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Assess the effectiveness of video-assisted teaching on knowledge regarding prevention of low-birth-weight babies among anaemic antenatal mothers

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Abstract
LBW is a low birth weight baby where the baby's weight is less than 2.5 kg a study was conducted to determine the effectiveness of Video Assisted Teaching on knowledge regarding prevention of low birth weight babies among anemic antenatal mothers at selected hospitals of metropolitan cities. The objectives were to determine the effectiveness of the video-assisted teaching programme on the knowledge regarding prevention of low birth weight babies among anemic antenatal mothers to associate the demographic variables with level of knowledge regarding prevention of low birth weight babies among anemic antenatal mothers.

Methods: A quantitative approach of the pre-experimental research design with one group pre and post-test design was chosen for this study. A total of 60 samples were recruited by using a non-probability convenient sampling technique. The collected data were coded and recorded and the data analysis was done by using descriptive and inferential statistics.

Conclusion: The video-assisted teaching was an effective tool to raise the knowledge of Anemic Antenatal mothers regarding the prevention of among low birth weight babies. The study recommends the need for an awareness-raising program regarding care in the Antenatal period will increase the health and help all mothers to have regular diet visits and health checkups so that their babies will be normal in weight i.e. 2.5 kg weight will increase. The result revealed that there was a statistically significant difference between pre and post-test knowledge regarding the prevention of low birth weight babies among Anemic Antenatal mothers at level $p<0.001$. This study implied that creating awareness on Prevention of low birth weight babies among anemic antenatal mothers.

Results: It was found that the study participants in pretest 46(76.6%) was poor knowledge, 14(23.3%) was good knowledge and in post-test 60(100%) had excellent knowledge.

Keywords: Low birth weight, video-assisted teaching, effectiveness, knowledge, Anemia

Introduction
Birth weight is an important indicator of the health condition of a newborn and is a prime factor that as certain the baby's survival, physical and mental growth and it is also an indicator of the mother's health status. World health organization has defined a low birth weight as a birth weight of a newborn baby less than 2500gm irrespective of the gestational age. Low birth weight is one of the most serious challenges in maternal and child health in both developed and developing countries. It is an essential determinant of mortality, morbidity and disability in impact on health outcomes in adult life. The birth weight of an infant is the most important determinant of its chances of survival, healthy growth, and development and is dependent on many maternal factors. According to (WHO) 2002. The low Birth Weight of a newborn can be categorized into three types:

- Low birth weight (LBW): A LBW newborn weighs less than 2.5 Kgs.
- Very low birth weight (VLBW): A VLBW newborn weighs less than 1.5 Kgs.
- Anaemia refers to a state in which the level of haemoglobin in the blood or red blood cells (RBCs), is below the normal range are of appropriate for their age and sex which results in the decreased oxygen-carrying capacity of the blood. The lower the birth weight, the lower the survival chance of the newborn. There were 1.8 million infant deaths in the world in 2003.

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- Low birth weight babies can be managed at the time of the Antenatal period. Many mothers go on to enjoy near-normal life if their babies were properly managed. Early intervention is important, especially for the management of feeding, handling, cleanliness, and prevention of infection. The mother's knowledge about the care of the baby reflects the health and nutritional status of the baby.

Need of the study

United Nations of children's fund, at 28%, India had the third highest percentage of LBW newborns, behind only Mauritania (35%), Pakistan and Yemen (32% each). Bangladesh (22%) Sri Lanka (17%) Butan is the country where there is less percent of lbw rates (10%). south Asia had the highest incidence of LBW, with 28% of newborns weighing less than 2.5 kg. This region also had the highest percentage of infants (66%) not weighed at birth. Sub-Saharan Africa's incidence of LBW among new-borns is estimated to be 13%; and 5of 4% of new-borns are not weighed at birth Globally, among whom over 40 million are pregnant women, where iron deficiency is thought to be the most common cause of anaemia and its account for 75% - 95% of cases WHO, about 50% of pregnant women in low- and middle-income countries On average, 7.7% of infants weigh less than 2500 gr. Infants with birth weight less than 2500 gr are known as LBW infants, regardless of gestational age. 10% of infants born in the United States are LBW infants. Several maternal factors such as age, anaemia, etc. may affect the LBW of infants. Therefore, anaemia during pregnancy can be considered one of the major causes of infant LBW. IN INDIA more than 40% of the global burden of low-birth-weight babies with 7.5 million babies being born with a birth weight of less than 2500 grams. Of these 7.5 million babies, 60% are born at term after fetal growth restriction, while the remaining 40% are born preterm constituting a quarter of the global burden of preterm births. The Newborn Mortality Rate in India is 24/1000 live births which translates into approximately 9.6 lakhs under-5 child deaths, annually. Newborn deaths contribute to 61% of the Under-5 deaths country. Preterm birth is the most common direct cause of neonatal mortality.

