

Research Article

Impact of Socio-Demographic Variables on Maternal Breastfeeding Knowledge and Practices: A Cross-Sectional Investigation in The Gambia

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Introduction

According to health expert Dr. Rafeh, current research suggests that initiating breastfeeding within the first hour of life can reduce infant mortality by 22% and provide various health benefits. Early breastfeeding not only protects newborns from diseases but also fosters the bond between mothers and children, reduces the risk of breast cancer in mothers, and acts as a natural method of birth spacing [1]. Breastfeeding is universally acknowledged as the optimal method of infant feeding. The World Health Organization (WHO) recommends exclusive breastfeeding for the first six months of life, followed by continued breastfeeding alongside complementary foods until the age of two. Breastfeeding encompasses a wide range of health benefits for both the mother and baby, while also offering so-

Abstract

Background: Despite substantial evidence emphasizing the importance of breastfeeding, there is room for improvement in its prevalence in The Gambia, which currently stands at approximately 80% - 90%. Globally recognized as the preferred approach to infant feeding, the World Health Organization (WHO) recommends exclusive breastfeeding for the first six months, followed by continued breastfeeding alongside complementary foods until the age of two years.

Objective: This study aimed to evaluate the knowledge and practice of breastfeeding among postnatal mothers attending antenatal care at Fajikunda Health Center (FkHC) in The Gambia.

Methods: A descriptive cross-sectional study was conducted at FkHC, involving a randomly selected sample of 500 maternal mothers. Data was collected through face-to-face interviews using both structured and unstructured questionnaires.

Results: The study findings indicated that both the knowledge and practice of breastfeeding among maternal mothers were 99%. Most respondents were between the ages of 21 and 25, with 58% being married. Regarding education, 18% had primary education, 46% had secondary education, 20% had no formal education, and 16% had a diploma or university education. Additionally, 34% of the infants included in the study were less than one month old.

Conclusion: The study concludes that maternal knowledge and practice of breastfeeding were high. Socio-demographic factors such as age, education, and occupation were found to significantly influence the knowledge and practice of breastfeeding among mothers.

Keywords: Knowledge; Practice; Breastfeeding; Fajikunda; The Gambia

cial and economic advantages to the community and contributing to a reduction in child morbidity and mortality. Recognizing the significance of breast milk, WHO and UNICEF strongly advocate for exclusive breastfeeding [2]. Despite awareness of many advantages of breastfeeding its rates often fall short of recommended practice. In an effort towards achieving better breastfeeding practices, the United International Children's Emergency Fund (UNICEF) and WHO launched the Baby Friendly Hospital Initiative (BFHI) in 1991 to ensure that all maternity facilities support mothers in making the best choice about feeding [2]. It is known that breastfeeding rates vary by demographic and socioeconomic factors and that these factors may impact differently on initiation and duration. Studies have indicated

that characteristic such as increasing maternal, age, education, income and being a smoker are associated with higher rates of breastfeeding [1].

The first two years of a child's life are critical for their growth and development, as any nutritional deficiencies during this period can lead to impaired cognitive development, compromised educational achievement, and reduced economic productivity [3]. Exclusive breastfeeding during the first six months of life plays a vital role in stimulating babies' immune systems, protecting them against diarrhea and acute respiratory infections, which are major causes of infant mortality in developing countries. It also enhances their response to vaccinations [4].

Breast milk, being a unique gift from mother to baby, provides the best start in life. It is a complete food containing all the essential nutrients required for the baby's growth and development in the initial months of life. Breast milk not only offers significant protection against diarrheal diseases but also helps prevent respiratory infections. Additionally, it fosters a strong bond between mother and baby [5]. Therefore, the goal of this study is to evaluate the knowledge and practice of breastfeeding among postnatal mothers who receive antenatal care at Fajikunda Health Center (FkHC) in The Gambia.

Literature Review

Breastfeeding in The Gambia

In Gambia, statistics suggest that approximately 36% of infants under four months exclusively rely on breastfeeding, while 36% of those aged between 6-9 months are introduced to a combination of breast milk along with solid or semi-solid foods [6]. The feeding practices of mothers in rural Gambia are intricately linked to their traditional beliefs and customs [7].

