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A study to assess the knowledge, expressed practice and attitude on an active management of third stage of labour (AMTSL) among fourth year B.Sc. nursing students of selected nursing colleges of Gujarat state

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Abstract
Background: Worldwide post-partum haemorrhage (PPH) is the most common cause of maternal mortality. Atonic PPH accounts for 80% of the cases. Risk of PPH can be reduced by 60% by actively managing the third stage of labour.
Objective: To assess the Knowledge, Expressed Practice and Attitude on an AMTSL among the Fourth Year B.Sc. Nursing students of Selected Nursing Colleges of Gujarat State.
Materials and Methods: Quantitative approach with Descriptive Survey Research design where 200 Fourth Year B.Sc. Nursing Students were selected by Stratified Random sampling (Proportionate) technique. Validated Structured Knowledge Questionnaire, Structured Expressed Practice Questionnaire and Likert Attitude Scale were used to collect the data. Descriptive and Inferential Statistics was used for analysis.
Results: There was moderately positive correlation between Knowledge and Expressed Practice of the samples on AMTSL. There was moderately positive correlation between Knowledge and Attitude of the samples on AMTSL. There was moderately positive correlation between Expressed Practice and Attitude of the samples.
There was significant association between No. of Normal deliveries conducted with AMTSL till date and Previous knowledge related to AMTSL with Knowledge of the samples. There was significant association between Duration of Labour Room posting till date, Previous Knowledge related to AMTSL with Expressed Practice of the samples. There was significant association between Age with Attitude of the samples.
Conclusion: Knowledge of Active Management of Third Stage of labour is a vital possession for the Nurses and birth attendants to be skilful in the Practice of AMTSL with appropriate attitude, to prevent post-partum hemorrhage and other obstetric complication, which may risk the life of the women. It is necessary to train the Student Nurses and create awareness about the AMTSL.

Keywords: AMTSL, nursing students, PPH

Introduction
The third stage of labour has traditionally been defined as the time between the birth of the baby and the delivery of the placenta and membranes. It is the third stage that is the most perilous for the woman because of the risk of postpartum hemorrhage (PPH). Postpartum Hemorrhage (PPH) is an important cause of Maternal Mortality, accounting for about a quarter of maternal deaths worldwide. Because of the inability to predict women who may develop this complication, interventions to prevent postpartum bleeding from uterine atony (atonic PPH) are directed at all women during Childbirth. Active Management of Third Stage of Labour (AMTSL) is a prophylactic intervention composed of a package of three components: 1) Administration of an uterotonic, preferably Oxytocin, immediately after birth of the baby; 2) Controlled Cord Traction (CCT) to deliver the placenta; and 3) Massage of the uterine fundus after the placenta is delivered. Active Management of Third Stage of Labour (AMTSL) in highly measurable, evidence based and life saving aspect of the health infrastructure. Human Resources for Health are the most important building block of public health. Availability of adequate number of human resources with suitable skill mix and their appropriate deployment at different levels of health care set-up are essential for providing effective health care services for the population.

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Obstetrics is procedural and a high hazard medical specialty; therefore, Nursing Students are required to be proficient in many tasks.

Materials and Methods
Objectives
1. To assess the Knowledge, Expressed Practice and Attitude on an Active Management of Third Stage of Labour (AMTSL) among Fourth Year B.Sc. Nursing Students of Selected Nursing Colleges of Gujarat state.
2. To find out correlation between Knowledge and Expressed Practice on an Active Management of Third Stage of Labour (AMTSL) among Fourth Year B.Sc. Nursing Students of Selected Nursing Colleges of Gujarat state.
3. To find out correlation between Knowledge and Attitude on an Active Management of Third Stage of Labour (AMTSL) among Fourth Year B.Sc. Nursing Students of Selected Nursing Colleges of Gujarat state.
4. To find out correlation between Expressed Practice and Attitude on an Active Management of Third Stage of Labour (AMTSL) among Fourth Year B.Sc. Nursing Students of Selected Nursing Colleges of Gujarat state.
5. To find out association between Knowledge with selected demographic variables regarding Active Management of Third Stage of Labour (AMTSL) among Fourth Year B.Sc. Nursing Students of Selected Nursing Colleges of Gujarat state.
6. To find out association between Expressed Practice with selected demographic variables regarding Active Management of Third Stage of Labour (AMTSL) among Fourth Year B.Sc. Nursing Students of Selected Nursing Colleges of Gujarat state.
7. To find out association between Attitude with selected demographic variables regarding Active Management of Third Stage of Labour (AMTSL) among Fourth Year B.Sc. Nursing Students of Selected Nursing Colleges of Gujarat state.

