



UNIVERSITY OF THE PHILIPPINES

Master of Arts in Nursing

Artemio M. Gonzales, Jr.

**QUALITY OF PRENATAL CARE AND MATERNAL FETAL
ATTACHMENT AMONG PRIMAGRAVIDA MOTHERS IN OCCIDENTAL
MINDORO, PHILIPPINES**

Thesis/Dissertation Adviser:

**Asst. Prof. Queenie R. Ridulme, MAN, RN
Faculty of Management and Development Studies**

Thesis/Dissertation Critic:

**Dr. Teresita I. Barcelo, MAN, RN
Faculty of Management and Development Studies**

Date of Submission

12 April 2021

Permission is given for the following people to have access to this thesis/dissertation:

Available to the general public	Yes
Available only after consultation with author/thesis/dissertation adviser	Yes
Available only to those bound with confidentiality agreement	Yes

Student's Signature:

Signature of Thesis/Dissertation Adviser:

University Permission Page

“I hereby grant the University of the Philippines a non-exclusive, worldwide, royalty-free license to reproduce, publish, and publicly distribute copies of this thesis or dissertation in whatever form subject to the provisions of applicable laws, the provisions of the UP IPR policy and any contractual obligations, as well as more specific permission marking on the Title Page.”

“Specifically, I grant the following rights to the University:

- a) To upload a copy of the work in the theses database of the college/school/institute/department and in any other databases available on the public internet;*
- b) To publish the work in the college/school/institute/department journal, both in print and electronic or digital format and online; and*
- c) To give open access to above-mentioned work, thus allowing “fair use” of the work in accordance with the provisions of the Intellectual Property Code of the Philippines (Republic Act No. 8293), especially for teaching, scholarly, and research purposes.”*

Artemio Gonzales Jr., April 8, 2021
Student Name Over Signature and Date



UNIVERSITY OF THE PHILIPPINES
OPEN UNIVERSITY
FACULTY OF MANAGEMENT AND DEVELOPMENT STUDIES

CERTIFICATE OF ACCEPTANCE OF THESIS

The thesis attached hereto, entitled “**Quality of Prenatal Care and Maternal Fetal Attachment among Primigravid Mothers in Occidental Mindoro, Philippines,**” prepared and submitted by **MR. ARTEMIO GONZALES JR.** in partial fulfillment of the requirement for the degree of **Master of Arts in Nursing** with specialization in **Maternal and Child Nursing** is accepted.

ASST. PROF. QUEENIE R. RIDULME
Chair/Adviser

Accepted as partial fulfillment of the requirements for the degree of

MASTER OF ARTS IN NURSING

DR. PRIMO G. GARCIA
Dean
Faculty of Management and Development
Studies
UP Open University



UNIVERSITY OF THE PHILIPPINES
OPEN UNIVERSITY

FACULTY OF MANAGEMENT AND DEVELOPMENT STUDIES

APPROVAL SHEET

We, the members of the oral examination panel for **MR. ARTEMIO GONZALES JR.** unanimously approved the thesis entitled “**Quality of Prenatal Care and Maternal Fetal Attachment among Primigravid Mothers in Occidental Mindoro, Philippines**”. The thesis attached hereto was defended on February 2, 2021, via Zoom for the degree of **Master of Arts in Nursing** is hereby accepted.

PANEL MEMBERS

SIGNATURE

ASST. PROF. QUEENIE R. RIDULME
Chair/Adviser

DR. TERESITA I. BARCELO
Critic

MR. ARNOLD B. PERALTA
Member

MS. MA. CECILIA E. PUNZALAN
Member

MS. MARIA RITA V. TAMSE
Member

We therefore recommend that **MR. ARTEMIO GONZALES JR.** be awarded the degree of **Master of Arts in Nursing** from the **Faculty of Management and Development Studies**.

Very truly yours,

ASST. PROF. QUEENIE R. RIDULME
Chair/Adviser

Endorsed:

ASST. PROF. QUEENIE R. RIDULME
Program Chair, MAN

DR. PRIMO G. GARCIA
Dean

TABLE OF CONTENTS

	Page
Title Page	i
University Permission Page	ii
Certificate of Acceptance of Thesis	iii
Approval Sheet	iv
Table of Contents	v
List of Tables	vii
List of Figures	viii
List of Appendices	ix
Acknowledgment	x
Abstract	xi
Chapter 1: The Research Problem	
Background of the Study	1
Statement of the Problem	3
Significance of the Study	5
Scope and Limitations	7
Chapter 2: Theoretical Background	
Review of Related Literature: Global National Standards of Prenatal Care	8
Quality of Prenatal care	10
Association of Selected Demographic Variables on Pregnancy	15
Synthesis	16
Theoretical Framework	17
Conceptual Framework	19
Operational Definition of Terms	20
Hypothesis	22

Chapter 3: Research Methodology	
Research Design	23
Study Population	24
Sampling Design	24
Research Setting	25
Instrumentation	26
Data Collection Method & Procedure	28
Data Management	29
Data Analysis & Interpretation	30
Ethical Considerations	31
Chapter 4: Results and Discussion	36
Demographic Characteristics of the Respondents	36
Maternal-Fetal Attachment	46
Quality of Prenatal Care & Maternal-Fetal Attachment	48
Association of Selected Factors & Maternal-Fetal Attachment	53
Chapter 5: Summary, Conclusion and Recommendations	
Summary	57
Conclusion	57
Recommendations	58
References	60
Appendices	76

LIST OF TABLES

Table 1.	Proportion of Sample	25
Table 2.	Demographic Characteristics of Respondents	36
Table 3.	Quality of Prenatal Care Scores	37
Table 4.	Maternal-Fetal Attachment Scores	46
Table 5.	Correlation between Quality of Prenatal Care Domains & Maternal-Fetal Attachment	49
Table 6.	Association of Selected Factors and Maternal-Fetal Attachment	53

LIST OF FIGURES

Figure 1	Maternal Role Attainment Model	18
Figure 2	Relationship of Quality of Prenatal Care, Demographic Factors and Maternal-Fetal Attachment	20

LIST OF APPENDICES

Appendix. A	Demographic Questionnaire	76
Appendix. B	Quality of Prenatal Care Questionnaire	73
Appendix. C	Maternal-Fetal Attachment Scale	82
Appendix. D	Informed Consent Form	86
Appendix. E	Research Instrument Permission	94
Appendix. F	Ethics Approval	97
Appendix. G	Curriculum Vitae	100

ACKNOWLEDGEMENTS

This study would not be completed without the aid and guidance of several people. I would like to express my utmost gratitude to the municipal health offices and public health centers of the municipalities of San Jose, Magsaysay, Rizal and Calintaan (SAMARICA District) and to the pregnant women who participated for their support in this research study. I would like to thank my advisers and my co-advisers: Dr. Teresita Irigo-Barcelo and Prof. Queenie R. Ridulme in all their efforts in guiding me throughout the way. Also, big appreciation to Ms. Rita V. Tamse, Asst. Professor Arnold B. Peralta, and Ms. Maria Cecilia E. Punzalan for the constructive suggestions to improve the study. To all my friends and my family, thank you very much for your help, encouragement and understanding. I am very grateful to everyone who made this work possible.

ABSTRACT

The prenatal period is a proper chance for evaluating maternal-fetal attachment. By determining maternal-fetal attachment during pregnancy, in time intervention and education could be planned for improving these interactions and consequently improve the mother-child attachment before the childbirth. Considering the importance of maternal attachment to the developing baby and various factors that may affect this matter there is still lack of necessary information in this regard in our country.

The study determined the relationship between quality of prenatal care and maternal-fetal attachment among primigravida mothers during late pregnancy period.

The study conducted a survey using a 46-item Quality of Prenatal Care Questionnaire (QPCQ) and 24-item Maternal-Fetal Attachment Scale among 343 primigravid mothers in different barangay health stations and prenatal care clinics. Pearson correlation was used to determine the correlation between maternal-fetal attachment scores and quality of prenatal scores. Beta coefficient and its corresponding 95% confidence intervals were computed using linear regression.

The overall quality of prenatal care and maternal-fetal attachment of the primigravid women in the study setting is high. The quality of prenatal care is correlated significantly with maternal-fetal attachment. It means that the maternal-fetal attachment will be high if the pregnant mother had a high quality of prenatal care. Moreover, the following age, social support and education level were significantly associated with maternal-fetal attachment.

CHAPTER 1

THE RESEARCH PROBLEM

This chapter includes the background of the study, statement of the problem, significance of the study and scope and limitation of the study.

Background of the Study

Different countries are aiming to reduce the global maternal mortality ratio to less than 70 per 100, 000 live births by 2030 (UN General Assembly, 2015). Considering that prenatal care is essential to improve maternal and newborn health and wellbeing, the World Health Organization crafted new recommendations to improve the quality of prenatal care by focusing on a positive pregnancy experience. These new guidelines seek to ensure not only a healthy pregnancy for mother and baby, but also an effective transition to positive labor and childbirth and ultimately to a positive experience of motherhood (WHO, 2016). Women want and need a positive pregnancy experience, including maintaining physical and sociocultural normality; maintaining a healthy pregnancy for mother and baby; effective transition to positive labor and birth; and achieving positive motherhood (Downe et al., 2016).

From the recent study in the Philippines, it revealed that in spite of higher awareness in antenatal care (ANC), there were several factors delaying the first ANC of a pregnant women in the Philippines which include poverty, number of pregnancies and decision-making consequences (Horiguchi & Nakazawa, 2018). In addition, aside from social and economic factors relations with the health workers were found to be important with factors to utilization of maternal health services (Pambid, 2015). From a preliminary interviews and focused group discussion, conducted by the primary investigator in a

group of post-partum mothers, pregnant mothers really relied on the public health workers as they are the most credible provider of health services in the community. On the other hand, previous untoward experiences such as not being treated politely, not being listened to, having concerns go unnoticed or dismissed, staffs ignoring patients, enormous documents and procedures to process, long lines and slow queue are very common. Despite such encounters, they still sought consultation to ensure the health of the baby. But still, mothers utilized public health services in spite of some resource problem considering the free service as compared to private clinics.

The approaching birth of a child is often a time in a woman's life that is anticipated with excitement and enthusiasm. Pregnant women often connect the transition to motherhood with optimistic expectations. Mother's prenatal expectations regarding her infant, support network, and sense of self as a mother could affect her confidence in caring for her child. With this, prenatal expectations play a critical role in a woman's transition to motherhood, and this effect is not restricted to first-time mothers. In addition, how the mother feels about herself was found to significantly mediate both infant and support, which suggests that how a mother views herself is one of the salient factors in predicting postnatal emotional states (Lazarus & Rossouw, 2015).

Psychological self-compassion is found to have a significant relationship with mother-fetus attachment. Thus, the importance of psychological care during pregnancy along with their physical care have been confirmed to improve the quality of their lives (Mohamadirizi & Kordi, 2016) and are important to develop during prenatal period. The bond felt with their baby was an important influence on women's decisions to adopt healthy behaviors during pregnancy. Furthermore, Martin (2012) stated that the

development of the maternal–fetal relationship creates mother’s feelings toward her baby develops throughout the antenatal period. Positive feelings may be enhanced or inhibited by several internal and external factors. From the discovery of pregnancy, or even before conception, many women prepare themselves for motherhood through protective behaviors. Many parents find it helpful to begin preparing for the baby’s birth through accepting the role of parenthood.

The prenatal period is a proper chance for evaluating maternal-fetal attachment. By determining maternal-fetal attachment during pregnancy, in time interventions and educations could be planned for improving these interactions and consequently improve the mother-child attachment before the childbirth (Salehi & Kohan, 2017). Furthermore, mother’s antenatal affective investment could influence pregnancy, childbirth, and the postnatal relationship with the child, thus affecting the individual psychological development (Busonera et al., 2016). Therefore, considering the importance of maternal attachment to the developing baby and various factors that may affect this matter there is still lack of necessary information in this regard in our country. This gap in knowledge needs to be investigated so that the development of maternal-fetal attachment can be predicted from antecedent factors for nurses to develop interventions that strengthen maternal role to her unborn child.

Statement of the Problem

The transition to parenthood is widely considered a period of increased vulnerability often accompanied by relative experiences. Based on the findings of the study conducted by Mezzeschi et al. (2015), role of mothers’ attachment style, maternal

prenatal attachment to the fetus and dyadic adjustment during late pregnancy were also good predictor of parenting stress months after childbirth. Furthermore, these could be considered as risk factors in the transition to motherhood and in the very beginning of the emergence of the caregiving system, especially with first-time mothers. However, there is little research focusing on the correlation between quality of prenatal care relating to maternal fetal attachment. The purpose of this study is to examine the relationship between quality of prenatal care and maternal-fetal attachment among primigravida mothers during late pregnancy period. This study has two main variables: quality of prenatal care and maternal-fetal attachment.

This study sought to answer the problem: What is the relationship between quality of prenatal care and maternal-fetal attachment among primigravida mothers during late pregnancy period?

Specifically:

1. What is the demographic profile of the primigravida mothers in terms of:
 - a. maternal age,
 - b. civil status
 - c. income level,
 - d. educational attainment, and
 - e. psychosocial support?
2. What is the level of quality of prenatal care perceived by the primigravida mothers late pregnancy period, in terms of:
 - a. information sharing;
 - b. anticipatory guidance;

- c. sufficient time;
 - d. approachability;
 - e. availability; and
 - f. support and respect.
3. What is the level of maternal-fetal attachment of the primigravida mothers during late pregnancy period, in terms of:
- a. future parental role taking;
 - b. differentiation on self from fetus;
 - c. interaction with fetus;
 - d. attributing characteristics to the fetus; and
 - e. giving of self?
4. What is the relationship between quality of prenatal care and maternal-fetal attachment during late pregnancy period?
5. Is there a significant relationship between maternal age, income level, educational attainment, psychosocial support and maternal fetal attachment?

Significance of the Study

This study extended maternal fetal attachment by expanding the knowledge of theory-based factors that are related to perceived quality of prenatal care in the late pregnancy period. This new knowledge related to the care of the childbearing family generates numerous implications for nursing practice, education, and research.

Gaining the new knowledge by exploring the connection between the perceived quality of prenatal care and the maternal role attainment will support the claim of Mercer (2006) that a high quality of prenatal care experience during pregnancy might facilitate maternal confidence and satisfaction, which includes tasks involved in the role of caring her child and expresses pleasure and gratification in the role as a mother. Hence, if the health care worker provides quality prenatal care with holistic approach and provide comfort to the pregnant women it would help the mother to be satisfied with her pregnancy leading to the enjoyment gained in interacting with the infant in early postpartum, consequently leading to increased emotional and psychological well-being. If there is a proven relationship it could also suggest that promotion of mother and childcare should begin during pregnancy by providing high quality of prenatal care.

Healthcare providers should be aware that mothers with higher quality of care given throughout pregnancy will affect the care she provides for her infant. This study focused on the late pregnancy period, however there is support that similar variables impact maternal confidence throughout the childbirth period, prenatally as well as postpartum. Furthermore, nurses are in the best position to manage the care of expectant mothers prenatally. If education and support are coordinated throughout this period, the maternal fetal attachment of first-time mothers may be increased. Mothers are held accountable for their infant outcomes and need interventions that improve their confidence in the care that they provide. Several factors during prenatal such as low professional, personal and social support may lead to lower maternal satisfaction in the mothering role, and delayed maternal role identity.

Scope and Limitation of the Study

This study is focused on the relationship between quality of prenatal care and maternal fetal attachment among primigravida mothers in late pregnancy period. The study was conducted through survey using structured interview using instruments intended to measure quality of prenatal care and maternal-fetal attachment. Furthermore, the study sample was solicited through cluster sampling from the mothers who consulted antenatal care in prenatal clinics during the 3-month period. All primigravida women who consulted for prenatal services in their 3rd trimester in the institution, and have at least 3 prenatal visits, in last trimester of pregnancy were considered eligible for study inclusion.

A limitation of this study is that neither the Quality of Prenatal Care Questionnaire nor the Maternal-Fetal Attachment Scale Inventory have been tested exclusively in a population similar to the mothers in the Philippines. Also, the generalizability of the findings is limited to the geographic area from which the sample was drawn. Another limitation is the use of self-reported data with regard to quality of prenatal care and maternal-fetal attachment, which may have been influenced by reluctance to report negatively. Hence, the current study will only be generalizable in the locale of the study. To ensure representativeness of the sample, the study utilized fair sampling to provide valid estimates of the population characteristics being studied. Furthermore, in order to avoid information bias (reluctance to report negatively), the respondents were informed of the right to confidentiality and privacy. Any clarification was entertained by the researcher to facilitate easy understanding of the statements in the research instrument.

CHAPTER 2

THEORETICAL BACKGROUND

This chapter includes some related literature and studies, synthesis, theoretical framework, conceptual framework, operational definition of the variables used in the study and hypothesis which are presented in the following paragraphs.

Review of Literature

This section provided the theoretical rationale and an overview of what is known about the relationships among quality of prenatal care and maternal-fetal attachment. Attachment Theory and Maternal Role Attainment Theory provides a framework for understanding relationships among variables in the study.

Global and National Standards of Prenatal Care

WHO (2016) defines antenatal care (ANC) or prenatal care as “the care provided by skilled health-care professionals to pregnant women and adolescent girls in order to ensure the best health conditions for both mother and baby during pregnancy”. The components of ANC include risk identification; prevention and management of pregnancy-related or concurrent diseases; and health education and health promotion.

The positive pregnancy experience can be provided by maintaining physical and sociocultural normality; maintaining a healthy pregnancy for mother and baby (including preventing and treating risks, illness, and death); having an effective transition to positive labor and birth; and achieving positive motherhood (including maternal self-esteem, competence, and autonomy (Downe et al., 2016).

The 2016 WHO ANC model recommends a minimum of eight (8) ANC contacts, with the first contact (also referred as visit) scheduled to take place in the first trimester (up to 12 weeks of gestation), two contacts scheduled in the second trimester (at 20 and 26 weeks of gestation) and five contacts scheduled in the third trimester (at 30, 34, 36, 38 and 40 weeks). Other feature of the guidelines includes but not limited to maternal-fetal assessment, nutrition during pregnancy; prevention and treatment of physiological problems commonly experienced during pregnancy (e.g., nausea, heartburn, etc.); preventative interventions for certain contexts (e.g., malaria and/or HIV endemic areas); and counseling and supporting women who may be experiencing intimate partner violence. Moreover, it also includes daily oral iron and folic acid supplementation with 30 mg to 60 mg of elemental iron and 400 µg (0.4 mg) folic acid for pregnant women to prevent maternal anemia, puerperal sepsis, low birth weight, and preterm birth. To prevent neonatal mortality from tetanus, tetanus toxoid vaccination is recommended for all pregnant women, depending on previous tetanus vaccination exposure. Lastly, one ultrasound scan before 24 weeks' gestation (early ultrasound) is recommended for pregnant women to estimate gestational age, improve detection of fetal anomalies and multiple pregnancies, reduce induction of labor for post-term pregnancy, and improve a woman's pregnancy experience (Tunçalp et al., 2017; Abalos, Chamillard, Diaz, Tuncalp & Gulmezoglu, 2016; WHO, 2016).

