

**Comparing different channels of mass media for health communication**

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**ABSTRACT**

**Background-** Mass media, encompassing television, radio, newspapers, and digital platforms, serves as a potent tool for disseminating information and shaping societal norms. Through informative campaigns, advertisements, and educational programs, mass media plays a pivotal role in increasing awareness about the benefits of exclusive breastfeeding (EBF). It educates expectant and new mothers about the nutritional advantages of exclusive breastfeeding for infants and the health benefits it offers to mothers. **Aim:** To compare the role of different mass media channels in improving practices regarding exclusive breastfeeding (EBF). **Method:** The present study was a cross-sectional investigation that was carried out in a rural region of the Harahua block in the Varanasi district. The selection of the 416 individuals involved the use of multistage stratified cluster sampling, and those female participants who <1 year of age did not have child were excluded from the research. The Statistical Package for the Social Science (SPSS) Trial version 25 was utilized for the data entry, checking, cleaning, coding, and analysis processes. **Results:** This study showed that compared the mean exclusive breast practice Scores of respondents exposed to health messages through different mass-media channels. Our study shows that, 79.1%, of the respondents have been exposed to these health messages through radio, followed by television (77.9%) and newspaper (58.4%). When considering individual factors and their interactions, "Television" ( $F(1,408) = 7.529, p = .006$ ), and interaction effect of "Radio and Television" ( $F(1, 408) = 4.125, p = .043$ ) were found to be statistically significant contributors to exclusive breast feeding practices. **Conclusion:** This study suggests that the choice of mass media channels for delivering health messages has a meaningful impact on exclusive breastfeeding practices among women. Specifically, exposure to health messages through television and the combined effect of television and radio is associated with better exclusive breast feeding practices. This finding underscores the importance of selecting effective mass media channels for health communication campaigns aimed at promoting exclusive breastfeeding practices (EBF) and maternal and child health.

**Keywords:** Mass media, Exclusive breastfeeding practices, Health Communication.

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**Introduction**

Breastfeeding has various health benefits for mothers, such as aiding in uterine contraction after childbirth, serving as a natural form of birth control, and reducing the risk of ovarian and breast cancer. Despite these advantages, achieving the ideal breastfeeding practices outlined by the WHO is not always common, particularly in low-income, resource-limited areas.<sup>1</sup>

For instance, data from India's National Family Health Survey (NFHS-4) revealed that only 41.6% of newborns in India were breastfed within the first hour of birth, which is an improvement from the previous NFHS-3 data indicating that only 23.4% of newborns received early breastfeeding.<sup>2</sup> Moreover, fewer than 70% of mothers reported adhering to the WHO's recommendation of exclusive breastfeeding for the first 6 months. In urban New Delhi, specifically, just 34.5% of women followed the practice of exclusive breastfeeding until their children reached 6 months of age, marking one of the lowest rates in urban India.<sup>3,4</sup> Exclusive breastfeeding is an essential pillar of comprehensive maternal and child health, recognized for their significant contributions to improving health outcomes for both mothers and children. Efficient communication in the field of health is crucial for conveying important information to the public, encouraging healthy behaviors, and ultimately enhancing overall public health. In today's world, mass media serves as a pivotal tool for health communication, offering a potent means of transmitting health-related messages to diverse audiences. Different mass media channels, including newspapers, television, and radio, each possess unique attributes that can impact the reach and effectiveness of health communication initiatives.

The objective of this study is to examine and compare the effectiveness of various mass media channels in health communication, with a specific focus on their influence on health-related practices. In this case, we will explore exclusive breastfeeding (EBF) practices among women. Through an analysis of data related to exposure to health messages through these channels and the resultant exclusive breastfeeding (EBF) practice scores, we aim to comprehend potential variations in how health messages are received and how they affect health-related behaviors.

Newspapers, television, and radio, the three mass media channels in question, exhibit distinct characteristics that can influence their efficacy in delivering health messages. Newspapers are known for their written content, offering opportunities for in-depth information dissemination and the possibility for readers to revisit the material. Contrary wise, television combines visual and auditory elements, providing a dynamic and engaging platform. Radio, primarily auditory, offers a versatile means of reaching a broad audience, often in remote or rural areas.

With health communication strategies increasingly relying on mass media channels to educate and inform the public, it becomes imperative to evaluate the differing impacts of these channels on health-related practices. By comparing the mean exclusive breastfeeding practice Scores of individuals exposed to health messages through these diverse channels, we can gain insights into which medium might be more effective in promoting exclusive breastfeeding - a critical aspect of maternal and child health.

**Aim:** To compare the role of different mass media channels in improving practices regarding exclusive breastfeeding.

**Objective:**

1. To find out the prevalence of exposure to health-related content through different mass media channels.
2. To compare exclusive breastfeeding practices across three groups exposed to health messages through different mass-media channels.

## **Methodology**

**Study design:** A community-based cross-sectional study was performed to compare the role of different mass media channels in improving practices regarding exclusive breastfeeding. Women who had at least one child aged less than or equal to one year in a randomly selected Harhua block of Varanasi were interviewed.