Research variables: Knowledge, Expressed Practice and Attitude on Active Management of Third Stage of Labour (AMTSL) among Fourth Year B.Sc. Nursing Students in Selected Nursing Colleges of Gujarat State.

Demographic variables: Age, Gender, No. of return demonstration shown to supervisor related to AMTSL, No. of normal deliveries conducted till date, Previous Knowledge related to AMTSL and Duration of Labour Room posting till date.

Research Setting: The present study was conducted in Selected Nursing Colleges of the Gujarat state. Investigator had made a list of all Nursing Colleges in Gujarat having affiliation of INC and is offering Basic B.Sc. Nursing Programme.

Sample size: 200 Fourth Year B.Sc. Nursing Students in Nursing Colleges of Gujarat State by Stratified Random sampling method (Proportionate Sampling).

Sampling technique: The investigator had utilized Stratified Random Sampling method for selecting Fourth Year B.Sc. Nursing Students in Nursing Colleges of Gujarat

State. The study was conducted in the Nursing Colleges of Gujarat State. In this study investigator selected 08 Nursing Colleges for study, in which population was stratified according to their geographic location.

As the numbers of students in each Nursing Colleges were different, investigator had used Proportionate sampling technique for selecting students from the Nursing Colleges of Gujarat State. Investigator had prepared the sampling frame from the roll number and selected the desired number of samples by simple random sampling lottery method. Total 39 students from Ahmedabad, 25 Students from Vadodara, 28 students from Siddhpur, 23 students from Dharpur, 27 students from Rajkot, 21 students from Jamnagar and 37 students from Bhavnagar were selected for the Main study.

Description of tool
The investigator had prepared tool in four sections to assess the Knowledge, Expressed Practice and Attitude on an AMTSL is as follow:

Section I: Demographic data
It consists of the Demographic data of the samples such as Age, Gender, No. of return demonstration shown to supervisor related to AMTSL, No. of normal deliveries conducted till date, Previous Knowledge related to Active Management of Third Stage of Labour (Specify Source of Knowledge related to AMTSL) and Duration of Labour Room posting till date.

Section II: Structured Knowledge Questionnaire
It Comprises items on Knowledge regarding Active Management of Third Stage of Labour. Total items were 25 and each item carries one mark. Maximum score of the questionnaire was 25. Investigator gave 1 mark for correct answer and 0 mark for wrong answer. Structured Knowledge Questionnaire was divided on five main areas such as Introduction to AMTSL, Medications, Counter Traction, Post Partum Hemorrhage and Uterine Massage.
Blue print for Structured Knowledge Questionnaire was prepared. There were total 7 (28%) items of Introduction to AMTSL, out of which 3 items for knowledge level, 2 items for comprehension level and 2 items for application level. There were total 9 (36%) items of Medications, out of which 4 items for knowledge level, 3 items for comprehension level and 2 items for application level. There were total 5 (20%) items of Counter traction, out of which 2 items for knowledge level, 2 items for comprehension level and 1 item for application level. There were total 2 (8%) items of Postpartum Hemorrhage, out of which 1 item for knowledge level and 1 item for comprehension level. There were total 2 (8%) items of Uterine Massage, out of which 1 item for knowledge level and 1 item for comprehension level. Investigator has divided knowledge scores as following and will consider samples knowledge level accordingly:
Good Knowledge level: Knowledge score between 17 to 25 out of 25 Average Knowledge level: Knowledge score between 9 to 16 out of 25 Poor Knowledge level: Knowledge score between 0 to 8 out of 25

