



Prevalence of Pregnancy and Obstetric Outcomes Among Teenage Women of Manolo Fortich, Bukidnon from January 2021- June 2023: A Retrospective Study

Robert Carl M. Tabilog¹, Pinky R. Catipon², Menchie L. Medina³, Carla Jean L. Ybanez⁴, Cathyrene Grace Q. Esguerra⁵

^{1, 2, 3, 4, 5} St. Bernadette of Lourdes College, Quezon City, Philippines

DOI: <https://doi.org/10.55248/gengpi.4.1223.0133>

ABSTRACT

Background: As per the United Nations Children's Fund (UNICEF), teenage pregnancy—defined as pregnancy in girls aged 13–19—is acknowledged as a worldwide issue, posing challenges for those invested in the health and well-being of young women and their children. In rural areas, a significant number of adolescent girl's experience pregnancies outside of marriage each year (Kassa, Arowojolu, & Negash, 2019). However, a dearth of these literatures was dedicated to Manolo, Bukidnon therefore, this community-based study was aimed at assessing the prevalence and outcomes of teenage pregnancy in the identified rural area.

Methods: A descriptive–quantitative research design was used in this paper and the purpose of this research is to elicit information to describe the prevalence and obstetric pregnancy outcomes of adolescents within the age range of 10-19 years in Manolo Fortich, Bukidnon. A complete enumeration of all medical records and tools from the Rural Health Unit like the Field Health Service Information System (FHSIS), M1, and National Safe Motherhood Program was employed in this investigation.

Results: A large majority of the teenagers got pregnant at the age between 15-19 years old at a rate of 97.07%. Prevalence measures indicate that in every 100 teenagers in Manolo Fortich Bukidnon, at least 2 of them got pregnant as young as 10 years old. It was also revealed that almost three-quarters of these teenage mothers had a low BMI and reported having an increased chance of low-birth-weight babies, premature birth and anemia. Most of the teenage mothers delivered through normal spontaneous vaginal deliveries at a rate of 93.07%. Of the complications identified, gestational diabetes was the most common at 2% followed by anemia at 1.60%. There were cases of miscarriage, abortion and stillbirth however, no maternal deaths were recorded for this span of time.

Conclusion: With the rich evidence presented and analyzed in this study, it can be concluded that there was a relatively low teenage pregnancy rate in Manolo Fortich Bukidnon for the 3-year period being undertaken. The Manolo Fortich Bukidnon authorities, especially the local government unit, barangay health officials and the health and education sector must be able to strategize on how to curb the increasing trends of teenage pregnancy in the municipality.

Keywords: Teenage Pregnancy, Obstetric Outcomes, Teenagers, Manolo Fortich Bukidnon. Prevalence

INTRODUCTION

Teenage pregnancy is a global problem at a high rate and has steadily increased to become more prevalent. Having children at a young age can affect a woman's health as she prepares to become a mother. Young mothers frequently experience a challenging birthing experience since they are too young and immature to bear a child (Okot, Laker, Apio, Madraa, Kibone, Pebalo Pebolo, & Bongomin, 2023).

It is obvious that early or teenage pregnancy occurs in our country, and we will not go far to investigate this because we can find data and information through our community's recorded health information. There are several factors that may lead to early pregnancy which includes marriage at a young age at which they are expected to have children and become parents (Okot, Laker, Apio, Madraa, Kibone, Pebalo Pebolo, & Bongomin, 2023). According to the National Academies of Sciences, Engineering, and Medicine (2016), parents are pivotal in shaping an individual's behavior, parents who don't spend time with their kids discussing or talking about premarital sex, and lack of parental guidance is the primary factor for early pregnancy. In addition, one of the main factors contributing to certain young girls' and boys' involvement in sexual behaviors from which they were influenced is peer pressure.

Viewing pornographic material and the influence of social media may also be factors that cause early pregnancy. This is especially true for young people who come from poor families and experience unintended pregnancies. It is likely that adolescents who lack knowledge about pre-marital sex are also unaware of the social economic factors or their status in life. These are just a few of the variables that can result in unintended pregnancy and early parenthood (Pathmendra, Raggatt, Lim, Marino, & Skinner, 2023).

