An interventional study on milk exclusive breastfeeding practices and barriers overcome through nutritional education

SUMMARY
of
THESIS

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SUMMARY

The WHO claimed that optimal breastfeeding could have led to the deaths of around 800,000 children under five years old. However, only 44% of infants in the world are exclusively breastfed **Joseph, R. et al., (2022).** The WHO estimated that almost two million children under five could be saved annually by EBF. The global figure is around 30 to 50%. In India, however, the figure is better at around 54.9%. The NFHS has also released data regarding the disease. The previous NFHS report indicated that the prevalence of the disease was 46.4%. However, in the fourth NFHS report, it was revealed that over 30% of India's districts have a 60% or higher EBF prevalence. According to POSHAN, the country's prevalence of the disease varied and ranged from 35.8 to 77.2%. In the next five years, it is proposed that the EBF rate should be increased to 80% **Pareek S., (2019).** Despite the various advantages of breastfeeding, the global prevalence of EBF remains poor. According to the Global Nutrition Report (GNR), the baseline rate for the disease was 38% from 2008 to 2012, with less than 40% of children under six months of age being affected by EBF in low and middle-income countries (LMIC). This is a concern since EBF is prevalent in low-and middle-income countries, where a lack of resources and cultural and environmental factors can affect children's health. Studies have shown that in high-income counties (HIC), exclusive breastfeeding can reduce the risk of getting diarrhea and respiratory infections. Despite this, the global prevalence of EBF varies **Still R. et al., (2016)** An exclusive breastfeeding technique involves giving a baby breast milk only until they're 6 months old. During this period, the mother or wet nurse does not mix other liquids or food with the milk. This practise can also be defined as providing the infant with only breast milk throughout their first six months **Motee & Jeewon (2014).** The World Health Organisation (WHO) and the United Nations Children's Fund (UNICEF) recommend that babies be given breast milk within one hour of their birth. that babies be given breast milk only until they are at least one year old. They also suggest that they continue breastfeeding until they are six months old and onward. This method is followed by the addition of complementary feeding **Al Sabbah et al., (2022).** Both UNICEF and the WHO state that breastfeeding is very important to achieving various SDGs, such as SDG 2, which seeks to end hunger and improve nutrition. It also helps in reducing child mortality, preventing non-communicable illnesses, and supporting education and cognitive development **Awoke & Mulatu., (2021).** The WHO also suggested beginning breastfeeding at the first hour of life. It continues EBF

with no other food until six months, and then complementary food until the child turns two years old **Joseph, R. et al., (2022).** It is believed that galactogogues enhance the production and supply of breast milk by increasing the amount of prolactin. But the exact mechanisms by which this can or may not work are not known **Bazzano et al., (2017)**. Some of the foods and herbs used as galactogogues include caraway, asparagus, borage, and fennel. Some of the other common herbs and food items that can be used as galactogogues include radishes, cilantro, cumin, curry, dill, fennel, and ginger. They can also be used to enhance the production of breast milk by increasing the levels of prolactin and oxytocin **Nice., (2011)** During the first six months of breastfeeding, mothers can encounter various barriers and difficulties. One of these is the belief that breast milk doesn't provide all the nutrients that babies need. This is because breast milk does not contain all the vitamins and minerals that babies need. Another barrier that mothers face is the perception that certain liquids, such as water, formula milk, and solid food, are better than breast milk. Another common reason why mothers refrain from breastfeeding is the fear of being perceived as an exclusive mother. This is because they have to return to work or feel uneasy about doing so in public places like restaurants, shopping centers, or public transport. Physical breast problems, like mastitis and soreness of the breasts, can also be challenging for mothers who exclusively breastfeed for six months **Nguyen et al., (2021)**.

