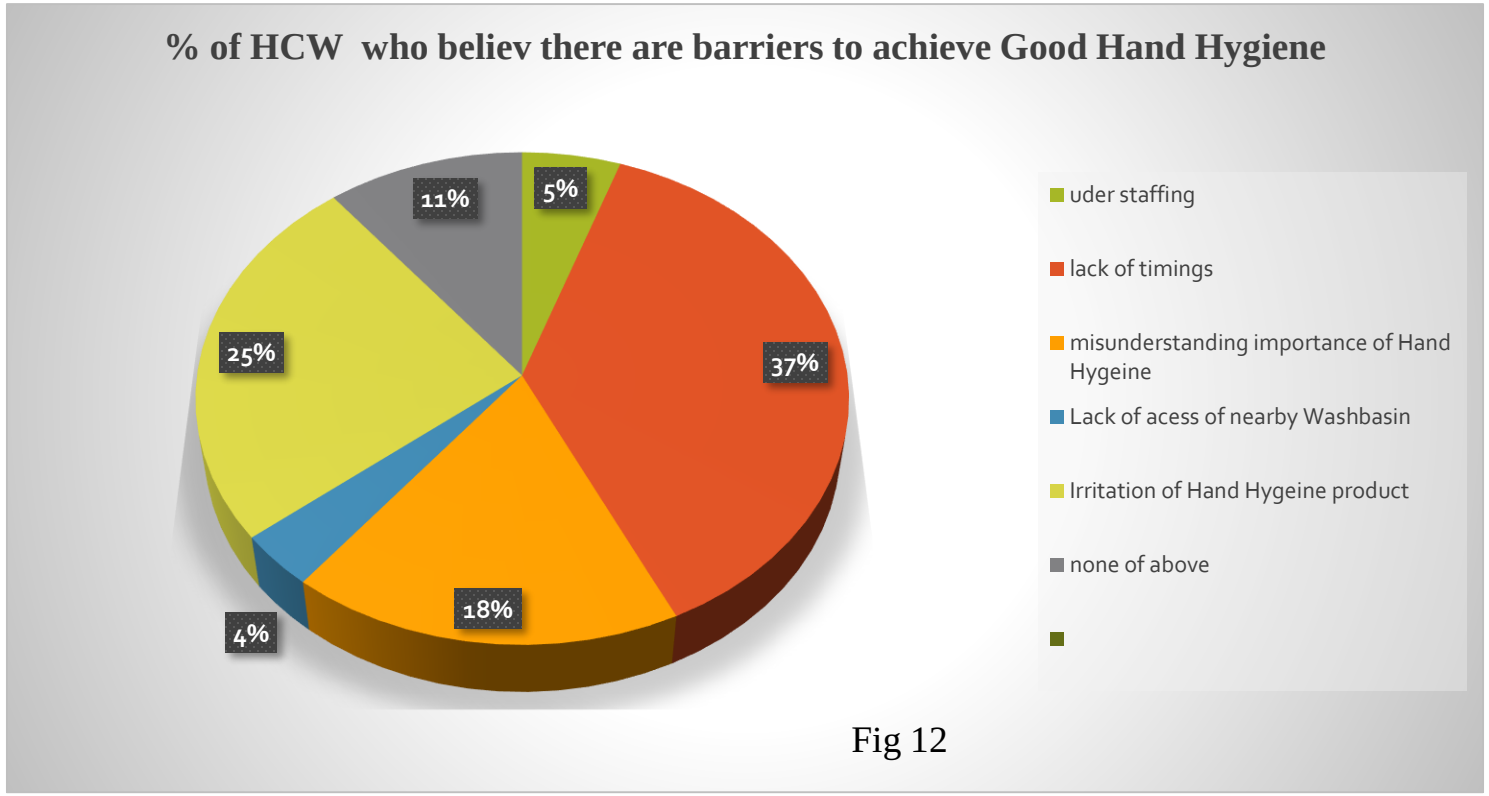
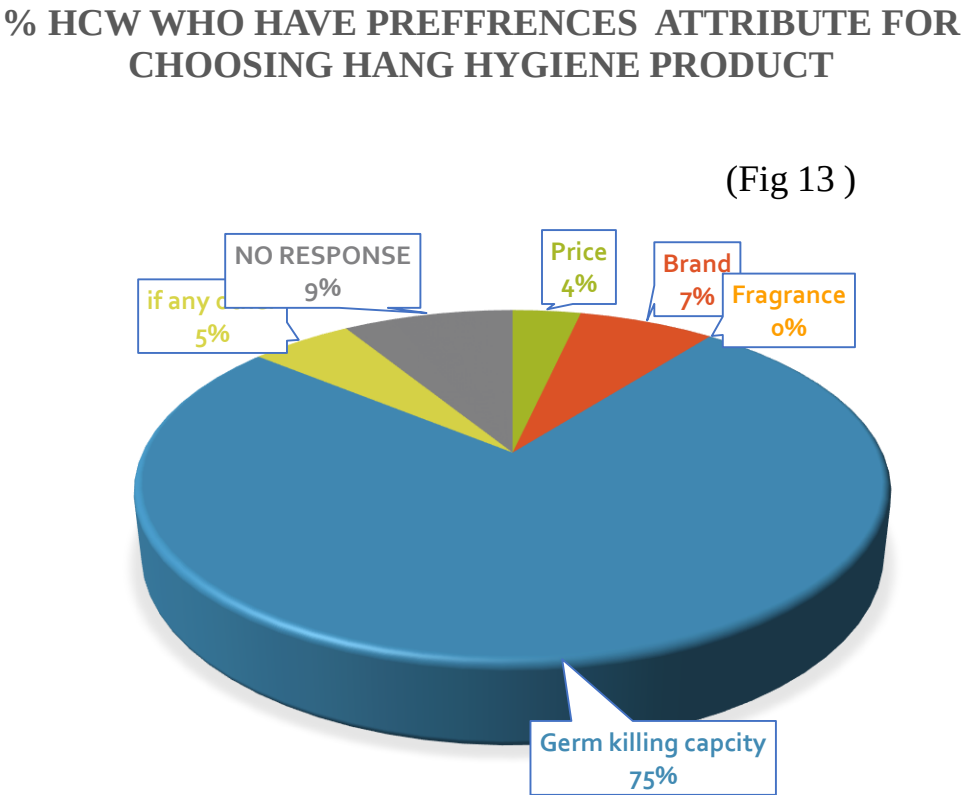


