

Maharashtra University of Health Sciences, Nashik
Inspection Committee Report for Academic Year 20---20---
Webinar/Workshop/CME/Activities/Performed in Last One Year.
All report must be available on website

Name of the College/Institute:-... DR.J.J.MAGDUM INSTITUTE OF NURSING EDUCATION ,JAYSINGPUR
Faculty- NURSING

No.of Webinars Arranged, Guest Lectures & CME /Workshops (Publish details on College website)

SrNo	Details of Webinar/Workshop/CME/Activities/Perform Supportive document to be uploaded on website
01	Participated In The International Conference On "Emerging Competence In Midwifery And Neonatal Practices : The Nursing Perspective" Held On 11 th January 2023 To 12 th January 2023, Sangli. (Mr. Rajak G. Nadaf.) (Mr. Riyaj I.Mujawar.)
02	1.Society Of Midwives India 15 th National Conference 14 th February 2021. 2.National Workshop On Nursing Theories & Practice:Bridging The Gap.2022. (Ms. Trupti S. Jadhav.)
03	"Patient Safety" A Step Towards Quality Care On 28 th March 2022. (Mrs. Monica Umraniyya.)
04	Diabetes And Nursing Care 2023 Organized By Bharati Vidhyapeeth, Sangli 12 th To 13 th December 2023 (Mr. Rajak G. Nadaf.) (Mr. Riyaj I.Mujawar.)
05	Diabetes And Nursing Care 2023 Organized By Bharti Vidhyapeeth, Sangli 12 th To 13 th December 2023 (Mr. Sanket S. Kamble.)
06	Drug errors in Pediatrics organized by B.L.D.E. Nursing College, Vijayapur. On 6 th April 2023. (Mr. Riyaj I.Mujawar.)
07	Workshop on simulation for nurses in acute pediatrics organized by Bharati Vidhyapeeth (Deemed to be University) Pune medical college and hospital, Pune. On 31 st August 2024. (Mr. Riyaj I.Mujawar.)
08	National conference on mental health and psychological aspects of disaster preparedness and Management.13 th and 14 th nov 2019 Participated In The International Conference On "Emerging Competence In Midwifery And Neonatal Practices : The Nursing Perspective" Held On 11 th January 2023 To 12 th January 2023, Sangli. National webinar on The scope of neonatal nursing in India :A futuristic view on 27 th Nov 2025 (Ms. Jyotsna J. Kamble)

Hereby I declare all relevant document uploaded are clear and visible on website &are true as per my knowledge & Belief

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'A' Grade University Status

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Celebrating
50
and Beyond
BHARATI VIDYAPEETH
FOUNDER YEAR: 1972-73-74

COLLEGE OF NURSING, SANGLI.

Certificate of Participation

This is to certify that,

Mr./Ms./Mrs./Dr. **RAZAK GULAB NADAF.** participated as

~~Delegate/ Resource Person/ Paper presenter/ Poster presenter~~ in the **National Conference**
on "Diabetes and Nursing Care 2023" Organized by Bharati Vidyapeeth (Deemed to be University),
College of Nursing, Sangli, held from 12th to 13th December 2023.

Dr. Pravin B. Dani
Organizing Secretary
BV(DU), CON, Sangli

Dr. (Mrs.) Nilima Rajan Bhare
Organizing Chairperson
BV(DU), CON, Sangli.

Dr. H. M. Kadam
Regional Director,
Bharati Vidyapeeth, Sangli

INTERNATIONAL JOURNAL OF SCIENCE & RESEARCH



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This is to Certify that the paper ID: SR23807222713 entitled

Enhancing Knowledge of Refractive Errors: Effectiveness of a Structured Teaching Program among School Teachers

Authored

By

Nilam B. Nikalaje

has been published in Volume 12 Issue 8, August 2023

in

International Journal of Science and Research (IJSR)

This paper has passed the Double Blind Review and satisfies the required standards.

R. M. Deshpande
IJSR
ISSN (Online): 2319-7064

Editor in Chief, International Journal of Science and Research, India



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Editor in Chief, International Journal of Science and Research, India



SOCIETY OF MIDWIVES INDIA



15th National Conference organized by the Kerala Chapter

Certificate

This is to certify that

Trupti Sanjay jadhav

has participated

in the 15th National Conference of the Society of Midwives India (SOMI)
held from 12th to 14th February, 2021 on the Virtual Platform.

Ms. Mitali Adhikari
President

Ms. Rohini Nagare
General Secretary

Dr. Latha R
Conference Chairperson

Dr. Sindhu Devi. M
Conference Secretary



CPAS

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CHUTTIPPARA , PATHANAMTHITTA.

CERTIFICATE OF RECOGNITION

This is to certify that

MONICA UMARANIYA

has participated as a delegate at the International Virtual Webinar on
“ **SIMULATION - TRANSFORMING EDUCATION AND TRAINING** ”
held on **21st Dec 2020** through Microsoft Teams Platform.



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Effect Of Topical Application Of Chlorhexidine On Umbilical Cord Of Newborn Babies Of Mothers Admitted In Postnatal Wards.

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Abstract:

A study to assess the effect of topical application of chlorhexidine on umbilical cord of newborn babies of mothers admitted in postnatal wards from selected hospitals of Sangli, Miraj Kupwad corporation area. The study objectives to assess the difference between pre test and post test scores of umbilical cord stump in control group and to assess the difference between pre test and post test scores of umbilical cord stump in experimental group, to compare the difference between pretest and post test scores of umbilical cord stump between control and experimental group. Hypothesis for the study are H₀- There is no effect of chlorhexidine application on umbilical cord stump, H₁- There is effect of chlorhexidine application on umbilical cord stump. Quantitative research approach with two group pre test post test was used for this study. The conceptual framework used in this study was general system theory by Ludwig Von Bertalanffy. 30 samples were selected for the study by non-probability purposive sampling technique (15 experimental group and 15 control group). Experimental group had application of chlorhexidine for 7 days. Whereas in control group the cord was kept dry and routine care was given. Data was collected using demographic data and observation checklist. The data was analysed using descriptive and inferential statistics. The study result was, in experimental group after application of chlorhexidine to the umbilical cord it was seen that in post observation the cord had mild redness in control group and in experimental group there was no redness as the p value is 0.03, and for the characteristic of discharge from umbilical cord in control group there was watery discharge and in experimental group there is no discharge observed and the p value is 0.013. and there was no swelling in control group as well as in experimental group there was no swelling, (p value is 0.03 therefore p < 0.05) the colour of cord in control group was brown which shows that it is in the process of dryness where and in experimental group the colour of cord was black which shows that it is completely dry. Hence it was revealed that there was significant difference between control and experimental group. The application of chlorhexidine on umbilical cord stump shows early healing and drying as compared to control group. The study concluded as it was

observed that after application of chlorhexidine on umbilical cord stump there was early healing and drying of umbilical cord as compared to control group

Keywords: Assess, Effect, Topical application

Introduction:

The umbilical cord is made up of blood vessels and connective tissue that connects the infant to the placenta in the uterus. A membrane that is usually bathed in amniotic fluid covers it. The umbilical cord provides nutrients and oxygen to the baby during pregnancy, but it is no longer required after that, so it is clamped and snipped. The wound heals as the cord stump dries and falls off. During pregnancy, the placenta contains all material for foetal development and removes waste products¹.

After the delivery the umbilical cord serves no purpose. The necrotic tissue of the umbilical cord is a potential site for infection immediately after birth. Bacterial colonization from cord stump infection is the factor that increases morbidity and mortality of infants in developing countries.

As per world health organisation, infection causes neonatal deaths all over the world ,over75% of these some tend to occur in as soon as the baby is born or in the initial week , with the umbilical cord acting as the entry point. The umbilical cord is a popular place for bacteria to colonise. Cord stump infection, which may significantly increase morbidity and mortality, is a potential result of bacterial colonisation. The skin and umbilical cord of the newborn begin to colonise with bacteria such as saprophytic bacteria supplied through the mother by skin touch. The colonization of umbilical cord is through the micro-organisms from birth attendant's vagina, skin, and hands. Septicaemia, which can result in neonatal morbidity and mortality, can be caused by bacteria tracking along the umbilical vessels. The onset of omphalitis begins on the third and fourth day of life².

These organisations often suggest that soap, water, and drying materials are required for umbilical cord care, the application of antiseptic solutions can lead to slow separation of umbilical cord to and has few benefits. In some countries with low mortality, the child may get few infections in the first week of life, maternal wellbeing, and time taken for the cord to split should all be considered significant outcomes³.

Neonatal sepsis is the third leading cause of death in babies in their first month of life. bacteria may enter the body via the freshly cut umbilical cord, causing neonatal sepsis and may lead to death. Optimal umbilical cord care practises for newborn babies and their first few days of life, particularly in areas with poor hygiene, have the ability to prevent these unnecessary newborn

deaths. Neonatal sepsis is the third leading cause of death in babies in their first month of life, accounting for more than 15% of all neonatal deaths worldwide.⁴

Few studies from developed countries have found that applying a topical antimicrobial to the cord stump reduces harmful bacteria colonisation in hospital nurseries when compared to no treatments. The impact of topical antimicrobials on infection control is less certain.⁶

Chlorhexidine is the most studied antiseptic in newborn infants among the other antiseptics available. Following the application of chlorhexidine, several studies have shown a substantial reduction in the rates of bacterial colonisation of the umbilical cord.⁷

The umbilical cord is a one-of-a-kind tissue that consists of two arteries and one vein that are covered by Wharton's jelly, a mucoid connective tissue, and a thin mucous membrane. The foetus receives nutrients and oxygen from the blood flowing through the cord, while carbon dioxide and metabolic wastes are carried away. The umbilical vessels become constricted but not obliterated when the cord stops pulsing. Therefore the cord should be clamped tightly so that it prevents bleeding and keeps the umbilical vessels occluded, and it must be trimmed with a sterile instrument to avoid infection. After cutting the cord, the stump quickly dries out, turning black and stiff⁸.

Similarly, the cord stump's devitalized tissue can be a site for bacterial growth, sometimes various substances can be applied when the cord is kept moist and unclean. For a few days after birth, the umbilical vessels are still patent, allowing direct access to the bloodstream in the newborn baby, the umbilical stump is a common entry point for infection. It is therefore essential to keep the baby clean and dry in order to avoid infection⁹.

After birth, the umbilical cord is crucial. It's a crucial location for bacterial colonisation. According to the World Health Organization, 3,000,000 children die each year from tetanus, and another 4,60,000 die from serious bacterial infections, of which umbilical cord infections are a common precursor. In developed nations, where procedures are untrained and unclean, there is a continuous need for affordability. Neonatal sepsis is a risk factor for umbilical cord colonisation. The umbilical cord is the first site for umbilical colonisation that, is 48-72 hours after birth. The umbilical cord sepsis can cause bacterial infection and may

Routine cord care includes washing the stump with alcohol on a daily basis and applying a dusting powder or an antimicrobial solution. Zinc oxide, talc, starch, or alum, among other ingredients, are currently used in powders in varying proportions. Hexachlorophane or chlorhexidine are also found in certain powders. The most prevalent antimicrobial compounds are triple dye, iodine tincture,

iodophors, antibiotic ointments, silver sulphadiazine, and chlorhexidine. In some cases, the umbilical cord stump is only handled once during birth, in others it is treated everyday where as in some whenever the diaper is changed, this is followed until there is healing of umbilical cord¹³.

Several researchers suggest that using chlorhexidine decreased the risk of sepsis and umbilical cord infections by 77 % when compared to dry cord care. This result is supported with other studies that have found that using chlorhexidine on the umbilical cord inhibits cord infection and sepsis¹⁴.

It is recommended that using chlorhexidine for newborn umbilical cord in developed countries would prevent infection, based on evidence of low to moderate quality. The world health organization also recommended that 4% of chlorhexidine is useful for daily cord care. Accordingly it can be proposed that chlorhexidine cord application should be integral part of essential newborn cord care¹⁵.

Materials and Methods:

A quantitative research approach was adopted for the present study with quasi experimental two group pre testpost test design. The independent variables was chlorhexidine and dependent variable was status of umbilical cord. Where as research variables are birth weight, age, parity, term and day of cord separation.

The present study setting was selected as per needs and criteria. The settings were the maternity hospitals from Sangli, Miraj and Kupwad corporation area. Population consisted of newborn babies who were delivered through LSCS. The samples were newborn babies from maternity units of selected hospitals from Sangli, Miraj and Kupwad corporation area.

