JOURNAL OF INTERDISCIPLINARY PERSPECTIVES

ISSN Print: 2984-8288, ISSN Online: 2984-8385
Vol. 2, No. 11, pp. 53-65, November 2024

Quality of Prenatal Care Among Mothers in Selected Barangays in Davao City, Philippines

Regel Ivan Kent P. Matutino[1], Mohammed Bien M. Kulintang*[2], Christian Joy C. Salas[3], Joyce T. Pechera[4], Audrey Anne T. Mantilla[5], Eranah Kaye G. Mozar[6], Gwynneth S. Mission[7], Jasnaera B. Moro[8]
[1,2,3,4,5,6,7,8]College of Nursing, University of the Immaculate Conception, Davao City, Philippines
[2]College of Nursing, Shaqra University – Dawadmi Campus, Shaqraa, Saudi Arabia

*Corresponding Author Email: mkulintang@uic.edu.ph

Date received: September 1, 2024
Date revised: September 16, 2024
Date accepted: September 26, 2024

Originality: 91%
Grammarly Score: 99%
Similarity: 9%

Recommended citation:
Matutino, R.I.V., Kulintang, M.B., Salas, C.J., Mantilla, A.A., Mozar E.K, Mission, G., Moro, J., Pechera, J. (2024). Quality of prenatal care among mothers in selected barangays in Davao City, Philippines. *Journal of Interdisciplinary Perspectives*, 2(11), 53-65. https://doi.org/10.69569/jip.2024.0462

Abstract. Prenatal care encompasses medical attention provided to pregnant women from conception to childbirth. This study aimed to determine the association between the respondents' sociodemographic profiles and the quality of prenatal care. A descriptive, correlational research method was used in this study. Utilizing the "a priori power analysis," 120 respondents were randomly selected using the following criteria: mothers who had prenatal checkups in selected barangay health centers in a District in Davao City, of legal age, and were willing to participate in the study, after giving birth one to three months. Data were collected from March to April 2024. Results revealed that most respondents were young adult, primigravida, multiparous, with full-term babies, high school graduates, and family monthly income of 7,000 – 10,000. The quality of prenatal care was high, particularly the "information sharing," anticipatory guidance, sufficient time, approachability, availability, and support and respect. Furthermore, educational attainment, particularly undergraduates, high school graduates, and baccalaureate degree holders, and with term babies, was noted to have a statistically significant association with their quality of prenatal care. Hence, having a good educational attainment and a "term baby" reciprocates good prenatal care among the respondents. The quality of prenatal care upholds standards of giving good services and approaches that participants experience during their prenatal checkups.

Keywords: First-time mothers; Multigravida; Multi-pregnancy; Primigravida; Quality of prenatal care.

1.0 Introduction

Prenatal care is the healthcare a pregnant woman receives during the time of pregnancy up to birth. It consists of regular check-ups at the health care facilities managed by the midwife or doctor. Prenatal care aims to keep both the mother and baby healthy and lowers the complication risks during pregnancy (Schmitt, 2021). The United States of America recorded 861 deaths related to maternal causes in 2020. Most maternal deaths from the data were related to poor quality of prenatal care of the mothers, resulting in maternal death before and during labor (Hoyert, 2022).

Additionally, the study of Maiden and Ruati (2023) finds that one of the places with the highest maternal mortality rate was South Sudan, with 1,150 deaths per 100,000 live births in 2022. Gregory (2023) stated that high perceptions of mothers in healthcare norms related to pregnancy are needed to prevent maternal deaths. Also, the UK, a high-income country, has the second highest maternal mortality rate, with 9.6 in Europe in 2020. Cardiovascular disease and the mental health of pregnant women are focal points in prenatal care to prevent maternal death.

In comparison to their peers, teenage moms who received subpar prenatal care and those with maternal comorbidities had a higher probability of surgically managing a miscarriage, according to a cohort study conducted over a 16-year observational period. Maternal comorbidities and inadequate prenatal care may work in concert to increase young moms' chances of surgically managing their miscarriage (Nam, 2022). Additionally, Oh (2021) found that, in line with the majority of research on the relationship between the maternal age effect and maternal complications, teenage mothers are more likely to experience complications like anemia, preterm birth, eclampsia, failed labor induction, systemic infections, and low birth weight, low Apgar score, stillbirth, severe conditions, and neonatal mortality when compared to maternal age. Similarly, Park (2022) revealed that young moms have been reported to have an increased risk of preterm delivery due to immaturity of the uterine or cervical blood supply, which also raises the risk of prostaglandin production and subclinical infection.

Research indicates that women's higher levels of education play a significant role in deciding how best to use prenatal care. According to the study of Raru et al. (2022), educated women will better comprehend the significance of prenatal care and its essential nature in the early stages. It also demonstrates that women with higher levels of education will make greater use of the prenatal care service than women with lower levels of education. The previous result was supported by Ayana et al. (2022), who claimed that if a woman has a high level of education, she may see the warning signs and readily comprehend the negative consequences of the healthcare provider's advised prenatal care instructions. For women to overcome gender discrimination, education is also crucial. Gender discrimination includes female genital mutilation, violence against women, and other behaviors that are predictive of prenatal care consumption.

Additionally, Merga (2022) asserts that education increases women's empowerment and health literacy, particularly about pregnancy, and is a significant factor of socioeconomic position. Public health initiatives should, therefore, aim for long-term results and go beyond essential health. Ideas need to focus on addressing pregnancy issues and raising women's awareness of prenatal care. Meanwhile, according to a Gebremariam et al. (2023) study, primigravid and nulliparous mothers exhibit lower knowledge and practice levels than multigravida and multiparous moms. This provided more evidence that young individuals under 20 who are single or jobless had lower levels of knowledge than their peers. It demonstrates that increased exposure to prenatal care services will improve their understanding and application of prenatal care. Nonetheless, mothers who are multiparous or multigravida may have similar information gaps and pregnancy difficulties as nullipara or nullipara mothers. Pregnancy results from multipara moms' prior labors, according to Mendis (2023), indicate the level of risk in the current pregnancy. The current pregnancy of multipara moms carries a risk profile that includes first-stage delayed labor, labor difficulties, and pre-eclampsia. In addition, the Allo Health (2023) article notes that multipara moms, aware of the elevated risk of the disorder, should actively participate in prenatal care programs. It is imperative to attend prenatal check-ups and follow up with additional testing to see whether pregnancy issues exist.

Halik (2022) asserts that educational counseling provided by licensed healthcare experts during pregnancy-related activities, such as prenatal classes, can enhance knowledge and comprehension of pregnancy and care throughout pregnancy, labor, and the postpartum period. While preserving harmony with others might help women avoid stress throughout pregnancy, eating a nutritious diet is the most important thing to remember. Furthermore, the study by Schulz (2022) claimed that information exchange is a crucial component of prenatal care in determining the requirements and anxieties of the expectant mother. When pregnant mothers receive information in the context of prenatal care, their health outcomes are excellent, and they do not exhibit any symptoms of pregnancy problems. Additionally, Vogels-Broeke et al. (2022) assert that an expectant mother's source of information is critical to their prenatal treatment. The information comes from the requirement that the healthcare provider demonstrate their professionalism and qualifications in the context of prenatal treatment.