There was broad consensus that the number of teenage births is still on the rise and that every increase has extra negative effects, such as abortions and fetus losses, therefore it is still necessary to lower this age group's birth rate (Asmamaw, Tafere, & Negash, 2023). This study on the prevalence of teenage pregnancy and its obstetric outcomes among the residents of Manolo Fortich, Bukidnon, Philippines shows the status of pregnancy among adolescents ages 10-19.

METHODS

Study design and sites

This was a descriptive–quantitative research to describe the prevalence and obstetric pregnancy outcomes of adolescents within the age range of 10-19 years in Manolo Fortich, Bukidnon.

Complete Enumeration Procedure

A complete enumeration of all medical records and tools from the Rural Health Unit like the Field Health Service Information System (FHSIS), M1, and National Safe Motherhood Program was employed in this investigation.

Data collection procedures

To gather the pertinent data, the researchers obtained authorization to gain access to the past and existing records of the public health facility. A letter was sent to ask permission for this purpose. After approval, the researchers collated the data from the medical records of the Rural Health Unit and sorted them into relevant categories.

Statistical analyses

In order to present the profile of the teenage mothers, descriptive statistics of frequency and percentage were used. The prevalence rate was computed as: Prevalence rate = (total number of teenage pregnancies recorded / total number of teenagers in Manolo, Fortich, Bukidnon.) x 100%, a Centers for Disease Control and Prevention standard measure. In order to present the obstetric outcome of teenage mothers both frequency and percentage were used. The significant difference between the prevalence rate of teenage pregnancy in Manolo, Fortich, Bukidnon versus the average prevalence rate of the Philippines, a t-test for 1 sample proportion was performed. This hypothesis testing used 95% confidence level and significance is at p-value less than 0.05.

Ethical Consideration

One of the researchers is affiliated with the study site, and there is an organizational link between the researcher and the participants or tools employed. Although obtaining access to study data collection was relatively convenient, the researcher's employment status within the organization raised concerns regarding the potential impact on the authenticity or influence of the collected data. To avoid issues arising from this conflict, the researcher followed the recommended strategies by Birks and Mills (2011). An official letter of cooperation was provided to the hospital's heads and administrators. The researcher establishes trust and demonstrates transparency in the process. Explained the reasons/ purpose and nature of the research study, together with the rights and benefits of the respondents for their participation. The researcher employed the member technique for checking the process that involves other members of the research and the organization's other employees to review the data for accuracy.

RESULTS

Using complete enumeration to all records of pregnant teenagers from 2021 until 2023, the data were then tabulated, analyzed, and discussed in this section as follows:

DEMOGRAPHIC PROFILE OF TEENAGE PREGNANT WOMEN AMONG THE RESIDENTS AT THE MUNICIPALITY OF MANOLO FORTICH, BUKIDNON

Table 1. Distribution of Teenage Mothers according to their Maternal Age (n=750)

Teenager Age Range	2021	2022	until June 2023	Total	Percentage (%)
(10-14 yrs.)	12	5	5	22	2.93
(15-19 yrs.)	268	332	128	728	97.07
Total	280	337	133	750	100.00

Source: Rural Health Unit, Field Health Service Information System (FHSIS)

Table 1 shows that a large majority of teenagers got pregnant at the age between 15-19 years old at a rate of 97.07%. However, it is quite alarming that as early as 10-14 years old, there was a recorded 2.93% already who got pregnant in Manolo Fortich Bukidnon at the period covered in this study.

