



**“A QUASI EXPERIMENTAL STUDY TO ASSESS
THE EFFECTIVENESS OF STRUCTURED
TEACHING PROGRAM ON KNOWLEDGE
REGARDING ANTENATAL CARE DURING
FIRST AND SECOND TRIMESTER AMONG
PRIMIGRAVIDA MOTHERS IN RURAL
PRIMARY HEALTH CENTER AT BALESWAR
ODISHA.”**

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ABSTRACT

Statement Of The Problem A quasi experimental study to assess the effectiveness of structured teaching programme on knowledge regarding antenatal care during first and second trimester among prim gravida mothers rural primary health center Baleswar, Odisha. **Objectives Of The Study:** To assess the pre- test level of knowledge regarding antenatal care during first and second trimester among prim gravid mother. To assess the post-test level of knowledge before and after structured teaching programme among prim gravida mothers. To test the association between post test knowledge scores selected background factors among prim gravida mothers. **Hypothesis:** There will be significant between before and after intervention. There will be significant difference between the post test knowledge score and selected demographic variables among prim gravid mothers. **Data Collection Procedure:** The research approach used for this study was quantitative approach The research design

selected for this study was **Quasi experimental design**. Antenatal care during first and second trimester who fulfilled the inclusion criteria were selected by using Convenient sampling technique. The tools used for data collection was Demographic data was collected through self report. After that assessing problems faced by wives by using the interview. Duration for collection of data is 30 mts. **Conclusion:** Structured teaching program significantly increase the knowledge on selected aspect of antenatal care .

INTRODUCTION

CHAPTER I INTRODUCTION

‘Pregnancy is getting company inside one’s skin’

-Maggie Scart´

Women pregnant for the first time are confronted with symptom that would be considered abnormal in the non pregnant state, much of the prenatal care requested by such women is prompted by the need for explanation of the causes of minor disorders and for advice on ways to relieve the discomfort Nurses can do much to allay a first terminology that the woman can understood such women who understood physical discomforts of pregnancy are less able to become very anxious about their health in addition to understanding the rationale for treatment promotes their participation in their care.

Pregnancy is a creative and productive period in the life of women. It is one of the physiologic vital events, which needs special care from the conception to postnatal period, every mother wants to enjoy the nine months period with the baby inside her womb. The mothers joyful experience of the pregnancy is not going to be always but sometimes it is associated with problems of some minor ailments that may present among mothers which cause discomfort to the mothers during pregnancy.to them. **(Dutta)**

Promotion of maternal and child health has been one of the most important components of the family Welfare Programme of the Government of India and the National Population Policy ± 2000. One of the most important component of antenatal care is to offer information and advice to women about pregnancy related complication and possible curative measures for early detection and management of complications. Antenatal care can also play a critical role in preparing a woman and her family for birth by establishing confidence between the woman and her health care provider and by individualizing promotional health messages. Antenatal care is considered essential for health of both the mother and the child, it is important to analyze the possible factors contributing to its utilization.

The lest of any civilization is the measure of consideration and care, which it gives to its weaker sections. In any community, women are especially vulnerable during pregnancy. The maternal mortality ratio (MMR) in India is very high the data given by the registrar general of India for 1998 estimate that MMR to be around 407 per 100,000 live births. (WHO 2005).

Reducing MMR to less than 100 per 100,000 live birth is a commitment enshrined in the national population 2000. India is committed to reducing MMR to less than 100 per 100,000 by the year 2010 from the current 407 / 100,000 live births (SRS, RGI,1998)

Maternal care includes care during pregnancy and should begin from the early stages of pregnancy. Women can success antenatal care service either by visiting a health center where such services are available or from health workers during their domiciliary visits. One of the most important components of antenatal care is to offer information and advice to women about pregnancy related complication and possible curative measures for early detection and management of complication. Antenatal care can also play a critical role in preparing a woman and her family for birth by establishing confidence between the purpose of the study is to identify the knowledge and practices of pregnant women regarding different aspects of antenatal care such as diet, antenatal checkups, immunization, adequate sleep and rest, exercise, hygiene, breast care, breastfeeding the health problems and complications of pregnancy to make recommendations to enhance the knowledge and practices of antenatal care by improving the delivery of antenatal services(both quality and quantity) if they are less; and to continue with the present antenatal service rendering status if the knowledge and practices are adequate.

Effective antenatal care can improve the health of the mother and give her a chance to deliver a healthy baby. Regular monitoring during pregnancy can help detect the complication at an early stage before they become life ± threatening emergency. However, one must realize that even the most effective scanning tools currently available, one cannot predict which will develop pregnancy related complication. Hence, every pregnant women needs special care.

Pregnancy is considered as a normal physiological process during the reproductive age, but stands for mortality of the mother and child if not cared properly during pregnancy period. Most women experience Minor Ailments or side effects during their pregnancies usually nausea and vomiting heart burn, frequency of urination, hemorrhoids, Back Ache, constipation , cough, hiccough varicose vein anxiety during pregnancy, acidity and heart burn abnormal carving, leg crams and oedema.

In India the morbidity among women may also increase with the decreasing consumption of food and increasing work burden, Cheshire has remarked that both traditional and modern medical view will go along the way in minimizing the disorders associated with pregnancy.

Pregnancy refers to the fertilization and development of one or more offspring growth change, enrichment and challenge. Pregnancy is a normal process that results in a series of both physiological and psychological changes in a woman. Some of these are temporary changes that occur during pregnancy; others extend fora period of time after pregnancy; still others are permanent .The female body adapts to this change normally. Physiological changes of pregnancy occur gradually, but eventually motivated to learn about their bodies and about activities that will improve their chances for a healthy outcome moment of conception, significant physiological changes occur in the expectant child birth and lactation and to maintain her health. Early physiological changes are due to the metabolic demands brought on by the fetus, placenta and uterus and due to the increasing levels of pregnancy hormones such as progesterone and estrogen. Later changes are anatomical in nature and are caused by the mechanical pressure from the expanding uterus. Physiological changes that occur during pregnancy can be categorized as local (confined to the reproductive organs) or systemic (affecting the entire body).

Antenatal care refers to pregnancy related health care provided by a doctor or a health worker in medical facility or at home. Antenatal care should monitor a pregnancy for signs of complication detect and treat pre-existing and concurrent problems of pregnancy. It should also provide advice and counseling or preventive care, diet during pregnancy, delivery care, postnatal care and related issues. An antenatal care is necessary for ensuring a healthy mother and baby at the end of gestation. The antenatal period is a time of physical and psychological preparation of birth and parenthood. Becoming a parent is a time of intense learning both for parents and for those close to them.

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family Welfare Programme of the Government of India and the National Population Policy ± 2000. One of the most important component of antenatal care is to offer information and advice to women about pregnancy related complication and possible curative measures for early detection and management of complications. Antenatal care can also play a critical role in preparing a woman and her family for birth by establishing confidence between the woman and her health care provider and by individualizing promotional health messages. Antenatal care is considered essential for health of both the mother and the child, it is important to analyze the possible factors contributing to its utilization.

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Effective antenatal care can improve the health of the mother and give her a chance to deliver a healthy baby. Regular monitoring during pregnancy can help detect the complication at an early stage before they become life ± threatening emergency. However, one must realize that even the most effective scanning tools currently available, one cannot predict which will develop pregnancy related complication. Hence, every pregnant women needs special care.

NEED FOR STUDY

The knowledge of pregnant women regarding antenatal care and their compliance to it is of paramount importance in preventing maternal and infant mortality rate and morbidity. The Indian society is made of large number of socio± culturally diverse groups. Their views of antenatal care and the health care system in general, may be different. The disparity of their knowledge and practice has to be assessed for improving the delivery of such services to these groups Majority (76.8%) of the respondents attended ANC(Antenatal care) clinic. Women in urban areas were more than 2 times likely to attend antenatal clinic than women in rural areas [(OR=2.177, 95% CI, 1.081-4.382)]. Women who were Muslims or other religions were more than 2 times likely to attend ANC clinic than women who were Christians [(OR=2.398, 95% CI, 1.264-4.557)]. Also, Women who were 25 years and older were more than 2 times more likely to utilize antenatal for the services to be underused³. In the developing countries, these problems are even more prevalent due to the current socioeconomic conditions and inaccessibility of health facilities⁴. The utilization of maternal health service definitely is essential strategy in reducing the risks associated with pregnancy and child bearing in this age group¹. The essential maternal health care services during pregnancy included antenatal care, skilled care at delivery and postpartum care and these are necessary to promote good health. Antenatal care is the care received during pregnancy from skilled health personnel such as the goal oriented model recommended by the WHO which include 4-5 visits for pregnant women who are not having medical problems⁵. Antenatal care utilization (65%) in the developing countries is low when compared to that of the developed countries which is 97%. Skilled attendance at delivery is 53% in developing countries while it is 99% in the developed countries and postpartum care utilization is 30% compared to 90% in developed countries⁵. In Nigeria antenatal care utilization is reported to be 63%⁶.

The antenatal period is a very special time where women undergo the transition into motherhood. During this period the anemic. In India over 54% of pregnant women are anemic and for every 1, 00,000 live births there are 301 maternal deaths in India. This can be reduced by registering the pregnancy in hospital or centre and mainly should counsel to come for follow up visit till the \EDE\ LV ERUQ VDIHO\.³Q India majority of mothers are poor and malnourished and live under unsanitary condition. Maternal (301/1,00,000 live birth) and infant mortality rates (57/1000 live birth) are high compare to

other developing countries. In the light of this fact, we need to improve the health of the antenatal mothers by providing antenatal care. The safe motherhood implies good health of the pregnant women during pregnancy and also ensures good health of the body. In other words, safe motherhood is related to maternal and prenatal mortality and morbidity of 100-200 million deliveries occurring worldwide. 5

In this study, the participation of women in taking decisions concerning their health did not have a significant effect on the use of antenatal care service. This finding is consistent with other studies that have examined the influence of women's autonomy on various health outcomes. A study which used data from a maternal health study carried out in the slums of Nairobi, Kenya found no significant effect of women's participation in decision making concerning their health on the utilization of maternal health services¹⁵; a study in Nepal also found that the influences of women's involvement in decision-making regarding their own health or large purchases on antenatal care attendance were rather weak¹⁶. However, Bloom et al. decisions about their health when their findings demonstrated that women's autonomy was a major determinant of maternal health care utilization among urban poor to middle-income women in a North Indian city¹⁷. Health care service provision in India is very diverse, with rural services achieving considerably less coverage than their urban counterparts. In rural Karnataka, maternal health care indicators compare favorably with those of rural India as a whole, but nevertheless, only 26 per cent of births are institutional and antenatal care is not universal. Table 1 gives estimates of indicators from rural Karnataka, rural Uttar Pradesh (a state with low provision of services) and rural Kerala (a state that is known for superior maternal care). These estimates are taken from the Indian National Family Health Survey carried out in 1992/93 (IIPS, 1993).

The main objective of the present study was to explore the utilization of health care services during pregnancy period of currently married women in Tamilnadu and Karnataka states of south India. The data was extracted from National Family Health Survey-3 (NFHS-3) conducted during 2005-2006. A total of 1314 currently married women in Tamilnadu state and 1542 in Karnataka state were considered for the study. The present study highlights that only 0.9% of the women did not receive antenatal check-up during pregnancy period in Tamilnadu, whereas it was 9.4% in Karnataka. With regard to TT vaccination and IFA tablets, 1.3% and 7.5% of the women did not receive TT injection and IFA tablets in Tamilnadu while the figures were 12.0% and 25.5% respectively in Karnataka. Cross tabulations were applied for the analysis and chi-square test was also used to determine the significant relationship between the variables. It can be concluded that the pregnant women in Tamilnadu more likely utilize the antenatal care than the women lived in Karnataka.

