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Compliance of Indigenous Mothers on Perinatal Care Provisions of the Department of Health's Maternal, Newborn, and Child Health and Nutrition (MNCHN) Program

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ABSTRACT

An Agta mothers have ample tradition when it comes to their perinatal care, meaning the care they get prior, during, and after birth. However, there still exists a gap between Indigenous mothers' compliance regarding perinatal care, as stipulated by the MNCHN guidelines, due to the lack of documentation and study regarding their health. This study intended to assess the compliance of Indigenous mothers on perinatal care for DOH's MNCHN program at Sitio Padungsul, Gattaran, Cagayan. A quantitative descriptive-correlational method can effectively address questions regarding compliance to perinatal care provision. Total enumeration sampling was utilized to ensure data obtained is accurate. Statistical analysis is used to sketch out the socio-demographic and health-seeking behaviors of the respondents, where frequency distribution is utilized for analyzing their profiles. Weighted mean was calculated to assess compliance levels, and Kendall Tau-B tests were used to examine the correlation between compliance levels and participant profile variables. From this study, it can be gathered that across all perinatal care services, partial compliance was noted in terms of laboratory tests during the second trimester, care during childbirth, and the continuance of immunization during postpartum. In addition, the participant's profiles, which include age, gravida, educational background, employment status, and transportation, hold a weak to moderate significant relationship to their compliance toward perinatal care. The outcomes of this quantitative inquiry hold paramount importance in the development of targeted interventions tailored to the unique needs of Indigenous mothers. Understanding the identified gaps of this study based on the DOH MNCHN program can be used to support policy changes that promote better access to perinatal care services.

Keywords: *Perinatal care; DOH, MNCHN; Agta mothers; Gattaran; Cagayan; quantitative descriptive-correlational study; statistical treatment used*

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INTRODUCTION

Redefining the world of Maternal Health among the mothers of the Indigenous Community has been a challenging movement for us to advance. Indigenous women's experience is negatively impacted by existing inequities in prenatal and antenatal care, competent delivery, and many other socioeconomic health variables, eventually raising their risk for maternal mortality, compared to non-indigenous women, indigenous women experience much less favorable maternal outcomes (UN, 2020). Indigenous people are commonly acknowledged as being at risk and frequently face social and economic disadvantages. Numerous reside in remote communities with limited access to government services. Considering the scope and literacy of the indigenous people, and despite numerous health promotion interventions, there is still a growing burden of maternal health problems. Globally, over 500,000 women and girls die due to complications related to pregnancy and childbirth. In the year 2020, for every 100,000 live births, there were 236.5 maternal deaths in indigenous communities (WHO, 2021). In the Philippines alone, the year 2021 is the third deadliest year for childbearing with over 189.21 per 100,000 live births. In the Province of Cagayan, a total of only 30 maternal deaths were recorded in the region for the year 2019 (PSA, 2019). Despite the advancement of health agendas, Perinatal Care among Indigenous mothers has rarely been studied. Thus, This study generally aimed to assess the compliance of indigenous mothers on perinatal care provisions of the DOH MNCHN program, and the relationship of their profile to their level of compliance.

MATERIALS AND METHODS

Research Design

The research employed a quantitative descriptive-correlational approach to address inquiries regarding the compliance to perinatal care among Indigenous mothers. The descriptive designs aim to describe the characteristics of the study participants in terms of their demographic profile, socio-economic background, and health-seeking behaviors.

Sampling Technique

The Barangay is home to a community comprising of 228 Agta individuals, who are distributed among 63 households. From this population, total enumeration technique, a total of 42 study samples were selected for analysis.

Locale of the study

The location of this study holds significance as an ancestral domain, acknowledged by the National Commission on Indigenous People. Situated in Barangay Naddungan, Gattaran, it can be classified as a rural or geographically secluded area. This community is remote, far from the urban center, wherein the Barangay Health Station and Birthing Facility were not found in the area.

