

A HOSPITAL BASED CASE – CONTROL STUDY ON RISK FACTORS FOR TEENAGE PREGNANCY AMONG FILIPINO ADOLESCENT GIRLS SEEN IN A TERTIARY GOVERNMENT HOSPITAL

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INTRODUCTION

Teenage pregnancy is defined as an underage girl of 13 to 19 years who becomes pregnant. The definition differs from one country to another but generally refers to women below legal adulthood¹. In the developing world, one-third to one-half of women become mothers before the age of 20 and pregnancy related complications have become the leading causes of death among them^{2,3}. South Asian countries have high proportions of teenage pregnancies, since early marriage is common and there is a social expectation to have a child soon after marriage⁴⁻⁶. A study in Southeast Asia showed that nearly 60% of all girls are married by the age of 18 years and one fourth are married by the age of 15 years⁷.

Worldwide, early childbearing is associated with higher risk of adverse reproductive outcomes. A younger maternal age is associated with an increased maternal and infant mortality^{8,9}. Adolescent pregnancy contributes to the perpetuation of the poverty cycle by exposing these girls at higher risk for low educational and occupational attainment and low socioeconomic status^{9,10}. Children born to teenage mothers experience more risk of abuse, neglect and have more behavioural problems¹¹. However, abusive early pregnancy is also perceived as a rite of passage a pathway to adulthood that might bring positive consequences and thus is desired in some contexts¹¹⁻¹³. It may also be seen as an escape from families¹¹⁻¹⁴.

Teenage pregnancy is widespread in the Philippines, especially amongst the poor. Filipino teens get a higher exposure to sex from the Internet, magazines, TV shows, movies and other media than decades ago, yet without any corresponding increase in information on how to handle the input. During the 21st century, the statistics about this issue continues to rise even though there are a lot of disadvantages that young mothers and fathers can obviously get in the said issue.

According to the 2002 Young Adult Fertility and Sexuality Study done by the University of the Philippines Population Institute and the Demographic Research and Development Foundation, twenty six of our Filipino youth nationwide 15 to 25 years of age admitted to having a premarital sex experience. Thirty eight percent of our youth are already in a live-in arrangement. The 1998 National Demographic and Health Survey (NDHS) reported that 3.6 million of our teenagers got pregnant. In ninety two percent of these teens, the pregnancy was unplanned, and the majority, 78 percent, did not even use contraceptives the first time they had sex. The medical consequence of teenage pregnancies that have been extensively studied include preterm deliveries, stillbirth and fetal distress among others. Social consequences of teenage pregnancies identified are minimal access to higher education, higher divorce rates, premature death of women, population growth, weak and unhealthy children.

Risk factors identification of teenage pregnancy is necessary so as to halt if not to

to prevent its increasing incidence specially any developing countries like the Philippines. Socio-economic status, educational attainment, cultural factor and family structure were all identified as risk factors for teenage pregnancies in South Asia²⁰⁻²⁸.

In our country many studies dealt in an outcome in infants of teenage mother. The literature that focus on the risk factors of teenage pregnancy are limited. This study was conceptualized to determine risk factors for teenage pregnancy and how to determine the association of teenage pregnancy on the following risk factors such as sociodemographic, family psychodynamics and psychosocial factors.

REVIEW OF RELATED LITERATURE

Shrestha et al, conducted a study with the use a questionnaire. The concluded that the incidence of teenage pregnancies is significantly higher in the lower social classes (52%) than in the higher social classes (26%). This study also found that Hindu teenagers are more likely to become pregnant ($p < 0.001$) than Buddhist teenagers. Structural and social inequalities, poverty and gender all made young people extremely vulnerable to teenage pregnancy^{22,26}.

The likelihood of teenage pregnancy and childbearing seemed to be associated with the level of education²³. However, very few studies have concentrated on education and teenage pregnancies. Sharma et al., in 2001 showed that 19% among teenage

mothers were significantly less likely to have studied beyond primary school education compared to among the mothers who were in their twenties (6%)²¹. This needs to be interpreted with caution as the numbers reported are very low, however such differences were also noted by Shrestha in a retrospective study with a bigger sample size²⁵. Early age at marriage is acceptable in South Asian culture, which seems to add the risk of teenage pregnancy²¹. Early age at marriage is also taken as a license or social expectation for a woman to enter into reproductive life and to become pregnant immediately after marriage. In rural Nepal, the mean age of marriage is 15.9 years. Some girls who married before the onset of menarche fell pregnant once they were fertile²⁵.

Low involvement of teenage girls in decision making also contributed to early pregnancy. Most adolescent marriages (80%) were arranged by parents without the girl's consent²⁵. A higher proportion of adolescent pregnant women (67%) were found to be part of an extended family, of which just over half (51%) claimed that the authority over conception remains with their husband in spite of the teenagers' desire to make their own decisions²¹. The study also noted that teenage pregnant women seem to be more likely to have had love marriage (against the wishes of parents/family). Consequently, this leads to negligence of family members towards care and guidance in teenage pregnancies. In addition, teenage girls are also less likely to visit health service clinics without their husband's permission²⁸. These family structures

and social norms have forced teenagers to give birth before they are emotionally or physically ready²⁶.

Another factors that may contribute to teenage pregnancy are the risk taking behavior, including drug, alcohol, tobacco use, delinquency, and sexual activity occurring among the same groups of teens. Teens who drink or use drugs often are more sexually active and less likely to use contraception when they have sex than teens who take fewer risks. This adolescent also tend to have more sexual partners, and often start having sex at younger ages. Nearly four in ten high school students report having experimented with marijuana at least once, and over one-third of 12th graders report they have used some type of illicit drug^{20,21}. Approximately two-thirds of 9th graders report having tried alcohol at least once and one-quarter of all high school students say they drink heavily on occasion²⁰. Teens 15 and older who use drugs are more likely to be sexually experienced than are those teens who do not use drugs - 72 percent of teens who use drugs have had sex, compared to 36 percent who have never used drugs²². Teens who have used marijuana are four times more likely to have been pregnant or to have gotten someone pregnant than teens who have never used marijuana²³. More than one-third of sexually active teens and young adults 15 to 24 years of age report that alcohol or drug use has influenced them to do something sexual²⁴. Nearly one-quarter of sexually active teens and young adults 15 to 24 years of age report that they have had sex without a condom because they were under the

influence of alcohol or drugs. Forty three percent of teens and young adults say that they are concerned that they might do more sexually than they had planned because they are drinking or using drugs²⁴. Girls who smoke or drink are even more susceptible. The prior use of alcohol and/or cigarettes increases the risk of early sexual experience by 80 percent²⁵. Many teenage girls who use alcohol when they first have sex are too drunk to use birth control successfully²⁶. Almost one-quarter of all high school students used alcohol or drugs prior to their last sexual experience. Non-Hispanic white and Hispanic teens are more likely than non-Hispanic black teens to report having used alcohol or drugs before their last sexual experience²⁰. Seventh graders who report being sexually experienced are more likely than their sexually inexperienced peers to report having committed a theft, damaged property, or threatened a teacher²⁷.