PREVALENCE RATE OF TEENAGE PREGNANCY AMONG WOMEN RESIDENTS OF THE MUNICIPALITY OF MANOLO FORTICH, BUKIDNON FROM JANUARY 2021 - JUNE 2023

Using the Center for Disease Control (USA) formula for incidence rate as:

$$\text{Prevalence Rate} = \frac{\text{no. of pregnant teenagers in Manolo Fortich Bukidnon for a period}}{\text{total no. teenagers in Manolo Fortich Bukidnon for a period}} \times 100\%$$

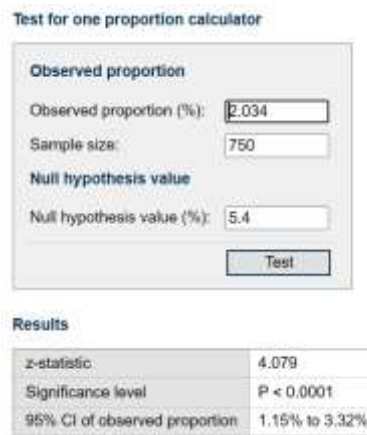
$$\text{Prevalence Rate} = \frac{750}{36875} \times 100\%$$

$$\text{Prevalence Rate} = 2.034\%$$

The computational result is indicative that in every 100 teenagers in Manolo Fortich Bukidnon, at least 2 of them got pregnant as young as 10 years old. This prevalence can be compared to that of the whole Philippines teenage pregnancy rate at 5.4% as reported by the Philippine Statistics Authority in 2023.

HYPOTHESIS TEST RESULT FOR THE SIGNIFICANT DIFFERENCE BETWEEN THE PREVALENCE RATE OF MANOLO BUKIDNON AND THAT OF THE PHILIPPINES IN TERMS OF TEENAGE PREGNANCY

Figure 1. The t-test for One Sample Proportion



Source: MedCalc Software Ltd. Test for one proportion calculator. https://www.medcalc.org/calc/test_one_proportion.php (Version 22.016; accessed November 14, 2023)

It is also of prime interest of the investigators to statistically determine if the prevalence computed for the Manolo Bukidnon teenage pregnancy is comparable to that of the Philippine rate Using the t-test for one sample proportion, with a p-value<0.0001, there is a significant difference in the prevalence rates between these two groups. In fact, the former had a significantly lower prevalence rate as compared to that of the whole country itself.

HEALTH-RELATED and DELIVERY PROFILE OF THE TEENAGE PREGNANT RESIDENTS OF THE MUNICIPALITY OF MANOLO FORTICH, BUKIDNON FROM JANUARY 2021 - JUNE 2023

Table 2. The Distribution of Respondents in terms of their Health Profile (n=750)

Profile	Category	2021	2022	2023	Total	%
Health Status through Body Mass Index	Low	185	225	127	537	71.60
	Normal	20	15	11	46	6.13
	High	4	5	3	12	1.60
Term	Full Term	288	300	136	724	96.53
	Preterm	0	8	0	8	1.07
Type of health facility-based deliveries	Public health facility	187	305	115	607	80.93
	Private health facility	73	15	7	95	12.67
	Non-facility-based deliveries	20	17	11	48	6.40

Table 2 reveals the health-related and delivery status of the teenage mothers included in the study where it can be shown that almost three-quarters (71.60%) of them had a low BMI which is indicative that they were mostly categorized as being underweight and was reported to having an increased chance of low birth weight (small) baby. Premature birth and anemia (low amount of iron in the blood). Likewise, almost all of them delivered full-term (96.53%) and 80.93% delivered in public health facilities.

OBSTETRIC HEALTH OUTCOMES OF THE TEENAGE PREGNANT RESIDENTS OF THE MUNICIPALITY OF MANOLO FORTICH, BUKIDNON FROM JANUARY 2021 - JUNE 2023

Table 3. The Distribution of Respondents regarding Obstetric and related Outcomes (n=750)

Characteristic	Outcome	2021	2022	2023	Total	%
Mode of Deliveries	Normal Spontaneous Vaginal Delivery	259	312	127	698	93.07
	Cesarean Section	21	25	7	53	7.07
Maternal Complications	Miscarriage/Abortion	0	2	0	2	0.27
	Maternal Deaths	0	0	0	0	0.00
	Anemia	3	7	2	12	1.60
	Gestational Diabetes	6	6	3	15	2.00
Baby Status	Alive (including twins, triplets)	288	336	136	760	101.33
	Stillbirth	0	1	0	1	0.13
Newborn Birthweight	Normal birth weight	279	317	133	729	97.20
	Low birth weight	6	13	2	21	2.80
	Unknown birth weight	3	6	1	10	1.33
Newborn Complications	Fetal Death	0	1	0	1	0.13