In the Philippines, the Department of Health (2011) guidelines on prenatal care includes first prenatal visit at first trimester, at least four (4) prenatal visits throughout the course of pregnancy to detect and manage danger signs and complications of pregnancy, provision of iron and folate supplementation for three (3) months, iodine supplementation

and two (2) tetanus toxoid immunization, counselling on healthy lifestyle and breastfeeding, prevention and management of infection, as well as oral health services. Lavado, Lagrada, Ulep and Tan (2010) on the other hand revealed that women who are older, poorer and with lower educational attainment received poorer quality of prenatal care compared to women who are younger, richer, and better educated. Multiparous women also received poorer quality of prenatal care. Among the health care providers, doctors provide very good quality of prenatal care while majority of midwives and nurses provide fair quality of prenatal care. Not surprisingly, majority of the traditional birth attendants provide poor quality of prenatal care. With this, Bollini and Quack-Lötscher (2013) revealed that quality of antenatal care, complemented by measures of social position and social support, allow for a careful description of the gaps in quality of care for specific groups of women.

Quality of Prenatal Care

It is increasingly apparent that access to healthcare without adequate quality of care is insufficient to improve population health outcomes. Healthcare workers in well-equipped facilities often provided poor care and vice versa. While it is important to have strong infrastructure, it should not be used as a measure of quality. Insight into health system quality requires measurement of processes and outcomes of care. Measurement priorities should be reassessed to support more timely information for quality improvement purposes and more pertinent information on the quality of care delivered for monitoring and comparison (Leslie, Sun & Kruk, 2017).

Other study only focuses on the number of prenatal visits, vaccination status, prescription of ferrous sulfate, physical examination, orientation, and laboratory tests as measure of quality of prenatal care (Tomasi et al., 2017)

Other study suggests that improving quality of care, provider interpersonal style and patient-centered decision making, and improving the structural characteristics of prenatal care may be effective in improving women's satisfaction and utilization of prenatal care (Gregory et al., 2020). Furthermore, it was found out that positive experiences such as trusting relationships with providers, respectful staff and providers, and social support are the facilitators of good prenatal care perception (Mazul et al., 2017). It is also suggested that mothers and providers valued the tailoring of care based on individual needs and functional patient-provider relationships as key elements of prenatal care quality (Coley et al., 2018). Some pregnant women may also perceive about the care received during the prenatal care is related to the care given, humanized reception, consideration of the pregnant woman's subjectivity and support in the difficult moments (Livramento et al., 2019).

Galle et al., (2015) believe that quality of care can be understood considering two aspects: the resource structure of the care organization and patients' preferences. Women's satisfaction with antenatal care is determined by the interaction between their expectations and the characteristics of the healthcare they receive. In connection with this, they conducted a study to assess expectations and satisfaction with antenatal care to 155 women seeking antenatal care. Galle et al. (2015) measured satisfaction and expectations using the PESPC (Patient Expectations and Satisfaction with Prenatal Care Instrument) – questionnaire. The study found out that general satisfaction with antenatal

care was high. Women were satisfied with their relationship with the healthcare worker, however; they evaluated the information received during the consultation and the organizational aspects of antenatal care as less satisfactory.

Heaman et al. (2014), argues that assessment of prenatal care has focused primarily on women's satisfaction which mostly includes components that are elements of quality such as structure of service delivery (timeliness, continuity of care and environment) and process of care (advise, explanation and technical). This components brings unclear distinction between the constructs of satisfaction and quality of care. Furthermore, the study also considered that the quality of care is determined by the structure of service delivery and service-giving processes. It encompasses content dimensions through its attention to the technical (involving physical assessment and laboratories) and interpersonal (including prenatal counselling and guidance) aspects of care. Heaman et al (2014) developed and tested a new instrument, the Quality of Prenatal Care Questionnaire (QPCQ), to be completed by the women receiving prenatal care. The components of the tool were information sharing, anticipatory guidance, sufficient time, approachability, availability, support and respect. As a result, the tool has good validity and reliability factor which can be useful in evaluating women's perceptions of quality of prenatal care, to compare quality of care across regions, populations, types of health care provider, and service delivery models, and to assess the relationship between quality of care and a variety of maternal and infant health outcomes.

Maternal-Fetal Attachment

Cranley (1981) created the theoretical construct of maternal-fetal attachment as *“the extent to which women engage in behaviours that represent an affiliation and interaction with their unborn child”*. Also, Cranley suggested that during the 9 months of gestation, both physical development of the fetus and transformation of a woman into motherhood is occurring. She stated that, *“integral to that development is the consideration of the woman’s identity, her role identity, the identity of her developing fetus, and perhaps most important, the relationship between herself and her fetus”* and developed the first antenatal attachment scale, the Maternal-Fetal Attachment Scale (MFAS), using the six (6) aspects which includes differentiation of self from fetus, giving of self, role taking, and nesting.

Malm (2015) investigated the association between the magnitude of fetal movements and level of prenatal attachment within a 24-hr. period among women in the third trimester of pregnancy 34-42 weeks. The study used the PAI-R scale to assess prenatal attachment. The three subscales; Anticipation, Differentiation and Interaction consist of eighteen Likert-type items. The results showed that perceiving frequent fetal movements on three or more occasions during a 24 hour-period, was associated with higher scores of prenatal attachments in all the three subscales. The study concluded that perceiving frequent fetal movements at least during three occasions per 24-hour periods in late pregnancy was associated with prenatal attachment. Therefore it implies that women who focus on fetal movements may feel positively the effect of prenatal attachment, especially among multiparous women >35 years old.

Busonera et al (2016) argued that Cranley (1981) multidimensional model of the MFAS still considered to be promising but somehow far into reality and stressed the need

for further studies aimed at eliminating some items and modifying and modernizing others. With this, Busonera et al. (2016), designed a study which aimed at extensively investigating the validity and reliability evidence of the MFAS with a large sample of expectant mothers in their middle and late pregnancy, attending antenatal education classes. The modified MFAS was administered together with other scales measuring maternal–fetal attachment, psychological well-being, and relational variables. Internal consistencies were evaluated using Cronbach's alpha. The 20-item version of the MFAS studied by Busonera et al (2016) was found to be reliable measure of maternal attachment to the fetus in women. Cranley's five dimensions were not confirmed; instead, Busonera (2016) came up with three (3) factors that could be renamed “future parental role taking”, “present interaction with the baby” and “giving of self and responsibility to the unborn child”.

Mercer (2004) published a paper to present evidence for replacing the term maternal role attainment (MRA), with becoming a mother (BAM). She conducted a review of the evolution of MRA and a synthesis of research originating from the theory was done, followed by synthesis of current research on the transition to motherhood. The findings of the review showed that in the achievement of maternal identity, the mother has established intimate knowledge of her infant such that she feels competent and confident in her mothering activities and feels love for her infant; she has settled in. Furthermore, woman experiences changes of self in becoming a mother, she expands to assume a new identity and responsibility for her infant and her infant's future world.

Association of Selected Demographic variables on Pregnancy

Aasheim et al. (2014), investigated satisfaction with life during pregnancy and the first three years of motherhood in women expecting their first baby at an advanced and very advanced age. The study defined age as maternal age at the time of giving birth. To explore the differences between the women of advanced or very advanced age and the reference group, the following variables in the models were tested: previous depression, relationship satisfaction, and maternal and infant health problems three years postpartum. The result revealed age did not interact with satisfaction or any of the other remaining factors.

A meta-analytic study revealed that social support, gestational age, parity, and other demographic characteristics such as age, ethnicity, marital status, income, and education has low to moderate effect on maternal fetal attachment. These factors are suggested in assessing the maternal fetal attachment and should also include as basis in practice of caring a pregnant woman (Yarcheski et al., 2009). In a study for Italian women, results showed that prenatal attachment increased as gestational age advanced. Further, as the mothers perceived greater levels of couple adjustment and paternal support, the maternal-fetal attachment also strengthened and increased especially in positive affect and maternal-fetal interaction and differentiation (Barone, Lionetti, & Dellagiulia, 2014).

In clinical practice, maternal role taking is a stage in the development of a woman's life that begins with pregnancy, and healthcare providers can play a major role in this development. In a prospective study among a sample of 242 Iranian primiparous women at 32–37 weeks of gestation showed that there is a moderate but significant positive

correlation between maternal–fetal attachment and self-efficacy ($r = 0.48$, $P < 0.001$). However, this study included only women who had presented to healthcare centers for receiving care and did not include women who, for any reason, did not present to these centers, which reduced the generalizability of the results. The investigators recommended to consider other factors affecting these two variables so that necessary measures can be taken to increase maternal–fetal attachment and maternal self-efficacy (Delavari, Mohammad-Alizadeh-Charandabi & Mirghafurvand, 2018).

Study suggests that more attention should be paid to identifying the psychological risk factors in pregnancy in addition to providing suitable interventions for improving the lifestyle of pregnant women (Omidvar, Faramarzi, Hajian-Tilak, & Nasiri Amiri, 2018). Partner support may be an important and potentially modifiable target for interventions to improve pregnancy outcomes. Pregnant women with low partner support are also more likely to smoke but gained less weight as the level of support from their partners increased. Furthermore, trend as also observed on reduced infant birth weight, gestational age at birth, and fetal growth among women with low partner support, these effects were modestly attenuated after adjustment of maternal characteristics. Thus, women with low antenatal partner support have worse mental health (Cheng et al., 2016).

Synthesis

Maternal-fetal attachment is influenced by different internal and external factors such as, environment, and the quality of health service attained during prenatal period. This review found a link between the quality of prenatal care and maternal-fetal attachment. Yet, these links vary depending upon the sample examined. Another study

found that it is difficult to claim with certainty that the participants of the study represent new mothers in general, so this should be considered when interpreting the present results. However, the relationships between these variables and maternal-fetal attachment need further exploration. Once the primary variables that influence maternal-fetal attachment are known, nursing interventions can be developed to support mothers and increase their life satisfaction leading to maternal role. Further, if the quality of prenatal care and maternal-fetal attachment proved to be connected, interventions and programs of the government must be matched with the needs of a mother for her to be able to have comfort and satisfaction during her pregnancy.

Theoretical Framework

The Maternal Attainment theory refers to the “interactional and developmental process occurring over time in which the mother becomes attached to her infant, acquires competence in the caretaking tasks involved in the role, and expresses pleasure and gratification in the role” (Mercer, 1986). “The movement to the personal state in which the mother experiences a sense of harmony, confidence, and competence in how she performs the role is the end point of maternal role attainment – maternal identity” (Mercer, 1981).

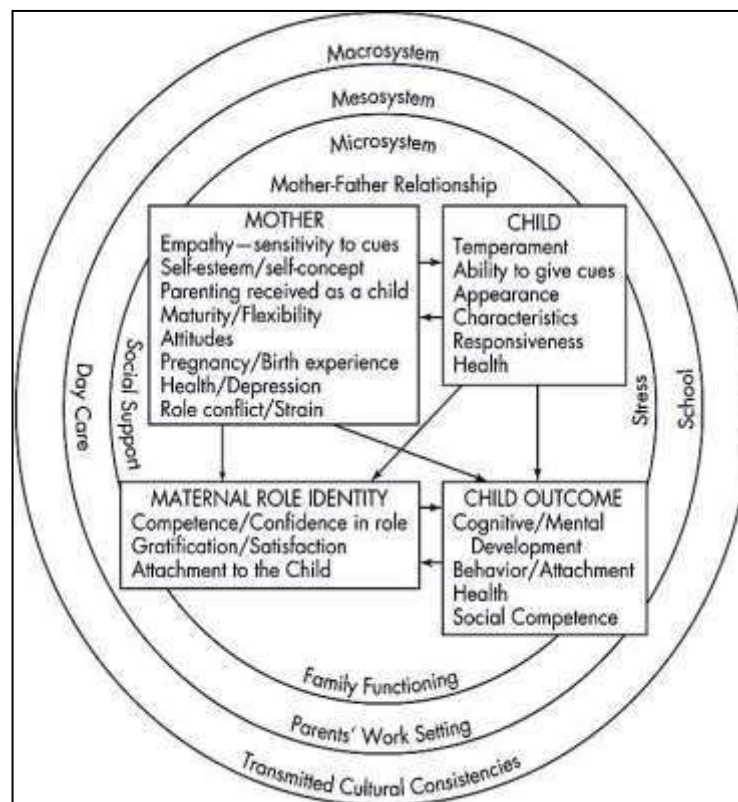


Figure 1. Maternal role attainment model (Mercer, 2003 cited from Marriner-Tomey & Alligood, 2006)

Mercer developed the “maternal role attainment - becoming a mother” model. Mercer’s mid-range maternal role attainment theory is based on becoming a mother throughout a woman’s lifespan in order to develop a strong maternal identity which has been an influence from her mentor Reva Rubin. A model of maternal role attainment was developed based on Bronfenbrenner’s by portraying interactional environmental influences on maternal role (Marriner-Tomey & Alligood, 2006).

Attaining maternal-fetal attachment starts during conception as mother develops attitudes toward her growing child. The study of Brandon et al (2009), shows how critical responsive and sensitive caregiving affects prenatal attachment which strongly suggested that mothers develop caregiving capacity during pregnancy. As unique relationship develops between parents and fetus long before a child is born, it suggested

that prenatal attachment motivates good health practices during pregnancy, facilitates adaptation to the role of parenthood, and motivate mother in caring for her infant making this theoretical approach to pregnancy important in nursing. The literature provided a basic level of understanding, but additional research is needed to increase the understanding of the internal process of developing the maternal-fetal attachment as affected by the quality of prenatal care on motherhood during her late pregnancy in order for the nurse to provide the appropriate support.

Conceptual Framework

The emerging maternal-fetal attachment could be a predictor for the attitude and performance of mothers after delivery (Delavari, Mohammad-Alizadeh-Charandabi & Mirghafurvand, 2018). Maternal-fetal attachment refers to the relation between mother and fetus, which is related to the mother's mental image of the infant. This form of attachment is shaped during pregnancy, intensively recommended to incorporate a glance gradually improves in the third semester, and continues after delivery (Taffazoli, Montakhab asadi, Aminyazdi, & Shakeri, 2015). Lastly, quality of prenatal care is affecting the maternal-fetal attachment. Maternal-fetal attachment and its promotion are affected by both maternal and fetal factors. Moreover, following the factors affecting attachment will lead to their role functioning. Therefore, it is highly recommended to incorporate prenatal health practices in pregnancy education (Ghodrati & Akbarzadeh, 2018).

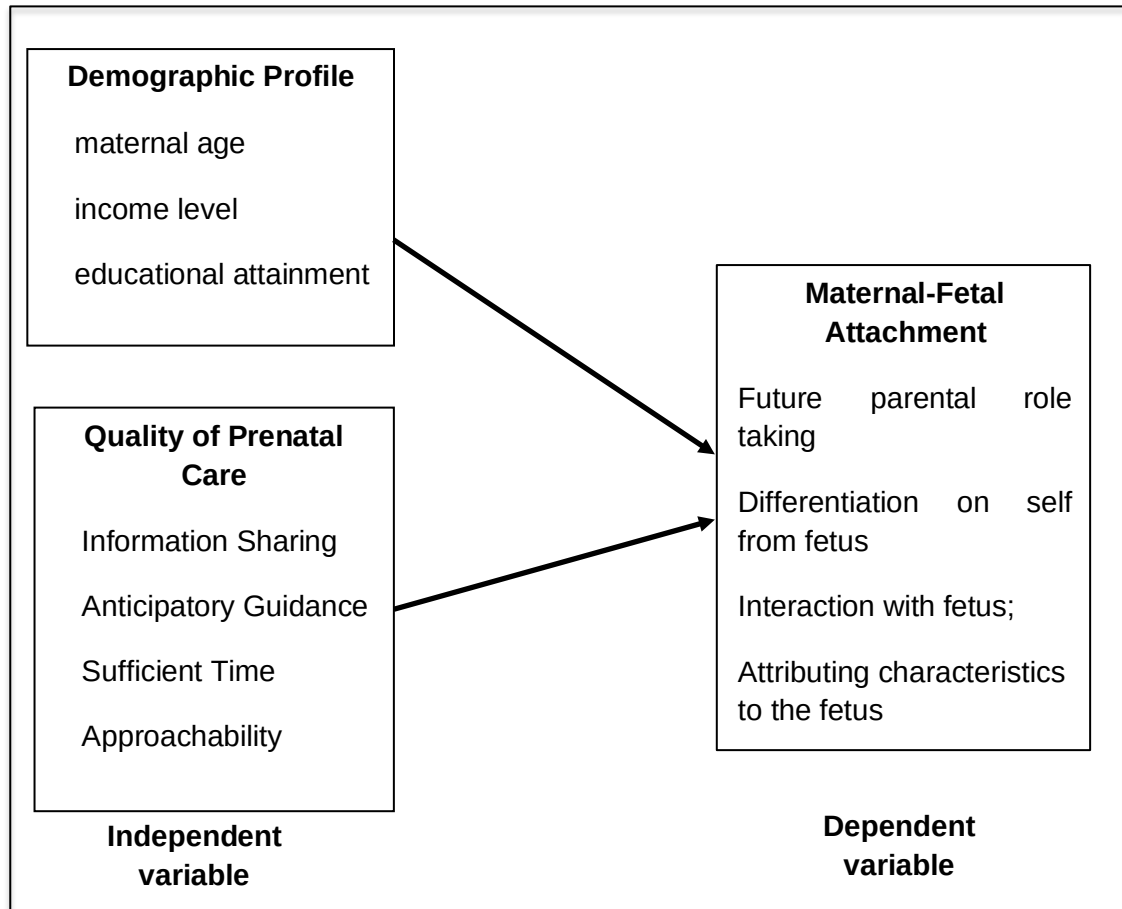


Figure 2. Relationship of quality of prenatal care, demographic factors and maternal-fetal attachment.

Operational Definition

The following variables are operationally defined.

Quality of Prenatal Care – It refers to how a mother is satisfied with the prenatal care during late pregnancy that would affect the attachment of the mother to the growing fetus as she assumes motherhood. This is the independent variable in this study measured during late pregnancy period.

Information Sharing – The 9 items within this factor focus on how prenatal care providers answer questions, keep information confidential, and ensure women understand reasons for tests and their results.

Anticipatory Guidance – The 11 items in this factor focus on women being given enough information to make decisions about their prenatal care and how their prenatal care providers prepare and give women options for their birth experience.

Sufficient Time – The 4 items within this factor focus on the time prenatal care providers spend addressing women's questions and the time spent in an appointment.

Approachability – The 4 items in this factor address the health care provider's approachability (e.g., woman was afraid to ask questions, felt like she was wasting prenatal care provider's time).

Availability – The 5 items in this factor include knowing how to contact the prenatal care provider and how available the clinic/office staff or prenatal care providers are to respond to questions, concerns or needs.

Support and Respect – This factor has 12 items related to women being respected and supported by their prenatal care providers in regard to their concerns and decisions.

Maternal-Fetal Attachment – is a term used to describe the relationship between a pregnant woman and her fetus. It acts as the dependent variable in the study. This will be measured using 24-item Maternal-Fetal Attachment Scale.

Maternal age – It refers to the age of the mother at the time of late pregnancy period and determined in number of years. It is grouped by 19 and below; 20-29; 30-34; 35-39; and

40 years and above. The age category was based on its risk of adverse pregnancy outcome established by Kenny et al. (2013).

Civil Status – It is defined as whether the respondent is married or unmarried.

Income level – It is operationally defined based on the 2017 Philippine income cluster: poor $\leq$ PHP 9,520; low Income (but not poor) PHP 9,520-19,039; lower middle income PHP 19,040-38,079; and middle middle income PHP 38,080-66,640 (Albert, Santos & Vizmanos, 2018).

Educational attainment – It is operationally defined as an ordinal variable which identifies a particular educational level that a particular person attained (never been to school, elementary level, elementary graduate, high school level, high school graduate, vocational, college level, college graduate).