Inclusion criteria was newborn who stays for minimal 8 days in units and newborn babies with birth weight of >2000grams whereas the exclusion criteria was newborn babies requiring umbilical catheterization and newborn babies with any anomaly involving umbilical cord. Minimum sample size is calculated by using power analysis statistical formula. Sample size was 30 in which 15 experimental and 15 control. The sampling method used was purposive sampling method

The data collection tool included development of tool, description of the tool and scoring system. Selection and development of the tool was done based on the study i.e. to assess the effect of application of chlorhexidine on umbilical cord.

After an extensive review and study of literature, books and journals were done before developing the tool as well as discussion with guide is done and experts opinion also taken and the tool was developed under the guidance of the guide to collect the data.

The tool contains two sections, section 1: demographic data and section 2: observation checklist. In section 1 the demographic data contained birthweight, gestation age, parity, term and day of cord separation.

To ensure the content validity of the tool was submitted to experts along with demographic data, observational checklist. With suggested corrections needed changes were done with guide discussion and final tool was prepared.

Institutional ethical committee, meeting was held in Bharati Vidyapeeth Deemed to be University College of Nursing, Sangli and the research proposal was approved. Permission was obtained from private hospital of Sangli and Miraj to conduct pilot study and the main study. Informed written consent was obtained from the mothers prior to conducting the study.

Official permission was taken from concerned authorities. The investigator discussed the study with gynaecologist from particular hospitals. Informed consent was taken from postnatal mothers. 30 samples were selected for the study as per the criteria 15 samples were selected for experimental and 15 were for control group. The data was collected and recorded for 6 days in experimental group and in control group until the cord falls off.

A prior permission was taken from the concerned authorities of the hospitals. Informed written consent was obtained from mothers of newborn babies included in studies by explaining the purpose and objectives of study

Observation of umbilical cord was done on the day when baby was included in the study. In experimental group 1 ml of 4% chlorhexidine was applied soon after the first observation and procedure was continued for 7 days. Every day observation of the cord was done for one time before application of chlorhexidine. In control group routine hospital care was continued for 7 days.

Based on the objectives of the study, frequency, percentage, mean, sd were calculated to pre and post test score. Unpaired t-test is calculated to get pre test and post test score.

Results and Discussion

Based on the objectives of the study, frequency, percentage, mean, sd were calculated to pre and post test score. Unpaired t-test is calculated to get pre test and post test score.

Frequency and percentage distribution is done for demographic variables. Effectiveness of chlorhexidine was observed by comparing the mean of pre test and post test score of characteristics like redness, discharge, swelling and colour of cord between control and experimental group. The mean of all characteristics was greater in post test and p value was less

than 0.005 which characteristics showed there is significant difference between control and experimental group and p value is less than 0.005 which showed application of chlorhexidine on umbilical cord stump is effective for early separation of cord.

Table no 1: Frequency and percentage distribution of demographic variables

n = 30

Sr. no.	Variable	Groups	Control		Experimental	
			Freq.	%	Freq.	%
1	Birth weight(kg)	2-2.5	6	40	6	40
		2.5-3	6	40	8	53.33
		3-3.5	3	20	1	6.67
2	Gestational age (weeks)	35-37	7	46.67	6	40
		38-40	8	53.33	9	60
3	Term	Full term	11	73.33	9	60
		Pre term	4	26.67	6	40

Table no 1 show that, in the experimental group maximum 53% of babies have birth weight between 2.5-3 kg and in control group maximum 40% babies have birth weight between 2-3 kg and 60% mothers belong to 38 to 40 weeks of gestational age in experimental group. where as in control group 53% mothers belong to 38 to 40 weeks of gestational age .73% of babies are full term in control group and 60% in experimental group.

Table no 2: Difference between pretest and posttest scores for status of umbilical cord in control group. n=30

Sr. no.	Characteristics	Pre test score		Post test score		t value	p value
		Mean	Sd	mean	Sd		
1	Redness	3.46	0.74	3.7	0.5	2.82	0.01
2	Discharge	4.66	1.44	5.66	0.48	3.62	0
3	Swelling	1.33	0.48	1.7	0.5	5.29	0
4	Colour of cord	1	0	2.26	0.5	10.72	0

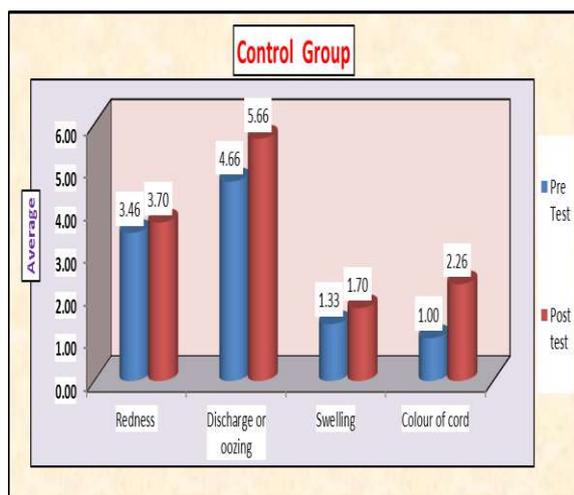


Fig no.1 Difference between pretest and posttest scores for status of umbilical cord in control group

Tableno 2: shows that for redness the pre test mean is 3.46 and sd is 0.74 and the post test mean is 3.70 and sd is 0.50 and the t value is 2.82, p value is 0.01 which is less than $p < 0.05$ which states that there is significant difference between pre test and post test in control group.

For assessment of discharge the pre test mean is 4.66 and s.d is 1.44 and in the post test the mean is 5.66 and sd is 0.48 hence the t value is 3.62 and p value is 0.00, which is less than $p < 0.05$ which states that there is significant difference between pre test and post test in control group.

For swelling the pre test mean is 1.33 and s.d is 0.48 and in post test the mean is 1.70 and sd 0.50 hence t value is 5.29 and 0.00 which is less than $p < 0.05$ which states that there is significant difference between pre test and post test in control group.

In colour of cord in pre test the mean is 1.00 and sd is 0.00 and in post test mean is 2.26 and sd is 0.50 and t value is 10.72 and p value is 0.00 which is less than $p < 0.05$ which states that there is significant difference between pre test and post test in control group.

Table no 3: Difference between pretest and posttest score for status of umbilical cord in experimental group. n=30

Sr. no.	Characteristics	Pre test score		Post test		T value	p value
		mean	sd	mean	sd		
1	Redness	3.53	0.64	4	0	2.82	0.01
2	Discharge	4.06	1.22	6	0	6.12	0
3	Swelling	1.6	0.5	2	0	3.06	0.01
4	Colour of cord	1.1	0.3	3	0	29	0

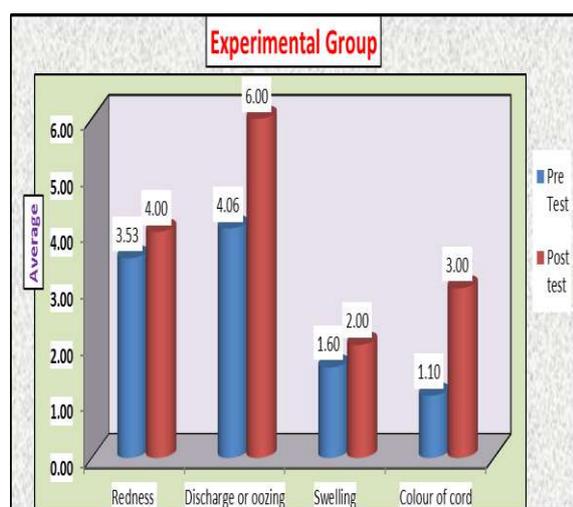


Fig no 2: Difference between pretest and posttest score for status of umbilical cord in experimental group

Table no.3 shows that for redness the pre test mean is 3.53 and sd is 0.64 and in post test mean is 4.00 and sd is 0.00 and the t value is 2.82 and p value is 0.01 which is less than $p < 0.05$ which states that there is significant difference between pre test and post in experimental group.

For discharge the pre test mean is 4.06 and s.d is 1.22 and in the post test the mean is 6.00 with sd is 0.00, t value is 6.12 and p value is 0.00 which is less than $p < 0.05$ which states that there is significant difference between pre test and post in experimental group

For swelling the pre test mean is 1.60 and s.d is 0.50 and in post test the mean is 2.0, sd 0.00 and t value is 3.06 and p value is 0.01 which is less than $p < 0.05$ which states that there is significant difference between pre test and post in experimental group

In colour of cord in pre test the mean is 1.10 and sd is 0.30 and in post test mean is 3.00 with sd is 0.00, t value is 29.00 and p value is 0.00 which is less than $p < 0.05$ which states that there is significant difference between pre test and post in experimental group.

Table no 4: Comparison between experimental and control group for status of umbilical cord.

n=30

Sr. no.	Characteristics	Control group		Experimental group		t value	p value
		mean	sd	mean	sd		
1	Redness	3.7	0.5	4	0	2.25	0.03
2	Discharge	5.66	0.48	6	0	2.64	0.013
3	Swelling	1.7	0.5	2	0	2.25	0.03
5	Colour of cord	2.26	0.5	3	0	6.2	0.001

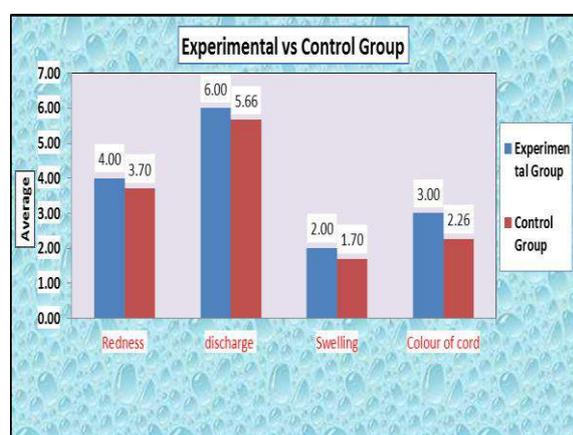


Fig no 3: Comparison between control and experimental group

Table no 4.shows comparison between control and experimental group.

For post test in control group there was mild redness as the mean is 3.70 and sd is 0.50 and in experimental group there was no redness as the mean is 4.00 and s.d is 0.00 and the t value is 2.25 and p value is 0.03 which is less than 0.05 which shows that there is significant difference between control and experimental group.

For post test in control group there was watery discharge as the mean is 5.66 and sd is 0.48 and in experimental group there is no discharge as the mean is 6.00 and s.d is 0.00 and the t value is 2.64 and p value is 0.013 which is less than 0.05 which shows that there is significant difference between control and experimental group.

For post test in control group there was swelling, as the mean is 1.70 and s.d is 0.50 and in experimental group there was no swelling, mean is 2.00 and s.d is 0.00 and the t value is 2.25 and

p value is 0.03 which is less than 0.05 hence it shows that there is significant difference between control and experimental group.

For post test in control group the colour of cord was brown, as the mean is 2.26 and s.d is 0.50 and in experimental group the colour of cord was black as the mean is 3.00 and s.d is 0.00 hence the t value is 6.20 and p value is 0.01 which is less than 0.05. In experimental group for post test the colour of umbilical cord turns to black which means the cord is drying. Therefore it shows that there is significant difference between control and experimental group.

apart from above observations, the another observation was also done for the day of cord separation and in control group was on 8th day, 9th day, whereas in experimental group it was on 7th day.

Conclusion

The study findings showed that application of chlorhexidine was effective in early drying and separation of cord as chlorhexidine is antiseptic solution which helps in prevention of infection. Chlorhexidine also helps in early drying of cord. Mothers also verbalized that they were happy as the cord dried early and there was no signs of infection and no any side effects also the cord separated early with chlorhexidine as compared to dry cord care.

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Conflict of Interest

No conflict of interest involved.

Funding Source

The study was self-funded by researchers.

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RESEARCH ARTICLE

A Correlational Study to analyze the knowledge and attitude towards early marriage among parents at selected rural areas, Kolhapur District

Trupti Jadhav

Tutor of Dr. J. J. Magdum Institute of Nursing Education, Jaysingpur, Maharashtra.