Most of the teenage mothers delivered through normal spontaneous vaginal deliveries at a rate of 93.07%. Of the complications identified, gestational diabetes was the most common at 2% followed by anemia at 1.60%. There were cases of miscarriage and abortion as well however, no maternal deaths were recorded for this span of time. Moreover, 8 sets of twins were recorded during the year 2021 and 2 stillbirths and 2 fetal deaths in the period of 3 years.

DISCUSSIONS

The current data reveals a considerable proportion of teenage pregnancies from the younger age group of 10–14-year-old women. According to the World Health Organization, data on child births among girls aged 10–14 are getting more widely available. Globally the adolescent birth rate for girls 10–14 years in 2022 was estimated at 1.5 per 1000 women with higher rates in sub-Saharan Africa (4.6) and Latin America and the Caribbean (2.4). In 2019, the National Economic and Development Authority (NEDA) of the Philippines officially classified the growing number of teenage pregnancies as a "national social emergency." According to data from the Commission on Population and Development in the same year, nearly seven girls between the ages of 10 and 14 gave birth every day, totaling 2,411 girls for that year. Teenage pregnancy not only poses a challenge to breaking the cycle of poverty but also hinders the improvement of women's human development levels. The heightened risk of these occurrences is primarily attributed to insufficient sex education, limited access to birth control, a rise in cohabitation, and the influence of misconceptions stemming from religious beliefs or stereotypes.

In this report, the local prevalence of 2.034% can be compared to that of the whole Philippines teenage pregnancy rate at 5.4% as reported by the Philippine Statistics Authority in 2023. Although PopCom officials confirmed a decrease in teenage pregnancies, they emphasized the necessity of validating the data due to the study being conducted during the peak of the COVID-19 pandemic, amid various imposed restrictions. They also stressed the need for a more thorough investigation to determine whether the reduction was solely attributed to the pandemic or if specific government interventions contributed to this positive impact. In the 19th Congress, at least five bills have been introduced to establish a policy aimed at preventing adolescent pregnancies. Albay Rep. Edcel Lagman, the author of one of these proposed measures, advocates for granting teenagers aged 16 years and above access to contraceptives even without parental consent.

The present findings also corroborated with the existing literature on teenage pregnant women and mothers to be manifesting low BMIs. Based on the study by Vivatkusol, Thavaramara, Phaloprakarn (2018), high proportion of teenage pregnancy had an underweight BMI because of some factors, such as not planned pregnancy, make it a secret to their parents, a tendency to kept being skinny and sexy, and undernourished. For those stated reasons, this specific group of women required proper nourishment. The study revealed that within pregnancy BMI categories, the prevalence of teenage pregnancy was 53.9% for normal weight, 37.2% for underweight, 6.2% for overweight, and 2.7% for obesity. Likewise, when a woman is at the lower end of the reproductive age spectrum, below 20 years, pregnancy entails a heightened risk of adverse outcomes. Numerous studies consistently demonstrate that teenage mothers face an elevated risk of preterm delivery and low birth weight. Analyzing a substantial dataset of births from the Latin American Center for Perinatology and Human Development in Uruguay, it was determined that, following adjustments for significant confounding factors, women aged 15 and younger faced an elevated risk of maternal death, early neonatal death, and anemia when compared to women aged 20-24. Additionally, women below the age of 20 exhibited a higher risk of postpartum hemorrhage, puerperal endometritis, operative vaginal delivery, low birth weight, preterm delivery, and infants classified as small for gestational age. The same elevated risks for teenage pregnancies, independent of known major confounders like low socioeconomic status, inadequate prenatal care and inadequate weight gain during pregnancy were documented using data from the 1995-2000 nationally linked birth/infant death data set of the United States compiled by the National Center for Health Statistics and the Centers for Disease Control and Prevention. In developing nations lacking extensive databases, findings from smaller sample sizes suggest comparable outcomes, indicating that the risks are not solely tied to the developmental status of a country's healthcare system or the accessibility of suitable maternal care for very young pregnant

women. Instead, these risks are associated with the age group and its implication of biological immaturity for childbearing. The risks exhibit an age gradient, being generally more pronounced at the younger end of the teenage years and gradually decreasing toward the latter teen years.

