

# A Comparative Study to Assess the Knowledge and Practices among Female Health Workers and Staff Nurses on Aseptic Techniques during Delivery in Selected PHCs & Hospitals at Ratnagiri District, Maharashtra

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**Abstract:** A comparative study was conducted to assess the knowledge and practices among female health workers and staff nurses on aseptic techniques during delivery in selected PHC's & Hospital at Ratnagiri Dist., Maharashtra. The objectives of the study were to find out correlation between knowledge and practices of aseptic techniques among female health workers and staff nurses and to compare knowledge and practices of aseptic techniques among female health workers and staff nurses. The sample selected for the present study was female health workers working in selected PHC's and the staff nurses working in selected Maternity Hospitals at Ratnagiri Dist. The sample size for the study was 100, out of which 50 were female health workers working at selected PHC's of Ratnagiri Dist., and 50 were staff nurses working at selected hospitals were selected by purposive sampling technique. The data was collected by using structured knowledge questionnaire and structured observational checklist developed by the researcher. The data was tabulated, graphed, analyzed and interpreted by both descriptive and inferential statistics on the basis of the objectives and hypothesis of the study. The study findings suggest that the knowledge is better in staff nurses than female health workers & staff nurses are better in practices than female health workers regarding aseptic techniques. The study were concluded that there is no significant relationship between knowledge and practice on aseptic techniques among female health workers and staff nurses. ( $p = 1.96, P > 0.05$ ). & the significance of correlation between knowledge & practices of female health workers and staff nurses on aseptic techniques during delivery which indicated that there is no correlation between knowledge & practices of female health workers ( $r = 0.2762$ ) & staff nurses. ( $r = 0.1623$ ).

**Keywords:** Aseptic Techniques, Female Health Worker, Staff Nurses, PHC

## 1. Introduction

The process of child birth is a rebirth in every women's life. Women's health before, during pregnancy & during delivery is particularly important not only because she remains healthy but also because her health will largely determine the health of the baby at birth and in the future with regard to puerperal and neonatal sepsis.

Every year approximately 2,00,000 million women become pregnant in developing countries and more than 5,00,000 of them die of pregnancy related causes & million suffer a significant complications of pregnancy.

In India, improvements in maternal health have lagged behind achievements in general health status of the pregnant women. The maternal mortality rate is 500/1,00,000 live births, most of these death are from preventable conditions such as sepsis, toxemia, haemorrhage, illegal abortions etc. Puerperal and pelvic inflammation is still a clinical problem, so the infection control practice in this area is extremely important and increased the number of in-service education to infection control practices.

Therefore properly assisted delivery by a skilled personnel and following aseptic precautions is highly advantageous to both the mother and the fetus during delivery.

## 2. Problem Statement

"A comparative study to assess the knowledge and practices

among female health workers and staff nurses on aseptic techniques during delivery in selected PHC's & Hospitals at Ratnagiri District, Maharashtra.

## 3. Objectives

- 1) To assess the knowledge of female health workers regarding practices of aseptic techniques during delivery.
- 2) To assess the knowledge of staff nurses regarding the practices of aseptic techniques during delivery.
- 3) To assess the practices of female health workers regarding aseptic techniques during delivery.
- 4) To assess the practices of staff nurses regarding aseptic techniques during delivery.
- 5) To find out correlation between knowledge and practices of aseptic techniques among female health workers and staff nurses.
- 6) To compare knowledge and practices of aseptic techniques among female health workers and staff nurses.

## 4. Hypothesis

To achieve the stated objectives the following hypothesis was formulated.

**H<sub>1</sub>**– The staff nurses have better knowledge than the female health workers regarding the practices of aseptic techniques during delivery.

### Assumptions

- 1) Female health workers and staff nurses have knowledge

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regarding aseptic techniques.

- 2) Female health workers and staff nurses practice aseptic techniques during delivery.
- 3) Female health workers and staff nurses play a vital role during delivery.
- 4) Staff nurses have better knowledge about the different practices and skills of aseptic techniques than the female health workers.

#### Research approach:

The comparative study

#### Setting of the Study:

Primary health centers, New & Old government hospital

#### Population:

The population for the present study comprised of the female health workers of selected PHC's and staff nurses working in selected hospital of Ratnagiri Dist.

#### Sample:

The sample selected for the study were female health workers working in selected PHC's and the staff nurses working in selected Maternity Hospitals at Ratnagiri Dist.

#### Sampling Size:

Total sample for the study was 100, out of which 50 were female health workers working at selected PHC's of Ratnagiri Dist, and 50 were staff nurses working at selected hospital of Ratnagiri Dist.

#### Sampling technique:

Purposive sampling technique was used to select the sample for this study.