Research Instruments

The researchers used a structured questionnaire specifically based on the guidelines set by the DOH manual entitled "Community Managed Maternal and Newborn Care: A Guide for Primary Health Care Professionals" and the booklet published by the Department of Health and USAID entitled, "Nanay (Mother) & Baby Book." The questionnaire was designed to collect the following information: Part 1 consisted of the socio-demographic profile of the respondents, and Part 2, 3 and 4 will be answered from the following choices: Compliant, Partially Compliant, Not Compliant. To ensure accuracy, data was gathered by means of surveys conducted through interviews.

Analysis of the Data/ Statistical treatment

The researchers utilized descriptive statistics to summarize the level of compliance and the socio-demographic profile of the respondents. Specifically, frequency and percentage distribution was used to determine the socio-demographic profile of the respondents. Furthermore, weighted mean was used to evaluate the level of compliance of the respondents,

respectively. The relationship between the level of compliance and the respondents' profile variables was evaluated using Kendall Tau-B tests in SPSS. The mean was given a scale and descriptive values to describe the extent of compliance of the respondents. A 3-point Likert scale was used to measure the level of compliance of Indigenous mothers with the perinatal care provisions outlined by the DOH MNCHN program

RESULTS AND DISCUSSION

Profile of the Respondents

Demographic Profile of The Respondents

Table 1: Distribution of the indigenous mothers in terms of demographic profile

Variables	Frequency (n=42)	Percentage
Age		
16 to 22	12	28.6
23 to 35	18	42.9
36 to 45	9	21.4
46 to 54	3	7.1
Gravida		
1 to 2	16	38.1
3 to 4	19	45.2
5 to 7	7	16.7
Marital Status		
Married/Living with spouse	28	66.7
Living separately from spouse	14	33.3
Religion		
Roman Catholic	10	23.8
Others	32	76.2

Among the women who agreed to participate in the study, the highest proportion falls withinthe age groups of 23 to 35 years, constituting 42.9% of the Agta mothers. This age distribution indicates that most respondents are of child-bearing age. However, a notable finding in the table revealed that 7.1% of the respondents aged 45 to 54 years old have received perinatal care. Moreover, in Sitio Padungsul, Agta mothers generally perceive pregnancy as a favorable experience. The survey results showed that a majority of them had an experience of pregnancy and childbirth three to four times (45.2%). On the side of the respondents, out of 42 respondents, 66.7% are married. Therefore, it can be concluded that staying with spouses is helpful during perinatal care, especially for the Agta wives. Moreover, it has been observed that "Others" constitute the largest religious group among the Agta wives, making up 76.2% attendees of the Church of Christ. It is worth noting that the Christian religion came into existence due to the efforts of missionaries.

Socio-Demographic Profile of The Respondents

Table 2: Distribution of the indigenous mothers in terms of socio-economic profile

Variables	Frequency (n=42)	Percentage
Employment Status		
Self-employed	10	23.8
Unemployed	15	35.7
Employed	17	40.5
Educational attainment		
Elementary	33	78.6
High school	9	21.4
College	0	-
Monthly income		
Less than 9,100	42	100.0
Mode of transportation *(multiple response set)*		
Kulong-kulong (modified tricycle)	36	85.7
Single Motorcycle	5	11.9
Tricycle	0	–
None at all	3	7.1

Most Indigenous mothers are employed, with a percentage of 40.5%. Most work as seasonal workers referred to as "makitantandans"; they work in planting and harvesting corn, rice, and vegetables in exchange for wages. Others work as seasonal workers in various farming activities. According to Katja et al. (2012), the Aetas in Zambales, Philippines, are famed for their "exclusive farming techniques in cultivating sweet potatoes, bananas, and vegetables." In the Philippines, there are approximately, 102 million Indigenous Peoples (IPs). This translates to the entire national population comprising between 10-20%. Most Indigenous Peoples in the Philippines rely on farming as their major source of income (AVPN, 2024). However, most Indigenous Peoples in the Philippines are employed, with a percentage of 40.5%. Others work as self-employed workers, and only 23.8% do so.

The data indicates that a significant proportion of Agta Mothers in Sitio Padungsul have attained only elementary levels of education, amounting to 78.6% of the total. This is attributed to the fact that there is only one school institution in the area, the "Creative Dream Christian Academy," and this institution offers only elementary education. Thus, these mothers are compelled to acquire only elementary education as there is no college or high school institution nearby. Be that as it may, on the other end, 21.4% of Agta Mothers are currently pursuing an Alternative Learning System provided by the Department of Education.