RATIONAL OF THE STUDY

As per the WHO, only about 44% of infants aged 0-6 months worldwide were exclusively breastfed over the period of 2015-2020, and data says that nutrition during the first years of life is crucial for the lifelong health of the infant. The World Health Assembly set a global target of increasing exclusive breastfeeding for infants under 6 months to at least 50% by 2025. Women today are more likely to live in nuclear families, work, and rely increasingly on media for information. Social and environmental hazards create a lot of barriers during lactation that affect their exclusive breastfeeding practices. The present study aims to overcome the barriers during lactation and their breastfeeding practices through nutritional education via social media tools and also tell them about lactogenic food products so that their milk secretion can be enhanced.

Thus, looking upon the limitation of earlier studies the present study is planned with the following objectives:

- To map out personal characteristics and socio demographic factors.
- To find out the Knowledge regarding exclusive breastfeeding. of lactating mothers.
- To know the exclusive breastfeeding practice of mother during lactation.
- To examine barriers during exclusive breastfeeding of a child by using scale.
- To give nutritional education by using various tools to outcome from barriers.
- To associate pre and post intervention on feeding practices on basis of their knowledge.

HYPOTHESIS

H_0: There is no significant relationship qualification and exclusive breastfeeding knowledge.

H_0: An exclusive breastfeeding knowledge have not relationship with this occupation.

H_0: A correlation not found between age and their knowledge about breastfeeding, breastmilk expression and breastmilk storage.

H_0: There exists no significant correlation between living area and knowledge about breastfeeding, breastmilk expression and breastmilk storage.

H_0: Educational status exists no significant correlation with knowledge about breastfeeding, breastmilk expression and breastmilk storage.

H_0: There is no association between area and level of EBF knowledge of respondents

H_0: Level of EBF knowledge of respondents had not been impact on their parity.

H_0: Level of EBF knowledge of respondents had no significant association with their qualification.

H_0: There exist no significant relationship between area and breastfeeding practice

Ho: Occupation had no significant relationship with perceived exclusive breastfeeding barrier in lactating mothers.

H_0: There is no significant relationship occupation and perceived exclusive breastfeeding barrier in lactating mothers.

H_0: There exists no significant correlation between age and maternal, infant, and socio-environmental barriers

H_0: There is no association between family age and level perceived breastfeeding barrier

H_0: Respondents delivery occurring had no association with level perceived breastfeeding barrier among women.

