

Effect of Learning Package on Knowledge regarding the Activities to be Performed during the Labour Process among Antenatal Women in Selected Hospital, Kolkata

Anima Das

Abstract:

A quasi experimental study (non-equivalent control group design) was undertaken with the objective to assess the effectiveness of Learning package on knowledge regarding the activities to be performed during the labour process among antenatal women attending the antenatal outdoor and admitted in antenatal indoor, and to find out the association between the pre-test knowledge score with selected demographic variables. The conceptual framework adopted was based on 'System Model'. Non-probability purposive sampling technique was used to select 60 antenatal women. A structured interview schedule was developed and validated for data collection. Collected data were computed using descriptive and inferential statistics. There is significant mean difference between the pre-test and post-test mean score in experimental group and between the post-test knowledge score of experimental and control group at 0.05 level of significance as evident by 't' value (15.83) at df 26 and t value (7.04) at df 49 respectively. Hence the learning package helped in gaining significant knowledge among antenatal women in experimental group. There was association between the Pre-test knowledge score and No. of Gravida ($\chi^2=11.41$, at df 2 at $p<0.05$) in experimental group. The study was believed to be helpful in nursing services, education, administration and research.

Birth is a miracle and each baby is life's perfect creation. Pregnancy is often a time of hope for the future. Process of pregnancy and child birth are very much a personal journey. Each woman experiences the beauty of creating and giving birth to a child. Pregnancy and child birth are the normal phenomena that occur in the life of a woman. Labour is a spontaneous process of expulsion of the foetus and the placenta.

Labour means all its four stages. This is mainly the primary role of midwife or obstetrical nurse who manages labour. The main goal of nursing care in each stage of labour is helping the client verbalising her feeling, comfort, and discomfort by verbal or non-verbal clues. Among the four stages of labour, the first is the dilation of cervix. It begins with regular rhythmic contraction (true labour) and is complete when the cervix is fully dilated and effaced. The second stage is the stage of expulsion of the foetus. The third stage of labour is that of separation and expulsion of the placenta and membranes. It lasts from the birth of the baby through the delivery of the placenta and membrane. The fourth stage is the first one hour after delivery of the placenta. This

is an arbitrary time during which the vital signs must be stabilised and any tendency for immediate haemorrhage must be controlled. This is a critical period for every mother.

Starting from the admission, nurses should take the history regarding the personal data, details of each trimester of the pregnancy and also about the status of the labour. Assessment includes the vaginal examination, cervical dilatation and the assessment of the foetal heart rate. Encourage rest between contractions. Expanded nurse's role in the second stage of labour is to help the mother for the delivery of the baby along with the placenta. One of the major roles of the nurse in second stage of labour is maintaining partograph to identify the probable risk for developing complications, and also to take prompt initiation. In the third stage of the labour the nurse should encourage the mother to initiate breastfeeding. Maternal complications in the fourth stage of labour are very dangerous and need to be identified by the nurse.

When we provide health teaching or any physical comfort measures to the labouring mother it is necessary to know what the mother should do and what should not in that specific stage. In order to help a mother in labour, midwives or obstetrical nurses must know the normal physiology as well as

The author is: Tutor, Nursing Training School, Sealdah ESI Hospital, Kolkata.

Guide: Mrs Mitali Adhikary, Senior Lecturer, Govt College of Nursing, Burdwan Medical College, Kolkata.

the changes occurred during labour.

Review of Literature

In a study on Brazilian women, Miquelutti et al (2013) showed women's receptivity and benefits of practicing BPP (Birth Preparation Program) on their control of labour, position adopted during labour, and satisfaction with labour. Women who had not participated in BPP were more likely to report dissatisfaction with the birthing experience.

Jill et al (2001) found that nurses spent only 12.4 percent of their total time in providing supportive care to the labouring mother. This short span of time is not sufficient to provide support to the women.

Otaiby et al (2013) showed that the overall mean of the knowledge score of antenatal mothers regarding labour was low. Less than 1 percent of the study participants scored above 70 percent (good knowledge), while 95.9 percent scored below 60 percent (poor knowledge). So this study clearly implies that there is a knowledge lack in the antenatal mothers.

Some studies have found that 67.76 percent mothers have poor knowledge while 32.24 percent have average knowledge regarding the activities related to labour process. To fulfil this knowledge deficit, it is important to provide knowledge to them. Nurses should know their role during labour since this knowledge indirectly provides better advice or teaching to the pregnant woman in managing their problems. It is also easy for the midwives to actively participate in labour (Selvanayaki, 2015).