STATEMENT OF THE PROBLEM

A quasi-experimental study to assess the effectiveness of structured teaching program on knowledge regarding antenatal care during first and second trimester primigravida mothers in selected rural primary health center at Baleswar, Odisha.

OBJECTIVE OF THE STUDY

- ▶ To assess the pre-test level of knowledge regarding antenatal care among primigravida mothers
- ▶ To assess the post-test level of knowledge before and after structured teaching program among primigravida mothers.
- ▶ To test the association between post-test knowledge score selected background factors among primigravida mothers.

HYPOTHESES

H1: There will be significant difference between before and after the intervention.

H2: There will be significant difference between the post test knowledge score and the selected demographic variables among prim mothers.

OPERATIONAL DEFINITIONS

Assess - It refers to the method of estimating the level of knowledge. In this study level of knowledge was assessed by knowledge tool.

Knowledge- It refers to the information gained by the Prim mothers regarding the selected aspects of Antenatal care

Effectiveness- The change in the knowledge level of Prim on selected aspects of Antenatal care as a result of structured teaching program which is measure through interview.

Prim Antenatal mothers- A mother who got pregnant first time. In this study first and second trimester. Antenatal mothers were choose as sample.

Structured Teaching Program -It refers to the systematically organized instructions regarding selected aspects of Antenatal care to group of Prim mothers by using power point presentation.

Antenatal care - Antenatal care comprises of systemic, regular and periodic supervision of the pregnant women from the commencement of pregnancy until the onset of labor. In this study knowledge on antenatal care was assessed by knowledge tool.

First trimester -Refers to time period extending from the first day last menstrual period through 12 weeks of pregnancy.

Second trimester -Refers to time period of pregnancy extending from the 13th to the 27th week of gestation.

Primary health center - PHC is the basic structural and functional unit of the public health services in developing countries.

ASSUMPTIONS

- Antenatal care promotes a healthy life of the mother.
- Group teaching will enhance the active learning.
- Knowledge of mother has strong influence in adaptation of healthy behaviors

DE-LIMITATION

- The study was limited to only prim gravida mothers of first and second trimester.
- Sample size was restricted to 60.

PROJECTED OUT COME

This study reveals the effectiveness of structure teaching programme on knowledge regarding antenatal care among prim mothers. The result of the study showed there was increase in knowledge regarding antenatal care during first

and second trimester. The Findings of the study helps the professionals ineducating the prim mothers about antenatal care.

CHAPTER II REVIEW OF LITRATURE

Review of literature is defined as broad, comprehensive in depth systematic and critical review of scholarly publication, unpublished scholarly print materials, audiovisual materials and personal communications. Review of literature is a key step in research process. Review of literature refers to an extensive, exhaustive and systemic examination of publication relevant to research project. One of the most satisfying aspects of the literature review is the contribution it makes to the new knowledge, insight, and general scholarship of the researchers

Review of literature consists of three parts.

PART I: Literature related to Antenatal care

PART II: Literature related to Minor disorder in pregnancy

PART III : Literature related to physiological changes during pregnancy.

PART I: LITERATURE RELATED ANTENATAL CARE

KISHK N (2010) conducted a comparative study to assess the Knowledge and Practices towards ANC between rural and urban women in Alexandria a cross sectional, community ± based house to house survey was conducted in Alexandria using cluster ± sampling technique 30 clusters from urban areas and 30 cluster from rural areas. Concerning maternal practices the current study revealed rural/ urban disparities as significantly higher proportions of urban women had proper practices during antenatal period in their last pregnancy as regards utilization earlier initiation and frequent visits of antenatal care.

of Institutional deliveries managed by hospitals and health centers was about 41% , it being higher among literate women and in urban areas. The study revealed that the literacy of women is the key to improve antenatal care of pregnant women. Hence efforts should be made to have information, Education and Communication

C.S.Metgud, S. 2010 conducted a study of Utilization Patterns of Antenatal care among Pregnant women all women (n=130) village in Tanzania who were pregnant at the start of the study and who became pregnant during the study. Most of the pregnant women (92.31%) were registered for antenatal care, but only 30.00% of them were registered in the 1st trimester of pregnancy. As regards to TT immunisation 70.77% of the pregnant women as received two doses or one booster dose iron and follicle acid supplementation was taken by 59.68% of the pregnant women. Nearly 39.52% of the pregnant women were provided with full antenatal care. The main antenatal care provided for the pregnant women was doctor (64.52%). The study shows early and wide spread of the antenatal care, but it also reveals that the antenatal visits of occur late in pregnancy.

Kiawah S (2011) conducted a study about the use of antenatal care maternity services for the pregnant women in Lower Dist in Uganda. A sample size of 769 women in the viewed, among that 417 visiting initially, during second trimester 242, during third trimester 266. About the use of antenatal services most the woman delivered in health centers (28.7%), (26.4%) delivered from home, (18.2%) in private maternity homes and (13.8%) in hospital. About maternity service utilization approximately (59.2%) gave birth with a skilled attendant present others delivered other by themselves or with help of at relatives, friends and traditional birth attenders. **Yawar A** (2011) performed a cross sectional survey to access the knowledge and practice of women utilizing and not utilizing antenatal care facilities during their previous pregnancy among 200 married women in the age range 15-49 years were compared by the calculating odds ratios and 95% confidence intervals.

Studied showed Pallor was significantly lower among women utilizing antenatal care (57%) as compared to those who were not (77.6%) (O.R.38.95% CI (. 18-81) p value.02). Tetanus toxoid coverage was higher among women utilizing antenatal care (92%) compared to those who were not (59.2%) (O.R 10.8 95% CI

Singh P, (2012) conducted a study to assess the status of antenatal care among pregnant women in India. In that study 89% of the pregnant women availed antenatal visits of which 62% had received three or more ANC visits. Those receiving the second dose of TT or booster dose were about 78%. About 73% of the pregnant women received IFA tablets during their pregnancy. About 53% of the pregnant women had full package proportion of pregnant women who availed full ANC package was lower in rural as compared to urban areas, lowest for (4.5-26.2). Knowledge about danger signals in pregnancy and realization of the importance of eating healthy diet during pregnancy was significantly higher among utilizing antenatal care. The finding reveals that Lesser prevalence of Anemia and better tetanuxs toxoid coverage was seen among women attending antenatal care facilities. Identification of danger signals in pregnancy and recognition of nutritional demands of pregnancy are better understood by women utilizing antenatal care facilities.

Adil H (2012) performed a study about utilization of routine antenatal health care services in Khartoum State, Sudan. Interviews were held among a representative sample of 400 marries women aged 15 ± 49 years from both urban and rural localities was approximately 5 times and application of TT vaccination was 3.7 times higher in urban women as compared to women in rural areas. A higher quality of care (odds ± ratio 5.8) and shorter walk time (odds ratio 3.1) were significantly associated with more utilization of routine antenatal care services. Mother education showed a nearly significant positive relationship both with use of routine antenatal health care services (odds ratio 2.1).

Susila. C (2012) performed a study to assess the level of self motivation of prim gravida mothers towards antenatal care at Sree Ramachandra Hospital and Research institute Chennai, among 100 mothers only 8% of the mothers were with high level of self motivation towards receiving or following the antenatal care and she finds that there is a responsibility for the nurses to increase the level self motivation among antenatal mothers. Are women and providers satisfied with antenatal care? Views on a standard and a simplified evidence-based model of care in four developing countries. BMC Women's Health 2002;2(1):7. This study is a nested cohort questionnaire based trial, located within the WHO RCT on evidence based antenatal care reported above. 1600 women were randomly selected to evaluate their satisfaction with an alternative model of antenatal care involving fewer visits. A further questionnaire was sent to 174 antenatal care providers²⁰. The majority of women in both arms expressed satisfaction with ANC. More women in the intervention arm were satisfied with information on labor, delivery, family planning, pregnancy complications and emergency procedures. More providers in the experimental clinics were worried about visit spacing, but more satisfied with the time spent and information provided. Women under the new ANC model were slightly less satisfied with the number of visits²⁰.

Hunt J (2013). Are recommendations about routine antenatal care in Australia consistent and evidence-based? Medical Journal of Australia 2002;176(6):255-9. This Australian study comparing the recommendations from local protocols, national guidelines and research pertaining to aspects of antenatal care including number of visits found that no national policies about the number of routine visits could be identified. Of those protocols identified, eighty (75%) included a recommendation about the number and timing of visits for routine antenatal care. Most protocols described the³ gestation, then every two weeks until 36 weeks, then every week until 40 weeks or delivery. Fewer visits or a more flexible approach were described in 12 protocols (15%), and extra routine visits, all relating to shared-care arrangements, schedule reported in this study is the 1929 policy.

PART II MINOR DISORDER PREGNANCY

ISFAHAN (2014) A study was conducted to determine the effect of ginger in nausea and vomiting of pregnancy in Isfahan (2009). It was a single blind clinical trial study. The subject included sixty seven pregnant women who complained of nausea and vomiting from Isfahan city hospital. The participants were randomly assigned to two groups an experimental group and a control group. The experimental group received ginger 250 mg capsules for four days and the control group received placebo with the same prescription form. The gingers was demonstrated a high rate of improvement than the placebo users (85% versus 56% : $P < 0.01$). The result shows that ginger is an effective herbal remedy for decreasing nausea and vomiting during pregnancy

Germany (2013) A study was conducted regarding Gastro esophageal reflux disease and management in advanced pregnancy in Germany (2009). A prospective study was conducted to determine the prevalence of Gastro esophageal reflux disease, the frequency and severity of typical gastro esophageal reflux disease symptom, and their impact on quality of life and therapeutic management in advanced pregnancy. 135 consecutive pregnant women in the third trimester were included in the study. Result reveals that the prevalence for gastro esophageal reflux disease in this unselected population was 56.3%. Among symptom regurgitation was the most frequent with 47.3%, where as heart burn was graded as the most severe symptom. The impact of Gastro esophageal reflux disease on the quality of life of the pregnant women was significant ($P < 0.001$). 22.9% of the gastro esophageal reflux disease population required medication. It shows that, gastro esophageal reflux is common in late pregnancy with an important negative impact on the quality of life. Gastro esophageal reflux disease in advance pregnancy requires more attention and better therapeutic management.

Tornato (2013) A study was conducted to determine whether decreasing iron exposure can mitigate nausea and vomiting symptom in pregnancy in Tornado (2009). Data collected from a prospective cohort at the mother sick programme in Taranto, 97 women seeking advice on managing severe nausea and vomiting were advised to discontinue prenatal multivitamin administration and switch to folic acid. Two thirds (63 out of 97) ($P < 0.001$) of those women qualitatively reported an improvement in nausea and vomitingsymptom after discontinuation of iron-containing prenatal multivitamins. These data suggest that avoiding iron-containing prenatal multivitamins in the first trimester is effective in improving morning sickness.

South Africa (2011) A study was conducted to assess the effect of treatment to relieve the symptom associated with varicosity in pregnancy and to reduce leg edema in South Africa (2006). Four trails of three different treatments were included. In one trail, women give outside capsules in the last 3 months of pregnancy noted an improvement in symptoms compared with placebo (relative risk 0.54%, 95%, CI 0.32, 0.89). In other trail women were treated with external pneumatic intermittent compression for 30 minutes to reduce reduce leg edema in another trail compression stocking prophylactically reduced the emergencies of leg symptoms (relative risk 0.74 95% CI 0.59, 0.93). Thus the result shows outsides appear to relieve symptoms of venousinsufficiency in late pregnancy, external pneumatic compression appears to reduce ankle swelling and compression stocking reduce leg symptoms.