Pregnant mothers' perceptions of the quality of prenatal care improve when reliable information, such as the healthcare provider's teaching techniques, is shared. The purpose of psychological support and anticipatory advice was to provide patients with a convenient, adaptable, "choose your own" option that they could personalize to meet their needs and preferences. An online peer-mentoring program that promotes social bonds based on group prenatal care is part of this pathway. The program consists of optional wellness and coping strategies

courses presented by mental health specialists, monthly small group sessions, and continuing communication through private Internet chat rooms (Peahl, 2020).

Furthermore, according to Gourevitch et al. (2022), evaluating the standard of prenatal care necessitates understanding the reliability and standard of non-billable physical examinations (like blood pressure monitoring and fundal height measurements), as well as the standard of counseling and anticipatory guidance provided during prenatal visits. These findings are essential for the continuing attempts to modify prenatal care to meet patients' medical and psychological needs. According to Wulandari (2020), anticipatory advice is founded on family-centered care, which uses a mentorship model to share pregnancy-related knowledge. This will strengthen the importance of prenatal care for expectant mothers by assisting them and their families in becoming capable caregivers.

According to an article from Makati Medical Center (2021), asking questions regarding pregnancy to the healthcare practitioner during prenatal appointments in clinics or health centers is a great idea. The expectant mother will have comprehensive examinations by the healthcare professional to monitor her pregnancy status. As they meet by the mother's planned check-ups, this enables the expectant mother to get to know the healthcare professional. The healthcare practitioner will allow enough time for the prenatal exam procedures to ensure the mother's overall wellness and that all parts of her condition are in good condition. It is also clear that spending more time with the healthcare professional favors the mother's prenatal care since inquiries and explanations are welcomed. According to Testa and Jackson (2021), inadequate time sufficiency and the caliber of prenatal care are related impediments to prenatal care. Given the harmful impacts of time insufficiency and the poor experience mothers have with prenatal care, the study's results indicate the necessity for targeted interventions that promote access to and remove barriers from prenatal care for women who are time insecure. Adeniyi et al. (2021) report that higher wait times in prenatal clinics are perceived as a hindrance to the standard of prenatal care in other studies. The findings indicate that lengthier wait times significantly impact mothers' motivation and satisfaction during prenatal examinations. Reducing the time the healthcare provider spends with the expectant mother is recommended to cut down on clinic wait times.

According to Gao's (2021) research, service approachability is one of the most important criteria for obtaining access to healthcare. Pregnant mothers who reported problems to their healthcare practitioner during the prenatal check-up had a higher correlation between service approachability and prenatal care attendance. Furthermore, according to Ranabhat (2019), the satisfaction of expectant mothers is a pertinent indicator for assessing the caliber of prenatal therapies that hospitals offer to patients who are treated for subjectively determined needs. Additionally, Shaghaghi et al. (2020) demonstrate that there has been a noticeable improvement in all facets of pregnancy care, particularly in the process of interpersonal care. Because the healthcare provider has concentrated on the elements of well-being—good connections, passion, meaning, positive excitement, and achievement—improvements have been made. When interacting with their healthcare professionals during prenatal visits, these components have demonstrated enhanced perceptions of expecting mothers.

Ghimire et al. (2023) claim that a healthcare provider's virtual availability can be extended. When expectant mothers are delighted with their virtual prenatal care experience—a place where they can freely voice their concerns and avoid traveling to and waiting at clinics—virtual prenatal care is beneficial. However, in this situation, appropriate advice and training in the use of technology are required. One study by Guzewicz (2023) found that there is a lower chance of pregnancy difficulties, particularly during labor, when women have convenient access to midwives during prenatal care. The midwife ensures the expectant mother is secure and has no difficulties during pregnancy.

Respectful maternal care is a component of prenatal care and is a right for expectant mothers. Pregnant women who lack respect and support are more likely to experience pregnancy difficulties. Research has indicated that maternal outcomes such as bleeding, psychological effects, and helplessness are associated with mistreatment during pregnancy (Puthussery et al., 2023). Furthermore, according to Livramento (2020), most pregnant women surveyed feel that receiving effective prenatal care entails more than just following all advised protocols and offering information during them. Instead, what makes this moment enjoyable is the attention given, the humanized embrace, the listening, the woman's subjectivity, and the offering of support throughout the difficult

periods. According to Homer's (2021) study, respect and support are two elements that contribute to the quality of prenatal care. The expectant mother needs to feel comfortable on an emotional and psychological level the entire time she is pregnant. The healthcare professional must attend to the requirements of the pregnant lady and combine clinical knowledge and abilities with interpersonal caregiving to achieve the desired reduction in maternal problems.

Meanwhile, the Philippines recorded 2,478 deaths due to maternal causes in 2021, with an MMR of 189.21 per 100,000 live births. High MMR is due to problems with prenatal care, where it must focus on addressing the vulnerability of women's problems in pregnancy and strengthening policies in improving prenatal care (Perez, 2023). In Davao City, there were 22 recorded maternal deaths in 2021. Most deaths are caused by hemorrhage, eclampsia, and high blood pressure. Prenatal care is said to be the area of focus as causes of death are preventable in increasing maternal deaths (Acosta, 2022).

With the existing literature, there is still a lack of prior research that delves into quality prenatal care in the Philippines, particularly in Davao City. The quality of prenatal care programs in various demographic profiles is an area that needs to be more explored. City Health Office Davao (2023) states that five deaths were related to maternal causes in the first month of 2023. Pregnant women were encouraged to have quality prenatal check-ups. However, not all have the same experience of prenatal care due to demographic factors, especially income and age, which each differently result in pregnancy complications. This research aimed to investigate the quality of prenatal care and the association of demographic profiles among mothers in selected barangays in a district in Davao City. This study contributes to the local health unit of Davao City to strengthen its standard methods and procedures for prenatal check-ups.

2.0 Methodology

2.1 Research Design

The study followed the descriptive-correlational research design. In a descriptive design, one must gather the information to determine and describe the situation, phenomena, and population (Voxco, 2021). Finding the relationship between each variable under evaluation and any potential associations between the independent variable and the dependent variable or criterion is termed a correlation, according to Ojeda (2022). It was descriptive because it was used to describe the respondents' socio-demographic profile and the quality of prenatal care. At the same time, the correlational design was utilized to determine the association between the respondents' socio-demographic profile and quality of prenatal care.

2.2 Research Participants

The study was conducted in selected barangays in a District in Davao City, Philippines. One hundred twenty (120) respondents, using the "a priori power analysis with power level of 90; effect size=0.40; significance level=0.05," were randomly selected to be included in the study. The respondents were pregnant mothers who currently have their prenatal check-ups in the barangay health centers and mothers who gave birth within one to three months from the conduct of the study, currently residing among the selected barangays in a district of Davao City, who had their prenatal check-ups and were willing to participate in the study.