Breastfeeding holds significant cultural importance in Gambia, similar to many African nations, with mothers often engaging in prolonged breastfeeding. Although Gambian mothers typically breastfeed their infants for 18 to 24 months, the commencement of breastfeeding is commonly delayed post-delivery [7]. The introduction of the Baby-Friendly Community Initiative (BFICI) strategy played a role in boosting the national average of exclusive breastfeeding, from 0% in 1989 to 17.4% in 1998, further increasing to 36% in 2000 [8] and 41% in 2006 [6]. Exclusive breastfeeding provides optimal nutrition for infants, fostering healthy growth and development, and reducing the occurrence of diseases such as diarrhea and pneumonia, consequently lowering infant morbidity and mortality rates [7].

Despite cultural practices like giving infants water for hydration, exclusive breastfeeding for the initial six months remains relatively low, standing at 33.5% at the national level [6]. In response, the National Nutritional Agency (NaNA) and the Ministry of Health, supported by the United Nations International Children's Emergency Fund (UNICEF), are set to implement Interventions, focusing on creating awareness in vulnerable areas, particularly in the Upper River Region (URR) where only 34.1% of the children are breastfed [6].

In the Gambia, it has been reported that 36% of infants under four months are exclusively breastfed, while 36% of those between 6-9 months receive a combination of breast milk and solid or semi-solid foods [10]. Maternal feeding practices in rural Gambia are strongly influenced by traditional beliefs and customs [11].

Method

Study site, Fajikunda Health Center (FkHC)

Fajikunda, situated approximately 15km west of Banjul, is a significant settlement within the Serrakunda East district of The Gambia, with a population of 162,709 inhabitants [6]. The health center serves as a primary healthcare facility catering to the healthcare needs of the population. The center is staffed by over 110 healthcare professionals and offers a range of services, including outpatient care, inpatient care, laboratory services, Reproductive and Child health (RCH), chest clinic, eye clinic counselling unit, and public health unit. The center is led by a Senior Nursing Officer (SNO) and is recognized as one of the busiest health centers in The Gambia, with the Medical Research Council (MRC) also extending its coverage to the facility [12,13].

Study Design and Statistical analysis

Given the nature of the research problem, a descriptive cross-sectional research approach was employed [14]. This approach allows for the simultaneous assessment of an individual's status in terms of characteristics and events, providing a snapshot of the population at a specific time [15].

Descriptive statistics were utilized to analyze the obtained data, and the results were subsequently presented through tables [12]. The data analysis was conducted using Excel and R programming software. Categorical values are presented as absolute values and percentage (%).

Sampling

A convenient sampling technique was employed, which is commonly used when the sample is drawn from a readily available and convenient part of the population. The selection of participants was based on availability and proximity rather than a systematic sampling approach. This approach was considered appropriate given the study's setting in a health facility. However, it is important to note that convenience sampling limits the generalizability of the findings to the entire population of Fajikunda Town [12]. The study included a random enrollment of 500 maternal breastfeeding mothers attending the Maternal and Child Health (MCH) clinic at FkHC.

Study Variables

The study assessed the outcome variable of breastfeeding knowledge and practices among maternal mothers, considering various covariates such as age, gender, marital status, education level, occupation, place of delivery, type of delivery, breastfeeding initiation, source of breastfeeding information, colostrum feeding, bottle feeding, type of bottle feeding, and timing counselling.

Data Collection

According to Burns and Grove [13], data collection is a systematic process of gathering relevant information that aligns with the research purpose or questions. In this study, data was collected through observation and the administration of structured and semi-structured questionnaires. Observation was done to examine the behavior and positioning of research subjects during breastfeeding, allowing for triangulation of findings using multiple methods. Interviews were also conducted to generate data, aiming to provide an accurate portrayal of breastfeeding knowledge and practices among maternal mothers at

FkHC. A structured questionnaire was utilized, and face-to-face interviews were conducted with prospective subjects attending the Maternal and Child Health (MCH) clinic at FkHC. Detailed information about the study was explained to the respondents in a language they understood. Data collection occurred between 8:00 a.m. and 1:00 p.m. on the days when mothers attended the MCH clinic. Approximately 30 minutes were allocated to each respondent for data collection purposes.

