

# Pre Experimental Study to Assess the Effectiveness of the Demonstration Method Regarding Placental Examination among Staff Nurses

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## ABSTRACT

The placenta is fundamentally a foetal organ with a limited life span. By virtue of its structure, maturational features, and interface with maternal circulation and inner uterus, it can provide valuable diagnostic information about the existence of adverse uterine condition. The examination of placenta hold information related to fetal and maternal morbidity. The nurse must carefully examine the placenta and its membranes as soon as possible. The aim of present study was to assess the effectiveness of demonstration method regarding placental examination among staff nurses in order to improve their practice and skills regarding placental examination to prevent maternal and neonatal complications. Pre experimental research design was selected for the study and the study was conducted on 40 staff nurses who are working in selected maternity hospitals of Amritsar, Punjab. Purposive sampling technique was used to select the sample. Tool used in this study was socio demographic profile to assess the personal information of the subjects and observational checklist to assess the practice regarding placental Examination among staff nurses.

**Key words:** Placental examination; Demonstration practice; Staff nurses

## INTRODUCTION

A healthy placenta is the single most important factor in producing a healthy baby. The placenta, which is in fact part of the fetus, is critical for all aspects of pregnancy from implantation to delivery. The human placenta is a transitional organ, a mediator between the mother and the fetus for physiologic exchange processes [1]. It is genetically programmed to last for 9 months. Since it consists of maternal and fetal parts, its cells are of two different genotypes. This biologic situation has important immunologic consequences, since the fetoplacental complex can be seen as a natural, allergenic transplant that is resistant to rejection.

In humans, the placenta usually has a disc shape, but size varies vastly between different mammalian species. The placenta averages 22 cm (9 inch) in length and 2–2.5 cm (0.8–1 inch) in thickness, with the center being the thickest, and the edges being the thinnest. It typically weighs approximately 500 grams (just over 1 lb). It has a dark reddish-blue or crimson color. It connects to the fetus by an umbilical cord of approximately 55–60 cm (22–24 inch) in length, which contains two umbilical

arteries and one umbilical vein. The umbilical cord inserts into the chorionic plate (has an eccentric attachment). Vessels branch out over the surface of the placenta and further divide to form a network covered by a thin layer of cells. This results in the formation of villous tree structures [2]. On the maternal side, these villous tree structures are grouped into lobules called cotyledons. The maternal surface is dark red in color and is made up of 15 to 20 cotyledons, which are divided by septa. The outer appearance is shiny and white in nature due to the chorionic plate and the amnion covering. Insignificant changes can occur, like infarctions related to the depositing of fibrin, and also the surface can seem gritty due to lime salt deposits.

The placenta forms a functional unit between the mother and the fetus. Therefore, any pathological event that concerns the mother or the fetus will influence the normal function of the placenta, occasionally resulting in morphological change. Severe abnormalities of the placenta may lead to adverse fetal outcome. However, placental lesions are not necessarily the cause of unfavourable outcome, and some structural changes may be the consequences of poor fetal condition. The placenta is an easily

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available specimen and the costs of a routine pathological examination are moderate [3].

A one-minute examination of the placenta performed in the delivery room provides information that may be important to the care of both mother and infant. The findings of this assessment should be documented in the delivery records. During the examination, the size, shape, consistency and completeness of the placenta should be determined, and the presence of accessory lobes, placental infarcts, hemorrhage, tumors and nodules should be noted. The umbilical cord should be assessed for length, insertion, number of vessels, thromboses, knots and the presence of Wharton's jelly [4]. The color, luster and odor of the fetal membranes should be evaluated, and the membranes should be examined for the presence of large (velamentous) vessels. Tissue may be retained because of abnormal lobation of the placenta or because of placenta accreta, placenta increta or placenta percreta. Numerous common and uncommon findings of the placenta, umbilical cord and membranes are associated with abnormal fetal development and perinatal morbidity. The placenta should be submitted for pathologic evaluation if an abnormality is detected or certain indications are present.

Pregnancy and childbirth remain major causes of female mortality, and over half a million women die each year as a direct consequence. Hence, improving maternal health was designated the 5<sup>th</sup> of the Millennium Development Goals, with the aim of reducing maternal mortality between 1990 and 2015 by three quarters. The majority of these deaths occurs because of obstructed labour, infection and haemorrhage, and should be preventable by improved obstetric care. Elective preterm delivery is also frequently related to abnormal placentation, and accounts for approximately 60% of babies weighing less than 1000g. Hence, the consequences of defective placentation include mortality and severe morbidity, and associated health care costs both in the short and long term [5]. There is thus an urgent and persuasive need for more research into the development and function of the placenta.

