ORIGINAL ARTICLE

An Investigation into Infant Nutrition Disparities: A Comparative Analysis of Desired and Undesired Pregnancies

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ABSTRACT:

Background:The present study aimed to explore the correlation between undesired pregnancies as perceived by couples and the choice of infant nutrition among women and their husbands.**Methods**:In this analytical-descriptive investigation, the perspectives of 183 women and their husbands on desired and undesired offspring were examined. Additionally, the study explored the associations between these views and the choice of infant nutrition at the age of 4 months. Data were gathered through questionnaires, with the method and instruments' validity and reliability confirmed through content validity and test-retest.**Results**:In instances of desired pregnancies, women had an average age of 26.43 years, while those experiencing unwanted pregnancies had an average age of 27.57 years. The findings indicated a statistically significant correlation between couples' perspectives on unwanted pregnancies and the nutritional status of infants (P=0.03). Moreover, the prevalence of unwanted pregnancies was higher among women with lower educational attainment (middle and high school) compared to those with higher education.**Conclusion**:The study outcomes underscore a notable link between infant nutrition and unwanted pregnancies. Additionally, there is a heightened incidence of non-exclusive breastfeeding in cases of unwanted pregnancies. Consequently, it is imperative to emphasize the appropriate utilization of contraceptive methods to avert the detrimental effects associated with unwanted pregnancies, including non-exclusive breastfeeding. Implementing effective educational strategies, counseling, and healthcare services becomes crucial in addressing these concerns. **Keywords**:Infant; Nutrition, Unwanted pregnancy.

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INTRODUCTION

Breast milk, being the optimal source of nutrition for newborns, is a marvel of nature, comprising a complex biological fluid with a rich tapestry of components distributed across different phases. These encompass a liquid phase housing soluble substances, colloidal particles, emulsified fat droplets, fat droplet membranes, and a vibrant array of living cells.1 Beyond its fundamental role in providing essential nutrients, breast milk stands as a remarkable repository of immune factors, offering a trifecta of antibacterial, antiviral, and anti-parasitic properties. Moreover, it serves as a source of crucial biological signals that actively participate in the acceleration of growth and cell differentiation in the developing infant.The importance of proper nutrition during the initial years of a baby's life is underscored by a wealth of research findings. Breastfeeding, in particular, emerges as a pivotal factor, demonstrating consistent benefits in reducing the occurrence and severity of various ailments. These encompass a spectrum of infections, including diarrhea, respiratory infections, ear infections, bloodstream infections, bacterial meningitis, and urinary tract infections. The protective effects of breastfeeding extend further, encompassing a shield against sudden infant death syndrome,

insulin-dependent diabetes, Crohn's disease, ulcerative colitis, lymphoma, allergic diseases, and an array of chronic conditions.^{2,3}The impact of breastfeeding transcends the realm of physical health, influencing cognitive evolution in infants and fostering a profound bond between mother and baby. Mothers, too, reap a multitude of advantages, including diminished recovery postpartum bleeding, expedited of reproductive organs, natural weight loss, delayed return of fertility, reduced risk of premenopausal breast and ovarian cancers, enhanced calcium absorption, and a lowered incidence of fractures in long bones and the pelvis. The global promotion of breastfeeding not only contributes to lowering healthcare costs but also serves as a cornerstone in enhancing the overall health and well-being of both mothers and infants.

In considering the broader context of maternal and child health, the World Health Organization (WHO) and the United Nations International Children's Emergency Fund (UNICEF) define unwanted pregnancy as those pregnancies not intended at any point.⁴ This pervasive global health challenge exerts far-reaching consequences on the physical and emotional well-being of mothers, spouses, and, if the pregnancy continues, on the future trajectory of the

children and the entire family. According to a comprehensive WHO report, a staggering 200 million pregnancies occur annually worldwide, with one-third of them classified as unwanted. Addressing this issue is paramount in the pursuit of comprehensive healthcare and the promotion of healthy family dynamics on a global scale.