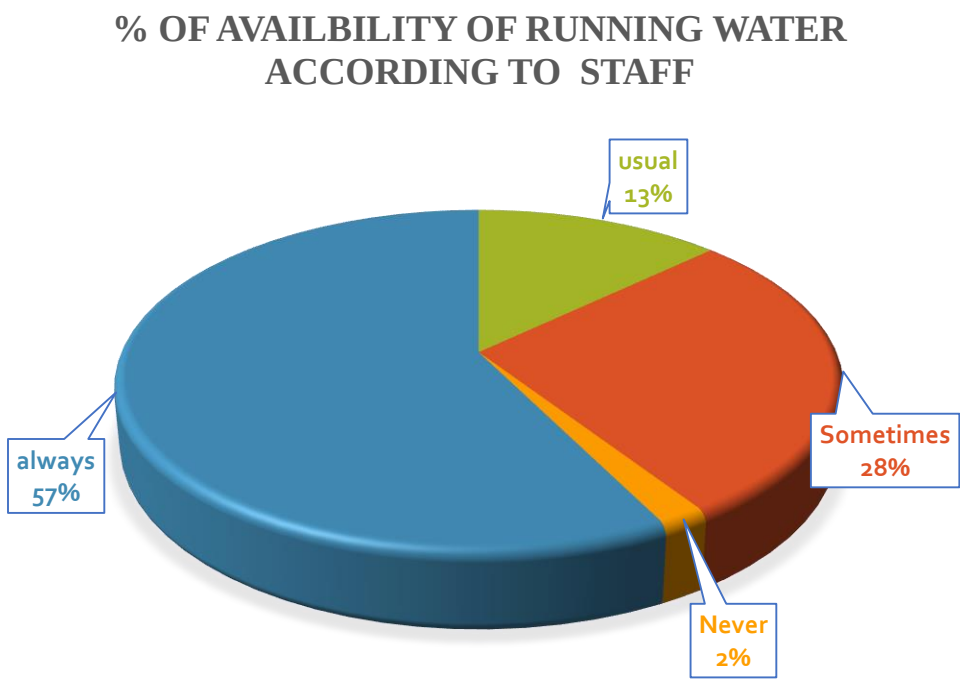

Fig 12

75% staff choose germ killing capacity for Hand Hygiene product see in (13)




