

## **“A Study To Evaluate The Effectiveness Of Information Guide Sheet On Knowledge Regarding Infection Control Measures Among Staff Nurses Working At Maternity Units And Labour Rooms In Selected Hospitals Of Mangalore Taluk”.**

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**Abstract:** A study to evaluate the effectiveness of information guide sheet on knowledge regarding infection control measures among staff nurses working at maternity units and labour rooms in selected hospitals. A Pre-experimental one group pre-test post-test design was used to evaluate the knowledge of staff nurses on infection control measures. Sample of the study comprised of 6 staff nurses of selected hospitals. There was a significant improvement obtained from information guide sheet on the knowledge regarding infection control measures at maternity units and labour rooms. Pretest mean is 19.80, S.D is 2.62 and after administration of information guide sheet mean is 27.55, S.D is 1.58. Its enhancement mean is 7.75. Paired 't' test value 24 is significant at  $p < 0.05$  level. There was a significant improvement obtained following administration of information guide sheet. The study enlightens that there is a need for educational programme to improve the knowledge regarding infection control measures. The study motivates other researchers to conduct further studies to evaluate the practice of infection control in the hospital settings.

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### **I. Introduction**

Mothers and neonates are vulnerable to get infection from the surrounding environment of the hospital. The chances of infection increases if the precautions are not taken appropriately especially by nursing staff who is the prime person, responsible for taking care of neonates in the hospital. Infection control is a more substantial area of concern in labour and delivery room because these neonates do not adapt to their surroundings immediately after they come out of the womb of mothers. In addition to this, mothers might be exposed to infection due to multiple examinations by health care providers during the process of labour. Moreover, in lower middle income countries, neonatal deaths are due to infections acquired at home or in the hospital and around 36% of the neonatal deaths occur due to infection.<sup>1</sup>

Most of the infections are transmitted by health care personnel who fail to practice proper hand washing procedures or change gloves between each contacts. Standard precautions include hand hygiene, use of appropriate personal protective equipment, use of aseptic technique to reduce patient exposure to microorganisms and management of sharps, blood spills, linen and waste to maintain safe environment. Strengthening and integrating universal precautions with routine services through provision of training and introducing health care workers infection prevention standard of practice, protocol, rules and regulations are recommended.<sup>2</sup>

Health care professionals always aim to preserve the maternal and new born health, but sometimes little negligence can put their health at risk which should not be overlooked. Multiple factors can cause infection in the labour room, therefore it is important to assess various factors of maternal and neonatal infection.<sup>2</sup>

### **II. Need For The Study:**

Infection during pregnancy is relatively prevalent. Infection is the entry and development of disease producing agent in the body. Infection control refers to policies and procedures used to minimize the risk of spreading infections especially in hospitals and human health care facilities.<sup>3</sup>

India is amongst the countries with high maternal mortality rate (MMR) and infant mortality rate (IMR). Most of the deaths occur due to sepsis. UNICEF initiated a review of infection control practices (ICP) during labour and delivery and in newborn care at two states of Rajasthan and Odisha, India.<sup>4</sup>

Infection control is the process and activities that identify and reduce the risk of acquiring and transmitting endemic and epidemic infections among individuals. Surgical procedures interfere with the normal protective skin barrier and expose the patient to microorganisms from both endogenous and exogenous sources. Prevention is therefore a primary concern to health care personal. WHO ranks maternal sepsis as the 6<sup>th</sup> leading cause of disease burden for women aged 15-44 years. As many as 5.2 million new cases of maternal sepsis are thought to occur annually and an estimated 62,000 maternal deaths will result from this condition.<sup>5</sup>

In developing countries many women still deliver at home, making prevention of infection at home and in the community. The provision of delivery care by health professionals in health facilities is expected and likely to decrease infection rates because of use of clean practices and usage of sterile gloves. Increasing concerns of hospital and health care associated infections are also currently recorded across many medical disciplines, even in high income industrialized countries.<sup>5</sup>

### **III. Statement Of The Problem**

“A study to evaluate the effectiveness of information guide sheet on knowledge regarding infection control measures among staff nurses working at maternity units and labour rooms in selected hospitals of Mangalore Taluk”.

### **IV. Objectives**

Objectives of the study are to:-

- ❖ assess the level of knowledge regarding infection control measures in maternity units and labour rooms among staff nurses.
- ❖ evaluate the effectiveness of information guide sheet by comparing the pre-test and post-test knowledge score.
- ❖ find an association between pre-test knowledge score with selected demographic variables.

### **V. Operational Definitions**

#### **Evaluate:-**

In this study evaluate refers to a systematic process of determining the extent of knowledge achieved by staff nurses regarding infection control measures in maternity units and labour rooms with the help of information guide sheet.

#### **Effectiveness:-**

In this study effectiveness refers to the outcome of information guide sheet in increasing the knowledge of staff nurses regarding the infection control measures in maternity units and labour rooms.

#### **Information guide sheet:-**

In this study information guide sheet refers to a systematic, scientific information and specific instructions related to infection control measures in maternity units and labour rooms prepared by the investigator.

#### **Knowledge:-**

In this study knowledge refers to the correct responses of staff nurses regarding infection control measures in maternity units and labour rooms as measured by a structured questionnaire.

#### **Infection control measures (ICM):-**

In this study ICM includes hand washing, mask, cap, gown, gloves and boot to reduce the risk of infection of mother in maternity units and labour rooms.