A Multistage Stratified Random Sampling technique was used in this study. In the first stage, out of 8 Community Development Blocks of Uttar Pradesh, Harahua was selected randomly. In the second stage, 172 villages of Harahua Block were classified into three strata according to their distance from PHC (2 km, 5 km and 7 km). We randomly selected 7 villages from these strata (3 from the first strata, 2 from the second strata and 2 from the third strata based on their weights) and from each of the selected villages, the beneficiaries list was obtained from ASHA. Women were selected randomly from each village following equal allocation.

**Inclusion Criteria:** Those women who had at least one child aged less than or equal to one year and who had given consent were included in this study.

**Exclusion Criteria:** Women who were Unmarried or severely ill have been excluded from the study.

The sample size for the study was calculated to be 416 (taking 5% level of significance, 5% margin of error and 10% non-response rate). Data collection was done using an interview schedule. Descriptive statistics were measured to see the prevalence of exposure to health-related content through different mass media channels. The significance of differences in means across different communication methods is compared using Design of Experiment.

**Ethical Issue:** Ethical clearance and permission were obtained from the ethical committee of the Institute of Medical Sciences, Banaras Hindu University, Varanasi. Written Informed consent was obtained from each of the study participants after explaining the nature of the study, its potential benefits and the expected duration of the study. The confidentiality of the participants was maintained throughout the study. Participants of the study were also ensured that their participation was voluntary and that they could leave the study at any time.

## **Results**

**Table-1** shows that majority of the respondents were between age group 25-34 years. A smaller portion is in the 15-24 (20%) and 35-44 (16.8%) age groups. The majority (94.5%) of the respondents belonged to Hindu religion. The majority (43.8%) belongs to the General caste. Other groups include OBC (28.6%), SC (25.5%) and ST (2.2%). The largest portion of them possessed a moderate level of education, accounting for 32.7%. In terms of education, the smallest proportion had received secondary education (10.8%). Joint families were more widespread (65.4%), while nuclear families were less frequent at 34.6%. large families were the most prevalent at 57.5%, followed by medium-sized families at 40.1%, with small families having the smallest share at 2.4%.

**Table- 1: Socio-demographic profile of the respondents**

Socio-Demographic Characteristics		No.	%
Age-Group	15-24	83	20.0
	25-34	247	59.4
	35-44	70	16.8
	45 and above	16	3.8
Religion	Hindu	393	94.5
	Muslim	23	5.5
Caste	General	182	43.8
	OBC	119	28.6
	ST	9	2.2
	SC	106	25.5
Education	Primary	94	22.6
	Secondary	45	10.8
	High School	66	15.9
	Intermediate	136	32.7
	Undergraduate	75	18
Family Structure	Joint	272	65.4
	Nuclear	144	34.6
Family Size	Small Family	10	2.4
	Medium Family	167	40.1
	Large Family	239	57.5

**Table-2** presents information on the exposure of individuals to health messages related to exclusive breastfeeding/ antenatal Care through newspapers. The table categorizes individuals into two groups based on their exposure to health messages through newspapers. Among the surveyed individuals, approximately 243 (58.4%) of the respondents have been exposed to these health messages through newspapers. Equally, about 173 (41.6%) of the surveyed population individuals have not encountered such health messages in newspapers. The data reveals that a significant portion of the surveyed population, 58.4%, has been exposed to health messages on exclusive breastfeeding/ antenatal care through newspapers, indicating a reasonably effective reach of these messages through this medium.

**Table- 2:** Prevalence of exposure to health messages through Newspaper

Exposure to health messages through Newspapers		No.	%
Exposure to health messages about exclusive breastfeeding/ antenatal care through Newspaper	Yes	243	58.4
	No	173	41.6
<b>Total</b>		<b>416</b>	<b>100</b>

**Table-3** highlights information on the exposure of individuals to health messages related to exclusive breastfeeding/ antenatal care. Among the surveyed individuals, 324 have been exposed to health messages about exclusive breastfeeding/ antenatal care through television. Majority of the respondents 77.9% have been exposed to these health messages through television. Conversely, 22.1% of the surveyed population has not come across these health messages on television. A substantial proportion of the surveyed population has been exposed to these messages through television, suggesting that television is a highly effective platform for disseminating such health information.

**Table- 3:** Prevalence of exposure to health messages through Television

Exposure to health messages about exclusive breastfeeding/ antenatal care through Television	No.	%
Yes	324	77.9
No	82	22.1
<b>Total</b>	<b>416</b>	<b>100</b>

**Table-4** presents information on the exposure of individuals to health messages related to exclusive breast feeding/ antenatal care through radio. Among the surveyed individuals, 329 have been exposed to health messages about exclusive breastfeeding/ antenatal care through radio. Majority, 79.1%, of the respondents have been exposed to these health messages through radio. Conversely, 20.9% of the surveyed population has not come across these health messages on the radio.