On a global scale, the persistence of unwanted pregnancies remains a formidable health challenge, despite concerted efforts such as the implementation of comprehensive birth control programs. Unwanted pregnancies not only represent a substantial proportion of total pregnancies but also give rise to a myriad of complexities that affect both mothers and their infants.^{5,6} The Integrated Management and Evaluation Survey (IMES) findings are particularly illuminating, indicating an alarming unwanted pregnancy rate of 29.4% in the country under scrutiny.Within the realm of unwanted pregnancies, women and their children emerge as a vulnerable demographic, facing unique and interconnected health risks. The repercussions extend beyond the immediate challenges of carrying an unwanted pregnancy to term and encompass a spectrum of issues, notably impacting nutritional well-being. For infants born from unwanted pregnancies, the journey commences with inherent risks, potentially culminating in nutritional challenges that may have lasting effects.While existing research has delved into certain facets, such as the length, initiation, and duration of breastfeeding in unwanted pregnancies, a significant gap persists regarding detailed examinations of the specific impacts on the type of nutrition provided to infants. The intricacies of how unwanted pregnancies influence and potentially alter infant feeding practices warrant a more thorough exploration. Moreover, broader studies focusing on the overall status of pregnant women emphasize the urgent need for increased attention and consideration of unwanted pregnancies and their far-reaching consequences.7 This underscores the necessity for further in-depth investigations that go beyond surface-level analyses. By delving into the intricate dynamics surrounding unwanted pregnancies, researchers can unearth nuanced insights that have the potential to reshape our understanding of the challenges faced by both mothers and infants in this context.In light of these insights, it is evident that a more comprehensive approach is essential to address the multifaceted nature of unwanted pregnancies. This approach should extend beyond conventional studies and encompass a detailed exploration of the specific impacts on infant nutrition. Such nuanced investigations are crucial for informing targeted interventions and support systems tailored to the unique needs of mothers and children navigating the complexities of unwanted pregnancies. By fostering a deeper understanding of these dynamics, we can pave the way for more effective strategies to promote the health and well-being of both mothers and infants in challenging circumstances.

In response to the alarming rise in the percentage of unwanted pregnancies and the associated repercussions on the health of both infants and mothers, including a documented decrease in breastfeeding rates and its subsequent outcomes, a recent study was undertaken. This research aimed to address the existing gap in investigations by conducting a comprehensive comparison of infant nutrition between and wanted unwanted pregnancies. The impetus for this study stems from the recognition that unwanted pregnancies pose unique challenges that extend beyond the immediate concerns of maternal and infant health. These challenges include a documented decline in the initiation and continuation of breastfeeding, which has far-reaching consequences for the nutritional well-being of infants born from unwanted pregnancies. The study sought to delve into the intricacies of infant nutrition in the context of unwanted pregnancies, recognizing the potential impacts on feeding practices, dietary choices, and overall nutritional outcomes for newborns. By undertaking a comparative analysis between wanted and unwanted pregnancies, the researchers aimed to shed light on the specific factors influencing infant nutrition and identify potential areas for targeted intervention. The overarching goal of this research is to contribute valuable insights that can inform healthcare professionals, policymakers, and stakeholders in developing strategies to address the unique nutritional needs of infants born from unwanted pregnancies.⁸ By understanding the nuanced dynamics at play, the study aims to pave the way for evidence-based recommendations and support systems that can mitigate the adverse effects of unwanted pregnancies on infant nutrition and maternal health.In essence, this study represents a critical step towards bridging the existing knowledge gap, offering a more nuanced understanding of the challenges faced by mothers and infants in the context of unwanted pregnancies. The findings are expected to contribute not only to the scientific community but also to the development of targeted interventions that can positively impact the health outcomes of both mothers and infants in the face of this pervasive and complex health issue.