(Fig 13 )

# Practices Level Findings




(Fig 14 )

- No shortage of running tap water once in past 2 months tank was need to repair that time hospital required tanker from outside see in fig (14)

- 82% is fully compliant and wash the hands between two patients see in fig (15)

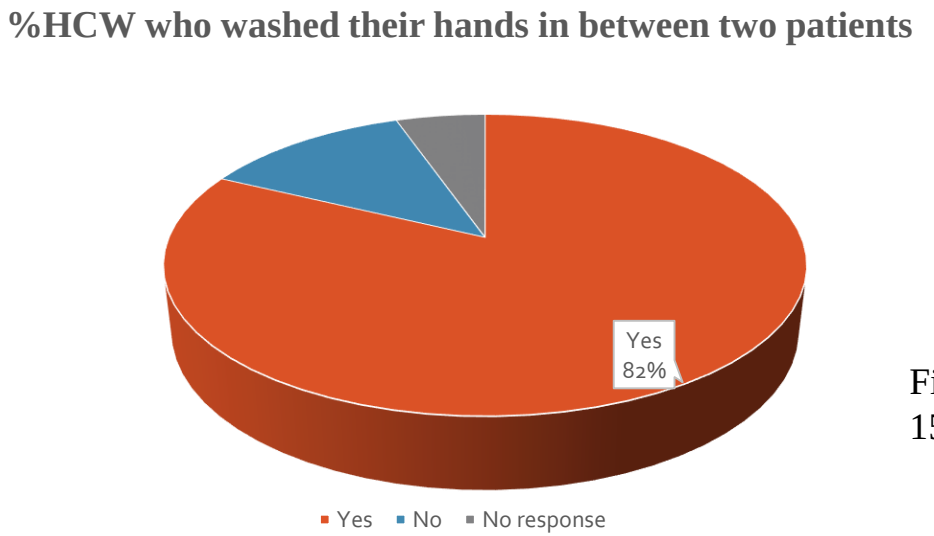
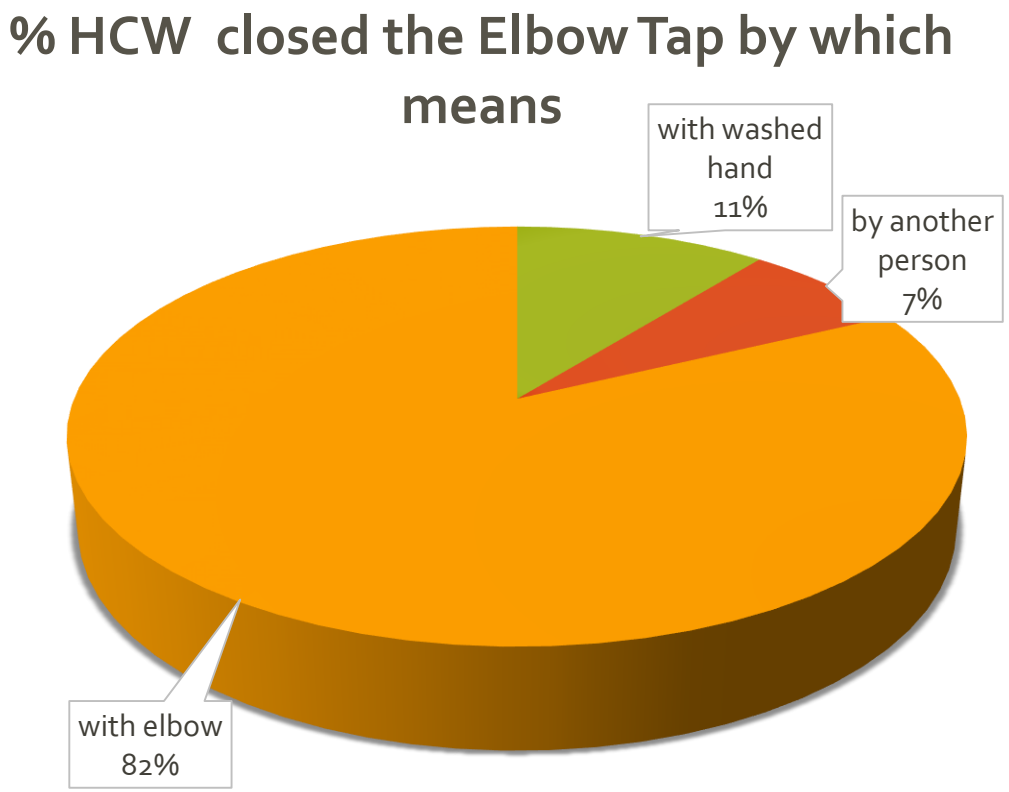