2.3 Research Instrument

The researchers used a two-part survey questionnaire. The first part was the socio-demographic profile regarding their age, level of education, GPTPAL, and monthly household income. Part 2 was an adopted questionnaire from Heaman, M.I., Sword, W.A., Akhtar-Danesh, N. et al. (2014), which assesses the quality of prenatal care (46-item) experienced by the respondents during prenatal care. The questions have six categories: information sharing (9 questions), anticipatory guidance (11 questions), adequate time (5 questions), approachability (4 questions), availability (5 questions), and support and respect (12 questions). 5-point Likert scale was utilized for the answer indicating the degree of agreement and disagreement *(5- seriously agree, 4- agree, 3- neither agree nor disagree, 2- disagree, 1-strongly disagree)*

2.4 Data Gathering Procedure

The researchers first secured an ethical clearance from the UIC Ethics Committee with the approval number UG-0053-02-24. Then, an approval letter for the conduct of the study was drafted and signed by the nursing dean.

Moreover, an authorization letter indicating approval to conduct the study was secured from the HRMO, and an affixed signature was obtained from the assistant municipal administrator. The HRMO notifies the district health officer of the authorization letter and forwards it to the municipal health office for signature by the responsible officer. The director of the barangay hall and the barangay health clinics received the approval letter granting the researchers the ability to conduct the study.

2.5 Ethical Considerations

This research study followed the following ethical guidelines. This investigation complied with ethical standards. Respect for the person, beneficence, and justice are the three ethical precepts that apply to research involving human subjects (Grove et al., 2022). An essential component of the research process in this study was establishing and applying appropriate protocols. Social Value: This study aimed to determine how nurses felt about conducting research and how strongly that attitude related to their research capacity and demographic profile. The study's findings gave the organization information and awareness that might help it create plans and fill in any gaps in clinical practice. Benefits and risks: The researcher ensured that the data collected was utilized exclusively for research and that there would be no risks for the research participants throughout their study. The respondents gave their consent to participate in this study voluntarily. If something made them uncomfortable, they were free to decline to take part. In addition, the participants are free to leave the study at any time without incurring fees. If the respondent decides to leave the research, all information supplied will not be included. Information privacy and confidentiality: All data obtained from the responders was kept confidential. To guarantee confidentiality, the researcher kept the respondents' information private. Additionally, the Data Privacy Act of 2012 kept the respondents' identities secret, which has stringent guidelines for purposeful and inadvertent disclosure. Additionally, copies of the data were destroyed after publication.

3.0 Results and Discussion

3.1 Profile of the Respondents

Table 1. shows the respondents' socio-demographic profile. Most (24.17%) respondents were 28 – 30 primigravida (39.17%) mothers. Some were multipara (40%) mothers with two or more term babies (37.50%). The Majority has 0 preterm (96.67%) babies with 0 abortions (96.67%). Most of the respondents have two or more living children. The Majority were high school graduates (51.67%) with a family's monthly income of 7,000 – 10,000 Php (54.17%) respectively.

Table 1. Descriptive statistics of the respondents' socio-demographic profile

Demographic Profile	Frequency N=120	Percentage 100%
Age Group (in Years)		
16-18	15	12.50%
19-21	37	30.83%
22-24	14	11.67%
25-27	12	10.00%
28-30	29	24.17%
31-33	5	4.17%
34-36	4	3.33%
37-39	3	2.50%
>40	1	0.83%
Total Gravida		
Primigravida	47	39.17%
Secundigravida	33	27.50%
Multigravida	40	33.33%
Parity		
Nullipara	34	28.33%
Primipara	38	31.67%
Multipara	48	40.00%
Total Term		
0 Term	39	32.50%
1 Term	36	30.00%
2 or more Term	45	37.50%
Total Preterm		

0 Preterm	116	96.67%
1 Preterm	4	3.33%
2 Preterm	0	0%
Abortion		
0 Abortion	116	96.67%
1 Abortion	3	2.50%
2 or more Abortion	1	0.83%
Living		
0 Living	31	25.83%
1 living	47	39.17%
2 or more living	42	35.00%
Educational Attainment		
Undergraduate	37	30.83%
High School Graduate	62	51.67%
Baccalaureate Degree	17	14.17%
Post-Graduate	4	3.33%
Family's monthly income		
7,000- 10, 000	65	54.17%
10,001- 15, 000	29	24.17%
15, 001- 20, 000	12	10.00%
20,001- 25, 000	4	3.33%
25, 001- 30,000	5	4.17%
30, 001-35,000	1	0.83%
35, 001- 40,000	3	2.50%
> 40, 000	1	0.83%

3.2 Quality of Prenatal Care Received

Table 2 shows how participants evaluated several aspects of the quality of prenatal care, as indicated by mean scores and standard deviations (SD). These ratings show the prenatal care services' strong points and potential areas for development. With a mean score of 4.68 (SD = 0.54), information sharing was rated "Very High." It implies that most participants thought prenatal visits were an effective means of communicating information. There was a consensus regarding the quality of information sharing, as seen by the low standard deviation, which suggests that responses were very consistent.

Table 2. Descriptive statistics of the respondents' quality of prenatal care received

Quality of Prenatal Care	Mean	SD	Interpretation
Information Sharing	4.68	0.54	Very High
Anticipatory Guidance	4.54	0.74	Very High
Sufficient Time	4.18	0.94	High
Approachability	1.60	1.19	Very Low
Availability	4.42	0.82	Very High
Support and Respect	4.62	0.56	Very High
Over-all Mean	**4.01**	**0.80**	**High**

Meanwhile, with a mean score of 4.54 (SD = 0.74), anticipatory guidance was likewise graded as "Very High." This component evaluates how well medical professionals prepare their patients for potential medical emergencies. The high mean score denotes a solid performance in this area, while the somewhat higher standard deviation compared to Information Sharing indicates considerable variability in participant replies. With a mean score of 4.18 (SD = 0.94), "Sufficient Time" was classified as "High." The more considerable standard deviation indicates greater diversity in perceptions, suggesting that some patients may feel rushed or inadequately attended to during their sessions, even while the score indicates that most participants thought they were given adequate time during consultations

With a mean score of 1.60 and a standard deviation (SD) of 1.19, approachability was classified as "Very Low." This suggests that participants generally had low opinions about how approachable healthcare professionals are, which may make it difficult for many patients to interact with them or give the impression that they need to be more approachable. The 1.19 standard deviation suggests a moderate degree of response variability, indicating that although participant experiences are varied, average perception is low. Some people may have given

approachability higher ratings, but overall, the pattern suggests that patients' perceptions of healthcare practitioners' accessibility and approachability could use some work.

On the other hand, availability was classified as "Very High," with a mean score of 4.42 and an SD of 0.82. This implies that most participants thought their healthcare providers were easily accessible when needed, which is good news for service accessibility and patients' ability to get care quickly. The low standard deviation suggests that participants have a solid consensus about this aspect of care; most concur that their providers' availability meets or surpasses their expectations.

With a mean score of 4.62 (SD = 0.56), Support and Respect were classified as "Very High." It suggests that individuals believed their healthcare providers respected them and offered them reasonable assistance. The low standard deviation proves that the participant group has regularly had pleasant experiences. Ultimately, the quality of prenatal care received an Overall Mean score of 4.01 (SD = 0.80), which is considered "High." It indicates that participants' perceptions of the quality of prenatal care were generally positive, while there was some variation in some individual characteristics.