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ABSTRACT:

Early marriage in India is a matter of serious concern. Child Marriage denies a child the basic right to good health, nutrition and education. It is widely acknowledged that early marriage makes girls more vulnerable to violence, abuse and exploitation. For both girls and boys, marriage has a strong physical, intellectual, psychological and emotional impact, cutting off educational opportunities and chances of personal growth. So it is more important to give the knowledge regarding early marriage to the parents. **The objectives of the study were:** 1. To analyze the knowledge and attitude towards early marriage among parents. 2. To find out correlation between knowledge scores and attitude scores towards early marriage among parents. 3. To find out an association between knowledge scores towards early marriage among parents with their selected socio-demographic variables. 4. To find out an association between attitude scores towards early marriage among parents with their selected socio-demographic variables. **Methods:** The research approach adopted for the study was Correlational Survey approach. Research design was Non experimental, Descriptive Correlational research design. By using non-probability purposive sampling technique 100 parents were selected for the study. Structured knowledge questionnaire and attitude scale was used to assess the knowledge and attitude towards early marriage of the parents. The data was analyzed by using descriptive and inferential statistics. **Results:** The result showed that majority of the subjects 86(86%) had average knowledge and minimum 3(3%) had poor knowledge and 11(11%) had good knowledge. These findings of study were suggested that the parents were having average knowledge regarding early marriage and need to improve their knowledge. Regarding attitude, results showed that among parents majority of subjects had 87(87%) Positive attitude score and minimum have 13(13%) Negative attitude score. Correlation between knowledge and attitude score was, The calculated correlation value was ($t_{cal}=0.821$) greater than tabulated value ($t_{tab}=0.152$). Therefore the findings revealed that there was moderate positive correlation between knowledge score and attitude score towards early marriage. This showed that knowledge and attitude was correlated to each other. Hence H_1 is accepted. This indicated that there was a moderate positive correlation between knowledge and attitude which was statistically significant at $p < 0.05$ level, regarding early marriage This showed that knowledge and attitude was correlated to each other. There was significant association between knowledge scores and selected socio demographic variables. Like occupation of fathers [$\chi^2_{cal}= 17.227^*$, $\chi^2_{tab}=12.59$], total number of children [$\chi^2_{cal}= 13.95^*$, $\chi^2_{tab}=9.490$]. The calculated Chi-square values were greater than tabulated value at $p < 0.05$ level of significance. Hence H_2 is accepted. This indicated that there was significant association between knowledge scores and selected socio-demographic variables at $p < 0.05$ level of significance. There was significant association between attitude scores and selected socio demographic variables like In subjects there was significant association between attitude scores and selected socio demographic variables like education of fathers [$\chi^2_{cal}= 23.16^*$, $\chi^2_{tab}=7.82$], education of mothers [$\chi^2_{cal}= 10.306^*$, $\chi^2_{tab}=7.82$], monthly income of family [$\chi^2_{cal}= 38.713^*$, $\chi^2_{tab}= 7.82$], age at marriage of mothers [$\chi^2_{cal}= 19.333^*$, $\chi^2_{tab}=7.82$], age at marriage, total number of children [$\chi^2_{cal}= 7.318^*$, $\chi^2_{tab}=5.99$], The calculated Chi-square values were greater than tabulated value at $p < 0.05$ level of significance.

Hence H₃ is accepted. This indicated that there was significant association between attitude scores and selected socio-demographic variables at $p < 0.05$ level of significance. **Interpretation and Conclusion:** The present study revealed that majority of parents had average knowledge on early marriage and most of parents had positive attitude. Therefore it was concluded that there is need to increase the knowledge regarding early marriage and negative attitude towards early marriage in some parents.

KEYWORDS: Parents, Knowledge, Attitude, Early Marriage.

INTRODUCTION:

I've always held that early marriage is a sure indication of, Second-rate goods that had to be sold in hurry.

-Martin Harris

Marriage is a social institution that unites people in a special form of mutual dependence for the purpose of founding and maintaining a family. As a social practice entered into through a public act, religious or traditional ceremony, it reflects the purpose, characters or customs of the society in which it is found. Many societies have norms that limits the age of young girls to enter into marriage, but in some cases the age limit does not take into consideration their physical readiness for childbearing.¹

Marriages before the age of 18 are the reality for many young women. In many parts of the world, parents encourage the marriage of their daughters while they are still children in hopes that the marriage will benefit them both financially and socially, while also relieving financial burdens on the family.

Early marriage, better known as child marriage is defined as marriage carried below the age of 18 years, before the girl is physically, physiologically and psychologically ready to shoulder the responsibilities of marriage and childbearing." Early marriage means also the individual becomes sexually active early, raising children while children themselves. The marriage of a young girl affects not only her life but that of the children she will bear.²

Child marriage and the betrothal of girls and boys shall be prohibited and effective action, including legislation, shall be taken to specify the minimum age of marriage to be 18 years and make registration of all marriages in an official registry compulsory

Early marriage of children, particularly the girl child, is not an uncommon practice in over 40 countries, mainly in Sub- Sahara Africa and south and south East Asia, including India, Pakistan and Bangladesh.

A significant number of these countries are signatories to various international conventions and have guaranteed various rights of children, including the prescription of the legal minimum marriage at 18.⁴

Several states of India have introduced incentives to delay marriages. For example, the state of Haryana introduced the so-called Apni Beti, Apna Dhan program in 1994, which translates to "My daughter, My wealth". It is a conditional cash transfer program dedicated to delaying young marriages by providing a government paid bond in her name, payable to her parents, in the amount of 25,000 (US\$350), after her 18th birthday if she is not married.⁹

A present study was aimed to assess the knowledge of the early marriage among parents and what is their attitude towards the early marriage. The results of the study will show the clear picture of parents knowledge and attitude and will motivate to take proper action. A proper information of early marriage will reduce cause of early marriage and prevent early marriage.

NEED FOR THE STUDY:

Marriage is a social institution that unites people in a special form of mutual dependence for the purpose of founding and maintaining a family. As a social practice entered into through a public act, religious or traditional ceremony, it reflects the purposes, character, and customs of the society in which it is found. Many societies have norms that limit the age of young girls to enter into marriage, but in some cases the age limit does not take into consideration their physiological readiness for childbearing.¹¹

Early marriage is the marriage of children and adolescents below the age of 18. Among those marrying early, some are forced into this union, others are simply too young to make an informed decision. Throughout the world, marriage is regarded as a moment of celebration and a milestone in adult life. Sadly the practice of early marriage gives no such cause for celebration. All too often, the imposition of a marriage partner upon a child means that a girl or boy's childhood is cut short and their fundamental rights are compromised.¹¹

According to the news report published in the leading newspapers of the world, each year there are around 80 million unwanted pregnancies, out of which 30 millions of these are aborted. There are so many social and psychological causes leading to teenage pregnancies all over the globe. Early marriage of the teenagers is one of the main reasons for teenage pregnancies. Lack of proper sex education and counseling as well as poverty can be the major reasons as well⁵. Furthermore, reports indicate that nearly 7% of girls were found to be married before reaching the age of 10 years.¹⁰

Complications of teenage pregnancy and delivery are the main causes of death for girls aged 15 to 19. Each year almost 5.5 million girls aged 15 to 19 give birth. They have higher levels of unwanted pregnancy and more than one billion have unsafe abortion (WHO, 2004). Mortality and morbidity rates are higher among infants born to young mothers; especially those under 15 years have higher rates of premature labour, spontaneous abortion, stillbirth, and low birth weight infants (Demographic and health survey, 2006.¹¹

Early marriage is the most common problem in rural areas. Many physically and psychologically, socially consequences face girls, boys as well as their parents. If parents have proper knowledge and attitude about early marriage so they can prevent causes of early marriage. So the investigator has planned to assess the knowledge and attitude of parents regarding early marriage so that it could enhance their knowledge and positive attitude.

STATEMENT OF RESEARCH PROBLEM:

“A correlational study to analyze the knowledge and attitude towards early marriage among parents at selected rural areas, kolhapur district.”

OBJECTIVES OF THE STUDY:

1. To analyze the knowledge and attitude towards early marriage among parents.
2. To find out correlation between knowledge scores and attitude scores towards early marriage among parents.
3. To find out an association between knowledge scores towards early marriage among parents with their selected socio-demographic variables.
4. To find out an association between attitude scores towards early marriage among parents with their selected socio-demographic variables.

OPERATIONAL DEFINITIONS:

1. Analyze: In present study, it refers to organized, systematic and continues process of gathering information regarding knowledge and attitude towards early marriage among parents by using structured knowledge questionnaire and attitude scale.

2. Early marriage: In present study, it refers to marriage of a girl before 18 years of age and marriage of a boy before 21 years of age.

3. Parents: In present study, it refers to couples who will be having children between 10-21 years of age.

4. Knowledge: In this study, it refers to awareness of parents towards early marriage which will be assessed by their responses with using structured knowledge questionnaires.

5. Attitude: In the present study, it refers to expression of feeling, behavior or thoughts towards early marriage among parents which will be assessed by using structured attitude scale.

Assumption:

The study assumes that most of the parents will have knowledge regarding early marriage and will have appropriate attitude towards early marriage.

Delimitation:

The study is limited to the 100 parents at rural area of Kolhapur district

Conceptual Framework:

Modified Fied Rosen Stock's And Becker (1974) Health Belief Model

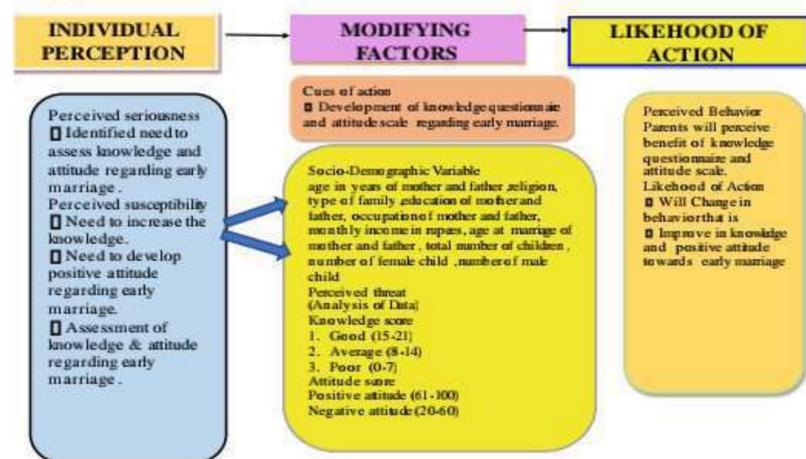


Figure 1: Modified Rosen Stock's and Becker (1974) Health Belief Model

REVIEW OF LITERATURE:

A cross-sectional, observational study was conducted to assess the prevalence of early marriage and the associations between early marriage and women's fertility and fertility-control outcomes in India 2005-06. Analyses were restricted to women age 20-24 years (n= 22,807) and subsample of ever married women aged 20-24 years (n=14,628). The study findings showed 44.5% of women aged 20-24 years were married before age 18 years, 22.6% were married before age 16 years and 2.6% were married before age 13 years. Early marriage was significantly associated with no contraceptive use before first child birth (95%), high fertility (three or more

births) (7.40%), a repeat child birth in less than 24 months (3%), multiple unwanted pregnancies (2.36%), pregnancy termination (1.48%), and female sterilization (6.68%). The study concluded that improved family-planning education, access, and support are urgently needed for women married as earlier, their husbands, and their families to reduce the high fertility and poor fertility-control outcomes of this practice.

A descriptive study was conducted by Susheela singh and Renee samara to determine early marriage among women in developing countries. Data was obtained from 40 demographic and health surveys revealed that a substantial (The sample included 61) proportion of women in developing countries continue to marry as adolescents. The study findings revealed that: 20-50% of women marries or enters a union by age 18, and 40-70% does so by their 20th birthday. Early marriage most prevalent common in North Africa, middle east and southeast asia. Women aged 20-24 are less likely to get married by age 20 than are women aged 40-44; the differential is at least 10 % points in most countries and reaches 30-40% points in some countries. Education and age at first marriage are strongly associated both at the individual level and at the societal level. Thus study concluded that a woman who has attended secondary school is considerably less likely to marry during adolescence, and in countries with a higher proportion of women with a secondary education, the proportion of women who marry as adolescents is lower.