Koken G. (2010) Study conducted on Nausea and vomiting in early pregnancy relationship with anxiety and depression. 230 women were investigated, by using the Rhode's system. These scores and demographic data were compared and $P < 0.05$ was considered significant. As a result a significant correlation between Rhode's score and both anxiety ($r = 0.388$, $P < 0.001$) and depression score, ($r = 0.351$, $P < 0.001$) was found. Gestational age showed and inverse correlation with anxiety scores ($P = 0.019$). There was no significant correlation between demographic data and anxiety/depression scores, or Rhode's scores. The findings suggest that there is an association between anxiety and depression early in pregnancy and severity of Nausea and vomiting of pregnancy

Lacasse A, Berard (2010) Study conducted on the Nausea and the Vomiting of Pregnancy specific health related quality of life (QOL) questionnaires. As a result 367 women included in the study, 288 (78.5%) reported Nausea and the Vomiting of Pregnancy in the first trimester of pregnancy. Among these women, the Cronbach's alpha coefficients were high for the complete Nausea and the Vomiting of Pregnancy quality of life questionnaire ($\alpha = 0.98$), and for the four distinct domains [physical symptoms and aggravating factors ($\alpha = 0.90$); fatigue ($\alpha = 0.94$); emotions ($\alpha = 0.86$); limitations ($\alpha = 0.97$)]. The findings suggest that the Nausea and the Vomiting quality of life is a reliable and valid index to measure NVP-specific QOL in the first trimester of pregnancy.

Anderson AM (2013) Study conducted on Pica in pregnancy in a privileged population: myth or reality. Most studies have focused on less privileged populations, but is pica prevalent among privileged pregnant women?

100,000 pregnant women in the Danish National Birth Cohort were asked about pica in a food frequency questionnaire mailed in gestation week 25. As a result the response rate of the questionnaire was 70% of Danish National Birth Cohort participants. Only 14 women reported to have eaten substances that were clearly not foods, i.e. 0.02% had pica in this cohort of well nourished Danish women. The findings suggest that it seems that, in privileged populations, pica is more a myth than a reality.

Madugu HN (2012) Study conducted to determine the prevalence of pica, and factors associated with pica in pregnant women in Zaria. Using a structured questionnaire administered by medical staff and mothers. Statistical analyses included 95% confidence intervals, chi-squared and Fisher's exact tests. The prevalence of pica among the subjects was 50%. The prevalence of non-food pica was significantly higher than that for food pica (difference = 17.8%, 95% confidence interval = 8.3 to 27.3%). There was a significant association between pica in family, friends or other members of the community and pica in the index pregnancy ($\chi^2 = 10.78$, $p = 0.007$). Pica is common in pregnant women in Zaria, and their care should, therefore, include adequate dietary history and counselling. There is also a need to raise public awareness of the adverse effects of this practice.

Palma PC (2010) Descriptive study was conducted to determine the frequency pattern of presentation and causative agents of lower urinary tract symptoms in pregnant females. One thousand consecutive pregnant women, attending the antenatal clinic were included in the study. All women underwent complete examination of urine. Out of one thousand pregnant women, 426 (42.6%) complained of one or more urinary symptoms. Diurnal and nocturnal frequency was the most commonly encountered symptom (87.32%), followed by irrigative symptoms and voiding difficulties. Complete urine examination of symptomatic patients revealed <5 pus cells /HPF (high power field) in 322 cases and 6-20 pus cell/HPF in the remaining 104 cases. The urine culture of the symptomatic patients (426 cases) showed growth in only 37 cases (8.69%). *Escherichia (E.) coli* was the commonest organism (89.1%) followed by *Staphylococcus (S.) aureus* (8.1%) and candidiasis (2.7%). The finding suggest that Lower urinary tract symptoms are frequently present in pregnant women, which can be due to both pregnancy-induced changes on urinary system as well as urinary infection.

Morair S Herrmann Y. (2012) Study conducted on the prevalence of irrigative bladder symptoms of women in the third trimester of pregnancy and the correlation to parity and route of delivery. As a result 80.6% presented nocturia, 70.3% presented urinary frequency and 44.4% presented urgency. No statistic correlation was observed between irrigative bladder symptoms and route of delivery however, when considering parity, nocturia and urinary frequency were significantly more frequent in multiparous women. The finding suggests that in the population under study pregnancy percentage was associated to a high prevalence of irrigative bladder symptoms.

Hart Din (2010) Study conducted on heartburn with associated esophagitis is experienced by 45% to 70% of pregnant women. Posture is the most constant associated factor; bile regurgitation through the pylorus is likely to be important in its etiology but gastric acidity is not. Treatment with alkalis or dilute hydrochloric acid affords some relief in 95% of cases and relief in 95% of cases and patient acceptability is the most important factor in choice of preparation. Hiatus hernia is likely to be present in severe cases and rupture of the esophagus has been reported. Early delivery may be advisable in the interest of the mother.

Robertson EJ Moshal MG (2010) Study conducted on heartburn, thought to indicate reflux of gastric contents into the esophagus, occurs frequently in pregnant women during the last trimester, its etiology is not clear. Prolactin blood concentrations rise progressively during pregnancy and heartburn is known to disappear spontaneously during the last weeks of pregnancy. Results show that patients with prolactin levels over 3,000 micro units/ml had significantly higher mean barrier pressures (sphincter pressure-gastric pressure) than the patients with hormone levels of less than 3,000 micro units/ml (P less than 0,02). No direct correlation could, however, be demonstrated between barrier pressures and prolactin levels ($r = 0,3494$). It is concluded that further studies would seem to be indicated on any model to establish the importance of prolactin in the regulation of the lower esophageal sphincter tone.

PART III : LITRATURE RELATED TO PHYSIOLOGICALCHANGES

DURING PREGNANCY

Turan (2011) Pregnancy is associated with significant anatomic and physiologic remodeling of the cardiovascular system. Ventricular wall mass, myocardial contractility, and cardiac compliance increase. Both heart rate and stroke volume increase in pregnancy leading to a $30\pm 50\%$ increase in maternal cardiac output (CO) from 4 to 6 l/min. These changes occur primarily early in pregnancy, and 75% of the increase will occur by the end of the first trimester. CO plateaus between 28 and 32 weeks gestation, and then does not change significantly until delivery. During the third trimester, the increase in heart rate becomes primarily responsible for maintaining the increase in CO. This increase in CO is preferential in which uterine blood flow increases 10-fold (17% of total CO compared with 2% pre pregnancy) and renal blood flow increases 50%; whereas there is minimal alterations to liver and brain blood flow. In addition, when compared with nulliparous women, multiparous women have higher CO (5.6 vs. 5.2 l/min), stroke volume (73.5 vs. 70.5 mL), and higher heart rate. During labor and immediately after delivery, CO increases as a result of increased blood volume (300 ± 500 mL) with each uterine contraction, and utero placental unit back to the maternal circulation after delivery. As CO increases, pregnant women experience a significant decrease in both systemic and pulmonary vascular resistances. Secondary to the vasodilator effects of progesterone, nitric oxide and prostaglandins, systemic vascular resistances, and blood pressure decrease early in pregnancy, reaching their lowest point at 20 ± 24 weeks, and leading to physiologic hypotension. Following this decrease, vascular resistances and secondarily blood pressure begin rising again, approaching the pre-pregnancy values by term. This is especially important in patients with preexisting hypertension and who are on antihypertensive drugs.

Carbillon p (2013) Starting at 6-8 weeks of gestation and peaking at 32 weeks, maternal blood volume increases by $40\pm 50\%$ above non-pregnant volumes. This, coupled with drop in serum albumin concentration, leads to decreased serum colloid osmotic pressure and hemodilutional anemia. Because of the increased compliance of the right and left ventricles in pregnancy, the pulmonary occlusion and central venous pressures remain fixed. While exact origin of the increased blood volume is not fully understood, the mechanism may be through nitric oxide mediated vasodilatation and increased arginine vasopressin production and mineralocorticoid activity, with water and sodium retention, leading to hypervolemia. The pregnancy induced hypervolemia is thought to provide survival advantage to the pregnant women, protecting her from hemodynamic instability with the blood loss at the time of delivery.

Pacheco (2013) The increase in total body water, blood volume, and capillary hydrostatic pressure increase significantly the volume of distribution of hydrophilic substrates. Clinically, a larger volume of distribution could necessitate a higher initial and maintenance dose of hydrophilic drugs to obtain therapeutic plasma concentrations. Additionally, because of the decrease in serum albumin concentrations and other drug-binding proteins during pregnancy; drugs, that are highly protein bound, may display higher free levels due to decreased protein binding availability, and thus higher bioactivity. For example, if a drug is highly (99%) bound to albumin in non-pregnant patients, a small drop in protein binding to 98% in fraction in pregnancy. Digoxin, midazolam, and phenytoin are examples of medications primarily bound to albumin.

Baldwin (2002). Pregnancy is associated with increase in tidal volume by $30 \pm 50\%$, which starts early in the first trimester. While the respiratory rate is not different compared to non-pregnant state, minute ventilation (the product of respiratory rate and tidal volume) is significantly increased, similarly, by $30 \pm 50\%$. These changes are mainly driven by the increase in progesterone concentrations in pregnancy. In addition, the diaphragm is pushed 4 ± 5 cm upward due to the increased intra-abdominal pressure from the enlarging uterus and fluid third spacing. This leads to bibasilar alveolar collapse, basilar atelectasis, and decreased in both functional residual capacity and total lung capacity decrease by $10 \pm 20\%$. The decrease in functional residual capacity may predispose pregnant patient to hypoxemia during induction of general anesthesia. The vital capacity remains unchanged, as the decreased expiratory reserve volumes are accompanied with increased inspiratory reserve volumes.

Popovich (2013) When evaluating blood gases in pregnancy, it is important to note that the arterial partial pressure of oxygen (PaO_2) is normally increased to 101 ± 105 mmHg and that of carbon dioxide (PaCO_2) decreased to 28 ± 31 mmHg. These changes are mainly driven by the increase in minute ventilation described above. The drop of PaCO_2 in the maternal circulation creates a gradient between the PaCO_2 of the mother and fetus, which allows CO_2 to diffuse freely from the fetus, through the placenta, and into the mother, where it can be eliminated through the maternal lungs. In addition, maternal arterial blood pH is slightly increased to 7.4 ± 7.45 and consistent with mild respiratory alkalosis. This alkalosis is partially corrected by increased renal excretion of bicarbonate, leading to reduced serum bicarbonate level between 18 and 21 meq/L, and reduced buffering capacity. This partially compensated respiratory alkalosis slightly shifts the oxy-hemoglobin dissociation curve rightward, thereby favoring dissociation of oxygen and facilitating its transfer across the placenta, but it also may affect protein binding of some drugs.

Davison (2013) Both renal blood flow and glomerular filtration rate (GFR) increase by 50%, as early as 14 weeks of pregnancy. The mechanisms behind the increase in GFR are probably secondary to vasodilation of concentrations, so that when serum creatinine concentration is above 0.8 mg/dL during pregnancy, it may indicate an underlying renal dysfunction. The increase in renal clearance can have significant increase ($20 \pm 65\%$) in the elimination rates of really cleared medications leading to shorter half-lives. For example, the clearance of lithium, which used to treat bipolar disorder, is doubled during the third trimester of pregnancy compared with the non-pregnant state, leading to sub-therapeutic drug concentration. Other drugs that are eliminated by the kidneys include ampicillin, cefuroxime, cephradine, cefazolin, piperacillin, atenolol, digoxin, and many others.