Psychosocial support – It is defined as companion during consultation.

Companion during consultation – It is a continuous presence of a support person during her consultation. It can be partner/father of the baby, mother, woman from the family/social network, and others (father or friend).

Hypothesis

1. Maternal-fetal attachment is not associated with quality of prenatal care during late pregnancy period.
2. Maternal age; income level; educational attainment; psychosocial support are not correlated with maternal-fetal attachment during late pregnancy period.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter focused on the methodology that was used in this study. An explanation of quantitative research as a method for data collection and analysis was given. Measures followed during the data collection were discussed in this chapter and the information about the sample was provided.

RESEARCH DESIGN

A descriptive cross-sectional design was used in this study. In this design, the outcome variable, which is the Maternal-Fetal Attachment using MFAS, as well as the exposure variables, the quality of prenatal care of the primigravid mothers using the Quality of Prenatal Care Questionnaire (QPCQ) and the and demographic factors were assessed at a particular point in time using a questionnaire. This study used descriptive correlation to examine quality of prenatal care and its influence on maternal-fetal attachment. The data were collected from the sample of women in the 3rd trimester of their pregnancy.

Descriptive design is used when little is known about a particular phenomenon. Correlational study involves the systematic investigation of the nature of relationships or associations between and among variables, rather than direct cause-effect relationships. With this, descriptive correlational studies describe the variables and the relationships that occur naturally between and among them (Souza, Driessnack, & Mendes, 2017).

In this study, the correlation was built up by the two known and existing knowledge. Since there is no study located in the literature finding the relationship of quality of

prenatal care and maternal-fetal attachment, the study design facilitated an early understanding of these relationships in a sample.

STUDY POPULATION

All primigravida women on their at least second prenatal visit/ consultation for their pregnancy in their 3rd trimester were eligible for study inclusion. Maternal age was not considered in the exclusion process, which means the study included participant whatever of their age including teenage pregnancy.

SAMPLING DESIGN

The study utilized the population proportion in computing the sample size. The study considered the total population of last year's primigravid mothers listed in the target client list. Considering the last year's primigravid of 3,187; 95% confidence interval; 50% expected frequency; 5% margin of error and design effect of 1. 343 primigravid mothers in selected barangay health stations or rural health units in the SAMARICA (municipalities of San Jose, Magsaysay, Rizal and Calintaan) district were included in the study. These were mothers having at least a previous prenatal visit/consultation for their pregnancy in their 3rd trimester. The sample were included in the study through barangay cluster whose to be recorded catering large numbers of prenatal clients based on the target client list records and Field Service Information System. Sample were computed based on the number and proportion of pregnant women with at least 4 prenatal check. The proportion of sample is described below:

Table 1. Proportion of sample

Municipality	Population	Proportion	Sample	Actual Sample
San Jose	2173	0.68	233.87	234
Magsaysay	493	0.15	53.06	53
Rizal	271	0.09	29.17	29
Calintaan	250	0.08	26.91	27
TOTAL	3187	1	343	343

The following inclusion and exclusion criteria were considered in the sample selection:

Inclusion criteria

- Primigravida women in their third trimester attending the antenatal clinic
- Primigravida with singleton pregnancy

Exclusion criteria

- Mothers diagnosed with high-risk pregnancy, other pregnancy complications and co-morbidity.

SETTING

The study was conducted in selected barangay health stations rural health units in the interlocal health zone of SAMARICA district composed of four (4) municipalities: San Jose, Magsaysay, Rizal and Calintaan. The rural health stations in the said areas offer prenatal consultations most especially to women whose pregnancy is without complications. Most of the rural health units differ in the schedule of prenatal day or “Araw

ng mga Buntis” since most of the midwives assigned in the area handle multiple barangay health stations.

INSTRUMENTATION

A. Demographic Questionnaire

In order to establish the representative nature of the sample, a range of background data were obtained. It includes information on maternal age, civil status, income level, educational attainment, and psychosocial support. The detail on demographic information is shown in Appendix A.

Maternal age was recorded as the age of the mother at the time of late pregnancy period and determined in number of years. Civil status can mean being unmarried (single or cohabiting) and married. Income level were recorded based on the 2017 Philippine income cluster: poor $\leq$ PHP 7,890; low Income (but not poor) PHP 7,891-15,780; lower middle income PHP15,781-31,560; and middle-income PHP 38,080-66,640 (Albert, Santos & Vizmanos, 2018). Educational attainment was recorded using ordinal variable which identifies a particular educational level that a particular person attained (never been to school, elementary level, elementary graduate, high school level, high school graduate, vocational, college level, college graduate). Psychosocial support were recorded as companion during consultation. Companion during consultation means continuous presence of a support person during her consultation. It can be partner/father of the baby, mother, woman from the family/social network, and others (father or friend).

B. Quality of Prenatal Care Questionnaire

To measure quality of prenatal care, the study utilized 46-item Quality of Prenatal Care Questionnaire (QPCQ) adopted from (Heaman, et al., 2014) with the following parameters: Information Sharing, Anticipatory Guidance, Sufficient Time, Approachability, Availability, Support and Respect. Each item would be rated using a Likert scale with five response categories consisting of “Strongly Disagree” (1), “Disagree” (2), “Neutral” (3), “Agree” (4) and “Strongly Agree” (5). The overall QPCQ had acceptable internal consistency reliability (Cronbach’s $\alpha = 0.96$), as did each of the subscales. The test-retest reliability result (Intra-class correlation coefficient = 0.88) indicates the stability of the instrument on repeat administration. The QCPC Tagalog version had acceptable internal consistency reliability of Cronbach’s $\alpha = 0.90$ (Appendix B). The use of the tool was permitted by the original author and provided a Tagalog translated questionnaire.

C. Maternal-Fetal Attachment Scale

This study adapted Maternal-Fetal Attachment Scale composed of 24-item questionnaire from Cranley (1981) (Appendix C). The questionnaire was made of the following dimension which are: future parental roletaking, present interaction with the baby and giving of self and responsibility to the unborn child. Regarding the reliability, it reported an alpha value of 0.85 for the total scale. Each item was rated using a Likert scale with five response categories consisting of “Definitely No” (1), “No” (2), “Uncertain” (3), “Yes” (4) and “Definitely Yes” (5). The Maternal-Fetal Attachment Scale (MFAS) was translated in Tagalog by the Sentro ng Wikang Filipino of the University of the Philippines

after seeking authorization from the author. The MFAS Tagalog version had acceptable internal consistency reliability of Cronbach's $\alpha = 0.84$.

DATA COLLECTION METHOD AND PROCEDURES

Prior to the conduct of the study, permission to conduct the study was sought from the concerned municipal health officer and barangay captain. To ensure the validity of the data collection, the trained enumerators hired has health science degree (Diploma in Midwifery) and have experiences in data collection and survey process gained in programs of the government such as *Listahanan* of the Department of Social Welfare and Development and census.

Women who met the inclusion criteria were approached at the antenatal clinic in the health canters or rural health units. The interview mostly happened after the prenatal consultation outside the center. They were informed of the purpose and the nature of the study. The enumerator thoroughly read the informed consent and ensure that the respondent was aware about the objective of the study, the length of participation, the risk and benefit of participating in the study. Most of the interview lasted for 15 minutes. Women who agreed to participate in the study signed a written consent form. Data were collected using a Tagalog questionnaire during the structured interview. This ensured that in case a potential participant is not able to read, they can still answer freely and with full understanding.

At the end of the interview, the research enumerator reviewed the questionnaire to ensure completeness and accuracy of the data being collected. For those who were unable to read, the data enumerator read the items in the questionnaire and recorded the

response in the instrument. The data collection took place on January 2020 to March 2020 and supposed to continue. However, the country and the place of study was places under enhanced community quarantine due to COVID-19 pandemic. The continuation of data collection took place on June 2020 to July 2020 when the area of study categorized into modified general quarantine.

DATA MANAGEMENT

To extract the data from the questionnaires, the responses were coded, using number codes to make the data suitable for analysis.

Microsoft Excel was used for data entry. Only one database was created. The database had one variable for each item in the questionnaire and one record for each respondent. Each participant was designated with a unique identifier in the form of an identification number. The researcher extracted preliminary codes from the observed data; the preliminary codes were further filtered and refined to obtain more accurate precise and concise codes.

The conduct of the survey complied with the policy stated in the Republic Act No 10173 or the Data Privacy Act of 2012. Access to the data was limited only to the researcher. Unless required by law, the name of the participants was not disclosed outside the research clinic. Names were available only to the following people or agencies: the principal investigator and staff; and authorized representatives of the principal investigator; ethics committees and health authority.

The Microsoft Excel file was then be exported to STATA 15.0 for data analysis.

The questionnaires were stored in a safety cabinet with lock and access was only limited to the researcher and will only be retained for three years after the submission of all required reports. After the retention period, these will be shredded properly for disposal.

DATA ANALYSIS AND INTERPRETATION

Descriptive statistics were used to summarize the general and clinical characteristics of the participants. Frequency and proportion were used for categorical variables. Shapiro-Wilk test was used to determine the normality distribution of continuous variables. Continuous quantitative data that met the normality assumption were summarized using mean and standard deviation (SD), while those that did not was described using median and range. The main outcome variable is the Maternal-Fetal Attachment scores (interval). Exposure variable includes Quality of Prenatal Care (interval).

Pearson correlation was used to determine the correlation between maternal-fetal attachment scores and quality of prenatal scores. The interpretation was as follows: 0.0–0.2, very weak; 0.2–0.4, weak; 0.4–0.6, moderate; 0.6–0.8, strong; 0.8–1.0, very strong. Beta coefficient and its corresponding 95% confidence intervals were computed using linear regression.

All valid data were included in the analysis. Missing variables were neither replaced nor estimated. Null hypothesis was rejected at 0.05 α -level of significance.

ETHICAL CONSIDERATIONS

This conduct of the study was approved by the Ethics Review Board (ERB) of the University of the Philippines Open University. The study considered both scientific and ethical aspects of the research.

Informed Consent

The questionnaire had an attached cover letter that provided information on the research objectives as well as the significance and importance of the study. Participation in the study was voluntary and it was explained to the mothers that they have the option not to answer the questionnaire. Participants were informed of their right to withdraw from research or limit participation if they become uncomfortable. Participants were also informed that the refusal to participate in the study or when there is a decision to withdraw from the study will not affect the health services she is receiving. Participants were informed that there will be no further study-related activities that will take place after the survey. The participants were also informed that they can be provided the result of the study once they express the interest to know the results after the analysis and after completion of the final draft. After ensuring that the potential participant has understood the information, the primary investigator sought the potential participant's freely given informed consent by signing of the consent form. An independent person also witnessed the informed consent process, which can be either the participant's companion during the visit or the research assistant. The witness also signed his or her name to indicate that the participant: heard and understood the information given and has read the entire consent form. Before the

conduct of the study, permission was obtained from the Municipal Health Officer of each locale.

Openness and Integrity

The researcher ensured the responsibility for the trustworthiness of the research. Essential element of the research design has a full disclosure to participants prior to their involvement, such withholding of information that was specified in the protocol and explicit procedures stated to obviate any potential harm arising from such withholding. Participants were given opportunities to access the outcomes of research in which they have participated and debriefed if appropriate after they have provided data. Participants were given information as to whom they may contact in the event of any issues arising during the research that cannot be resolved with researcher.

Maximizing Benefit and Protection from Harm

The research made every effort to maximize the benefits of research while minimizing the risks of any harm, either physical or psychological, arising for any participant, researcher, institution, funding body or other person or community. Mothers are not monetarily compensated for their participation.

It was explained to the participants that there will be no direct benefit in their participation. However, in the future, the result of this study can be basis for ensuring equitable maternal health services. Several factors during prenatal may lead to lower maternal confidence, dissatisfaction in the mothering role, and delayed maternal/role identity. Healthcare providers need to be aware of these possible barriers to increasing maternal confidence. Thus, it could improve the maternal and child health system. Proper

research dissemination will be conducted with the participants, local government, health institutions and other constituents after the final draft has been completed.

The conduct of the survey complied with the policy stated in the Republic Act No 10173 or the Data Privacy Act of 2012. Complete anonymity of the research participants was observed. Questionnaire were coded and listed in a separate sheet, the code from the list were matched after data collection. Specific information on the questionnaires could not be linked to specific individuals. Access to the data was limited only to the researcher. Unless required by law, the name of the participants will not be disclosed outside the research clinic. Names are available only to the following people or agencies: the principal investigator and staff; and authorized representatives of the principal investigator; ethics committees and health authority.

Risks of study participation are minimal as it may cause sadness, and emotional distress the probability and magnitude of harm or discomfort anticipated in the research are not greater in and of themselves than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests. But in case of any untoward incidence related to the conduct of the study, contact number of the principal investigator was given to the participants for inquiries related to the conduct of the study. As part of the plan, if any risk would occur the researcher would provide counselling or psychological support for participants who would experience distress, or thoroughly debriefing research participants after research sessions are completed.

After the conduct of the study, participants will be given opportunity to access the outcomes of research in which they have participated and debriefed if appropriate after they have provided data.

Confidentiality

As stated above, the research observed respect and preserved the confidentiality of participants' identities and data. The conduct of the survey complied with the policy stated in the Republic Act No 10173 or the Data Privacy Act of 2012. Complete anonymity of the research participants was observed. Questionnaire was coded and listed in a separate sheet, the code from the list later matched after data collection on the follow up. Specific information on the questionnaires could not be linked to specific individuals. Access to the data was be limited only to the researcher. Unless required by law, the name of the participants was not disclosed outside the research clinic. Names were available only to the following people or agencies: the principal investigator and staff; and authorized representatives of the principal investigator; ethics committees and health authority.

Professional Codes of Practice and Ethics

The subject of a research falls within the domain of the professional body of the researcher. The researcher is a nurse-midwife by profession and specializing in maternal and child nursing. The researcher is also supervised by pool of advisers specializing in the same field of expertise. To obey with the published code of practice and ethical guidelines, the researcher explicitly complied with the code and guidelines in the research protocol. Before the crafting of the protocol, the researcher had undergone training on

basic research methodology training, basic research ethics training and good research practice training in accordance to the guidelines of the Philippine Health Research Ethics Board.

CHAPTER 4

RESULTS AND DISCUSSIONS

In this chapter the results of the study are presented and discussed with reference to the aim of the study to determine the relationship between quality of prenatal care and maternal-fetal attachment among primigravida mothers during late pregnancy period.

Demographic Characteristics of the Respondents

Data from 343 primagravidas were included in the analysis (Table 2). Most respondents were 20 to 24 years of age (48.98%); high school (34%) or college (45%) graduate; had monthly income that ranged from 9,520 to 19,039 PhP (44.61%), more than 5 members in the household (50%), and a partner or the baby's father accompanying them for prenatal care (55%) and during birth (80%).

Table 2. Demographic characteristics of respondents (n=343)

Characteristics	Frequency (%)
Age (years)	
≤19	78 (22.74)
20-24	168 (48.98)
25-29	73 (21.28)
30-34	23 (6.71)
35-39	1 (0.29)
Civil status	
Unmarried	243 (70.85)
Married	100 (29.15)
Educational attainment	
Never been to school	1 (0.29)
Elementary level	3 (0.87)
Elementary graduate	9 (2.62)
High school level	59 (17.2)
High school graduate	115 (33.53)
College and higher	156 (45.48)
Income class	
<9520 (poor)	97 (28.28)

9520–19039 (low income, but not poor)	153 (44.61)
19040–38079 (lower middle income)	91 (26.53)
38080–66400 (middle middle income)	2 (0.58)
Household size	
Small average (1–2)	44 (12.83)
Average (3–5)	126 (36.73)
Large average (>5)	173 (50.44)
Companion during prenatal visits	
Partner/father of the baby	187 (54.52)
Mother	68 (19.83)
Woman from the family/social network	76 (22.16)
Others (father or friend)	12 (3.5)

Quality of Prenatal Care

Table 3 presents the perceived quality of prenatal care among primigravida mothers. The mean ($\pm$ SD) score for overall quality of prenatal care was 4.00 ± 0.26 . Domains on information sharing, anticipatory guidance, sufficient time each garnered a mean score above 4.00, while constructs on approachability, availability, and support and respect each garnered means lower than 4.00.

Table 3. Quality of prenatal care scores (n=343)

Quality of Prenatal Care	Mean $\pm$ SD
Information sharing	
1. I was given adequate information about prenatal tests and procedures	4.22 ± 0.51
2. I was always given honest answers to my questions	4.08 ± 0.42
3. Everyone involved in my prenatal care received the important information about me	4.06 ± 0.56
4. I was screened adequately for potential problems with my pregnancy	4.05 ± 0.51
5. The results of tests were explained to me in a way I could understand	4.02 ± 0.62
6. My prenatal care provider(s) gave straightforward answers to my questions	4.08 ± 0.46

7. My prenatal care provider(s) gave me enough information to make decisions for myself	3.98 ± 0.6
8. My prenatal care provider(s) kept my information confidential	3.96 ± 0.52
9. I fully understood the reasons for blood work and other tests my prenatal care provider(s) ordered for me	4.15 ± 0.54
Factor Mean Score	4.07 ± 0.30
Anticipatory guidance	
1. My prenatal care provider(s) gave me options for my birth experience	4.09 ± 0.54
2. I was given enough information to meet my needs about breast-feeding	4.15 ± 0.54
3. My prenatal care provider(s) prepared me for my birth experience	4.08 ± 0.46
4. My prenatal care provider(s) spent time talking with me about my expectations for labor and delivery	3.99 ± 0.51
5. I was given enough information about the safety of moderate exercise during pregnancy	4.06 ± 0.68
6. I received adequate information about my diet during pregnancy	4.14 ± 0.5
7. My prenatal care provider(s) was interested in how my pregnancy was affecting my life	3.94 ± 0.61
8. I was linked to programs in the community that were helpful to me	3.50 ± 0.94
9. I received adequate information about alcohol use during pregnancy	4.17 ± 0.7
10. I was given adequate information about depression in pregnancy	3.98 ± 0.51
11. My prenatal care provider(s) took time to ask about things that were important to me	4.09 ± 0.42
Factor Mean Score	4.02 ± 0.30
Sufficient time	
1. I had as much time with my prenatal care provider(s) as I needed	4.05 ± 0.57
2. My prenatal care provider(s) was rushed*	3.87 ± 0.89
3. My prenatal care provider(s) always had time to answer my questions	4.04 ± 0.45
4. My prenatal care provider(s) made time for me to talk	4.03 ± 0.45
5. My prenatal care provider(s) took time to listen	4.05 ± 0.44
Factor Mean Score	4.01 ± 0.29

Approachability	
1. My prenatal care provider(s) was abrupt with me*	3.81 ± 0.94
2. I was rushed during my prenatal care visits*	3.87 ± 0.92
3. My prenatal care provider(s) made me feel like I was wasting their time*	3.71 ± 1.13
4. I was afraid to ask my prenatal care provider(s) questions*	3.95 ± 0.92
Factor Mean Score	3.84 ± 0.72
Availability	
1. I knew how to get in touch with my prenatal care provider(s)	3.95 ± 0.61
2. Someone in my prenatal care provider(s)'s office always returned my calls	3.89 ± 0.62
3. My prenatal care provider(s) was available when I had questions or concerns	4.02 ± 0.51
4. I could always reach someone in the office/clinic if I needed something	3.94 ± 0.63
5. I could reach my prenatal care provider(s) by phone when necessary	3.92 ± 0.60
Factor Mean Score	3.94 ± 0.39
Support and respect	
1. My prenatal care provider(s) respected me	4.11 ± 0.53
2. My prenatal care provider(s) respected my knowledge and experience	3.99 ± 0.62
3. My decisions were respected by my prenatal care provider(s)	3.98 ± 0.63
4. My prenatal care provider(s) was patient	3.99 ± 0.56
5. I was supported by my prenatal care provider(s) in doing what I felt was right for me	4.09 ± 0.56
6. My prenatal care provider(s) supported me	4.02 ± 0.39
7. My prenatal care provider(s) paid close attention when I was speaking.	3.97 ± 0.53
8. My concerns were taken seriously	3.98 ± 0.41
9. I was in control of the decisions being made about my prenatal care	3.75 ± 0.73
10. My prenatal care provider(s) supported my decisions	3.97 ± 0.56
11. I was at ease with my prenatal care provider(s)	4.08 ± 0.46
12. My values and beliefs were respected by my prenatal care provider(s)	3.97 ± 0.50
Factor Mean Score	3.99 ± 0.30
OVERALL MEAN SCORE	4.00 ± 0.26

**reverse scored item. A higher score on the factor mean item score indicates higher quality of prenatal care.*

This shows a high overall quality of prenatal care. This contradicts the findings of Kassaw, Debie, and Geberu (2020) that the overall quality of prenatal care given for sample of pregnant women was low. It is also differing in the domain of support and approachability given to the women in the former study was high.