## METHODOLOGY

To assess the effectiveness of demonstration method regarding placental examination among staff nurses in selected hospitals of Amritsar (Punjab), quantitative research approach was considered appropriate. The study was conducted in selected Maternity Hospitals i.e. Dhingra Maternity Hospital, Aggarwal nursing home and Beri Maternity Hospital of Amritsar, Punjab. The rationale for selecting the present setting for the study was researcher's familiarity with the setting, convenience, feasibility, expected cooperation from the authorities in getting permission, language and geographical proximity, high delivery census and adequate staff ratio. The researcher selected 40 staff nurses who fulfill the inclusion criteria of the study by using purposive sampling technique. Prior to data collection the investigator gave self-introduction to the respondent and explained the purpose of gathering information. A good rapport was established with the subjects. They were assured that their responses were kept confidential and information was used only for research purpose

[6]. Written consent was taken from staff nurses. Tool used in this study was socio-demographic profile was used to collect personal information of subjects and observational checklist for assessing the level of skills regarding placental examination. Firstly, researcher assesses the skills of staff nurses regarding placental examination by using observational checklist and then gives the structured teaching program to the staff nurses. After 7<sup>th</sup>, 10<sup>th</sup>, 13<sup>th</sup> day by using same tool to assess the skills regarding placental examination among staff nurses. Time taken to assess the skills of placental examination among staff nurses was average 15 to 20 minute.

## RESULTS

### Data analysis and interpretation

Table 1 depicts the frequency and percentage distribution of staff nurses according to pre demonstration practice regarding placental examination. It showed that majority (90%) of staff nurses had unsatisfactory skills and only one tenth (10%) of staff nurses had satisfactory skills regarding placental examination.

**Table1:** Pre-demonstration examination among staff nurses. practice regarding placental .

Level of skills	N	%	Mean	SD
Unsatisfactory	28	90	6.18	2.262
Satisfactory	12	10	9.75	2.734

Therefore, it can be concluded that in pre demonstration practice, most of staff nurses had unsatisfactory skills regarding placental examination.

## DISCUSSION

In the present study, analysis showed that majority (90%) of staff nurses had unsatisfactory skills and only one tenth (10%) had satisfactory skills regarding placental examination. Therefore, it was concluded that in pre demonstration practice, most of staff nurses had unsatisfactory skills regarding placental examination [7]. The findings were congruent with a quasi experimental study to implement a protocol for improving nursing performance towards placental examination at labour units. The findings revealed that approximately three fifth (60%) of staff nurses them can't define the placental barrier, (47.6%) cannot know about the general characteristics of the placental and (45.2%) of them can't mention the recent benefits or uses of it. Additionally, more than one fifth (26.2%) of them couldn't determine the site of placental implantation, (35.7%) couldn't determine the time of placental formation and its function. Hence, concluded that in pretest, majority of staff nurses had lack of knowledge regarding placental examination [8-12].

In the present study, the analyses shows in post demonstration practice majority (70%) of staff nurses had unsatisfactory skills and less than one third (30.0%) has satisfactory skills regarding

placental examination. The mean score of day 7<sup>th</sup> was 11.12, day 10<sup>th</sup> was 11.65 and day 13<sup>th</sup> was 12.65. Hence, this observation reveals improvement in skills regarding placental examination among staff nurses. The findings of the present study were congruent with a quasi-experimental study to assess the effect of computer based learning on nursing student's knowledge and skills retention regarding placental examination. This study showed that after providing teaching session, students showed improvement immediately and after one week where (95%) and (87.5%) respectively exhibit good total score. One month later, computer based learning showed a decline in their knowledge score with only 60% achieving good total scores.

## CONCLUSION

In the present study, analysis showed that majority (90%) of staff nurses had unsatisfactory skills and only one tenth (10%) had satisfactory skills regarding placental examination. In post demonstration practice majority (70%) of staff nurses had unsatisfactory skills and less than one third (30.0%) has satisfactory skills regarding placental examination. The mean score of day 7<sup>th</sup> was 11.12, day 10<sup>th</sup> was 11.65 and day 13<sup>th</sup> was 12.65. The mean difference between pre demonstration and post demonstration practice regarding placental examination was calculated by t-test (15.194) and the t value was found to be statistically highly significant at  $p < 0.001$ . Hence, concluded that demonstration on placental examination has significant effect in improving the skills of placental examination among staff nurses. So, it is the responsibility of the hospital administrators to organize continuing education and training programme for nurses regarding placental examination and also aware them regarding new guidelines on placental examination so as to maintain high level of health care in maternity hospitals and

also encourage nurses to carry more and more researches on placental examination.

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