Girls who experience menarche early are more likely to use alcohol, initiate alcohol and cigarette use earlier, use more substances at earlier ages, and be drunk more often²⁸⁻³³. Although a certain amount of substance use experimentation is considered normative during middle to late adolescence, early initiation of substance use and heavier use at early ages seem particularly problematic and lead to increased longterm negative outcomes including alcohol dependence^{34,35,36,37}.

Research suggests that alcohol use leads to an increased likelihood of sexual intercourse among adolescents, and a significant portion of female adolescents report

some alcohol use before intercourse^{38,39}. A widely held theory known as the “disinhibition effect” posits that the disinhibiting effect of alcohol causes people to engage in riskier sexual behaviors than they would otherwise⁴⁰. However, the disinhibition effect may lead to decreased condom use only when sex is unplanned or occurring for the first time⁴¹. In fact, unplanned sexual intercourse under the influence of alcohol or drugs has been found to uniquely relate to risky sexual behaviors, including inconsistent condom use⁴². The fact that younger girls are more likely to engage in unplanned sex, they are presumably at heightened risk for unprotected intercourse and pregnancy. In addition, younger girls are more likely to rely on birth control methods that are affected by alcohol use, in comparison to older females, who tend to use the birth control pill⁴³.

In nine of ten studies regarding consequences of teenage pregnancy found that pre-term delivery, still birth, fetal distress, birth asphyxia, anaemia, low birth weight, pregnancy-induced hypertension (PIH) and spontaneous abortion were most frequently encountered complications during teenage pregnancy^{44,46-49,51-53}. Apart from medical consequences, there are many adverse social consequences identified within this review. Lower access to higher education, high divorce rates, premature death of women, population growth, weak and unhealthy children and single motherhood are all negative consequence of teenage pregnancy^{47,49,50,52}.

Sharma et al.,⁵¹ identified that the risk

of pregnancy complications was 2.5 times higher among pregnant teenagers compared to mothers in their twenties. A significant number of teenage mothers had Vitamin A and iodine deficiency, which results in night blindness and formation of goiter^{51,53}. A north India study has also shown that the prevalence of anaemia is high (46%) among teenage mothers, which occurs due to low intake of dietary iron⁵³. In a Sri Lankan study the likelihood of PIH (13%) and pre-eclampsia (5%) was significantly higher ($p < 0.001$ and $p = 0.03$) among pregnant teenagers compared to the women in their twenties (3% and 1% respectively)⁴⁷. Studies investigating the link between teenage pregnancy and still birth, showed an association 2 to 3% ($p < 0.05$) compared to the mothers at 20 to 29 age years group^{46,48,49}. There seem to be inconsistent evidence between birth weight and teenage pregnancy. The mean birth weight was found higher (2.81kg) among teenagers⁵¹; the high birth weight in a study could be because of the small sample size. However, another study showed that the incidence of low birth weight was statistically significant 34% ($p < 0.0001$) among teenage mothers compared to the mothers in their twenties⁴⁸.

Two studies reported a higher pre-term delivery among teenage mothers compared to older women. Shrestha reported 3% preterm delivery in teenage mothers compared to 1% in mature mothers⁴⁹. Goonewardene et al., reported 19% incidence of preterm delivery among teenagers compared to 11% in older mothers, ($p = 0.06$)⁴⁷. A small hospital-based study found that fetal distress

(6%) and birth asphyxia (2%) was commonly reported among pregnant teenagers⁵¹. There are conflicting findings regarding the link between spontaneous abortion and teenage pregnancy. Shrestha has reported that spontaneous abortion was similar 15 (3%) among teenage mothers and mothers in their twenties⁴⁹. However, Ganatra et al., in 2002 noted that such likeliness is very low (2%) among teenage mothers and very high among matured mothers 166 (14%)⁵².

SIGNIFICANCE of the STUDY

This study would contribute to the prevention of early teenage pregnancies by allowing health care professionals to analyze the root cause of teenage pregnancy whether it be lack of education, psychosocial or family psychodynamics. The result can be used in other health care facilities in educating teenagers on the consequence and avoidance of teenage pregnancies. This study would also help educate the Filipino teenagers about the adverse effect of teenage pregnancy, give them knowledge and insight about responsible parenthood and finally allow them to weigh the risk involved in both maternal and baby's health.

GENERAL OBJECTIVES

To determine the risk factors for teenage pregnancy among Filipino adolescent girls seen in a Tertiary Government Hospital.

SPECIFIC OBJECTIVES

To determine the association of teenage pregnancy and the following risk factors:

- a. Sociodemographic profile
- b. Family Psychodynamics
- c. Psychosocial Factors

MATERIALS AND METHODS

A. Study Design: Unmatched Hospital Based Case Control Study

A quantitative research approach was chosen for this study because it emphasizes objectivity and uses systematic procedures to measure human behavior by using formal structured instruments when collecting data from respondents. This approach has been used to provide hard objective facts about factors that contribute to teenage pregnancy that could be statistically analysed and interpreted. In this study an attempt was made to obtain information from pregnant and non pregnant teenagers.

The descriptive design was selected as it is concerned with gathering more information about the phenomenon studied. This research design was suitable to obtain relevant information and to describe and identify factors that contribute to teenage pregnancy.

B. Setting: Tertiary Government Hospital

C. Study Population

A **CASE** is defined as a female adolescent 13 to 19 years of age as per WHO criteria, who is pregnant at the time of the interview or had been pregnant for the first time during the previous two years.

A **CONTROL** is defined as a female adolescent who had never been pregnant at the time of interview admitted or consulting at this tertiary hospital for other medical illness.

MANAGEMENT and ANALYSIS

Data was encoded and tallied in SPSS version 10 for windows. Descriptive statistics were generated for all variables. Frequencies and percentages was computed for nominal data, mean $\pm$ SD were generated for numerical data.

The T test was used to compare two groups with numerical data (compares means). The Mann Whitney U test which is a non - parametric equivalent of T-test was used to compare median instead of means. The Chi-square test was used to compare/associate nominal data. Fisher Exact test which is a modification of chi-square used to compare/associate nominal data in a 2x2 contingency table. Logistic Regression, a multivariate test was used to identify predictor of an outcome variable.