In summary, most participants rated the quality of prenatal care positively, with high marks going to categories like information sharing, anticipatory guidance, and support and respect. However, there were noticeable discrepancies in how specific categories, like availability and approachability, were interpreted. These inconsistencies call for additional inquiry to guarantee proper interpretation and address potential areas for prenatal care service improvement.

The Donabedian model supported the total mean, indicating that the respondents' prenatal care was well cared for by available healthcare personnel with enough time. In the healthcare usage model, the healthcare providers demonstrated information exchange and proactive advice during the respondents' prenatal care, as indicated by the overall mean results. The primary effect theory also connects to the overall mean results because the respondents reported feeling respected and supported by their healthcare practitioner. According to a study by Hibusu et al. (2024), women's education about the advantages of prenatal check-ups has grown and improved due to a growing understanding of the necessity of prenatal care for the mother, particularly regarding probable difficulties and dietary advice. As a result, there is a rise in patient satisfaction with healthcare in general and prenatal treatment in particular. This is because prenatal care has a significant impact on pregnant women's health and contentment. According to Lin's (2023) study, the high caliber of prenatal care is addressed by socio-demographic profile concerns such as low education, marital status, and financial difficulties. Significant progress has been accomplished due to the efforts to solve these problems.

The Andersen utilization model was also related to the category mean result, which indicates the significance of information exchange in assessing the caliber of prenatal care. Halik (2022) asserts that educational counseling provided by licensed healthcare experts can enhance knowledge and comprehension of pregnancy and care during pregnancy, labor, and the postpartum period through pregnancy-related activities such as prenatal classes. While preserving harmony with others might help women avoid stress throughout pregnancy, eating a healthy diet is the most important thing to remember. Furthermore, according to Schulz's study from 2022, information sharing is crucial in prenatal care when determining the requirements and anxieties of the expectant mother. When pregnant mothers receive information in the context of prenatal care, their health outcomes are excellent, and they do not exhibit any symptoms of pregnancy problems.

Additionally, Vogels-Broeke et al. (2022) assert that an expectant mother's source of information is critical to their prenatal treatment. The information comes from the requirement that the healthcare provider demonstrate their professionalism in the context of prenatal care and their qualifications, which amount to eight. Pregnant mothers' perceptions of the quality of prenatal care improve when reliable information, such as the healthcare provider's teaching techniques, is shared. The Andersen utilization model is related to the category mean result, which indicates the significance of information exchange in assessing the caliber of prenatal care. Halik (2022) asserts that educational counseling provided by licensed healthcare experts can enhance knowledge and comprehension of pregnancy and care during pregnancy, labor, and the postpartum period through pregnancy-related activities

such as prenatal classes. While preserving harmony with others might help women avoid stress throughout pregnancy, eating a healthy diet is the most important thing to remember.

Furthermore, according to Schulz's study from 2022, information sharing is crucial in prenatal care when determining the requirements and anxieties of the expectant mother. When pregnant mothers receive information in the context of prenatal care, their health outcomes are excellent, and they do not exhibit any symptoms of pregnancy problems. Additionally, Vogels-Broeke et al. (2022) assert that an expectant mother's source of information is critical to their prenatal treatment. The information comes from the requirement that the healthcare provider demonstrate their professionalism in the context of prenatal care and their qualifications, which amount to eight. Pregnant mothers' perceptions of the quality of prenatal care improve when reliable information, such as the healthcare provider's teaching techniques, is shared.

3.3 Association Between the Perceived Quality of Prenatal Care Received and Demographic Profile

The Pearson chi-square was used to determine the association between the respondents' Quality of Prenatal Care and their demographic profile regarding age, educational attainment, gravida, parity, GTPAL, and Family's Monthly Income. The results shown in Table 3 look at the relationships between respondents' opinions about the standard of prenatal care and several demographic variables, such as age, gender, parity, and level of education. They also look at the relationships between GTPAL (Term, Preterm, Abortion, Living) and monthly family income.

Table 3. Test of association between the perceived quality of prenatal care received and demographic profile

	Quality of Prenatal Care		
Quality of Prenatal Care	**Contingency Coefficient**	**p-value**	**Remarks**
Educational Attainment	0.324	**0.029**	**Significant**
Age		0.447	Not Significant
Gravida		0.685	Not Significant
Parity		0.259	Not Significant
Term	0.318	**0.009**	**Significant**
Preterm		0.878	Not Significant
Abortion		0.683	Not Significant
Living		0.626	Not Significant
Family's Monthly Income		0.335	Not Significant

Note: Significant at 0.05 α level

With a significance threshold set at $\alpha = 0.05$, the study uses a p-value to assess statistical significance and the contingency coefficient to gauge the strength of the relationship. The findings show a substantial correlation (Contingency Coefficient = 0.324, $p = 0.029$) between educational attainment and the standard of prenatal care. The result shows that respondents' opinions on the quality of prenatal care are highly correlated with their educational attainment. The association between respondents' perceptions of the quality of prenatal care and their educational level appears moderate, as indicated by the contingency coefficient of 0.324. This result might indicate how their educational background shapes people's expectations, satisfaction with healthcare services, and health knowledge. According to a study by Raru et al. (2022), women with higher levels of education are better able to comprehend the significance of prenatal care and its fundamentals in the early stages of pregnancy. It also indicates that women with higher levels of education make greater use of prenatal care services than women with lower education levels. This was corroborated by Ayana et al. (2022), who claimed that if a woman has a high level of education, she may see the warning signs and readily comprehend the negative consequences of the health care provider's advised prenatal care instructions.

The GTPAL scale has a significant association (Contingency Coefficient = 0.318, $p = 0.009$). This result implies that a respondent's opinion of the quality of prenatal treatment highly correlates with the number of full-term pregnancies they have experienced. The moderate association indicated by the contingency coefficient of 0.318 suggests that respondents' perceptions of prenatal care may be influenced by their experiences with term pregnancies, maybe due to their familiarity with the healthcare system and collected experiences. Meanwhile, according to a study by Spinner et al. (2023), full-term deliveries are associated with prenatal care services when expectant moms have demonstrated a complete utilization of the medical resources. Encouraging prenatal care practices demonstrates that full-term births are the outcome of pregnant mothers using healthcare services. Furthermore, Goncalves et al. (2020) demonstrate that several characteristics, including the mother's experience,

are associated with full-term births and prenatal care. The whole maternal experience, enhanced by prenatal care, proves that the mother-to-be delivers her child at full term.

On the other hand, there is no statistically significant correlation between the quality of prenatal care and other demographic factors, including age (Contingency Coefficient = 0.447, $p > 0.05$), gravida ($p = 0.685$), parity ($p = 0.259$), preterm ($p = 0.878$), abortion ($p = 0.683$), living children ($p = 0.626$), and family's monthly income ($p = 0.335$). The lack of statistically significant results for these variables implies that these demographic traits do not significantly influence respondents' perceptions of the quality of prenatal care. This result may suggest that prenatal care quality is perceived similarly by these various demographic groups, regardless of age, number of pregnancies (gravida and parity), experiences with preterm or Term deliveries, prior abortion experiences, number of living children, or economic status.

These findings emphasize the need to take educational attainment and particular pregnancy experiences—such as term pregnancies—into account when assessing patients' opinions about the caliber of prenatal care. Focusing on educational interventions that enhance knowledge and expectations about prenatal care may benefit healthcare practitioners, especially for individuals with varying educational backgrounds. Furthermore, understanding the distinct requirements and experiences of people who have had different numbers of term pregnancies should aid in customizing prenatal care to improve patient outcomes and satisfaction.