Section III: Structured Expressed Practice Questionnaire
Investigator used Structured Expressed Practice

Questionnaire to assess the Expressed Practice on an Active Management of Third Stage of Labour (AMTSL). It contains total 10 items. Maximum score was 10, in which each correct answer gets one mark and zero for every wrong answer. Investigator has divided scores as following and considered samples Expressed Practice level accordingly.
Good Expressed Practice level: score between 7 to 10 out of 10 Average Expressed Practice level: score between 3 to 6 out of 10 Poor Expressed Practice level: score between 0 to 2 out of 10

Section IV: Likert's Attitude Scale
Investigator had used five points Likert Attitude rating scale which has total 10 items. Out of these, 5 items were positive and 5 were negative. Item number 4, 5, 7, 8, 10 were positive and item number 1, 2, 3, 6, 9 were Negative.

Investigator used five point rating scale in Positive items which were scored as- Strongly Agree (5), Agree (4), Uncertain (3), Disagree (2) and Strongly Disagree (1). Negative statements were scored as Strongly Agree (1), Agree (2), Uncertain (3), Disagree (4) and Strongly Disagree (5). For the total content related to Active Management of Third Stage of Labour the maximum score was 50. Rating scale is standardized and understandable and easy to know the Attitude of Fourth Year B.Sc. Nursing Students about Active Management of Third Stage of Labour. The scores ranged between 31 to 50 were considered in Positive Attitude and score ranged between 10 to 30 were considered in Negative Attitude.

Results and Discussion

Table 1: Frequency and Percentage wise distribution of Demographic data of Samples. [N=200]

Sr. No.	Demographic Data	Frequency	Percentage (%)
	Age group		
1.	20 Years	95	47.5
	21 Years	93	46.5
	22 Years	11	5.5
	> 22Years	01	0.5
	Gender		
2.	Male	15	7.5
	Female	185	92.5
	No. of return Demonstration shown to Supervisor related to AMTSL		
3.	0	114	57
	1	43	21.5
	2	31	15.5
	>2	12	06
	No. of Normal deliveries conducted with AMTSL till date		
4.	a. 0	93	46.5
	b. 1-5	88	44
	c. 6-10	15	7.5
	d. > 11	04	2
	Previous Knowledge related to AMTSL		
5.	A. If Yes (Source of knowledge)	84	42
	Books	16	19.05
	Doctors and Nurses	09	10.71
	Lectures	58	69.05
	NPM Staff	01	1.19
	B. No	116	58
	Duration of Posting in LR till date		
6.	<1 Week	47	23.5
	1-2 Week	118	59
	3 Week	19	9.5
	> 3 Week	16	08

From the findings data revealed that 47.5% of samples were in the Age group 20 years and 0.5% Samples were in age of > 22 years. 92.5% Samples were Female and 7.5% Samples were Male. In relation to No. of return demonstration shown to supervisor related to AMTSL, 57% Samples showed 0 demonstrations and 6% samples showed > 2 demonstrations to supervisor. 93% of samples conducted 0 deliveries with AMTSL and 2% of samples conducted > 11 deliveries with AMTSL till date. According to Previous Knowledge related