SAMPLE SIZE CALCULATION

At $\alpha = 0.05$, $\beta = 0.20$, and

assumed difference in the proportion of exposed and unexposed adolescents and teen age of 15% and an OR of 8.51 for early sexual based from a previous study (Adhikari, et al), at least 112 subjects per group is needed, early sexual debut (OR 8.51, 95% CI 1.12-64.90); 10% exposed; 25% unexposed;

$$n = \frac{[z_{\alpha}\sqrt{2pq} + z_{\beta}\sqrt{P_1Q_1 + P_2Q_2}]^2}{(P_1 - P_2)^2}$$

Where:

n = is the number of subjects needed

P_1 = proportion of pregnancy among adolescents = 60% = 0.6

$Q_1 = 1 - P_1 = 1 - 0.6 = 0.4$

P_2 = proportion of pregnancy among adolescents = 25% = 0.25

$Q_2 = 1 - P_2 = 1 - 0.25 = 0.75$

$p = (P_1 + P_2)/2 = (0.6 + 0.25)/2 = 0.425$

$q = 1 - p = 1 - 0.425 = 0.575$

Z_{α} = 95% confidence level = 1.96

Z_{β} = 80% power of the study = 1.28

SUBJECT SELECTION and DATA COLLECTION

Pregnant/have been pregnant and non pregnant women were selected randomly from any teenage and adolescent consulting at the OPD and currently from January to April 2013

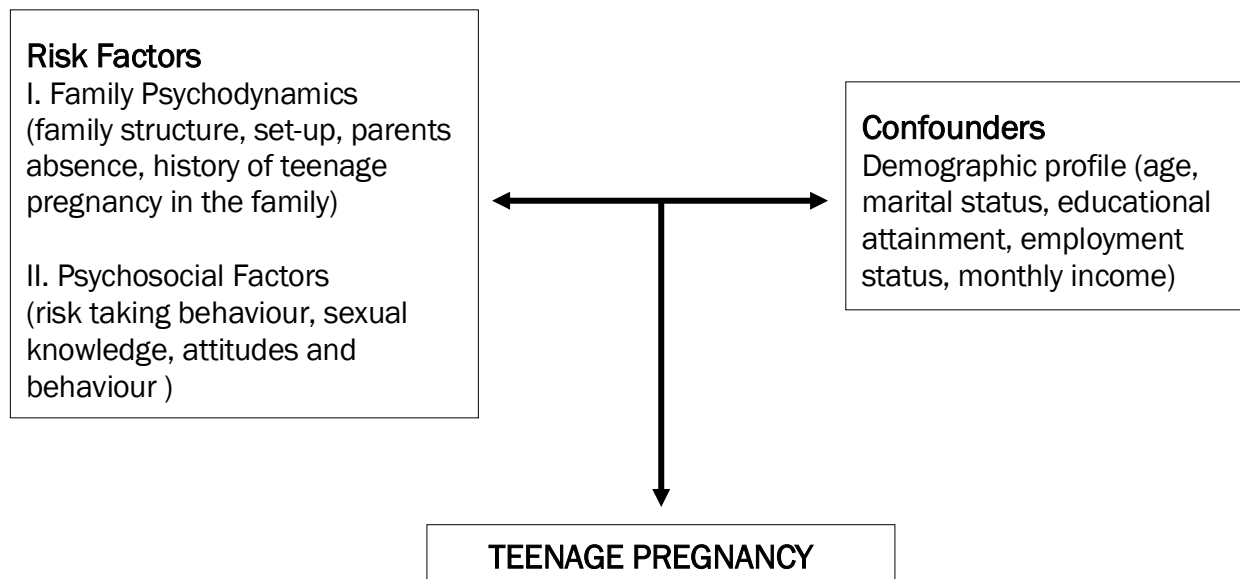
Data were collected through structured self-administered questionnaires (Appendix G). The questionnaires consisted of 30 questions that were divided into three domains namely, sociodemographic data, family psychodynamics and psychosocial factors that

contribute to teenage pregnancy. The statements in the questionnaires were constructed to obtain objective data from the respondents who had met the inclusion criteria.

CONCEPTUAL FRAMEWORK

Figure 1. Outline of the possible risk factors for teenage pregnancy. The risk factors were identified from results of previous studies on risk factors for teenage pregnancy and focus group discussion among teenage mother. The possible confounding factors in this study are demographic profile of the mother and index child.

Figure 1. Conceptual Framework showing the Risk Factors and Teenage Pregnancy



DESCRIPTION OF STUDY PROCEDURES

Preparation prior to conduct of study

The principal investigator wrote a letter to the Medical Director and Chairman of Obstetrics and Gynecology requesting for permission to conduct an interview among nulligravid teenage patients seen at the OPD (Appendix A). A formal letter with necessary documents was given to respective committees

and chairman in the hospital for approval and appropriate action. Four research assistants were recruited by the principal investigator. They were oriented to the purpose of the study and were trained on how to conduct the interview.

Ethical Consideration

The protocol was submitted for review and approval of the Hospital Ethics Committee. A letter of request and permission to participate

(informed consent) were given to the subjects. The quality of the research was ensured by adhering to the highest possible standards of research through accountability and the ability to execute the research process.

Permission to sample the pregnant and non pregnant teenagers was obtained from the Out Patient Department. Each pregnant and non pregnant teenager was provided with sufficient and understandable information regarding her participation in the study before signing the consent form. A consent forms was signed by parents or guardians for minor between 13 to 17 years of age (Appendix B). Confidentiality and anonymity were ensured by protecting the participants' identity, privacy, selfworth and dignity by not indicating the subjects' names on the questionnaires. Refusal to participate in the research was respected.

Research Instrument

Data in this study were collected from direct interview of the patient itself through the use of a structured questionnaire (Appendix G). The questionnaire were composed of three domains which included sociodemographic status, family psychodynamics and psychosocial factors. Sociodemographic status contained patient's age, religion, marital status, educational attainment, employment status and estimated monthly income. The family psychodynamic portion included family structure, set-up, its environment and history of teenage pregnancy.

The psychosocial factors included exposure to risk taking behaviors such as smoking, drinking alcohol, use of illicit drugs, sexual knowledge, attitudes and behaviours, and history of sexual abuse if any.

The questionnaire contained 30 close-ended questions. Likert scale with variable points were devised appropriate for each questions. The questionnaire was pretested and validated to a group of 20 respondents and found to be reliable as shown by the Cronbachs Alpha of 0.65. Item total showed that the cronbachs alpha did not increased that much when individual question was deleted and analyzed for its reliability thus maintaining all the questionnaire in the question and finally used for data collection.

Pretesting and Validating Research Instruments

The questionnaire was pretested to a group of 20 respondents who consulted in the tertiary government hospital. Those 20 respondents were not included in actual conduct of the study. The pretesting of questionnaire helped the investigator to identify problems that encountered during the conduct of the actual interview. Each item were criticized for its clarity, ease of understanding and sensitivity. The questions was revised as necessary.

An approach to assess reliability involved re - interviewing and forming a second review of a sample of respondents then compared it to the response given on the first interview. The repeat interview was done by the same interviewer. This approach holds constant the effect of variability among

interviewer while measuring the consistency of the subjects recall results. Another approach used to check for consistency was by repeating the question in a slightly different manner at different points in the interview. The principal researcher obtained confirmatory information from sources and compare the rates of agreement. No formal test was done to measure test of agreement but validity was based on completeness of the answers in the questionnaire.

Language Translation

The questions were written in English and translated into the Filipino dialect by a Filipino teacher that made all respondents understood the question in a language which they are proficient in. The questionnaire was then translated back from Filipino to English. This process ensured the accuracy of translation.