A cross sectional study was conducted among women residing in urban slums of Nandyal. Anin-depth interview was conducted with 30 pre-identified married women of reproductive age (15–49 years). The criteria for selection of participants was those woman who married before the age of 18 years (child marriage) and married for at least 5 years and had at least one child birth. Reasons for setting the said selection criteria were to make sure that the interviewee had a prenatal and postnatal experience that they have spent a considerable time in marital union. Among 30 participants the mean age of child marriage is 14 years. Mean age at first child birth is 15years. Majority (86.7%) were stopped education after marriage. According to Modified Kuppuswamy class 63.3% were belong to upper lower class and 13.3% lower class. Almost (56.7%) unaware of appropriate age for marriage. Majority (73.3%) are unaware of negative consequences of child marriage. Most of the marriages are consanguineous (40%). Majority (60%) are home deliveries and pre term deliveries (46%). Majority (73.3%) are opposing child marriage and 26.7% are supporting child marriage and having future intention 60% satisfied with their married life and 40% participants are having conflicts. Raising the level of awareness about negative outcomes of child marriage by intensifying the health education (IEC)

activities. In this modern society the child marriages are following because of the customs and traditions followed in the community. Home deliveries are more which utmost leads to danger to the mother and child.

RESEARCH METHODOLOGY:

Research approach:

A descriptive survey approach was used to assess the knowledge and attitude of parents regarding early marriage.

Research design:

A descriptive correlative design was adopted for the present study to find out the relationship between knowledge score and attitude score of parents regarding.

Variable under study:

Variables in this study are knowledge and attitude of parents regarding early marriage and other demographic variables included are such as age in years of mothers and age in year of fathers, religion, type of family, Mothers education, fathers education, occupation of mothers, occupation of fathers, monthly income in rupees, age at marriage of mothers, age at marriage of fathers, total number of children, number of female child, number of male child.

Setting of the study:

The investigator had selected at Gad-Mudshingi rural area of Kolhapur district. The area is approximately 10 kilometers away from the college.

Population:

The population in the study comprised of parents residing in selected at Gad-Mudshingi rural area of Kolhapur district.

In this study the sample comprises of 100 parents.

Sampling technique:

The non-probability, purposive sampling technique was used to select the samples for the present study.

Description of the tool:

To conduct the study, two tools were prepared:

Tool I: The structured questionnaire to assess the knowledge of parents regarding early marriage. It consisted of 2 parts:

Part I: Demographic data: It consisted age in years of mothers and age in year of fathers, religion, type of family, Mothers education, fathers education, occupation of mothers, occupation of fathers, monthly income in rupees, age at marriage of mothers, age at marriage of fathers, total number of children, number of female child, number of male child.

Part II: It consisted of structured knowledge questionnaire regarding early marriage. Totally the structured knowledge questionnaire consisted of 21 items each of it are scored. Each correct answer was given a score of one and wrong answerers score was zero. The total possible score of the structured knowledge questionnaire was 21.

Tool II: The attitude scale was developed for assessing the attitude of parents regarding early marriage. It had 20 items, out of these, 10 items were positive and 10 items were negative. Arbitrary classification on grading of attitude score was done as ‘Strongly Agree’, ‘Agree’, ‘uncertain’, ‘Disagree’, and ‘Strongly Disagree’.

Ethical Issue:

1. Permission was obtained from concerned authorities.
2. Permission was obtained from grampanchayat of the of Gud-mudshingi, Kolhapur district.
3. A written informed consent was obtained from parents who participated in the study.

Reliability:

Reliability of the tool was assessed by administering the tool to 30 parents who were residing in Gud-mudshingi, Kolhapur. The reliability coefficient of rating scale and attitude scale was computed using split-half method and Karl Pearson Correlation Coefficient. The reliability was found to be 0.72 for the knowledge rating scale and 0.78 for the attitude scale. Hence the tool was found to be reliable.

RESULTS:

Major findings of the study:

Finding related to demographic variable of third trimester antenatal mothers:

Majority of mothers 34(34%) belonged to the age group of 31-40 years (Fig.1). Majority of fathers 45(45%) belonged to the age group of 31-40 years (Fig.2). Majority of subjects 77(77%) were from Hindu religion (Fig.3). Majority of subjects 58(58%) belonged to joint family (Fig.4). Majority of fathers 45(45%) had primary education (Fig.5). Majority of mothers 60(60%) were illiterate (Fig.6). Majority of fathers 40(40%) were having service (Fig.7). Majority of mothers 70(70%) were housewife (Fig.8). Majority of subjects 42(42%) had Rs.10,000/- 15000/- monthly income (Fig.9). Majority of mothers 58(58%) married below 18 years of age(Fig.10). Majority of fathers 55(55%) married at the age of 24 to 28 yrs(Fig.11). Majority of subjects 65(65%) were having 3-4 children (Fig.13). Majority of subjects 45(45%) had 0-1 number of male child(Fig.14).

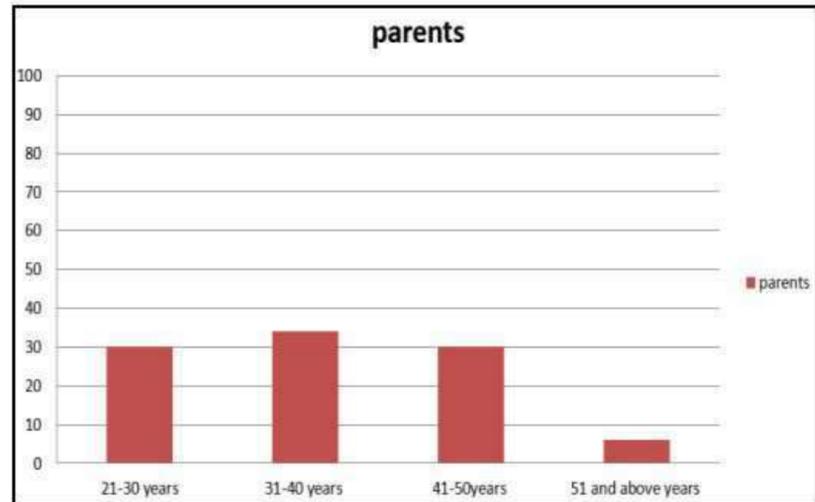


Figure 1: Column diagram showing the distribution of mother according to their age in year

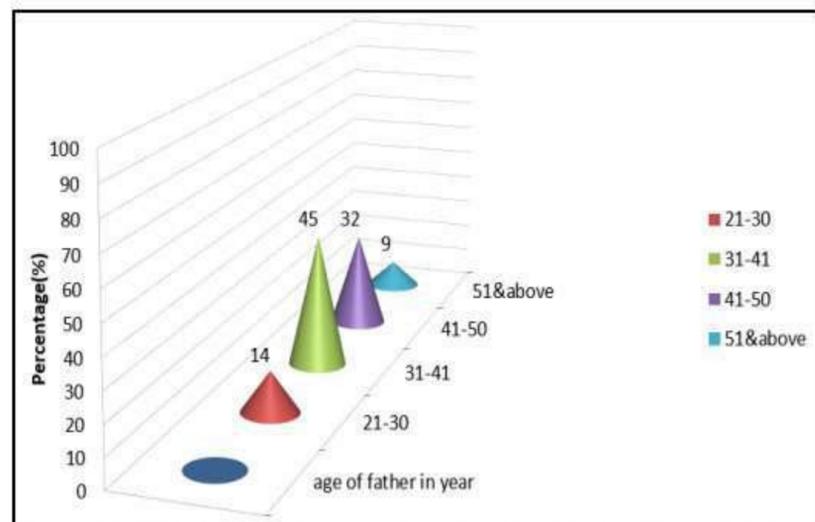


Figure 2: Cylindrical diagram showing the distribution of fathers according to their age in year

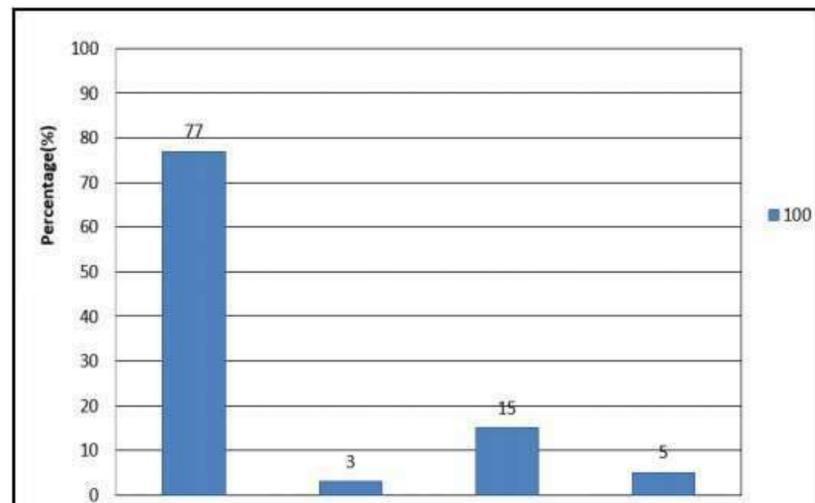


Figure 3: Column diagram showing the distribution of the subjects according to their religion.

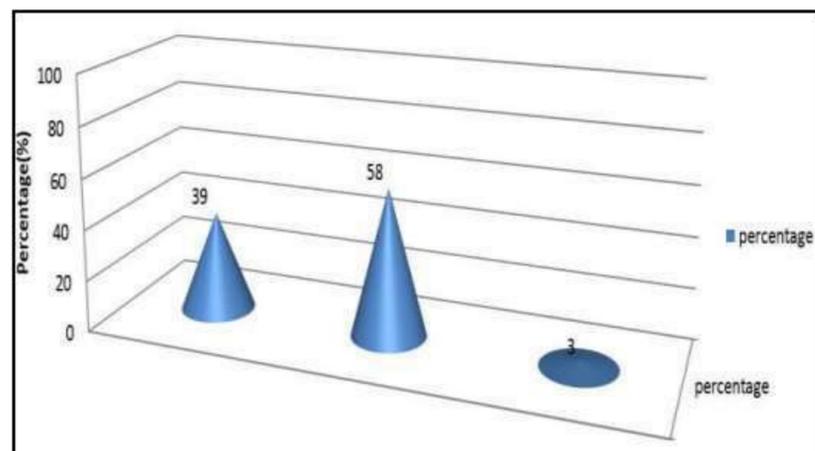


Figure 4: Conical diagram showing the distribution of the subjects according to their type of family.

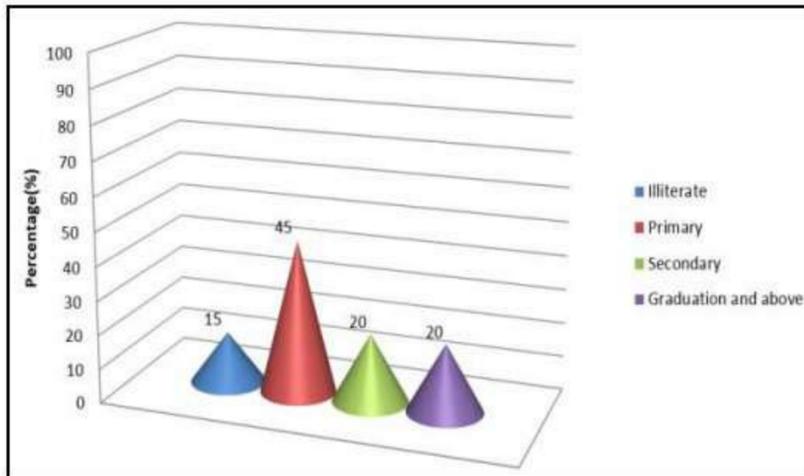


Figure 5: Conical diagram showing the distribution of fathers according to their type education.

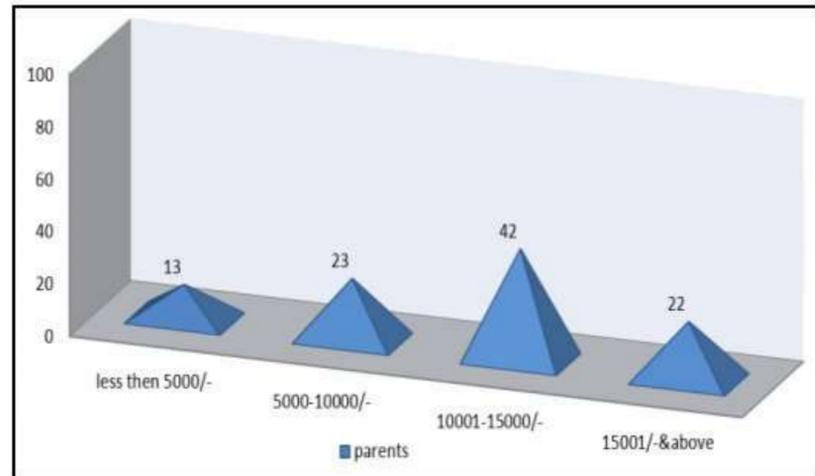


Figure 9: Pyramid diagram showing the distribution of the subjects according to their of monthly family income in rupees.