#### Sampling criteria

##### Inclusive criteria;

- 1) Female health workers working in selected PHC's of Ratnagiri Dist.
- 2) Staff nurses working in selected hospital of Ratnagiri Dist.
- 3) Those who were willing to participate.
- 4) Those who were present during the data collection.

##### Exclusive criteria

- 1) Those who were not willing to participate.
- 2) Those who were not present during data collection.

#### Description of the final instruments:

Tool 1: Structured knowledge questionnaire

Tool 2: Structured observational checklist

#### Tool 1: Structured knowledge questionnaire.

##### Part I: Socio-demographic proforma

A proforma for selected personnel information was used to collect the sample characteristics, the characteristics included age, years of experience, professional education, marital status and participation in in-service education programme.

## 5. Plan for Data Analysis

It was decided to analyze the data by both descriptive and inferential statistics on the basis of the objectives and hypothesis of the study. Hence, the data will be analyzed in terms of descriptive (frequency and percentage) and inferential statistics (Karl Pearson's rank order correlation and normal 'Z' test).

**Section I:** Description of sample characteristics.

##### Section II:

- a) Knowledge of female health workers on aseptic techniques during delivery.
- b) Knowledge of staff nurses on aseptic techniques during delivery.

##### Section III:

- a) Observational checklist to observe the practices of female health workers on aseptic techniques during delivery.
- b) Observational checklist to observe the practices of staff nurses on aseptic techniques during delivery.

##### Section IV:

Analysis of correlation between knowledge and practice among female health workers on aseptic techniques during delivery

##### Section V:

Analysis of correlation between knowledge and practices among staff nurses on aseptic techniques during delivery.

##### Section VI:

Comparison of knowledge and practices on aseptic techniques during delivery among female health workers and staff nurses.

**Table 1:** Distribution of demographic variables of female health workers, N = 50

S. No.	Sample characteristics	Frequency	Percentage (%)
1	<b>Age</b>		
	18-28 yrs	10	20
	29-38 yrs	22	44
	39-48 yrs	10	20
2	<b>Marital status</b>		
	49-above years	08	16
	Married	45	90
	Unmarried	05	10
3	<b>Religion</b>		
	Hindu	35	70
	Muslim	07	14
	Christian	08	16
4	<b>Professional education</b>		
	ANM	35	70
	GNM	15	30
	Basic B. Sc. Nursing	-	-
	PC B.Sc.	-	-
5	<b>Professional experience</b>		
	1-5 yrs	07	14
	6-10 yrs	13	26
	11-18 yrs	15	30
	19 yrs and Above	15	30
6	<b>In-service education</b>	26	52

**Table 2:** Distribution of demographic variables of staff nurses, N = 50

S. No.	Sample characteristics	Frequency	Percentage (%)
1	<b>Age</b>		
	18-28 yrs	25	50
	29-38 yrs	18	36
	39-48 yrs	6	12
	49-above years	01	02
2	<b>Marital status</b>		
	Married	40	80
	Unmarried	10	20
3	<b>Religion</b>		
	Hindu	45	90
	Muslim	02	04
	Christian	03	06
4	<b>Professional education</b>		
	ANM	10	20
	GNM	35	70
	Basic B. Sc. Nursing	02	04
	PC B.Sc.	03	06
5	<b>Professional experience</b>		
	1-5 yrs	12	24
	6-10 yrs	20	40
	11-18 yrs	17	34
	19 yrs and Above	01	02
6	<b>In-service education</b>	04	08

**a) Knowledge of female health workers on aseptic techniques:**

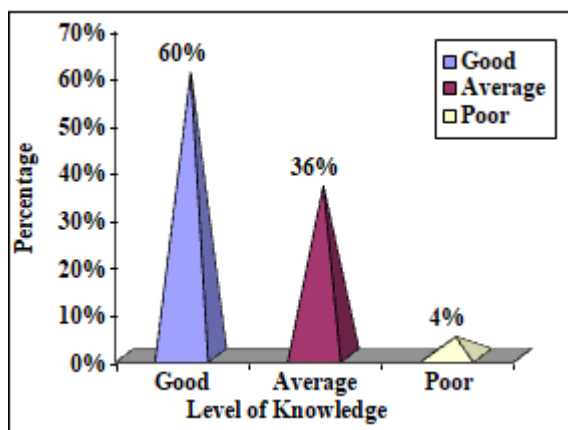
Analysis of knowledge of female health workers on aseptic techniques during delivery at selected PHC's of Ratnagiri district.

This section deals with analysis and interpretation of data collected to evaluate the knowledge of female health workers on aseptic techniques during delivery.

**Table 3:** Knowledge of female health workers

S. No.	Level of knowledge	Frequency	Percentage (%)
1.	Good	30	60
2.	Average	18	36
3.	Poor	2	4

Level of knowledge of aseptic techniques among female health workers were 30 (60%) good, 18 (36%) were average, and the remaining 2 (14%) were poor.