Information Sharing

The results shows that primigravid women perceived a high quality of prenatal care in terms of information sharing it means that the women in the current study received feedbacks answer questions, and ensure women understand reasons for tests and their results. The women were also given enough information to make decisions about their prenatal care and how their prenatal care providers prepared and gave women options for their birth experience. This could possibly be explained by another study that reported that giving information to women is a facilitating factor of perceived care and improved knowledge in pregnancy (Boerleider et al., 2013). However, it is low in the domain of giving enough information and confidentiality. Based on the study, there are several factors that are considered as barriers to access information during pregnancy such as many duties of women at home as well as out-of-home education and employment, inability to make distinction between correct and incorrect information, insufficient interactions between women and healthcare providers, failure to access to various information resources, common complaints of pregnancy, and stress and anxiety of confronting the problems during pregnancy (Javanmardi et al., 2019). Another study

revealed that poor quality of care such as lack of confidentiality, lack of proper discussion and counseling from health care providers are significant factors as to why women and their families lose trust in the public health delivery systems (Das & Sarkar, 2014).

Anticipatory Guidance

This study shows that there is a high anticipatory guidance given among pregnant mothers. The result highlights that the women in the study were guided in the prevention of alcohol use and promotion of breastfeeding. Based on the study of Lavado et al. (2010) only includes the Information and counseling on self-care at home, nutrition, safer sex, breastfeeding, family planning, healthy lifestyle.

On the other hand, there is a low perception on the quality of spent time talking about the expectations for labor and delivery, linking the mother to programs in the community, and to the information that would prevent depression. Expectations during labor and delivery should also put into consideration to meet the individualized needs of pregnant women including physiological, psychological, informational, social and relational, esteem, security and medical needs. Knowing a woman's needs, values, preferences and expectations during normal labor and delivery assists healthcare professionals especially midwives in providing high-quality care to pregnant women (Iravani et al., 2015). Another, pregnant women were not linked in different programs for integrated maternal and newborn health. The focus of the prenatal consultation is merely on the current pregnancy. Studies shows that there are missed opportunities to provide family planning counseling are widespread in the Philippines (Nagai, et al., 2019) and other health programs related to maternal health (Cabral, 2016). In regards with mental health promotion for pregnant women, Philippines has not yet realized the importance of

integrating mental health to maternal services. Filipinos are also prevented from seeking help by their sense of resilience and self-reliance. They utilize special mental health care only as the last resort or when problems become severe. Other prominent facilitators include perception of distress, influence of social support, financial capacity and previous positive experience in formal help (Martinez, Lau & Brown, 2020). When maternal depressive issues are not addressed it would lead to issues on nutrition, stress management, physical activity, health responsibility, and self-actualization in pregnancy (Omidvar et al., 2018). Another study done by Yikar and Nazik (2019) suggested that the complaint during pregnancy decreases quality of life of pregnant women. On the other hand, quality of life is increases when effective education about complaints were given.

Sufficient Time

Although the result of this study revealed that there is a high perception on the sufficient time provided with the pregnant women, it also shows that they felt it rushed. History taking, examination for maternal and fetal well-being, drug administration, and counselling and health education are the components of prenatal care that should be considered in managing the time of consultation.

The possible justification might be that the healthcare provider has high healthcare provider and client ratio, resulting in a compromised quality of prenatal healthcare services. The increased workloads and decreased commitment of the healthcare provider in achieving organizational targets can affect the caring behavior of nurses. This, in turn, will affect the patients' satisfaction with the health service (Fitriani, Yetti, & Kuntarti, 2019). Moreover, space–time constraints are a source of inequality for accessing social services. Uncertainty in waiting time increases overall costs, especially among the poorest and

space–time costs are harder to overcome by poorer households (Hernandez & Rossel, 2015). Other pregnant women also felt a more negative perspective described as having insufficient time, feelings of being objectified and rushed, and disease-oriented care (Risa, Friberg, & Lidén, 2013). The most frequently reported provider-level barrier was time constraints. Other health workers reported that they would need additional consultation time. There is a time pressure to prioritize physical care and perceived this as a source of guilt, as they felt the majority of women experiencing psychological distress were left without receiving care (Bayrampour, Hapsari, & Pavlovic, 2018).

Approachability

The result of this study revealed that there is a low quality of prenatal care in terms of approachability. The respondents in this study felt that the service given to them was abrupt and they felt that the health worker made them feel like they were wasting their time. Studies have identified that there are many barriers related to aspects of service provision includes caregiver qualities (lack of time, negative behaviors), health system barriers (shortage of providers), and program/service characteristics (distance, long waits, short visits). Rude or judgmental caregivers in particular were seen as being potentially problematic for women seeking prenatal care. A general sentiment was that women have the potential to remember, for many years, the unkind actions and words from interactions with certain health care providers (Heamann et al. 2015). The major challenges perceived by the health workers were interruptions in workflow and communication. Specifically, health workers needed more time after receiving patient report, scheduling a visit with the patient, and communicating with the patient's health

care provider to better understand the individual's circumstances and needs (Hall-Lipsy et al., 2020).

Availability

The result of this study revealed that there is a low quality of prenatal care in terms of availability. The respondents in the study reported that there is no regular availability of health worker in the health station to raise their concerns. In the public health centers, schedule of prenatal care is only scheduled once a week. One of the barriers identified is availability of care being limited by insufficient numbers of health workers in the workforce. One consequence of lack of overall availability is that the available health workers that are coming from other location and mostly not residing in the community (Homer et., 2018). Although health workers are always present in barangay health stations, most community members felt that health workers could not be trusted because of their lack of professionalism and inability to maintain confidentiality. Familiarity and the complex relationships between household members and health workers caused difficulties in developing and maintaining a relationship of trust (Grant et al., 2017). Well-performing health workers work in ways that are responsive, fair, and efficient to achieve the best health outcomes possible for clients, given available resources and circumstances. There is a complex interplay of factors influencing trust, and thereby the strength of relationships, between health workers and their communities. These factors were shaped through various mechanisms, such as feelings of (dis)connectedness, (un)familiarity, self-fulfillment and serving the same goals and perceptions of support received, respect, competence, honesty, fairness, and recognition (Kok et al., 2017).

Support and Respect

The result of this study revealed that there is a low quality of prenatal care in terms of support and respect given to the women. Low scores were noted in control of the decisions being made about prenatal care. Women's autonomy is significantly altered by model of maternity care, the nature of interactions with care providers, and women's ability for self-determination (Vedam et al., 2019). The Standards for high quality maternity care that elevate experience of care outcomes as important health outcomes and include the following: Communication with women and their families is effective and responds to their needs and preferences; women and newborns receive care with respect and preservation of their dignity and autonomy; and every woman and her family are provided with emotional support that is sensitive to needs and strengthens the woman's capability (WHO, 2016). Pregnant women value the opportunity to be full participants in care planning, including the ability to understand and apply the best available evidence to their individual situations (Lothian, 2013). On the other hand, the experience of mistreatment by providers such as non-consented care, loss of patient autonomy, or poor provider-patient communication during pregnancy has been linked to reduced adherence to care, psychosocial distress, and adverse maternal health (Miller & Lalonde, 2015). Lastly, study shows that pregnant women reporting inadequate social support in demonstrated that prenatal care positively impacts the psychosocial well-being of women with greater stress or lower personal coping resources (Heberleine et al., 2016).

Maternal-Fetal Attachment

The overall mean ($\pm$ SD) maternal-fetal attachment score was 93.32 ± 9.08 (Table 4). Across domains, attributing characteristics to the fetus got the highest mean score (22.40 ± 3.11), while differentiation of self from fetus got the lowest (15.90 ± 2.34).

Table 4. Maternal-fetal attachment scores (n=343)

Maternal Fetal Attachment Factors	Mean $\pm$ SD
Future parental role taking	
1. I picture myself feeding the baby.	4.2 ± 0.66
2. I imagine myself taking care of the baby.	4.22 ± 0.58
3. I can hardly wait to hold my baby.	4.27 ± 0.64
4. I try to picture what the baby will look like.	4.1 ± 0.57
Total Factor Mean	16.78 ± 1.73
Differentiation on self from fetus	
1. I enjoy watching my tummy jiggle as the baby kicks inside.	4.24 ± 0.75
2. I'm really looking forward to seeing what the baby looks like.	4.48 ± 0.59
3. I have decided on a name for a baby girl.	3.57 ± 1.11
4. I have decided on a name for a baby boy.	3.61 ± 1.10
Total Factor Mean	15.90 ± 2.34
Interaction with fetus	
1. I talk to my unborn baby.	4.39 ± 0.66
2. I refer to my baby by a nickname.	3.89 ± 0.81
3. I poke my baby to get him/her to poke back.	3.69 ± 0.98
4. I stroke my tummy to quiet the baby when there is too much kicking.	4.04 ± 0.65
5. I grasp my baby's foot through my tummy to move it around.	3.03 ± 1.15
Total Factor Mean	19.04 ± 2.71
Attributing characteristics to the fetus	
1. I wonder if the baby feels cramped in there.	4.10 ± 0.64

2. I can almost guess what my baby's personality will be from the way she/he moves around.	3.5 ± 1.13
3. I wonder if the baby can hear inside me.	4.06 ± 0.58
4. I wonder if the baby thinks and feels "things" inside of me.	3.92 ± 0.72
5. It seems my baby kicks and moves to tell me it time to eat.	4.05 ± 0.67
6. I can tell when the baby has hiccups.	2.79 ± 1.20
Total Factor Mean	22.40 ± 3.11
Giving of self	
1. I feel all the trouble of being pregnant is worth it.	4.27 ± 0.75
2. I do things to try to stay healthy that I would not do if I were not pregnant.	4.12 ± 0.57
3. I eat meat and vegetables to be sure my baby gets a good diet.	4.29 ± 0.66
4. I feel my body is ugly. *	3.32 ± 0.97
5. I give up doing certain things because I want to help my baby.	2.68 ± 0.97
Total Factor Mean	19.20 ± 1.93
OVERALL SCORE	93.32 ± 9.08

**reverse scored item*

A higher score on the total mean item score indicates higher maternal-fetal attachment.

This study shows that the study sample has high maternal-fetal attachment scores. The result was similar with the study conducted in a Hungarian population showing that maternal-fetal attachment increases over the course of pregnancy (Andrek et al., 2016). It is commonly observed following the appearance of quickening. The magnitude of fetal movements was strongly associated with prenatal attachment. Perceiving frequent fetal movements on several occasions within a 24-hour period in late pregnancy was associated with higher scores of prenatal attachment Malm et al., 2016). A study in a low

risk population of pregnant women revealed that the mean time for the perception by the mother of first fetal movements was at the 17th gestational week. However, it is still affected by various maternal factors which suggests that women that took account of regular follow-ups will perceive the fetal movements earliest (Akkaya & Büke, 2018). On the contrary, another study suggests that it is impossible for health workers to take care of pregnant women every moment, since the women should take care of their baby by themselves. This suggests that the health workers should educate the mother to take concern and be empowered in taking care of their baby's wellbeing (Li & Wang, 2018). A study by Howland and Glynn (2019) showed that maternal-fetal attachment scores increased from early to late gestation. Progesterone levels were associated with higher maternal fetal attachment at 35 weeks' gestation, as well as greater increases in maternal fetal attachment over gestation.

Maternal-fetal attachment can be influenced by different aspects, such as gestational age or the memories of parental practices. This may indicate that the higher the positive memory of parental care, the higher is the level of maternal-fetal attachment reported by the pregnant woman. Allowing the pregnant woman to tell her memories of parental practices may identify any fewer positive feelings and perceptions about the performance of her future role as a mother (Teixeira, Raimundo, & Antunes, 2016).

Quality of Prenatal Care and Maternal-Fetal Attachment

The quality of prenatal care score correlated significantly with maternal-fetal attachment score (0.4564 [p-value <.001]) (Table 5). The latter possessed direct and moderate correlations with scores for information sharing (0.4966 [p-value <.001]), anticipatory guidance (0.4709 [p-value <.001]), availability (0.4054 [p-value <.001]), as

well as support and respect (0.4784 [p-value <.001]), direct but weak correlation with sufficient time (0.2776 [p-value <.001]); and very weak inverse correlation with approachability (-0.1383 [p-value <.001]).

Table 5. Correlation between quality of prenatal care domains and maternal-fetal attachment (n=343)

	Pearson's r	Direction and Strength of Correlation	p
Information sharing	0.4966	Direct, moderate	<.001
Anticipatory guidance	0.4709	Direct, moderate	<.001
Sufficient time	0.2776	Direct, weak	<.001
Approachability	-0.1383	Inverse, very weak	.010
Availability	0.4054	Direct, moderate	<.001
Support and respect	0.4784	Direct, moderate	<.001
Overall mean score	0.4564	Direct, moderate	<.001

The current study revealed that information sharing has moderate and direct correlation with maternal-fetal attachment. It can be explained that if the mother is provided health advice that emphasizes the wellbeing of the fetus in efforts to improve maternal health behavior during pregnancy, women may not see its relevance if their embodied experience and diagnostic tests indicate that the fetus is healthy. The health advice offered to women should be sensitive to their personal experiences of pregnancy (Ross, 2012). A study determines the relationship between digital media use during pregnancy, psychological wellbeing and their maternal-fetal attachment. It shows that Information seeking, emotional support and social support were highly endorsed reasons for digital media use. However, there is a limited evidence to suggest a relationship

between maternal fetal attachment scores and overall digital media use for information or support (Smith et al., 2020).

Another finding from the current study revealed that anticipatory guidance has a moderately direct correlation with maternal-fetal attachment. It showed that anticipatory guidance led to change in the pregnant women's knowledge about infant. In addition, direct presentation of this guidance was found to be more effective over the indirect presentation in increasing the knowledge of pregnant women (Shanthini et al., 2017). Anticipatory guidance is defined as proactive counselling that addresses the significant physical, emotional, psychological, and developmental changes that will occur in children during the interval between health supervision visits (Weber-Gasparoni, 2019). It could mean that if the healthcare provider provides emotional support relating changes in the body from the development of the fetus inside the womb, the more chance of attachment it gives to the mother and her baby. Recently the American College of Obstetricians and Gynecologists (2016), advocated for patient-centered care to offer prenatal anticipatory guidance that "is compatible with the family's individual values, circumstances, and concerns" as well as assessments in the last trimester that include the mother, infant, and family members/supportive friends to improve perinatal outcomes (Tully, Stuebe, & Verbiest, 2017). The study of Rossman, Greene and Meier (2015) showed that, peer support and role modelling which involves other pregnant women, and the health worker helped the mothers throughout every stage of their health care, from giving them hope, to helping them begin to develop maternal identity, to providing anticipatory guidance. Talking points are provided for nurses who work with the mothers without dedicated peer support to help mothers establish a healthy mother/infant relationship.

The prenatal consultation provides ample opportunity for the decision-making process, since there is usually sufficient time to consider the alternatives, and the patient's preferences which are of crucial importance (Segal, & Shahar, 2009). The structure of prenatal consultation would also affect the needed information and the clients expect the health provider to be open to listening to their concerns and to provide time to answer their questions. Sufficient time for prenatal consultation would save the pregnant women from being anxious and having unanswered questions (Gaucher & Payot, 2011). Communication is a key part of any healthcare professional's role and is an essential skill for practitioners to be competent. It also suggests that some individual healthcare professionals have developed strategies and learnt how to communicate with women in an observational way without having considered the underpinning theories of consultation that are available (Silverman et al. 2013). The antenatal appointment, however, does not just consist of providing information to women. It also encompasses a structured physical examination of the woman including blood pressure measurement, urinalysis, and abdominal examination and auscultation of the fetal heart sounds as well as offering public health and health promotion advice (Bharj & Daniels, 2017) which really entails amount of time per client.

This study addresses health workers approachability such as accommodating women's questions and the feeling of not wasting time. Maternal care could be available and affordable but is sometimes not accessible due to a variety of psychological and individual aspects. Psychological accessibility barriers can also come from poor communication and relationships between professionals and mothers. Maternal care is also frequently expert-centered and technically oriented, creating a distance in the

relationship between the health professionals and the expecting mother and leaving questions unanswered (Miteniece et al., 2017). Another, trust plays a significant part in effective nurse-patient communication. It will later influence the overall satisfaction of the pregnant mother with the health care provider and health service provided. Thus, patients who had a longer relationship with their healthcare provider can have a better primary care outcome (Tang, 2011; Lee et al., 2013; Pun, Matthiessen, Slade, & Murray, 2015). Also, as part of caregiver support to a pregnant woman, nursing interventions involving abdominal palpations can include in the conversation since it can develop the maternal–fetal relationship especially if the mother is also informed about fetal position during third trimester (Nishikawa, & Sakakibara, 2013).

Lastly, the current study revealed that there is a moderately direct correlation between support and respect with maternal-fetal attachment. It was supported by the study of Wlash, Hepper and Marshall (2014) which depicted that women in their first pregnancies had higher self-reported scores of psychological functioning and quality of maternal-fetal relationships than women in subsequent pregnancies. It was also shown that romantic caregiving responsiveness in which the partner of the pregnant women giving support to throughout pregnancy is a predictor of a good quality of maternal-fetal attachment. Also, it was reported that when social support is high, the relation between anxiety and maternal–fetal attachment intensity is decreasing. Thus, suggesting that interventions to decrease anxiety and increase social support could enhance maternal–fetal attachment (Hopkins et al., 2018; Yu & Kim, 2014; Astaraki et al., 2014) especially among low-risk pregnancies (Kucharska, 2020).

Association of selected factors and maternal-fetal attachment

The following were significantly associated with maternal-fetal attachment scores: age ≤ 19 years (4.10 [95% CI 1.81–6.39] points lower compared to that in the 20–29 years age group), woman from the family or social network as companion during prenatal care visits (2.76 [95% CI 0.34–5.18] points lower than if spouse or partner accompanied), college education (3.45 [95% CI 0.93–5.97] points higher compared to group with primary to secondary level education) (Table 6).