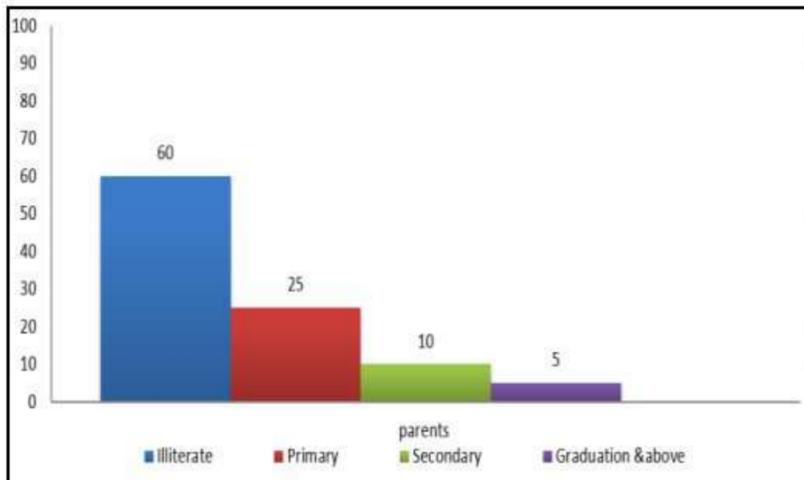


Figure 6: Bar diagram showing the distribution of mothers according to their education.

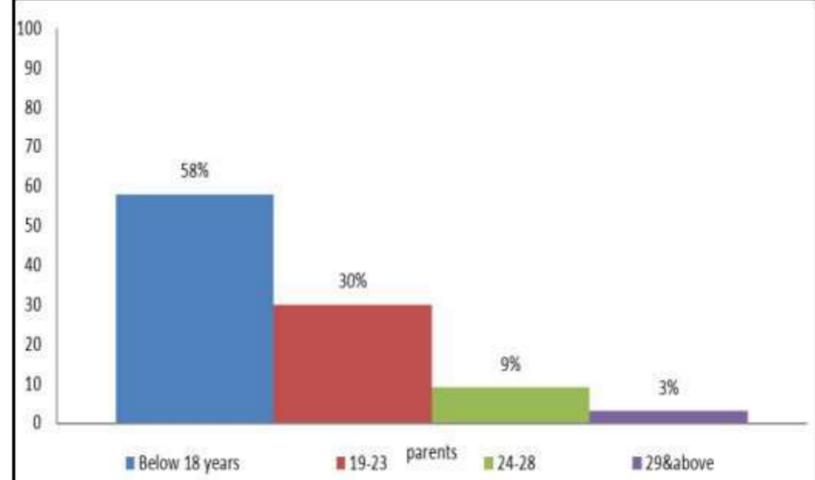


Figure 10: Pyramid diagram showing the distribution of mother according to their age at marriage.

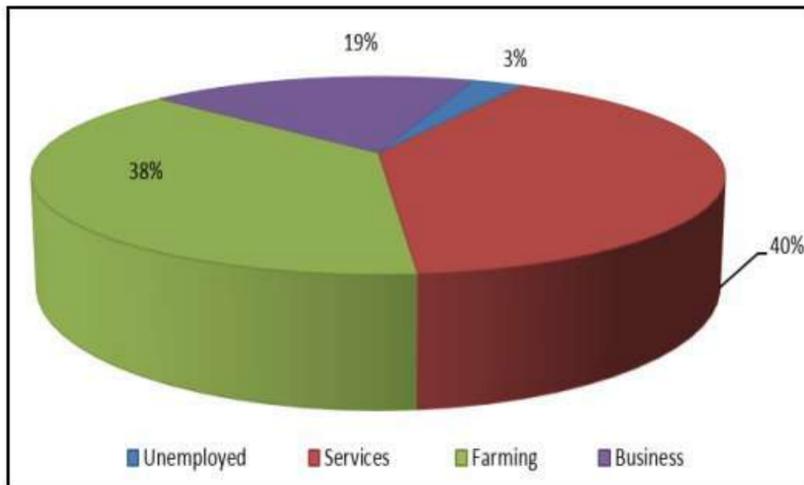


Figure 7: Pie diagram showing the distribution of fathers according to their occupation

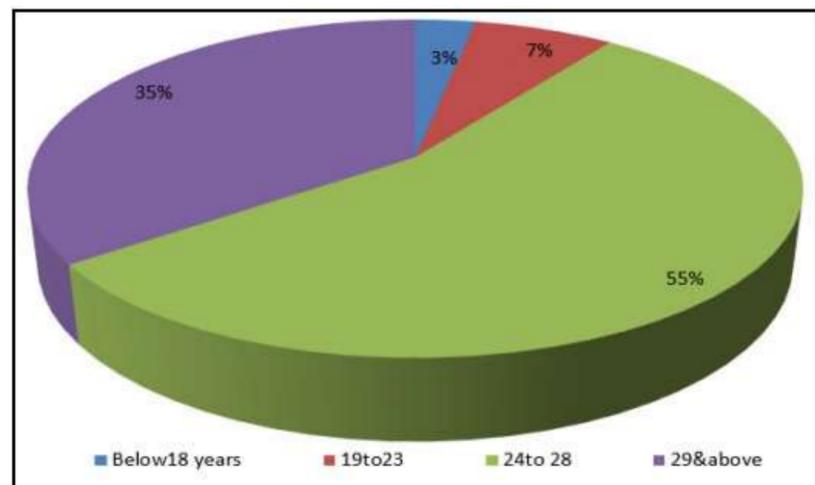


Figure 11: Pie diagram showing the distribution of the fathers according to their age at marriage.

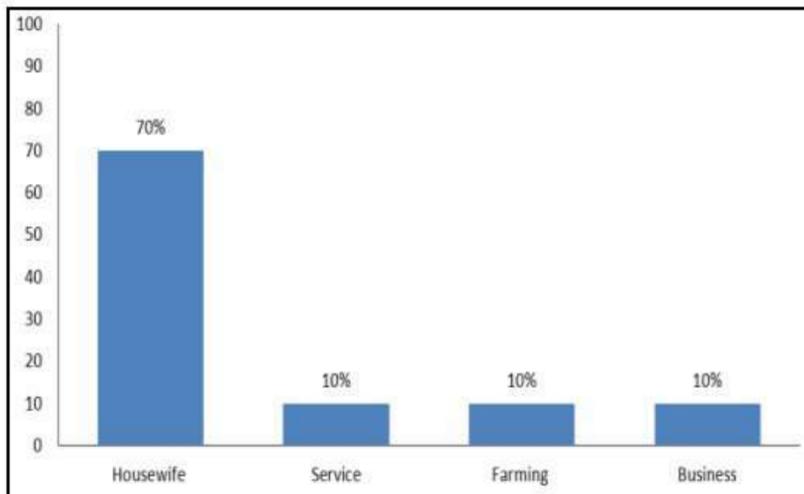


Figure 8: Bar diagram showing the distribution of the mother according to their occupation

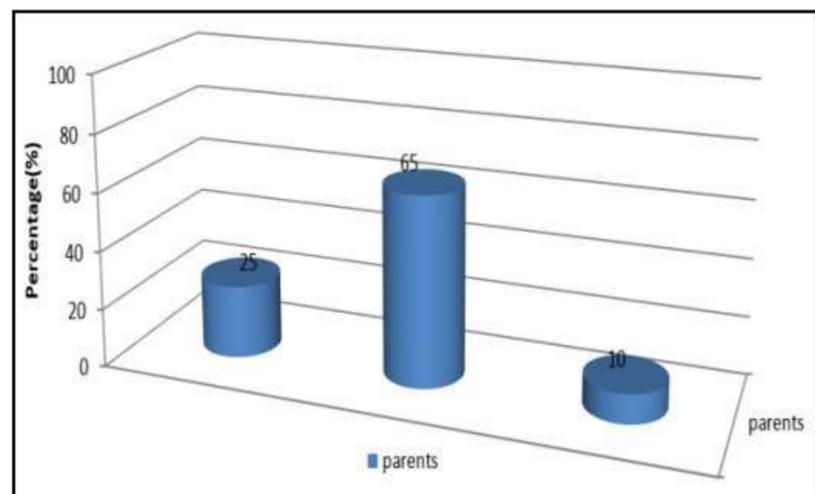


Figure 12: Bar diagram showing the distribution of the subjects according to their number of children.

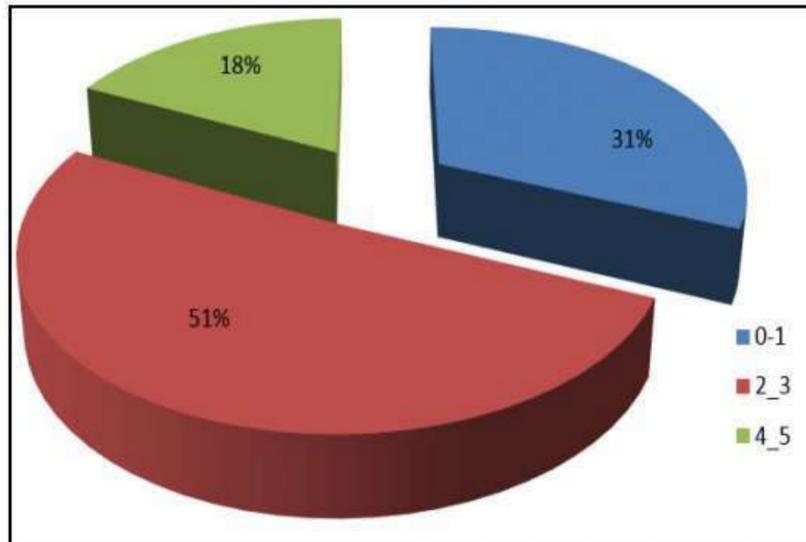


Figure 13: Pie diagram showing the distribution of the subjects according to their number of female child.

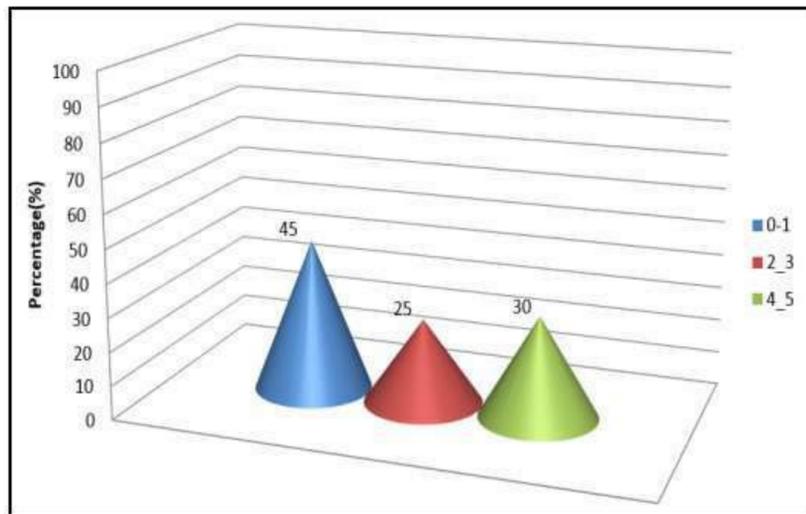


Figure 14: Cone diagram showing the distribution of the subjects according to their number of male child.

Table 1: Findings related to frequency and percentage distribution of knowledge scores of subjects regarding early marriage. n=100

Knowledge score	Frequency (f)	Percentage (%)
Poor (0-7)	3	3
Average (8-14)	86	86
Good (15-21)	11	11

The above table-1 indicates that majority of the subjects 86(86%) had average knowledge and minimum 3(3%) had poor knowledge and 11(11%) had good knowledge.