MATERIALS AND METHODS

This prospective study, employing an analyticaldescriptive approach, was meticulously conducted with due approval from the institutional research and ethical committee. Rigorous ethical considerations were paramount, and informed, written consent was diligently obtained from all participating subjects before the initiation of the study. The study focused its lens on a specific demographic—women who had recently given birth within the preceding four months. This cohort was carefully selected from the Pediatric Outpatient Department (OPD) of our institute, where the dynamics of infant nutrition in the context of both wanted and unwanted pregnancies were to be scrutinized.To ensure a representative and diverse sample, a sophisticated sampling methodology was employed. This included the application of stratified multistage, cluster, and convenience sampling techniques. Ultimately, 183 women, accompanied by their husbands, were identified and chosen for participation in the study. These individuals had sought postpartum services, such as child growth monitoring, immunization, and family planning counseling, offering a multifaceted perspective on the experiences of mothers and infants in the early months following childbirth.

In establishing the inclusion criteria, the study carefully considered factors crucial to the research objectives. Women aged between 18 and 40 years were included, with a focus on those who had experienced a safe childbirth, singleton pregnancy, and the birth of a healthy baby. Further criteria encompassed being the exclusive sexual partner of the husband, the absence of second marriages, no history of diseases or addiction to drugs (including those affecting sexual function), and refraining from alcohol consumption. Proximity in residential locations and the resumption of sexual activity after delivery were additional considerations, ensuring a cohort that reflected specific characteristics conducive to the study's goals. The meticulous selection criteria were implemented to create a homogeneous and representative sample, allowing for a nuanced examination of infant nutrition within the distinct contexts of both wanted and unwanted pregnancies. By incorporating a spectrum of criteria, the study aimed to capture a comprehensive and detailed picture of the diverse factors influencing infant nutrition within the defined population, fostering a deeper understanding of the complexities surrounding this critical aspect of maternal and child health.

In this research, a total of 183 eligible mothers and their husbands, meeting the established inclusion and exclusion criteria, were initially enrolled. However, at the conclusion of the study, the assessment was conducted on 144 mothers and their husbands, resulting in a response rate of 78%.

The demographic profile of the study participants revealed noteworthy findings. The average age of women in the wanted pregnancy group was 26.43 years, while in the unwanted pregnancy group, it was slightly higher at 27.57 years. Educational and occupational distributions were observed, with the highest frequencies in both groups being high school education (45.8%) for women and housewife status (40.4%) for their occupation. Regarding the husbands' education, high school (32.3%) and secondary school (41%) were the most common levels in the wanted and unwanted pregnancy groups, respectively. Family income status showed comparable frequencies in both groups, with 67.7% for wanted pregnancies and 68.6% for unwanted pregnancies.

Upon comparison of the two groups, significant differences emerged in terms of age (P=0.06), wife's education (P=0.18), and wife's job status (P=0.67). However, no statistically significant differences were observed in husband's education (P=0.75), husband's job status (P=0.67), and family income (P=0.78). Notably, when scrutinizing the perspective of the couples on baby nutrition types, a significant difference was evident between the two groups (P=0.03). These findings underscore the importance of considering various demographic and social factors when evaluating baby nutrition types in the context of wanted and unwanted pregnancies. The observed differences highlight the complexity of the issue and emphasize the need for tailored interventions and support strategies that account for the diverse backgrounds and circumstances of the study participants.

RESULTS

Demographic Profile	Wanted Pregnancy Groun	Unwanted Pregnancy Group
Demographic rionie	wanted Freghancy Group	Unwanted Freghancy Group
Total Enrolled Mothers and Husbands	183	
Participants Assessed at Conclusion	144	
Response Rate (%)	78%	
Average Age of Women	26.43 years	27.57 years
Highest Educational Level (Women)	High School (45.8%)	High School (45.8%)
Most Common Occupation (Women)	Housewife (40.4%)	Housewife (40.4%)
Highest Educational Level (Husbands,		
Wanted Group)	High School (32.3%)	Secondary School (41%)
Highest Educational Level (Husbands,		
Unwanted Group)	Secondary School (41%)	High School (32.3%)
Family Income Status	67.7%	68.6%

Table1: demographic profile of the study participants

Table 2: The comparison between infant nutrition in wanted and unwanted pregnancy from pregnant women's opinion

Variables		Wanted pregnancy		Unwanted pregnancy	
		Frequency	Percent	Frequency	Percent
Infant	Exclusive breastfeeding	120	84.2	25	72.9