The analysis also presented that there was a relatively considerable proportion of teenagers who had to go through Cesarean section as mode of their deliveries. According to Putu G Kayika (2017), teenage pregnancy is associated with higher cesarean section rate. Increased rate of cesarean section has become one of the main concerns in the field of public health. High cesarean section may lead to high mortality and morbidity, with increased number of uterine ruptures, placenta accreta and postpartum hemorrhage (Beliz n JM (2007), Sachs BP Kobelin, (2007) Betrán AP, Merialdi (2007)). Moreover, some studies suggested that maternal and fetal outcomes of teenage pregnancies were less favorable compared to adult pregnancies (Pergialotis V et al (2014)., Gupta N et al. (2008). In this demographic investigation, fetal death was recorded at 0.13%.

SCOPE AND LIMITATIONS

The study has potential limitations. Being a retrospective study, it was inherently constrained by the historical data at hand and lacked the capacity to establish causation. It may be challenging to discern the specific factors contributing to teenage pregnancy and obstetric outcomes due to the absence of real-time data and the inability to control confounding variables. Teenage pregnancy trends and obstetric outcomes may change over time due to evolving social, economic, and healthcare factors. The study may not be able to capture all relevant changes that occurred during the study period.

CONCLUSION

With the rich evidence presented and analyzed in this study, it can be concluded that there was a relatively low teenage pregnancy rate in Manolo Fortich Bukidnon for the 3-year period being undertaken. Likewise, obstetric outcomes were relatively favorable to the teenage mothers since there were low cases of adverse outcomes due to pregnancy and or giving birth. However, there were still considerable cases of malnutrition among teenage pregnant women, development of complications, miscarriage and abortion, low neonatal birth weights and even neonatal deaths attributable to the very early pregnancies. The Manolo Fortich Bukidnon authorities, especially the local government unit, barangay health officials and the health and education sector must be able to strategize on how to curb the increasing trends of teenage pregnancy in the municipality.

RECOMMENDATIONS

In the light of the findings and the conclusion made in this paper, the following are to be recommended:

1. The future researchers may investigate the other municipalities of Bukidnon to provide a more generalizable teenage pregnancy rate of the area.
2. Since pregnant mothers in the survey were mostly malnourished, the local government may invest in strategizing to improve their health status.
3. The other researchers may also focus on the phenomenology of teenage parents on their lived experiences, challenges and coping mechanisms of being mothers at a very young age.
4. The nurses and barangay health workers may strengthen and reinforce the nutrition programs, prenatal consultation, recreational activities for the youth, family planning and sex education.

FUNDING

Throughout the course of this research, the authors personally covered all the necessary expenses for its completion and did not receive financial support from other agencies or organizations.

ACKNOWLEDGEMENT

We express our sincere gratitude to our esteemed research mentor, Dr. Erwin Faller, for his invaluable guidance and unwavering support throughout the research process. Special appreciation is extended to Mr. Mark S. Borres, our dedicated statistician, whose expertise greatly contributed to the analytical rigor of our study. Additionally, we extend our heartfelt thanks to the Rural Health Unit of the municipality of Manolo Fortich, Bukidnon, for graciously providing the locale and data for our research. Their cooperation and assistance were instrumental in the successful execution of our study.

AUTHOR'S INFORMATION

Capitol Medical Center, Inc., Quezon City, Philippines¹, Department of Health - Center for Health Development - Northern Mindanao, Cagayan De Oro City, Philippines², The Medical City Ortigas, Metro Manila, Philippines³, University of San Jose - Recoletos, Cebu City, Philippines⁴, Davao Medical School Foundation, Inc., Davao City, Philippines⁵.

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