These studies reveal that there is an actual lack of support to the pregnant mother during their labour process. Besides low literacy among women is also responsible for their inadequate knowledge regarding the labour process and also related to the planned conception. Most of the planned pregnancies result in better outcome than the unplanned ones. In many places of India, there is lack of labour support behaviour of the nurses due to various reasons. This has an impact on the overall health of the mother directly or indirectly. To meet the unmet need, the nurses must come forward with an evidence-based practice.

Studies on effect of massage during first stage of labour Sadat et al (2016) and uterine massage during third stage of labour on prevention of post-partum haemorrhage showed that massage helps to provide comfort to the mother and also helps in reduction of post birth complications. So, it is necessary to provide these comfortable measures to the women during the labour process and they should be aware about this (Eshra et al, 2013).

Moore et al depicted that skin to skin contact improves the breastfeeding, cardio respiratory stability

in late pre-term infants and also helps to maintain the blood glucose level of the new-born. Skin to skin contact approach in terms of 'Bedding-in', rather than 'Rooming-in' is very beneficial for the newborn and mothers, as it also improves the psychological bonding between the mother and the baby. Early initiation of breastfeeding is a measure to reduce neonatal mortality as stated by a study (Berkat et al, 2014).

This study was undertaken to make the antenatal women knowledgeable and improve their active participation for a better pregnancy outcome.

Objectives

1. To assess the knowledge regarding activities during 1st, 2nd, 3rd and 4th stage of labour before and after administering the intervention among antenatal women.
2. To identify the effectiveness of learning package in terms of change in the knowledge.
3. To identify the association between the pre-test knowledge regarding the activities to be performed during the labour process and demographic variables.

Literature Review

As related to Nurse's role during labour process

The key message provided in Guidelines for Antenatal Care and Skilled Attendance at Birth by NRHM in 2010 are: let the woman choose the position she desires and feels comfortable during labor, maintain a partograph which will help the care giver to recognise the need for action at appropriate time and thus ensure a timely referral, active management of third stage of labour and thereby preventing post-partum haemorrhage. To be a called SBA, the health workers must possess technical competence related to routine care including identification and immediate management of complications arising during pregnancy and childbirth. In India, 52.3 percent of births take place at home and of these, just 5.7 percent are attended by a skilled person. Women who experience life threatening complications, may not receive required lifesaving emergency services. Deliveries by unqualified persons can contribute to large number of maternal deaths. There Guide sheets outline for the procedures including assessment of a woman in labour, vaginal examination during labour, management of the first stage of labour using a partograph, management of successive stage of labour.

Reeder et al (2015) highlight the primary role of midwives or obstetrical nurse in managing labour, the factors influencing normal process of labour and the main characteristics of the birth process. Main goal of nursing care in each stage of labour