Schou (2012) The kidneys are also mainly involved in water and sodium osmoregulation. Vasodilator prostaglandins, atrial natriuretic factor, and progesterone favor natriuretic; whereas aldosterone and estrogen favor sodium retention. Although elevated GFR leads to additional sodium wasting, the higher level of aldosterone, which reabsorbs sodium in the distal nephron, offsets this wasting. The resulting outcome is one of significant water and sodium retention during pregnancy, leading to cumulative retention of almost a gram of sodium, and a hefty increase in total body water by 6 ± 8 l including up to 1.5 l in plasma volume and reduced serum sodium (concentration of 135 ± 138 meq/L compared with 135 ± 145 meq/L in non-

pregnant women) as well as serum osmolality (normal value in pregnancy ~280 mom/L compared with 286 ± 289 mom/L in non-pregnant women. Another consequence of this volume expansion is reduced in peak serum concentrations (C_{max}) of many hydrophilic drugs, particularly if the drug has a relatively small volume of distribution.

Chowienczyz (2011) In pregnancy, the rise in progesterone leads to delayed gastric emptying and prolonged small bowel transit time, by $\sim 30\pm 50\%$. Increased gastric pressure, caused by delayed emptying as well as compression from the gravid uterus, along with reduced resting muscle tone of the lower esophageal sphincter, sets the stage for gastro-esophageal reflux during pregnancy. In addition, these changes alter bioavailability parameters like A_{max} and time to maximum concentration (T_{max}) of orally administered medications. The decrease in C_{max} and increase in T_{max} are especially concerning for medications that are taken as a single dose, because a rapid onset of action is typically desired for these medication.

Lockitch (2013) The increase in estrogen in pregnancy leads to increase in serum concentrations of cholesterol, ceruloplasmin, thyroid binding globulin, and cortisol binding globulin, fibrinogen and many other clotting factors. Serum alkaline phosphatase is elevated during pregnancy as it is also produced by the placenta, and its levels in pregnant women may be two to four times those of non-pregnant individuals; therefore limiting its clinical utility when liver function or enzymes are assayed. The rest of liver function tests such as serum transaminases (SGOT, SGPT), lactate dehydrogenase, bilirubin, and gamma-glut amyl transferase are not affected

Pritchard (2013) White (WBC) and red blood cell (RBC) counts increase during pregnancy. The first is thought to be secondary to bone marrow granulopoiesis; whereas the 30% increase in RBC mass (250 ± 450 mL) is mainly driven by the increase in erythropoietin production. The higher WBC count can sometimes make diagnosis of infection challenging; however normally the increase in WBC is not associated with significant increase in bands or other immature WBC forms. Despite the increase in RBC mass, and as previously described, plasma volume pregnancy. Anemia usually peaks early in the third trimester (30 ± 32 weeks) and may become clinically significant in patients already anemic (iron deficiency, thalassemia, etc.) at entry to pregnancy. This physiologic hemodilutional may provide survival advantage to women during pregnancy and childbirth, since the less viscous blood improves uterine and intervillous perfusion, while the increased red cell mass, coupled with increased uterine blood flow, optimizes oxygen transport to the fetus, and at the same time the blood lost during delivery will be more dilute. The increase in RBC mass is accompanied by increased in maternal demand of iron by an additional 500 mg during pregnancy. This is coupled with an additional 300 mg of iron that is transferred to the fetus and 200 mg that is required for normal daily iron losses, making the total iron requirement in pregnancy around 1 g.

Hehhgren (2013). Pregnancy is a hyper coagulable state secondary to blood stasis as well as changes in the coagulation and fibrinolytic pathway such as increased plasma levels of clotting factors (VII, VIII, IX, X, XII), fibrinogen, and von Willbrand factor. Fibrinogen increases starting in the first trimester and peaks during the third trimester in anticipation of delivery. Prothrombin and factor V levels remain the same during pregnancy. Whereas, protein S decreases in pregnancy, protein C does not usually change and thus can be assayed if needed in pregnancy. Free antigen levels of the protein S above 30% in the second trimester and 24% in the third trimester are considered normal during pregnancy. Anti-thrombin III levels do not change, however, plasminogen activator levels are decreased and those of plasminogen activator inhibitor (PAI-1) levels increased by 2 ± 3 fold, leading to suppressed fibrinolytic state in pregnancy. Platelet function and routine coagulation screen panels remain normal. This hypercoagulable state may offer a survival advantage by minimizing blood loss after delivery, but it also predisposes pregnant women to higher risks for thromboembolism.

Alexander (2012) Plasma iodide concentration decreases in pregnancy because of fetal use and increase in maternal clearance of iodide. This predisposes the thyroid gland to increase in size and volume in almost 15% of women. In addition to anatomic changes, the thyroid gland increases production of thyroid hormones during pregnancy. This is due to the up-regulation of thyroid binding globulin, which is the major thyroid hormone binding protein, by almost 150% from a pre-pregnancy concentration of 15 ± 16 mg/L to 30 ± 40 mg/L in mid-gestation. This massive increase is driven by the hyper-estrogenic milieu in pregnancy and reduced hepatic clearance. The net result is increase in total tetra-iodothyronin and tri-iodothyronin hormones (TT4 and TT3) in pregnancy. Despite the increase in total T4 and T3, the free forms of the hormones (fT4 and fT3) remain relatively stable or slightly decreased but remain within normal values and these patients are clinically euthyroid. The increased thyroid hormones production takes place mostly in the first half of gestation, plateauing around 20 weeks until term. Clinically, due to these changes, the use of total T4, total T3 and resin tri-iodothyronine uptake is not recommended to monitor thyroid hormone status in pregnancy as they will be increased (TT4, TT3) and decreased (rT3U), respectively. For patients with hypothyroidism and who require levothyroxine replacement in pregnancy, it is recommended that they increase their levothyroxine dose by 30% early in pregnancy, be monitored during pregnancy, and to decrease the dose in the postpartum period.

Glincoer (2013). Thyroid stimulating hormone (TSH) decreases during the first half of pregnancy due to negative feedback from peripheral T3 and T4 secondary to thyroid gland stimulation by human chorionic gonadotropin (hCG). During the first half of pregnancy, a normal value of TSH is between 0.5 ± 2.5 mIU/L (as compared to an upper limit of normal value for TSH of 5 mIU/L in the non-pregnant state). Other factors that affect thyroid hormones metabolism and levels in pregnancy include: (1) the increase in maternal renal iodine excretion (secondary to increase in GFR), (2) the higher maternal metabolic demands and rate during pregnancy, (3) the thyrotrophic thyroid stimulating activity, (4) the increase in thyroid hormones trans placental transport to the fetus early in pregnancy, and (5) the increase in activity of placental type III 5- deiodinase (the enzymes that converts T4 to the inactive reverse T3).

CONCEPTUAL FRAMEWORK:

Conceptual frame work is the conceptual underpinning of the study. It is a group of concepts and a set of proportions that spells out the relationship between them.

The study was aimed to assess the effectiveness of structure teaching program on knowledge regarding Antenatal car among first and second trimester among Prim gravida mothers in rural primary health center at Baleswar, Odissa. The conceptual frame work for this study was derived from the concepts of shuffle beam programme evaluation model. The model includes: context evaluation, input evaluation, Process evaluation and product evaluation.

In this study context refers to selected factors of Prim gravida mothers such as age, gestational weeks, education, occupation, type of family, bread winner of the family, spouse education income, source of information of Prim mothers.

Input evaluation

In this study it refers to care givers, structured teaching program has been taken using power point presentation among Prim gravida mothers.

Process evaluation

Evaluates the implementing process includes the interaction between the clients and care givers.

Structured teaching programme for about 30 minutes.

Product evaluation

In this study it refers to knowledge before and after the structured teaching programme. The significant increase in knowledge was considered effective.

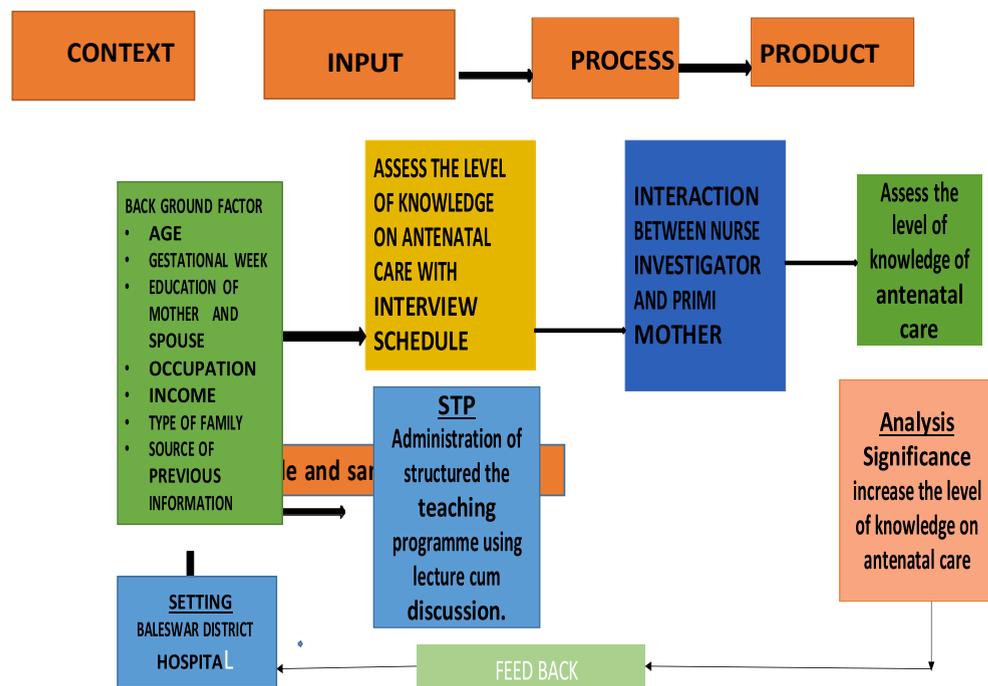


FIG 1 COCEPTUAL FRAMEWORK OF RESEARCH STUDY

CHAPTER – III

METHODOLOGY

Methodology is the most important phase of the study. The methodology of research indicates the general pattern of organizing the procedures for gathering valid and reliable data for investigation. This chapter provides a brief description of method adopted by the investigator in this study. This includes the research design, setting of the study, population, sample, and sample size, sampling technique, criteria for sample selection, description of the tool, pilot study, data collection procedure, plan for data analysis and protection of human rights. .

RESEARCH APPROACH

Quantitative research approach was used for the present study. According to Polit and Beck (2010) Quasi experimental research design refers to a design for an intervention study in which subjects are non randomly assigned to treatment condition, also called a non randomized trail, or a controlled trail without randomization. The present study is aimed at evaluate the effectiveness of structured teaching programme on knowledge regarding antenatal care among Primigrsvida mothers.

RESEARCH DESIGN

The research design selected for this study was quasi experimental one group pre test and post test design. In this study to assess the effectiveness of structured teaching program regarding knowledge on antenatal care mothers among Prim gravida mothers in selected rural primary health center at Baleswar.

