

# Effectiveness of VATP on Knowledge Regarding Water Birth among Nursing Students

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## ABSTRACT

**Background:** The research demonstrates that water birth comports and loosens mothers actually and intellectually. The buoyance lessens body weight and permits free development and situating to the mother. Buoyance and warm water upgrade uterine withdrawal and better blood flow, which builds uterine muscles' oxygenation, diminishes the mother's torment and increases maternal oxygenation of the child. Submersion of water assists with decreasing circulatory strain and additionally gives security, which hinders uneasiness or dread.

**Methods:** The current review pre-trial study with 50, 4<sup>th</sup>-year B.Sc. Nursing is chosen through basic arbitrary methods. One gathering pre-test without control bunch configuration was utilized. Information was gathered through a self-directed, organized, shut, finished information survey. Data was examined by involving distinct and inferential measurements concerning mean rate by conveyance, matched "t" test, and Chi-square test for affiliation.

**Results:** The pre-test reveals that out of 50 BSc 4<sup>th</sup>-year nursing students, the highest pre-test (62%) of BSc 4<sup>th</sup>-year nursing students had poor knowledge. Overall, the post-test knowledge score (22.6±4.19), 70.62% of the total score, was more than the pre-test knowledge score (8.76±3.95), 23.3%. The effectiveness of the assisted teaching programme, in this area, the mean knowledge score was 13.84 with SD±0.24, which was 43.25% of the total score. Hence, it indicates that the video-assisted teaching program effectively enhanced the knowledge of BSc 4<sup>th</sup>-year nursing students.

**Conclusion:** This study concluded that video-assisted teaching programmes on knowledge regarding waterbirth among B.Sc 4<sup>th</sup> year Nursing students was the scientific, logical and cost-effective strategy.

**Key-words:** Effectiveness, Fourth year B.Sc. Nursing students, Knowledge, VATP, Water birth

## INTRODUCTION

Pregnancy is the reproductive process through which a new baby is conceived incubated and born into the world.

Pregnancy is a unique, existing and often joyous time in a woman's life. As it highlights the woman's amazing creative and nurturing powers while providing bridge to the future.<sup>[1]</sup> The conceptive interaction of pregnancy is how a second kid is conceptualized, conceived, and naturally brought into the world. Implantation is the first step of pregnancy, which is a previous result treatment. The zygote goes through a number of steps to develop into another diploid life form at that time. Experimentally, it is described as "gravity." Water has long been used for work and childbirth; records of its use

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in a few early birthing techniques are still available today.<sup>[2]</sup>

Waterbirth is as of now famous in west, and the principal water birth is kept in 1803 at France [Europe]. Water birth is generally ongoing and uncommon in India. The primary water birth was known by media in 2007 in the capital city Delhi in India.<sup>[3]</sup> Waterbirth is a method of conception that entails immersion in warm water; it is safe and advantageous for both the mother and the new-born child, offering assistance and a less traumatic birth experience for the infant. Nature has provided women with everything they need to become parents, including the two wonders of underwater conception, which encourages women to take charge. The encounter certainly lasted more than six hours.<sup>[4]</sup>

It is expressed that water ought to be checked at a temperature agreeable to mother, normally between 95°F to 100°F experts nurture restricts the utilization of the pool until work designs are laid out and cervix is widened to something like 5cm. It is partitioned into two sections, first half is "hydro work" where warm water is use to decreased torment and the genuine conveyance occur in the last part called "hydro birth".<sup>[5]</sup> According to research, the most common reason for a mother to refuse a planned water birth is that the experience didn't meet her expectations. She might find the pain excruciating and the calming effects of the water were not strong enough to overcome it. When it comes to maternal suffering, it is best to consult a birthing specialist first to assess the situation. If necessary, they may advise experiencing the pool if it is clear that the mother is not adjusting. Water immersion is also associated with a decreased need for epidural pain relief, lowering the risk of adverse effects for the mother.<sup>[6]</sup> Profound Water submersion causes lightness, making her water developments exceptionally simple and entirely agreeable. She has her own confidential space, diminished torment discernment restrains pressure chemicals discharge and discharges positive endorphins, which lessens circulatory strain. Rearrangement of blood causes better uterine perfusion, makes withdrawals more proficient and prompts more limited labour.<sup>[7]</sup>