Noro et al. (2020) explored the relationship between age and prenatal care, concluding that age has become unrelated to receiving adequate prenatal care due to environmental behaviors and beliefs. Their research suggests that all age groups, influenced by community practices, especially older individuals who might ignore prenatal care recommendations, follow similar prenatal practices. Gonzales (2021) found a significant relationship between maternal-fetal attachment and the quality of prenatal care in primigravida women, suggesting that higher-quality prenatal care is associated with more muscular maternal-fetal attachments. Lavado (2020) investigated how the skills of healthcare professionals impact the quality of prenatal care by conducting necessary examinations and providing vital information during prenatal visits. Interestingly, Lavado's study found that gravida, or the total number of pregnancies, was not a significant factor affecting the quality of care. This underscores the importance of healthcare providers in educating women about prenatal care, particularly for those with multiple pregnancies. Hubuso (2024) identified various factors influencing expectant mothers' satisfaction with prenatal care quality, including the physical environment of healthcare facilities, patient-provider relationships, and technical competence in care delivery. Notably, parity was not found to significantly impact the quality of prenatal care, suggesting that factors other than a woman's pregnancy history more significantly affect her prenatal care experience. Similarly, the study found that preterm birth has no substantial impact on the quality of prenatal care, indicating that preterm status does not significantly influence healthcare utilization patterns. Ayele and Moyehodie (2023) examined the risk factors and prevalence of preterm birth, concluding that variables such as maternal age, socioeconomic status, parity, and access to healthcare are not directly correlated with preterm deliveries but may help mitigate associated risks. Additionally, Guarani et al. (2020) found that while a mix of biological and environmental factors in prenatal care may not directly affect preterm delivery, they can contribute to other maternal complications.

Paiz et al. (2021) reported no significant association between a history of abortion and the quality of prenatal care received by expectant mothers, indicating that past abortion experiences do not impact access to healthcare or the quality of prenatal care provided. This finding underscores the importance of providing equitable and unbiased prenatal care to all expectant mothers, regardless of their reproductive history. Similarly, Gill et al. (2021) concluded that a woman's history of abortion does not significantly influence the quality of prenatal care she receives, highlighting that factors such as socioeconomic conditions, overall maternal health, and access to healthcare are more critical determinants of prenatal care quality. De Jersey et al. (2020) emphasized that a woman's obstetric history, including the number of living children, offers context for evaluating reproductive health but has minimal impact on prenatal care. Their study stresses the need to address complex societal barriers to timely prenatal care access. Wang, Y. (2022) further noted that delayed access to prenatal care is primarily influenced by sociocultural dynamics, suggesting the need for targeted strategies to overcome these barriers rather than focusing solely on prenatal mortality rates, as no direct evidence links them.

Family monthly income is unrelated to the healthcare utilization model, as it does not significantly impact the quality of prenatal care, likely due to the free services district health units provide for pregnant women. Gedefaw, Dagnew, and Tessema (2020) found that while there is a correlation between higher household income and a greater likelihood of receiving high-quality prenatal care, this does not mean that family income is the only factor determining care quality. Despite the observed association, other variables—such as access to healthcare facilities, availability of transportation, and awareness of prenatal care's importance—are crucial in determining the quality of care received during pregnancy. Thus, while higher household income may allow easier access to prenatal care due to better financial resources, it is just one of many factors that influence prenatal care quality. Additionally, Szymanski et al. (2022) argue that while family income may impact access to care, current interventions or structural policies do not specifically address prenatal care practices. Policies and improvements in the healthcare system are essential for enhancing the quality of prenatal and postpartum care and reducing disparities associated with socioeconomic factors like family income.

3.4 Differences in Perceived Prenatal Care Quality Received Among Respondents

Table 4 presents a post-hoc Scheffe test analysis examining the differences in prenatal care quality among respondents with different educational levels. This analysis compares the mean differences across four educational groups: undergraduate, post-graduate, baccalaureate, and high school graduate. A significance level of $\alpha = 0.05$ was used to identify statistically significant differences.

Table 4. Post-Hoc Scheffe test analysis on respondent's educational attainment

Independent Variable	Educational Attainment (I)	Educational Attainment (J)	Mean Difference (I-J)	Std. error	p-value	95% Confidence Level	
						Lower Bound	Upper Bound
Quality of Prenatal Care	Undergraduate	High School Graduates	-0.247*	0.085	0.044	-0.490	-0.004
		Baccalaureate Degree	0.116	0.120	0.819	-0.226	0.459
		Post-Graduate	-0.122	0.217	0.956	-0.738	0.492
	High School Graduate	Undergraduate	0.247*	0.085	0.044	0.004	0.490
		Baccalaureate degree	0.364*	0.112	0.018	0.043	0.684
		Post Graduate	0.124	0.212	0.951	-0.478	0.728
	Baccalaureate Degree	Undergraduate	-0.116	0.120	0.819	-0.459	0.226
		High School Grdauate	-0.364*	0.112	0.018	-0.684	-0.043
		Post Graduate	-0.239	0.229	0.780	-0.889	0.410
	Post-Graduate	Undergraduate	0.122	0.217	0.956	-0.492	0.738
		High School Grdauate	-0.124	0.212	0.951	-0.728	0.478
		Baccalaureate Degree	0.239	0.229	0.780	-0.410	0.889

Note: Significant at 0.05 a level

Undergraduate vs. High School Graduates: The analysis indicates a mean difference of -0.247 between undergraduates and high school graduates, with a standard error of 0.085 and a p-value of 0.044. Since the p-value is below 0.05, this result is statistically significant. The negative mean difference suggests differing perceptions of prenatal care quality between undergraduates and high school graduates.

High School Graduates vs. Baccalaureate Degree Holders: The mean difference between individuals with a baccalaureate degree and high school graduates is 0.364, with a standard error of 0.112 and a p-value of 0.018, indicating statistical significance at the 0.05 level. This positive mean difference shows that respondents with a baccalaureate degree rated the quality of prenatal care lower than those with a high school diploma.

Baccalaureate Degree Holders vs. High School Graduates: When comparing baccalaureate degree holders to high school graduates, the mean difference is -0.364, with a standard error of 0.112 and a p-value of 0.018. This confirms that individuals with a baccalaureate degree perceive the quality of prenatal care as significantly lower than those with only a high school education.

Overall, the post-hoc Scheffe test analysis reveals significant differences in perceived prenatal care quality, primarily between undergraduates and high school graduates and between high school graduates and baccalaureate degree holders. High school graduates tend to rate prenatal care quality higher than undergraduates

and those with baccalaureate degrees. These findings suggest that educational attainment influences perceptions of prenatal care quality, particularly at the high school and undergraduate levels. However, no statistically significant differences were found among other educational levels, indicating similar perceptions of prenatal care quality among those groups.

