Newborn Care Practices of First-Time Mothers in a Rural Philippine Community: Insights from the Zamboanga Peninsula

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Background: The transition to motherhood, particularly for first-time mothers in rural communities, presents profound challenges due to limited access to healthcare and education. This study investigates newborn care practices among first-time mothers in Zamboanga Sibugay, Philippines, focusing on the relationship between sociodemographic factors and adherence to recommended care practices.

Methods: The study employed a descriptive quantitative design, surveying 120 first-time mothers using a structured questionnaire. The questionnaire was designed to capture socio-demographic data and evaluate newborn care practices using a Likert scale. Data were analyzed using descriptive statistics, Spearman's Rho, and Chi-Square correlation to identify significant relationships between variables.

Results: Findings reveal high adherence to newborn care practices, notably in infant feeding, sleep routines, and post-natal health monitoring. However, civil status significantly influences newborn caregiving approaches (χ^2 = 7.44, p = 0.024), implying that marital status might affect the level of support or resources available to the caregiver, which in turn could impact their caregiving practices.

Conclusion: The study concludes that while newborn care practices among first-time mothers are generally adequate, targeted educational interventions could further improve these practices, especially in areas like cord care. These findings underscore the need for enhanced support and education for first-time mothers to promote optimal newborn care and health outcomes.

Keywords: *Newborn care practices, first-time mothers, descriptive correlation, Philippines*

INTRODUCTION

The transition to motherhood is a profound experience that involves significant adjustments, particularly for first-time mothers. This transition is marked by the immediate responsibility of ensuring the health and well-being of the newborn, a task that requires knowledge, skill, and support [1]. In many rural communities, where access to healthcare and education may be limited, these responsibilities become even more challenging [2]. The practices that mothers adopt in caring for their newborns are crucial for the infant's survival and development, making it essential to understand the determinants of these practices, especially in resource-constrained settings.

Newborn care practices play a critical role in shaping the well-being of both mothers and their infants, particularly for first-time mothers who are navigating the complexities of parenthood. Effective newborn care is vital for ensuring the physical and emotional health of both the mother and child [3]. These practices not only promote the healthy development of the infant but also strengthen the bond between mother and child, laying the foundation for a nurturing family environment [4]. However, the effectiveness of these practices is often influenced by cultural, social, and economic factors, which vary significantly across different regions.

In the Philippines, where a significant portion of the population resides in rural areas, traditional practices and beliefs continue to shape newborn care. These practices are often passed down through generations, with mothers relying on the knowledge and experience of older family members rather than formal healthcare guidance [5]. While these traditional practices may be beneficial in some cases, they can also pose risks to newborns, particularly when they contradict medically recommended guidelines [6]. Understanding the factors that influence the adoption of safe and effective newborn care practices among first-time mothers in rural communities is therefore essential for designing targeted interventions that can improve neonatal health outcomes.

Consequently, the Zamboanga Peninsula in the Philippines provides a unique context for exploring these issues. As a predominantly rural area with high levels of poverty and limited access to healthcare services, the region faces significant challenges in maternal and child health [7]. First-time mothers in this region may lack the resources and support needed to adopt best practices in newborn care, leading to potential gaps in care that could have long-term consequences for both the mother and the child. This study aims to investigate the extent of newborn care practices among first-time mothers in Zamboanga Sibugay, with the goal of identifying factors that could be addressed to improve health outcomes in this vulnerable population. The findings of this study will not only contribute to the existing body of knowledge on maternal and child health in rural areas but also offer practical insights for healthcare providers and policymakers aiming to enhance the quality of care for newborns in similar settings.

METHODS

This study utilized a quantitative research design, specifically a descriptive-correlational method, to analyze and interpret data related to the socio-demographic profile of first-time mothers in the municipality of Buug, Zamboanga Sibugay, and their newborn care practices. The independent variable in this study was the socio-demographic profile. The dependent variable focused on the level of newborn care practices, covering areas such as umbilical cord management, infant feeding practices, infant sleep and rest patterns, diapering practices, infant bathing procedures, and post-natal follow-up and health monitoring.

