



A Cross-Sectional Study on the Dietary Patterns and Nutritional Status of Lactating Mothers in Ganjam District, Odisha: Implications for Hormonal Balance

Sandhyarani Barik¹ & Dr. Shabana Anjum²

¹Research Scholar, Department of Nursing,
Shri JYT University, Rajasthan, India

²Professor & Research Guide, Department of Nursing,
Shri JYT University, Rajasthan, India

Corresponding Author: Sandhyarani Barik

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ABSTRACT:

This cross-sectional study explores the dietary habits and nutritional status of breastfeeding mothers in Ganjam District, Odisha. The study focuses specifically on how these factors influence hormonal balance and lactation results so as to better understand how these factors influence lactation outcomes. The survey, which was carried out with 115 moms, showed that the majority of the mothers were younger, ranging in age from twenty to thirty years old, and that a high concentration of respondents was in the three-to-four-month breastfeeding phase. The research reveals that a significant number of moms in the area adhere to conventional diets that are high in carbohydrates. As a result, they frequently do not consume sufficient amounts of critical nutrients such as iron, calcium, and protein, which can have a detrimental effect on their hormonal health. These nutritional imbalances can result in hormonal deficits, which can have an impact on milk production, maternal energy levels, and general health. This may be one of the factors that contributes to the decrease in breastfeeding length after four months. This study highlights the need for culturally tailored nutritional treatments and public health initiatives that address these inadequacies and promote prolonged breastfeeding habits. This is because proper nutrition during lactation is intimately linked to both the health of the mother and the growth of the infant.

Keywords: *Dietary Patterns, Nutritional Status, Lactating, Hormonal Balance, Lactation Outcomes, Carbohydrate-Heavy Diets, Iron, Calcium, Protein.*

INTRODUCTION:

There are numerous physiological and nutritional requirements that must be met throughout the lactation period in order to ensure the mother's and her child's health and well-being. This is a crucial

period in a mother's life. A mother's capacity to recuperate postpartum, the quality of her breast milk, and her energy levels are all directly influenced by the kind of nourishment she receives during this time period. Certain hormones, such as prolactin, oxytocin,

and thyroid hormones, are responsible for regulating milk production, emotional well-being, and metabolic activities. In particular, the hormonal balance of mothers who are breastfeeding has a significant role in the process of lactation. These hormonal processes, on the other hand, are extremely susceptible to nutritional inadequacies and dietary habits, both of which have the potential to impede proper lactation and the recovery of the mother.

Due to the fact that it possesses a wide range of socio-economic and cultural traits, the Ganjam district in Odisha provides a background that is exceptionally suitable for the study of these concerns. Traditional dietary practices are often prevalent in the region, which is characterized by a preponderance of rural and semi-urban people. These practices are molded by cultural beliefs, economic restraints, and a limited awareness of modern nutritional requirements. Regular diets that are deficient in vital nutrients including iron, calcium, vitamins, and proteins are one example of these practices. These nutrients are crucial for maintaining the physical and hormonal health of nursing women. In addition, the region's reliance on meals that are high in carbohydrates, in conjunction with a lack of dietary diversity, may exacerbate nutritional inadequacies, which leads to the possibility of

hormonal imbalances that have an impact on lactation and general health.

In locations such as Ganjam, there is a significant lack of research and initiatives that are aimed at this vulnerable group, despite the fact that nutrition during lactation is of the utmost serious importance. On the other hand, postpartum nutritional needs, particularly those of nursing women, receive less attention than prenatal and neonatal care, which are typically given priority in existing healthcare services. Because maternal malnutrition during nursing not only has an effect on the health of the mother, but it also poses hazards to the growth, immunity, and cognitive development of the newborn, this overlook is problematic on multiple levels. In addition, hormonal imbalances that are not addressed might result in long-term health concerns, such as decreased milk production, postpartum depression, and metabolic abnormalities by the time they are addressed.

With a particular emphasis on the consequences that these eating patterns and nutritional status have for hormonal balance, the purpose of this cross-sectional study is to investigate the dietary patterns and nutritional condition of nursing mothers in the Ganjam district of Odisha. The purpose of this research is to give policymakers and healthcare practitioners with practical insights by identifying current dietary behaviors, common nutritional

deficiencies, and the potential effects they may have on hormonal health. In order to improve the health outcomes of mothers and children in the region, the findings will be of great assistance in the development of public health programs and nutritional treatments that are sensitive to cultural norms.