Table 6. Association of selected factors and maternal-fetal attachment (n=343)

Factors	Crude Beta Coefficient (95% CI)	P
Age group (years)		
≤ 19	-4.10 (-6.39 to -1.81)	<.001
20–29	1.00	-
≥ 30	0.36 (-3.40 to 4.12)	.851
Civil status, unmarried	0.28 (-1.85 to 2.40)	.796
Educational attainment		
Elementary to high school level	1.00	-
High school graduate	1.36 (-1.30 to 4.02)	.315
College	3.45 (0.93 to 5.97)	.007
Income level (per unit increase)		
<9520	1.00	-
9520–19039	0.28 (-2.02 to 2.59)	.809
≥ 19040	2.16 (-0.43 to 4.75)	.102
Companion (prenatal)		
Partner/father of the baby	1.00	-
Mother	-0.39 (-2.91 to 2.13)	.762
Woman from the family/social network	-2.76 (-5.18 to -0.34)	.026

Others (father or friend)	-0.44 (-5.74 to 4.86)	.871
---------------------------	-----------------------	------

In this study, younger age has lower maternal-fetal attachment compared to young adults. This result is similar with the study of healthy pregnancies and pregnancies with congenital disorders and complication showing that maternal age is a predictive factor in determining the mother's relationship with her child (Kucharska, 2020). Similarly, it was found out that mother's age and two domains of maternal-fetal attachment, namely differentiation of self from fetus and attributing characteristics to fetus are significantly correlated. The study of Delavari and others (2018) also found out that maternal-fetal attachment is significantly correlated with postpartum depression. The study of Muraca and Joseph (2014) shows that women of advanced maternal age have significantly higher rates of depression than younger women. Thus, a program should also focus targeting depression screening and prevention will help reduce the burden of illness among older mothers. On the other hand, this result does not corroborate with the study conducted in Chile investigating third trimester pregnancy which statistically does not prove the odds of the higher age group and maternal fetal attachment. It could possibly explain that the sample size, which was insufficient to represent the sociodemographic distribution of the population (Ossa, Bustos, & Fernandez, 2012). Nevertheless, it is important to recognize the factors affecting prenatal psychological wellbeing and attachment. During prenatal period, the healthcare provider should assess the maternal-fetal attachment and direct mothers with low maternal fetal attachment scores to receive professional counselling. (Pisoni et al., 2014).

In this study, it is revealed that college graduates have higher maternal fetal attachment compared to mother reached elementary and high school level. The result in this study contradicts that of the study of Ossa, Bustos and Fernandez (2012) in Chilean population which revealed that educational attainment is not associated with maternal-fetal attachment. Also, in a study of a sample of Hungarian women, it was found out that there is no significant relationship between mother's education and maternal-fetal attachment. It could be possibly explained because of the small number of women with a low level of education, and also because there were three groups with regard to education: those with secondary education (technical school/secondary grammar school), college or university students, and those who graduated from college or university. However, the majority of women included in study were expectant women of higher age and educational level working in high status jobs (Andrek et al., 2016), thus their active employment status may have influenced their attachment to their fetus. However, this study did not collect data regarding employment status. On the other hand, the current study corroborates with the findings of Taffazoli et al. (2015) stating that mother's education is an effective variable in maternal-fetal attachment. However, it is only tested four and eight weeks after delivery and not during pregnancy. In the Middle East it was revealed that there is a positive relationship between mother's educational status and maternal-fetal attachment (Torshizi & Sharifzadeh, 2013).

In the current study, if during the prenatal consultation the spouse or partner accompanied the pregnant woman, there was a greater maternal-fetal attachment as compared to those who were accompanied by woman from the family or social network. A study of women in a community-based sample confirmed that sufficient partner support,

together with positive maternal personality and future child characteristics, predicted intensive maternal-fetal attachment (Maas et al., 2014). This finding in the study of Stapleton and others (2012) a prospective longitudinal study which showed the indirect contributions of partner support, relationship satisfaction, and interpersonal security to maternal and infant postpartum distress. Mothers who perceived stronger social support from their partners mid-pregnancy had lower emotional distress postpartum after controlling for their distress in early pregnancy, and their infants were reported to be less distressed in response to novelty. Also partner support mediated the effects of mothers' interpersonal security and relationship satisfaction on maternal and infant outcomes.

Male involvement in women' health has recently attracted much attention due to its role in health and gender issues. Attracting the husbands' support would lead to a more friendly social relationship between pregnant women and their husbands and supporting each other that would also improve self-efficacy and getting involved the people in self-care behaviors (Izadirad et al., 2017). Study shows that husband attendance at prenatal care does not affect pregnancy outcomes, but it brings more husband involvement and support for mother and neonate at postpartum period (Mortazavi, Delara, & Akaberi, 2014).

CHAPTER 5

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter offers the summary of findings, the conclusion, and recommendations in accordance with the findings.

Summary of Findings

The overall quality of prenatal care of the primigravid women in the study setting is high more particularly in domains of information sharing, anticipatory guidance and sufficient time. Moreover, maternal-fetal attachment is also high specially in domains of attributing characteristics to the fetus. This could mean that the pregnant women care and commitment to the fetus including the sense of nurturance, comforting, and physical preparation.

The quality of prenatal care is correlated significantly with maternal-fetal attachment score. It means that the maternal-fetal attachment will be high if the pregnant mother a high quality of prenatal care. Moreover, age, social support and education level were significantly associated with maternal-fetal attachment. The younger primigravid women had significantly lower maternal fetal attachment compared to older group. The pregnant woman had lower maternal-fetal attachment if accompanied by woman from the family or social network during prenatal care visits than if spouse or partner accompanied. Lastly, higher education status had higher maternal-fetal attachment compared to group with primary to secondary level education.

Conclusion

The quality of care perceived by the mother affects its relationship with the fetus inside the womb. Good quality of care given by the healthcare enhances attachment

between the mother and her baby. Maternal fetal attachment is also affected by maternal age, social support, and education level.

Recommendation

Women valued when care was individualized and approachable in ways that addressed their own needs. Health professionals should learn to listened to them, tailored care to their needs and addressed their own emotional and social concerns. Women who felt their concerns had been taken seriously were more likely to rate care highly. Availability does not just pertain to the prenatal supplies, equipment, and laboratories. It could also focus on clients knowing how to contact the prenatal care provider and how available the clinic/office staff or prenatal care providers are to respond to questions, concerns or needs. There is a need to re-establish respectful maternity care – which refers to care organized for and provided to all women in a manner that maintains their dignity, privacy and confidentiality, ensures freedom from harm and mistreatment, and enables informed choice and continuous support to the pregnant women. With this, there is a need to develop capacity building and professional training for emotional intelligence in dealing with pregnant clients.

It is best to recommend to establish core groups for mothers or other reproductive centers that would not be needing additional personnel but mothers or other volunteer health workers that could conduct mother classes. Since maternal and prenatal care is only available once a week. It is more adaptive if barangay health workers are also capacitated in facilitating mother's classes. Core group can also be created in other to have a conduit for sharing experiences with other pregnant women since they shared similar situations.

Furthermore, the findings of this study demonstrated that prenatal consultation the spouse or partner accompanied the pregnant woman, there was a greater maternal-fetal attachment supported the need for interventions to promote the involvement of men during pregnancy to facilitate and support improved self-care of the woman, improved home care practices for the woman, and improved use of skilled care during pregnancy. It could be possible to establish maternal classes involving the partner of the pregnant women. The recommendation assumes that they will be implemented in a way that respects, promotes, and facilitates women's choices and their autonomy in decision-making and supports women in taking care of themselves with the help of the health professionals and their partner or husband.

The study also suggests providing information on maternal fetal attachment and positive pregnancy experience through different infographics, infomercials, and other information resources in the barangay health stations. In this way, the mother can access information while waiting for their turn during prenatal consultations.

The study measured only support as companion during prenatal visit or consultation. Further studies should be done for a more in-depth analysis of partner support by means of expanding the choice of instruments for measuring this variable as well as to include investigation of social support effectiveness and to apply more specific instruments for measuring received support in intimate relationships. This study also recommends the need for further study the type of support which the primigravida mothers received from their husband or partners and other source of social and peer support.

REFERENCES

- Aashiem V., Waldenström, U., Rasmussen, S., Espehaug, B., & Schytt, E. (2014). Satisfaction with life during pregnancy and early motherhood in first-time mothers of advanced age: a population-based longitudinal study. *BMC Pregnancy and Childbirth* 14:86.
- Abalos, E., Chamillard, M., Diaz, V., Tuncalp, Ö., & Gulmezoglu, A.M. (2016). Antenatal care for healthy pregnant women: a mapping of interventions from existing guidelines to inform the development of new WHO guidance on antenatal care. *BJOG*;123:519–28.
- Akkaya, H. & Büke, B. (2018). A frequently asked question: Is it normal not to feel my baby's movements yet? *Journal of the Chinese Medical Association*; 81(8): 742-746. <https://doi.org/10.1016/j.jcma.2017.07.014>
- Albert, J. R. G., Santos, A. G. F., & Vizmanos, J. F. V. (2018). Profile and determinants of the middle-income class in the Philippines (No. DP 2018-20). Makati City: Philippine Institute for Development Studies.
- American College of Obstetricians and Gynecologists. (2016). Optimizing support for breastfeeding as part of obstetric practice. Committee Opinion No. 658. *Obstet Gynecol*, 127(2), e86-e92.
- Andreks, A., Kekecs, Z., Hadhazi, E., Boukydis, Z., & Varga, K. (2016). Re-Evaluation of the Psychometric Properties of the Maternal–Fetal Attachment Scale in a Hungarian Sample. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, 45(5), e15-e25. <https://doi.org/10.1016/j.jogn.2016.05.005>
- Astaraki, L., Jamshidimanesh, M., Moghadam, B. Z., & Haghani, H. (2014). Relationship between maternal fetal attachment and perceived social support. *International Journal of Reproductive BioMedicine*, 12(6), 123.
- Bayrampour, H., Hapsari, A. P., & Pavlovic, J. (2018). Barriers to addressing perinatal mental health issues in midwifery settings. *Midwifery*, 59, 47-58. <https://doi.org/10.1016/j.midw.2017.12.020>
- Bharj, K. K. & Daniels, L., 2017. Confirming Pregnancy and Care of the Pregnant Woman. In: C.Henderson, S.Mcdonald, eds. *Mayes' Midwifery. A textbook for Midwives*. Edinburgh: Bailliere Tindall, pp 503-536.

- Boerleider, A. W., Wiegers, T. A., Manniën, J., Francke, A. L., & Devillé, W. L. (2013). Factors affecting the use of prenatal care by non-western women in industrialized western countries: a systematic review. *BMC pregnancy and childbirth*, 13(1), 81.
- Brandon, A. R., Pitts, S., Denton, W. H., Stringer, C. A., & Evans, H. M. (2009). A history of the theory of prenatal attachment. *Journal of Prenatal & Perinatal Psychology & Health: APPPAH*, 23(4), 201–222.
- Busonera, A., Cataudella, S., Lampis, J., Tommasi, M., Zavattini, G.C. (2016). Psychometric properties of a 20-item version of the Maternal-Fetal Attachment Scale in a sample of Italian expectant women. *Midwifery*. Elsevier. 34 79–87.
- Cabral, E. I. (2016). The Philippine health agenda for 2016 to 2022. *Phil J Int Med*, 54(2), 1-11.
- Cheng, E. R., Rifas-Shiman, S. L., Perkins, M. E., Rich-Edwards, J. W., Gillman, M. W., Wright, R., & Taveras, E. M. (2016). The Influence of Antenatal Partner Support on Pregnancy Outcomes. *Journal of women's health* (2002), 25(7), 672–679. <https://doi.org/10.1089/jwh.2015.5462>
- Coley, S. L., Zapata, J. Y., Schwei, R. J., Mihalovic, G. E., Matabele, M. N., Jacobs, E. A., & Anderson, C. K. (2018). More Than a "Number": Perspectives of Prenatal Care Quality from Mothers of Color and Providers. *Women's health issues : official publication of the Jacobs Institute of Women's Health*, 28(2), 158–164. <https://doi.org/10.1016/j.whi.2017.10.014>
- Cranley, M.S., (1981). Development of a tool for the measurement of maternal attachment during pregnancy. *Nurs. Res.* 30, 281–284.
- Das, A., & Sarkar, M. (2014). Pregnancy-related health information-seeking behaviors among rural pregnant women in India: validating the Wilson model in the Indian context. *The Yale journal of biology and medicine*, 87(3), 251–262.
- Delavari, M., Mohammad-Alizadeh-Charandabi, S., & Mirghafurvand M. (2018). The relationship between maternal–fetal attachment and maternal self- efficacy in Iranian women: a prospective study, *Journal of Reproductive and Infant Psychology*, DOI: 10.1080/02646838.2018.1436753
- Department of Health (2011). MNCHN manual of operations 2011. National Center for Disease Prevention and Control. Manila, Philippines.
- Diener, E., Emmons, R.A., Larsen, R.J., Griffin, S. (1985) The satisfaction with life scale. *J Pers Assess*, 49 (1): 71-75. 10.1207/s15327752jpa4901_13.

- Downe, S., Finlayson, K., Tunçalp, Ö., & Gülmezoglu, A.M.(2016). What matters to women: a scoping review to identify the processes and outcomes of antenatal care provision that are important to healthy pregnant women. *BJOG*;123(4):529–39. doi:10.1111/1471- 0528.13819.
- Downe, S., Finlayson, K., Tuncalp, Ö., & Metin Gülmezoglu, A. (2016). What matters to women: a systematic scoping review to identify the processes and outcomes of antenatal care provision that are important to healthy pregnant women. *BJOG: An International Journal of Obstetrics & Gynaecology*, 123(4), 529-539.
- Dyrdal, G., Røysamb, E., Nes, R., Vittersø, J. (2011). Can a happy relationship predict a happy life? A population-based study of maternal well-being during the life transition of pregnancy, infancy, and toddlerhood. *J Happiness Stud.*, 12 (6): 947-962. 10.1007/s10902-010-9238-2.
- Fitriani, R., Yetti, K., & Kuntarti, K. (2019). Analysis of workload and occupational commitment: Their relationship to the caring behaviors of nurses in a hospital. *Enfermeria clinica*, 29, 634-639
- Galle, A., Van Parys, A.S., Roelens, K., & Keygnaert, I. (2015). Expectations and satisfaction with antenatal care among pregnant women with a focus on vulnerable groups: a descriptive study in Ghent. *BMC Women's Health*, 15, 112. <http://doi.org/10.1186/s12905-015-0266-2>.
- Gaucher, N., & Payot, A. (2011). From powerlessness to empowerment: Mothers expect more than information from the prenatal consultation for preterm labour. *Paediatrics & child health*, 16(10), 638–642. <https://doi.org/10.1093/pch/16.10.638>
- Ghodrati, F., Akbarzadeh, M. (2018). A Review of the importance of maternal-fetal attachment according to the Islamic recommendations. *Journal of Midwifery and Reproductive Health*, 6(1), 1193-1200. doi: 10.22038/jmrh.2017.9616
- Grant, M., Wilford, A., Haskins, L., Phakathi, S., Mntambo, N., & Horwood, C. M. (2017). Trust of community health workers influences the acceptance of community-based maternal and child health services. *African journal of primary health care & family medicine*, 9(1), 1-8. <http://dx.doi.org/10.4102/phcfm.v9i1.1281>.
- Gregory, P. A., Heaman, M. I., Mignone, J., & Moffatt, M. E. (2020). Predictors of Women's Satisfaction with Prenatal Care in a Canadian Setting. *Maternal and child health journal*, 24(2), 186-195.

- Hall-Lipsy, E., Anderson, E. J., Taylor, A. M., Warholak, T., Axon, D. R., Faqeer, Z., & Jastrzab, R. (2020). Community health worker perspectives of an academic community medication therapy management collaboration. *Journal of the American Pharmacists Association*, 60(3), 475-480.
<https://doi.org/10.1016/j.japh.2019.11.018>
- Heaman, M. I., Sword, W., Elliott, L., Moffatt, M., Helewa, M. E., Morris, H., ... & Cook, C. (2015). Barriers and facilitators related to use of prenatal care by inner-city women: perceptions of health care providers. *BMC pregnancy and childbirth*, 15(1), 1-13. <https://doi.org/10.1186/s12884-015-0431-5>
- Heaman, M., Sword, W., Akhtar-Danesh, N., Bradford, A. Tough, S., Janssen, P., Young, D. (2014). Quality of prenatal care questionnaire: instrument development and testing. *BMC Pregnancy and Childbirth* 14:188.
- Heberlein, E. C., Picklesimer, A. H., Billings, D. L., Covington-Kolb, S., Farber, N., & Frongillo, E. A. (2016). The comparative effects of group prenatal care on psychosocial outcomes. *Archives of women's mental health*, 19(2), 259-269.
<https://doi.org/10.1007/s00737-015-0564-6>
- Hernandez, D., & Rossel, C. (2015). Inequality and access to social services in Latin America: space–time constraints of child health checkups and prenatal care in Montevideo. *Journal of Transport Geography*, 44, 24-32.
<https://doi.org/10.1016/j.jtrangeo.2015.02.007>
- Homer, C. S., Lopes, S. C., Nove, A., Michel-Schuldt, M., McConville, F., Moyo, N. T., ... & ten Hoope-Bender, P. (2018). Barriers to and strategies for addressing the availability, accessibility, acceptability and quality of the sexual, reproductive, maternal, newborn and adolescent health workforce: addressing the post-2015 agenda. *BMC pregnancy and childbirth*, 18(1), 1-11.
<https://doi.org/10.1186/s12884-018-1686-4>
- Hopkins, J., Miller, J. L., Butler, K., Gibson, L., Hedrick, L., & Boyle, D. A. (2018). The relation between social support, anxiety and distress symptoms and maternal fetal attachment. *Journal of reproductive and infant psychology*, 36(4), 381–392.
<https://doi.org/10.1080/02646838.2018.1466385>
- Horiguchi, H. & Nakazawa, M. (2018). The factors associated with the delayed first antenatal care in the Philippines.
- Howland, M., & Glynn, L. (2019). Gestational hormone exposures predict maternal-fetal attachment. *Psychoneuroendocrinology*, 100, S17.
<https://doi.org/10.1016/j.psyneuen.2018.12.070>
- Quality of Prenatal Care and Maternal Fetal Attachment