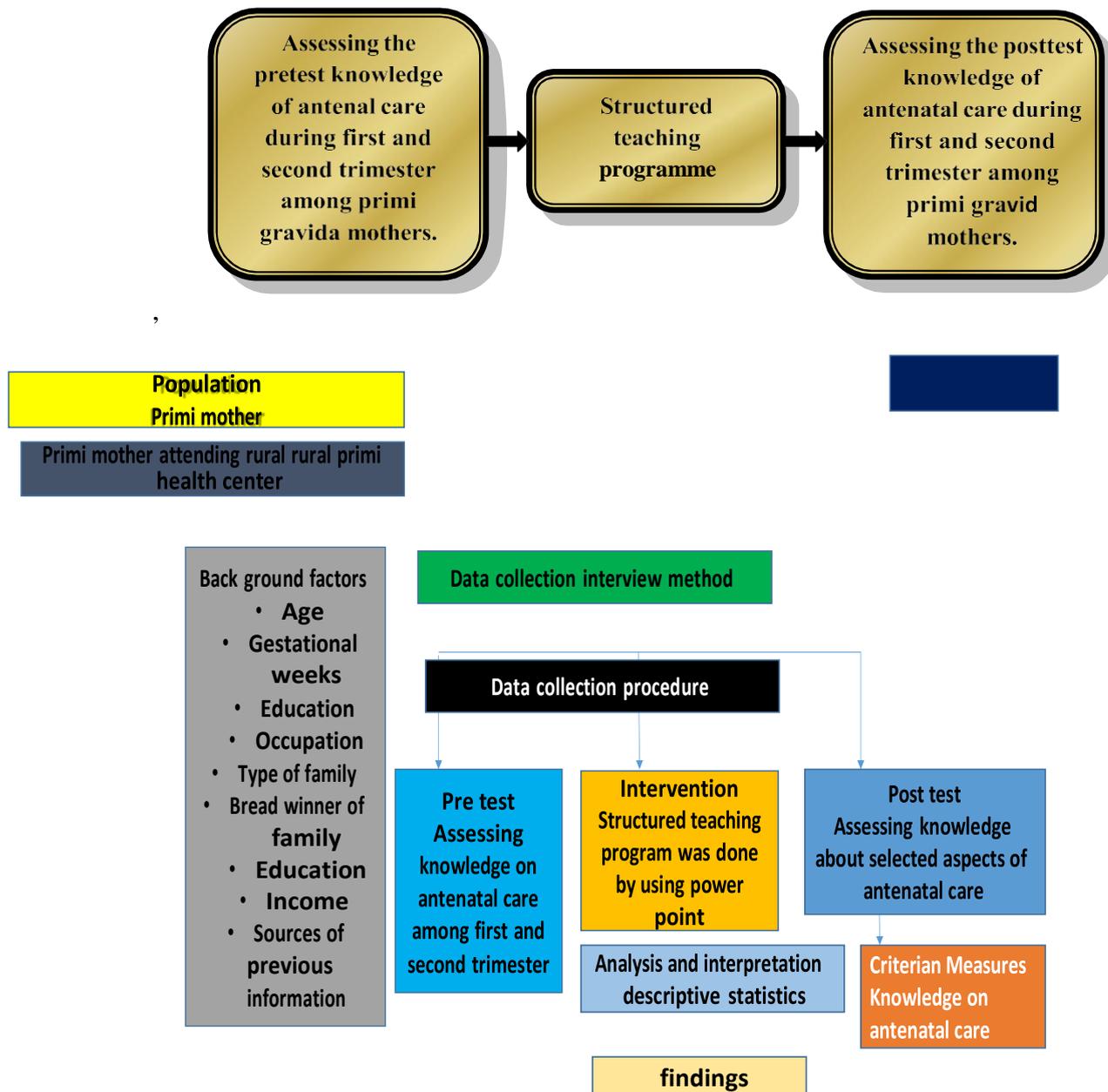


FIG 2 SCHEMATIC PRESENTATION OF RESEARCH DESIGN VARIABLES

The three categories of variables discussed in the present study were, Independent variable :

Structured teaching program Dependent variable : Antenatal care

Associate variables : age, gestational weeks, education, occupation, type of family, bread winner of the family, spouse education income, source of information of Primi mothers.

SETTING OF THE STUDY

The selection of setting was done on the basis of feasibility of conducting the study, availability of the subjects and permission from authorities. The study was conducted in the rural primary health center at Baleswar hospital.

SAMPLE AND SAMPLE SIZE

The Samples for this study were Primigravida mothers with first and second trimester who fulfilled the inclusion criteria. The sample size of the study was 60.

SAMPLE POPULATION

The population for this study was all Primigravida mothers with Third trimester who were attending the antenatal Rural PHC.

SAMPLE

A sample is the subject of the population selected to participate in the research study. In this study primigravida mothers who were attending the antenatal clinic in the rural primary health center at Baleswar were the study samples. The sample size for this study was arbitrarily decided to be 30.

SAMPLING TECHNIQUE

Sampling is an important step in the research process. It is the process of selecting representatives units of subset of a population of the study in a research. Convenience sampling technique was used in the study.

SAMPLING CRITERIA

In sampling criteria the researcher specifies the characters the population under the study by detailing the inclusion and exclusion criteria. The inclusion criteria characterizes that each sample elements must possess to be included in the sample. Exclusion criteria are characteristics that could confound and contaminate the result of the study; therefore such participants are excluded from the study.

Inclusion criteria

- ▶ Primi mothers with first and second trimester who were attending the rural primary health center at Baleswar.
- ▶ Mothers who were willing to participate in this study.
- ▶ Primigravida mothers were in first and second trimester.

Exclusion criteria

- ▶ Multi Para mothers
- ▶ Mothers who were not available during the study
- ▶ Mothers those who understand odia.

DEVELOPMENT OF TOOL

The tool is a written device that a researcher uses to collect the data. The investigator used an Interview schedule for assessing the knowledge regarding selected aspects of Antenatal care during first and second trimester among primigravida mothers and to collect back ground factors.

RESEARCH TOOL AND TECHNIQUES

The study tool considered of two section Section I :

background factors of primi mothers

Section II : interview schedule to assess the knowledge regarding antenatal care.

DESCRIPTION OF THE TOOL

The study tool considered of two sections,

Section I: Use either Back ground factors or demographic factors

Section II: Interview schedule to assess the Knowledge regarding Antenatal care during first and second trimester.

SECTION ±I: USE EITHER BACK ROUND FACTORS OR DEMOGRAPHIC FACTORS

Demographic data consists of age, gestation weeks, education, occupation, and type of family, bread winner of the family, education of spouse, income, and source of information.

SECTION-II: TO ASSESS THE KNOWLEDGE REGARDING ANTENATALCARE

The tool consisting of 30 questions. The tool used to assess the knowledge on antenatal care among first and second trimester primigravida mothers.

VALIDITY OF THE TOOL

The entire tool was validated by Medical experts and Nursing experts. Experts were requested to judge the tool for its clarity, relatedness, sequence, meaningfulness and content. Few modifications were made as per suggestions given by the experts. the Tool was developed in English and it was translated into Tamil. Retranslation was done and language validity was established.

RELIABILITY

The same result with repeated testing. Inter-rater reliability was done. The subjects were selected by Purposive sampling. Six Persons were tested by using the interview schedule. Correlation coefficient was found $r=0.79$. The tool was found highly reliable.

PILOT STUDY REPORT

Pilot study was conducted at primary health center at Baleswar ,for a period of one week. Permission was obtained from the Deputy Director of health services. A quasi experimental design was adapted to assess the level of knowledge on selected aspects of Antenatal care the pilot study was conducted with 10% of the total population. Participants who met the eligible criteria were selected by convenience sampling technique. The purpose of the study was explained and written consent was obtained from each patient. Study was assessed by using interview method. The duration of data collection for each participant was 30 minutes. No problem were faced during pilot study.

TECHNIQUE OF DATA ANALYSIS

Data analysis were done with the help of quasi experimental design and inferential statistics.

SAMPLE SIZE CALCULATION

Based on pilot study sample size was calculated and 60 samples were taken for the main study.

DATA COLLECTION PROCEDURE

Written permission was obtained from the Deputy Director of Health services, Baleswar Primi Mothers who fulfilled the inclusion criteria were selected by using Purposive sampling method. The researcher introduced herself to the Primi mothers and developed good rapport with them for their co- operation. The researcher assured the participants for the confidentiality of their responses.

The purpose of the study was explained to every sample, so as to get their full co-operation. Adequate privacy was provided. Pre test has been done with the help of interview schedule. A class has been taken as a Intervention with the help of power point. After that finally post test has been done.

PLAN FOR DATA ANALYSIS

In the present study the data collected were grouped and analyzed, using SPSS, version 16 software. The level of significance was 0.05 level.

The data were analyzed as follows:

- The data were organized in master excel sheet
- Back ground variables of Primigravida mothers were analyzed using frequencypercentage distribution
- The data on knowledge regarding Antenatal care during first and second trimester amongPrimigravida mothers.
- The association between in post test knowledge score and relation to the back groundfactors were analyzed by using linear regression.

ETHICAL CONSIDERATION

The research and ethical committee of the institution approved the study objectives, intervention and data collection procedures. Informed consent was obtained from the mothers by orally. The mothers had the freedom to leave the study at her will without any reason. Due permission from authorities were obtained. Explanation regarding the purpose of the structured teaching program was given tothe Primi mothers involved in the study. Thus the ethical issues were ensured in this study.

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

Analysis and interpretation of data of this study was done by description and inferential statistics. Analysis was done by using SPSS, version 16. A probability value of less than0.05 was considered to be significant.

This chapter deals with analysis and interpretation of data collected on knowledge regarding Antenatal care among first and second trimester primigravida mothers.

THE OBJECTIVES OF THE STUDY

- ▶ To assess the level of knowledge regarding antenatal care among primigravida mothers
- ▶ To assess the level of knowledge before and after structured teaching programeamong primigravida mothers
- ▶ To test the association between post test knowledge score and selectedbackground factors among primigravida mothers.

Section I : Data on background factors of the primigravida mothers. **Section II** : Data on knowledge on antenatal care before and after structured Teaching program among primigravida mothers.

Section III : Data on association between the post test knowledge score and factors Among primigravida mothers.

Section I: Data on background factors of first and second trimester among primigravida mothers.

TABLE ± I

FREQUENCY AND PERCENTAGE DISTRIBUTION OF PRIMI MOTHERS REGARDING
BACK GROUND FACTORS

N=60

S · N o	BACKGROUND FACTORS	FREQUEN CY	PERCENTAGE(%)
1	AGE		
	a) 18 ± 20 years	9	15.0%
	b) 21 ± 25 years	48	80.0%
	c) 30 ± Above	3	5.0%
2	Bread winner of the family		
	a) Father in Law	4	6.7%
	b) Husband	55	91.7%
	c) Wife	1	1.7%
3	Education of spouse:		
	a) Illiterate	00	00%
	b) Primary school	5	8.3%
	c) Secondary school	55	91.7%
	d) Any Degree	00	00%
4	Income:		
	a) >5000 / month	7	11.7%
	b) 5000 ± 10000 / month	50	83.3%
	c) 10,000 above / month.	3	5.0%¶

Table I Shows that frequency and percentage distribution on demographic variables among Primigravida mothers.

Regarding age majority of antenatal mothers 48(80%) belongs to 21-25 years and least 3(5%) belongs to the age group above 30 years.

Regarding bread winner of family majority of 55(91.7%) belongs to husband and least 1(1.7%) belongs to the wife.

Regarding spouses education of majority of 55(91.7%) belongs to secondaryschool and least 5(8.3%) belongs to the primary school.

Regarding income majority of 50(83.3%) belongs to 5000-10000/ month and least 3(5.0%) belongs to the 10000 and above.