The analysis shows that giving birth in water can be mentally and emotionally relaxing for the mother. The buoyancy reduces body weight, allows unrestricted growth, and allows positioning next to the mother. Warm water and buoyancy improve uterine blood flow

and uterine withdrawal, which increases uterine muscle oxygenation, lessens mother's pain, and increases oxygenation of the kid. Drenching in water helps to reduce circulatory strain and also provides security, which stifles anxiety or panic.<sup>[8]</sup> Role of an attendant maternity specialist in water birth conveyance is exceptional. Offering individualized care, giving water birth data, a particularly dynamic job in judging and recording blood misfortune, screens pregnancy and backing previously, during and after childbirth.<sup>[9]</sup>

## MATERIALS AND METHODS

A pre-experimental design with one group pre-test and a post-test without a control group design was used to assess the effectiveness of the video-assisted teaching (VAT) programme on water birth among 4th-year B.Sc. nursing students in selected colleges at Bagalkot. A Knowledge structured questionnaire was administered and the data obtained was organized and analysed using Descriptive and Inferential statistics.

**Study design-** The research design adopted for this study was a pre-experimental-group pre-and post-test without a control group design. One experimental group of clients was selected with simple randomization and no control group was used. A pre-test was conducted among 4<sup>th</sup>-year B.Sc. nursing students using a structured questionnaire on water birth. Intervention was given through video-assisted teaching (VAT) programme on knowledge regarding water birth.

**Setting of the study-** Settings are the physical location and condition for data collection. The study was conducted at Sajjalashree Institute of Nursing Sciences, Bagalkot, India.

**Participants-** A sample consists of subject units comprising the population for the present study. This study sample size is (n=50) 4<sup>th</sup> year B.Sc. nursing students studying at Sajjalashree Institute of Nursing Sciences, Bagalkot.

**Instruments-** A structured closed ended knowledge questionnaire. Data was collected using a self-administered questionnaire with a structured, closed, completed questionnaire consisting of 32 knowledge items related to labour and a knowledge questionnaire related to water birth. These items were closed-ended,

multiple-choice questions. A seeking system was developed for the thing; each correct answer is assigned a score of one wrong answer score of zero, and the total score is 32.

**Data Collection-** The main study was conducted ten days between 27/6/2022 to 5/7/2022 at Dhanush Institute of Nursing Sciences at Bagalkot, Sajjalashree Institute of Nursing Sciences.

**Variables of the study**

**Dependent variable-** This study refers to the knowledge regarding waterbirth among 4<sup>th</sup>-year B.Sc. nursing students.

**Independent variable-** Video-assisted teaching programme on knowledge regarding waterbirth among 4<sup>th</sup> year B.Sc. nursing students.

**Statistical Analysis-** The data was analyzed using SPSS-18 statistical package. Numerical data from the sample was organized and summarized with the help of descriptive statistics like percentage mean and standard deviation association between post-test knowledge scores of 4<sup>th</sup> year B.Sc. nursing students. Studying in selected colleges at Bagalkot and Chi-square test were used to analyze the association of knowledge with socio-demographic variables.

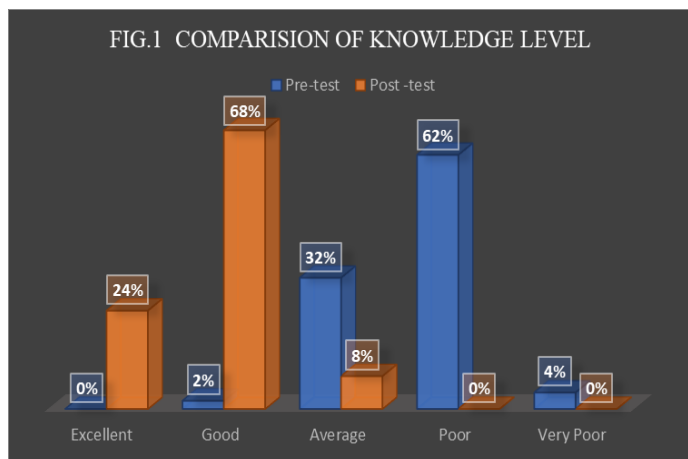
**Ethical Consideration-** An ethical clearance certificate was obtained from B.V.V.S Sajjalashree Institute of Nursing Sciences, institutional ethical committee. Written consent was obtained from each participant.

**RESULTS**

Percentage-wise distribution of B.Sc. 4<sup>th</sup> year Nursing students in pre-test reveals that out of 50 BSc 4<sup>th</sup> year nursing students, 62% had the highest present and poor knowledge, 32% had average knowledge, 4% had very poor understanding, and none had excellent knowledge. Percentage-wise distribution of B.Sc. 4<sup>th</sup> year Nursing students in pre-test reveals that out of 50 BSc 4<sup>th</sup> year nursing students, 68% had the highest present and good knowledge, 24% had excellent knowledge, 8% had average ability, and none had very poor knowledge (Table 1 & Fig. 1).