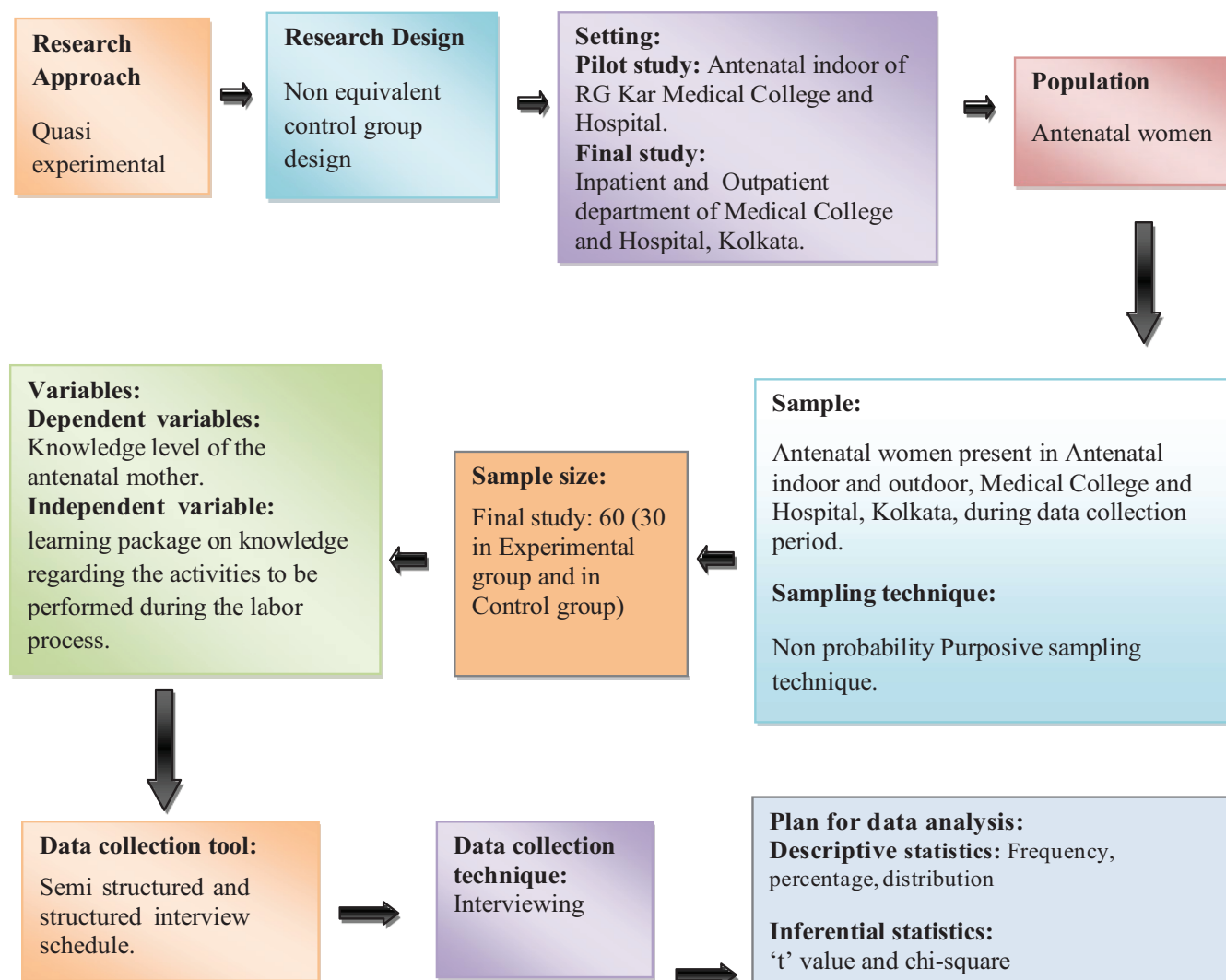


Fig 1: Schematic diagram of Research methodology

is: helping the client verbalising her feelings, comfort and discomfort by verbal / non-verbal clues. Client, support person, family should have knowledge about the progress of labour. The roles and responsibilities of midwife or obstetrical nurse towards mother going for labour are very broad and vast.

In a randomised control trial on early skin-to-skin contact for mothers and their healthy newborn infants by Moore, Anderson & Dowswell (2016), 34 randomised controlled trials were included involving 2177 participants (mother-infant dyads). Data from more than two trials were available for only eight outcome measures. For primary outcomes, they found a statistically significant positive effect of early SSC on breastfeeding at one to four months post birth (13 trials; 702 participants) (risk ratio/RR 1.27, 95% confidence interval (CI) 1.06 to 1.53, and SSC increased breastfeeding duration (seven trials; 324 participants) (mean difference (MD)

42.55 days, 95% CI -1.69 to 86.79) but the results did not quite reach statistical significance ($p=0.06$). Late pre-term infants had better cardio-respiratory stability with early SSC (one trial; 31 participants) (MD 2.88, 95% CI 0.53 to 5.23). Blood glucose 75 to 90 minutes following the birth was significantly higher in SSC infants (two trials, 94 infants) (MD 10.56 mg/dL, 95% CI 8.40 to 12.72).

Post-partum haemorrhage is still the leading cause of death of birthing mothers in the world today. In a study conducted by Eshra et al (2013) there was statistically significant difference between the studied groups as regards the amount of blood loss, time of placental delivery, the use of uterotonics and the occurrence of postpartum haemorrhage. Uterine massage during and after placental delivery is effective in reducing blood loss and this must be applied. The study recommended teaching mothers to apply uterine massage.