Nutrition	Infant formula	8	5.3	3	8.6
	Breastfeeding plus formula	13	9.5	5	12.9
	Breastfeeding plus complementary feeding	1	1.1	2	5.7
	Overall	142	100.0	35	100.0

Figure1: The comparison between infant nutrition in wanted and unwanted pregnancy from pregnant women's opinion



The provided table sheds light on the association between pregnancy intentions and infant nutrition practices, categorizing pregnancies as either wanted or unwanted. The data reveals distinct patterns in the choices of infant feeding methods among mothers with different pregnancy preferences. For wanted pregnancies, exclusive breastfeeding emerges as the predominant choice, constituting the majority at 84.2%. The inclusion of other feeding methods, such as formula supplementation or complementary feeding, is also observed but to a lesser extent. In contrast, for unwanted pregnancies, exclusive breastfeeding remains a prevalent choice, albeit slightly lower at 72.9%. Notably, the proportions of formula usage and complementary feeding show variability compared to the wanted pregnancies. The comprehensive breakdown of these figures provides insights into the dynamic interplay between pregnancy intentions and infant nutrition practices, underscoring the importance of tailored healthcare interventions and support services that consider the unique needs of individuals based on their pregnancy preferences.

DISCUSSION

The results of the current study illuminate a substantial disparity in baby nutrition patterns between pregnancies that were desired and those that were unintended.⁹ These findings resonate with and substantiate the outcomes of prior research endeavors examining the complex relationship between pregnancy intention and breastfeeding practices. Notably, the consensus across these studies suggests a

prevailing trend: a diminished prevalence of breastfeeding in pregnancies categorized as unwanted. This alignment with existing literature is evident in the study conducted by Taylor et al., where a notable decrease in breastfeeding length and duration was observed in the group of women experiencing unwanted pregnancies. Similarly, temporary studies have contributed to this narrative by unveiling lower rates of initiation and shorter durations of breastfeeding in women navigating unwanted pregnancies.¹⁰ Gipson et al. delved into the psychological dimensions of unintended pregnancies, emphasizing that the stress associated with such situations can act as a deterrent to the initiation of This breastfeeding. psychological burden, as supported by various studies, manifests in delayed initiation and reduced overall duration of breastfeeding for infants born from pregnancies characterized as unwanted.Rahim Zadeh et al. highlighted the temporal aspect of breastfeeding, emphasizing that unwanted pregnancies tend to curtail the duration of this vital infant nutrition practice. Conversely, research by Kost et al. suggested that optimal childcare and breastfeeding practices are more pronounced in pregnancies that are wanted compared to those that are not. Building on this, Cheng et al. demonstrated a shorter duration of breastfeeding over the initial 8 weeks following birth in pregnancies characterized as unwanted.

Studies conducted in Iran echo these global trends, further emphasizing that inclusive breastfeeding practices are more prevalent in wanted pregnancies. This discrepancy is often attributed to the heightened readiness of mothers in wanted pregnancies to embrace their infants, fostering a conducive environment for breastfeeding initiation and continuation.¹¹ In contrast, mothers navigating unwanted pregnancies may experience elevated psychological stress and exhibit a diminished interest in assuming their maternal roles, which, in turn, correlates with a reduced inclination toward inclusive breastfeeding.Adding a layer of complexity to this narrative, Mohammad Pour et al. uncovered an association between unwanted pregnancies and unsuitable growth patterns in infants. This underscores the multifaceted nature of the challenges faced by mothers and infants in the context of unintended pregnancies, extending beyond breastfeeding to encompass broader aspects of infant health and development.In essence, these collective findings underscore the intricate interplay between pregnancy intention, maternal well-being, and the crucial aspect of infant nutrition. They highlight the imperative need for targeted interventions, support systems, and public health initiatives that address the unique challenges faced by mothers and infants in the context of unwanted pregnancies, aiming to improve outcomes and foster healthier beginnings for the next generation.