Inclusion and Exclusion Criteria

The study focuses on maternal mothers who are actively breastfeeding infants aged one year and below, and who sought healthcare services, specifically Maternal and Child Health (MCH) services or treatment for minor illnesses for their babies, at FkHC.

For exclusion criteria, mothers whose children were older than one year and those who were not present at the health center during the study period were excluded from participation. This research aims to investigate breastfeeding practices and maternal knowledge among this specific group of mothers.

Result

Characteristics of the Respondents

In our study, we enrolled a total of 500 participants, male infants were 342 (68%) while female infants were 158 (32%) (as detailed in Table 1). There are 134 (27%) infants under 1 month, 134 (27%) were between 1-2 months, 132 (26%) between 3-6 months, and 108 (22%) were within the 7-12 months age group.

Table 1: Socio-demographic characteristic.

Variables	Number of respondents (n = 500), n (%)
Infant Gender	
Male	342 (68)
Female	158 (32)
Infant Age (months)	
<1	134 (27)
1 – 2	126 (27)
3 – 6	132 (26)
7 – 12	108 (20)
Maternal Age (years)	
≤ 20	58 (11)
20 – 25	190 (38)
26 – 30	139 (28)
>31	113 (23)
Educational level	
Primary/Junior	151 (30)
Secondary	230 (46)
No formal	35 (7)
Diploma/ University	84 (17)
Marital status	
Married	368 (73)
Single	43 (9)
Widow	5 (1)
Divorce	84 (17)
Husbands' occupation	
Civil servant	138 (28)
Business / Self-employed	186 (37)
Farming	71 (14)
Others	105 (21)
Mothers' occupation	
Housewife	119 (24)
Civil servant	159 (32)
Business / Self-employed	222 (44)

Maternal age distribution included 58 (11%) respondents under 20 years, 190 (38%) between 20-25 years, 139 (28%) within 26- 30 years, and 113 (23%) exceeding 30 years.

Education levels were diverse: 151 (30%) held primary/junior education, 230 (46%) had senior secondary education, 35 (7%) lacked formal education, and 84 (17%) had earned a tertiary (college / university) education.

In terms of marital status, 368 (73%) were married, 43 (9%) single, 5 (1%) widowed, and 84 (17%) divorced. Parents' occupational backgrounds showed 138 (28%) husbands in civil service, 186 (37%) in business/self-employment, 71 (14%) in farming and 105 (21%) others. Among the respondents, 119 (24%) were housewives, 159 (32%) engaged in civil service, and 222 (44%) were business/self-employed individuals.

Infant Feeding Practices of the Respondents

In terms of infant feeding practices, the study revealed that 316 (63%) respondents-initiated breastfeeding within one hour after delivery, while 184 (37%) respondents started breastfeeding after one hour. Additionally, 381 (76%) respondents provided colostrum to their infants, while 119 (24%) respondents did not give colostrum to their babies (Table 2).

Distribution of Respondents According to their Infant Feeding Practices Since Birth

The findings also showed that 184 (37%) respondents engaged in bottle feeding, while 316 (63%) respondents did not use bottles to feed their children.

Table 2: Distribution of respondents according to their infant feeding practices since birth.

Variables	Number of respondents (n = 500), n (%)
Breastfeeding initiation time	
Within 1 hour after birth	316 (63)
After 1 hour	184 (37)
Colostrum given	
Yes	381 (76)
No	119 (24)

Table 3: Distribution of respondents according to their sources and content of breastfeeding information.

Variables	Number of respondents (n = 500), n (%)
Received information counselling on breastfeeding	
Yes	381 (76)
No	119 (24)
Source of Breastfeeding information	
Family/ friends/relatives	115 (23)
Healthcare provider	196 (39)
Media	154 (31)
Others	35 (7)
Time of breastfeeding counselling in the health facility	
During antenatal clinic	265 (53)
During post-natal clinic	164 (33)
After delivery before leaving the hospital	71 (14)



Figure 1: Infant feeding practices since birth.