LITERATURE REVIEW:

Jairaj et al.(2021) explored the considerable relationship that exists between nutrition and oral health, giving a comprehensive examination of the ways in which dietary patterns influence dental health. Their emphasis was placed on the importance of maintaining a diet that is well-balanced in order to prevent a wide variety of oral health problems, such as tooth decay, gum disease, and enamel erosion. In order to prove that inadequate diet, notably deficiencies in essential vitamins and minerals, does in fact directly lead to oral health issues, the authors conducted a review of the studies that had previously been conducted. They specifically highlighted the function that calcium, vitamin D, and phosphorous play in the maintenance of strong teeth and bones, as well as the significance of vitamins such as vitamin A, vitamin C, and the B-complex in promoting healthy gums and lowering inflammation. A diet that is high in sweets, acidic foods, and refined carbohydrates can raise the risk of plaque formation, tooth decay, and gum

disease, according to the findings of the study, which also examined the negative impacts of such a diet. In addition, the authors mentioned that antioxidants, which can be found in fruits and vegetables, have a preventive function by decreasing oxidative stress in the oral cavity. This helps to keep the gum tissues and oral mucosa from being damaged. In addition to the nutrients themselves, the authors investigated how general dietary patterns and lifestyle decisions, such as the amount of water consumed and the number of times meals are consumed, can have an impact on dental health. In addition to this, they emphasized the significance of incorporating nutritional education into dental care practices and advocated for a holistic approach to oral health that incorporates both preventative care and dietary management. This research not only reaffirmed the vital connection that exists between nutrition and oral health, but it also brought to light the necessity for dental professionals to address concerns linked to diet as part of comprehensive oral care. This, in turn, will ultimately provide a better basis for preventative dental care and treatment.

Nikumbhand Thakur (2018) presented a complete review of the many abstracts that were submitted during the FMPC 2015 conference and were published in the Journal of Family Medicine and Primary Care. The study covered a wide range of subjects that are associated with primary care and

family medicine, which is reflective of the many different difficulties and developments that are currently being faced in this sector. The authors conducted an analysis of the research that was given, focusing on its quality, extent, and relevance. The research covered a number of significant aspects of family medicine, including preventive care, the management of chronic diseases, accessibility to healthcare, and patient-centered care. During the course of the examination of these abstracts, developing trends in family medicine practices were brought to light. The review focused specifically on boosting patient outcomes, improving healthcare delivery, and addressing public health concerns through primary care interventions. In addition, Nikumbh and Thakur explored the significance of evidence-based practices in determining the future of family medicine and emphasized the significance of ongoing education and research in the process of enhancing primary care. The findings of their study highlighted the significant function that family medicine plays within the framework of the healthcare system, particularly with regard to meeting the requirements of underprivileged communities and fostering holistic and complete care. The collection of abstracts served as an invaluable resource for gaining an awareness of active research programs and developments in family medicine. It also provided insights into the changing

practices and priorities that are prevalent in the profession.

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Manivannan (2018) provided an in-depth compilation of abstracts that were submitted during the FMPC 2015 conference and were subsequently published in the Journal of Family Medicine and Primary Care. An in-depth analysis of the numerous research papers and advancements in the field of family medicine and primary care that were presented during the conference was provided in the article. These papers covered a wide variety of subjects, some of which include, but are not limited to, preventative healthcare, the management of chronic diseases, the improvement of accessibility to healthcare, and the role of primary care in improving patient outcomes. In particular, Radhakrishnan and Manivannan emphasized the significance of incorporating evidence-based methods into ordinary family medicine in order to improve the quality of care. In addition to this, they underlined the importance of building comprehensive primary care models that take into account both the clinical and social elements of patient health. These models are essential for enhancing the overall health outcomes. The study highlighted the critical role that primary care professionals have in the management of chronic diseases, preventive health measures, and health education, particularly in populations

who are underserved and rural. In addition, the authors emphasized the significance of ongoing research and professional growth in the field of family medicine. They suggested that developments in both research and practice are essential for the transformation of primary care. This compilation of abstracts served as an important contribution to understanding the current condition of primary care and family medicine. It provided insights into the ongoing problems and advancements that are being made in the profession.