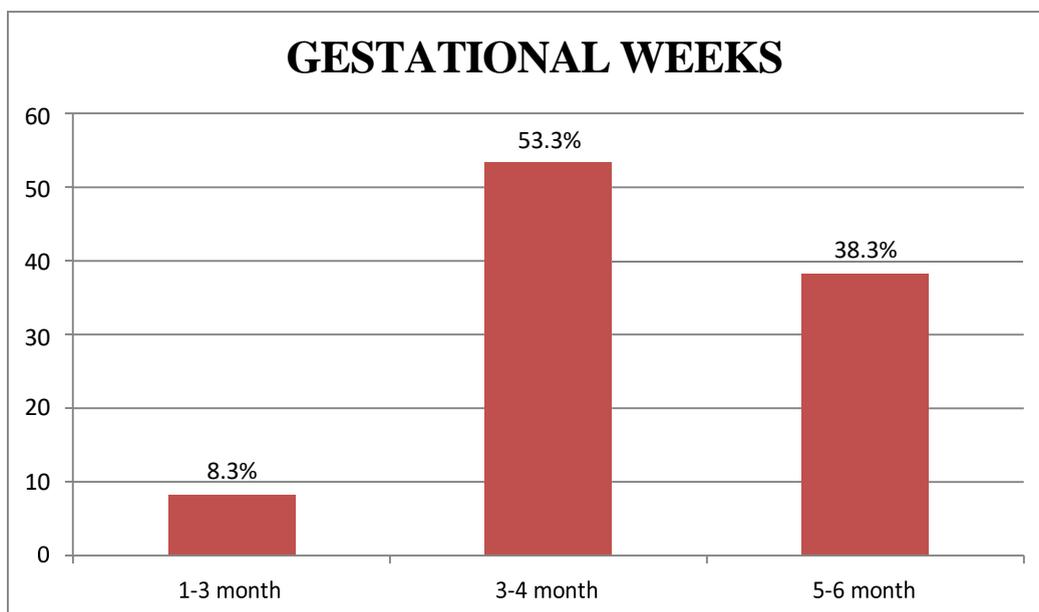


Figure 3 : Frequency and percentage distribution of gestational weeks

Figure 3 , Reveals the frequency and percentage distribution of gestational weeks Regarding gestational weeks, 1-3 month5(8.3%) were 3-4 months, 32(53.3%) were 5-6 months, 23(38.3%) .Inference drawn from the table is tha majority (53.3) of the 3-4 month.

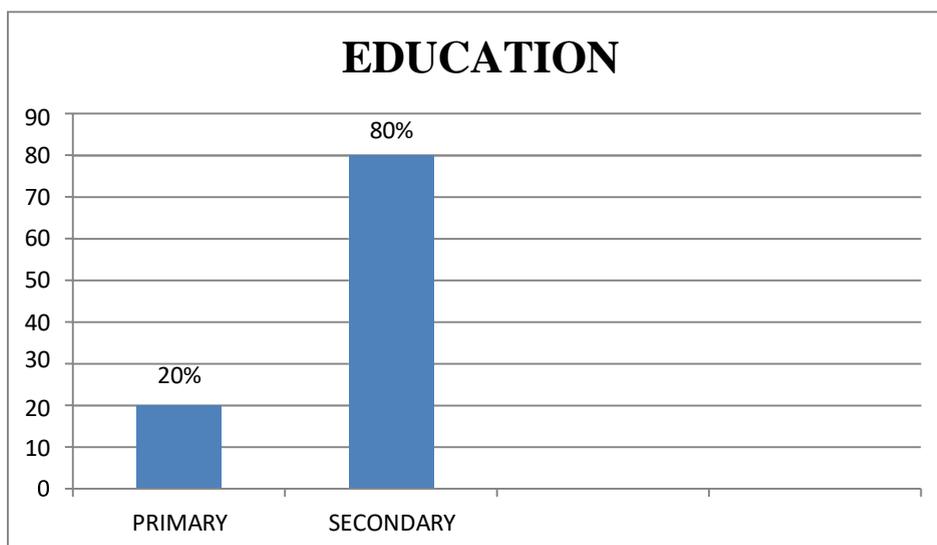


Figure 4 : Frequency and percentage distribution of education

Figure 4, Frequency and percentage distribution of education Regarding education,0(00%) were illiterate, 12(20%) were primary school, 48(80.00%) were secondary school and 0(00%) were any degree .Inference drawn from the table is that majority (80%) of the educational status in the secondary school.

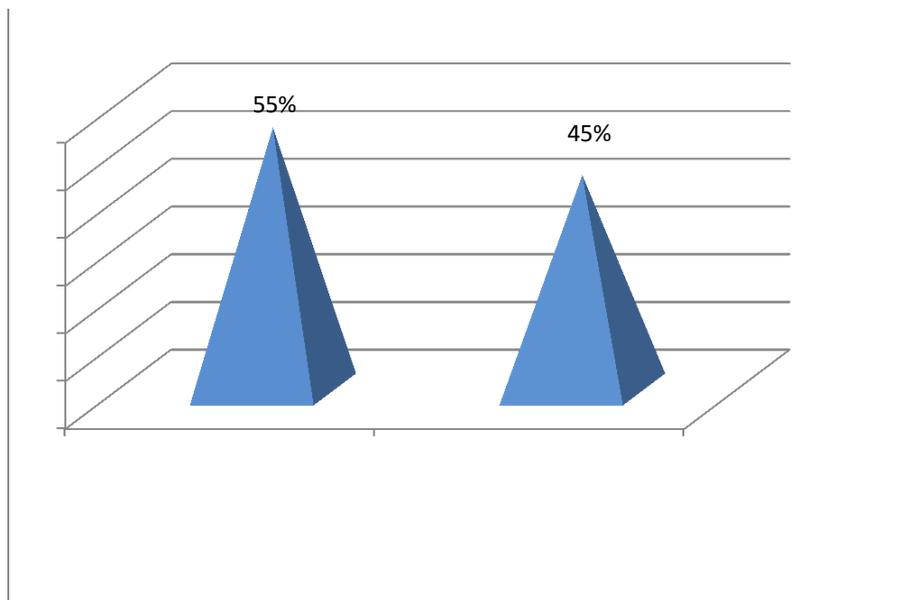


Figure 5 : Frequency and percentage distribution of occupation

Figure 5 : Frequency and percentage distribution of occupation, Regarding occupation, 33(55.0%) were house wife, 27(45.0%) were Cooley, 0(00%) was professional job or office work. Inference drawn from the table is that majority (55%) of the living in house wife.

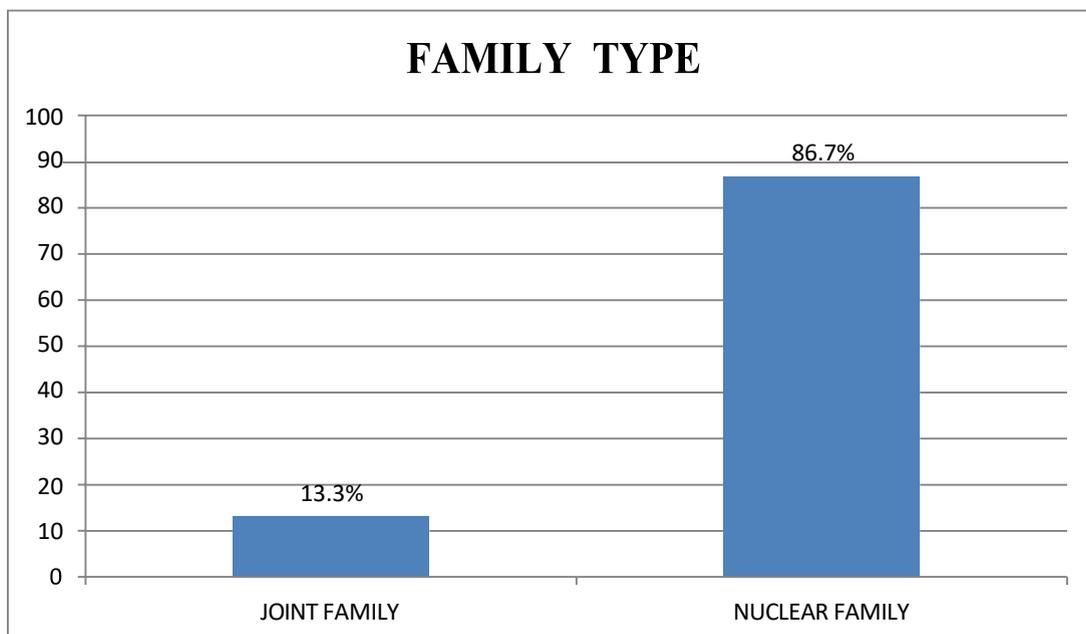


Figure 6 : Frequency and percentage distribution of Type of family

Figure 6 : Frequency and percentage distribution of Type of family, Regarding type of family, 52(86.7%) were belong to the nuclear family, 8(13.3%) of them belong to the was joint family. Inference drawn from the table is that majority (86.7%) of the living in nuclear family.

PREVIOUS INFORMATION

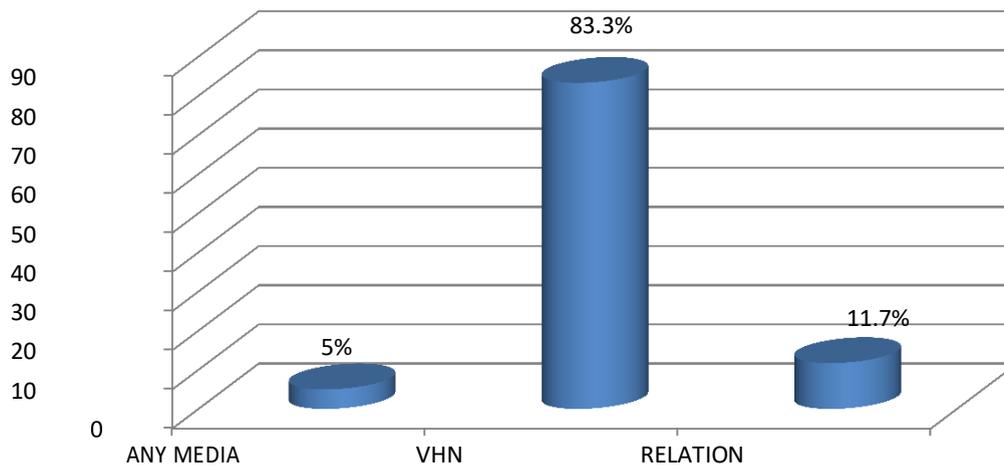


Figure 7: Frequency and percentage distribution of Source of previous information

Figure 7: Frequency and percentage distribution of Source of previous information, regarding source of information, 3(5.00%) were any medias, 50(83.3%) were through VHN, 7(11.7%) were any relatives, 0(0%) were others. Inference drawn from the table is that majority (83.3%) of the previous information collecting from the village health nurse.

Section II: Data on knowledge pre test and post test after the Structured teaching program among Primi mothers

For the purpose of this study the following null hypothesis was stated.

H₀₁ : There will be no significant difference on knowledge score the before and After the structured teaching programme.

H₀₂ : There will be no significant difference between the post test Knowledge score and the selected among primigravida mothers

TABLE II

Overall Post Test ON KNOWLEDGE AMONG PRIMIGRAVIDA MOTHERS.

N=60

KNOWLEDGE SCORE ON ANTENATAL CARE	MEAN	STANDARD DEVIATION (SD)	MEAN DIFFERENCE	CALCULATED VALUE t'	P(>0.05)
PRETEST	8.70	3.679	19.883	42.300	0.00 significant
POST TEST	28.58	1.239			

over all post test on knowledge among Primi mothers. $t = 1.645$ at 58 df at 5% significant

The obtained overall post test mean 28.58(SD = 1.239) was greater than the pretest mean 8.70(SD = 3.679)

It inferred that knowledge have significantly increased after the structured teaching program among Primi mothers. It was found to be very effective.

SECTION III: DATA ON ASSOCIATION BETWEEN THE MEAN DIFFERENCE OF POST TEST KNOWLEDGE ON ANTENATAL CARE DURING FIRST AND SECOND TRIMESTER AND BACK GROUND

FACTORS AMONG PRIMIGRAVIDA MOTHERS

For the purpose of this study the following null hypothesis was stated.