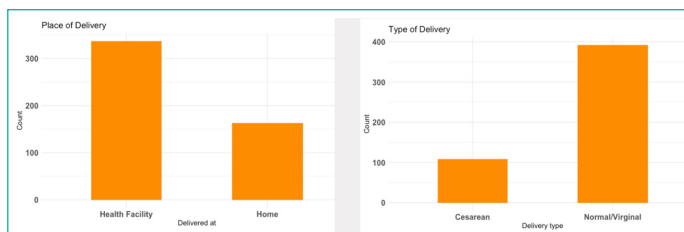


Figure 2: Place of delivery and Type of delivery of respondents.

The types of substances used for bottle feeding varied among the respondents, with 70 (38%) providing milk, 57 (31%) giving tea, 31 (17%) offering plain water, and 15 (8%) providing honey and 11 (6%) giving other types of foods as depicted in Figure 1.

Respondent's Source and Content of Breastfeeding Information

According to our findings, 381 (76%) respondents confirmed that they had received breastfeeding information, while 119 (24%) respondents reported not receiving any breastfeeding information (Table 3).

The sources of breastfeeding information varied among the respondents, with 115 (23%) receiving information from their family, friends, or relatives, 196 (39%) from healthcare providers, 154 (31%) from the media, and 35 (7%) from other sources. Furthermore, the timing of breastfeeding counselling sessions also differed. Specifically, 265 (53%) respondents received counselling during antenatal clinic visits, 164 (33%) received it during postnatal services, and 71 (14%) received counselling after delivery but before leaving the hospital (Figure 2).

Delivery Information of the Respondents

The study findings indicate that 337 (67%) respondents delivered their babies in a health facility, while 163 (33%) respondents gave birth at home. Among the participants, 392 (78%) had a normal/vaginal delivery, while 108 (22%) underwent a cesarean section.

Table 4: Distribution of respondents according to their maternal knowledge on breastfeeding issues.

Aspect of knowledge	Number of respondents (n = 500), n (%)
Breast milk should be baby's first feed (yes)	499 (99)
Baby should be put to the breast within hours of birth (yes)	456 (91)
Colostrum should be fed to the baby (yes)	489 (97)
Breast milk alone can sustain a baby for 6 months (yes)	500 (100)
The child should be breastfed immediately after birth (yes)	495 (99)
Breastfeeding should be practiced for 6 months (yes)	499 (99)
Breastfeeding protects baby from illness (yes)	500 (100)
Expressed breast milk should be fed to the baby (yes)	489 (97)
Breastfeeding protects the mother from getting pregnant (yes)	461 (92)
Solid food to be introduced at six months (yes)	482 (96)

Respondent's Knowledge of Breastfeeding issues

In this assessment, we aimed to determine the respondents' knowledge regarding breastfeeding practices. The findings indicate that 99% of the respondents were aware that breast milk should be the baby's first food. Surprisingly, 91% of the respondents revealed that the baby should be put to the breast within one hour of birth. Additionally, 97% of the respondents believed that colostrum should be fed to the baby. All the respondents believed that exclusive breastfeeding could sustain the baby for six months and provide protection against illnesses. However, 96% of the respondents stated that solid food should be introduced at six months, while 83% believed that breastfeeding offers protection against pregnancy for the mother (Table 4).

Discussion

The nutritional status and survival of children under one year of age are directly influenced by infant and young child feeding practices. To the best of our knowledge, this is the first study to assess the knowledge and practices of breastfeeding among mothers at Fajikunda Health Center (FkHC) and explore the impact of socio-demographic variables on them. Our study included 500 breastfeeding mothers from FkHC and examined their knowledge and practices related to breastfeeding.

Our findings revealed that male infants were more than the females in the study and most of the infants were less than one month old. Regarding maternal age, a significant proportion of the respondents fell between the age range of 21 to 25 years. This observation aligns with the cultural context in Gambia, where many women tend to get married within this age range. In terms of education, a large percentage of the respondents had completed senior secondary education (46%), while the proportion of those with a tertiary education including college or university (16%) is low. These results contrast with a cross-sectional survey conducted in Tanzania by Shirima et al. [16], where the highest percentage (73%) had attained a diploma or university level of education. The level of education may have influenced the attitudes of the mothers as higher education levels have been associated with more favorable breastfeeding practices. Furthermore, our findings indicated that a significant proportion (73%) of the respondents were married. These results are consistent with a study by Ijarotimi [17] where 93% of the mothers in a sample of 500 respondents were married.