**Table 1:** Description of cases and controls according to their Socio-Demographic Characteristics

Socio-demographic	variables	Frequency percentage (%)
<b>Gender</b>		
Male	24	48
Female	26	52
<b>Age</b>		
21 years	4	8
22 years	40	80
23 years	6	12
24 years	0	0
<b>Marital status</b>		
Single	0	0
Married	6	12
Widow	0	0
Separated	0	0
Divorced	0	0
<b>Religion</b>		
Hindu	32	64
Christian	6	12
Muslim	7	14
Others	5	10
<b>Any information received regarding waterbirth</b>		
Yes	48	96
No	2	4
<b>Source of information regarding waterbirth</b>		
Family and friends	2	4
Electronic media	8	16
Printed media	2	4
Health personnel	38	76



**Fig. 1:** Percentage wise distribution of 4<sup>th</sup> year B.Sc students to level of knowledge in pre-test and post-test

**Comparison of the knowledge level of B.Sc 4<sup>th</sup> year students in pre-test and post-test-** Information-wise correlation of B.Sc. fourth year Nursing understudies in pre-test delights that the accompanying outcome. In pre-test, out of 50 B.Sc. fourth year Nursing understudies, most noteworthy rate (62%) of B.Sc. fourth year Nursing understudies had poor knowledge, 32% of B.Sc. fourth year Nursing understudies had normal knowledge, 4% of B.Sc. fourth year Nursing understudies had extremely poor, trailed by most reduced rate (2%) of B.Sc. fourth year Nursing understudies with great information. None of the B.Sc. fourth-year Nursing understudies had incredible knowledge regarding the video they helped to show the program on waterbirth. In any case, after arranging the showing program, the most noteworthy rate (68%) of B.Sc fourth year Nursing understudies had great knowledge, 23% of B.Sc fourth year Nursing under

studies had fantastic information, trailed by the most minimal rate 8% of B.Sc. fourth year Nursing understudies had normal. None of the B.Sc fourth-year Nursing understudies had poor and regrettable information about water birth (Table 2).

**Table 2:** Percentage-wise distribution of BSc 4th yr. nursing students according to the levels of knowledge of pre-test and post-test

Level of knowledge	Pre-test		Post -test	
	Number (f)	Percentage (%)	Number (f)	Percentage (%)
Excellent	0	0	15	30
Good	01	02	20	40
Average	16	32	15	30
Poor	31	62	0	0
Very poor	02	4	0	0

**Area wise mean, SD and mean percentage of the knowledge score in pre-test and post-test-** Comparison area smart mean, SD, and mean percentage of the knowledge scores of pre-tests and post-test reveals that post-test knowledge score was good (68%), excellent (24%), average (8%), poor and very poor (0%). The pre-test knowledge score was poor (62%), average (32%), very poor (4%), good (2%) and excellent (0%). By this, the post-test score was higher than the pre-test VATP was more effective (Table 3).

**Table 3:** Area-wise mean, standard deviation and mean percentage of the knowledge scores in pre-test and post-test

Knowledge area	Max. Score	Pre-test (01)		Post-test (02)		Effectiveness (02-01)	
		Mean±SD	Mean (%)	Mean±SD	Mean (%)	Mean ±SD	Mean (%)
<b>PART I:</b>							
General questions of waterbirth	09	2.7±1.52	30	6.5±0.93	72.22	3.8±0.59	42.2
<b>PART II:</b>							
Knowledge regarding questions of water birth	15	3.82±1.43	25.46	10.6±1.83	70.66	6.78±0.4	45.2
Advantages of water birth	08	2.24±1.00	28	5.5±1.43	68.75	3.26±0.43	40.7
Total	32	8.76±3.95	27.3	22.6±4.19	70.62	13.84±0.24	43.25

**Significant difference between the pre-test knowledge and post-test knowledge score of 4<sup>th</sup> year B.sc nursing students**– As the calculated ‘t’ value (9.60) was much

higher than the table value (1.96) for the degree of freedom 49 and 0.05 % level of percentage (Table 4).