OPERATIONAL DEFINITION OF VARIABLES

1. Primary outcome - teenage pregnancy

2. Risk Factors

2.1 Family Structure

- 2.1.1 Nuclear Family - consisting of parents and their still dependent children
- 2.1.2 Single Parent Family - may result from the loss of spouse by death, divorce, separation or desertion
- 2.1.3 Blended Family - includes step-parents and step-children

2.1.4 Democratic - parents respect their child's decisions and ideas

2.1.5 Authoritarian - unquestioned obedience conformity to parental guidance

3. Confounders - risk factors of the outcome and are associated with the exposure variable of interest. They are not in the intermediate pathway between the exposure and the outcome variables of interest

3.1 Demographic Profile of the subject

3.1.1 Family Income - combined income of the family in a month

3.1.2 Educational Attainment - highest level of education attained by the subject

3.1.3 Marital Status - marriage status of the subject

RESULTS

A total of 280 respondents were included in the study. One hundred forty pregnant/have been pregnant and 140 non pregnant teenage women.

Table 1 describes the comparison of the demographic character between the cases and controls. The results showed that there was a significant difference in the age of these women as shown by a p value of 0.01. Current age showed that the age of pregnant/have been pregnant teenage women is 17.62 ± 1.33 , it was significantly higher compared with 17.20 ± 1.62 years for the group of teenage non-pregnant women. Significantly more proportion of pregnant/have been pregnant women

were Catholics (91.4%). Analysis of marital status showed that significantly more proportion of pregnant/have been pregnant women were either married (29 or 20.7%) or living-in (79 or 56.4%) while significantly more proportion of singles (78 or 55.7%) were found among adolescent non-pregnant women.

Sixteen (11.4%) of adolescent pregnant/have been pregnant women reached at least college level of education. There was no significant difference noted in the employment status as well as the monthly income between the two groups of teenage women as shown by all p values of >0.05 .

Table 1. Demographic Characteristics of Pregnant and Non Pregnant Teenage Woman

Characteristics	Pregnant Teenage (n=140)	Non Pregnant Teenage (n=140)	P value
Age in years			
Mean $\pm$ SD	17.62 $\pm$ 1.33	17.20 $\pm$ 1.62	0.01 (S)
Religion			
INC	4 (2.9%)	9 (6.4%)	0.16 (NS)
Adventist	0	1 A(0.7%)	1.00 (NS)
Baptist	1 (0.7%)	3 (2.1%)	0.62 (NS)
Catholic	128 (91.4%)	115 (82.1%)	0.02 (S)
Christian	7 (5.0%)	9 (6.4%)	0.60 (NS)
Mormon	0	1 (0.7%)	1.00 (NS)
Muslim	0	1 (0.7%)	1.00 (NS)
Protestant	1	1 (0.7%)	1.00 (NS)
Marital Status			
Single	21 (15.0%)	78 (55.7%)	<0.000001 (S)
Single Parent	7 (5.0%)	5 (3.6%)	0.56 (NS)
Live in	79 (56.4%)	46 (32.9%)	<0.0001 (S)
Married	29 (20.7%)	8 (5.7%)	0.0002 (S)
Separated	4 (2.9%)	3 (2.1%)	1.00 (NS)
Educational Attainment			
None	3 (2.1%)	0	0.002 (S)*
Elementary Level	4 (2.9%)	5 (3.6%)	
Elementary Graduate	8 (5.7%)	8 (5.7%)	
HS Level	68 (48.6%)	43 (30.7%)	
HS Graduate	32 (22.9%)	37 (26.4%)	
College Level	16 (11.4%)	34 (24.3%)	
College Graduate	9 (6.4%)	7 (5.0%)	
Vocational	0	6 (4.3%)	
Employment Status			
Without	93 (66.4%)	102 (72.9%)	0.24 (NS)
With	47 (33.6%)	38 (27.1%)	
Monthly Income			
$<P5,000$	76 (54.3%)	64 (45.7%)	0.09 (NS)**
P5,000 - P10,000	44 (31.4%)	43 (30.7%)	
P10,001 - P30,000	11 (7.9%)	3 (2.1%)	
$>P30,000$	1 (0.7%)	1 (0.7%)	
No Answer	8 (5.7%)	29 (20.7%)	

* college level and above vs Lower education

**between $\leq P10,00$ and $>P10,000$

Table 2 shows the comparison of the family psychodynamics between the two groups of teenage women. The results showed that there was no significant difference in the family psychodynamics of these women as shown by p values of >0.05, except for

family set-up ($p=0.02$) and parental presence ($p=0.02$). Significantly more proportion of teenage pregnant/have been pregnant women have democratic family set-up (67.1%) and are away from both parents (6.4%) than the adolescent non-pregnant women.

Table 2. Comparison of Family Psychodynamics Between the Two Groups of Teenage

Family Structure/ Dynamic	Pregnant (n=140)	Non Pregnant Teenage (n=140)	P value
Family Class			
Nuclear	69 (49.3%)	73 (52.1%)	0.50 (NS)
Extended	57 (40.7%)	47 (33.6%)	
Single	6 (4.3%)	7 (5.0%)	
Blended	8 (5.7%)	13 (9.3%)	
Family Setup			
Democratic	94 (67.1%)	75 (53.6%)	0.02 (S)
Authoritarian	46 (32.9%)	65 (46.4%)	
Parental Presence			
Living with both parents	98 (70.0%)	99 (70.7%)	0.03 (S) (away from both parents only)
Living with only one parent	33 (23.6%)	39 (27.9%)	
Away from both parents	9 (6.4%)	2 (1.4%)	
Family history of teenage Pregnancy			
Yes	62 (44.3%)	58 (41.4%)	0.56 (NS)
No	63 (45.0%)	61 (43.6%)	
Do not know	15 (10.7%)	21 (15.0%)	
Parents gives support to whatever decisions			
Not at all	10 (7.1%)	8 (5.7%)	0.82 (NS)
Rarely	18 (12.9%)	19 (13.6%)	
Sometimes	51 (36.4%)	44 (31.4%)	
Often	32 (22.9%)	33 (23.6%)	
Always	29 (20.7%)	36 (25.7%)	
Experienced Family Feud			
Not at all	17 (12.1%)	10 (7.1%)	0.20 (NS)
Rarely	40 (28.6%)	36 (25.7%)	
Sometimes	59 (42.1%)	59 (42.1%)	
Often	20 (14.3%)	33 (23.6%)	
Always	4 (2.9%)	2 (1.4%)	
Think that negative family relationships affect emotion			
Not at all	17 (12.1%)	18 (12.9%)	0.47 (NS)
Rarely	22 (15.7%)	29 (20.7%)	
Sometimes	67 (47.9%)	53 (37.9%)	
Often	24 (17.1%)	31 (22.1%)	
Always	10 (7.1%)	9 (6.4%)	
Experience hardship in parental caring			
Not at all	42 (30.0%)	37 (26.4%)	0.68 (NS)
Rarely	29 (20.7%)	37 (26.4%)	
Sometimes	44 (31.4%)	44 (31.4%)	
Often	19 (13.6%)	19 (13.6%)	
Always	6 (4.3%)	3 (2.1%)	

Tables 3 and 4 shows the comparison of the psychosocial factors between the two groups of teenage women. Thirty eight percent of teenage pregnant/have been pregnant women answered that they would feel rattled/worried, but significantly more proportion of adolescent non-pregnant women (29.3%) answered that they will feel very rattled/worried. Sixty percent of teenage pregnant/have been pregnant women had current relationship in whom they are having sex,

100% of them had sexual intercourse before even at the age of 12. A lower proportion of these teenage pregnant/have been pregnant women had information on birth control (35.0%). It is interesting to note that only 21.0% of teenage pregnant have been pregnant have heard about ways to prevent early pregnancy. The adolescent non pregnant women (40.4%) verbalized that media was very influential for their use of contraceptives.