#### **Staff nurses:-**

In this study staff nurses refers to the person who undergone training, got certification and registered nurse who is responsible for giving care to patients in selected maternity units and labour rooms.

#### **Maternity units and labour rooms:-**

In this study maternity units refers to a hospital room where woman in labour stays before being taken to the delivery room and labour room is a place especially equipped for the delivery of pregnant woman.

### **VI. Methodology**

The research design adapted for the present study was pre experimental design with one group pre-test post-test. Non-probability purposive sampling technique was used to select the sample of 6 staff nurses.

#### **Tools and score interpretation**

It consist of 32 multiple choice questions. Each item had a score of ‘1’ for correct answer and ‘0’ for wrong answer. Infection control measures were divided into 9 sections.

Section A - consists of 4 items regarding introduction of infection control measures.

Section B - consists of 4 items regarding hand washing.

Section C - consists of 3 items regarding the technique of mask.

Section D - consists of 2 items regarding capping procedure.

Section E - consists of 6 items regarding gowning.

Section F - consists of 3 items regarding gloving.

Section G - consists of 3 items regarding boots.

Section H - consists of 4 items regarding labour room sterilization.

Section I - consists of 3 items regarding handling and disposing of supplies.

### VII. Data Collection Procedures

The necessary administrative permission was obtained for conducting the pilot study. After taking the informed consent, the data were collected by using structured knowledge questionnaire. An average time limit of 30-45 minutes were taken for each sample.

### VIII. Data Analysis And Interpretation

The data were presented under the following headings:

**Section I:** Demographic data of staff nurses.

**Section II:** Distribution of staff nurses according to their knowledge score.

**Section III:** Evaluation of the effectiveness of information guide sheet in terms of gain in knowledge score.

**Section IV:** Association between the mean pre-test knowledge score and selected demographic variables.

### IX. Major Findings Of The Study

**Table 1: Frequency and percentage of distribution of staff nurses according to the level of knowledge score n=6**

Level of knowledge	Pre-test knowledge scores		Post-test knowledge scores	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Poor	0	0	0	0
Average	0	0	0	0
Good	5	83.33	2	33.33
Excellent	1	16.67	4	66.67

The data presented in table 1 shows that in pre-test majority(83.33% )of the staff nurses had good knowledge and 16.67% had excellent knowledge regarding infection control measures where as in post-test 33.33% had good knowledge and 66.67% had excellent knowledge regarding infection control measures.

**Table 2: Mean, standard deviation, mean difference and paired ‘t’ test of pre-test and post-test knowledge score n=6**

Knowledge score	Mean	Standard deviation	Mean difference	‘t’ value	Remarks
Pre-test	20	2.2	5.6	*8.54	*significant
Post-test	25.6	1.60			

**Table value  $t_{(5)}=2.57, p<0.05$**

The data presented in table 2 shows that ‘t’ value computed between pre-test and post-test knowledge score is statistically significant (  $t=8.54$ , table value  $t_{(5)}=2.57, p<0.05$  ). The calculated value was greater than the table value. Hence the null hypothesis was rejected and research hypothesis was accepted. This shows that there is significant difference between the mean pre-test and post-test knowledge score of staff nurses regarding infection control measures.

**Table 3 : Area wise paired ‘t’ test showing the significant difference between pre-test and post-test knowledge scor n=6**

Areas	Pre-test knowledge score		Post-test knowledge score		‘t’ value
	Mean	SD	Mean	SD	
Introduction	2.83	1.05	3.66	1.36	*2.58
Hand washing	1.83	0.68	3	1.11	*2.62
mask	2.33	0.86	2.5	0.93	0.44

<b>Capping</b>	<b>1.0</b>	<b>0.37</b>	<b>1.5</b>	<b>0.55</b>	<b>*2.76</b>
<b>Gowning</b>	<b>3.16</b>	<b>1.17</b>	<b>4.66</b>	<b>1.73</b>	<b>*2.83</b>
<b>Gloving</b>	<b>1.83</b>	<b>0.80</b>	<b>2</b>	<b>0.74</b>	<b>0.56</b>
<b>Boots</b>	<b>2.33</b>	<b>0.86</b>	<b>3</b>	<b>1.1</b>	<b>1.48</b>
<b>Labour room sterilization</b>	<b>3</b>	<b>1.1</b>	<b>3.16</b>	<b>1.7</b>	<b>0.33</b>
<b>Handling and disposing of supplies</b>	<b>1.66</b>	<b>0.16</b>	<b>2.16</b>	<b>0.80</b>	<b>*2.64</b>

**Table value  $t_{(5)} = 2.57, p < 0.05$  \*Significant**

The data presented in table 6 shows that paired 't' test computed between pre-test and post-test knowledge score is statistically significant in the area of introduction of infection control measures, hand washing, capping, gowning, handling and disposing of supplies. ( $t_{(5)}=2.57, p < 0.05$ ). This shows that information guide sheet was effective in all the areas except technique of mask, gloving, boot and labour room sterilization.

## **X. CONCLUSION**

Infection control measures remains a significant public health challenge for healthcare systems, especially in maternity units and labour rooms. Poor infection control practices at maternity units and labour rooms increases the chances of puerperal infections and neonatal infections. So there is very much need to maintain proper sterility techniques and to follow infection control guidelines. In order to reduce the maternal mortality rate staff nurses should be knowledgeable and skilful in prevention of maternal infection. By educating the staff nurses and creating awareness in helping them to learn more about infection control measures they will be able to control and prevent the infections.

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