Aggarwal et al. (2018) provided a comprehensive collection of abstracts that were submitted during the FMPC 2015 conference in order to make a contribution to the Journal of Family Medicine & Primary Care. With a particular emphasis on essential areas such as preventive healthcare, chronic illness management, patient-centered care, and healthcare accessibility, this compilation focused on a wide range of research issues that are relevant to family medicine and basic care. A comprehensive analysis of the research was presented by the authors, who emphasized the significance of incorporating techniques that are supported by evidence in order to enhance the quality of care offered in primary healthcare practices. Primary care practitioners are confronted with a number of obstacles, one of which is the requirement for innovation in the

management of common and complex health concerns in a variety of patient populations. When it comes to addressing the health needs of vulnerable people and promoting preventative measures to lessen the burden of disease, the article highlighted the importance of primary care as a key component. Improvements in communication between patients and clinicians, increased healthcare literacy, and optimizing the use of technology in primary care settings were some of the techniques that were identified in the research as potential ways to improve the delivery of healthcare. The writers made a significant contribution to the evolution of the field of family medicine by providing these abstracts. They provided direction on the research goals that should be pursued in the future and emphasized the need of primary care practitioners continuing their education and professional development.

RESEARCH METHODOLOGY:

This study employs a descriptive cross-sectional methodology to investigate the distribution of respondents in Ganjam District, Odisha, depending on their age group and whether or not they were breastfeeding. In order to discover patterns in breastfeeding practices, data was gathered through the use of a structured questionnaire, and then it was analyzed using descriptive statistics and graphical methods.

1. Research Design:

A descriptive cross-sectional research approach is utilized in this study with the objective of gaining a comprehension of the distribution of respondents according to their age groups and lactation periods. It is possible to obtain a clear depiction of the features of the target population through the utilization of this design, which enables a snapshot of demographic and lactation-related patterns at a particular point in time. The study design is organized to capture the variations in age and lactation length among respondents, and it intends to discover relevant patterns and associations that could guide public health initiatives, particularly in relation to breastfeeding practices and maternal health. Specifically, the research design is built to capture the variations in age.

2. Data Collection:

The information required for this study was gathered by means of a standardized questionnaire that was sent out to mothers in the Ganjam District of Odisha. Questions pertaining to the lactation period, such as the length of time that the individual had been breastfeeding, were included in the questionnaire in addition to demographic questions, such as age. Participants were asked to indicate the stage of breastfeeding they were currently in, with precise categories including "1-2 months," "3-4 months," and "5-6 months." Therefore, in order to

guarantee that the findings were representative of the entire population, the sample was chosen at random from a number of different towns located within the district. There was a total of 115 individuals who took part in the research study, and the age group and the length of time that they were breastfeeding were the key variables that were analyzed.

3. Research Area:

Ganjam District, which is located in Odisha, which is a region in the eastern part of India, was the location where the study was done. The selection of the district was based on the demographic diversity of the area as well as its relevance to studies of maternal health. For the purpose of presenting a complete assessment of lactation practices across a variety of socio-economic backgrounds, the Ganjam District is home to a mix of urban and rural inhabitants. The region is also well-known for the difficulties it has in gaining access to medical treatment, which makes it an essential focal point for gaining an understanding of nursing patterns and mother health.

4. Data Analysis:

Descriptive statistics and graphical representation techniques were utilized in the process of data analysis. In order to uncover trends and patterns in involvement across a variety of age categories, the distribution of respondents according to age group was evaluated. After analyzing the data, it

was found that younger age groups, namely those between the ages of 20 and 30, had greater involvement rates, but older age groups, specifically those below the age of 20 and those between the ages of 35 and 40, had lower participation rates. As far as lactation periods are concerned, the research revealed that the majority of respondents (45 mothers) were in the period of lactation that lasted between three and four months, while the group of five to six months had the fewest number of mothers (20 mothers). To gain a better understanding of the natural course of breastfeeding durations and to identify potential factors that may contribute to the drop in breastfeeding after four months, this data was evaluated. In order to facilitate clear visualization and comprehension of the data, the findings were provided in the form of tables and figures. This offered the opportunity to gain a comprehensive grasp of breastfeeding patterns in the region.