Table 3. Comparison of Psychosocial Factors Between the Pregnant and Non Pregnant Teenage Woman

Psychosocial Factors	Pregnant Teenage (n=140)	Non Pregnant Teenage (n=140)	P value
<u>Smokers</u>			
Not at all	102 (72.9%)	98 (70.0%)	0.76 (NS)
Rarely	11 (7.9%)	17 (12.1%)	
Sometimes	19 (13.6%)	16 (11.4%)	
Often	6 (4.3%)	6 (4.3%)	
Always	2 (1.4%)	3 (2.1%)	
<u>Alcohol Drinker</u>			
Not at all	67 (47.9%)	54 (38.6%)	0.26 (NS)
Rarely	35 (25.0%)	33 (23.6%)	
Sometimes	31 (22.1%)	45 (32.1%)	
Often	6 (4.3%)	8 (5.7%)	
Always	1 (0.7%)	0	
<u>Use Prohibited Drugs</u>			
Not at all	131 (93.6%)	133 (95.0%)	0.20 (NS)
Rarely	4 (2.9%)	4 (2.9%)	
Sometimes	4 (2.9%)	0	
Often	0	2 (1.4%)	
Always	1 (0.7%)	1 (0.7%)	
<u>Do you think problem can be solve easily?</u>			
Not at all	31 (22.1%)	26 (18.6%)	0.47 (NS)
Rarely	29 (20.7%)	20 (30.0%)	
Sometimes	59 (42.1%)	68 (48.6%)	
Often	16 (11.4%)	18 (12.9%)	
Always	5 (3.6%)	8 (5.7%)	
<u>Think of the life today, how important to you to prevent pregnancy?</u>			
Do not know	13 (9.3%)	10 (7.1%)	0.59 (NS)
Not that important	4 (2.9%)	8 (5.7%)	
Slightly important	19 (13.6%)	16 (11.4%)	
Quite Important?	26 (18.6%)	21 (15.0%)	
Very Important	78 (55.7%)	85 (60.7%)	

Psychosocial Factors	Pregnant Teenage (n=140)	Non Pregnant Teenage (n=140)	P value
<u>Had you known your pregnant, what will you feel?</u>			
Do not know	12 (8.6%)	9 (6.4%)	
Do not care	17 (12.1%)	13 (9.3%)	
Slightly rattled/worried	44 (31.4%)	27 (19.3%)	0.001 (S)
Rattled/worried	53 (37.9%)	50 (35.7%)	
Very rattled/worried	14 (10.0%)	41 (29.3%)	

Table 4. Comparison of Psychosocial Factors Between the Pregnant and Non Pregnant Teenage Women

Psychosocial Factors	Pregnant Teenage (n=140)	Non Pregnant Teenage (n=140)	P value
<u>Are you a victim of sexual abuse?</u>			
Not at all	127 (90.7%)	117 (83.6%)	
Rarely	7 (5.0%)	8 (5.7%)	
Sometimes	3 (2.1%)	8 (5.7%)	0.26 (NS)
Often	3 (2.1%)	5 (3.6%)	
Always	0	2 (1.4%)	
<u>Do you have current relationship whom you are having sex with?</u>			
No	23 (16.4%)	22 (15.7%)	
Do not know	6 (4.3%)	11 (7.9%)	0.005 (S)
Do not have current relationship	27 (19.3%)	49 (35.0%)	
With current relationship	84 (60.0%)	58 (41.4%)	
<u>Did you have sexual intercourse before?</u>			
No	0	55 (30.3%)	<0.0000001 (S)
Yes	140 (100%)	85 (60.7%)	
<u>Have you been influenced by your friends to have sexual intercourse?</u>			
No	109 (77.9%)	105 (75.0%)	0.57 (NS)
Yes	31 (22.1%)	35 (25.0%)	
<u>Did you have any information on birth control or ways to prevent pregnancy?</u>			
No	49 (35.0%)	34 (24.3%)	0.04 (S)
Yes	91 (65.0%)	106 (75.7%)	
<u>Have you heard about ways on how to prevent early pregnancy</u>			
No	29 (21.0%)	17 (12.6%)	0.06 (NS)
Yes	109 (79.0%)	118 (87.4%)	
<u>Who influenced you to use contraceptives?</u>			
Family	28 (21.5%)	16 (15.4%)	0.23 (NS)
Friends	36 (27.7%)	25 (24.0%)	0.52 (NS)
Doctors/Nurse	37 (28.5%)	21 (20.2%)	0.14 (NS)
Media	29 (22.3%)	42 (40.4%)	0.004 (S)

Psychosocial Factors	Pregnant Teenage (n=140)	Non Pregnant Teenage (n=140)	P value
<u>What kind of media do you think can influence youths to have sexual intercourse at an early age?</u>	(n=140)	(n=133)	
Print media	8 (5.7%)	5 (3.8%)	0.44 (NS)
Radio	6 (4.3%)	1 (0.8%)	0.12 (NS)
Internet	57 (40.7%)	51 (38.3%)	0.68 (NS)
TV	69 (49.3%)	76 (57.1%)	0.19 (NS)

Tables 5 describes the univariate analysis of the different variables which shows a p value of ≤ 0.25 . Lower educational attainment or less than college level education was found to be associated with teenage pregnancy. The risk of teenage women who did not reach college level of education to get pregnant was twice the time than teenager who reached at least college level (OR=2.32; 95% CI = 1.33 - 4.05; $p=0.003$). Although the variables birthplace (rural), employment status, income of P10,000, and experiencing a family feud yielded a p value of >0.05 , these are included in the table because the p value is <0.25 , which may shows potential association with teenage pregnancy. A married or living-in status have five times higher risk for teen age pregnancy compared to having no partner (single or separated) (OR=5.38; 95% CI = 3.19 - 9.04; $p=0.000$). A democratic family set-up is also significantly associated with teenage pregnancy. The risk for teenage pregnancy was almost two times higher than an authoritarian family set-up (OR=1.77; 95 % CI = 1.09 - 2.87; $p=0.02$). Teenager living away to both parents also poses a risk to get pregnant. Results showed that there is an almost five times higher risk for teenage pregnancy among teenager who are

away from both parents (OR=4.74; 95% CI = 1.01 - 22.34; $p=0.04$). There is also a significant association between having a current relationship in have with a sexual intercourse and teenage pregnancy as shown by the p value of 0.002. The risk for teenage pregnancy with a current relationship in whom she have sexual intercourse was two times higher than those who do not have current relationship. Previous sexual intercourse showed a highly significant association with teenage pregnancy ($p=0.000$). The risk for teenage pregnancy among those with previous sexual intercourse was almost ninety times higher than those without previous sexual intercourse (OR=89.94; 95% CI = 12.21 - 661.95; $p=0.000$). The result study showed there is a significant association between having no information on birth control or ways to prevent pregnancy and teenage pregnancy as proven by the p value of 0.05. The risk of teenager who do not have information on birth control was almost two times higher than those with information (OR=1.69; 95% CI = 1.00 - 2.82; $p=0.05$).