The body of research indicates that women experiencing unwanted pregnancies tend to engage in fewer prenatal care and health behaviors. This reluctance or inability to access adequate prenatal care is associated with a range of adverse outcomes, including induced abortion, low birth weight, preterm birth, and an increased likelihood of hospitalization during pregnancy. Beyond the immediate physical consequences, women facing unwanted pregnancies may lack the mental and physical readiness to assume a parenting role.^{12,13} This may stem from a lack of consent, adaptability to the pregnancy, and negative interactions between the mother and the baby. The ramifications of such challenges extend into the postpartum period, potentially resulting in difficulties with breastfeeding, malnutrition, and an elevated risk of negligence, carelessness, ill-treatment, and even child mortality. As previously highlighted, the mental health of women with unwanted pregnancies is a significant concern, with potential links to severe mental illness and postpartum depression. These emotional challenges can impede the maternal role, particularly the crucial practice in of breastfeeding.The repercussions of reduced breastfeeding in infants from unwanted pregnancies are substantial and may lead to irreparable damages. Prior studies have underscored the critical importance of exclusive breastfeeding for infants, as those who are not exclusively breastfed face a significantly higher risk of mortality from diarrhea and respiratory infections. The rates of acute middle ear infections are also notably higher in non-breastfed children compared to their breastfed counterparts. Recognizing the profound impact of breastfeeding on child health

and development, the World Health Organization (WHO) recommends exclusive breastfeeding for the first six months of life, followed by continued breastfeeding for two years or more. The early years of life are widely acknowledged as critical in human growth and development. Any disruptions during this period, such as reduced breastfeeding resulting from unintended pregnancies, may have lasting effects on subsequent phases of human growth. Consequently, addressing the side effects of unintended pregnancies, particularly those related to infant nutrition and maternal well-being, becomes paramount in safeguarding the health and development of children and ensuring a solid foundation for their future wellbeing.

The evaluation of pregnancy type, whether it is desired or undesired, holds a pivotal role in the prevention of unintended pregnancies.¹⁴ The purpose of such assessments is not merely to categorize pregnancies but rather to identify those that are unwanted, with the ultimate goal of providing essential training and support to mitigate adverse consequences, particularly for the well-being of children. The focus on preconception counseling emerges as a crucial component of preventive medicine related to pregnancy and delivery.

Preconception counseling serves as a proactive and preventive approach aimed at educating individuals and couples about various aspects of family planning, reproductive health, and the potential consequences of unintended pregnancies. By fostering awareness and understanding, individuals are empowered to make informed decisions about their reproductive health, reducing the likelihood of unintended pregnancies and associated challenges.Understanding the factors contributing to the occurrence of unwanted pregnancies is essential for effective intervention strategies. Interventions can include education on contraceptive methods, family planning, and the importance of communication between partners regarding reproductive goals. In cases where unintended pregnancies do occur, providing counseling and support during and after pregnancy becomes paramount.^{15,16}By addressing the complex issues surrounding unintended pregnancies through counseling, healthcare professionals can offer guidance on coping with the emotional and social aspects of an unplanned pregnancy. This involves exploring options, providing information on available resources, and facilitating discussions about the implications for the individual, the family, and the broader community.Preventive measures, such as preconception counseling and interventions during and after unintended pregnancies, contribute to minimizing the potential adverse health, social, and family-related consequences associated with this significant public health issue. Through а comprehensive and supportive approach, the healthcare system can play a vital role in promoting informed decision-making, reducing the incidence of

unintended pregnancies, and fostering the overall well-being of individuals, families, and society as a whole.

CONCLUSION

It is crucial to introduce innovative and dependable contraceptive methods in response to the declining rates of breastfeeding, particularly exclusive breastfeeding in unplanned pregnancies. Additionally, healthcare providers should enhance their support for women facing unwanted pregnancies and their partners. They should offer tailored and impactful training sessions throughout pregnancy and delivery, emphasizing the significance and advantages of exclusive breastfeeding. Simultaneously, educating about the drawbacks of bottle and complementary feeding is vital to encourage exclusive breastfeeding and enhance overall health outcomes.

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