- H1 : There will be no significant difference on knowledge the before and after the structured teaching programe
- H2 : There will be no significant difference between the postest knowledge score and the selected background factors primigravida mothers

TABLE:III

**LINEAR REGRESSION REGARDING KNOWLEDGE ON ANTENATALCARE
AND BACKGROUND FACTORS AMONG FIRST AND
SECOND TRIMESTER PRIMIGRAVIDA MOTHERS**

S.N O	VARIABLES	STANDARDIZED COEFFICIENTS(BET A)	t	P(>0. 05)	S I G
1	AGE	0.092	0.263	0.00	S
2	GESTATIONA L WEEKS	0.220	0.761	0.450	N S
3	EDUCATION	0.341	0.872	0.387	N S
4	OCCUPATIO N	0.288	0.908	0.368	N S
5	TYPE OF FAMILY	1.127	1.82 4	0.074	N S
6	BREADWINN E R OF FAMILY	1.074	1.76 5	0.084	N S
7	SPOUSE EDUCATION	0.097	0.15 8	0.875	N S
8	INCOME	0.027	0.05 6	0.955	N S
9	SOURCE OF INFORMATIO N	0.387	0.89 6	0.374	N S

S- significant , NS- Non significant

Shows that the standized beta indicates that the relative contribution of there demographic variables in predicting antenatal care based on the percentage of prediction of antenatal care. Age (09.2%), gestational weeks (22.0%), education (34.1%) occupation (28.8%). Type of family (11.27%), breadwinner of family (10.74%) spouse education (09.7%), income (02.7%), source of information (38.7%), thus, there demographic variables influence on antenatal care.

CHAPTER VDISCUSSION

This chapter deal with the discussion of the study with appropriate literature, statistical analysis and the findings of the study based on the study objectives.

The aim of the study was to assess the knowledge on antenatal care during first and second trimeser among Primigravida mothers who were attending the antenatal clinic in Antenatal care during f rural primary health center Baleswar.

The main study was conducted from sample numbering of 30 among Primigravida mothers who were attending the antenatal clinic in rural primary health center, Baleswar.

The knowledge on Antenatal care among first and second trimester among Primigravida mothers was assessed by tool.

HYPOTHESES

H1: There will be significant difference on knowledge before and after the structured teaching programe

H2: There will be significant difference between the post test knowledge scoreand the selected background among Primigravida mothers.

The first objective of the study is to assess the level of knowledge of Antenatal care during first and second trimester among Primigravida motherswho were attending the antenatal clinic in Antenatal care rural primary health center, Baleswar.

Table I Shows that frequency distribution and percentage on background factors among Primi mothers aged between 18- 30 years and above. Regarding age,9(15%) were between the age group of 18-20 yrs, 48(80%) were between the age group of 21-25 yrs, and 3(5%) were between the age group of 25years and above.

Regarding gestational weeks, 5(8.3%) were 1-3 month , 32(53.3%) were 4-5 months, 23(38.3%) were 5-6months. Regarding education, 0(0%) were illiterate, 18(30%) wereprimary school, 48(80%) were higher secondary and 0(0%) were any degree. Regarding occupation, 33(55%) were house wife, 27(45%) were Cooley, 0(0%) was office work or .Regarding type of family, 8(13.3%) were nuclear family,52(86.7%).

was joint family. Regarding bread winner of the family, 4(6.7%) were father in law,

55(91.7%) were husband, 1(1.7%) was wife. Regarding spouse education, 0(0%) were illiterate, 5(8.3%) were primary school, 55(91.7%) higher secondary, 0(0%) was any degree.

Regarding Income, 7(11.7%) were 5000 / month, 50(83.3%) were 5000 ± 10000/ month, 3(5%) were 10,000 above/ month. Regarding source of information, 3(5%) were any medias, 50(83.3%) were through VHN, 7(11.7%) were any relatives, 0(0%) were others.

Table II: score and over all post test score on knowledge among Primi mothers. The obtained overall post test mean 8.70(SD = 3.679) was less than the pre test mean 28.58(SD = 1.239).

Table III: reveals the standardized co-effecien \parallel DQG $^3W^$ YDOXH UHJDUGLQJ mean difference of post test knowledge on antenatal care and selected back ground IDFWRUV DPRQJ 3ULPL PRWKHUV EDVHG RQ OLQH DU UHJUHVVL RQ. 7KH REWDLQH G $^3W^$ YDOXH V - 0.263(0.092), $t=0.761(0.220)$, $t=-0.872(0.341)$, $t=0.908(0.288)$, $t=1.824(1.127)$, $t=1.765(1.074)$, $t=-0.158(0.097)$, $t=-0.056(0.027)$ reported for age, gestational weeks, education, occupation, type of family, bread winner of the family, spouse education, income, source of education respectively were not significant in relation to structured teaching program.

CHAPTER VI

CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS.

The essence of any research project is based on study findings, limitations, interpretation of the result and recommendations that incorporate the study implication. It also gives meaning to the results obtained in this study.

SUMMARY

The prime aim of the study was to assess the effectiveness of structured teaching program on Antenatal care during first and second trimester among primigravida mothers in rural primary health center at Baleswar.

The objectives of the study were,

- To assess the level of knowledge of Antenatal care among primigravida mothers.
- To assess the post test level of knowledge before and after structured teaching programeamong primigravida mothers.
- To test the association between pos test knowledge score selected background factorsamong primigravida mothers.

The study attempted to examine the following research hypothesis.

HI: There will be significant difference between the before and after the structured teaching programe.

H2: There will be the significant difference between the post test knowledge score and the selected demographic variables among primigravida mothers.

The major assumption of the study include the mothers would co-operate with the investigator and every mother was unique.

The review of literature helped the investigator to develop the conceptual frame work, tool, and develop intervention of structure teaching program literature review was done for the present study and presented in the following headings.

Studies related to Antenatal care, studies related to Antenatal mothers, studies related to family planning.

The conceptual frame work adopted for the present study was based on input throughput output model.

The research approach for the study was evaluated in nature. The present study was a one group pre test post test design. Independent variable in this study was structured teaching program. Dependent variables for this study were primi mothers. Associative variables for this study were age, gestational weeks, education, occupation, type of family, bread winner of the family, spouse education, income, source of information.

The tool developed and used for data collection was an interview schedule to assess the knowledge on Antenatal care during first and second trimester. The structured teaching program was developed on the basis of related literature. The content validity was found reliable and feasible. The reliability of the tool was established by inter rater reliability, correlation was found high, $r = 0.79$. The pilot study was conducted rural primary health center at Baleswar and study was found feasible.

The main study was conducted in rural primary health center at Baleswar Convenience sampling technique was used to select the samples. Pre test was done to assess the knowledge on Antenatal care during first and second trimester. The intervention on structured teaching program was administered; Post test was done to assess the knowledge on antenatal care during first and second trimester. The data gathered were analyzed using SPSS (version 16) software at the level of significance based on the study objectives.

MAJOR FINDINGS

The findings of the study are presented under the following headings based on the objective of the study.

- 1) Objective 1: To assess the level of knowledge of Antenatal care during first and second trimester among primigravida mothers.

There was a significant increase in mean post test score after the structured teaching program among primigravida mothers $t = 42.300(P= 0.05)$.

- 2) Objective 2: To find out the association between the post test knowledge score and the selected demographic variables among primi mothers.

The post test score and selected factors such as age, gestational weeks, education, occupation, type of family, bread winner of the family, spouse education, income, source of information ($P > 0.05$) were not significant.

The obtained $t = 0.263$ regarding post test score and age of primigravida mother was significant Age made significant difference in mean difference knowledge among primigravida mothers.

Selected factors such as age, education, occupation, type of family, bread winner of the family, spouse education, income, source of information, did make no difference in the mean difference on post test score among primi mothers.

IMPLICATIONS

The study had implications, guidelines and suggestions for nursing practice, nursing education and nursing research.

Implications for Nursing Practice

- Structured teaching program is an effective measure to increase the knowledge. Nurse can use the structured teaching program as an effective measure to increase the knowledge.

NURSING EDUCATION

- Structured teaching program on Antenatal care during first and second trimester among Primigravida mothers can be brought in detail in nursing curriculum from undergraduate level.

NURSING RESEARCH:

- The study will be valuable reference for further research.
- The findings of the study would help to expand the scientific body of professional knowledge up on which further research can be conducted.
- Structure teaching program can be used as a specific nursing intervention.

RECOMMENDATIONS:

- A similar study can be conducted in large scale.
- Comparative study can be done to assess the effectiveness of Structured Teaching Program and video Teaching Program on knowledge regarding Antenatal care during first and second trimester primigravida mothers.

CONCLUSION

Structured teaching program significantly increases the knowledge on antenatal care among first and second trimester primigravida mother. So in future nurses can prepare an effective structured teaching program to reduce the maternal mortality rate.

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APPENDIX

APPENDIX-A

LETTER SEEKING EXPERTS OPINION FOR CONTENT VALIDITY

From

MRS IPSITA SAHOO

II Year M.Sc.(N),

MANJARI DEVI SCHOOL AND COLLEGE OF NURSING .

To

Through

The principal,

Manjaridevi school and College of Nursing Respected Sir/ Madam,

Sub: Requisition for opinion and suggestion of experts for content validity of research tool.

With due regards, I kindly bring to your notice that I am a postgraduate student of manjaridevi College of Nursing, Khordha. I have selected the below mentioned topic for dissertation to be submitted to Utkal University as a part of fulfillment of Master of Nursing degree. A **experimental study to assess the effectiveness structure teaching program on knowledge regarding antenatal care during first and second trimester among primigravida mothers rural primary health center at Baleswar.**

Kindly validate the tool and render your expert opinion in this regard. I am thankful to you spending your valuable time for the validation of this tool. I will be grateful to you, if you do this favor to me as early as possible.

Thanking you

Date-

Your's Faithfully,

Place- Bhubaneswar

Mrs ipsita saho

APPENDIX-B**LETTER SEEKING PERMISSION TO CONDUCT PILOT STUDY****APPENDIX-C****LETTER SEEKING PERMISSION TO CONDUCT MAIN STUDY****APPENDIX-D****LETTER SEEKING PERMISSION TO CONDUCT RESEARCH STUDY**

From

Mrs ipsita saho
II Year M.Sc. (obstetric and gynaecological nursing)manjaridevi College of Nursing,

To

The Principal Respected Sir/Madam,

Sub: Requisition to conduct the research study - reg.

With due regards, I kindly bring to your valuable notice that,I am doing my post-graduation in nursing Manjaridevi nursing College at Khordha. I have selected the below mentioned topic for dissertation to be submitted to The Utkal University, as a partial fulfillment of Master of Science in Nursing. **A experimental study to assess the effectiveness structure teaching program on knowledge regarding antenatal care during first and second trimester amongprimigravida mothers rural primary health center at Baleswar.**

I have planned to do my research study in your esteemed institution. So, I humbly request you to give me permission to conduct the study for which I remain grateful.

Thanking You Yours faithfully

Mrs ipsita saho.

APPENDIX- E LIST OF EXPERTS

1. **Mrs.DR c.revathi**
Principal,manjaridevi school and college of nursing,dept of pediatric

2. **Associate Prof. LIZA SWAIN Principal**
Dept. of obg,MDSCN

3. **Mrs. Sandhya Rani Mahapatro.Asst.Professor**
Dept. of COMMUNITY

4. **Mrs. Supriya SwainAsst. Professor Dept. of OBG**

INFORMED CONSENT

I am giving my informed consent to participate in the research study to assess the problems faced by antenatal care during first and second trimester among primigravida mothers rural PHC at Baleswar.