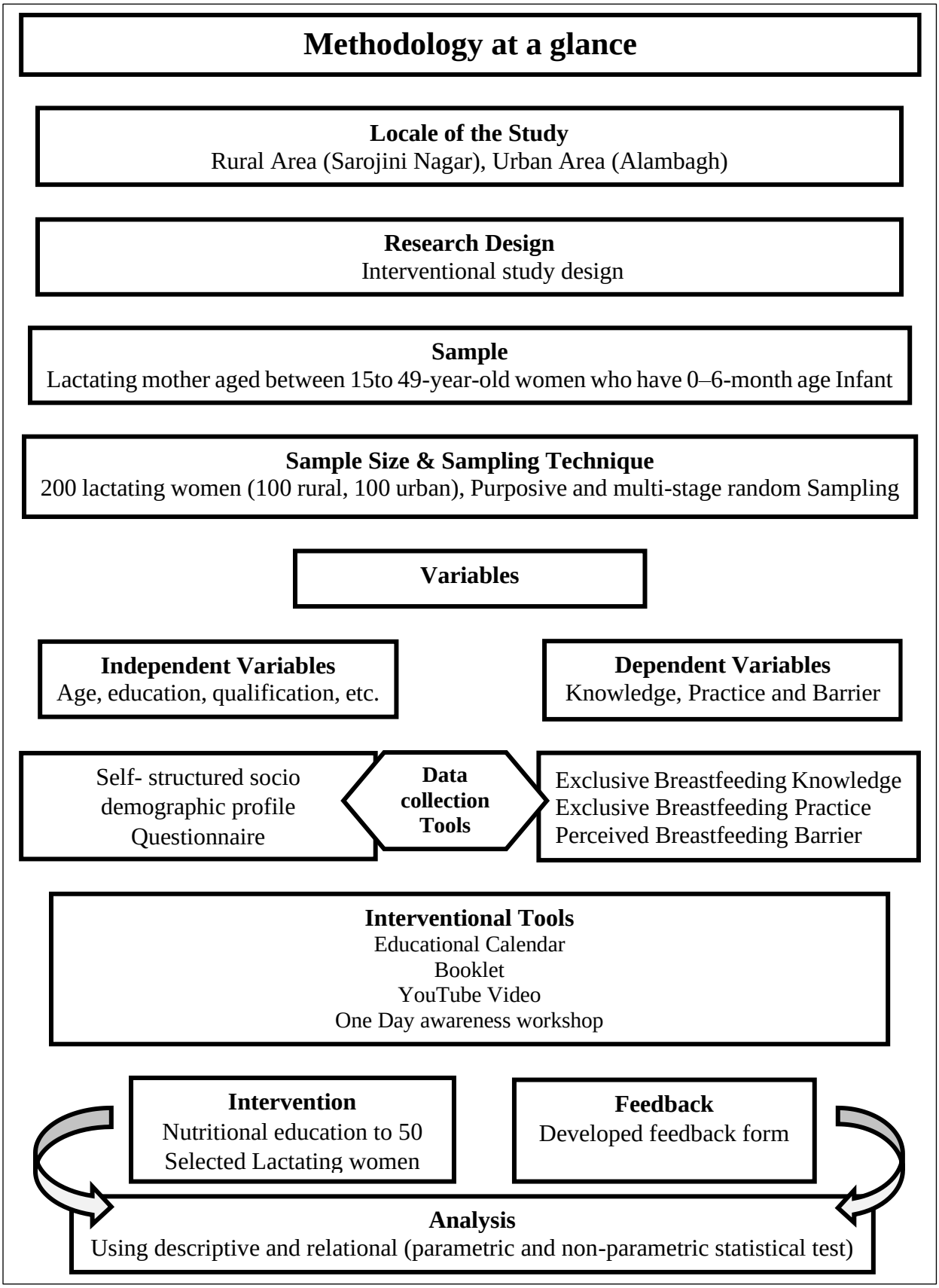
H_0: There is no association between family type of the respondents and level perceived breastfeeding barrier

H_0: Level perceived breastfeeding barrier of respondents had no association with parity.