4.0 Conclusion

The respondents reveal diverse ages, educational backgrounds, and reproductive histories. Many respondents are high school graduates (51.67%), with a notable proportion having an undergraduate education (30.83%). The age distribution shows a predominance of respondents in the 19-21 age group (30.83%). In terms of reproductive status, most respondents are either primigravida (39.17%) or multigravida (33.33%), with a majority reporting no preterm births or abortions. The family's monthly income is predominantly 7,000-10,000 (54.17%), suggesting a moderate income level among respondents.

The quality of prenatal care is generally rated highly by respondents, with very high scores for information sharing, anticipatory guidance, availability, and support and respect. The overall mean score of 4.01, which falls into the high range, indicates a generally positive perception of the quality of prenatal care. Significant associations are found between educational attainment and the quality of prenatal care ($p = 0.029$) and between the number of term pregnancies and care quality ($p = 0.009$). However, no significant associations were observed with other demographic factors such as age, gravida, parity, or family income. Furthermore, significant differences in prenatal care quality perceptions exist primarily between high school graduates and those with undergraduate or baccalaureate degrees, highlighting the impact of educational level on prenatal care evaluations. Overall, these results underscore the importance of educational attainment in shaping perceptions of prenatal care quality while suggesting that other demographic factors may have less influence.

This study was limited to pregnant mothers residing among the selected barangays in a District in Davao City. The results of this study may be utilized by the rural unit of the specific barangays in a particular district as their basis for upgrading their prenatal care services. It is highly recommended that health education must be strengthened as the educational attainment varies among the respondents and plays a vital role in achieving optimum quality of prenatal care. While the methods were justifiable, it is imperative that the result be generalized, and it is recommended that the study be upscaled to a larger population and setting.

5.0 Contributions of Authors

RIM, AAM, EKM, GSM, JBM, PJT: Conceptualization, methodology, formal analysis, investigation, resources, writing the original draft, project administration and funding acquisition. **MBMK:** Conceptualization, methodology, software validation, formal analysis, data curation, writing – review and editing, visualization, supervision, and funding acquisition. **CJS:** validation, supervision, and funding acquisition.

6.0 Funding

No funding has been received from any agency for this study.

7.0 Conflict of Interests

The authors have no conflict of interest to be declared.

8.0 Acknowledgment

The researchers would like to express their heartfelt gratitude and appreciation to the people behind the success of this research endeavor: the technical panel, statistician, and the UIC Ethics Review Board. The same appreciation and acknowledgment go to the respondents of this study who willingly made efforts and gave time to answer the questionnaire needed for this research. All of this was only possible with their participation. The researchers also dedicate this success to their parents for their deep consideration, endless financial support, and all aspects, throughout the research study.

9.0 References

Abdus-Salam, R.A., Adeniyi, A.A., & Bello, F.A. (2021). Antenatal Clinic Waiting Time, Patient Satisfaction, and Preference for Staggered Appointment- A Cross-Sectional Study. Journal of patient experience, 8(0). https://doi.org/10.1177/23743735211060802

Acosta, J. (2022, May 25). CHO Intensifies safe motherhood program as Davao City Logs 22 maternal deaths. The Official Website of the City Government of Davao. Retrieved from https://bit.ly/3BeOOuO

Aidoo, S. (2023). A review of trends in prenatal care for global health. Retrieved from https://bit.ly/3MSxNsO

Adongo, P.B. (2022). Socio-Cultural Beliefs and Practices during Pregnancy, ChildBirth, and Postnatal Period: A Qualitative Study in Southern Ghana. Cogent Public Health, 9(1), 1-8. https://doi.org/10.1186/s12905-023-02277-4

Aggarwal, R., & Ranganathan, P. (2020). Study designs: Part 2 - Descriptive studies. Perspectives in clinical research, 10(1), 34–36. https://doi.org/10.4103/picr.PICR_154_18

Al-Mutawtah, M., Campbell, E., Kubis, H.P., Erjavec, M. (2023). Women's experiences of social support during pregnancy: a qualitative systematic review. BMC Pregnancy Childbirth, 23(0), 1-19 .https://doi.org/10.1186/s12884-023-06089-0

Allo Health. (2023). Managing a multigravida pregnancy: What to expect. Retrieved from https://bit.ly/3zrvB8G