Table 5. Univariate Analysis of Risk Factors for Teenage Pregnancy

	OR	95% CI	P value
Lower Education (<College level)	2.32	1.33 - 4.05	0.003 (S)
Birthplace (Rural)	1.50	0.92 - 2.43	0.10 (NS)
Religion (Catholic)	2.17	1.03 - 4.56	0.04 (S)
Marital Status (Live-in or married)	5.38	3.19 - 9.04	0.000 (S)
Employment Status (with)	1.36	0.81 - 2.26	0.24 (NS)
Income (<P10,000)	2.68	0.84 - 8.54	0.09 (NS)
Democratic Family Set-up	1.77	1.09 - 2.87	0.02 (S)
Being away to both parents	4.74	1.01 - 22.34	0.04 (S)
Experienced Family Feud	0.56	0.24 - 1.26	0.16 (NS)
Have current relationship with sex	2.12	1.31 - 3.42	0.002 (S)
Previous Sexual relationships	89.94	12.22 - 661.95	0.000 (S)
Without information on birth control Or ways to prevent pregnancy	1.69	1.00 - 2.82	0.05 (S)

Tables 6 shows the multivariate analysis of the different variables under study. Of the different variables included in the analysis, only lower educational attainment, marital status and previous sexual intercourse showed to be a significant predictors of teenage pregnancy as proven by all p values <0.05. Educational attainment of less than college level education was found to be a significant predictor of teenage pregnancy and the risk of teenage women who did not reach college level of education to get pregnant was almost three times than teenager who reached at least college level (OR=2.86; 95% CI = 1.26 -

6.45;p=0.01). Marital status is also found to be a significant predictor of teenage pregnancy. A married or living-in status, has five times (OR=5.12; 95% CI = 2.30 - 11.43; p=0.000) higher risk for teen age pregnancy compared to having no partner (single or separated). Previous sexual intercourse showed a highly significant prediction with teenage pregnancy (p=0.000). The risk for teenage pregnancy among those with previous sexual intercourse was almost forty times higher than those without previous sexual intercourse (OR=39.71; 95% CI = 4.76 - 331.58; p=0.000).

Table 6. Multivariate Analysis of the Risk Factors for Teenage Pregnancy

	OR	95% CI	P value
Lower Education (<College level)	2.86	1.26 - 6.45	0.01 (S)
Birthplace (Rural)	1.20	0.62 - 2.35	0.57 (NS)
Religion (Catholic)	1.93	0.71 - 5.20	0.20 (NS)
Marital Status (Live-in or married)	5.12	2.30 - 11.43	0.000 (S)
Employment Status (with)	1.82	0.87 - 3.79	0.11 (NS)
Income (<P10,000)	3.30	0.86 - 12.62	0.08 (NS)
Democratic Family Set-up	1.36	0.67 - 2.73	0.39 (NS)

	OR	95% CI	P value
Being away to both parents	2.08	0.29 - 15.10	0.46 (NS)
Experienced Family Feud	0.50	0.22 - 1.08	0.08 (NS)
Have current relationship with sex	0.59	0.27 - 1.26	0.16 (NS)
Previous Sexual relationships	39.71	4.76 - 331.58	0.001 (S)
Without information on birth control Or ways to prevent pregnancy	1.66	0.78 - 3.50	0.18 (NS)

DISCUSSION

Teenage pregnancy is a public health concern both in developed and developing world. Globally 15 million women under the age of 20 give birth, representing up to one-fifth of all births.

Adolescent pregnancy prevention research and programs predominantly focus on factors controlled by the adolescent girl. However, the most important factors linked to early pregnancy in this study are low level of education especially those who reached high school level only, early marriage, democratic family set-up, being away to both parents, have current sexual relationships and those without information on birth control or on how to prevent pregnancy.

The likelihood of teenage pregnancy and childbearing seemed to be associated with the low level of education⁴⁷. In this study majority of the subjects reached high school level (P value 0.002). The study of Sharma et al., showed that teenage mothers were significantly less likely to have studied beyond primary school education compared to mothers who were in their twenties.⁵¹ Low monthly income and non-employment were

significantly noted. This can be correlated in the study done by Bissell and Shrestha wherein teenage girls at higher risk for pregnancy were those with low educational, occupational attainment and low socioeconomic status^{9,25}.

Less than one-third of female adolescents who gave birth before age 18 completed high school. Additionally, for adolescent mothers experiencing a subsequent pregnancy within two years of their first delivery, the prospect of high school graduation is improbable⁵⁴. Hofferth et al. found that adolescent childbearing was greatly associate with reduced chances of completing high school and attending college, thus leading the researchers to conclude that today's adolescent mothers who are unable to obtain some form of higher education are at a disadvantage⁵⁵.

There was a significant association between family psychodynamics and teenage pregnancy. In this study, significantly more proportion of pregnant teenage /have been pregnant women who have a democratic family (P value 0.02) and being away from both parents (P value (0.03). This finding was in contrast to the study involving of teenage girls in decision making that contributed to

early pregnancy. Most adolescent marriages (80%) were arranged by parents without the girl's consent²⁵. A family, of which just over half (51%) claimed that the authority over conception remains with their husband²¹ in spite of the teenagers' desire to make their own decisions²⁶. Parental absence or being away to both parents are main indicator for early pregnancy. According to the current study, being away to both parents also poses a teenager to get pregnant. Results showed that there is an almost 5x higher risk for teenage pregnancy among teenage who are away from both parents (OR=4.74; 95% CI = 1.01 - 22.34). In a study of Velez-Pastrana, pregnancy risk increased only for adolescents who experienced absence of both parents (not for adolescents experiencing absence of just one parent). The protective factor for adolescent pregnancy might therefore depend more on maintaining some type of parental watch over adolescent girls at all times than on adhering to the traditional family mode (mother, father, and children)⁵⁷. Family disruption and low levels of communication within the family are also shown to be risk factors along with poor educational indicators and low socio-economic status^{15,17-19}.

In this study majority of the subjects both cases and controls has current sexual relationships comprising of 84% and 58% respectively. This is supported by Cooper et al. (2004) who found that amongst teenage girls interviewed in South Africa, 35% were teenagers aged 19 years of which 53% of the pregnancies had either been unplanned at 36% or unwanted at 17%⁵⁸. In addition to that, a study

by Morake revealed that the age of the first pregnancies - as a result of the first sexual intercourse - was experienced by teenagers between the age of 13 years and 16 years⁵⁹.