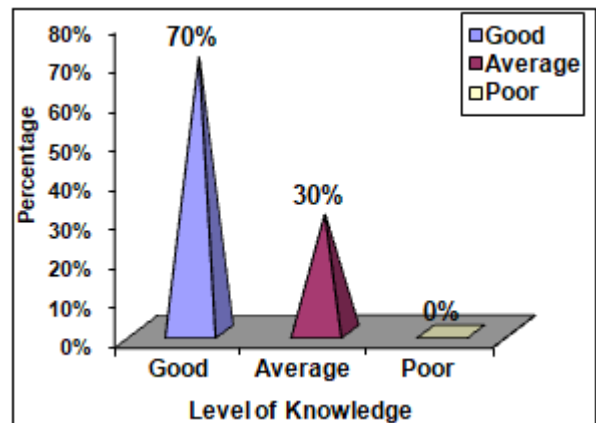
**Figure 13:** Pyramid diagram depicting the percentage distribution of level of knowledge of aseptic techniques among female health workers

**b) Knowledge of staff nurses**

**Table 4:** Knowledge of staff nurses

S. No.	Level of knowledge	Frequency	Percentage (%)
1.	Good	35	70
2.	Average	15	30
3.	Poor	0	0

Level of knowledge of aseptic techniques among staff nurses were 35(70%) good, and 15(30%) were average knowledge and there was 0% of poor knowledge.



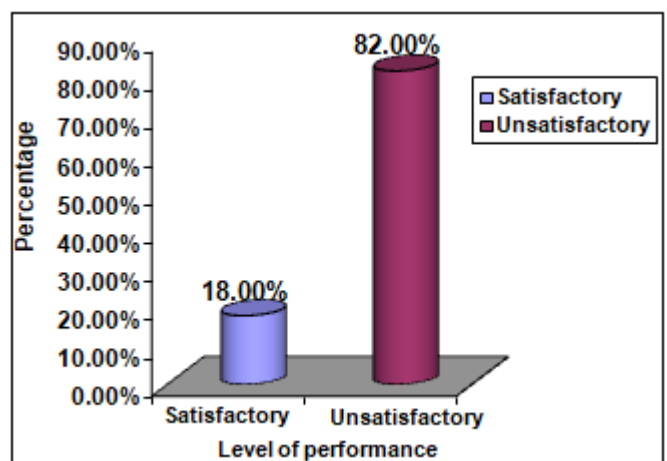
**Figure 16:** Pyramid diagram depicting distribution of level of knowledge of aseptic techniques among staff nurses

**c) Level of practices of female health workers on aseptic techniques during delivery**

**Table 5:** Level of practices of female health workers on aseptic techniques during delivery, N = 50

S. No.	Level of practice	Frequency	Percentage (%)
1.	Satisfactory	9	18
2.	Unsatisfactory	41	82

Level of practices of female health workers on aseptic techniques during delivery were 9(18%) satisfactory and 41 (82%) unsatisfactory performance.



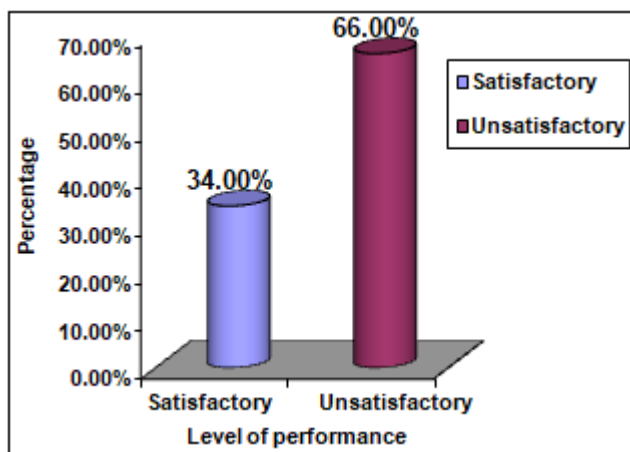
**Figure 19:** Cylindrical diagram depicting percentage distribution of level of practices among female health workers

**d) Level of practices of staff nurses on aseptic techniques during delivery**

**Table 8:** Level of practices of staff nurses on aseptic techniques during delivery

S. No.	Level of practice	Frequency	Percentage (%)
1.	Satisfactory	17	34
2.	Unsatisfactory	33	66

Level of practices of staff nurses on aseptic techniques were 17(34%) satisfactory and 33 (66%) were unsatisfactory performance.



**Figure 21:** Cylindrical diagram depicting percentage distribution of level of practices among Staff nurses

**Table 9:** Correlation between level of knowledge and practices of female health workers, N =50

Selected variables	Co-efficient of correlation	d.f.
Knowledge	0.2762	48
Practices		

p = 0.2732, p>0.05

The findings in the table 9 show that there is no correlation between knowledge of aseptic techniques and level of practices on aseptic techniques during delivery. The  $\gamma$  value computed was 0.2762 which is not significant at 0.05 level. So the researcher accepted the null hypothesis which shows that there is no significant relationship between knowledge of aseptic techniques and level of practices on aseptic techniques.