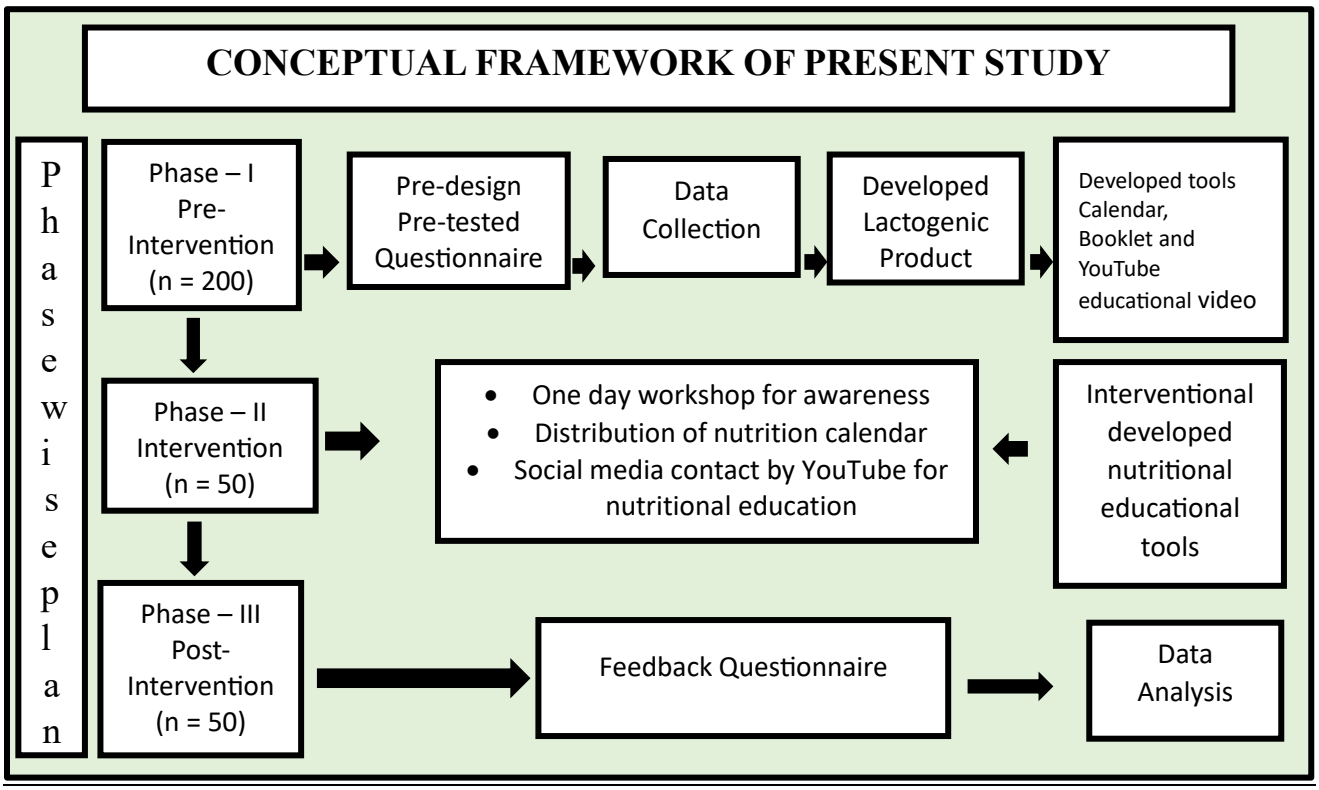
METHODOLOGY

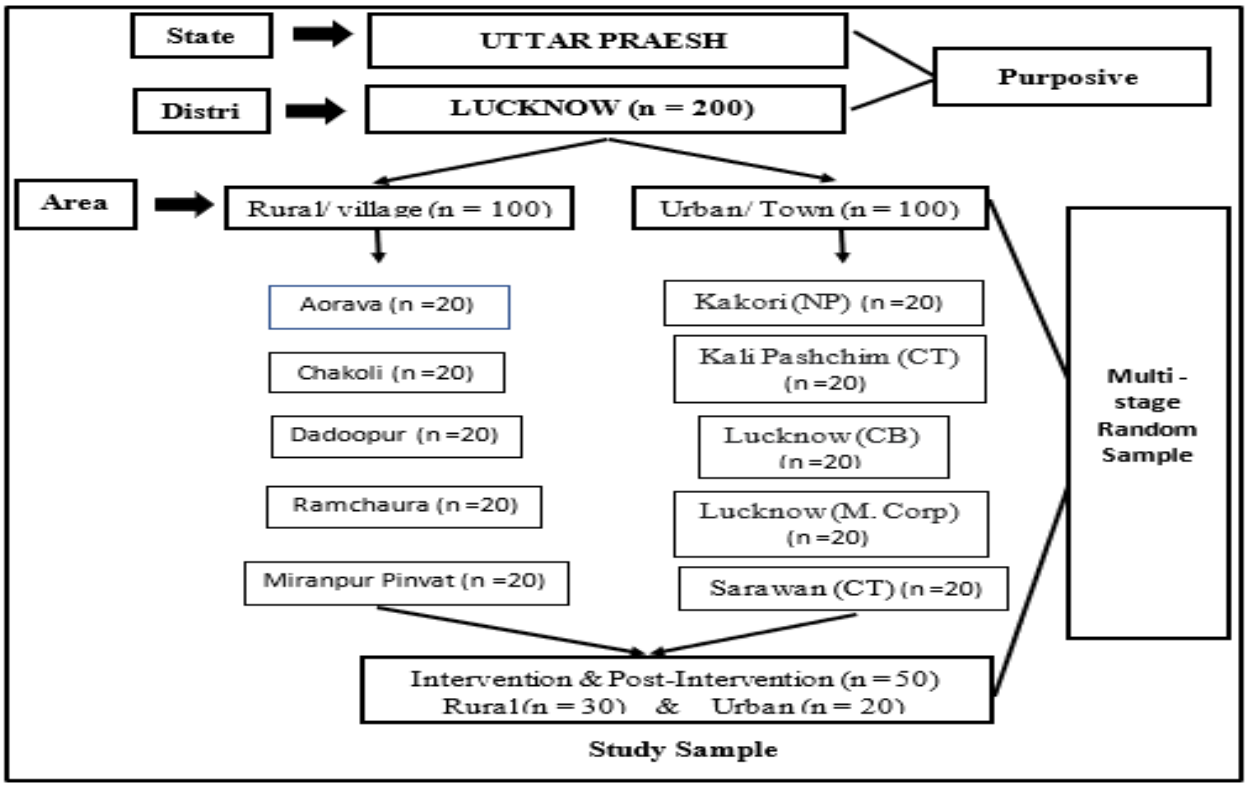
This section dealt with the materials and methods of the study. The interventional study was conducted following a non-experimental pre-and post-test design in which the researcher surveyed the two groups of areas classified as rural and urban areas. As the choice of the participants for this study included only lactating women who breastfeed infant (0-6 moths), the total number of samples taken for the study is 200. An equal number of subjects from rural and urban areas has been included in the study, i.e., 100 from the urban population and 100 from the rural population. The target population for this study included reproductive-age women. The subjects selected for this study belonged to the age group of 15-49 years, irrespective of their lactating period. Before initiating the actual research, a pilot study was conducted on 30 sample study subjects from rural and urban areas of Lucknow. The questions were personally asked to the respondents. The study was conducted in three phases; for each phase, a different approach to sampling was used. In the preliminary phase of the current study, multi-stage random sampling was used, followed by nonprobability sampling and purposive sampling.