Ayana, G., Haile, D. Berhanu, B., Oljira, L., Demana, M., & Negash, & B., Mamo. (2021). Survival and Predictors of Mortality Among Neonates Admitted to Neonatal Intensive Care Unit at Bombe Primary Hospital, Southern Ethiopia: Institution-Based Retrospective Cohort Study. Pediatric health, medicine and therapeutics, 12(0), 239–249. https://doi.org/10.2147/PHMT.S303158
Ayele, T.B., Moyehodie, Y.A. (2023). Prevalence of preterm birth and associated factors among mothers who gave birth in public hospitals of east Gojjam zone, Ethiopia. BMC Pregnancy Childbirth 23(0), 1-11. https://doi.org/10.1186/s12884-023-05517-5
Call4health. (2023). The importance of patient access in healthcare. Retrieved from https://bit.ly/4gzTZW7
Cagayan, M.S.F.S., Nisperos, G.A., Facun, G.M.G., Cagayan, B.S.S., Castro, M.C.R., & Silverio, C.E. (2022). Mothers' Perspectives on Utilization of Maternal Health Services in Rural Health Units in Luzon: A Qualitative Study. Acta Medica Philippina, 56(16), 56-63. https://doi.org/10.47895/amp.v56i16.5761
Cardoso-Pulido, M.J., Ojeda, J.R.G., & Pérez-Valverde, C. (2022). A correlational predictive study of Teacher Well-Being and Professional Success in Foreign Language student teachers. Mathematics, 10(10), 1-15. https://doi.org/10.3390/math10101720
Children's Hospital of Philadelphia. (2023). Pregnancy over age 30. Retrieved from https://bit.ly/3ZtC8u5
Chitti, M. (2023, May 31). Delivering dignity: The importance of respectful maternity care. New Security Beat. Retrieved from https://bit.ly/4dfbd8z
City Health Office Davao. (2023, May 1). Davao City Health Office records 5 maternal deaths in January 2023. Sunstar Davao. Retrieved from https://bit.ly/4gwr1GP
Cernat, A., De Freitas, C., Majid, U., Trivedi, F., Higgins, C., & Vanstone, M. (2020). Facilitating informed choice about non-invasive prenatal testing (NIPT): a systematic review and qualitative meta-synthesis of women's experiences. BMC Pregnancy Childbirth, 19(0), 1-15. https://doi.org/10.1186/s12884-018-2168-4
Cleveland Clinic Organization. (2022). Advanced maternal age. Retrieved from https://bit.ly/3zEUl7T
Dagnew, G.W., B., Gedefaw, F.A., & Tessema. (2020). Modern contraceptive use and factors associated with use among postpartum women in Ethiopia; further analysis of the 2016 Ethiopia demographic and health survey data. BMC public health, 20(1), 1-9. https://doi.org/10.1186/s12889-020-08802-6
Dev-Site. (2022). Prenatal Care: A handy guide to delivering a healthy baby. Retrieved from https://bit.ly/47DjwKj
Donabedian, A. (2005). Evaluating the Quality of Medical Care. Retrieved from https://bit.ly/4gAM7Ur
Gao, L. (2022). Clinical Practice Guidelines That Address Physical Activity and Exercise During Pregnancy: A Systematic Review. Journal of midwifery & women's health, 67(1), 53–68. https://doi.org/10.1111/jmwh.13286
Gardner, M., Umer, A., Rudisill, T., Hendricks, B., Lefeber, C., John, C., & Lilly, C. (2023). Prenatal care and infant outcomes of teenage births: a Project WATCH study. BMC Pregnancy Childbirth, 23(0), 1-11. https://doi.org/10.1186/s12884-023-05662-x
Gebeyehu N.A, Gelaw K.A, Lake E.A, Adela G.A, Tegegne K.D, & Shewangashaw N.E. (2022). Women decision-making autonomy on maternal health service and associated factors in low- and middle-income countries: Systematic review and meta-analysis. Women's Health, 18(0). https://doi.org/10.1177/174550572211226
Gebremariam, A.D., Engidaw, M.T., , Abate, B.A., Tesfa, D., Tiruneh, S.A., Addisu, Y., & Belachew, Y.Y. (2023). Magnitude and Factors Associated with Gestational Weight Gain Adequacy among Pregnant Women in South Gondar Zone, Northwest Ethiopia. Current developments in nutrition, 7(0), 1-8. https://doi.org/10.1016/j.cdnut.2023.102031
Geltore, T., & Anore, D. (2021). The Impact of Antenatal Care in Maternal and Perinatal Health. Retrived from https://doi.org/10.5772/intechopen.98668
Ghimire, S., Dielemans, A., Mahat, P., Dunn, J.A., Balcke, E., Kumar Jha, R., Gaire, H., & Honikman, S. (2023). Prevalence of maternal depression and anxiety symptoms and associations with child mental health outcomes in rural Nepal. Tropical medicine & international health, 29(2), 128–136. https://doi.org/10.1111/tmi.13956
Gill, M.J., Andreychik, M.R., & Getty, P.D. (2021). Those who ignore the past are doomed…to be heartless: Lay historicist theory is associated with humane responses to the struggles and transgressions of others. PloS one, 16(2), 1-29. https://doi.org/10.1371/journal.pone.0246882
Gonçalves, K.F., Giordani, J.M.D.A., Bidinotto, A.B., Ferla, A.A., Martins, A.B., & Hilgert, J.B. (2020). Utilização de serviço de saúde bucal no pré-natal na atenção primária à saúde: dados do PMAQ-AB [Oral healthcare utilization during prenatal care in primary healthcare: data from PMAQ-AB]. Ciencia & saude coletiva, 25(2), 519–532. https://doi.org/10.1590/1413-81232020252.05342018
Gonzalez Jr., A.M., & Barcelo, T.I. (2023). Quality of prenatal care and maternal fetal attachment among primigravid mothers in the Philippines: A cross sectional study. Midwifery, 127(0). https://doi.org/10.1016/j.midw.2023.103842
Gourevitch, R.A., Natwick, T., Chaisson, C.E., Weiseth, A., & Shah, N.T. (2022). Variation in guideline-based prenatal care in a commercially insured population. American journal of obstetrics and gynecology, 226(3), 1–19. https://doi.org/10.1016/j.ajog.2021.09.038
Gregory, E.F. (2023). Integrating Care for Mother–Infant DYADs After Preterm Birth: A Qualitative Study of Clinician Perspectives on Feasibility. Women S Health Reports, 4(1), 642–650. https://doi.org/10.1089/whr.2023.0098
Guzewicz, P., & Sierakowska, M. (2022). The Role of Midwives in the Course of Natural Childbirth-Analysis of Sociodemographic and Psychosocial Factors-A Cross-Sectional Study. International journal of environmental research and public health, 19(23), 1-16. https://doi.org/10.3390/ijerph192315824
Halik, A., Das, W.H., Ahdar, Bustanul, I. (2022). Prenatal Education Process Based on Local Wisdom in Indonesia. Education Research International, 0(0), 1-10. https://doi.org/10.1155/2022/6500362
Hamwi, S., Lorthe, E., Severo, M., Baros, H. (2023). Migrant and native women's perceptions of prenatal care communication quality: the role of host-country language proficiency. BMC Public Health 23(0), 1-12. https://doi.org/10.1186/s12889-023-15154-4
Heaman, M., Sword, W., Akhtar-Danesh, N., Bradford, A., Tough, S., Janssen, P., Young, D., Kingston, D., Hutton, E., & Helewa, M. (2014). Quality of prenatal care questionnaire: instrument development and testing. BMC Pregnancy Childbirth, 14(0), 1-16. https://doi.org/10.1186/1471-2393-14-188
Heinonen, K. (2021). Strengthening Antenatal Care towards a Salutogenic Approach: A Meta-Ethnography. International Journal of Environmental Research and Public Health, 18(10), 1-28. https://doi.org/10.3390/ijerph18105168
Hibusu, L., Sumankuuro, J., Gwelo, N.B., Akintola, O. (2024). Pregnant women's satisfaction with the quality of antenatal care and the continued willingness to use health facility care in Lusaka district, Zambia. BMC Pregnancy Childbirth, 24(20), 1-16. https://doi.org/10.1186/s12884-023-06181-5
Homer, C., Bohren, M., Wilson, A., Vogel, J. (2021). Achieving inclusive and respectful maternity care. Global Women's Medicine.
Hoyert, D. (2022). Maternal mortality rates in the United States, 2020. Retrieved from https://dx.doi.org/10.15620/cdc:113967
Hsai, N. M., Matsui, M., Ng, C. F. S., Khaing, C. T., Imoto, A., Sayed, A. M., Huy, N. T., Kamiya, Y., & Moji, K. (2020). Satisfaction of Pregnant Women with Antenatal Care Services at Women and Children Hospital in South Okkalapa, Myanmar: A Facility-Based Cross-Sectional Study Triangulated with Qualitative Study. Patient preference and adherence, 14, 2489–2499. https://doi.org/10.2147/PPA.S266916
Hussen, M.A., & Worku, B.T. (2022). Quality of Antenatal Care Service and Factors Associated with Client Satisfaction at Public Health Facilities of Bele Gasgar District. Journal of patient experience, 9(0). https://doi.org/10.1177/23743735221083163
Lavado, R.F., Lagrada, L.P., Ulep, V.G.T., & Tan, L.M. (2020). Who provides good quality prenatal care in the Philippines? Retrieved from https://bit.ly/4dj61jQ
Lin, K., Chern, S. & Sun, J. (2023). Mapping the quality of prenatal and postnatal care and demographic differences on child mortality in 26 low to middle-income countries. World J Pediatr, 19(0), 835–850. https://doi.org/10.1007/s12519-022-00668-5
Maiden, J. & Ruati, R. (2023, March 23). USAID, UNICEF, and the United Kingdom Recommit to Preventing Child and Maternal Deaths in South Sudan. UNICEF South Sudan. Retrieved from https://bit.ly/3XRI5j4
Mendes, R.B., De Jesus Santos, J.M. Prado, D.S., Gurgel, R.Q., Bezerra, F.D., & Gurgel, R.Q. (2020). Avaliação da qualidade do pré-natal a partir das recomendações do Programa de Humanização no Pré-natal e Nascimento. Ciência & Saúde Coletiva. Retrieved from https://doi.org/10.1590/1413-81232020253.13182018
Mendis, S. (2023). Gravidity and Parity Definitions (Implications in Risk Assessment). Retrieved from https://bit.ly/3XQ6Vjo
Meneses, P.D., Dino, A.B., Mendez, K.Z., Mendoza, K., Molina, M.J., Miranda, K.J., & Carandang, R.R. (2024). Facilitators of and barriers to accessing prenatal care services in primary healthcare facilities during the COVID-19 pandemic in Manila, Philippines: a qualitative study. Journal of Public Health and Emergency, 8(0), 1-11. https://doi.org/10.21037/jphe-23-144
Merga, B. (2023). Maternal satisfaction with intrapartum care and associated merge factors among mothers who gave birth in public hospitals of the South West Shewa Zone, Ethiopia, 2022. Frontiers in global women's health, 4(0), 1-10. https://doi.org/10.3389/fgwh.2023.1203798
Moise, I.K., Ivanova, N., Wilson, C., Halwindi, H., Spika, V. (2023). Lessons from digital technology-enabled health interventions implemented during the coronavirus pandemic to improve maternal and birth outcomes: a global scoping review. BMC Pregnancy Childbirth, 23(0), 1-21. https://doi.org/10.1186/s12884-023-05454-3
Nam, J.Y. (2022). The Association between Adequate Prenatal care and severe maternal morbidity among teenage pregnancies: A Population-Based Cohort study. Frontiers in Public Health, 10(0), 1-8. https://doi.org/10.3389/fpubh.2022.782143
Negash, W.D., Fetene, S.M., Shewarega, E.S. (2022). Multilevel analysis of quality of antenatal care and associated factors among pregnant women in Ethiopia: a community based cross-sectional study. BMJ open, 12(7), 1-10. https://doi.org/10.1136/bmjopen-2022-063426
Ngowi, A.F., Mkuwa, S., Shirima, L., Ngalesoni, F., & Frumence, G. (2023). Determinants of Focused Antenatal Care Utilization Among Women in Simiyu Region Tanzania. SAGE Open Nursing, 9(0). https://doi.org/10.1177/23779608231170728
Noro, L.R.A. (2020). Health production: analysis of doctors' health actions in the More Doctors program. Revista Da Associação Médica Brasileira, 66(7), 937–942. https://doi.org/10.1590/1806-9282.66.7.937
North Texas Medical Center. (2021). Why Prenatal Care is Crucial. Retreived from https://bit.ly/3MT2Rsi
Oh, S.S., Park, S., You, Y.-A., Jee, Y., Ansari, A., Kim, S.M., Lee, G., Kim, Y.J. (2021). Prenatal Exposure to Alcohol, Tobacco, and Coffee: Associated Congenital Complications and Adverse Birth Outcomes. International journal of environmental research and public health, 18(6), 1-8. https://doi.org/10.3390/ijerph18063140
Paiz, J. C., Ziegelmann, P. K., Martins, A. C. M., Giugliani, E. R. J., & Giugliani, C. (2021). Factors associated with women's satisfaction with prenatal care in Porto Alegre, Rio Grande do Sul, Brazil. Fatores associados à satisfação das mulheres com a atenção pré-natal em Porto Alegre, Rio Grande do Sul, Brasil. Ciencia & saude coletiva, 26(8), 3041–3051. https://doi.org/10.1590/1413-81232021268.15302020