- Iravani, M., Zarean, E., Janghorbani, M., & Bahrami, M. (2015). Women's needs and expectations during normal labor and delivery. *Journal of education and health promotion*, 4, 6. <https://doi.org/10.4103/2277-9531.151885>
- Izadirad, H., Niknami, S., Zareban, I., & Hidarnia, A. (2017). Effects of Social Support and Self-Efficacy on Maternal Prenatal Cares Among the First-Time Pregnant Women, Iranshahr, Iran. *Journal of family & reproductive health*, 11(2), 67–73.
- Javanmardi, M., Noroozi, M., Mostafavi, F., & Ashrafi-Rizi, H. (2019). Challenges to access health information during pregnancy in Iran: a qualitative study from the perspective of pregnant women, midwives and obstetricians. *Reproductive health*, 16(1), 128. <https://doi.org/10.1186/s12978-019-0789-3>
- Kassaw, A., Debie, A., & Geberu, D. M. (2020). Quality of Prenatal Care and Associated Factors among Pregnant Women at Public Health Facilities of Wogera District, Northwest Ethiopia. *Journal of Pregnancy*, 2020.
- Kenny, L. C., Lavender, T., McNamee, R., O'Neill, S. M., Mills, T., & Khashan, A. S. (2013). Advanced maternal age and adverse pregnancy outcome: evidence from a large contemporary cohort. *PloS one*, 8(2), e56583. <https://doi.org/10.1371/journal.pone.0056583>
- Kok, M. C., Broerse, J. E., Theobald, S., Ormel, H., Dieleman, M., & Taegtmeyer, M. (2017). Performance of community health workers: situating their intermediary position within complex adaptive health systems. *Human resources for health*, 15(1), 1-7. <https://doi.org/10.1186/s12960-017-0234-z>
- Kucharska, M. (2020). Selected predictors of maternal-fetal attachment in pregnancies with congenital disorders, other complications, and in healthy pregnancies. *Health Psychology Report*. <https://doi.org/10.5114/hpr.2020.97295>
- Lavado, R.F., Lagrada, L.P., Ulep, V.G.T., & Tan, L.M. (2010). Who provides good quality prenatal care in the Philippines? (Discussion Paper Series No. 2010-18). Makati City: Philippine Institute for Development Studies.
- Lazarus, K. & Rossouw, P. J. (2015). Mother's expectations of parenthood: The impact of prenatal expectations on self-esteem, depression, anxiety, and stress post birth. *International Journal of Neuropsychotherapy*, 3(2), 102–123. doi: 10.12744/ijnpt.2015.0102-0123
- Lee, J. H., Choi, Y. J., Lee, S. H., Sung, N. J., Kim, S. Y., & Hong, J. Y. (2013). Association of the length of doctor-patient relationship with primary care quality in

- seven family practices in Korea. *Journal of Korean medical science*, 28(4), 508-515.
- Leslie, H.H., Sun, Z., & Kruk, M.E., (2017). Association between infrastructure and observed quality of care in 4 healthcare services: A cross-sectional study of 4,300 facilities in 8 countries. *PLOS Medicine* 14(12): e1002464.
<https://doi.org/10.1371/journal.pmed.1002464>
- Li, Y. T. & Wang, P. H. (2018). Perception of fetal movement in the pregnant women. *Journal of the Chinese Medical Association*; 81(10): 930-931.
<https://doi.org/10.1016/j.jcma.2018.06.004>
- Livramento, D. D. V. P. D., Backes, M. T. S., Damiani, P. D. R., Castillo, L. D. R., Backes, D. S., & Simão, A. M. S. (2019). Perceptions of pregnant women about prenatal care in primary health care. *Revista gaucha de enfermagem*, 40.
<http://dx.doi.org/10.1590/1983-1447.2019.20180211>
- Lothian, J. A. (2013). Being safe: making the decision to have a planned home birth in the United States. *The Journal of clinical ethics*, 24(3), 266-275.
- Maas, A.J.B.M., Vreeswijk, C.M.J.M., Braeken, J., Vingerhoets, A.J.J.M., & van Bakel, H.J.A. (2014). Determinants of maternal fetal attachment in women from a community-based sample. *Journal of Reproductive and Infant Psychology*, 32(1), 5-24. <https://doi.org/10.1080/02646838.2013.853170>
- Malm, M-C., Hildingsson, I., Rubertsson, C., Rådestad, C. & Lindgren, H. (2016). Prenatal attachment and its association with foetal movement during pregnancy – A population based survey. *Women and Birth* 29 (2016) 482–486. Elsevier.
<https://doi.org/10.1016/j.wombi.2016.04.005>
- Marriner-Tomey, A., & Alligood, M. R. (2006). *Nursing theorists and their work*. St. Louis, Mo: Mosby/Elsevier.
- Martin, C. R. (2012). *Perinatal mental health: a clinical guide*. M&K Update Ltd. Keswick, United Kingdom. ISBN13 9781905539499.
- Martinez, A. B., Lau, J., & Brown, J. S. (2020). Filipino help-seeking for mental health problems and associated barriers and facilitators: a systematic review. *Social Psychiatry and Psychiatric Epidemiology*, 1-17.
- Mazul, M. C., Salm Ward, T. C., & Ngui, E. M. (2017). *Anatomy of Good Prenatal Care: Perspectives of Low Income African-American Women on Barriers and*

- Facilitators to Prenatal Care. *Journal of racial and ethnic health disparities*, 4(1), 79–86. <https://doi.org/10.1007/s40615-015-0204-x>
- Mazzeschi C., Pazzagli C., Radi G., Raspa V. and Buratta L. (2015). Antecedents of maternal parenting stress: the role of attachment style, prenatal attachment, and dyadic adjustment in first-time mothers. *Front. Psychol.* 6:1443. doi: 10.3389/fpsyg.2015.01443.
- Mercer, R. & Ferketich, S. (1995). Experienced and inexperienced mothers' maternal competence during infancy. *Research in Nursing & Health*, 18, 333-343.
- Mercer, R. T. (1981). A theoretical framework for studying factors that impact on the maternal role. *Nursing Research*, 30(2), 73-77.
- Mercer, R. T. (1986). Predictors of maternal role attainment at one year postbirth. *Western Journal of Nursing Research*, 8(1), 3-32.
- Mercer, R. T. (2004). Becoming a mother versus maternal role attainment. *Journal of Nursing Scholarship*, 36(3), 226-232.
- Miller, S., & Lalonde, A. (2015). The global epidemic of abuse and disrespect during childbirth: History, evidence, interventions, and FIGO's mother– baby friendly birthing facilities initiative. *International Journal of Gynecology & Obstetrics*, 131, S49-S52. <https://doi.org/10.1016/j.ijgo.2015.02.005>
- Mohamadirizi S, Kordi M. The relationship between multi-dimensional self-compassion and fetal-maternal attachment in prenatal period in referred women to Mashhad Health Center. *J Edu Health Promot* 2016;5:21.
- Mortazavi, F., Delara, M., & Akaberi, A. (2014). Male involvement in prenatal care: Impacts on pregnancy and birth outcomes. *Nursing And Midwifery Journal*, 12(1), 63-71.
- Muraca, G. M., & Joseph, K. S. (2014). The association between maternal age and depression. *Journal of Obstetrics and Gynaecology Canada*, 36(9), 803-810. [https://doi.org/10.1016/S1701-2163\(15\)30482-5](https://doi.org/10.1016/S1701-2163(15)30482-5)
- Nagai, M., Bellizzi, S., Murray, J., Kitong, J., Cabral, E. I., & Sobel, H. L. (2019). Opportunities lost: Barriers to increasing the use of effective contraception in the Philippines. *PloS one*, 14(7), <https://doi.org/10.1371/journal.pone.0218187>
- Nishikawa, M., & Sakakibara, H. (2013). Effect of nursing intervention program using abdominal palpation of Leopold's maneuvers on maternal-fetal attachment. *Reproductive health*, 10(1), 12. <https://doi.org/10.1186/1742-4755-10-12>
- Quality of Prenatal Care and Maternal Fetal Attachment

- Omidvar, S., Faramarzi, M., Hajian-Tilak, K., & Nasiri Amiri, F. (2018). Associations of psychosocial factors with pregnancy healthy life styles. *PloS one*, 13(1), e0191723. <https://doi.org/10.1371/journal.pone.0191723>
- Ossa, X., Bustos, L., & Fernandez, L. (2012). Prenatal attachment and associated factors during the third trimester of pregnancy in Temuco, Chile. *Midwifery*, 28(5), e689-e696. <https://doi.org/10.1016/j.midw.2011.08.015>
- Pambid, R. (2015). Factors influencing mothers' utilization of maternal and child care (MMC) services. *Asia Pacific Journal of Multidisciplinary Research*, 3(5), 16-28.
- Pisoni, C., Garofoli, F., Tzialla, C., Orcesi, S., Spinillo, A., Politi, P., ... & Stronati, M. (2014). Risk and protective factors in maternal–fetal attachment development. *Early human development*, 90, S45-S46. [https://doi.org/10.1016/S0378-3782\(14\)50012-6](https://doi.org/10.1016/S0378-3782(14)50012-6)
- Pun, J. K., Matthiessen, C. M., Murray, K. A., & Slade, D. (2015). Factors affecting communication in emergency departments: doctors and nurses' perceptions of communication in a trilingual ED in Hong Kong. *International journal of emergency medicine*, 8(1), 48. <https://doi.org/10.1186/s12245-015-0095-y>
- Risa, C. F., Friberg, F., & Lidén, E. (2013). Being in an oasis: a restorative and reassuring place-women's experiences of a valuable antenatal diabetes midwifery consultation. *Nursing Reports*, 3(1), 4-11. <https://doi.org/10.4081/nursrep.2013.e2>
- Ross, E. (2012). Maternal—fetal attachment and engagement with antenatal advice. *British Journal of Midwifery*, 20(8), 566-575. <https://doi.org/10.12968/bjom.2012.20.8.566>
- Rossman, B., Greene, M. M., & Meier, P. P. (2015). The role of peer support in the development of maternal identity for “NICU moms”. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, 44(1), 3-16. <https://doi.org/10.1111/1552-6909.12527>
- Salehi, K., & Kohan, S. (2017). Maternal-fetal attachment: what we know and what we need to know. *Int J Pregn & Chi Birth*; 2(5):146–148. DOI: 10.15406/ipcb.2017.02.00038
- Segal, I., & Shahar, Y. (2009). A distributed system for support and explanation of shared decision-making in the prenatal testing domain. *Journal of biomedical informatics*, 42(2), 272–286. <https://doi.org/10.1016/j.jbi.2008.09.004>

- Shanthini, R. P., Garla, B. K., Karuppaiah, R. M., & Taranath, M. (2017). Effectiveness of anticipatory guidance on the knowledge and attitude of pregnant women attending government hospital, Thirumangalam, Madurai. *Journal of advanced oral research*, 8(1-2), 8-13.
- Silverman, D. (2013). *Doing qualitative research: A practical handbook*. SAGE publications limited.
- Smith, M., Mitchell, A. S., Townsend, M. L., & Herbert, J. S. (2020). The relationship between digital media use during pregnancy, maternal psychological wellbeing, and maternal-fetal attachment. *PloS one*, 15(12), e0243898. <https://doi.org/10.1371/journal.pone.0243898>
- Sousa, V. D., Driessnack, M., & Mendes, I. A. (2017). An overview of research designs relevant to nursing: Part 1: Quantitative research designs. *Revista Latino-Americana de Enfermagem*, 15 (3), 502-507.
- Stapleton, L. R. T., Schetter, C. D., Westling, E., Rini, C., Glynn, L. M., Hobel, C. J., & Sandman, C. A. (2012). Perceived partner support in pregnancy predicts lower maternal and infant distress. *Journal of Family Psychology*, 26(3), 453–463. <https://doi.org/10.1037/a0028332>
- Taffazoli, M., Montakhab asadi, M., Aminyazdi, S., Shakeri, M. (2015). The relationship between maternal-fetal attachment and mother-infant attachment behaviors in primiparous women referring to Mashhad health care centers. *Journal of Midwifery and Reproductive Health*, 3(2), 318-327. doi: 10.22038/jmrh.2015.3949.
- Tang, L. (2011). The influences of patient's trust in medical service and attitude towards health policy on patient's overall satisfaction with medical service and sub satisfaction in China. *BMC Public Health*, 11(1), 1-8. <https://doi.org/10.1186/1471-2458-11-472>
- Teixeira, M. I. F., Raimundo, F. M. M., & Antunes, M. C. Q. (2016). Relation between Maternal-Fetal Attachment and Gestational Age and Parental Memories/Relação da Vinculação Materno-Fetal com a Idade Gestacional e as Memórias Parentais/Relación de la Vinculación Materno-Fetal con la Edad Gestacional y los Recuerdos Parentales. *Revista De Enfermagem Referencia*, 4(8), 85. <http://dx.doi.org/10.12707/RIV15025>
- Tomasi, E., Fernandes, P. A., Fischer, T., Siqueira, F. C., Silveira, D. D., Thumé, E., ... & Facchini, L. A. (2017). Quality of prenatal services in primary healthcare in

- Brazil: indicators and social inequalities. *Cadernos de saude publica*, 33(3), e00195815-e00195815.
- Torshizi, M., & Sharifzadeh, G. (2013). Maternal-fetal attachment and associated factors in pregnant women referred to Birjand health centers (2012). *Journal of Birjand University of Medical Sciences*, 20(03). <http://journal.bums.ac.ir/article-1-1200-en.html>
- Tully, K. P., Stuebe, A. M., & Verbiest, S. B. (2017). The fourth trimester: a critical transition period with unmet maternal health needs. *American journal of obstetrics and gynecology*, 217(1), 37–41. <https://doi.org/10.1016/j.ajog.2017.03.032>
- Tunçalp, Ö., Pena-Rosas, J.P., Lawrie, T., Bucagu, M., Oladapo, O.T., Portela, A., & Metin Gülmezoglu, A. (2017). WHO recommendations on antenatal care for a positive pregnancy experience—going beyond survival. *BJOG* 2017;124:860–862.
- UN General Assembly, Transforming our world : the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1, available at: <https://www.refworld.org/docid/57b6e3e44.html> [accessed 6 June 2019]
- Vedam, S., Stoll, K., McRae, D. N., Korchinski, M., Velasquez, R., Wang, J., ... & CCinBC Steering Committee. (2019). Patient-led decision making: Measuring autonomy and respect in Canadian maternity care. *Patient education and counseling*, 102(3), 586-594. <https://doi.org/10.1016/j.pec.2018.10.023>
- Walsh, J., Hepper, E. G., & Marshall, B. J. (2014). Investigating attachment, caregiving, and mental health: a model of maternal-fetal relationships. *BMC pregnancy and childbirth*, 14, 383. <https://doi.org/10.1186/s12884-014-0383-1>
- Weber-Gasparoni, K. (2019). Examination, diagnosis, and treatment planning of the infant and toddler. In *Pediatric dentistry* (pp. 200-215). <https://doi.org/10.1016/B978-0-323-60826-8.00014-6>
- World Health Organization. (2016). Standards for improving quality of maternal and newborn care in health facilities. Retrieved at https://www.who.int/maternal_child_adolescent/documents/improving-maternal-newborn-care-quality/en/
- World Health Organization. (2016). WHO recommendations on antenatal care for a positive pregnancy experience. Geneva: World Health Organization; 2016. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK409108/>

- Yikar, S. K., & Nazik, E. (2019). Effects of prenatal education on complaints during pregnancy and on quality of life. *Patient Education and Counseling*, 102(1), 119-125. <https://doi.org/10.1016/j.pec.2018.08.023>
- Yu, M., & Kim, M. (2014). The Contribution of Maternal-Fetal Attachment: Taegyo, Maternal Fatigue and Social Support during Pregnancy. *Child Health Nursing Research*, 20(4), 247-254. <https://doi.org/10.4094/chnr.2014.20.4.247>

Appendix A
DEMOGRAPHIC QUESTIONNAIRE

ENGLISH

Your Age (Please specify): _____

Highest Level of Education completed (Circle one)

- | | |
|--------------------------|--------------------------------------|
| 1 – Never been to school | 4 – High school |
| 2 – Elementary | 5 – Graduated high school and higher |
| 3 – Graduated elementary | |

Civil Status

- | | |
|--------------|------------|
| 1- Unmarried | 2- Married |
|--------------|------------|

Average monthly income (Please specify): _____

How many people live in your household? (Please specify): _____

Who is your companion during your prenatal visits?

- 1 – partner/father of the baby
- 2 – mother
- 3 – woman from the family/social network
- 4 – others (father or friend)

TAGALOG

Unang Bahagi: Personal na detalye

Edad _____

Natapos sa Pag-aaral (Circle one)

- | | |
|------------------------------|--------------------------|
| 1 – hindi nakapag-aral | 4 – Hayskul |
| 2 – Elementarya | 5 – Nakatapos ng hayskul |
| 3 – Nakatapos ng elementarya | 6 – Iba pa: _____ |

Katayuang sibil:

- 1- Di kasal
- 2- Kasal

Karaniwang buwanang kita: _____

Gaano karaming mga tao ang nakatira sa iyong bahay? _____

Sino ang iyong kasama sa iyong pagbisita sa prenatal?

1 – partner/ama ng baby

2 – iyong ina

3 – babae sa iyong pamilya/ kaibigan

4 – iba pa: _____

Appendix B

QUALITY OF PRENATAL CARE QUESTIONNAIRE

This questionnaire asks about the prenatal care you received from a physician, midwife, or other health care providers during your pregnancy. You might have seen more than one health care provider for your care but please think of the prenatal care you received overall when completing this questionnaire. Please read each statement carefully and indicate how much you agree or disagree with it by circling the appropriate number.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Information Sharing					
I was given adequate information about prenatal tests and procedures	5	4	3	2	1
I was always given honest answers to my questions	5	4	3	2	1
Everyone involved in my prenatal care received the important information about me	5	4	3	2	1
I was screened adequately for potential problems with my pregnancy	5	4	3	2	1
The results of tests were explained to me in a way I could understand	5	4	3	2	1
My prenatal care provider(s) gave straightforward answers to my questions	5	4	3	2	1
My prenatal care provider(s) gave me enough information to make decisions for myself	5	4	3	2	1
My prenatal care provider(s) kept my information confidential	5	4	3	2	1
I fully understood the reasons for blood work and other tests my prenatal care provider(s) ordered for me	5	4	3	2	1
Anticipatory Guidance					

My prenatal care provider(s) gave me options for my birth experience	5	4	3	2	1
I was given enough information to meet my needs about breast-feeding	5	4	3	2	1
My prenatal care provider(s) prepared me for my birth experience	5	4	3	2	1
My prenatal care provider(s) spent time talking with me about my expectations for labor and delivery	5	4	3	2	1
I was given enough information about the safety of moderate exercise during pregnancy	5	4	3	2	1
I received adequate information about my diet during pregnancy	5	4	3	2	1
My prenatal care provider(s) was interested in how my pregnancy was affecting my life	5	4	3	2	1
I was linked to programs in the community that were helpful to me	5	4	3	2	1
I received adequate information about alcohol use during pregnancy	5	4	3	2	1
I was given adequate information about depression in pregnancy	5	4	3	2	1
My prenatal care provider(s) took time to ask about things that were important to me	5	4	3	2	1
Sufficient Time					
I had as much time with my prenatal care provider(s) as I needed	5	4	3	2	1
My prenatal care provider(s) was rushed	5	4	3	2	1
My prenatal care provider(s) always had time to answer my questions	5	4	3	2	1
My prenatal care provider(s) made time for me to talk	5	4	3	2	1

My prenatal care provider(s) took time to listen	5	4	3	2	1
Approachability					
My prenatal care provider(s) was abrupt with me	5	4	3	2	1
I was rushed during my prenatal care visits	5	4	3	2	1
My prenatal care provider(s) made me feel like I was wasting their time	5	4	3	2	1
I was afraid to ask my prenatal care provider(s) questions	5	4	3	2	1
Availability					
I knew how to get in touch with my prenatal care provider(s)	5	4	3	2	1
Someone in my prenatal care provider(s)'s office always returned my calls	5	4	3	2	1
My prenatal care provider(s) was available when I had questions or concerns	5	4	3	2	1
I could always reach someone in the office/clinic if I needed something	5	4	3	2	1
I could reach my prenatal care provider(s) by phone when necessary	5	4	3	2	1
Support and Respect					
My prenatal care provider(s) respected me	5	4	3	2	1
My prenatal care provider(s) respected my knowledge and experience	5	4	3	2	1
My decisions were respected by my prenatal care provider(s)	5	4	3	2	1
My prenatal care provider(s) was patient	5	4	3	2	1
I was supported by my prenatal care provider(s) in doing what I felt was right for me	5	4	3	2	1
My prenatal care provider(s) supported me	5	4	3	2	1

My prenatal care provider(s) paid close attention when I was speaking ^[1-5] _{SEP}	5	4	3	2	1
My concerns were taken seriously	5	4	3	2	1
I was in control of the decisions being made about my prenatal care	5	4	3	2	1
My prenatal care provider(s) supported my decisions	5	4	3	2	1
I was at ease with my prenatal care provider(s)	5	4	3	2	1
My values and beliefs were respected by my prenatal care provider(s)	5	4	3	2	1

Ang Kalidad ng Pangangalaga Bago Manganak

Ang talatanungan na ito ay tungkol sa pangangalaga bago manganak na iyong tinanggap mula sa doktor, hilot, o sinumang tagapangalaga ng kalusugan. Maaaring ikaw ay kumunsulta sa mahigit isang tagapangalaga subalit isipin mo ang kabuuan ng pangangalaga na iyong tinanggap sa buong panahon ng iyong pagbubuntis. Basahin nang mabuti ang mga sumusunod na pahayag at ilagay kung ikaw ba ay sumasang-ayon o hindi. Bilugan ang numero na naaangkop sa iyong kasagutan.