2

The sample size for this study was determined using purposive sampling, a non-random technique selected to align with the specific objectives of the study. This approach targeted first-time mothers visiting the only Municipal Rural Health Unit (MRHU) in Buug, Zamboanga Sibugay for newborn consultation and immunization, from November 2023 to June 2024. This approach ensured that the selected respondents possessed the necessary knowledge and experience to provide valuable insights into newborn care practices. The criteria for selection included being a first-time mother, resident of the research locale for at least one year, with newborn checkups based in the MRHU, and whose delivery was normal without complications. Mothers discharged home against medical advice upon delivery due to infant complications were excluded. Of the 143 eligible mothers, 120 agreed to participate, yielding a robust dataset for analysis. This sample size was strategically chosen to balance practical constraints with the need for detailed and relevant data, aligning with the study's objectives and ethical standards.

Furthermore, data was collected using a researcher-developed questionnaire consisting of three sections and a total of 53 items. The questionnaire underwent a thorough validation process to ensure its effectiveness and relevance. Content and face validity were established through revisions by a set of expert panels including a clinical educator, a community health clinician, and a psychometrician, who evaluated the relevance and alignment of each item with the research goals. Construct validity was further supported by expert evaluations, validity testing, and a detailed literature review that informed the questionnaire's design. To ensure validity, a Content Validity Ratio (CVR) analysis was conducted. Items with CVR scores between 0.7 and 0.9 were retained, those with scores between 0.6 and 0.5 were revised, and items with scores between 0.4 and 0.1 were excluded. As a result, 15 items were removed from the initial set of 68, leaving 53 items in the final version of the questionnaire. The reliability of the instrument was then evaluated through pilot testing, with a Cronbach's Alpha of 0.809 demonstrating strong internal consistency among the Likert-scale responses, thus validating the instrument's reliability. The tool was originally developed in English but was translated into the local Visayan dialect to meet the language needs of the respondents.

The primary investigator (EDT) performed the collection of the data in the mentioned research locale. Data analysis was performed using the statistical software JASP Version 0.16.4. Descriptive statistics, including means and standard deviations, were utilized to summarize the data. To explore the relationships between socio-demographic factors and newborn care practices, Pearson correlation and Spearman's Rho analyses were applied, with statistical significance determined at a p-value of less than 0.05.

Prior to commencing the research, the study underwent a comprehensive review and received approval from the Ethics Committee of the MSU Buug Nursing Department. The research was granted ethical clearance under reference number NDEC-2023-01. Participants were fully informed about their rights, and measures were put in place to ensure the confidentiality and anonymity of their responses.

RESULT

This section displays the data in tabular format, featuring the frequency and percentage distributions of respondents' socio-demographic profiles, descriptive statistics on the extent of their newborn care practices, and the correlation between these variables.

Table 1. Descriptive statistics of the frequency and percentage distribution of the studied sample according to their sociodemographic profile (n = 120)

Variables	*f*	*Percentage*
Age		
20 yrs. old and below	35	29.2
21-30 years old	60	50.0
31-40 years old	25	20.8
40 years and above	0	0.00
Civil Status		
Single	56	46.7
Married	57	47.5
Separated	7	5.8
Employment		
Employed	29	24.2
Self-employed	28	23.3
Unemployed	63	52.5
Highest Educational Attainment		
Elementary Level/Graduate	14	11.7
High School Level/ Graduate	50	41.7
College Level/ Graduate	56	47.6

Table 1 shows that the majority of the respondents were between 21-30 years old, representing 50.0% of the sample. In terms of civil status, nearly equal proportions were observed between single and married respondents, with 46.7% being single and 47.5% married. Regarding employment status, over half of the participants were unemployed (52.5%), while the remaining were either employed or self-employed. Educational attainment was relatively high, with 47.6% having reached or completed college, and 41.7% having completed high school, highlighting a well-educated sample overall.

Table 2. Descriptive statistics of the respondents' level of newborn care practices

Variables	Indicators	Grand Mean	Interpretation
Umbilical Cord Management	*I perform:* Cleaning the cord daily; Washing hands with water and soap before cleaning the cord; Following the steps for cord cleaning; Using alcohol to clean the cord; Not cleaning the cord daily; Soaking the cord in water; Using water to clean the cord; Letting the cord dry; Covering the cord with a clean towel; and Washing hands after cleaning the cord.	3.81	The respondents demonstrate a moderate level of agreement with the indicators as reflected by a grand mean score categorized as *"often"*.