SCHEMATIC REPRESENTATION OF RESEARCH STUDY

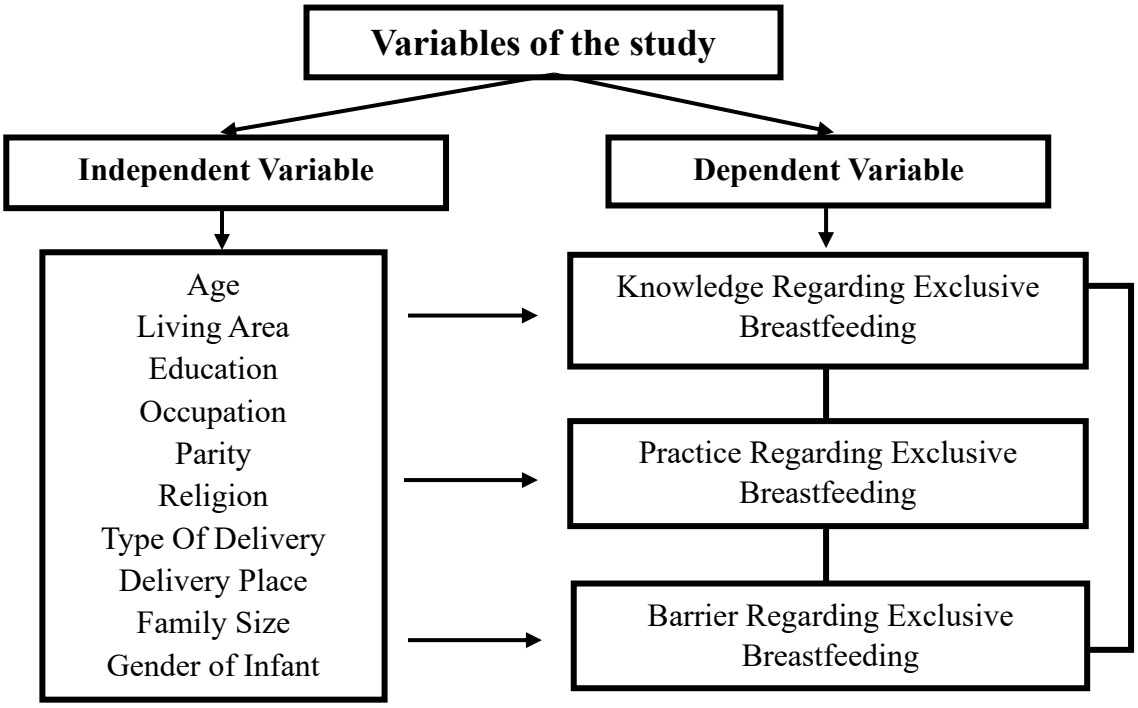


SAMPLING





Graphical representation of sample design



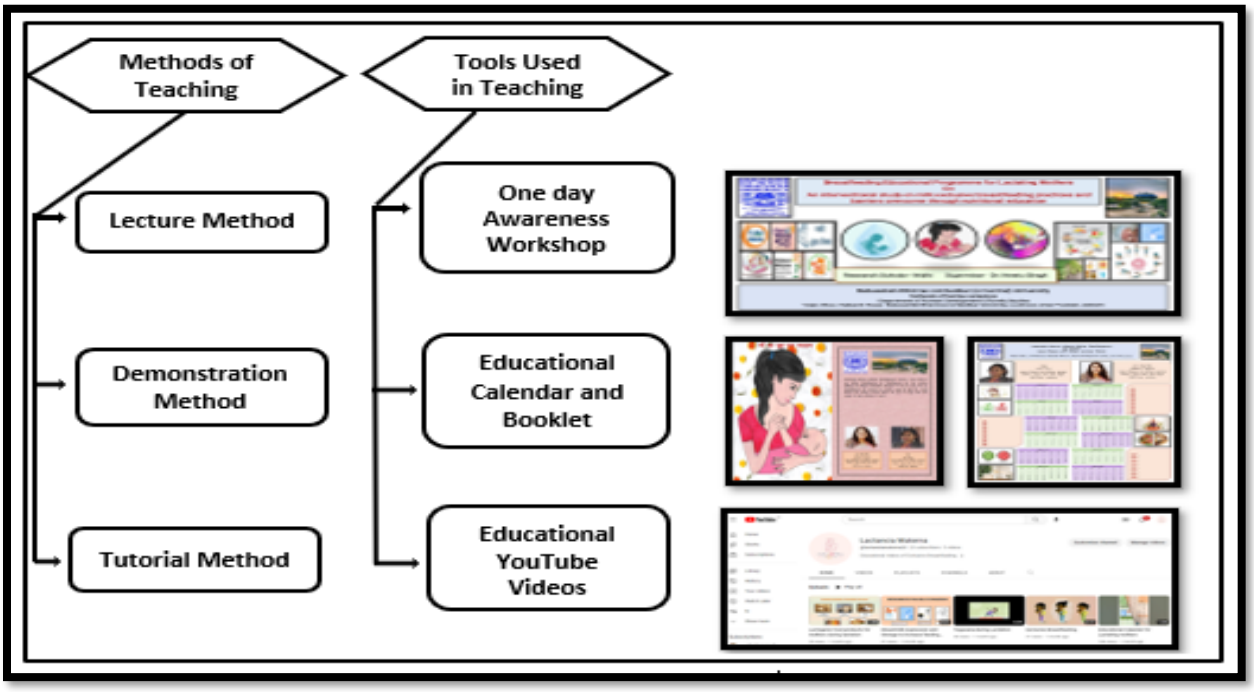
Graphical representation of variable of the study

DEVELOP VARIOUS TOOLS FOR NUTRITIONAL EDUCATION

In the interventional phase, three teaching methods were used to provide information regarding exclusive breastfeeding knowledge, practice, and barriers for lactating mothers. Different tools were developed by the researcher on the basis of the responses of lactating women. The study subjects belonged to the age group of 15–49 years and lived in rural and urban areas of Lucknow city. Three methods were planned to provide the education regarding exclusive breastfeeding and to make the teaching and learning sessions effective in the intervention phase. Those were:

Lecture method:

In the lecture method, one day of educational workshop was organised in rural area. In the lecture method, mothers were sensitised about exclusive breastfeeding by showing them an educational calendar that was created by a researcher for lactating mothers.