In terms of delivery location, the study revealed that more than half (67%) of the respondents gave birth in a health facility. This rate is higher than the findings of a study by Ochola [18], where 44.3%, 78.4%, and 53.0% of mothers from three study groups delivered in health facilities. The overall rate of health facility deliveries in Kenya is 43% [2], which is lower compared to the rate of 67% in the present study. In Nepal, a lower rate of home deliveries (24.4%) was reported by Chandrashekar [19]. Out of the mothers in the study, 84% had a normal vaginal delivery, while 16% underwent a cesarean section. The 2008-09 Kenya Demographic and Health Survey [2] also indicated a 6% rate of cesarean section deliveries in Kenya.

Regarding breastfeeding initiation, which is defined as the proportion of infants who received any breastfeeding, all the mothers in the study breastfed their infants after birth, and the rate of timely initiation of breastfeeding (within 1 hour of birth) was 63%. This rate is slightly higher (58.1%) than those reported in the 2008-09 Kenya Demographic and Health Survey and by [18]. The Regional Office of WHO ENRO has reported slightly

lower rates (<60%) of early breastfeeding initiation. The initiation rate within the first 48 hours was found to be 70%, which is similar to the Eastern Mediterranean [20].

In terms of receiving breastfeeding information counselling, 76% of the respondents indicated that they had received such information, while 24% had not. The sources of breastfeeding information varied, with 39% of the respondents receiving it from healthcare providers and others obtaining it from family, friends, relatives, media, and other sources. In a study conducted in Nakuru, Kenya, 64% of women reported receiving infant feeding counselling [21]. The timing of counselling sessions also differed, with 53% receiving counselling during antenatal clinics, 33% during postnatal clinics, and 14% after delivery but before leaving the health facility. These findings highlight the need to re-evaluate the promotion and support of breastfeeding at healthcare facilities. Similar results were reported in Morogoro, Tanzania, where only 17% of rural mothers and 41% of urban mothers received breastfeeding information before discharge [16]. This underscores the importance of reinforcing the implementation of the Baby-Friendly Hospital Initiative (BFHI), which mandates all maternity facilities to adhere to the ten steps of successful breastfeeding. Furthermore, it is noteworthy that a significant proportion of mothers obtain information about infant feeding from relatives, friends, and peers. In assessing respondents' knowledge regarding breastfeeding, our findings reveal that 99% of the respondents knew that breastmilk should be a baby's first food. Similarly, in Uganda in a study by [22], the majority (73.8%) of the respondents were knowledgeable about exclusive breastfeeding. The findings are also consistent with those of Uchendu et al. [23] in Nigeria, where more than 90% of mothers had adequate knowledge on exclusive breastfeeding.

Colostrum, the initial thick yellow milk containing protective antibodies, is recognized for safeguarding infants against illness [2]. Timely initiation of breastfeeding, giving colostrum, and practicing rooming-in have notable benefits, including the reduction of neonatal morbidity and mortality [24]. The study's findings align with those of Sallam et al. [25] and Ogada [26], indicating that mothers are aware of the importance of colostrum and should provide it to their infants. However, the results contrast with Adugna [27], whose study in southern Ethiopia revealed some mothers considering colostrum as expired milk, opting for pre-lacteal feeds and discarding colostrum. High rates of colostrum feeding were observed. Shirima et al. [16] also reported satisfactory knowledge among mothers regarding the importance of colostrum.

The present study demonstrates that all respondents believe breast milk alone can sustain a baby for six months and protect them from illness. This finding contrasts with a study by Webb-Girard et al. conducted among women in urban Kenya, where 77% of participants believed that breast milk alone would be insufficient for the first six months [28]. A study conducted in Malaysia reported low knowledge among respondents regarding practical aspects of breastfeeding, such as exclusive breastfeeding for six months, avoiding water after feedings, and assessing whether the baby has received sufficient milk. The same study found inadequate knowledge among respondents regarding managing breastfeeding problems like breast engorgement or the storage and use of expressed breast milk [29].