In terms of transportation, most Agta mothers use "*Kulong-kulong*" (modified tricycles) for their mobility needs. During interviews, Agta mothers expressed that the *Kulong-kulong* is preferred for its comfort, especially for pregnant women. The informants emphasized their dependence on the local barangay transportation service and motorcycles as the main modes of transportation available for entering and exiting the community.

Health-Seeking Behavior of The Respondents

Table 3: Distribution of the indigenous mothers in terms of health-seeking behaviors

Variables	Frequency (n=42)	Percentage
Sources of Health Information		
Health workers	40	95.2
Family	28	66.7
Friends/Neighbors	12	28.6
Relatives	4	9.5
Multi-media access at home	0	-
Source of Health Services		
Dr. Tomas L. Nolasco Sr. Memorial Hospital	40	95.2
Barangay Health Centers	38	90.5
Gattaran Emergency Hospital	4	9.5
Municipal Health Centers	0	-
Birth Centers	0	-
Private Hospital Clinic	0	-
**multiple response set*		

Most of the Agta mothers despite having multiple source of health information (95.2%) rely on health workers, but a smaller portion (28.6% and less) still consider obtaining information from friends, neighbors, and multimedia access at home. When it comes to health services, most mothers (95.2%) receive them from Dr. Tomas L. Nolasco Sr. Memorial Hospital, but Agta mothers also utilizes or access to (90.5%) Barangay Health Centers. This suggests that the hospital is an important source of health care in the community. It probably provides a vast array of services as far as medical care is concerned. Being totally dependent on the health workers for the information might mean that there is a lot of trust in the medical knowledge they provide.

Level of Compliance Among Indigenous Mothers on Perinatal Care

Prenatal Care

Table 4: Summary of the level of prenatal care compliance of the indigenous mothers

Activities	Overall WM	Overall DV
Maternal assessment and counseling	2.67	Partially compliant
Laboratory tests during first trimester	2.67	Partially compliant
Laboratory tests during second trimester	2.08	Partially compliant
Laboratory tests during last trimester	2.63	Partially compliant
Immunization	2.67	Partially compliant
Medication/supplementation	2.76	Partially compliant
Diet and nutrition	2.77	Partially compliant
Lifestyle	2.76	Partially compliant
Composite Mean	**2.62**	**Partially compliant**

Table 4 indicates that respondents show partial compliance in terms of prenatal care, especially among Indigenous mothers. For instance, of all the activities that are carried out during prenatal care, it is evident that laboratory tests carried out during the second trimester recorded the lowest weighted mean. This indicates that Agta mothers comply with the prenatal care provision to a certain extent, failing to address all the expected factors. Some of the Indigenous Agta mothers show partial compliance in terms of laboratory tests carried out by them during the second trimester of their pregnancy, as they are somewhat apprehensive about these tests, given that they are of a personal nature, resulting in hesitancy on their part. On the contrary, some of the Agta mothers failed to access treatment during the second trimester because they are preoccupied with work-related

activities, such as working from home and attending to their spouses, as they are aware that accessing the second trimester session is irrelevant, as they are also scheduled to access the final trimester session upon delivery, as they also attended the first trimester session.

The Table 4 indicate that respondents exhibit partial compliance in terms of prenatal care among Indigenous mothers. Notably, among the various prenatal care activities, the laboratory tests conducted during the second trimester received the lowest overall weighted mean. This implies that the Agta mothers adhere to the provision to some extent, but may not fully meet all the recommended aspects. Some Agta mothers exhibit partial compliance with laboratory tests during the second trimester of pregnancy due to reservations about the personal nature of the tests, which leads to hesitancy in their participation. Conversely, certain respondents cited time constraints as a reason for not attending their second trimester visit, as they are preoccupied with responsibilities such as working from home and assisting their spouses. Additionally, some mothers expressed the belief that attending the second trimester visit is unnecessary after having already attended the first trimester, with the expectation of attending the final trimester upon delivery.