Demonstration method:

The calendar (which consists of the various information regarding exclusive breastfeeding, breastmilk expression, and storage) was distributed to the respondents individually for the purpose of reminding them of the information provided by the researcher in the teaching and learning

session and for future use. And five recipes were demonstrated in front of rural and urban women. Five lactogenic products were developed for lactating women. Product.

Calander and booklet:

Calander consists of 12 months (January 2022 to December 2022) and information about exclusive breastfeeding. Booklet has 24 pages. The following topics were covered:

- Breastfeeding schemes
- Dos and don'ts during breastfeeding
- Breastmilk expression and storage
- Benefits of breastfeeding for mother and infants
- Breastfeeding positions
- Dietary pattern during breastfeeding
- Importance of lactogenic foods
- Lactogenic Recipes
- Myths and facts of breastfeeding
- Yoga during lactating period

Tutorial Method:

In the demonstration method, mothers were sensitised about exclusive breastfeeding by showing them an educational calendar that was created by a researcher for lactating mothers. The tutorial method featured YouTube videos made by the researcher.

Videos: Five videos were created for related exclusive breastfeeding. It consists of information about breastfeeding, importance of exclusive breastfeeding, breastmilk expression, and secretion, lactogenic food/herbs, yoga during lactation.

STATISTICAL ANALYSIS

Data was collected, coded, and entered into the SPSS Version 20. Initially, the association of socio-demographic factors with the knowledge, practise, and barriers to exclusive breastfeeding of the respondents was analysed by applying the chi-square test, correlation, t-test, and ANOVA. The other appropriate statistical tools incorporated in the study included Mean±SD, and frequency tabulation.

MAJOR FINDINGS OF THE RESEARCH

Personal characteristics and socio demographic factors.

- The half of the respondents belonged to rural area 100 (50%) and the other half lived in urban area 100 (50%).
- Majority (77.5%) of the lactating women belonged to the age group of 21 to 30 years followed by above 30 years and only 8 percent of the women were aged less 20 years.
- The maximum number of women were primiparous (64%), and the rest of the 36 percent were multiparous.
- The qualification of the lactating mothers revealed that major (38.5%) of them were highly educated while 32.5 percent were secondary, 25 percent educated till primary and only 4 percent of them were illiterate.
- Majority 65.5 per cent of the individuals of this study were housewives, followed by those who are employed (34.5%)
- A greater number of the respondent (52.5%) had cesarean deliveries, followed by 47.5 percent had normal deliveries.
- Total 54 percent of respondents gave birth in a government hospital while 45 percent gave birth in a private hospital, and only 1 percent at home.

Knowledge regarding exclusive breastfeeding of lactating mother

- The highest breastfeeding knowledge among educated respondents, followed by secondary literate and illiterate.
- The knowledge of breastfeeding, exclusive breastmilk expression and breastmilk storage was found in more lactating women who lived in urban areas than in rural area.
- Women aged 20 to 30 years were found to have more knowledge about breastfeeding, exclusive breastmilk and storage.
- The result revealed that lactating women who were non-government employees had more knowledge about exclusive breastfeeding knowledge. It was found to be significant at the level of 0.05.

- The relationship between age and knowledge of breastfeeding was found to be positively correlated and highly significant.
- It was also observed that area, qualification and knowledge of breastmilk were positively correlated with each other.
- Result shows a significant association between area and breastfeeding knowledge, with rural and urban respondents having different levels of knowledge. The rural area was having moderate knowledge (22%) and urban area having high knowledge (42.5%) regarding breastfeeding.
- It shows a significant association between parity and breastfeeding knowledge, with level of knowledge varying among primiparous and multiparous lactating respondents, in which primipara has high knowledge (57.8%) than multipara.