to AMTSL 58% Samples did not had any previous knowledge related AMTSL. Among the 84 Samples who had previous knowledge related to AMTSL, 69.05% Sample's source of knowledge was Lectures and 1 (1.19%) sample got knowledge from NPM staff. According to Duration of Labour Room posting till date 59% samples had 1-2 week posting in LR and 8% had > 3 weeks posting in Labour Room till date.
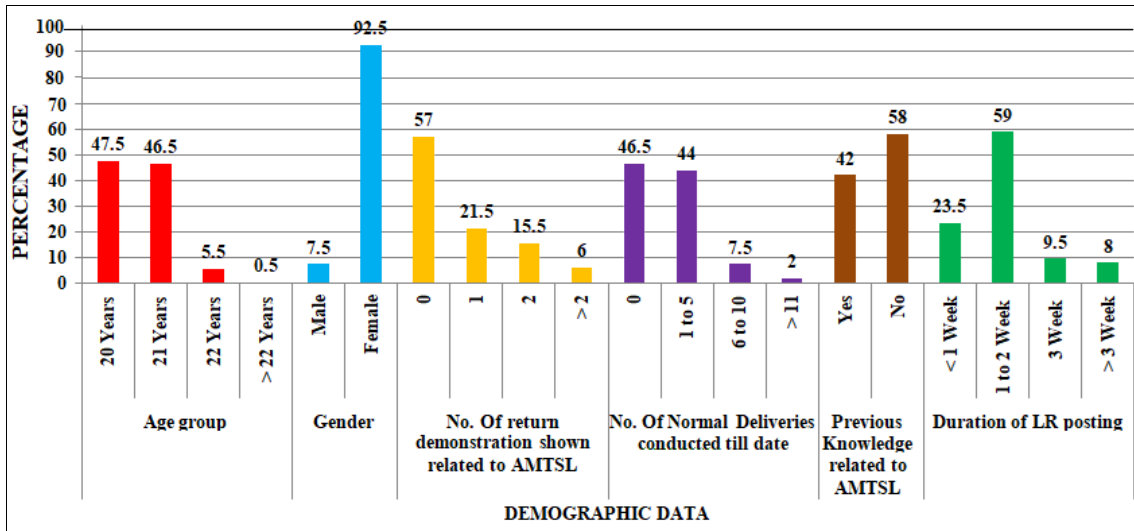
Fig 1: Bar graph showing percentage wise distribution of Demographic data of samples.
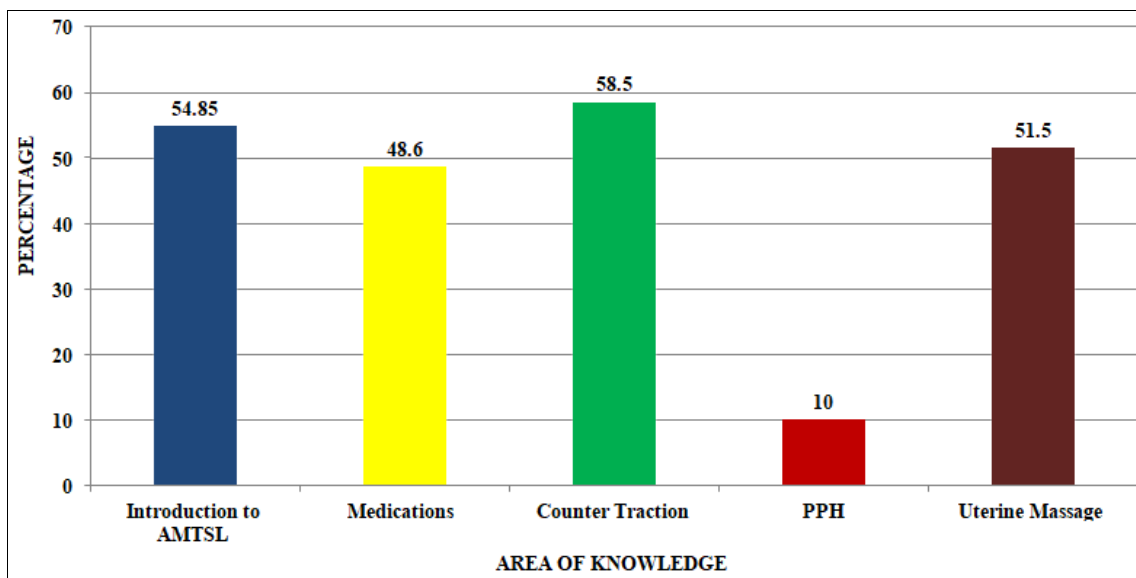
Fig 2: Bar graph showing area wise mean percentage Knowledge Score of Samples