A randomised controlled trial by Sadat et al (2013) Masinaei Nejad Nosratollah, Shahdadi Hosein. The impact of manual massage on intensity and duration of pain at first phase of labour in primigravida women. This was carried out on 60 primigravida women (30 women each in experimental and control group) expected to have normal vaginal delivery, admitted to Amiralmomenin Hospital in Zabol, Iran, during 2007. Visual analog scale (VAS) was used to measure the labour pain. Intensity and duration of pain were compared in two stages of the active phase of labour as follow: 1-cervical dilatation 5 cm, 2-cervical dilatation 8 cm. This study showed that manual massage significantly decreases intensity and duration of labor pain in both of stages of active phase (1.963 Vs 2.718, $p=0.0001$ - 2.311 Vs 3.720, $p=0.0001$).

As related to knowledge assessment

In a study Selvanayaki (2015) to assess the knowledge of primigravida mothers on child birth process, 50 primigravida mothers who attended antenatal OPD during third trimester for checkup in Salem Polyclinic were selected by purposive sampling technique. Data was collected by structured interview schedule for knowledge on child birth process. Overall mean knowledge scores on childbirth process (15.76 ± 4.17) revealed that the primigravida mothers had poor knowledge. Area wise mean knowledge scores revealed that mothers had poor knowledge on "first stage of labour" (5.88 ± 2), "second stage of labour" (2.06 ± 1.2) and "third stage of labour" (0.94 ± 0.71), whereas average knowledge on "signs and symptoms" (2.94 ± 1.37). It can be concluded that the primigravida mothers had poor knowledge on child birth process.

The study by Otaiby at (2013) to assess the antenatal knowledge and describe the learning needs and preferred information seeking behaviour of expecting and/or new Saudi mothers, a questionnaire was used to assess levels of antenatal knowledge, educational preferences, and information. The sample size was 468. Study result showed that the overall mean of the knowledge score for the study participants was low (34.8%; $SD=7.7$). Less than 1 percent of the study participants scored above 70 percent (good knowledge), while 95.9 percent of them scored below 60 percent (poor knowledge).

As related to effect of teaching educative process on antenatal women

A study was conducted on the effect of prenatal education on mother's quality of life during first year postpartum among Iranian women by Bahrami et al (2013). This single-blind randomised control trial study was performed on 160 first- time pregnant women; with a singleton foetus; aged 18 to 35; without history of medical, psychological and infertility diseases; as well as with at least eight prenatal

visits during pregnancy. Participants were invited into two groups of intervention ($n=80$) and control ($n=80$). The interventional group demonstrated higher scores of quality of life domains than the control group ($p<0.05$). The interventional group (at one year postpartum) demonstrated significantly higher scores for quality of life in the physical health, psychological health, and environmental health domains compared to the control group. In addition, the interventional group showed a significant increase in the mean scores for the domains of physical, psychological, and environmental health from 6-8 weeks to 1 year postpartum. The study showed that women receiving prenatal education had higher level of happiness and satisfaction in their overall quality of life and health, respectively.

A study by Maria Miquelutti et al was conducted with 11 women who participated in a BPP (Birth Preparation Programme) and 10 women attending routine prenatal care selected through purposive sampling. This BPP consisted of Systematized antenatal group meeting structured to provide physical exercise and information on pain prevention during pregnancy, the role of pelvic floor muscle, the physiology of labour, and pain relief techniques. A single semi structured interview schedule was conducted with each participant. The analysis was done on three categories: control of labour, position adopted during labour, and satisfaction with labour. Result of the study shows women who participated in BPP reported self-control during labour, controlled pain by using non pharmacological methods, and was satisfied with the birthing experience much more than those who do not participated in BPP.

A study on Effectiveness of PTP on childbirth preparation regarding childbirth practice during labour among primigravida women by D'Silva & Sr Aileen Mathias with the objective to assess the practices adopted during labour among the primigravida women in the experimental and control group, to compare the practices adopted during labour among the primigravida women in control and experimental group, and to find the association between selected baseline variables and childbirth practices. This Quasi-experimental study was conducted in Father Muller Medical College Hospital, Mangalore. Observational checklist was used to assess the childbirth practices. The results showed that the overall mean childbirth practice scores is lower (16.88) in the control group than in the experimental group (26.24). The computed t-value (9.75) is more than the tabled value ($t_{48} = 1.6772$); The mean practice scores were higher among the experimental group compared to the control group, which indicates that the Planned teaching Programme had helped to adopt the practices during labour among primigravida women specially in the experimental group. No association was found between demo-

Table 1: Mean, mean difference, standard deviation, SE_{MD} and “t” value of pre-test and post-test knowledge score experimental group subjects (ne=27)