Exclusive breastfeeding practices of mother during lactation

- Result revealed a significant association between exclusive breastfeeding practice and the area. Urban area respondents have good exclusive breastfeeding practices than rural areas. It was found to be highly significant.
- It is obvious from the result that lactating women aged 20-30 years were having more breastfeeding practice compared to other age group women.
- It is obvious from the result that lactating women who had C-section delivery were having more breastmilk practice compared to normal delivery.
- Data depicts that women who were primipara they were having more breastmilk practices compared to multipara.
- The lactating women who were homemakers were found to be more breastmilk practice than other groups.
- Result reveals that lactating women who were higher qualified were more doing breastmilk practices compared to other groups.
- The relationship between the area of the respondent and breastfeeding practices. It was found to be highly significant (r=.015, p=.000).
- Data shows qualification and exclusive breastfeeding practice are negatively related in lactating women (r=-.150, p=.000).

Barriers during exclusive breastfeeding of a child by using scale.

- The result showed exclusive breastfeeding barriers among rural and urban area respondents. It was found that rural area respondents were facing more barriers than urban areas.
- The respondents with non-government employees (51.00 ± 7.39) were facing more barriers regarding breastfeeding followed by equally self-employees and homemakers, lastly, government employees (48.91±11.92) were facing barriers.
- The relationship between age and exclusive breastfeeding practice has negatively correlated with each other. There was no significant correlation.
- The level of breastfeeding barriers 62 percent of lactating women aged 20-30 years were facing moderate barriers. The association between age and breastfeeding barrier score of respondents was ($\chi 2$ =13.70, $p<0.033$).
- It demonstrated a substantial association between the perceived breastfeeding barrier and the type of delivery. It was found that 41 percent of the C- section delivery were facing moderate barriers compared to normal delivery lactating mothers.
- It showed an association between parity and perceived breastfeeding barriers, with moderate barriers (51%) observed in primipara while 29 percent moderate barriers facing by multipara respondents. Barrier levels varied among respondents, with low, moderate, and high scores.

Nutritional education by using various tools to outcome from barriers.

- A higher number of respondents reported that they were sharing this knowledge with others followed by they applied the facts mentioned in the program to themselves and this program will change the way of breastfeeding for good) and calendar & booklet, knowledge about breastmilk expression and storage, Lactogenic herbs and food, in which a greater number of the respondent said they informed other women about recipes. Further, the majority of the respondents also strongly agree with yoga asanas and YouTube; the majority of the respondents reported that they will share the information given by the video in the program with other women followed by the information given by the video in the program was helpful.

To associate pre and post intervention on feeding practices on basis of their knowledge

- The difference between pre-intervention and post-intervention knowledge of breastfeeding. It was found that the knowledge of breastfeeding increased from pre-intervention to post-intervention, which increased post-intervention in which a greater number of the respondents (92%) were found to have high knowledge about breastfeeding. Similarly, the practice of breastfeeding was also changed from 13.15 ± 2.08 to 10.48 ± 4.08. It was found that highly significant at the level of 0.01.
- It was revealed that post-intervention, scores ranged from 7.92+2.25 to 9.24+1.57 in knowledge of breastmilk expression and from 1.05+2.14 to 2.84+3.30 in practice of breastmilk expression.
- It was observed that the score ranged from 12.5±6.47 to 18.82±2.71 knowledge of breastmilk storage and 00.00±5.9 to 8±6.40 practise of breastmilk storage, respectively, improved post- intervention.
- Knowledge of exclusive breastfeeding and breastmilk was increased from 32.69±13.23 to 44.74±6.68. it was found to be highly significant.

CONCLUSION

The present study findings suggest that Women in urban areas have better knowledge, practices about exclusive breastfeeding than women in rural areas. Lactating women face a lot of barriers during their lactating phase. Lack of knowledge about exclusive breastfeeding, lack of knowledge about breastfeeding technique, insufficient breastmilk secretion, facing difficulties during baby latching on breast because of the baby's irritating mood, feeling uncomfortable in public while breastfeeding, and lack of support from family members make breastfeeding practise more difficult. It is necessary to give more and more information about breastfeeding to women to improve their breastfeeding practice. It is also necessary to inform them about nutrients during breastfeeding so that the problem of insufficient milk can be decreased. It is also necessary to make their husbands and family aware of exclusive breastfeeding so that women get family support and breastfeeding practice improves.