Aim of the study

The aim of the study was to increase knowledge regarding the prevention of low-birth babies among anemic antenatal mothers and to assess the effectiveness of video-assisted teaching on it.

Research Methodology

To assess the pre-test knowledge regarding the prevention of LBW babies among anaemic antenatal mothers before video-assisted teaching. To assess the post-test knowledge regarding the prevention of LBW babies among anaemic Antenatal mothers after video-assisted teaching

To compare the difference between pre-test and post-test knowledge regarding the prevention of LBW babies among anaemic antenatal mothers. To find out the association between pre-test knowledge regarding the prevention of LBW babies among anaemic antenatal mothers with selected demographic variables.

The research approach adopted for this study was a Quantitative research approach, and the design used was a pre-experimental one-group pre-test and post-test design. The Population of the study consisted of a sample size i.e. samples are 60 Anaemic Antenatal mothers admitted in selected hospitals in metropolitan city. Non-probability convenient sampling was used to select samples that fulfilled the required criteria. Based on the topic tool was prepared regarding the prevention of low birth weight babies' reliability done for the study. The tool consisted of 30 semi-structured questionnaires to assess the knowledge of mothers the pilot study was done on 6 samples that fulfilled the inclusion criteria.

Result

Part-I: Distribution of knowledge regarding prevention of low birth weight babies among Anaemic Antenatal mothers after video-assisted teaching

Distribution of demographic variables among Anaemic Antenatal Mothers regarding Prevention low birth weight babies. Distribution of samples according to age, Categorizing the study participants age wise unveiled that less than 18 years 17(28.3%), 19-25 years 37(61.7%), 26-30 years 6(10.0) respectively. Distribution of samples according to gestational age in weeks are < 12 weeks 15(25.0), 12- 24 weeks 45(75), and 24- 40 weeks of a mother. The distribution of samples according to Gravida of a mother is calculated as G119 (31.7), G2 35(58.3), and G3 6 (10.0) respectively.

Distribution of samples according to the educational status of the Mother study participants revealed that 27(45.0) are illiterate, 16(26.7) in primary school, and 17(28.3) in secondary school.

Distribution of samples according to the occupation of mother revealed that 30(50) are from service, 3(5.0) from business 25(41.7) from housewife, and 2(3.3) from Daily wages labour.

Distribution of samples according to family type 39(65.0) lives in a Nuclear family 21(35.0) live in a joint family.

The distribution of samples according to the distribution of monthly income of family reveals that below 10000-12(20%), 10.000-2000038 (63.3%) 20.000-30.000 10(16.7%).

Distribution of samples according to the dietary pattern of study participants disclosed that 5(5%) had vegetarian, and 57 (95%) had non-vegetarian.

Distribution of samples according to distribution frequency and percentage source of information is as Health personnel 11(18.3%) From family member 49(81.7%).