**Table 4:** Significant difference between the pre-test and post-test knowledge scores of BSc 4<sup>th</sup> yr. Nursing students studying at Sajjalashree Institute of Nursing Sciences

Test	Mean	Mean Diff	SD Diff	Paired t-value	Table value
Pre-test	8.76				
Post-test	22.6	13.84	4.48	9.60	1.96

**Association between post-test knowledge score of B.Sc. 4<sup>th</sup> year students selected colleges at Bagalkot**- Chi-square value is lesser than table value for socio-demographic variables, gender ( $\chi^2=0.04$ ,  $p=0.05$ ) age ( $\chi^2=0.09$ ,  $p=0.05$ ) marital status ( $\chi^2=0.2$ ,  $p=0.05$ ) religion ( $\chi^2=0.04$ ,  $p=0.05$ ) any information received regarding waterbirth ( $\chi^2=0.02$ ,  $p=0.05$ ) Source of information regarding waterbirth ( $\chi^2=0.02$ ,  $p=0.05$ ) (Table 5).

**Table 5:** Association between post-test knowledge scores and selected socio-demographic variables

Socio-demographic variables	Chi-square-value
Gender	0.04
Age	0.09
Marital status	0.2
Religion	0.04
Any information received regarding water birth	0.04
Source of information regarding water birth	0.9

p-value= 0.05; NS= Not significant; Table value=1.96; Df=1

## DISCUSSION

In discussion, we are examined the significant discoveries of the review and audits comparable to findings from the consequences of different investigations. Water does not enter the birth trench and travel up during work and there is no expanded frequency of contaminations of the birth channel or uterus given waterbirth. The current review assessed the adequacy of the Video Helped Showing Project on information regarding Waterbirth among BSc fourth-year Nursing understudies to accomplish the plans for the study. The applied structure utilized was Ludwig von Bertalanffy's overall framework.

The current review was finished in the Sajjalashree Organization of Nursing Sciences school at Bagalkot. An all-out number of 50 BSc fourth year Nursing were randomly selected.

A cross-sectional review was directed to recognize the pervasiveness of water births in a maternity emergency clinic of St Nick Catarina, Brazil. The sample size was about 973. survey's technique gathered information. Results showed that the pervasiveness of waterbirths was 13.7% who had water birth. Most were mature between 20 and 34 years of age (122), had a friend (122), and had a professional education (136). The result described no relationship between socio-demographic qualities and obstetric results in the bivariate and multivariate examinations and the changed model. Just ladies with private hotspots for installment had the chance to conceive offspring in water.<sup>[10]</sup>

A cross-sectional review evaluated the mindfulness about water birth among clinical understudies in Saudi Arabia. Test size was around 235 and information was gathered by the pre-planned self-controlled survey. Many of them (72.2%) detailed that mindfulness about water birth ought to be given to pregnant ladies during the antenatal period, and 55.1% idea that the water birth strategy ought to be polished in Saudi Arabia. Implantation courses and studios in clinical schools about water birth should be coordinated in Saudi Arabia.<sup>[11]</sup>

The Descriptive study was conducted to assess the level of knowledge regarding Water Birth. 60 GNM students are studying at KLEU's Institute of Nursing Sciences, Belagavi. They used multiple-choice questionnaire method to collect date. The resulting study showed that 66.67% of students had moderate knowledge, 24.3% had inadequate knowledge. The study concluded that level of knowledge was assessed among 3rd year GNM students of KLEU'S Institute of Nursing Sciences Belagavi.<sup>[12]</sup>



A Study to Assess the Knowledge among Staff Nurses about Water Birth at NRI General Hospital, Chinakakani, Guntur District, Andhra Pradesh. The sample size was about 100 and data were collected by structured knowledge questionnaire. Results showed adequate knowledge with mean and standard deviation ( $x=15.3$ ) at 0.05 significance level. The study concluded that Most staff nurses needed more knowledge about water birth. A significant association is found between the nursing staff's knowledge of water birth and their religion.<sup>[13]</sup>

A study on the effectiveness of structured teaching programme on the knowledge of water birth at Jalandhar. The sample size was about 60 staff nurses, and data were collected by self-structured questionnaire. Results showed that after one week of a structured teaching programme, post-test was taken. In the pre-test, the majority of staff nurses, 58 (97%), had poor knowledge. However, in the post-test, it was observed that most of staff nurses, 35(58.33%), had a good understanding, and 25(41.66%) had average knowledge. The study concluded that staff nurses needed more knowledge regarding water birth before administering a structured teaching program.<sup>[14]</sup>

A study to assess the effectiveness of planned teaching program on knowledge regarding water birth among 3rd year GNM student nurses of the selected colleges at Nagpur city. Sample size was about 60 and data were collected by structured questionnaire. The result showed that the highest percentage of respondents, 35 (58.33%), had very good knowledge. There is no association between the knowledge score and the demographic variables. The study showed a deficit of knowledge regarding water birth in pre-test. The post-test knowledge was increased, which reveals that the planned teaching programme was effective in knowledge regarding water birth.<sup>[15]</sup>

Overall, the post-test knowledge score ( $8.76\pm 3.95$ ), 27.3% of the total score, was more than the pre-test knowledge score ( $8.76\pm 3.95$ ), 23.3%. The effectiveness of video-assisted teaching program in this area's mean knowledge score was  $13.84$  with  $SD \pm 0.24$ , 43.25% of the total score. Hence, it indicates that the assisted teaching programme effectively enhanced the knowledge of BSc 4th year nursing students.