I have been informed that my participation is entirely volunteer. I will not refuse to answer or not participate any point of time during the study. I have been studying this topic

APPENDIX ± V**INTERVEIW SCHEDULE REGARDING KNOWLEDGE ON SELECTEDASPECTS OF
ANTENATAL CARE DURING FIRST AND SECOND TRIMESTER AMONG PRIMI MOTHERS.****Instruction:**

I request you to kindly read and understand the questions properly and givethe correct answer.

SECTION A: BACK GROUND DATA

1. Age:

- a) 18 ± 20 years
- b) 21 ± 25 years
- c) 30 ± Above

2. Gestational weeks:

- a) 1-3 months
- b) 3-4 months
- c) 4-5 months

3. Education:

- a) Illiterate
- b) Primary school
- c) Higher secondary school
- d) Any degree

4. Occupation

- a) House wife
- b) Cooley
- c) Office work

5.

Type of Family:

- a) Nuclear
- b) Joint

6. Bread winner of the Family:

- a) Father in Law
- b) Husband
- c) Wife

7. Education of Spouse:
 - a) Illiterate
 - b) Primary school
 - c) Higher secondary school
 - d) Any degree

8. Income:
 - a) >5000 / month
 - b) 6000 ± 10000 / month
 - c) 10000 above / month

9. Source of previous information:
 - a) Any Medias
 - b) Through VHN
 - c) Any Relatives
 - d) Others

QUESTIONS:

1. Where you have registered your pregnancy?
 - a) Aunganvadi
 - b) PHC
 - c) GH

2. Where you had registered your pregnancy?
 - a) 1-2 month
 - b) 2-3 month
 - d) 4-5 month

3. What is the purpose of the regular check up?
 - a) To know about the sex of the baby
 - b) To get opinion from doctors
 - c) To maintain the health of the mother of feotus

4. What is the normal blood pressure?
 - a) 100/ 90 mmHg
 - b) 120/ 80 mmHg
 - c) 130/ 80 mmHg

5. What is the purpose of checking blood pressure?
 - a) To prevent hypertention
 - b) To know about the blood pressure
 - c) To maintain the blood pressure

6. Which trimester you check GTT?
 - a) I st trimester
 - b) II nd trimester
 - c) III rd trimester
7. What is purpose of checking blood glucose level?
 - a) To prevent gestational diabetes mellitus
 - b) To prevent over weight of the baby
 - c) To know about the blood glucose level
8. What are the sources of protein rich diet?
 - a) Fish
 - b) Meat
 - c) Egg
9. What are the sources of vitamin A diet?
 - a) Vegetables
 - b) Liver
 - c) Yellow fruit
10. Which drug is prescribe to gain iron?
 - a) IFA
 - b) ART
 - c) Vit-E
11. What is the cause for anaemia during pregnancy?
 - a) Low in intake of iron rich diet
 - b) Feotus absorps iron from the mother
 - c) Modern food pattern
12. When the colostrum will secreted during pregnancy?
 - a) 12 th week
 - b) 15 th week
 - c) 16 th week
13. What is the reson for frequency of micturation during pregnancy?
 - a) Increased glomerular filtration rate
 - b) Pressure on the bladder as the presending part
14. Which time the sings of nausea and vomiting appear during pregnancy?
 - a) First trimester
 - b) Second trimester
 - c) Third trimester
15. What is the reason for back ache during pregnancy?
 - a) Weight gain
 - b) Muscular spasam
 - c) Urinary infection

16. How to prevent acidity and heart burn during pregnancy?
 - a) Having bland diet
 - b) Avoid lying down position
 - c) Avoid oil content foods
17. What is the purpose of breast care?
 - a) To prevent infection
 - b) To find out any breast abnormalities like that inverted nipples
 - c) To maintain a breast care
18. How many times is inj:TT advised during pregnancy?
 - a) 1 Time
 - b) 2 Time
 - c) 3 Time
19. Which month do you take the first dose of inj:TT ?
 - a) 3 Month
 - b) 4 Month
 - c) 5 Month
20. What is the purpose of taking vaccines during pregnancy?
 - a) To save your pregnancy
 - b) To prevent cross infection to the baby
 - c) To prevent health of the baby
21. During pregnancy the following changes occur in the vagina?
 - a) Increasing in length
 - b) Increase in secretion
 - c) Increase in vascularity
22. When will you start and take T.FST during pregnancy?
 - a) Before pregnancy
 - b) 2 months
 - c) 3 months
23. How many times do you practice exercise per day?
 - a) 1 time
 - b) 1-2 times
 - c) 2-3 times
24. What type of exercise is advised to maintain good abdominal tone?
 - a) Breathing exercise
 - b) Stomach strengthening exercise
 - c) Pelvic tilting exercise.
25. What is the purpose of food and leg exercise ?
 - a) To prevent edema.
 - b) To improve the blood circulation

- c) To maintain the foot and leg exercise.
26. Which exercise easy to follow by pregnant?
- a) Breathing exercise .
 - b) Pelvic floor exercise
 - c) Knee rolling exercise.
27. What is the safe period to have sexual activity?
- a) 5 month
 - b) 7 month
 - c) 8 month
28. Who all should avoid sexual activity during pregnancy?
- a) The person who had complaints of pregnancy
 - b) The person who have traces of diabetes
 - c) The person who have hypertention
29. Before exercise doing the pregnant women
- a) Avoid heavy exercise
 - b) To priscipe doctor
 - c) Avoid eating
30. What is the advantages for exercise
- a) Increase the blood circulation for mother and feotus
 - b) Increase appetite
 - c) loss weight

LESSON PLAN

Name of the student teacher : MRS IPSITA SAHOO

Subject : OBSTETRIC AND GYNAECOLOGICAL NURSING

Topic : **A Quasi Experimental study to Assess the effectiveness of structured teaching program on knowledge regarding antenatal care during first and second trimester among prim gravida mothers in rural primary health center at Baleswar.**

Place : PHC Baleswar.

Learners : . prim gravida mothers

Methods of teaching : Lecturer cum Discussion

Previous knowledge : lack of knowledge on Antenatal Care.

OBJECTIVES

GENERAL OBJECTIVE

At the end of the teaching session, Primigravida mother should be able to understand and explain regarding care about antenatal period.

SPECIFIC OBJECTIVES: At the end of the session students will be able to

- ▶ To know about knowledge regarding antenatal care among prim gravida mothers
- ▶ To know level of knowledge before and after structured teaching program among prim gravida mothers.
- ▶ To know about knowledge score selected background factors among prim gravida mothers.

c	TIME	SPECIFIC OBJECTIVE	CONTENT	TEACHERS LEARNERS ACTIVITY	A.V AIDS
1	3	Introduce the topic	INTRODUCTION Pregnancy is a creative and productive period in the life of women. It is one of the physiologic vital events, which needs special care from the conception to postnatal period, every mother wants to enjoy the nine months period with the baby inside her womb.	Lecturing	Black board

2	2	Define Smoking abuse	<p>DEFINITION</p> <p>Antenatal care comprises of systemic, regular and periodic supervision of the pregnant women from the commencement of pregnancy until the onset of labor. In this study knowledge on antenatal care was assessed by knowledge tool.</p>	Explanation and discussion	Chart	Define antenatal care
3	5		<p>First trimester -Refers to time period extending from the first day last menstrual period through 12 weeks of pregnancy.</p> <p>Second trimester -Refers to time period of pregnancy extending from the 13th to the 27th week of gestation.</p>	Discussions	Leaflets	Know about first and second trimester.

4	25		<p><u>Component:-</u></p> <ul style="list-style-type: none"> • Registration • History taking • Antenatal examination • Lab investigation • Health education 	Lecturing	Ask question.	Which are the components of antenatal mothers.
5.	5 mints	Discuss the antenatal advice	<p>Antenatal advice:-</p> <ul style="list-style-type: none"> • To counsel the women for regular checkup. • To maintain and improve health status. • To improve her psychology and remove fear. • Good maternal health/. • Optimum fetal growth. • Eat some good qualities food. • 	Asked question which type of health advice you have to given to the antenatal period.	Interact with each other	List down the antenatal period advice.

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
4	2	4	4	2	2	2	2	4
1	1	2		2	2	0	1	2
1	2	2	1	0	4	2	2	2
2	2	2	2	1	2	2	2	2
1	0	1	1	2	2	1	0	1
1	4	1	1	3	4	4	4	1
2	1	2	2	1	1	3	1	2
3	4	4	3	4	4	2	4	4
4	4	3	4	4	3	4	4	3
4	4	3	4	4	2	4	4	3
4	4	1	4	2	4	2	4	1
4	3	2	4	3	4	3	3	2
4	2	3	4	1	4	0	2	3
2	3	2	2	0	2	0	3	2
4	2	3	4	3	3	1	2	3
2	2	2	2	2	2	1	2	2
2	4	1	2	0	4	4	4	1
4	1	4	4	4	4	2	1	4
2	2	2	2	0	2	1	2	2
2	2	2	2	0	2	0	2	2
3	3	1	3	1	2	0	3	1
4	2	2	4	3	3	4	2	2
4	2	3	4	4	2	1	2	3
2	4	2	2	0	2	0	4	2
4	1	3	4	0	2	1	1	3
1	2	1	1	1	1	3	2	1
4	1	0	4	1	4	0	1	0
0	0	1	0	0	0	0	0	1
4	2	0	4	0	4	1	2	0
4	0	1	4	1	4	0	0	1
2	0	0	2	0	1	0	0	0
4	4	0	4	0	4	4	4	0
3	4	4	3	0	4	0	4	4
4	4	4	4	1	0	0	4	4
4	1	2	4	0	2	1	1	2
0	3	1	0	0	0	4	3	1
4	4	3	4	3	4	4	4	3
3	3	3	3	3	4	3	3	3
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1	2	2	1	0	2	0	2	2
0	1	0	0	3	0	2	1	0
3	3	2	3	0	0	4	3	2
4	0	3	4	3	4	0	0	3
0	1	0	0	0	0	0	1	0
2	1	0	2	0	4	1	1	0
3	2	2	3	0	3	0	2	2

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26
2	1	2	3	4	5	4	2			2	4	4	2	2		2	4	2	2			2	4		
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0	4	4	2	4	0		1	2			0	1	1	2	2		0	1	2	2			2	1	
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2	0	2	4	1	4		2	1			1	2	2	1	1		1	2	1	1			1	2	
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0	2	3	4	4	3		2	0			3	2	2	0	2		3	2	2	0			2	2	
4	0	2	0	4	4		3	3			2	3	4	3	3		2	3	3	3			3	3	
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2	3	4	2	4	3		3	3			4	3	4	3	4		4	3	4	3			4	3	
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2	2	1	0	2	1		2	0			2	2	1	0	2		2	2	2	0			2	2	
2	2	2	0	2	1		0	3			1	0	0	3	0		1	0	0	3			0	0	
0	2	1	0	2	0		2	0			3	2	3	0	0		3	2	0	0			0	2	
2	0	0	0	0	2		3	3			0	3	4	3	4		0	3	4	3			4	3	
0	2	2	3	4	4		0	0			1	0	0	0	0		1	0	0	0			0	0	
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2	2	4	0	2	2		3	4			2	3	3	4	4		2	3	4	4			4	3	
2	2	2	2	1	3		4	2	3		2	4	2	2	2		4	2	2	2			2	4	
1	2	2	1	2	2		1	2	2		1	2	1	2	2		2	1	4	2			1	2	

Q27	Q28	Q29	Q30
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1	1	1	1
4	0	0	1
0	1	1	3
4	4	4	0
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2	1	2	4
4	2	0	0
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0	0	0	0
2	2	0	2
3	3	2	2
4	2	2	2
3	4	4	4
4	2	1	4