Care During Labor, Childbirth and Immediate Postpartum

Table 5. Summary of the level of Care During Labor, Childbirth and Immediate Postpartum compliance of the indigenous mothers

Activities	Overall WM	Overall DV
Care During Labor	2.83	Partially compliant
Care During Childbirth	2.68	Partially compliant
Care During Immediate Postpartum	2.89	Partially compliant
Composite Mean	**2.80**	**Partially compliant**

Table 5 care during labor, childbirth, and immediate postpartum shows partial compliance in all aspects. Agta mother are less likely to follow recommended practice in childbirth than in labor and immediate postpartum stages. Agta mothers are partially compliant to the physician's advice in preventing uncontrolled pushing because they want more control to allow them to implement their preferred technique. This agrees with the study conducted by Rio in 2018 on allowing women the freedom to choose a comfortable position during child delivery. Low rating on perineal examination and care is perhaps due to traditional belief that perineal hygiene was done using boiled water with herbal plants. Indigenous practices during labor may involve techniques unique in different cultures. Participants were partially compliant to receiving husband or family member support during delivery. Husbands are taking more responsibilities during pregnant stage of their wives to ensure that they have enough rest.

Postpartum Care

Table 6. Summary of the level of postpartum care compliance of the indigenous mothers

Activities	Overall WM	Overall DV
Care for the mother in the first 24-72 hours after delivery	2.69	Partially compliant
Care/ check-up for the mother 3-6 weeks after delivery	2.64	Partially compliant
Immunization (cont. of vaccine during Prenatal Care)	2.31	Partially compliant
Composite Mean	**2.55**	**Partially compliant**

The table 6 above indicates that generally speaking, the respondents practiced partial compliance, with immunization being the lowest. The basis of this partial compliance is that the respondents feel that they do not

need to be immunized since they are fine and feel healthy after giving birth. Kipengele et al., (2021) findings agree with the above argument that some mothers failed to turn up to receive the immunization after giving birth since they did not know the importance of completing the immunization. However, another promising discovery within the study findings is that some indigenous races could be adopting different cultural values other than those supported by medical practice (WHO, 2023). The partial compliance of the Agta mothers regarding immunization necessitates the need to educate the mothers on the importance of taking the tetanus toxoid before and after giving birth. The importance of such action will ensure that the mothers are healthy, so will their children.

Relationship Between the Level of Perinatal Care Compliance of the Indigenous Mothers and their Profile

Table 7. Results of the correlation test between compliance to perinatal care of the indigenous mothers and their profile.

Variables	Prenatal Care	Care During Labor, Childbirth and Immediate Postpartum	Postpartum Care
Profile			
Age			
Correlation	**-0.418****	**-0.439****	**-0.419****
p-value	**0.000**	**0.000**	**0.000**
Gravida			
Correlation	**-0.366****	**-0.372****	**-0.424****
p-value	**0.894**	**0.003**	**0.001**
Marital status			
Correlation	0.018	0.048	0.015
p-value	0.894	0.729	0.917
Religion			
Correlation	0.047	0.009	0.061
p-value	0.722	0.949	0.669
Employment status			
Correlation	-0.135	-0.338**	-0.257
p-value	0.278	0.011	0.059
Educational attainment			
Correlation	**0.328****	0.239	**0.333****
p-value	**0.012**	0.088	**0.020**
Monthly income	Constant	Constant	Constant
Sources of transportation			
Correlation	0.213	**0.297****	0.182
p-value	0.094	**0.029**	0.191
Sources of Health Information			
Correlation	-0.201	-0.138	-0.212
p-value	0.118	0.313	0.132
Source of Health Services			
Correlation	0.060	0.224	0.051
p-value	0.640	0.104	0.720
**tested at 0.05 level of significance using Kendall's tau-b*		***significant*	

Based on the analysis of relationship between compliance and perinatal care, there is a weak to moderate negative relationship between age, gravida, and employment status, while a weak to moderate positive relationship was seen in educational attainment and access of transportation in some aspects of perinatal care.