Samples had Maximum knowledge (58.5%) score in area of Counter Traction and Minimum knowledge (10%) score in area of PPH. There was average knowledge 84.5% on an Active Management of Third Stage of Labour.
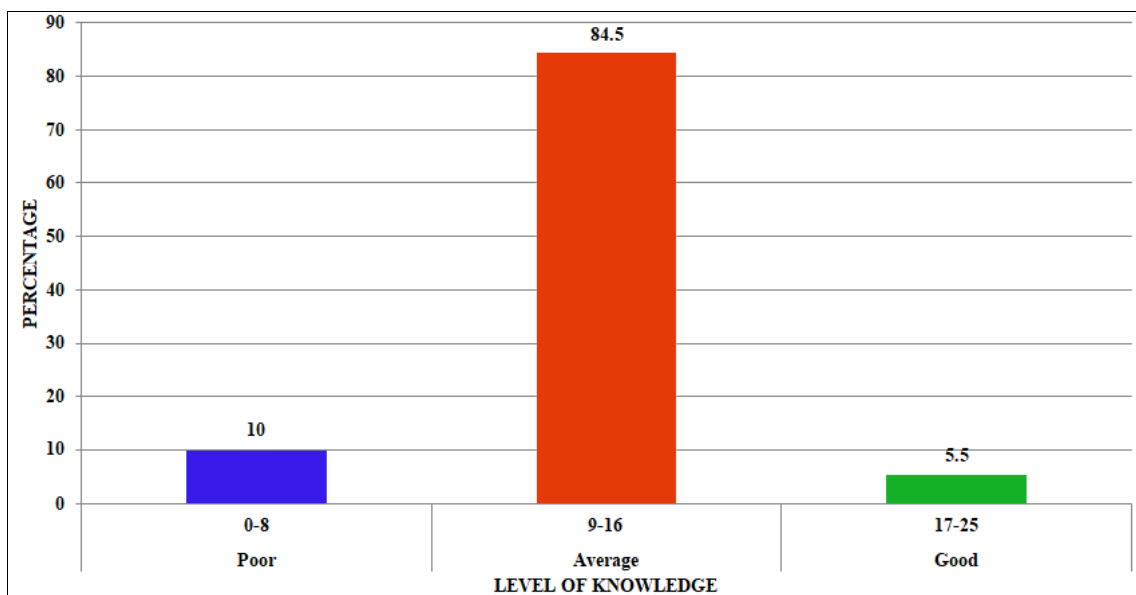
Fig 3: Bar Graph showing percentage wise distribution of Level of Knowledge of Samples.
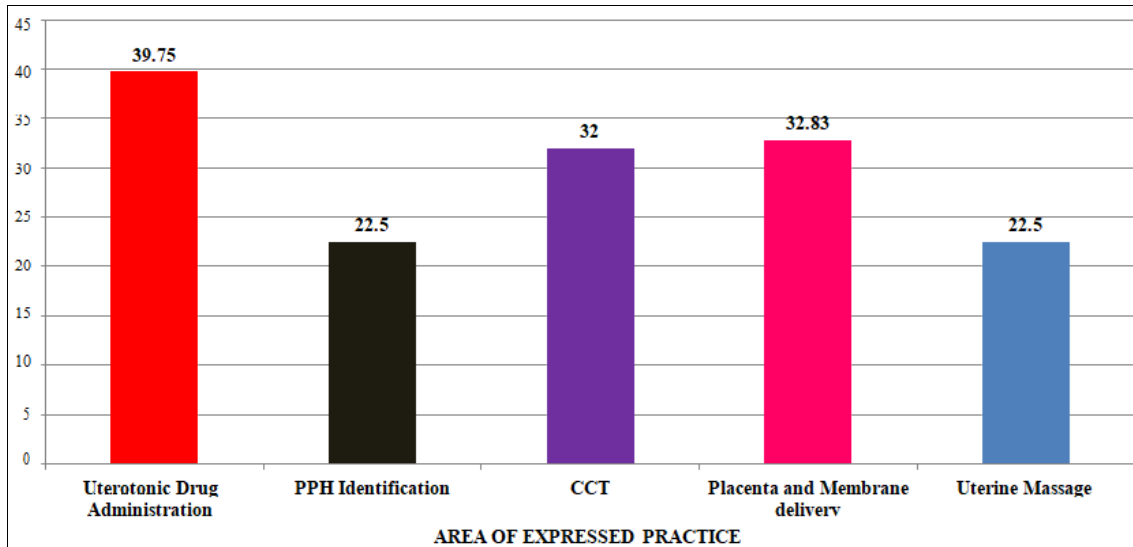
Fig 4: Bar graph showing area wise mean percentage Expressed Practice score of Samples