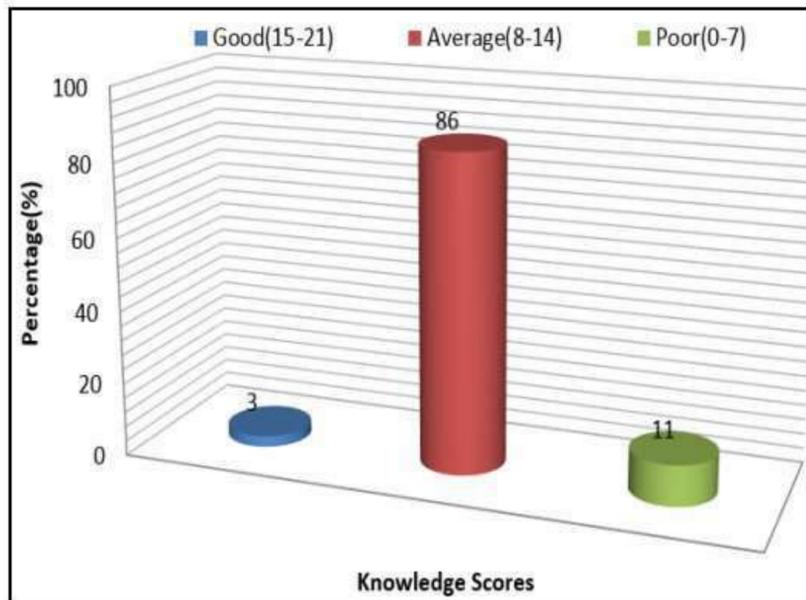


Figure 15: Cylindrical diagram showing the distribution of the subjects according to their knowledge scores.

Table 2: Findings related to frequency and percentage distribution of attitude scores of subjects regarding early marriage. n=100

Attitude score	Frequency (f)	Percentage (%)
Positive attitude (61-100)	87	87
Negative attitude (20-60)	13	13

Table 2 Indicates that majority of subjects had 87(87%) Positive attitude score and minimum have 13(13%) Negative attitude score.

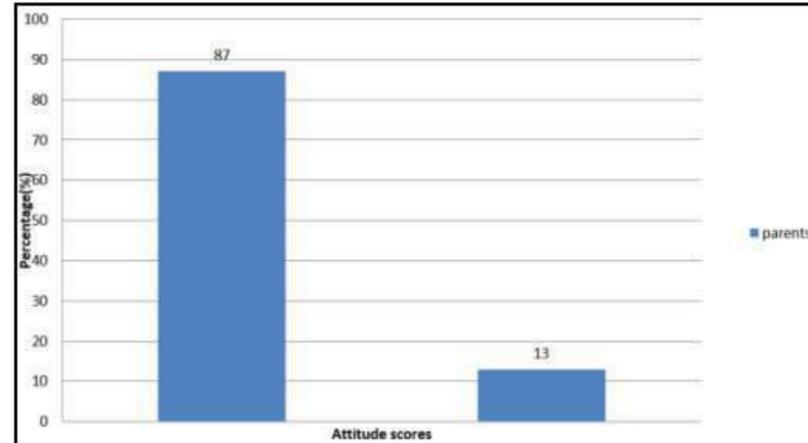


Figure 16: Column diagram showing the distribution of the subjects according to their attitude scores

Table 3: Findings related to Mean, Median, Mode, Range and Standard Deviation of knowledge scores of subjects regarding early marriage. n=100

Area of analysis	Mean	Median	Mode	Standard deviation	Range
Knowledge score	11.79	12	10	2.25	11

Table 3: Indicates that,

- In knowledge score, Mean was 11.79, Median was 12 and Mode was 10. Standard deviation was 2.25 Range was 11.

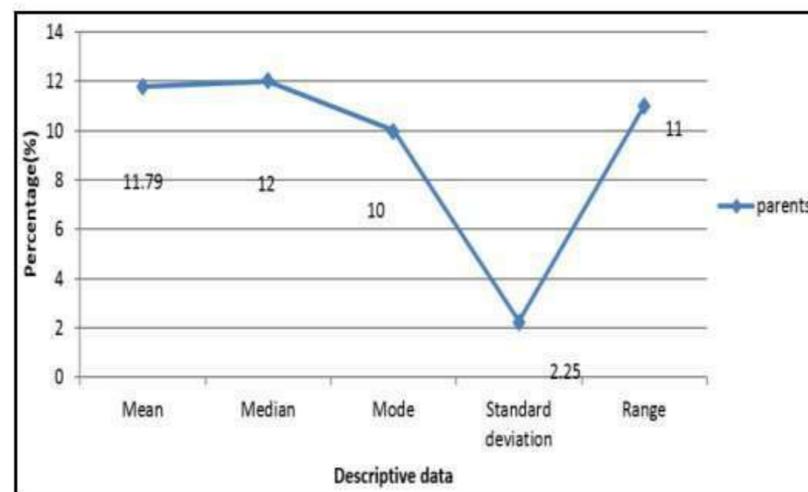


Figure 17: Linear diagram showing distribution knowledge score of Mean, Median, Mode, Standard Deviation, Range of subjects towards early marriage.

Table 4: Mean, Median, Mode, Range and Standard Deviation of attitude scores of subjects towards early marriage. n=100

Area of analysis	Mean	Median	Mode	Standard deviation	Range
Attitude score	69.35	69	69	7.08	31

Table 4: indicates that, In attitude score the Mean was 69.35, Mode was 69 and Median was 69, standard deviation was 7.08, Range was 31.

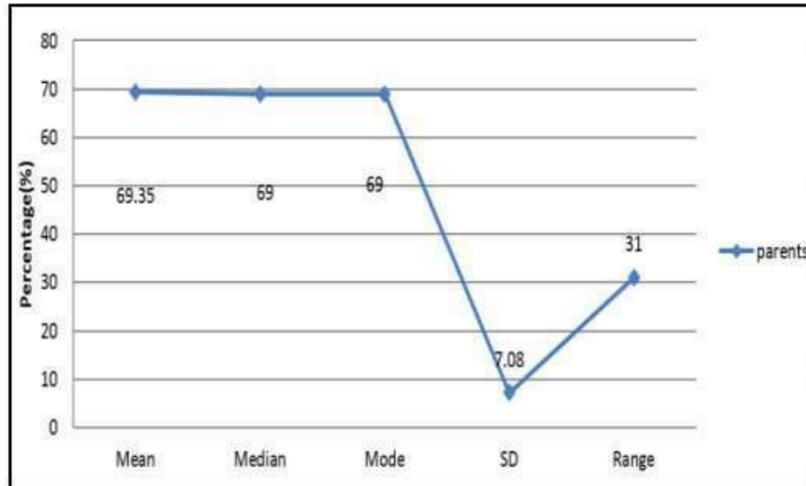


Figure 18: Linear diagram showing distribution attitude score of Mean, Median, Mode, Standard Deviation, Range of subjects towards early marriage.

Table 5: Finding related to correlation between knowledge scores and attitude scores towards early marriage of subjects. n=100

Karl Pearson Correlation Value		
Calculated value	Tabulated value	Df
0.821*	0.152	98

Table 5: indicated that, the calculated correlation value was ($t_{cal}=0.821$) greater than tabulated value ($t_{tab}=0.152$).

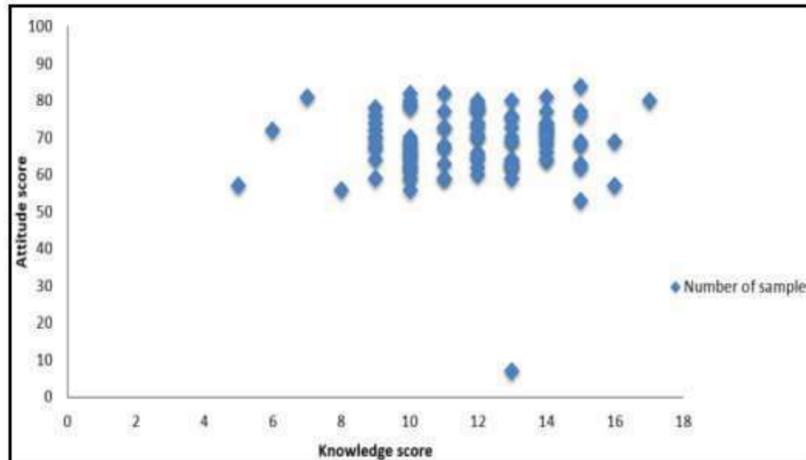


Figure 19: Scattered diagram showing distribution of subjects regarding correlation between knowledge and attitude score towards early marriage.

Karl Pearson’s Coefficient of Correlation was used to find the correlation between the knowledge and attitude score of parents regarding early marriage. Therefore the findings revealed that there was moderate positive correlation between knowledge score and attitude score towards early marriage. This showed that knowledge and attitude was correlated to each other. Hence H_1 is accepted. This indicated that there was a moderate positive correlation between knowledge and attitude which was statistically significant at $p < 0.05$ level, regarding early marriage.

Association between knowledge scores towards early marriage among subjects with their selected socio-demographic variables:

In parents there was significant association between

knowledge scores and selected socio demographic variables like age in years of mothers [$\chi^2_{cal}= 5.526$, $\chi^2_{tab}= 12.59$], age in year of fathers [$\chi^2_{cal}= 6.404$, $\chi^2_{tab}=12.59$], religion [$\chi^2_{cal}= 6.517$, $\chi^2_{tab}=12.59$], type of family [$\chi^2_{cal}= 6.585$, $\chi^2_{tab}=9.490$], education of fathers [$\chi^2_{cal}= 3.4857$, $\chi^2_{tab}=12.59$], education of mothers [$\chi^2_{cal}= 4.1456$, $\chi^2_{tab}=12.59$], occupation of fathers [$\chi^2_{cal}= 17.227^*$, $\chi^2_{tab}=12.59$], occupation of mothers [$\chi^2_{cal}= 10.396$, $\chi^2_{tab}=12.59$], monthly income of family [$\chi^2_{cal}= 4.446$, $\chi^2_{tab}= 12.59$], age at marriage of mothers [$\chi^2_{cal}= 3.881$, $\chi^2_{tab}=12.59$], age at marriage of fathers [$\chi^2_{cal}= 2.772$, $\chi^2_{tab}=12.59$], total number of children [$\chi^2_{cal}= 13.95$, $\chi^2_{tab}=9.490$], total number of male children [$\chi^2_{cal}= 5.572$, $\chi^2_{tab}=9.490$], total number of female children [$\chi^2_{cal}= 4.769$, $\chi^2_{tab}=9.490$] The calculated Chi-square values were greater than tabulated value at $p < 0.05$ level of significance. Hence H_2 is accepted

Association between attitude scores towards early marriage among subjects with their selected socio-demographic variables:

There was significant association between attitude scores and selected socio demographic variables like age in years of mothers [$\chi^2_{cal}= 2.114$, $\chi^2_{tab}= 7.82$], age in year of fathers [$\chi^2_{cal}= 2.406$, $\chi^2_{tab}=7.82$], religion [$\chi^2_{cal}= 2.249$, $\chi^2_{tab}=7.82$], type of family [$\chi^2_{cal}= 0.521$, $\chi^2_{tab}=5.99$], education of fathers [$\chi^2_{cal}= 23.16^*$, $\chi^2_{tab}=7.82$], education of mothers [$\chi^2_{cal}= 10.306^*$, $\chi^2_{tab}=7.82$], occupation of fathers [$\chi^2_{cal}= 7.383$, $\chi^2_{tab}=7.82$], occupation of mothers [$\chi^2_{cal}= 1.406$, $\chi^2_{tab}=7.82$], monthly income of family [$\chi^2_{cal}= 38.713^*$, $\chi^2_{tab}= 7.82$], age at marriage of mothers [$\chi^2_{cal}= 19.333^*$, $\chi^2_{tab}=7.82$], age at marriage of fathers [$\chi^2_{cal}= 2.342$, $\chi^2_{tab}=7.82$], total number of children [$\chi^2_{cal}= 7.318^*$, $\chi^2_{tab}=5.99$], total number of male children [$\chi^2_{cal}= 37.593$, $\chi^2_{tab}=5.99$], total number of female children [$\chi^2_{cal}= 5.051$, $\chi^2_{tab}=5.99$] The calculated Chi-square values were greater than tabulated value at $p < 0.05$ level of significance. Hence H_3 is accepted.

NURSING IMPLICATION:

The findings of the study have implications on various fields of nursing.

Nursing practice:

Nursing practice includes preventive, promotive, curative and rehabilitative services. The present information is used as a tool for the staff nurses as it is essential for nurses to know about new consequences of early marriage so that they can give health education to parents, mothers and adolescent group. This will help to prevent early marriage. Health education is an important tool of healthcare agency. It is one of the most cost-effective interventions. It is concerned with promoting health as well as reducing the risk of complications. In the present study there was gap between existing and

expected levels of knowledge of parents which indicated need for education regarding early marriage.