	Matinding hindi pagsang-ayon	Hindi sang-ayon	Hindi sang-ayon o sand-ayon	Sang-ayon	Matindi and pagsang-ayon
1. Ako ay nabigyan ng sapat na oras ng aking (mga) tagapangalaga sa panahon ng aking pagbubuntis	1	2	3	4	5
2. Ako ay nabigyan ng mga pagpipilian ukol sa aking panganganak	1	2	3	4	5
3. Ako ay nabigyan ng sapat na impormasyon ukol sa mga pagsusuri na may kinalaman sa aking pagbubuntis	1	2	3	4	5
4. Ako ay nabigyan ng sapat na impormasyon ukol sa aking mga pangangailangan na may kinalaman sa pagpapasuso	1	2	3	4	5
5. Ako ay nabigyan ng kaukulang respeto ng aking (mga) tagapangalaga sa pagbubuntis	1	2	3	4	5
6. Ako ay nabigyan ng tapat na kasagutan sa aking mga katanungan sa lahat ng oras	1	2	3	4	5
7. Ang aking mga kaalaman at karanasan ay ginalang ng aking (mga) tagapangalaga sa pagbubuntis	1	2	3	4	5
8. Ang aking (mga) tagapangalaga sa pagbubuntis ay lagging nagmamadali	1	2	3	4	5

9. Alam ko kung paanong makipag-ugnayan sa aking (mga) tapangalaga sa pagbubuntis	1	2	3	4	5
10. Nabigyan ako ng kahandaan sa panganganak ng aking (mga) tagapangalaga sa pagbubuntis	1	2	3	4	5
11. Ang lahat ng may kinalaman sa pangangalaga ng aking pagbubuntis ay nabigyan ng mahahalagang impormasyon	1	2	3	4	5
12. Laging mayroong sumasagot sa aking mga tawag sa klinika o opisina ng aking (mga) tagapangalaga sa pagbubuntis	1	2	3	4	5
13. Ang aking (mga) tagapangalaga sa pagbubuntis ay ginugol ang oras sa pakikipagusap sa akin tungkol sa aking mga inaasahan tungkol sa panganganak	1	2	3	4	5
14. Ang aking mga desisyon ay ginalang ng aking (mga) tagapangalaga sa pagbubuntis	1	2	3	4	5
15. Ang aking (mga) tagapangalaga sa pagbubuntis ay padalos-dalos sa pag-asikaso sa akin	1	2	3	4	5
16. Ako ay nabigyan ng sapat na impormasyon ukol sa ligtas at tamang ehersisyo habang buntis	1	2	3	4	5
17. Ako ay nasuring mabuti para sa mga posibleng problema na may kinalaman sa aking pagbubuntis	1	2	3	4	5
18. Ang aking (mga) tagapangalaga sa pagbubuntis ay lagging naglalaan ng oras upang sagutin ang aking mga katanungan	1	2	3	4	5
19. Ang aking (mga) tagapangalaga sa pagbubuntis ay may mahabang pasensya	1	2	3	4	5
20. Ako ay nabigyan ng sapat na impormasyon ukol sa tamang pagkain habang nagbubuntis	1	2	3	4	5

21. Ako ay sinuportahan ng aking (mga) tagapangalaga sa pagbubuntis upang gawin ang mga bagay na sa aking pakiramdam ay tama para sa akin	1	2	3	4	5
22. Ang lahat ng resulta ng pagsusuri na ginawa sa akin ay naipaliwanag ng madali sa paraan na madali kong maintindihan	1	2	3	4	5
23. Ako ay laging minamadali kapag oras ng aking pagkonsulta	1	2	3	4	5
24. Ang aking (mga) tagapangalaga sa pagbubuntis ay interesado sa kung paano maapektuhan ng pagbubuntis ang aking buhay	1	2	3	4	5
25. Ang aking (mga) tagapangalaga nagbigay ng sapat na suporta sa aking pagbubuntis	1	2	3	4	5
26. Ang aking (mga) tagapangalaga sa pagbubuntis ay nagbigay ng matinding atensyon kapag ako ay nagsasalita	1	2	3	4	5
27. Ako ay isinali sa mga rograma sa aming komunidad na nakakatulong sa akin	1	2	3	4	5
28. Ang aking (mga) tagapangalaga sa pagbubuntis ay nagparamdam na inaaksaya ko lamang ang ang kanyang oras	1	2	3	4	5
29. Ang aking mga alalahanin ay tinanggap ng mataimtim	1	2	3	4	5
30. Ang aking (mga) tagapangalaga sa pagbubuntis ay naglaan ng sapat na oras upang ako ay makapagsalita	1	2	3	4	5
31. Ako ay nabigyan ng sapat na impormasyon ukol sa epekto ng pag-inom ng alak habang nagbubuntis	1	2	3	4	5
32. Ang aking (mga) tagapangalaga sa pagbubuntis ay laging may oras upang sagutin ang aking mga katanungan o	1	2	3	4	5

alalahanin					
33. Ang aking tagapangalaga ay nagbigay ng diretsong kasagutan sa aking katanungan	1	2	3	4	5
34. Ang aking mga desisyon ukol sa pangangalaga ng aking pagbubuntis ang nasusunod	1	2	3	4	5
35. Laging may tao sa klinika o opisina ng aking (mga) tagapangalaga sa pagbubuntis sa lahat ng oras kapag ako ay may kailangan	1	2	3	4	5
36. Sinuportahan ng aking (mga) tagapangalaga sa pagbubuntis ang aking mga desisyon	1	2	3	4	5
37. Panatag ang aking kalooban sa aking (mga) tagapangalaga sa pagbubuntis	1	2	3	4	5
38. Ang aking (mga) tagapangalaga sa pagbubuntis ay madaling makausap sa telepono sa lahat ng oras na ako ay may kailangan	1	2	3	4	5
39. Ako ay nabigyan ng sapat na impormasyon ng aking (mga) tagapangalaga sa pagbubuntis upang makagawa ng desisyon para sa sarili	1	2	3	4	5
40. Natakot akong magtanong sa aking (mga) tagapangalaga sa pagbubuntis	1	2	3	4	5
41. Ang aking mga pagpapahalaga at paniniwala ay ginalang ng aking (mga) tagapangalaga sa pagbubuntis	1	2	3	4	5
42. Ako ay nabigyan ng sapat na impormasyon ukol sa depresyon sa panahon ng pagbubuntis	1	2	3	4	5
43. Ang aking mga personal na impormasyon ay napanatiling konpidensyal ng aking (mga) tagapangalaga sa pagbubuntis	1	2	3	4	5
44. Ang aking (mga) tagapangalaga sa pagbubuntis ay nagbigay ng panahon upang	1	2	3	4	5

ako ay mapakinggan					
45. Lubos kong naintindihan ang mga dahilan kung bakit kailangan kong magpakuha ng dugo o magpasuri sa laboratoryo ng ayon sa kautusan ng aking (mga) tagapangalaga sa pagbubuntis	1	2	3	4	5
46. Ang aking (mga) tagapangalaga sa pagbubuntis ay nagbigay ng sapat na panahon para tanungin ako sa mga bagay-bagay na mahalaga sa akin	1	2	3	4	5

Appendix C: Maternal-Fetal Attachment Scale

How do you describe your relationship with your unborn child?

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
	Future parental role taking					
MFA4	I picture myself feeding the baby.	5	4	3	2	1
MFA8	I imagine myself taking care of the baby.	5	4	3	2	1
MFA18	I can hardly wait to hold my baby.	5	4	3	2	1
MFA19	I try to picture what the baby will look like.	5	4	3	2	1
	Differentiation of self from fetus					
MFA3	I enjoy watching my tummy jiggle as the baby kicks inside.	5	4	3	2	1
MFA5	I'm really looking forward to seeing what the baby looks like.	5	4	3	2	1
MFA10	I have decided on a name for a baby girl.	5	4	3	2	1
MFA13	I have decided on a name for a baby boy.	5	4	3	2	1
	Interaction with fetus					
MFA1	I talk to my unborn baby.	5	4	3	2	1
MFA7	I refer to my baby by a nickname.	5	4	3	2	1
MFA17	I poke my baby to get him/her to poke back.	5	4	3	2	1
MFA20	I stroke my tummy to quiet the baby when there is too much kicking.					
MFA24	I grasp my baby's foot through my tummy to move it around.	5	4	3	2	1

	Attributing characteristics to the fetus					
MFA6	I wonder if the baby feels cramped in there.	5	4	3	2	1
MFA9	I can almost guess what my baby's personality will be from the way she/he moves around.	5	4	3	2	1
MFA12	I wonder if the baby can hear inside me.	5	4	3	2	1
MFA14	I wonder if the baby thinks and feels "things" inside of me.	5	4	3	2	1
MFA16	It seems my baby kicks and moves to tell me it time to eat.	5	4	3	2	1
MFA21	I can tell when the baby has hiccups.	5	4	3	2	1
	Giving of self					
MFA2	I feel all the trouble of being pregnant is worth it.	5	4	3	2	1
MFA11	I do things to try to stay healthy that I would not do if I were not pregnant.	5	4	3	2	1
MFA15	I eat meat and vegetables to be sure my baby gets a good diet.	5	4	3	2	1
MFA22	I feel my body is ugly.	5	4	3	2	1
MFA23	I give up doing certain things because I want to help my baby.	5	4	3	2	1

UGNAYAN NG INA AT SANGGOL

Paano mo ilalarawan ang kaugnayan mo sa sanggol na nasa iyong sinapupunan? Mangyaring sagutan ang sumusunod na aytem tungkol sa iyo at sa iyong magiging baby. Walang tama o maling sagot. Ang una mong impresyon ang karaniwang pinakamagandang larawan ng iyong mga nararamdaman. Tiyakin na mamamarkahan ang isang sagot lamang sa bawat pangungusap.

INIISIP O GINAGAWA ANG MGA SUMUSUNOD:	Lubos na sumasang-ayon	Sumasang-ayon	Neutral	Di-sumasang-ayon	Lubos na di-sumasang-ayon
1. Kinakausap ko ang baby sa aking sinapupunan.	5	4	3	2	1
2. Pakiramdam ko kasiya-siya ang lahat ng hirap sa pagbubuntis.	5	4	3	2	1
3. Nasisiyahan akong panoorin ang aking tiyan na umalon-alon habang sumisipa ang baby sa loob.	5	4	3	2	1
4. Nakikita ko ang aking sarili na pinapasuso ang baby.	5	4	3	2	1
5. Hindi na talaga ako makapaghintay na makita ang itsura ng baby.	5	4	3	2	1
6. Napapaisip ako kung nasisikipan ba ang baby sa loob.	5	4	3	2	1
7. Tinatawag ko sa palayaw niya ang aking baby.	5	4	3	2	1
8. Naiisip ko ang aking sarili na inaalagaan ang baby.	5	4	3	2	1
9. Halos nahuhulaan ko na kung ano ang magiging personalidad ng aking baby sa kanyang paggalaw-galaw.	5	4	3	2	1

10. Nakapili na ako ng pangalan para sa babaeng baby.	5	4	3	2	1
11. Sinusubukan kong gawin ang mga bagay upang maging malusog ako na hindi ko gagawin kung hindi ako buntis	5	4	3	2	1
12. Napapaisip ako kung naririnig ba ako ng baby sa loob ng aking tiyan.	5	4	3	2	1
13. Nakapili na ako ng pangalan para sa lalaking baby.	5	4	3	2	1
14. Napapaisip ako kung nakakapag-isip at nakakaramdam ba ng mga “bagay” ang baby sa loob ng aking tiyan.	5	4	3	2	1
15. Kumakain ako ng karne at mga gulay upang masigurong nakakakuha ng mabuting diet ang aking baby.	5	4	3	2	1
16. Parang sumisipa at gumagalaw ang aking baby para sabihin na oras na para kumain.	5	4	3	2	1
17. Kinakala-kalabit ko ang aking baby para kalabitin din niya ako.	5	4	3	2	1
18. Halos hindi na ako makapaghintay na mahawakan ang aking baby.	5	4	3	2	1
19. Sinusubukan kong isalarawan kung ano ang magiging hitsura ng baby.	5	4	3	2	1
20. Hinahagod ko ang aking tiyan upang kumalma ang baby kapag madalas itong sumisipa.	5	4	3	2	1
21. Masasabi ko kapag sinisinok ang baby.	5	4	3	2	1
22. Pakiramdam ko pangit ang aking katawan.	5	4	3	2	1
23. Isinuko ko na ang paggawa ng ilang bagay dahil gusto kong tulungan ang aking baby.	5	4	3	2	1
24. Hinahawakan ko ang paa ng aking baby sa aking tiyan upang maigalaw-galaw ito.	5	4	3	2	1

Appendix D: Informed Consent



University of the Philippines Open University

KASULATAN NG MAY KAALAMANG PAHINTULOT

Ikaw ay inaanyayahan na kusang loob na lumahok sa pananaliksik na pinamagatang **Kalidad ng Pangangalaga Bago Manganak at Ugnayan ng Ina at Sanggol na nasa Sinapupunan sa mga Baguhang Nagbubutis na Nanay**, sa pamamahala ni **Artemio M. Gonzales Jr.**

Bago po kayo pumayag na sumali sa pag-aaral na ito, kailangan po ninyong malaman ang mga panganib at benepisyo para kayo ay makagawa ng may isang kaalamang desisyon. Ang prosesong ito ay kilala bilang “may kaalamang pahintulot”.

Ang sasulatan ng pahintulot na ito ay masasabi sa inyo tungkol sa pag-aaral na maaring nais ninyong salihan. Pakibasa pong mabuti ang impormasyon at pag-usapan ninyo ng sinuman na gusto ninyo. Maari pong kabilang dito ang isang kaibigan o isang kamag-anak. Kung mayroon na po kayong mga katanungan mangyaring hingiin sa Pangunahing Imbestigador o tauhan ng pag-aaral na sagutin ang mga ito.

Ang layunin ng pananaliksik na ito ay siyasatin ang kaugnayan ng *kalidad ng pangangalaga bago manganak at ugnayan ng ina at sanggol na nasa sinapupunan sa mga baguhang nagbubutis na nanay*.

Bilang ng kasali sa pag-aaral na ito ay 248 na mga ina na nagdadalang tao sa unang pagkakataon.

Kayo po ay napiling sumali sa pag-aaral na ito dahil kayo ay nagpapakonsulta para sa prenatal, sa unang pagbubuntis, at nasa huling tatlong buwan ng pagbubuntis.

Ang inyong partisipasyon ay tatagal lamang at hindi lalampas sa isang oras.

Sa pag-aaral na ito, kayo po ay inaasahang sumagot ng pawing katotohanan sa bawat katanungang ibibigay sa mga sumusunod na talatanungan: impormasyong demograpiko, paglalarawan sa pangangalaga bago manganak na iyong tinanggap mula sa doktor, hilot, o sinumang tagapangalaga ng kalusugan, at paglalarawan ang kaugnayan mo sa sanggol na nasa iyong sinapupunan.

Maari ninyo pong bawiin ang inyong pahintulot mula sa partisipasyon sa pag-aaral na ito. Mahalaga po na ipaalam ninyo ito sa inyong Pangunahing Imbestigador. Ang Pangunahing Imbestigador ay patuloy na itatago at gagamitin ang anumang mga resulta

Quality of Prenatal Care and Maternal Fetal Attachment

sa pananaliksik na nakolekta na para pagpasiyahan ang pag-aaral. Wala nang karagdagang gawain na may kaugnayan sa pag-aaral ang magaganap. Ang kagustuhang bumitiw mula sa partisipasyon sa pananaliksik ay hindi makaka-apekto sa inyong medikal na pangangalaga.

Walang magiging gastos na pera sa inyo sa pakikilahok sa pag-aaral na ito. Kayo po ay hindi tatanggap ng kompensasyon mula sa pag-aaral na ito.

Ang partisipasyon sa pag-aaral ay maaring magdulot ng panandaliang kaba, pagkabalisa at pag-aalala sa mga kalahok. Sa mga panahong kayo ay nakaramdam ng pagkalumbay at kaba, maaring ipaalam ito sa pangunahing imbestigador.

Ang pag-aaral na ito ay walang direktang pakinabang sa mga lumahok sa pag-aaral na ito. Ngunit, ang resulta ng pag-aaral na ito ay maaring maging basehan at gamitin sa pagpapatupad ng mga polisiya at serbisyo sa pangangalaga ng kalusugan ng mga inang nagbubuntis.

Maliban kung kinakailangan ng batas, ang inyong pangalan ay hindi ibubunyag sa labas ng klinika ng pananaliksik. Ang inyong pangalan ay makukuha lamang ng sumusunod na mga tao o mga ahensya: ng Pangunahing Imbestigador at ng tauhan at awtorisadong mga kinatawan ng Pangunahing Imbestigador; ethics committees o ng mga inspektor ng awtoridad na pangkalusugan, Habang kasali sa pag-aaral na ito, papalitan ng Pangunahing Imbestigador ang inyong pangalan ng isang espesyal na pantukoy na kikilala sa inyo.

May karapatan kayong pagbalik-aralan ang inyong Impormasyon ng Pag-aaral at mga medikal na tala at humiling ng mga pagbabago sa Impormasyon ng Pag-aaral kung ito ay hindi tama. Gayunpaman, pakitandaan na sa panahon ng pag-aaral, ang pagtingin sa Impormasyon ng Pag-aaral ay maaaring limitado kung ito ay nagpapahina sa integridad ng pananaliksik. Maaari ninyong matingnan ang Impormasyon ng Pag-aaral na hawak ng Pangunahing Imbestigador sa katapusan ng pag-aaral.

Maaari kang magtanong ng kahit anong oras hinggil sa pag-aaral na ito. Ang tatawagan at kakausapin ay si (Artemio M. Gonzales Jr, 09060780937, Faculty of Management and Development Studies, University of the Philippines Open University).

Ang pag-aaral na ito ay inaprubahan ng University of the Philippines Open University Ethics Review Committee. Kung mayroon kayong mga katanungan kaugnay sa inyong mga karapatan bilang isang kalahok sa pananaliksik, paki-kontak:

Nabasa ko ang dokumentong ito naipaliwanag sa akin ang mga nilalaman nito. Naiintindihan ko ang layunin nitong pag-aaral at kung ano ang mangyayari sa akin sa pag-aaral na ito. Malaya kong ibinigay ang aking pahintulot na sumali sa pag-aaral na ito, gaya ng inilarawan sa akin sa dokumentong ito. Naiintindihan ko na tatanggap ako ng kopya ng dokumentong ito na pinirmahan sa ibaba.