One of the most interesting discoveries is the relationship between age and compliance with perinatal care where it indicates a weak to moderate negative association. A negative value means as age increases, prenatal care compliance tends to decrease. The p-values for age is less than the commonly used significance level of 0.05. This suggests that the observed negative association is statistically significant. Previous studies (Muyunda et al., 2016; Vecino, 2008; Pacheco et al., 2023) support the idea that age is a factor in following recommended prenatal care visits because age vary in accessing new information and practices related to childbirth. Ibáñez et al. (2015) found that age is associated with a higher chance of

delivering at a healthcare facility, indicating a willingness to follow recommendations for facility-based care during labor and delivery.

Further analysis of these data shows that gravida also plays a significant part in compliance with perinatal care. Table 7 shows a weak to moderate negative association of gravida with compliance for each type of care, although the p-value for prenatal care, reported here at 0.894, is considerably higher than the standard significance level of 0.05. It does, therefore, appear that the negative association for prenatal care is due to chance and not due to a real trend, while the p-values for care during labor, reported here at 0.003, and postpartum care, reported here at 0.001, are both less than 0.05, suggesting that these negative associations are statistically significant and probably due to a real trend.

This is also in concert with the research done by Tayebi et al. (2013), Miranda et al. (2011), and Khaki et al. (2019), as it focuses on the benefits associated with the minimal previous pregnancies with regards to the use of prenatal care services as well as the timely initiation of care among pregnant women. This is paramount as it can influence the proactive nature of the first-time pregnant women regarding maternal care services, thus leading them to make effective decisions during childbirth.

Employment status showed significant results indicating a weak to moderate level of negative association, which was found only on care during labor, employment status, and immediate postpartum compliance. A negative value implies that employment status in the study had a negative association; i.e., employed persons had lower levels of care during labor and immediate postpartum compliance than unemployed persons. In addition, the p-value, which is 0.011, is less than the significance level of 0.05.

Ironically, unemployed indigenous mothers have a higher level of compliance in labor, delivery, and the immediate postpartum periods than indigenous mothers who are employed and self-employed. This is surprising, notwithstanding current investigations indicating challenges women who are employed encounter as they seek to seek prenatal care, which is affected by work-related stress and lack of sufficient time to take care of themselves (Preis et al., 2021). The lifestyle of unemployed indigenous mothers is more conducive to self-care, which might result in a higher level of compliance than that of indigenous mothers who are employed and self-employed.

However, our research showed that there is a weak to moderate positive correlation between educational attainment and compliance with prenatal and postpartum care. The positive sign implies that higher educational attainment in our study corresponds positively to higher compliance to prenatal and postpartum care when compared to lower educational attainment. The p-value for prenatal and postpartum care is 0.012 and 0.020 respectively, and these values are lower than 0.05. This implies that our results are significant.

This fact is backed by several studies, such as those of Alexander et al. (2002), Heaman et al. (2015), and Sokoloski (1995), all of which focus on the importance of the positive link between educational level and prenatal care utilization. This means that investing in education among Indigenous peoples can be an effective step in improving prenatal care outcomes.

Other factors like the source of transportation for care during labor, childbirth, and immediate postpartum revealed a significantly weak positive correlation with 0.297 as the correlation coefficient. At the same time, the calculated probability value of 0.029 is less than the standard 0.05. This explains the statistically significant positive correlation. Aboriginal women who use "Kulong-kulong," the modified tricycle mode of transportation, tend to follow the care for labor, childbirth, and immediate postpartum more than the ones who do not.

In conclusion, further investigations have to be conducted to establish the underlying factors of relationship. The test of relationship doesn't point to causation. The analysis just highlights that there is relationship to certain factors. However, more investigations need to be conducted to establish why there is a direct or indirect relationship to the level of compliance.

CONCLUSION

The research data revealed that Agta women in Sitio Padungsul have partial compliance with various aspects of perinatal care. For instance, they demonstrated low levels of compliance in undergoing laboratory tests in the second trimester, perinatal care during childbirth, and continuing immunization in postnatal care. However, various factors, including age, gravida or number of pregnancies, educational background, employment participation, and mode of transportation, are significantly associated with Agta women's compliance with the perinatal care program set by DOH MNCHN.

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