Many studies suggest that teenagers have basic knowledge about contraception; mostly related to information about condom use. However, their use was limited and unrelated to lowering teenage pregnancy rates. The studies were not able to explain why young people were inconsistent contraceptive users, even though they have relatively high level of contraceptive knowledge. Most respondents in this study had knowledge about the use of contraceptives and other ways of preventing unwanted pregnancy apart from total abstinence from sexual activity. The results revealed that majority of participants were knowledgeable about the use of contraceptives however they chose not to use it during sexual activity and others keep it as a secret. Other reasons for not utilizing the contraceptives were that teenagers were reluctant to take contraceptive precautions for fear of complications and parental detection, despite their knowledge about the importance of the use of those contraceptives. In a study done by Jejeebhoy et al., clearly notified that much of such knowledge remains superficial and ridden with myths, misperceptions and a sense of invulnerability⁶⁰. In addition, gender power imbalance make risky behaviors acceptable, encourage secrecy and fear of disclosure, and inhibit negotiation among partners.

The findings by Ritcher et al, outlined that teenage pregnancies resulted from lack

of knowledge about contraception and many other misconceptions. It was indicated that injectable contraceptives cause weight gain and watery discharges, whilst contraceptive pills were only taken when they planned sexual intercourse or only after the engagement because it could prevent them from becoming pregnant when used in that way⁶¹.

In a study by Mwaba, teenage girls expressed a preference for receiving the injectable contraceptive and stated that condoms were not their birth control method of choice. In contrast to this, majority of the respondents in this study preferred using oral contraceptive pills and condoms⁶².

The study findings pointed out that majority of the respondents didn't use drugs, 3.5% did smoke, and 86% didn't drink alcohol whereas 14% drank alcohol. In support of the study findings of Van Eijk indicated that substance abuse was long recognized as one of the greatest health and social problems in South Africa which resulted in teenage pregnancies because teenagers engaged in sexual intercourse without making calculated decisions due to the influence of alcohol. Additionally it was outlined that drinking became more common as young people moved through their teenage years rising to 45% amongst 15 year olds and this was proven to be a cause of teenage pregnancies⁶³.

A study done by Julianna et.al., found out that early puberty is associated with earlier age of alcohol use and sexual initiation, which

in turn predicted early pregnancy. Age at first sexual intercourse and age at first substance use significantly mediated the relation between age at menarche and age at first pregnancy. They concluded that girls who mature early are more likely to engage in early substance use and sexual intercourse, which in turn puts them at greater risk for adolescent pregnancy⁶⁴.

CONCLUSION

Sociodemographic factors, family psychodynamics and psychosocial factors were identified as risk factors for teenage pregnancy among adolescent girls seen in a tertiary government hospital.

Teenage girls who are away from their parents and those with democratic family has five times (OR = 4.74; 95% CI = 1.01-22.34; $p = 0.004$) and twice the risk (OR = 1.77; 95% CI = 1.09 - 2.87; $p = 0.02$) for teenage pregnancy respectively.

Teenage girls with past and current sexual relationship (OR = 89.94; 95% CI = 12.21 - 6.61; $p = 0.0000$). It was determined also that majority of teenage girls in this study did not have any information on birth controls or ways to prevent pregnancy having two times more prone to get pregnant (OR = 1.69; 95% CI = 1.00 - 2.82; $p = 0.005$).

In multivariate analysis it was shown that low level of educational attainment (OR = 2.86; 95% CI = 1.26 - 6.45; $p = 0.01$), those with live-in partner or married at a young age

(OR = 5.12; 95% CI = 2.30 - 11.43; $p = 0.0000$), and those with previous sexual intercourse (OR = 39.7; 95% CI = 4.76 - 333.58; $p = 0.001$) were found out to be significant predictors of teenage pregnancy.

LIMITATIONS OF THE STUDY

Since this study selected cases and controls based on pregnancy status some girls selected as controls may have, in fact, been cases (i.e., they could have had an abortion but chosen not to disclose the information to the interviewer). Selection may also have been skewed by the fact that girls who lived with their parents could not provide any data without the authorization of their parents, since the interviewer requested permission to conduct the interview from any parents who lived with their adolescent daughters. This aspect of the study design may have indirectly excluded the most vulnerable girls (e.g., those suffering from sexual abuse by family members) by inadvertently providing a means for families to prevent disclosure of sensitive information.

RECOMMENDATIONS

The factors driving teenage pregnancy are complex and varied and therefore require multifaceted intervention strategies. There should be implementation of proper strategies that will prevent teenagers from being pregnant. Health care providers need to design intervention programmes that empower family, school and society in general, so

they can play an important role by providing all the necessary information regarding sex education. The family aspect involves parental education and information on sexual health issues, so their children can have a role model. Schools also need to be more focused on offering courses about gender issues, more training for teachers regarding sex education and therefore, society will be more open on sexual health issues.

As a healthcare provider we should also encourage all the females who is pregnant or got pregnant at an early age to continue and finish their school.

It is also suggested that the same study be conducted in other places or private hospitals in order to determine the other factors which contribute to teenage pregnancies amongst the teenagers who attend the clinics for antenatal care.

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APPENDIX A

Letter to Hospital Director

Angeles T. De Leon, MD, DPBA, MHSA
Medical Center Chief
Quirino Memorial Medical Center
Project 4, Quezon City

Greetings:

Respectfully requesting authority to distribute questionnaires to pregnant and non pregnant teenagers at the Out Patient Department of Obstetrics and Gynecology and Pediatrics upon prior request from stated subjects.

This is to facilitate my research entitled “A Hospital Based Case Control Study Of Risk factors for Teenage Pregnancy in a Tertiary Government Hospital.”

Your favourable response would be greatly appreciated.

Thank you and more power.

Very Truly Yours,

Primary Investigator
Medical Officer III

Noted By:
Research Adviser

APPENDIX B

Letter to Parents

To Our Dear Patients:

Greetings:

I am a resident of Quirino Memorial Medical Center , I would like to ask your permission and help this endeavor by answering the following questionnaire as completely and honestly as possible. Rest assured that your answers would be kept confidential.

This research is being undertaken to help the health administrators and local government officials to come up with the best and practical way of pregnancy prevention strategies of teenagers.

Thank you and God bless.

Primary Investigator
Medical Officer

APPENDIX C

Letter of Agreement

I voluntarily agree to participate in the study being conducted by the primary investigators entitled “A Hospital Based Case Control Study On Risk factors for Teenage Pregnancy in a Tertiary Government Hospital.” I freely and honestly answer the questionnaires and other information.

I understand that there are no special risks involved in being a participant. Although I will not benefit individually, it can help the health administrators and local government officials to come up with the best and practical way of pregnancy prevention strategies of teenagers.

Participants Printed Name

Witnessed by

Signature

Date

APPENDIX D

Liham sa Pasyente

Sa Mga Pasyente:

Mabuhay!

Ako po si Dr. Marvin P. Landicho, isang residente sa Departamento Ng Pediatrics ng Quirino Memorial Medical Center ay kasalukuyang gumagawa ng pananaliksik tungkol sa dahilan ng maagang pagbubuntis ng mag tinedyer.

Nais ko po sanang hingin ang inyong tulong at pahintulot sa pananaliksik na ito sa pamamagitan ng maingat na pagsagot sa mga sumusunod na katanungan. Lahat po ng mga kasagutang malilikom mula sa inyo ay kompidensyal.

Ang pananaliksik na ito ay isinasagawa upang makatulong sa mga nangangasiwa ng kalusugan at mga lokal na opisyal n gating gobyerno sa hangaring makapagbigay at praktikal na paraan kung paano maiiwasan ang maagang pagbubuntis ng mga tinedyer.