Knowledge score	Mean	Mean difference	SD	SE _{MD}	t' value
Pre-test	13.3	5	2.69	0.32	15.83 *
Post-test	18.3				

t' (26) = 1.70, p < 0.05 * Significant

Table 2: Mean, mean difference, standard deviation, SE_{MD} and “t” value of post-test knowledge score between experimental and control group subjects (ne + nc = 51)

Knowledge score	Mean	Mean difference	SD	SE _{MD}	t' value
Experimental group	18.3	4.26	3.19	0.60	7.04 *
Control group	14.04				

t' (44) = 1.67, p < 0.05, * Significant

graphic variables and childbirth practices. Planned Teaching Programme is a simple and cost-effective method that can be initiated by nurses, to be used by mothers during labour.

Sample Selection Criteria

Inclusion criteria- Antenatal mothers

- Who were admitted in hospital and EDD is not within 7 days after the intervention.
- Who were present during the study.
- Who understood Bengali and English.
- Who were able to listen and communicate verbally.

Exclusion criteria- Antenatal mothers

- Who were mentally unstable.
- Those with placenta previa (Grade II posterior, Grade III, Grade IV)
- Those with baby in transverse lie.
- Those having severe outbreak of genital herpes.

Results

Table 1 shows that mean difference between pre-test and post-test score is 5, SD is 2.69, SEMD is 0.32, the calculated ‘t’ value (15.83) is higher than the table value (1.70) at df 26, at 0.05 level of significance. So here the mean difference is a true difference and not by chance. Hence null hypothesis is rejected and research hypothesis is accepted. It indicates that the learning package is effective in enhancing the knowledge of the antenatal women in experimental group.

Table 2 shows that mean difference between post-test score is 4.26, SD is 3.19, SEMD is 0.60, the calculated ‘t’ value (7.04) is higher than the table value (1.67) at df 44, at 0.05 level of significance. So here the mean difference is a true difference and not

by chance. Hence null hypothesis is rejected and research hypothesis is accepted. It indicates that the learning package is effective in enhancing the knowledge of the antenatal women in experimental group.

Discussion

The finding of the present study is supported by the study conducted by Gayathri KV, Sudha A Raddi, MC Metgud on Effectiveness of Planned Teaching Program on Knowledge and Reducing Anxiety about Labour among Primigravida in Selected Hospitals of Belgaum, Karnataka.(15) Analysis of knowledge scores shows that calculated ‘t’ value (27) was greater than tabulated ‘t’ value (2.37), indicating that there is gain in knowledge score in experimental group which was statistically significant at 0.05 level of significance.

The result of the present study resembles to the study conducted by Precilla D'Silva on Effectiveness of PTP on childbirth preparation regarding childbirth practice during labour among primigravida women. The findings of the study show that the mean behavioural outcome score (70.4) of primigravida mothers in the experimental group was higher than the mean behavioural outcome score (36.9) of the control group. The computed “t” value (t48=9.75) showed a significant difference in the behavioural outcome between the experimental and control groups.

In other hand the finding of the present study shows that there is no significant association between the pre-test knowledge score and age (2 value 0.567) and education (χ^2 value 0.714). This finding is supported by the findings of the study conducted by Precilla D'Silva on Effectiveness of PTP on childbirth preparation regarding childbirth practice during labour among primigravida women. The findings of the study show that there is no association with the pre-test knowledge score and demographic variable age and education.

Implications

Nursing practice: Nursing personnel should be prepared to take leadership role in educating antenatal women regarding the activities to be performed during the labour process in hospital as well as community setting. With this study, nurses can provide teaching to antenatal women for reducing the complications during labour and also the anxiety of the mothers.

Nursing education: The nurse educators can incorporate the result of the study in continuing education programme to educate the nursing personnel

at various levels regarding the activities to be performed during the labour process. This also helps in supervision of the antenatal women while they perform these activities.

Nursing administration: As an administrator nurse can emphasize on initiating policies or protocol for teaching to antenatal women regarding the activities, they should perform during the labour process.

Nursing research: As the learning package was effective, other investigator can be motivated to do same type of study and other related study among same or different population.

Recommendations

- A similar study can be conducted on larger samples for generalisation.
- This study can be conducted on large samples to include knowledge, but also practice of the antenatal mothers.
- A study can be conducted both in rural and urban community.
- Research can be conducted by administering new teaching aids (e.g. video-assisted learning) to educate the antenatal women.