Samples had Maximum Expressed Practice (39.75%) score in area of Uterotonic Drug Administration and Minimum Expressed Practice (22.5%) scores in areas of PPH Identification and Uterine Massage. There was average Expressed Practice (60%) on an Active Management of Third Stage of Labour.
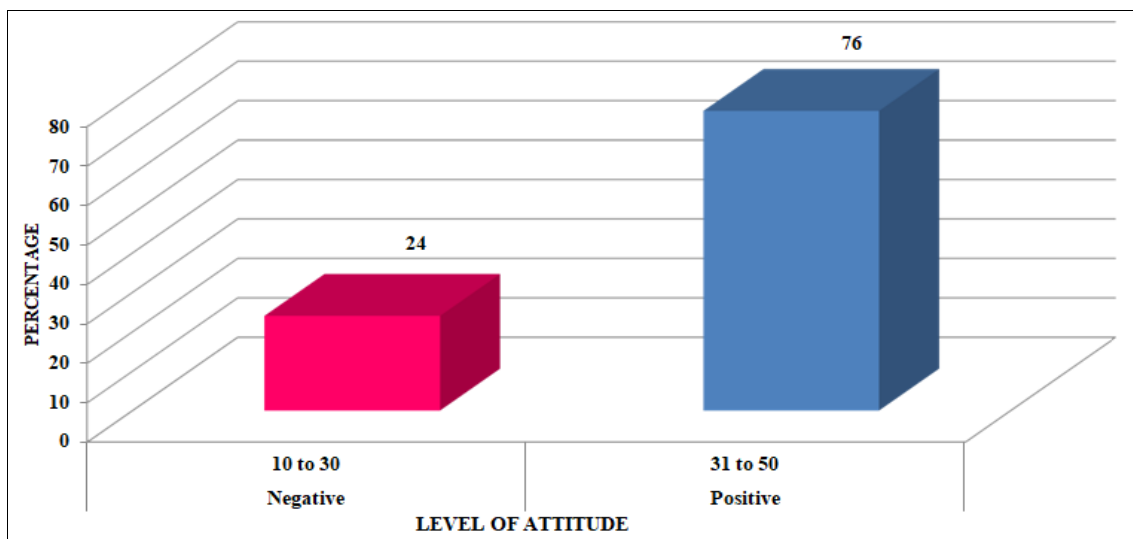

Fig 5: Bar Graph showing percentage wise distribution of Samples according to the Level of Attitude

There was Positive Attitude (76%) on an Active Management of Third Stage of Labour.

Table 2: Correlation of Knowledge with Expressed Practice of the Samples [N=200]

Knowledge mean score	Expressed Practice mean score	Formula r (Karl Pearson Correlation Coefficient)	Inference
12.37	3.19	0.36	Moderately Positive correlation at 0.05 level of significance

Table 2 shows that value of 'r' calculated by Karl Pearson Correlation Coefficient formula to find out correlation between Knowledge and Expressed Practice at 0.05 level of significance. The value of 'r' was 0.36, which was in between 0 and +1. So it was statistically significant at the 0.05 level of significance.