Hence, it is interpreted that knowledge of aseptic technique is independent of level of practices on aseptic techniques.

**Correlation between level of knowledge and practices of staff nurses, N=50**

Selected variables	Co-efficient of correlation	d.f.
Knowledge	0.1623	48
Practices		

p = 0.2732, p>0.05

The findings in the table 10 show that there is no correlation between knowledge of aseptic techniques and level of practices on aseptic techniques during delivery. The  $\gamma$  value computed was 0.1623 which is not significant at 0.05 level. So the researcher accepted the null hypothesis which shows that there is no significant relationship between knowledge

of aseptic techniques and level of practices on aseptic techniques during delivery.

Hence, it is interpreted that knowledge of aseptic technique is independent of level of practices on aseptic techniques.

**e) Comparison of knowledge of aseptic techniques among female health workers and staff nurses using normal test (Z)**

**Table 11:** Comparison of knowledge of female health workers and staff nurses, N=100

Selected groups	Z value of knowledge	d.f.
Female health workers	2.45	98
Staff nurses		

p = 1.96, p>0.05

The findings in the table 11 shows that the H<sub>0</sub>: Knowledge is equally good among female health workers and staff nurses.

H<sub>1</sub>: Knowledge is better in staff nurses than female health workers.

Z (calculated) = 2.45 p, >1.96 at 5% level of significance.

Since the calculated Z value is less than P value, null hypothesis is rejected and researchers hypothesis is accepted.

Reject Ho i.e. Accepted H1

**f) Comparison of practices of aseptic techniques among female health workers and staff nurses.**

**Table 12:** Comparison of practices of aseptic techniques among female health workers and staff nurses, N=100

Selected groups	Z value knowledge	d.f.
Female health workers	5.1348	98
Staff nurses		

p = 1.96, p>0.05

The findings in the table 12 shows that the, H<sub>0</sub>: Practices are equally good among female health workers and staff nurses.

H<sub>1</sub>: Staff nurses are better in practices than female health workers.

Z (calculated) = 5.1348 p> 1.96 at 5% level of significance. Since the calculated Z value is more than p value null hypothesis is rejected and research hypothesis is accepted. Therefore Reject H<sub>0</sub> ie, Accepted H<sub>1</sub>.

**6. Discussion**

**Level of knowledge regarding aseptic techniques**

In the present study, the level of knowledge of female health workers was good 60%, whereas even 70% of staff nurses had good level of knowledge. Another significant finding of the study was that the mean percentage of knowledge scores in the area of decontamination of labour room was found significantly low 40.75% among female health workers, whereas the staff nurses had 56.75% knowledge.

**Level of practices of aseptic techniques**

In the present study, level of practices of aseptic techniques during delivery among female health workers was found

unsatisfactory 82% and 33 (66%) staff nurses were found performing unsatisfactory practices of aseptic techniques during delivery.

### **Correlation between level of knowledge and practices on aseptic techniques during delivery**

In this section, it was observed that knowledge of aseptic techniques and practices on aseptic techniques during delivery among female health workers and staff nurses were not significantly related.

Comparison between knowledge and practices of female health workers and staff nurses on aseptic techniques during delivery.

In the present study, the knowledge level of staff nurses was significantly good than the female health workers. ( $Z=2.45$ ,  $P>1.96$  at 5% level of significance). Whereas, the practices of staff nurses were satisfactory comparing to practices of female health workers.

## **7. Conclusion**

- 1) To determine the significance of correlation between knowledge & practices of female health workers and staff nurses on aseptic techniques during delivery which indicated that there is no correlation between knowledge & practices of female health workers ( $r = 0.2762$ ) & staff nurses. ( $r = 0.1623$ )
- 2) The results showed that there is no significant relationship between knowledge and practice on aseptic techniques among female health workers and staff nurses. ( $p = 1.96$ ,  $P > 0.05$ ).

## **8. Recommendations**

Keeping in view the findings of the present study, the following recommendation were made:

- 1) A similar study can be conducted with a view to develop and implement a self-instructional module on planned teaching programme on aseptic techniques during delivery.
- 2) A similar study can be replicated on other health care professionals.
- 3) An exploratory survey can be done to find out the limitations faced by the nurses in following aseptic techniques practice.
- 4) A similar study can be conducted to evaluate the effectiveness of planned teaching programme on aseptic techniques during delivery among student nurses.
- 5) A descriptive study can be conducted among Junior health assistants and staff nurses knowledge regarding practices of aseptic techniques during delivery.