Fig 15




82% HCW stop the running water with elbow see in fig (16)

Fig 16

43% HCW dry their hands with naturally  ( see in fig (17)

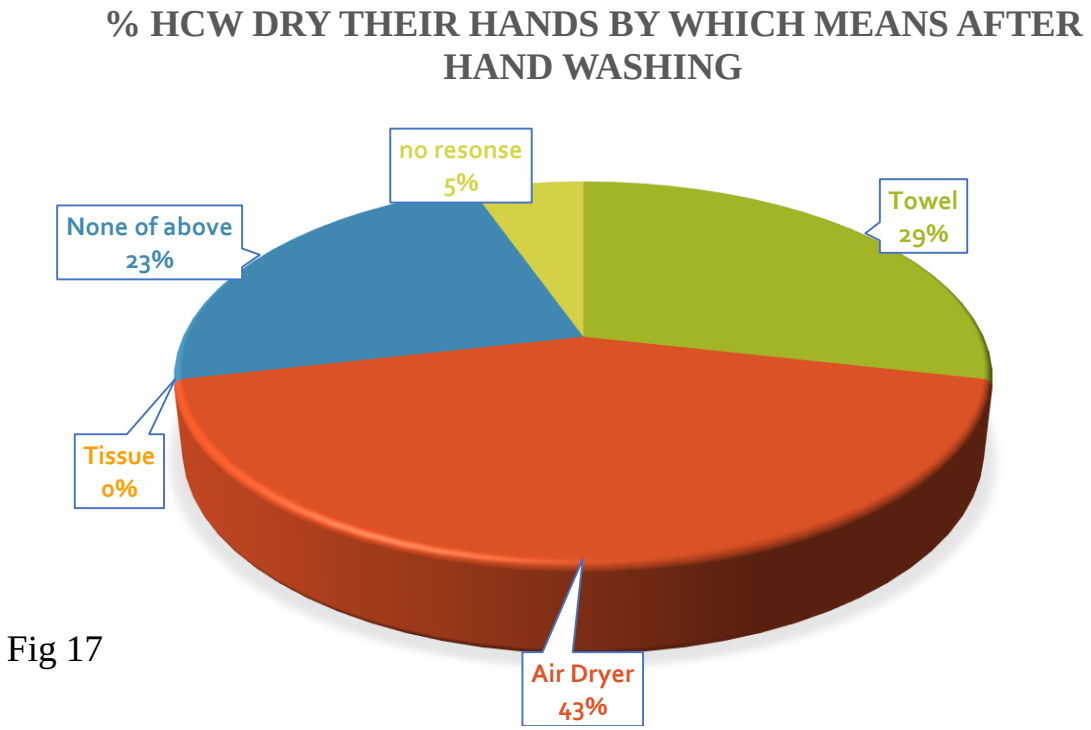
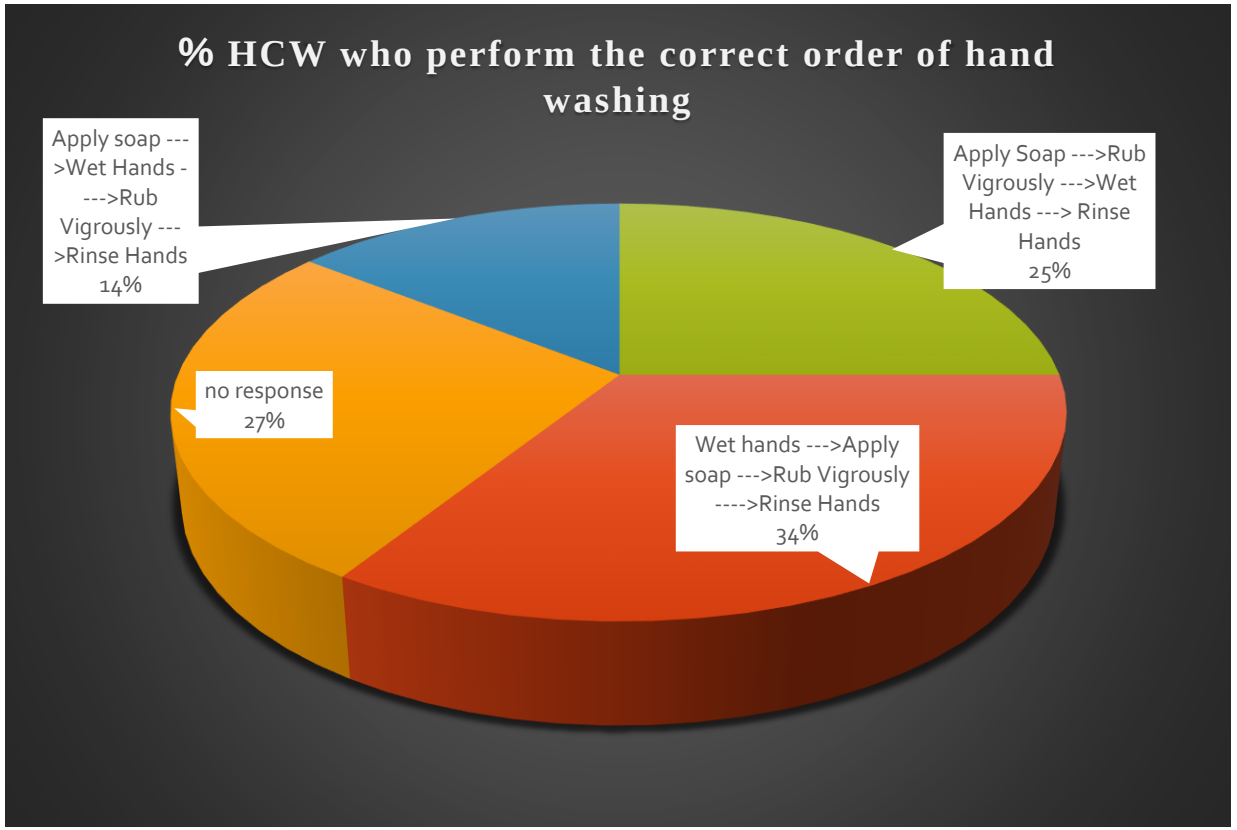