In general, this study reveals a high rate of early initiation of breastfeeding and low utilization of pre- and post-lacteal feeds, potentially due to maternal education conducted at maternal

and child health clinics and positive maternal attitudes. The findings of this study differ from others, likely due to variations in contexts and the time of study. These differing contexts indicate differences in culture, health services, and study participants.

Study Relevance

The study will make a significant contribution to enhancing current health education programs related to breastfeeding. The study's findings will play a crucial role in shaping breastfeeding policies and fostering understanding and support for breastfeeding among mothers and society at large. This will contribute to achieving Millennium Development Goals (MDGs) 4 and 5, which aim to reduce child mortality by two-thirds and maternal mortality ratio by three-quarters. Breastfeeding offers various benefits, such as preventing postpartum hemorrhage and reducing the risk of breast and ovarian cancer, thus supporting the attainment of MDG 5. Additionally, the study will serve as a catalyst for future research endeavors in the field of breastfeeding.

By generating valuable information on breastfeeding knowledge and practices, this study will be of great utility to the Ministry of Health (MOH) and other organizations engaged in child survival programs. The findings will enable them to design targeted interventions to improve breastfeeding practices in the study area and similar contexts.

Moreover, the study's outcomes will contribute to the ongoing research efforts focused on breastfeeding and child survival. Therefore, it is imperative to identify and enhance breastfeeding knowledge and practices among mothers through a comprehensive health education program, employing various channels such as mass media, journals, drama, symposia, seminars, focus group discussions, and community diagnosis.

Limitation

One limitation of this study pertains to its generalizability. With a sample size of 500 participants, the findings may not be fully representative of the entire population in Fajikunda. The relatively small sample size restricts the ability to account for the diverse range of breastfeeding practices and cultural, socio-economic, and geographical variations that could exist within the Fajikunda community. These factors may influence breastfeeding knowledge and practices differently across subgroups, and our study might not comprehensively capture these nuances. Therefore, while the findings provide valuable insights, they should be interpreted within the context of this specific study population.

However, it is important to note that every effort was made to ensure the authenticity and reliability of our study. Rigorous data collection methods, standardized questionnaires, and adherence to established research protocols were employed to mitigate the impact of this limitation on the study's validity.

Future Studies

To enhance the generalizability of future studies, it would be beneficial to include a larger and more diverse sample, encompassing a wider range of demographic characteristics and geographical areas. This would provide a more comprehensive understanding of breastfeeding practices in Fajikunda and improve the applicability of the findings to the broader population.

Conclusion

The research findings presented in this study unequivocally affirm the commendable levels of maternal awareness and steadfast adherence to established breastfeeding guidelines. This robust demonstration of breastfeeding knowledge and practice attests to the conscientious efforts of maternal mothers in Fajikunda. Furthermore, the study serves to underscore the multifaceted influence of socio-demographic variables, including age, educational background, and occupation, in shaping the landscape of breastfeeding practices among mothers. It is evident that these socio-demographic factors play a pivotal role in determining not only the extent of breastfeeding knowledge but also its practical application.

Ultimately, this study contributes to the collective efforts aimed at promoting maternal and child health, thereby aligning with global initiatives to achieve the Sustainable Development Goals (SDGs).

Author Statements

Ethical Consideration

The study adhered to the ethical guidelines governing the involvement of human participants in research. Approval and consent to conduct the study were obtained from the head of the School of Public Health at Gambia College.

Informed Consent

Prior to data collection, informed consent was obtained from all respondents, who were informed that participation was voluntary, and they could withdraw at any time. Confidentiality of responses was ensured during and after data collection, as respondents were assigned numbers without requiring their names on the questionnaire. These numbers were solely used for data entry and analysis, and no individual's identity could be linked to the registration numbers. Additionally, permission to collect data was granted by FkHC.

Data Availability Statement

The data that was generated and/or analyzed during the current study are available from the corresponding author upon reasonable request.

Conflicts of Interest

The authors declare no conflict of interest.

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