**Table- 4:** Prevalence of exposure to health messages through Radio

Exposure to health messages about exclusive breastfeeding/ antenatal care through Radio	No.	%
Yes	329	79.1
No	87	20.9
<b>Total</b>	<b>416</b>	<b>100</b>

The **table-5** compares the exclusive breastfeeding practice scores of respondents who were exposed to health messages through three different mass-media channels: Newspaper, television, and radio. For respondents exposed to health messages through newspapers, the mean exclusive breastfeeding practice score is 2.9. For those exposed to television, the mean score is about 2.7. For those exposed through Radio, the mean score is approximately 2.7.

**Table- 5:** Exclusive breastfeeding practice score of respondents exposed to health messages through different media channels.

Exposed to health messages through	No.	Minimum Score	Maximum Score	Mean EBF Practice Score	Std. Deviation
Newspaper	243	0	5	2.99	0.85
Television	324	0	5	2.77	0.87
Radio	329	0	5	2.78	0.86

**Table-6** shows that the analysis examined factors influencing exclusive breastfeeding practices. The model was statistically significant [ $F(7, 408) = 6.673, p < 0.001$ ], indicating that the combined predictors had a significant effect on exclusive breastfeeding practices.

**Table- 6:** Comparison of mean exclusive breast feeding practice score of respondents exposed to health messages through different Media channels

Source	Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	31.38 <sup>a</sup>	7	4.48	6.67	0.00
Intercept	1767.47	1	1767.47	2630.93	0.00
Newspaper	5.49	1	5.49	8.17	0.00
Television	5.06	1	5.06	7.53	0.01
Radio	2.30	1	2.30	3.43	0.06
Newspaper*Television	0.07	1	0.06	0.10	0.76
Television * Radio	1.64	1	1.64	2.44	0.12
Newspaper * Radio	2.77	1	2.77	4.13	0.04
Newspaper*Television * Radio	0.04	1	0.04	0.06	0.80
Error	274.10	408	0.67		
<b>Total</b>	3613	416			
<b>Corrected Total</b>	305.48	415			

a. R Squared = 0.103 (Adjusted R Squared = 0.087)

The overall model accounted for a moderate proportion of the variance in exclusive breastfeeding practices (R-squared = 10.3%). When considering individual factors and their interactions, "Television" [F (1, 408) = 7.529, p = 0.006] and the interaction "Radio\*Television" [F (1, 408) = 4.125, p = 0.043] were found to be statistically significant contributors to exclusive breastfeeding practices. The predictor "Newspaper" also showed a significant influence on exclusive breastfeeding practices [F (1, 408) = 8.171, p = 0.004].

In general, this analysis suggests that television exposure and the interaction between radio and television play a role in influencing EBF practices, along with the influence of newspaper exposure.

## **Discussion**

Media is widely acknowledged as a highly valuable tool for communication in the realm of public health. It has consistently proven effective in raising awareness during public health crises, particularly when the target audience is large and dispersed geographically. Traditional face-to-face communication methods often struggle to reach such audiences, especially in underserved rural areas.

In a study conducted by Shahwar Kazmi et al. in Bihar, it was observed that majority of mothers gained knowledge about exclusive breastfeeding primarily through television and radio (with an odds ratio of 68 and 95% confidence interval of 5.5-832.5) and newspaper advertisements (with an odds ratio of 14 and 95% confidence interval of 2.6-76). Among various forms of mass media, television and radio had the most significant impact on exclusive breastfeeding rates, followed by those who read newspapers or saw hoardings. Interestingly, the parent's occupation did not appear to significantly affect the duration of exclusive breastfeeding, and the mother's age was also found to have an insignificant impact. The study also examined the influence of social media platforms like YouTube and Facebook on breastfeeding decisions among slum dwellers in Bihar and found no significant effect.<sup>5</sup>

Complete, television emerged as the most popular media source, surpassing newspapers/magazines, radio, and even cinema. According to a recent survey by the Broadcast Audience Research Council India, television is the preferred medium in India due to its affordability and the availability of free-to-air channels.<sup>5</sup> Additionally, when considering urban and rural areas separately, higher television exposure was more common in urban regions, possibly due to better access to amenities like electricity and cable TV. Other contributing factors could include higher literacy rates in urban areas, which result from improved access to schools and universities.<sup>5</sup>

According to the study, access to health-related messages through mass media accounted for 26.6% of the total. This means that 25.9% of the study participants had access to health messages via radio, 63.2% through television, and 52% through mobile phones. Additionally, 11.3% had access to more than one type of media.<sup>5</sup>

## **Conclusion**

This study suggests that the choice of mass media channels for delivering health messages has a meaningful impact on exclusive breastfeeding practices among women. Specifically, exposure to health messages through television and the combined effect of television and radio are associated with better exclusive breastfeeding practices. This finding underscores the importance of selecting effective mass media channels for health communication campaigns aimed at promoting exclusive breastfeeding and maternal and child health.

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