Table 3: Correlation of Knowledge with Attitude of the Samples [N=200]

Knowledge mean score	Attitude mean score	Formula r (Karl Pearson Correlation Coefficient)	Inference
12.37	33.235	0.23	Moderately Positive correlation at 0.05 level of significance

Table 4: Correlation of Expressed Practice and Attitude of the Samples [N=200]

Expressed Practice mean score	Attitude mean score	Formula r (Karl Pearson Correlation Coefficient)	Inference
3.19	33.235	0.066	Moderately Positive correlation at 0.05 level of significance

There was moderately positive correlation between Knowledge and Expressed Practice. There was moderately positive correlation between Knowledge and Attitude. There was moderately positive correlation between Expressed Practice and Attitude.

Table: 5: Association of No. of normal deliveries conducted with AMTSL till date with Knowledge of the Samples [N=200]

No. of normal deliveries conducted with AMTSL till date	Knowledge			Total	Calculated value of χ^2	Tabulated value of χ^2
	Poor	Average	Good			
0	15	77	01	93		
1-5	05	76	07	88		
6-10	00	13	02	15	15.85	12.59
>11	00	03	01	04		
Total	20	169	11	200		

*significant at 0.05 level, df (6), χ^2=15.85

Table 5 shows that calculated value of Chi square (15.85) was more than tabulated value of Chi square (12.59), so it was statistically significant at 0.05 level of significance.

Table 6: Association of Previous Knowledge (Source of Knowledge) related to AMTSL with Knowledge of the Samples [N=200]

Previous Knowledge (Source of Knowledge) related to AMTSL	Knowledge			Total	Calculated value of χ^2	Tabulated value of χ^2
	Poor	Average	Good			
Yes	02	73	09	84		
No	18	96	02	116	15.66	5.99
Total	20	169	11	200		

*significant at 0.05 level, df (2), χ^2=15.66

Table 6 shows that calculated value of Chi square (15.66) was more than tabulated value of Chi square (5.99), so it was statistically significant at 0.05 level of significance.
There was significant association between No. of Normal deliveries conducted with AMTSL till date and Previous knowledge related to AMTSL with Knowledge of the samples and no association was found between knowledge with Age, Gender, No. of return demonstration showed to supervisor related to AMTSL and Duration of Labour Room posting till date.

Table: 7: Association of Previous Knowledge (Source of Knowledge) related to AMTSL with Expressed Practice of the Samples [N=200]

Previous Knowledge related to AMTSL	Expressed Practice			Total	Calculated value of χ^2	Tabulated value of χ^2
	Poor	Average	Good			
Yes	23	57	04	84		
No	52	63	01	116	8.405	5.99
Total	75	120	05	200		

*significant at 0.05 level, df (2), χ^2=8.405

Table 7 shows that calculated value of Chi square (8.405) was more than tabulated value of Chi square (5.99), so it was statistically significant at 0.05 level of significance.

Table 8: Association of Duration of Posting in Labour Room till date with Expressed Practice of the Samples [N=200]

Duration of Posting in Labour Room till date	Expressed Practice			Total	Calculated value of χ^2	Tabulated value of χ^2
	Poor	Average	Good			
<1 Week	23	22	02	47		
1-2 Week	37	79	02	118		
3 Week	06	13	00	19	13.84	12.59
>3 Week	10	05	01	16		
Total	75	120	05	200		

*significant at 0.05 level, df (6), χ^2=13.84

There was significant association between Duration of Labour Room posting till date, Previous Knowledge related to AMTSL with Expressed Practice of the samples and no association was found between Expressed Practice with Age, Gender, No. of return demonstration showed to supervisor related to AMTSL and No. of Normal deliveries conducted with AMTSL till date.
There was significant association between Age with Attitude of the samples and no association was found between Attitude with Gender, No. of return demonstration showed to supervisor related to AMTSL, No. of Normal deliveries conducted with AMTSL till date, Previous knowledge related to AMTSL and Duration of Labour Room posting till date.