Sa pag pirma sa kasulatan ng pahintulot na ito, pinahihintulutan ko ang paggamit, pagtingin, at pagbabahagi ng aking personal na medical na impormasyon gaya ng inilarawan sa seksyong “Pagiging Lihim at Pahintulot na makolekta, magamit at maibunyag ang Personal na Impormasyon”. Ang pahintulot na ito ay may bias maliban na lang at hanggang sa bawiin ko ito.

PORMA NG MAYKAALAMANG PAHINTULOT

Nabasa ko at naunawaan ang impormasyon sa itaas at binigyan ng pagkakataon na isaalang-alang at magtanong sa impormasyon tungkol sa aking paglahok sa pag-aaral na ito. Nakipag-usap ako nang direkta sa tagapagtaguyod ng pananaliksik na sumagot sa aking kasiyahan ang lahat ng aking mga tanong. Nakatanggap ako ng kopya ng form na Impormasyon ng Kalahok at Kaalamang may Pahintulot na ito. Kusang-loob kong sumang-ayon na lumahok.

Pangalan ng Nakilahok	Pirma	Petsa
(isatitik ang pangalan)		

Pangalan ng Kinatawang legal	Pirma	Petsa
(legal na awtorisadong gumawa bilang personal na kinatawan sa pag pirma para kay _____)		

Ako, ang nakapirma sa ibaba, ay nagpapatunay na sa abot ng aking kaalaman, ang kalahok na pumirma sa kasulatang may kaalamang pahintulot na ito ay nagbasa sa itaas na impormasyon, na maingat na ipinaliwanag sa kanya, at na malinaw na nauunawaan niya ang kalikasan, mga peligro, at mga benepisyo ng kanyang pakikilahok sa pag-aaral na ito.

Pangalan ng Imbestigador	Pirma	Petsa
(isatitik ang pangalan)		
Pangalan ng nagpahayag	Pirma	Petsa
(nagpahayag/nagpaliwanag ng dokumento)		
(isatitik ang pangalan)		

Research/Project Title: Quality of Prenatal Care and Maternal Fetal Attachment among Primigravida Mothers

Faculty of Studies/Office: Faculty of Management and Development Studies,
University of the Philippines Open University

Researcher/Proponent: Artemio M. Gonzales Jr.

To the participant: Kindly encircle the applicable scale:

1 - Researcher gave information

2 - Researcher did not give information

NA - Not applicable

A. INFORMATION PROVIDED

Purpose and conduct of study:			
1. Why is the study being done?	1	2	NA
2. What has been done previously?	1	2	NA
3. How will the present study be conducted?	1	2	NA
4. What is the nature and extent of involvement of research participants?	1	2	NA
Risks and inconveniences			
1. Will there be discomforts? Are these described clearly?	1	2	NA
2. Will there be risks? Are these explained fully?	1	2	NA
3. Are there other effects the participants need to know in order to make a decision?	1	2	NA
Possible benefits for the participants			
What benefits can the participants expect?	1	2	NA
Compensation			
1. Will there be reimbursement of travel expenses? Compensation for loss of income? Meal expenses?	1	2	NA
2. Will there be compensation for loss of income? Meal expenses?	1	2	NA
3. Will there be compensation for loss of income? Meal expenses?	1	2	NA
4. Are there other financial considerations?	1	2	NA
Provision for injury or related illness			

Will the participant be given free treatment in case of injury or illness incurred as a result of participating in the study?	1	2	NA
Contact person			
1. Who is the person knowledgeable about the research and rights of the participant?	1	2	NA
2. How can he/she be contacted?	1	2	NA
Voluntariness of participation			
Is the participant free of any coercion in participating?	1	2	NA
Is there assurance that the participant can withdraw anytime without affecting treatment/care due him/her?	1	2	NA
Is there provision for obtaining the informed consent from the legal representative in case of minors, the mentally handicapped or the incapacitated?	1	2	NA
Confidentiality			
Is there a statement that describes the measures that will be taken to keep and ensure the confidentiality of the participant's records?	1	2	NA

¹Adapted from Philippine National Health Research System. (2006). *National Ethical Guidelines for Health Research*. Accessed: <http://www.pchrd.dost.gov.ph/index.php/downloads/publications/ethics-guidelines> (7/14/2011).

B. CONSENT FORM

I have read and understood the above information and had been given the opportunity to consider and ask questions on the information regarding my involvement in this study. I have spoken directly to the research proponent who has answered to my satisfaction all my questions. I have received a copy of this Participant's Informed Consent Form. I voluntarily agree to participate.

Participant's Signature:

Name of Participant
Date

Signature of Participant

Witness or Legal Guardian's Signature:

(Only when participant cannot read or sign this Informed Consent)

_____	_____
Name of Witness/ Date	Signature of Witness/

Researcher's Signature:

I, the undersigned, certify that to the best of my knowledge, the participant signing this consent form has read the above information sheet fully, that this has been carefully explained to him/her, and that he/she clearly understands the nature, risks, and benefits of his/her participation in this study.

_____	_____
Name of Researcher Date	Signature of Researcher

Appendix E

Research Instrument Permission



Artemio Gonzales Jr. <amgonzales7@up.edu.ph>

Quality of Prenatal Care Questionnaire

4 messages

Wendy Sword <Wendy.Sword@uottawa.ca>
To: "Artemio Gonzales Jr." <amgonzales7@up.edu.ph>
Cc: Maureen Heaman <Maureen.Heaman@umanitoba.ca>

Thu, May 9, 2019 at 8:04 PM

Hello Artemio,

Thank you for your interest in the Quality of Prenatal Care Questionnaire (QPCQ). Attached please find the original North American English QPCQ, Tagalog QPCQ, and scoring instructions.

Please note that no derivatives, including translation, are allowed without permission.

Do not hesitate to contact me if you have any questions. We look forward to hearing about the results of the psychometric testing.

Kind regards,
Wendy Sword

From: admin-plone-milo@rhpcs.mcmaster.ca [admin-plone-milo@rhpcs.mcmaster.ca]
Sent: May 6, 2019 7:22 PM
To: Sword, Wendy
Subject: Artemio M. Gonzales Jr

Name

Artemio M. Gonzales Jr

Title/Position

MA Nursing Student

Email Address

amgonzales7@up.edu.ph

Institution/Organization Name

University of the Philippines

Mailing Address

Juan Luna St., Labangan Poblacion, San Jose, Occidental Mindoro, Philippines, 5100

Phone Number

639060780937

Proposed Use of the QPCQ

Before the actual data collection. A dry run will be sought. The questionnaire will also undergo validity and reliability testing.

Title of Study

Perceived Quality of Prenatal Care in Late Pregnancy and Maternal Role Attainment in Early Postpartum of Mothers in a District Hospital in Occidental Mindoro

Who is Funding/Sponsoring the Study

University of the Philippines

Name(s) of the Principal Investigator(s)

Artemio M. Gonzales Jr

Version Requested (check all that apply)

Original (North American English), Tagalog (not validated)

How Will the QPCQ be Administered

Hard copy

Number of Women to be Administered the QPCQ

246

Number of Sites to Administer the QPCQ

1

Additional Comments

3 attachments

Quality of Prenatal Care Questionnaire (Tagalog).pdf
235K

Quality of Prenatal Care Questionnaire (QPCQ).pdf
310K

QPCQ Scoring Instructions.pdf
164K



Artemio Gonzales Jr. <amgonzales7@up.edu.ph>

Quality of prenatal care questionnaire: instrument development and testing

2 messages

Artemio Gonzales Jr. <amgonzales7@up.edu.ph>
To: Maureen.Heaman@umanitoba.ca

Mon, May 6, 2019 at 8:19 PM

Dr. Maureen Heaman,

College of Nursing and Departments of Community Health Sciences and Obstetrics, Gynecology and Reproductive Sciences, College of Medicine, Faculty of Health Sciences, University of Manitoba
89 Curry Place, Winnipeg, R3T 2N2, Manito

Dear Dr. Heaman,

I am a MA Nursing student from the University of the Philippines Open University and currently writing my graduate thesis proposal entitled **"Perceived Quality of Prenatal Care in Late Pregnancy and Maternal Role Attainment in Early Postpartum of Mothers in a District Hospital in Occidental Mindoro"** in the Philippines

I would like your permission to reproduce and utilize the survey instrument used in your paper entitled: **"Quality of prenatal care questionnaire: instrument development and testing"** published in **BMC Pregnancy and Childbirth** in my research study. I would like to use and print your survey under the following conditions:

- I will use this survey only for my research study and will not sell or use it with any compensated or curriculum development activities.
- I will include the copyright statement on all copies of the instrument.
- I will send my research study and one copy of reports, articles, and the like that make use of these survey data promptly to your attention.

If these are acceptable terms and conditions, please indicate so sending me a copy of the research instrument through e-mail: amgonzales7@up.edu.ph

Thank you!

Sincerely,

Artemio M. Gonzales Jr., RN, RM, MPH
MA Nursing Student
Faculty of Management and Development Studies
University of the Philippines Open University

Maureen Heaman <Maureen.Heaman@umanitoba.ca>
To: "Artemio Gonzales Jr." <amgonzales7@up.edu.ph>
Cc: "Wendy Sword (Wendy.Sword@uottawa.ca)" <Wendy.Sword@uottawa.ca>

Tue, May 7, 2019 at 12:10 AM

Dear Artemio,

Thank you for your interest in the Quality of Prenatal Care Questionnaire. Please submit your request for permission to use the QPCQ through the following website: <https://milo.mcmaster.ca/questionnaires/request-for-a-quality-of-prenatal-care-questionnaire-qpcq>

Good luck with your project.

Best wishes,

Maureen Heaman

Maureen Heaman, BN, MN, PhD

Professor Emerita and Senior Scholar
College of Nursing

Rady Faculty of Health Sciences



UNIVERSITY of MANITOBA | Rady Faculty of Health Sciences

Room 357 Helen Glass Centre for Nursing

89 Curry Place
Winnipeg, MB, R3T 2N2

maureen.heaman@umanitoba.ca



Artemio Gonzales Jr. <amgonzales7@up.edu.ph>

RE: Contact Us

1 message

Lamkin, Steven <slamkin@buffalo.edu>
To: "amgonzales7@up.edu.ph" <amgonzales7@up.edu.ph>

Tue, May 7, 2019 at 10:52 PM

Hi Artemio,

Thank you for contacting us. On behalf of the University at Buffalo's Center for Nursing Research, you have our permission to reproduce and utilize the instrument for your thesis proposal. Thank you for contacting us. Best of luck.

Steve

Steve Lamkin
Assistant to the Associate Dean for Research and Scholarship
School of Nursing
The State University of New York, University at Buffalo
101B Wende Hall
3435 Main Street
Buffalo, NY 14214
Tel: (716)829-3972
Fax: (716)829-2566
Email: slamkin@buffalo.edu

University at Buffalo
The State University of New York
School of Nursing

Good day!

I am a MA Nursing student from the University of the Philippines Open University and currently writing my graduate thesis proposal entitled "Perceived Quality of Prenatal Care in Late Pregnancy and Maternal Role Attainment in Early Postpartum of Mothers in a District Hospital in Occidental Mindoro" in the Philippines

One of my prospect research instrument to use in my study is the Maternal-Fetal Attachment Scale from the past Dr. Mecca S. Cranley (past Dean of School of Nursing) from her publication entitled: "Development of a tool for the measurement of maternal attachment during pregnancy. Nursing Research. 1981 ;30:281-284." I would like to ask permission to reproduce and utilize the survey instrument.

On the sorrow side, it came to my knowledge that she already passed away. I hope your university could help me to contact corresponding person that could give me permission in the use of MFAS.

Here is my email address in case your office needed: amgonzales7@up.edu.ph

Thank you!

Sincerely,

Artemio M. Gonzales Jr., RN, RM, MPH
MA Nursing Student
Faculty of Management and Development Studies
University of the Philippines Open University

Appendix F: Ethics Approval



UP OPEN UNIVERSITY APPLICATION FOR ETHICAL REVIEW ERB/RPC EVALUATION FORM Appendix C

Research/Project Title:	<i>Quality of Prenatal Care and Maternal Fetal Attachment among Primigravida Mothers</i>
Faculty of Studies/Office:	Faculty of Management and Development Studies
Researcher/Proponent:	Artemio M. Gonzales Jr.

Checklist of Required Documents	Compliance	
	Yes	No
Application for Ethical Review (Appendix A)		
Research proposal/protocol		
Research investigator/proponent's curriculum vitae		
Official Letter of Endorsement		

Evaluation Criteria	Compliance		Remarks
	Yes	No	

Compliance with protocol			There are too many typographical and also grammatical error in the protocol. Please be sure to check on this. Must specify the inclusion as well as the exclusion criteria Be able to provide a proportionate sample size for each of the participating Barangays. Include how many primigravida's will participate from each rural unit. Better to provide a table for this. Sampling and recruitment procedure is not so clear. Provide details of recruitment. Must include letter of permission to conduct the study from the local government in the study site. The procedure for data collection needs to be further explained. If these are self administered, how will they get the questionnaire, where will they submit the completed questionnaire? In what time after recruitment will the participant have to answer the questionnaire? Make the procedure of recruitment as well as data gathering be presented in a more clear manner.
--------------------------	--	--	---



UP OPEN UNIVERSITY
APPLICATION FOR ETHICAL REVIEW
ERB/RPC EVALUATION FORM Appendix C

Informed consent		There is no mention of the duration of the completion of the questionnaire both for maternal - fetal attachment and also for the quality of pre natal care questionnaire but the range is too wide. Make a more definitive statement as to time the respondent can finish the two survey instruments. Include in the Informed consent the benefits that the society may be able to have as a result of the study. Data management procedure is grossly lacking. It is suggested that you provide statements on how the gathered data will be protected such as storage and duration including disposal of the data. Include a statement that they can be provided the result of the study once they express the interest to know the results although it will not identify the individually.
Protection from harm		There is lack of proper and detailed instruction to the respondent on their role in the research. In case the participant experienced anxiety or distressed as mentioned, what is the provision to take care of the participant.
Confidentiality		Provide a statement that the study will follow Data Privacy Act of 2012.
Professional codes of practice and ethics		Provide a letter of request to conduct the study to the health center identified for the study.

Kindly check your decision on the proposal

☒ Approval: Passed the ethical review and can proceed with his/her research but have to revise according to the comments made by the reviewer.

Approval without revision.

☐ Disapproval: Disapprove comply first with the suggestions given. Ethical Considerations should be part of the protocol.

Reviewer:

Josephine D. Agapito

Print Name & Signature

July 3, 2019

Date



UP OPEN UNIVERSITY
APPLICATION FOR ETHICAL REVIEW
ERB/RPC EVALUATION FORM Appendix C

Research/Project Title:	<i>Quality of Prenatal Care and Maternal Fetal Attachment among Primigravida Mothers</i>
Faculty of Studies/Office:	Faculty of Management and Development Studies



UP OPEN UNIVERSITY
APPLICATION FOR ETHICAL REVIEW
ERB/RPC EVALUATION FORM Appendix C

Openness and integrity	/		What are the benefits your participant will get from your study?
Protection from harm		/	Explicitly say how you will be protecting your participants
Confidentiality	/		
Professional codes of practice and ethics	/		

Kindly check your decision on the proposal

- ☒ Approval: Passed the ethical review and can proceed with his/her research but have to revise according to the comments made by the reviewer.
- ☐ Approval without revision.
- ☐ Disapproval: Disapprove comply first with the suggestions given. Ethical Considerations should be part of the protocol.

Reviewer:

Dr. Myra Oruga
 Print Name & Signature

15 July 2019
 Date

Appendix G
Curriculum Vitae

CURRICULUM VITAE

Name: ARTEMIO M. GONZALES JR

Home: 199 Bonifacio Street, Barangay Poblacion 3, San Jose,
Occidental Mindoro

amgonzales7@up.edu.ph



Work: Midwifery Department, OMSC San Jose Campus, Rizal
Street, San Jose, Occidental Mindoro

EDUCATIONAL BACKGROUND

Education Level	Institution	Course/ degree Obtained	Academic Award	Year taken
Graduate Studies	University of the Philippines Open University	Master of Arts in Nursing major in Maternal and Child Nursing	UP Presidential Scholar	2020 (Candidate)
	Saint Louis University	Master in Public Health	Cum laude	2014
Tertiary	Divine Word College of San Jose	Bachelor of Science in Nursing		2010
	Occidental Mindoro State College	Teacher Certification Program		2015

PROFESSIONAL EMPLOYMENT

INCLUSIVE DATES		POSITION	AGENCY
From	To	TITLE	
09/21/2019	Present	Principal/ Program Head	Midwifery Department Occidental Mindoro State College
11/22/16	present	Instructor I	Occidental Mindoro State College
07/09/2014	10/14/2016	Instructor	Occidental Mindoro State College
02/ 01/2012	03/30/2012	Nurse	San Jose District Hospital
02/ 01/2011	01/30/2012	Nurse/ RNHEALS	Department of Health CHD-4B
10/ 01/2010	01/30/2011	Nurse	San Jose District Hospital

MEMBERSHIP IN ASSOCIATION/ORGANIZATION

National Research Council of the Philippines – Medical Sciences Division

Sigma Theta Tau International Honor Society for Nurses – Psi Beta Chapter

International Association of Public Health Logisiticians (IAPHL)

Integrated Midwives Association of the Philippines (IMAP), Inc.

Philippine Nurses Association (PNA), Inc.

Mother and Child Nurses Association of the Philippines

Philippine Red Cross – Occidental Mindoro Chapter

2030 Youth Force in the Philippines Inc. (Region 4B Representative)

MIMAROPA Health Research and Development Consortium (Research Utilization Committee – Chair)

PUBLICATIONS

Gonzales A. M., Jr (2020). Breastfeeding self-efficacy of early postpartum mothers in an urban municipality in the Philippines. *Asian/Pacific Island nursing journal*, 4(4), 135–143. <https://doi.org/10.31372/20190404.1023>

Gonzales Jr, A. M. Jr. (2020). Marital Adjustment and Prenatal Breastfeeding Efficacy of First Time Mothers in A Low-Income Community in the Philippines. *Jurnal Ners*, 15(1). : <https://doi.org/10.20473/jn.v15i1.17191>

Gonzales, A. M. Jr. (2020). Empowering the lowland indigenous community through child health and nutrition program in Occidental Mindoro Province, Philippines. *ASEAN Journal of Community Engagement*, 4(1), 9.

Gonzales, A. M. Jr. & Salvador, M. N. (2020) Nutritional Status and Infant and Young Child Feeding (IYCF) Practices among Buhid Mangyan Tribe, Occidental Mindoro Philippines. *International Journal of Child Health and Nutrition*. 9(2). 47-54. <https://doi.org/10.6000/1929-4247.2020.09.02.1>

Ambong, R. M. A., & **Gonzales, A. M. Jr. (2019)** Influencing Factors and Stress Coping Mechanisms in Agricultural Communities of Occidental Mindoro, Philippines.

Gonzales, A. M. Jr. (2018). Childbirth Satisfaction and Maternal Role Confidence of Early Postpartum Mothers from Maternity Units. *Philippine Journal of Nursing*. 88(1).

Gonzales, A. M. Jr., Tubera, D. L., & Serna, P. M. (2015). Population-based study of measles and vaccination coverage in Baguio City, Philippines. *Pediatric Infectious Disease Society of the Philippines Journal*;16(1):28-35