Park, S. (2022). Prenatal maternal alcohol exposure: diagnosis and prevention of fetal alcohol syndrome. Obstetrics & gynecology science, 65(5), 385–394. https://doi.org/10.5468/ogs.22123
Peahl, A., Smith, R., & Moniz, M.H. (2020). Prenatal care redesign: creating flexible maternity care models through virtual care. American Journal of Obstetrics and Gynecology, 223(3), 1-10. https://doi.org/10.1016/j.ajog.2020.05.029
Perez, J. A. (2023, April 10). The Philippines' maternal mortality rate is worse than reported. INQUIRER.net. Retrieved from https://bit.ly/3XEb5to
Puthussery, S., Bayih, W.A., Brown, H.K., & Aborigo, R. (2023). Promoting a global culture of respectful maternity care. BMC Pregnancy and Childbirth, 23(1), 1-3. https://doi.org/10.1186/s12884-023-06118-y
Raru, T.B., Ayana, G., Bahiru, N., Deressa, A., Alemu, A., Birhanu, A., Yuya, M., Taye Merga, B., Negash, B., & Letta, S. (2022). Quality of antenatal care and associated factors among pregnant women in East Africa using Demographic and Health Surveys: A multilevel analysis. Women's health, 8(0). https://doi.org/10.1177/17455065221076731
Renbarger, K.M., Place, J.M., & Schreiner, M. (2021). The Influence of Four Constructs of Social Support on Pregnancy Experiences in Group Prenatal Care. Women's health reports 2(1), 154–162. https://doi.org/10.1089/whr.2020.0113
Rodriguez, I.E., Khechoyan, D.Y., Deleyiannis, F.W., & French, B. (2021). Surgical management of a nasal AVM in a pediatric patient: A case report. JPRAS open, 16(0), 93–97. https://doi.org/10.1016/j.jpra.2017.09.001
Schmitt, J. (2021). Prenatal care. Office on Women's Health. Retrieved from https://bit.ly/4gDB9xF
Schulz, A.A., & Wirtz, M. (2022). Midwives' empathy and shared decision making from women's perspective - sensitivity of an assessment to compare quality of care in prenatal and obstetric care. BMC Pregnancy and Childbirth, 22(1), 1-15. https://doi.org/10.1186/s12884-022-05041-y
Shaghaghi, F., Ahmadi, Z., Gholami, M., Kamali, Z., & Mohebbi-Dehnavi, Z. (2020). Investigating the relationship between the dimensions of mindfulness and maternal attachment to the fetus during pregnancy. Journal of education and health promotion, 10(1), 1-6. https://doi.org/10.4103/jehp.jehp_1513_20
Spinner, C., & Huber, L.R.B. (2024). How Much is too Much? High Utilization of Prenatal Care and Its Impact on Primary Cesarean Birth Among Women in the United States. Matern Child Health Journal, 28(0), 1160–1167 https://doi.org/10.1007/s10995-023-03887-y
Szymanski, L.M. (2022). Characterization of knee dysfunction and related risk factors during pregnancy. The Physician and sportsmedicine, 50(1), 78–83. https://doi.org/10.1080/00913847.2021.1882277
Testa, A., & Jackson, D.B. (2021). Barriers to Prenatal Care Among Food-Insufficient Women: Findings from the Pregnancy Risk Assessment Monitoring System. Journal of Women's Health, 30(9), https://doi.org/10.1089/jwh.2020.8712
Vogels-Broeke, M., Daemers, D., Budé, L., De Vries, R., & Nieuwenhuijze, M. (2022). Sources of information used by women during pregnancy and the perceived quality. BMC Pregnancy and Childbirth, 22(1). https://doi.org/10.1186/s12884-022-04422-7
Wulandari, R.D., Laksono, A.D. & Rohmah, N. (2021). Urban-rural disparities of antenatal care in South East Asia: a case study in the Philippines and Indonesia. BMC Public Health, 21(0), 1-9. https://doi.org/10.1186/s12889-021-11318-2