References
1. Arulkumaran S. The Active management of third stage of labor. A comprehensive textbook of postpartum

haemorrhage: An essential clinical reference for effective management. Sapiens 2012, 101-112.

2. Basvanthappa BT. Nursing Research, 2nd Edition; New Delhi, Jaypee Brothers; Medical Publishers (p) Ltd; c2007.

3. Basvanthappa BT. Community Health Nursing, 2nd Edition; New Delhi, Jaypee Brother Medical Publishers (p) Ltd; c2008.

4. Bhaskar Nima, Midwifery and Obstetrical Nursing, 2nd Edition; Bangalore, EMMESS Medical Publishers; c2013.

5. Dawn CS. Textbook of obstetrics, neonatology & reproductive & child health education, 16th Edition; Calcutta, Dawn Books Publications; c2004.

6. Alkema L, Chou D, Hogan D, *et al*. Global, regional and national levels and trends in maternal mortality a systematic analysis by the UN maternal mortality estimation inter agency group. Lancet. 2016;387(10017):462-474.

7. Gov. of India, Ministry of health and Family Welfare, New Delhi, Annual Report; c2015-16.

8. Gov. of India, Ministry of health and Family Welfare, New Delhi, Annual Report; c2017-18. https://mohfw.gov.in/basicpage/annual-report-department health-and-family-welfare-2017-18

9. International Confederation of Midwives, International Federation of Gynecologists and Obstetrician. Joint statement: management of the third stage of labour to prevent postpartum hemorrhage. Journal of Midwifery and Women's Health. 2004;49(1):76.

10. Mathai M, Gulmezoglu M, Casna RP. WHO recommendations for the prevention of postpartum hemorrhage; c2006. p. 18-20.

11. Asmat R, Ashraf T, Asmat S, Asmat N, Asmat F. Effectiveness of per rectal misoprostol versus intramuscular oxytocin for prevention of primary postpartum haemorrhage. Journal of the College of Physicians and Surgeons Pakistan. 2017;27:13-17.

12. Association of Women's Health, Obstetric and Neonatal Nurses. Guidelines for oxytocin administration after birth: AWHONN practice brief number 2. Journal of Obstetric, Gynecologic, & Neonatal Nursing. 2015;44(1):161-163

13. Begley CM, Gyte GML, Devane D, McGuire W, Weeks A. Active versus expectant management for women in the third stage of labour. Cochrane Database of Systematic Reviews. 2015;3:CD007412.

14. Brucker MC. Management of third stage of labour: an evidence-based approach. Journal of Midwifery Womens Health. 2001;46(387):381-392.

15. Conde-Agudelo A, Belizan JM. British medical, journal, Maternal Morbidity and mortality associated with inter-pregnancy interval, cross sectional study; c2000.

16. Government of India Ministry of Home Affairs office of the Registar General & Census Commissioner, India http://censusindia.gov.in/cart/CensusDataOnline_OnlineLogin.aspx

17. World Health Organization. Active Management of Third Stage of Labour.

18. https://www.who.int/reproductivehealth/publications/maternal_perinatal_health/new-recommendations-amtsl/en/.

19. WHO recommendations for the prevention and treatment of postpartum haemorrhage. Geneva: World Health Organization; c2012. Available at http://apps.who.int/iris/bitstream/10665/75411/1/9789241548502_eng.pdf.

20. Guidance note on prevention and management of post-partum haemorrhage. Available at http://nrhm.gov.in/nrhm-components/rmnch-a/maternalhealth/guidelines.html.

21. https://doi.org/10.24321/2455.9318.201849

22. https://www.who.int/en/news-room/fact-sheets/detail/maternal-mortality

23. https://www.nhp.gov.in/disease/gynaecology-and-obstetrics

24. https://www-orfonline-org.cdn.ampproject.org/v/s/www.orfonline.org/expert-speak