Nursing Administration:

In-service educational programmed can be organized on awareness of early marriage. This will upgrade the nurses knowledge in their clinical practice and to conduct health educational programmed. Well prepared material like Informational Booklet and power point presentation can be utilized by nurses in guiding sub ordinates. Ongoing workshops or regular in-service education programmed can be organized by nurse administrator for staff nurses to upgrade the knowledge regarding early marriage.

Nursing research:

The findings of the study serve as a basis for the professional and the student nurses to conduct further studies on early marriage. The study will motivate the initial researchers to conduct the same study on large scale and the study will be a reference for the research scholars.

LIMITATIONS:

- The study was limited to parents.
- The study was limited to rural area, Kolhapur district.
- The study included only some of the selected socio-demographic variables such as age in years of mother and age in year of father, religion, type of family, Education of mother, Education of father, occupation of mother, occupation of father, monthly income in rupees, age at marriage of mother, age at marriage of father, total number of children, number of female child, number of male child.

RECOMMENDATIONS:

- Having become familiar with the problems faced during the study and keeping the limitations in view, the following recommendations are offered for further research.
- The study can be replicated in school and urban areas.
- A comparative study can be conducted to assess the knowledge and attitude of rural and urban areas parents.
- A study can be conducted to assess the knowledge and attitude anganwadi workers on causes of early marriage.

CONCLUSIONS:

The present study revealed that majority of parents had average knowledge on early marriage and most of parents had positive attitude. Therefore it was concluded that there is need to increase the knowledge regarding early marriage and negative attitude towards early marriage in some parents.

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Effect Of Topical Application Of Chlorhexidine On Umbilical Cord Of Newborn Babies Of Mothers Admitted In Postnatal Wards.

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Abstract:

A study to assess the effect of topical application of chlorhexidine on umbilical cord of newborn babies of mothers admitted in postnatal wards from selected hospitals of Sangli, Miraj Kupwad corporation area. The study objectives to assess the difference between pre test and post test scores of umbilical cord stump in control group and to assess the difference between pre test and post test scores of umbilical cord stump in experimental group, to compare the difference between pretest and post test scores of umbilical cord stump between control and experimental group. Hypothesis for the study are H₀- There is no effect of chlorhexidine application on umbilical cord stump, H₁- There is effect of chlorhexidine application on umbilical cord stump. Quantitative research approach with two group pre test post test was used for this study. The conceptual framework used in this study was general system theory by Ludwig Von Bertalanffy. 30 samples were selected for the study by non-probability purposive sampling technique (15 experimental group and 15 control group). Experimental group had application of chlorhexidine for 7 days. Whereas in control group the cord was kept dry and routine care was given. Data was collected using demographic data and observation checklist. The data was analysed using descriptive and inferential statistics. The study result was, in experimental group after application of chlorhexidine to the umbilical cord it was seen that in post observation the cord had mild redness in control group and in experimental group there was no redness as the p value is 0.03, and for the characteristic of discharge from umbilical cord in control group there was watery discharge and in experimental group there is no discharge observed and the p value is 0.013. and there was no swelling in control group as well as in experimental group there was no swelling, (p value is 0.03 therefore p < 0.05) the colour of cord in control group was brown which shows that it is in the process of dryness where and in experimental group the colour of cord was black which shows that it is completely dry. Hence it was revealed that there was significant difference between control and experimental group. The application of chlorhexidine on umbilical cord stump shows early healing and drying as compared to control group. The study concluded as it was

observed that after application of chlorhexidine on umbilical cord stump there was early healing and drying of umbilical cord as compared to control group

Keywords: Assess, Effect, Topical application

Introduction:

The umbilical cord is made up of blood vessels and connective tissue that connects the infant to the placenta in the uterus. A membrane that is usually bathed in amniotic fluid covers it. The umbilical cord provides nutrients and oxygen to the baby during pregnancy, but it is no longer required after that, so it is clamped and snipped. The wound heals as the cord stump dries and falls off. During pregnancy, the placenta contains all material for foetal development and removes waste products¹.

After the delivery the umbilical cord serves no purpose. The necrotic tissue of the umbilical cord is a potential site for infection immediately after birth. Bacterial colonization from cord stump infection is the factor that increases morbidity and mortality of infants in developing countries.

As per world health organisation, infection causes neonatal deaths all over the world ,over75% of these some tend to occur in as soon as the baby is born or in the initial week , with the umbilical cord acting as the entry point. The umbilical cord is a popular place for bacteria to colonise. Cord stump infection, which may significantly increase morbidity and mortality, is a potential result of bacterial colonisation. The skin and umbilical cord of the newborn begin to colonise with bacteria such as saprophytic bacteria supplied through the mother by skin touch. The colonization of umbilical cord is through the micro-organisms from birth attendant's vagina, skin, and hands. Septicaemia, which can result in neonatal morbidity and mortality, can be caused by bacteria tracking along the umbilical vessels. The onset of omphalitis begins on the third and fourth day of life².

These organisations often suggest that soap, water, and drying materials are required for umbilical cord care, the application of antiseptic solutions can lead to slow separation of umbilical cord to and has few benefits. In some countries with low mortality, the child may get few infections in the first week of life, maternal wellbeing, and time taken for the cord to split should all be considered significant outcomes³.

Neonatal sepsis is the third leading cause of death in babies in their first month of life. bacteria may enter the body via the freshly cut umbilical cord, causing neonatal sepsis and may lead to death. Optimal umbilical cord care practises for newborn babies and their first few days of life, particularly in areas with poor hygiene, have the ability to prevent these unnecessary newborn

deaths. Neonatal sepsis is the third leading cause of death in babies in their first month of life, accounting for more than 15% of all neonatal deaths worldwide.⁴

Few studies from developed countries have found that applying a topical antimicrobial to the cord stump reduces harmful bacteria colonisation in hospital nurseries when compared to no treatments. The impact of topical antimicrobials on infection control is less certain.⁶

Chlorhexidine is the most studied antiseptic in newborn infants among the other antiseptics available. Following the application of chlorhexidine, several studies have shown a substantial reduction in the rates of bacterial colonisation of the umbilical cord.⁷

The umbilical cord is a one-of-a-kind tissue that consists of two arteries and one vein that are covered by Wharton's jelly, a mucoid connective tissue, and a thin mucous membrane. The foetus receives nutrients and oxygen from the blood flowing through the cord, while carbon dioxide and metabolic wastes are carried away. The umbilical vessels become constricted but not obliterated when the cord stops pulsing. Therefore the cord should be clamped tightly so that it prevents bleeding and keeps the umbilical vessels occluded, and it must be trimmed with a sterile instrument to avoid infection. After cutting the cord, the stump quickly dries out, turning black and stiff⁸.

Similarly, the cord stump's devitalized tissue can be a site for bacterial growth, sometimes various substances can be applied when the cord is kept moist and unclean. For a few days after birth, the umbilical vessels are still patent, allowing direct access to the bloodstream in the newborn baby, the umbilical stump is a common entry point for infection. It is therefore essential to keep the baby clean and dry in order to avoid infection⁹.

After birth, the umbilical cord is crucial. It's a crucial location for bacterial colonisation. According to the World Health Organization, 3,000,000 children die each year from tetanus, and another 4,60,000 die from serious bacterial infections, of which umbilical cord infections are a common precursor. In developed nations, where procedures are untrained and unclean, there is a continuous need for affordability. Neonatal sepsis is a risk factor for umbilical cord colonisation. The umbilical cord is the first site for umbilical colonisation that, is 48-72 hours after birth. The umbilical cord sepsis can cause bacterial infection and may

Routine cord care includes washing the stump with alcohol on a daily basis and applying a dusting powder or an antimicrobial solution. Zinc oxide, talc, starch, or alum, among other ingredients, are currently used in powders in varying proportions. Hexachlorophane or chlorhexidine are also found in certain powders. The most prevalent antimicrobial compounds are triple dye, iodine tincture,

iodophors, antibiotic ointments, silver sulphadiazine, and chlorhexidine. In some cases, the umbilical cord stump is only handled once during birth, in others it is treated everyday where as in some whenever the diaper is changed, this is followed until there is healing of umbilical cord¹³.

Several researchers suggest that using chlorhexidine decreased the risk of sepsis and umbilical cord infections by 77 % when compared to dry cord care. This result is supported with other studies that have found that using chlorhexidine on the umbilical cord inhibits cord infection and sepsis¹⁴.

It is recommended that using chlorhexidine for newborn umbilical cord in developed countries would prevent infection, based on evidence of low to moderate quality. The world health organization also recommended that 4% of chlorhexidine is useful for daily cord care. Accordingly it can be proposed that chlorhexidine cord application should be integral part of essential newborn cord care¹⁵.

Materials and Methods:

A quantitative research approach was adopted for the present study with quasi experimental two group pre testpost test design. The independent variables was chlorhexidine and dependent variable was status of umbilical cord. Where as research variables are birth weight, age, parity, term and day of cord separation.

The present study setting was selected as per needs and criteria. The settings were the maternity hospitals from Sangli, Miraj and Kupwad corporation area. Population consisted of newborn babies who were delivered through LSCS. The samples were newborn babies from maternity units of selected hospitals from Sangli, Miraj and Kupwad corporation area.

Inclusion criteria was newborn who stays for minimal 8 days in units and newborn babies with birth weight of >2000grams whereas the exclusion criteria was newborn babies requiring umbilical catheterization and newborn babies with any anomaly involving umbilical cord. Minimum sample size is calculated by using power analysis statistical formula. Sample size was 30 in which 15 experimental and 15 control. The sampling method used was purposive sampling method

The data collection tool included development of tool, description of the tool and scoring system. Selection and development of the tool was done based on the study i.e. to assess the effect of application of chlorhexidine on umbilical cord.

After an extensive review and study of literature, books and journals were done before developing the tool as well as discussion with guide is done and experts opinion also taken and the tool was developed under the guidance of the guide to collect the data.

The tool contains two sections, section 1: demographic data and section 2: observation checklist. In section 1 the demographic data contained birthweight, gestation age, parity, term and day of cord separation.

To ensure the content validity of the tool was submitted to experts along with demographic data, observational checklist. With suggested corrections needed changes were done with guide discussion and final tool was prepared.

Institutional ethical committee, meeting was held in Bharati Vidyapeeth Deemed to be University College of Nursing, Sangli and the research proposal was approved. Permission was obtained from private hospital of Sangli and Miraj to conduct pilot study and the main study. Informed written consent was obtained from the mothers prior to conducting the study.

Official permission was taken from concerned authorities. The investigator discussed the study with gynaecologist from particular hospitals. Informed consent was taken from postnatal mothers. 30 samples were selected for the study as per the criteria 15 samples were selected for experimental and 15 were for control group. The data was collected and recorded for 6 days in experimental group and in control group until the cord falls off.

A prior permission was taken from the concerned authorities of the hospitals. Informed written consent was obtained from mothers of newborn babies included in studies by explaining the purpose and objectives of study

Observation of umbilical cord was done on the day when baby was included in the study. In experimental group 1 ml of 4% chlorhexidine was applied soon after the first observation and procedure was continued for 7 days. Every day observation of the cord was done for one time before application of chlorhexidine. In control group routine hospital care was continued for 7 days.

Based on the objectives of the study, frequency, percentage, mean, sd were calculated to pre and post test score. Unpaired t-test is calculated to get pre test and post test score.

Results and Discussion

Based on the objectives of the study, frequency, percentage, mean, sd were calculated to pre and post test score. Unpaired t-test is calculated to get pre test and post test score.

Frequency and percentage distribution is done for demographic variables. Effectiveness of chlorhexidine was observed by comparing the mean of pre test and post test score of characteristics like redness, discharge, swelling and colour of cord between control and experimental group. The mean of all characteristics was greater in post test and p value was less

than 0.005 which characteristics showed there is significant difference between control and experimental group and p value is less than 0.005 which showed application of chlorhexidine on umbilical cord stump is effective for early separation of cord.

Table no 1: Frequency and percentage distribution of demographic variables

n = 30

Sr. no.	Variable	Groups	Control		Experimental	
			Freq.	%	Freq.	%
1	Birth weight(kg)	2-2.5	6	40	6	40
		2.5-3	6	40	8	53.33
		3-3.5	3	20	1	6.67
2	Gestational age (weeks)	35-37	7	46.67	6	40
		38-40	8	53.33	9	60
3	Term	Full term	11	73.33	9	60
		Pre term	4	26.67	6	40

Table no 1 show that, in the experimental group maximum 53% of babies have birth weight between 2.5-3 kg and in control group maximum 40% babies have birth weight between 2-3 kg and 60% mothers belong to 38 to 40 weeks of gestational age in experimental group. where as in control group 53% mothers belong to 38 to 40 weeks of gestational age .73% of babies are full term in control group and 60% in experimental group.