Infant Feeding Practices	Feeding the baby with breast milk instead of formula milk; Breastfeeding the baby 8 to 12 times daily or as needed; Carrying the baby while feeding; Finding breastfeeding emotionally draining or feeling close to the baby while breastfeeding; Following the doctor's orders to breastfeed the baby.	4.39	The respondents demonstrate a high level of agreement with the indicators as reflected by a grand mean score categorized as "*always*".
Infant Sleep and Rest Patterns	Using soft music, singing, or a night light to help the baby sleep; Carrying, feeding, or sleeping beside the baby to assist with sleeping; Dressing the baby in pajamas, putting a blanket on them, using sleep sacks, or putting on a bonnet or gloves for sleeping; Using a cradle to help the baby sleep; Using a mosquito net to protect the baby from mosquitoes while sleeping.	4.56	The respondents demonstrate a high level of agreement with the indicators as reflected by a grand mean score categorized as "*always*".
Diapering Practices	Changing the diaper when there is poop or urine; Using quality diapers recommended by friends and that don't cause rashes; Disposing of the diaper after use; Washing hands before and after changing the diaper; Promoting cleanliness for the baby daily.	4.59	The respondents demonstrate a high level of agreement with the indicators as reflected by a grand mean score categorized as "*always*".
Infant Bathing Practices	Using warm water for bathing the baby, and mineral water for 3 to 5 minutes; Using a soft towel for drying the baby; Starting to bathe the baby 2 to 3 days after birth; Using a thermometer for checking the water temperature; Using baby-sensitive moisturizing soap; Dressing the baby in a new set of clothes.	4.33	The respondents demonstrate a high level of agreement with the indicators as reflected by a grand mean score categorized as "*always*".
Post Natal Follow-up and Health Monitoring	Going to the health center for follow-up check-ups after birth; Going to the health center if the baby is sick; Going to the health center for the baby's vaccination; Doing a health check-up if the baby's umbilical cord is infected; Doing a health check-up if the baby suffers from diarrhea.	4.88	The respondents demonstrate a high level of agreement with the indicators as reflected by a grand mean score categorized as "*always*".

Scale: 1.00-1.79 = "Never"   1.80-2.59 = "Seldom"   2.60-3.39 = "Occasionally"   3.40-4.19 = "Often"   4.20-5.00 = "Always"

Table 2 shows that the respondents displayed the highest level of agreement with the indicators related to post-natal follow-up and health monitoring, with a grand mean score of 4.88, categorized as "*always*". This was followed by a similarly high level of agreement in diapering practices, which had a grand mean score of 4.59. Infant sleep and rest patterns also scored highly, with a grand mean of 4.56, indicating strong adherence to the related practices. Infant feeding practices and infant bathing practices both received high levels of agreement, with grand mean scores of 4.39 and 4.33, respectively. Umbilical cord management practices were moderately agreed upon, with a grand mean score of 3.81, categorized as "*often*".

Table 3. Relationship between sociodemographic profiles and the respondents' level of newborn care practices

Variable		Age	Educational Attainment	Civil Status	Nature of Employment
Newborn Care Practices	*Spearman's rho*	0.142	-0.008		
	p-value	0.122	0.929		
Newborn Care Practices	*Chi-Square*			7.44	2.74
	p-value			0.024	0.254

* p < .05

The results presented in Table 3 examined the relationship between the respondents' sociodemographic profiles and the extent of newborn care practices by the respondents. The analysis shows a statistically significant relationship between civil status and the level of newborn care practices ($\chi^2 = 7.44$, p = 0.024), indicating that civil status may influence how first-time mothers engage in newborn care. However, no significant relationships were found between newborn care practices and other sociodemographic variables, including age (Spearman's rho = 0.142, p = 0.122), educational attainment (Spearman's rho = -0.008, p = 0.929), and nature of employment ($\chi^2 = 2.74$, p = 0.254).

DISCUSSION

The age distribution indicates that most first-time mothers in this rural community fall within the 21-30-year age range, which is commonly regarded as an optimal period for childbearing. This aligns with national statistics, which show that Filipino women typically marry at around 22 years of age and have their first child at an average age of 23 [8]. Consequently, research shows that the safest age to have a child is generally considered to be between 23 and 32 years [9]. During this age range, the risk of certain birth defects and complications tends to be lower. Younger or older maternal ages may pose increased risks for the development of the fetus, as both very young and advanced maternal ages are associated with a higher likelihood of health issues for both the mother and the baby [10]. Similarly, this age demographic is likely to have a more established support system and access to information, potentially impacting their newborn care practices positively.

Furthermore, the sociodemographic profile of the respondents indicates that most first-time mothers in this rural Philippine community are predominantly unemployed and relatively well-educated.