Distribution of samples according to the distribution of past history of worm infestation of mother no 60(100%).
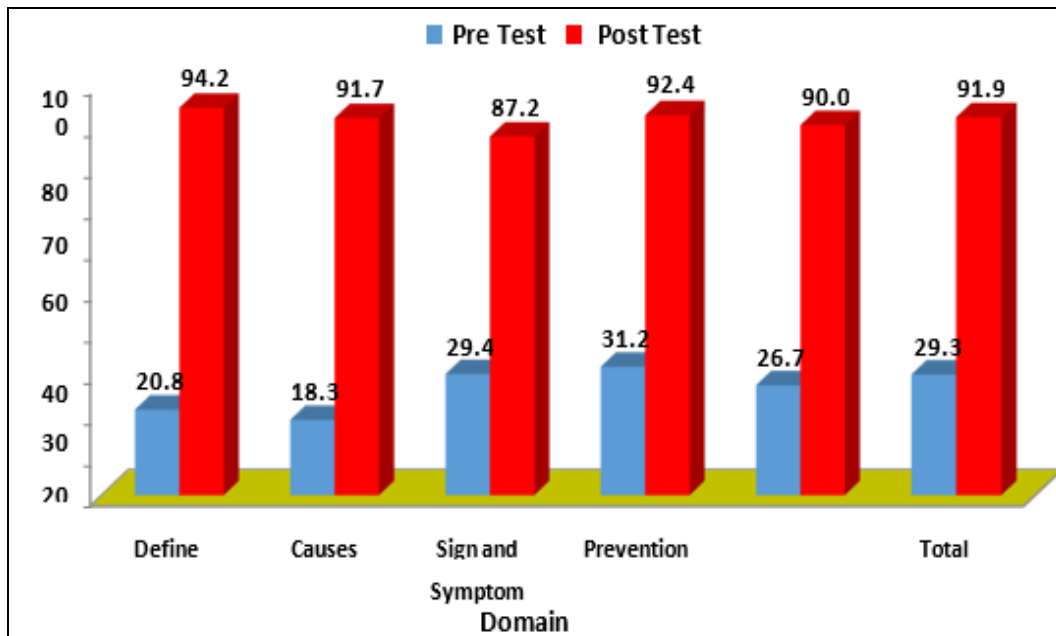
Fig 1: Domain-wise knowledge regarding prevention of low-birth-weight babies among anaemic antenatal mothers

Part II: Domain-wise distribution of knowledge regarding prevention of low birth weight babies among Anaemic Antenatal mothers after video-assisted teaching
According to Domain wise from Q1 and Q2 (define) had a score of 25(20.8%) in the pre-test and 113(94.2%) in the post-test out of a score of 120. Q3 and Q4 (causes) had score 22(18.3%) in pre-test and 110(91.7%) in post-test out of score 120. Q5 and Q7 (sign and symptoms) had score 53(29.4%) in pre-test and 157(87.2%) in post-test out of score 180. Q8 and Q29 (prevention) had score 412(31.2%)

in pre-test and 1220(90%) in post-test out of score 1320. Q30 (Complications) had score 16(26.7) in pre-test and 54(90.0%) in post-test out of score 60. Out of the Total score, the 1800 pre-test score is 528(29.3%) and the post-test score is 1654(91.9).

Part III: Knowledge regarding prevention of low birth weight babies among anaemic antenatal mothers compare pre-test vs post-test

Table 1: Show test overall, max score, mean, STDEV median, Wilcoxon sign rank test and sig. at 5% Level

Test Overall	N	Max Score	Mean	STDEV	Median	Wilcoxon Sign rank test	p-value	Sig. at 5% Level
Pre Test	60	30	8.8000	2.4203	8.00	6.751**	0.000	Yes
Post Test	60	30	27.5667	1.6710	27.00			
Domain wise								
Define (Q1-Q2)								
Pre Test	60	2	0.4167	0.6455	0.00	6.569**	0.000	Yes
Post Test	60	2	1.8833	0.3237	2.00			
Causes (Q3-Q4)								
Pre Test	60	2	0.3667	0.4860	0.00	6.836**	0.000	Yes
Post Test	60	2	1.8333	0.4185	2.00			
Sign and Symptom (Q5-Q7)								
Pre Test	60	3	0.8333	0.8045	1.00	6.339**	0.000	Yes
Post Test	60	3	2.6167	0.6662	3.00			
Prevention (Q8-Q29)								
Pre Test	60	22	6.8667	2.0292	7.00	6.764**	0.000	Yes
Post Test	60	22	20.3333	1.5477	20.50			
Complications (Q30)								
Pre Test	60	1	0.2667	0.4459	0.00	5.729**	0.000	Yes
Post Test	60	1	0.9000	0.3025	1.00			

Evaluation of the video-assisted teaching by comparing pre-test and post-test knowledge scores of samples analyzed in terms of Wilcoxon Signed Test using SPSS Statistically Significant at 5% level i.e. $p<0.05$.