RESULTS AND DISCUSSION:

The table 1 has uncovered a distinct trend in the age demographics of the individuals who participated in the survey. It is possible that a higher participation rate among young people is the result of variables such as enhanced access to the study or more relevance to the target population in this age range. One possible explanation for this is that the age group ranging

from 20 to 25 years old had the highest representation, with 55 individuals responding to the survey. In addition to highlighting the preponderance of younger adults in the sample, the group of respondents who fall within the age range of 25 to 30 years old is the second most significant category. Following closely behind with thirty respondents is the age group of thirty-five to thirty-five, which indicates a moderate level of participation among those in their early to middle thirties. On the other hand, the age groups beneath 20 and those between 35 and 40 had the lowest representation, with only 15 respondents in each demographic. This indicates that there is a significant decrease in participation as respondents travel towards either end of the age spectrum. This may provide an indication of a reduced level of engagement or relevance for individuals who are outside of the prime age range. Generally speaking, the results indicate that the respondent pool is dominated by those of younger ages, and there is a significant decline in participation as the age of the participants increases. This may have consequences for the study's emphasis and its capacity to generalize its findings.

Table 1: Distribution of Respondents by Age Group

Age Group	Number of Respondents
Below 20	15
20-25	55
25-30	40
30-35	30
35-40	15

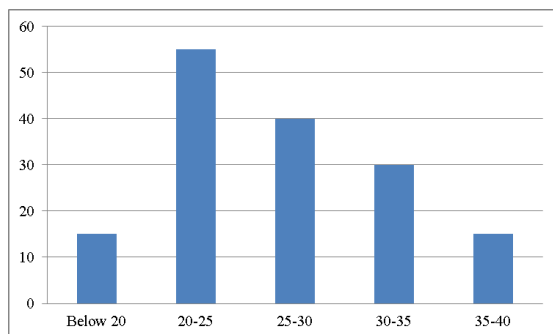


Figure 1: Graphical Representation of Distribution of Respondents by Age Group

The "Distribution of Respondents by Lactating Period" table illustrates the various stages of lactation that the respondents are now experiencing, so exposing intriguing patterns in the length of time that they have been breastfeeding. That the majority of mothers in our sample are in the middle of their trip to breastfeed their children is indicated by the fact that the largest group, which consists of 45 respondents, is in the time of lactation that lasts between three and four months. The fact that this is the case shows that a significant number of moms may have already passed the initial phase of adjustment and are still exclusively nursing or supplementing

with other methods of feeding during this era. This indicates that there is major participation from moms in the early stages of lactation, who are most likely migrating from the first few weeks of intense breastfeeding to a routine that is more bearable. The group of mothers who have been breastfeeding for approximately one to two months, which has thirty responders, represents a significant chunk as well.

Table 2: Respondent Distribution according to Lactating Period

Lactating Period	Number of Respondents
1-2 Months	30
3-4 Months	45
5-6 Months	20

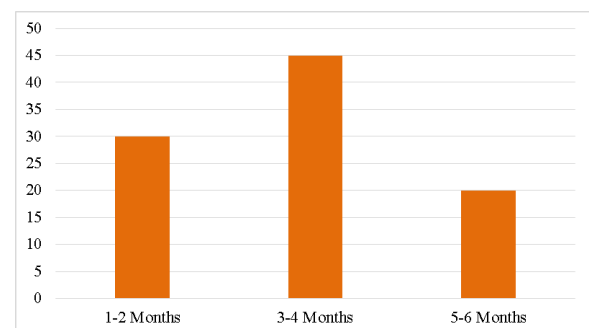


Figure 2: Graphical Representation of Respondent Distribution according to Lactating Period

With only 20 responders, the 5–6 month group is the lowest, reflecting a drop in the proportion of moms who continue to exclusively breastfeed or who mostly breastfeed during this time. This could be the result of starting solid foods, going back to work, or personal preference—all of which have an impact on how long a child breastfeeds. A

natural shift in the nursing journey is highlighted by the data, which shows a higher concentration of women in the intermediate stages of lactation (3–4 months) and a progressive decline in the number of responses when the lactation period lasts longer than 4 months.

CONCLUSION:

A preponderance of younger women (those between the ages of 20 and 30) and the highest concentration of respondents in the three-to-four-month lactation period are highlighted in the study, which shows noteworthy trends in the food habits and lactation stages of mothers in Ganjam District, Odisha. According to these data, although a significant number of mothers continue to nurse their children during the early to middle stages of breastfeeding, there is a discernible decrease in the number of mothers who continue to do so after four months. This loss may be attributed to reasons such as the introduction of solid meals or the return to work with the child. According to the findings, there is a pressing requirement for specialized nutritional treatments and support programs in order to address the dietary deficiencies and hormonal imbalances that have the potential to influence the results of breastfeeding and maternal health in these areas.

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