Table no 2: Difference between pretest and posttest scores for status of umbilical cord in control group. n=30

Sr. no.	Characteristics	Pre test score		Post test score		t value	p value
		Mean	Sd	mean	Sd		
1	Redness	3.46	0.74	3.7	0.5	2.82	0.01
2	Discharge	4.66	1.44	5.66	0.48	3.62	0
3	Swelling	1.33	0.48	1.7	0.5	5.29	0
4	Colour of cord	1	0	2.26	0.5	10.72	0

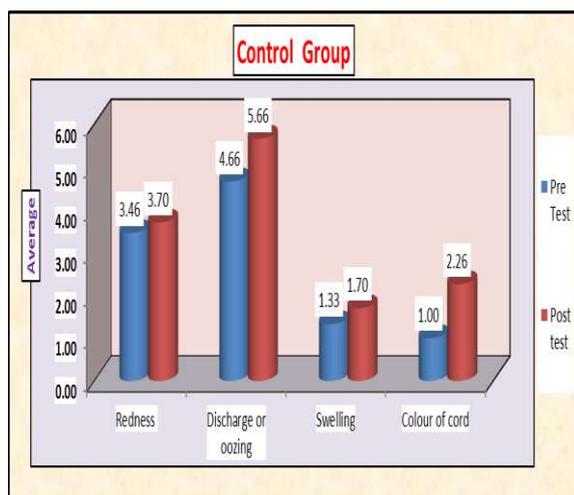


Fig no.1 Difference between pretest and posttest scores for status of umbilical cord in control group

Tableno 2: shows that for redness the pre test mean is 3.46 and sd is 0.74 and the post test mean is 3.70 and sd is 0.50 and the t value is 2.82, p value is 0.01 which is less than $p < 0.05$ which states that there is significant difference between pre test and post test in control group.

For assessment of discharge the pre test mean is 4.66 and s.d is 1.44 and in the post test the mean is 5.66 and sd is 0.48 hence the t value is 3.62 and p value is 0.00, which is less than $p < 0.05$ which states that there is significant difference between pre test and post test in control group.

For swelling the pre test mean is 1.33 and s.d is 0.48 and in post test the mean is 1.70 and sd 0.50 hence t value is 5.29 and 0.00 which is less than $p < 0.05$ which states that there is significant difference between pre test and post test in control group.

In colour of cord in pre test the mean is 1.00 and sd is 0.00 and in post test mean is 2.26 and sd is 0.50 and t value is 10.72 and p value is 0.00 which is less than $p < 0.05$ which states that there is significant difference between pre test and post test in control group.

Table no 3: Difference between pretest and posttest score for status of umbilical cord in experimental group. n=30

Sr. no.	Characteristics	Pre test score		Post test		T value	p value
		mean	sd	mean	sd		
1	Redness	3.53	0.64	4	0	2.82	0.01
2	Discharge	4.06	1.22	6	0	6.12	0
3	Swelling	1.6	0.5	2	0	3.06	0.01
4	Colour of cord	1.1	0.3	3	0	29	0

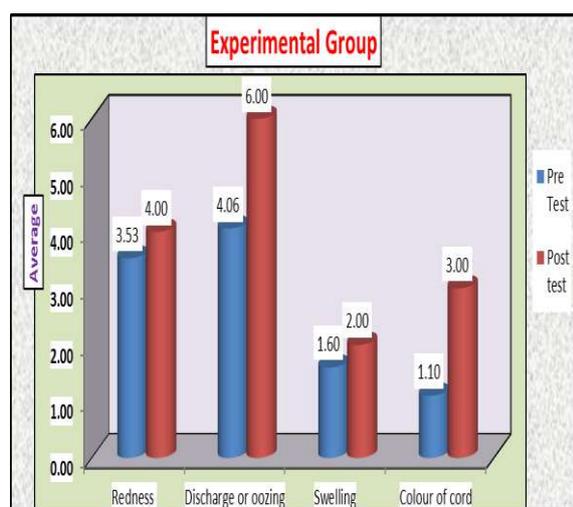


Fig no 2: Difference between pretest and posttest score for status of umbilical cord in experimental group

Table no.3 shows that for redness the pre test mean is 3.53 and sd is 0.64 and in post test mean is 4.00 and sd is 0.00 and the t value is 2.82 and p value is 0.01 which is less than $p < 0.05$ which states that there is significant difference between pre test and post in experimental group.

For discharge the pre test mean is 4.06 and s.d is 1.22 and in the post test the mean is 6.00 with sd is 0.00, t value is 6.12 and p value is 0.00 which is less than $p < 0.05$ which states that there is significant difference between pre test and post in experimental group

For swelling the pre test mean is 1.60 and s.d is 0.50 and in post test the mean is 2.0, sd 0.00 and t value is 3.06 and p value is 0.01 which is less than $p < 0.05$ which states that there is significant difference between pre test and post in experimental group

In colour of cord in pre test the mean is 1.10 and sd is 0.30 and in post test mean is 3.00 with sd is 0.00, t value is 29.00 and p value is 0.00 which is less than $p < 0.05$ which states that there is significant difference between pre test and post in experimental group.

Table no 4: Comparison between experimental and control group for status of umbilical cord.

n=30

Sr. no.	Characteristics	Control group		Experimental group		t value	p value
		mean	sd	mean	sd		
1	Redness	3.7	0.5	4	0	2.25	0.03
2	Discharge	5.66	0.48	6	0	2.64	0.013
3	Swelling	1.7	0.5	2	0	2.25	0.03
5	Colour of cord	2.26	0.5	3	0	6.2	0.001

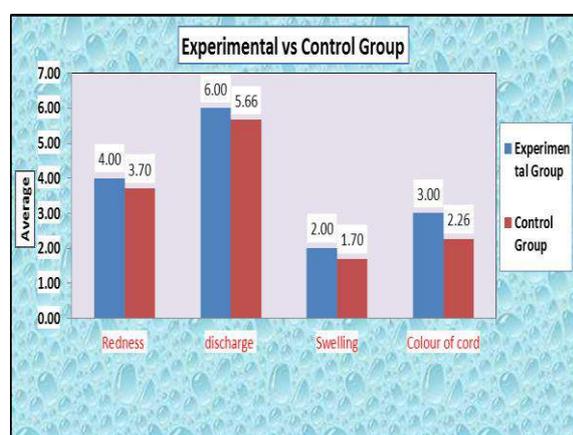


Fig no 3: Comparison between control and experimental group

Table no 4.shows comparison between control and experimental group.

For post test in control group there was mild redness as the mean is 3.70 and sd is 0.50 and in experimental group there was no redness as the mean is 4.00 and s.d is 0.00 and the t value is 2.25 and p value is 0.03 which is less than 0.05 which shows that there is significant difference between control and experimental group.

For post test in control group there was watery discharge as the mean is 5.66 and sd is 0.48 and in experimental group there is no discharge as the mean is 6.00 and s.d is 0.00 and the t value is 2.64 and p value is 0.013 which is less than 0.05 which shows that there is significant difference between control and experimental group.

For post test in control group there was swelling, as the mean is 1.70 and s.d is 0.50 and in experimental group there was no swelling, mean is 2.00 and s.d is 0.00 and the t value is 2.25 and

p value is 0.03 which is less than 0.05 hence it shows that there is significant difference between control and experimental group.

For post test in control group the colour of cord was brown, as the mean is 2.26 and s.d is 0.50 and in experimental group the colour of cord was black as the mean is 3.00 and s.d is 0.00 hence the t value is 6.20 and p value is 0.01 which is less than 0.05. In experimental group for post test the colour of umbilical cord turns to black which means the cord is drying. Therefore it shows that there is significant difference between control and experimental group.

apart from above observations, the another observation was also done for the day of cord separation and in control group was on 8th day, 9th day, whereas in experimental group it was on 7th day.

Conclusion

The study findings showed that application of chlorhexidine was effective in early drying and separation of cord as chlorhexidine is antiseptic solution which helps in prevention of infection. Chlorhexidine also helps in early drying of cord. Mothers also verbalized that they were happy as the cord dried early and there was no signs of infection and no any side effects also the cord separated early with chlorhexidine as compared to dry cord care.

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Conflict of Interest

No conflict of interest involved.

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BVDU, CON, Sangli.


Dr. (Mrs.) Nilima R. Bhore
Dean Faculty of Nursing & Principal
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IQAC Cell, College of Nursing, Sangli.

Webinar

"National Education Policy 2020 : Applicable to Nursing Education"

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Dr. Vijaya R. Kumbhar
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Training Program On
"New Clinical Trial Rules 2019, ICH GCP, and ICMR Guidelines"

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This is to certify that *Dr. /Mr. /Ms. /Mrs.* Jyotsna Kamble has participated in Training Program on "New Clinical Trial Rules 2019, ICH GCP, and ICMR Guild Line" organized by Bharati Vidyapeeth (Deemed to be University) College of Nursing, Sangli on 6th March 2023.


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~~Dr. /Mr. /Ms. /Mrs.~~ Jyostna Kamble. has
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on 31st March 2023.

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for being a Delegate/ Organizer/ Resource Person/ Oral presenter/ Poster Presenter*

at the National Symposium on Qualitative Research Methods held between November 21 & 22, 2019.

Tamil Nadu Nurses & Midwives Council Credit Hours 12

Tamil Nadu Dr. M.G. R. Medical University Credit Hours 20



WHO COLLABORATING
CENTER FOR NURSING AND
MIDWIFERY DEVELOPMENT

Yathsala
Dr. Yathsala Sadan & Dr. Premila Lee
Organizing Chairpersons

Pritha
Dr. Vinitha Ravindran
Organizing Secretary





Bharati Vidyapeeth, (Deemed to be University) Pune

Accredited with 'A+' Grade (2017) by NAAC, 'A' Grade University Status by MHRD, Govt. of India,
Category-I (Deemed to be University Grade) by University Grants Commission, Recognized under Section '12 B' of UGC Act (1956)
by University Grants Commission Ranked 68th among Top 100 Universities by NIRF 2020, MHRD Govt. of India.

College of Nursing, Sangli.

CERTIFICATE

This is to certify that,

~~Dr.~~ / ~~Mr.~~ / ~~Ms.~~ / ~~Mrs.~~ Jyostna Kamble. _____ has

attended seminar on 'Preparation of Proposal for ICMR Small Extramural Research Grants;
organized by IEC, Bharati Vidyapeeth (Deemed to be University) College of Nursing, Sangli
on 31st March 2023.


Prof. Dr. P. S. Patil
Responsible Person


Dr. (Mrs.) Nilima R Bhore
Dean, Faculty of Nursing & Principal
BV(DU)CON, Sangli


Dr. H. M. Kadam
Honorary Regional Director
Bharati Vidyapeeth, Sangli Campus



Bharati Vidyapeeth, (Deemed to be University) Pune

Ministry of Human Resource Development, Govt. of India

'A' Grade University Status

Re-accredited by NAAC with 'A' Grade



College of Nursing, Sangli.

• Certificate of Participation •

This is to certify that,

Dr./ Mr./ Ms./ Mrs. JYOTSNA . J. KAMBLE has participated as ~~Resource Person~~/ Delegate in Workshop on "NCTR 2019, Human Research Protection, Good Clinical Practice (GCP) and ICMR Guidelines" organized by Bharati Vidyapeeth (Deemed to be University), College of Nursing, Sangli, held on 11th November, 2020.

Dr. (Mrs). Nilima Rajan Bhore
Dean, Faculty of Nursing / Principal

Vaishali Deshpande
Trainer, Consultant Clinical Research

Dr. H. M. Kadam
Regional Director



BHARATI VIDYAPEETH

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Ministry of Human Resource Development, Govt. Of India

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COLLEGE OF NURSING, SANGLI



This is to certify that Dr. / Mr. / Mrs. / Miss. Jyotsna . Kamble .

has Participated in 5th National Conference on “When Disaster Leads Mental Conflict: The Mental Health and Psychological aspects Considered in Disaster Resilience – Nurses Perspective” as Organizing Committee Member/ Resource Person / Delegate / Paper Presenter Held on 13th& 14th of December 2019.

Dr. (Mrs.) Nilima Rajan Bhore
Chairperson

Mr. Bahubali J G
Organizing Secretary

Dr. H. M. Kadam
Regional Director