Wilcoxon Signed Rank Test Formula
The above table unveils that there was a statistical difference at level $p<0.001$ between pre and post-test levels of knowledge regarding the prevention of low birth weight babies among Anaemic Antenatal mothers.

$$z_{Wilcoxon_{signed-rank}} = \frac{w_s - \dfrac{n(n+1)}{4}}{\sqrt{\dfrac{n(n+1)(2n+1)}{24}}}$$

Table 2: Level of knowledge regarding prevention of low-birth-weight babies among anaemic antenatal mothers

Test	Level of Knowledge				Square test	p-value	Sig. at 5% level
	Poor (0-10)	Good (11-20)	Excellent (21-30)	Total			
Pre-Test (%)	46(76.7)	14(23.3)	0(0.0)	60(100.0)	120.000**	0.000	Yes
Post-Test (%)	0(0.0)	0(0.0)	60(100.0)	60(100.0)			
Total	60	14	60	120			

The level of Knowledge regarding the prevention of low-birth-weight babies among anaemic antenatal mothers has increased after video-assisted teaching.

Part IV: Association of Level of Knowledge regarding prevention of low-birth-weight babies among anaemic antenatal mothers with demographic variables in pre-test study

There was no association between pre-test knowledge regarding low birth weight among study participants with selected demographic variables.

Discussion
The aim of the study was to assess the effectiveness of video-assisted teaching on level of knowledge on prevention of low birth weight babies among anemic antenatal mothers. The study was conducted by using a pre-experimental one-group pre-test post-test design. The total sample size was 60 and it was a good experience while conducting a study. Anaemic antenatal mothers gained knowledge after a video-assisted teaching which was finding out by a post-test. Due to the timely suggestions and expert opinion of the guide, the researcher was able to move in the right direction of this study. The researcher had excellent cooperation from the authorities and samples during data collection and also gain valuable guidance throughout the venture. The group were also cooperative during the whole study. The knowledge of the group has been improved after the distribution of video-assisted teaching in the posttest this suggested that video-assisted teaching is an effective tool to deliver the knowledge regarding prevention of low birth weight babies low birth weight is the essential factor of newborns that a mother can prevent it with all prevention diet exercise proper health checkup visits during her antenatal visits and if the mother is suffering from any complications majorly is anaemia that can be treated priory in her ANC period itself. Otherwise, it can give rise to further complications in babies such as low birth weight babies. 2.5 Kg A study was conducted to determine the effectiveness of Video Assisted Teaching on knowledge regarding the prevention of low birth weight babies among anemic antenatal mothers and further The study recommends the need for an awareness-raising program regarding care in the Antenatal period will increase the health and help all mothers to have regular diet visit and health checkup so that their babies will be normal in weight i.e. 2.5 Kg.

Conclusion
The study findings proved that the video-assisted teaching programme administered by the investigator was effective to increase the knowledge of Anemic Antenatal Mothers about the prevention of low birth weight babies. The research study has been a learning experience for the researcher. The researcher had first-hand experience going through all the phases of the research process The study findings proved that the video-assisted teaching programme administered by the investigator was effective to increase the knowledge of Anemic Antenatal Mothers about the prevention of low birth weight babies The result revealed that there was a statistically significant difference between pre and post-test knowledge regarding prevention of low birth weight babies among Anemic Antenatal mothers at level $p<0.001$. The objectives were to determine the effectiveness of the Video Assisted Teaching Programme on knowledge regarding the prevention of low birth weight babies among anaemic antenatal mothers to associate the demographic variables with level of knowledge regarding the prevention of low birth weight babies among anaemic antenatal mothers. The group gained knowledge regarding the prevention of low birth weight babies and will implement it with the full extent in there Antenatal period video assisted teaching was a more effective method of expanding knowledge among anemic antenatal mothers.

Conflicts of Interest
There are no conflicts of interest.

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