A prospective observational study described the maternal characteristics, intrapartum events, interventions, and maternal and neonatal outcomes of

women who used water immersion during labor and birth in New Zealand District Health Board. The sample size was about 1517. Data were collected by a paper-based data collection tool method. The study results showed that 584(38.5%) had a waterbirth, 56% of women used a birth pool and 44.3% used a bath. The study concluded that water immersion for labor and birth is a positive intervention that benefits women with uncomplicated pregnancies.<sup>[16]</sup>

A prospective cohort study to assess the immersion in water for pain relief and the risk of intrapartum transfer among low-risk nulliparous women: secondary analysis of the Birthplace England. The sample size was about 16,577. We revealed that immersion in water for births planned in FMUs, water immersion was associated with a lower risk of intrapartum cesarean section (RR 0.61; 95% CI 0.44–0.84) and a higher chance of a straightforward vaginal birth (RR 1.09; 95% CI 1.04-1.15). The study concluded that water immersion for pain relief was associated with significantly reducing transfer risk before birth for nulliparous women. Overall, water immersion was associated with fewer interventions during labour.<sup>[17]</sup>

Comparison of area-wise mean and SD of the knowledge score in knowledge questionnaires on waterbirth “shows that. “Advantages of water birth”. The post-test standard of knowledge score in this area was 5.5 with  $SD\pm 1.43$ , 68.75% of the total score. Whereas pre-test mean knowledge score was 2.24 with  $SD\pm 1.00$ , 28% of the total score. The effectiveness of the video-assisted teaching programme in the area was a mean knowledge score of 3.26 with  $SD\pm 0.43$ , which was 40.7% of the total score.

A quasi-experimental study was conducted to determine whether the water delivery procedure is best in reducing pain and can be widely used by raising knowledge and awareness regarding the process in Lata Mange Shaker Hospital, Dighod Hills, Nagpur. The sample size was about 60. Data were collected by questionnaire method. The pre-test study results showed 40(66.67%) and post-test excellent knowledge with scores ranging between 25-30, while 13(21.66%) had good understanding with their score running between 13-18. This study concluded that there needed to be more knowledge regarding waterbirth in the pre-test. The post-knowledge was increased, which reveals that the planned teaching program was effective in knowledge regarding waterbirth.<sup>[18]</sup>

A study to assess the Experience of water birth delivery in Iran. The sample size was about 53. All the participants in the experimental group gave birth naturally, whereas only <79.2 of the controls had normal vaginal delivery. Results revealed the advantage of water birth delivery. Those who gave water birth experienced less pain and completed the delivery sooner. Meanwhile, normal vaginal delivery was accomplished more frequently in this group. These all lead to a decreased necessity for medical interventions and an increased socioeconomic advantage for society.<sup>[19]</sup>

### CONCLUSIONS

The research helps determine the practicality of a video-assisted teaching curriculum for B.Sc. fourth-year nursing students that covers knowledge about water birth. The staff medical caretakers' mean information score increased by 45.2% following the educational program, according to a correlation between the mean levels of the information scores on the pre- and post-tests. The post-test standard of information score in this area was 10.6 with SD1.83, or 70.66% of the total score, according to a correlation between the region-wise mean and SD of the information score in the topic polls on water birth. The pre-test mean information score, which comprised 25.46% of the overall score, was 3.82, with an SD of 1.43.

### CONTRIBUTION OF AUTHORS

**Research concept** – Arati Honawad

**Research design**- Arati Honawad, Akshata B

**Supervision**- Arati Honawad, Dr. Deelip S Nateker

**Data collection**- Arati Honawad, Shrishail

**Data analysis and interpretation**- Arati Honawad

**Literature search**- Arati Honawad, Yamunappa

**Writing article**- Arati Honawad

**Critical review**- Arati Honawad, Dr. Deelip S Nateker

**Article editing**- Arati Honawad, Dr. Deelip S Nateker

**Final approval**- Arati Honawad, Dr. Deelip S Nateker

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