Fig 17




(Fig 18)

34% HCW Perform the correct order of Hand washing Technique see in fig (18)

## Conclusion :

- 100% HCW knew the term Hand Hygiene but only 98% knew the importance of Hand Hygiene
- Out of 98% only 64% HCW knew the proper method of Hand Hygiene, that is, Soap and water , rest 30% still believe alcohol based hand rub is proper method for hand Hygiene
- 96% HCW knew the steps of Hand washing through Workshops / Training / Books / but only 43% HCW knew the mandatory time required to complete Hand washing steps .
- 82% HCW worker knew the Alcohol based Hand Rub and out of 43% knew the exact time required for complete Hand Hygiene with Alcohol based Hand Rub .
- 50% HCW knew that Soap & water is best mean to kill bacteria rest still believe Alcohol based hand rub have more germ killing capacity .
- 62% HCW receive the Education on Hand Hygiene and only 25% HCW understand the IEC material used at their facility because its not written in their own language .

- There are some barriers to achieve the Good Hand Hygiene practices because of reasons like, 37%do not have time to wash hands. For example, according to LaQshya  Guidelines total delivery load of Hospital is 800 average in month which requires the 16 staff nurses in Labor room but we have only 11 nurses in roaster so one of reason is also the under staffing , 35 % reason just because of Product quality at their facility .
- 75 % HCW choose the Germ killing capacity nature for product rest some of still give preference  brand , price & fragrance
- 82% HCW stopped the  Tap with help of Elbow & 43% HCW dry their hands naturally rest are using newspaper / Tissue paper/ Towel.
- 34%  HCW performing exact order of Hand washing in proper manner

**Recommendations**

- Regular training should be organized for Health care providers in regular interval of time for updating the knowledge level of Health care providers .

- More manpower is required to overcome the understaffing / lack of Timing barrier .Proper maintenance elbow taps / water tank should be done .

- District hospital required IEC material in their local language .

- Infection control Nurse will do regular audit and maintained the proper checklist .

- Liquid soap dispenser should be placed nearby basin so that cross infection form soap should be avoided


**Before study**


**After study**

# References


- http://ajcc.aacnjournals.org/content/24/3/216.abstract
- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4640061/
- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4924395/
- https://journals.sagepub.com/doi/abs/10.1177/1757177410384300

# THANK YOU