Conclusion

The study has shown that antenatal women learn through the direct teaching. The result of the study confirms that there is significant increase in knowledge level among the antenatal women in experimental group. The learning package was effective in increasing the knowledge level among antenatal women.

References

1. Dutta D C. Textbook of Obstetrics including Perinatology; 8th edn; Hiralal Konar; New Central Book Agency (p) Ltd: 2015; chapter 13; 134 –64
2. Jacob Annamma. A Comprehensive Textbook of Midwifery and Gynaecological Nursing; 3rd edn; Jaypee Brothers Medical Publishers; 2012; Section 5, chapter 17-22, 133-202
3. Reeder, Martin, Koniak- Griffin. Maternity Nursing Family, Newborn and Women's Healthcare. 19th edn. Lippincott Williams & Wilkins. Wolter Kluwer (India) Pvt. Ltd.. New Delhi; 2015; Unit IV; chapter 14; 325-67
4. National Rural Health Mission. A handbook for midwives:

Skilled Birth Attendance, 2010

5. Sadat Hashemi Zohreh, Forugh Forghani, Maryam Heidari, Nejad Masinaei Nosratollah, Shahdadi Hosein The impact of manual massage on intensity and duration of pain at first phase of labor in primigravid women. *International Journal of Medicine Research* 2016; 1(4): 16-18
6. Bahrami Nosrat, Masoumeh Simbar, Somayeh Bahrami. Effect of prenatal education on mother's quality of life during first year postpartum among Iranian Women: A randomized controlled trial; *Int J Fertil Steril* 2013 Oct-Dec; 7(3): 169–74. Published online 2013 Sep 18. PMID: PMC 3914493
7. Tahani Al Otaiby, Hoda Jradi, Amen Bawazir. Antenatal education: An assessment of pregnant women knowledge and preferences in Saudi Arabia. *Journal of Women's Health Care* 2013; 2: 4 DOI: 10.4172/2167-0420.1000139
8. Maria Amelia Miquelutti, JG Cecatti & MY Makuch MY. Antenatal education and birthing experience of Brazilian women: A qualitative study. *BioMed Central, Pregnancy and Childbirth* 2013; 13: 171
9. Selvanayaki V. A Study to Assess The Knowledge On Childbirth Process Among Primigravida Mothers. *International Journal of Current Research* 2015; 7(7): 18504-506.
10. D'Silva , Mathias: Effectiveness of PTP on childbirth preparation regarding childbirth practice during labor among primigravid women. *Muller Journal of Medical Science and Research* 2016; 7(1)
11. Moore ER, Anderson Gene C, Bergman Nils, Therese Dowswell. Early skin-to-skin contact for mothers and their healthy newborn infants. *Cochrane Database Syst Rev* 2016; 5: CD003519. doi:10.1002/14651858. CD003519.pub3
12. Eshra Dalal Khalel, Nahta Omar El, Gamal Amal, Farida Habib. Effect of uterine massage to Women during Third Stage of Labor on Preventing Postpartum Hemorrhage; *Advances in Life Science and Technology*, Vol 7, 2013
13. Satrinawati Berkat, Rosnah Sutan; The Effect of Early Initiation of Breastfeeding on Neonatal Mortality among Low Birth Weight in Aceh Province, Indonesia: An Unmatched Case Control Study; Hindawi Publishing Corporation *Advances in Epidemiology*, Vol 2014
14. Jill Gale, Fothergill- Bourbonnais F, Chamberlain M, et al. Measuring nursing support during childbirth. *American Journal of Maternal Child Nursing* 2001; 26(5): 264-71
15. Gayathri KV, Sudha A Raddi, MC Metgud. Effectiveness of Planned Teaching Program on Knowledge and Reducing Anxiety about Labor among Primigravidae in Selected Hospitals of Belgaum, Karnataka. *Journal of SAFOG* 2010; 2(2): 163-68

Lodging at TNAI Headquarters Made Easier !

TNAI Hqrs has expanded its capacity to accommodate more of TNAI members visiting Delhi. The TNAI members including students visiting Delhi on official or professional tours can avail the lodging facility, within the TNAI Hqrs premises at reasonable charges. The per day charges are as under:

TNAI Members: Rs. 600/-

SNA Members: Rs. 250/-

Non-Members: Rs. 900/-

Children below 5 yrs: No charges

Children 6-12 yrs: Rs. 150/-

However, due to limited beds, interested members may get the booking done in advance.

Secretary-General, TNAI