6

These factors are likely to play a crucial role in shaping their newborn care practices. The high level of education among respondents suggests that they may be more capable of adopting recommended newborn care practices [11], although the significant proportion of unemployed mothers could pose challenges to resource availability. The nearly equal split between single and married mothers suggests that support systems may vary, potentially influencing the consistency and quality of care provided to newborns.

In terms of newborn care practices, the findings show a high level of adherence, particularly in areas such as infant feeding, sleep and rest patterns, diapering, and bathing. The greatest adherence is seen in post-natal follow-up and health monitoring, indicating a strong commitment to the health and well-being of newborns through regular check-ups and vaccinations. First-time mothers frequently experience uncertainty and are overwhelmed with the challenges of motherhood and seek affirmation through positive feedback, clear information, reassurance about their baby's development, compassionate support recognizing their life transition, and effective assistance from their partners or family members [12]. Hence, social support is a crucial factor in facilitating a successful transition to motherhood [13].

Since infants depend entirely on their caregivers for all aspects of their lives, caregiver-child interactions occur within a dynamic and complex environment. Caregivers navigate a fast-paced world, balancing their infant's needs with various social, financial, work, community, political, nutritional, and personal demands [14]. Through interactive activities like playing, reading, feeding, bathing, changing, dressing, and holding, caregivers help children enhance their ability to be comforted, find pleasure in physical closeness, and regulate their attention and emotional responses more effectively [15].

Moreover, the findings which show a high level of adherence to post-natal follow-up and health monitoring highlight the significant emphasis placed by the respondents on continuous medical care and regular health checks. These practices are crucial for the early identification and management of potential health issues that could impact the well-being of both mother and baby [16]. Regular medical visits facilitate the prompt detection of complications such as infections, developmental delays, or other concerns that may arise in the early stages of life [17]. This proactive approach not only addresses immediate health needs but also enhances long-term health outcomes by ensuring that emerging issues are managed effectively.

Similarly, the study also identified a significant correlation between civil status and newborn care practices. The Chi-Square analysis shows that civil status affects adherence to newborn care practices, indicating that a caregiver's marital status—whether single, married, or separated—can influence their approach to newborn care. The significant correlation between civil status and newborn care practices highlights how marital status can influence healthcare utilization and adherence to newborn care recommendations. In the Philippines, where family support structures play a crucial role, the availability of resources and support can vary significantly between single, married, and separated caregivers. For example, married caregivers might benefit from their spouse's support and assistance, leading to higher adherence to recommended newborn care practices [18]. Married caregivers may have more access to shared resources, emotional support, and practical help, which could positively impact their caregiving approach [19]. Conversely, single parents may experience more significant challenges

7

due to the lack of additional support from a partner [20]. They might face difficulties in accessing healthcare services due to financial constraints or a lack of time, which can impact their adherence to recommended newborn care practices. The absence of a partner's support might also lead to increased stress and reduced ability to follow best practices consistently. Subsequently, caregivers who are separated may face a unique set of challenges. They might experience varying levels of support depending on the circumstances of their separation and the availability of co-parenting arrangements. Their ability to access resources and healthcare services can be influenced by factors such as legal arrangements and the presence of a support network.

To provide a broader context, similar patterns have been observed in other culturally and economically comparable countries. For instance, in countries like Indonesia and Thailand, where family structures and support systems play a significant role, married caregivers often show higher adherence to newborn care practices due to the availability of support from extended family and spouses [21,22]. Conversely, single parents in these countries may face similar challenges as observed in the Philippines, including limited access to healthcare resources and increased financial strain.

One limitation of this study is the absence of regression analysis to explore the relationships between sociodemographic variables and newborn care practices more comprehensively. While the bivariate analyses provided valuable insights into individual variables such as civil status, age, educational attainment, and nature of employment, regression analysis could have offered a more detailed understanding of how these factors collectively influence newborn care practices. Future research should consider incorporating regression techniques to identify significant predictors and interactions among sociodemographic variables, which could provide a more nuanced perspective and guide targeted interventions.

CONCLUSION

This study highlights the significant adherence of rural communities to recommended newborn care practices, especially in areas such as infant feeding, sleep routines, and post-natal health monitoring. Such high adherence reflects their dedication to the health and well-being of their babies. Nonetheless, the analysis also shows that civil status significantly affects caregiving methods, suggesting that marital status impacts the level of support and resources available. This finding points to the necessity for customized interventions that cater to the unique needs of caregivers based on their marital status, aiming to improve support systems and enhance care quality for both mothers and their infants.

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