Maraming salamat at nawa ang pagpapala ng Diyos ay mapasaating lahat.

Primary Investigator

QMMC

APPENDIX E

Liham ng Pagsang-ayon

Ako ay nagbibigay ng boluntaryong pahintulot na sumali sa ginagawang pananaliksik ni Primary Investigator na pinamagatang “A Hospital Based Case Control Study Of Risk factors for Teenage Pregnancy in a Tertiary Government Hospital.” Kusang loob buong tapat kung sasagutin ang mga katanungan at ibang impormasyon.

Bilang kalahok, nauunawaan ko na walang kapahamakan na maaring idulot sa akin. Kahit wala na akong pansariling makikinabangan, ito naman ay makatutulong sa mga nangangasiwa ng kalusugan at mga lokal na opisyal naging gobyerno na makakapagbigay ng mabisa at praktikal na pamamaraan kung paano maiiwasan ang maagang pagbubuntis ng mga tinedyer.

Pangalan ng Kalahok

Saksi

Lagda

Petsa

APPENDIX F

Consent Form for Interview

I have been informed that Dr. Marvin P. Landicho, a resident of Quirino Memorial Medical Center, Department of Pediatrics is conducting a study entitled “A Hospital Based Case Control Study of Risk Factors for Teenage Pregnancy Seen in a Tertiary Government Hospital”. The objective of this study is to determine risk factors for teenage pregnancy among Filipino Adolescent Girls seen in a Government Tertiary Hospital.

I voluntarily agree to participate in this study, to be interviewed for approximately 10 minutes concerning data about my present condition as well as other information about my family.

I understand that my participation is voluntary and that I may refuse any questions or withdraw my consent to participate at any time without affecting the health care I receive. I understand that no special risk is involved in being a participant , and even though I will not benefit individually.

I understand that the information elicited from me will be treated in a confidential manner and will not be identified personally in the reporting of the results.

I understand that I may ask any question about this study anytime. If I have further questions, I may contact the Principal Investigator at Telephone number 4212250, Quirino Memorial Medical Center, Project 4, Quezon City.

Participant printed name and signature

Date: _____

Interviewer's name and signature

APPENDIX G

Questionnaire Risk Factors for Teenage Pregnancy Questionnaire

Abstract Form

Identification Number	
Study Code	
A - Case B - Control	
Date of Interview:	
Interviewer	
Age:	
Birthplace:	
Religion:	
Contact Number:	
Obstetric Score Gravidity: Parity:	
Status	
01 - Single 02 - Single Parent 03 - Live-in 04 - Married 05 - Widower 06 - Separated	
Educational Attainment	
01 - No formal Schooling 02 - Elementary Grade 03 - Elementary Graduate 04 - High School Level 05 - High School Graduate 06 - College Level 07 - Vocational	
Employment Status	
01 - Unemployed 02 - Employed	
Estimated Monthly Income	
01 - less than P5,000 02 - P5,000 to less than P10,000 03 - P10,001 to less than P30,000 04 - P30,000 and above	

I	
RISK FACTORS	
FAMILY PSYCHODYNAMICS	
A. Family Structure	
1 - Nuclear 2 - Extended 3 - Single-Parent 4 - Blended	
B. Family Set-Up	
1 - Democratic 2 - Authoritarian	
C. Parent's Availability	
1 - Both Parents 2 - Only one parent	
D. Family history of teenage pregnancy	
1 - Yes 2 - No 3 - Don't know	
E. Do your parents give you adequate support regarding decisions and mistakes	
0 - Never 1 - Rarely 2 - Sometimes 3 - Often 4 - Always	
F. Do you experience conflict between family members?	
0 - Never 1 - Rarely 2 - Sometimes 3 - Often 4 - Always	
G. Do you think negative family interaction affects you emotionally	
0 - Never 1 - Rarely 2 - Sometimes 3 - Often 4 - Always	
H. Do you experience poor guidance?	
0 - Never 1 - Rarely 2 - Sometimes 3 - Often 4 - Always	

PSYCHOSOCIAL FACTORS	
A. Do you smoke?	
0 - Never 1 - Rarely 2 - Sometimes 3 - Often 4 - Always	
B. Do you drink alcoholic beverage?	
0 - Never 1 - Rarely 2 - Sometimes 3 - Often 4 - Always	
C. Do you use illegal drugs	
0 - Never 1 - Rarely 2 - Sometimes 3 - Often 4 - Always	
D. Do you think you can solve problems easily?	
0 - Never 1 - Rarely 2 - Sometimes 3 - Often 4 - Always	
E. Thinking about your life right now, how important is it to you to avoid becoming pregnant?	
0 - Don't know 1 - Not at all important 2 - A little important 3 - Somewhat important 4 - Very important	
F. If you found out today that you were pregnant, how would you feel?	
0 - Don't know 1 - Wouldn't care 2 - A little pleased 3 - Upset 4 - Very upset	
G. Are you a victim of sexual abuse	
0 - Never 1 - Rarely 2 - Sometimes 3 - Often 4 - Always	

H. Are you currently in a relationship with whom you are having sex?	
0 - Refused 1 - Don't know 2 - No current partner 3 - Has current partner	
I. Have you had sexual intercourse before?	
1 - No 2 - Yes	If yes, at what age? : _____
J. Does peer pressure influences you to have sex?	
1 - No 2 - Yes	
K. Have you ever gotten information about birth control or pregnancy prevention?	
1 - No 2 - Yes	If yes, from where or when? : _____
L. Have you ever heard of any methods of preventing pregnancy?	
1 - No 2 - Yes	If yes, what type of contraceptive? : _____
M. Who influence you to use contraceptives?	
1 - Family 2 - Friends 3 - Doctors/Nurse 4 - Media	Others: _____
N. What form of media do you think influences teens to have sex at an early age	
1 - Print Media 2 - Radio 3 - Internet 4 - Television	

Risk Factors for Teenage Pregnancy Questionnaire	
Abstract Form	
Identification Number	
Study Code	
A - Case B - Control	
Date of Interview:	
Interviewer	
Age:	
Birthplace:	
Religion:	
Contact Number:	
Obstetric Score Gravidity: Parity:	
Kasalukuyang katayuan	
01 - Walang asawa 02 - Solong Magulang 03 - May kinakasama 04 - Kasal 05 - Byudo/Byuda 06 - Hiwalay	
Pinakamataas ng antas ng edukasyon	
01 - Hindi nakapag-aral 02 - Elementarya 03 - Nagtapos ng Elementarya 04 - High School 05 - Nakapagtapos ng High School 06 - Kolehiyo 07 - Nakapagtapos ng Kolehiyo 08 - Vocational	
Katayuan sa pagtatrabaho	
01 - Walang trabaho 02 - May trabaho	
Tinatayang buwanang kita	
01 - Mas mababa sa P5,000 02 - P5,000 hanggang P10,000 03 - P10,000 hanggang P30,000 04 - P30,000 at pataas	

I	
RISK FACTORS	
FAMILY PSYCHODYNAMICS	
A. Klase ng pamilya	
1 - Nuclear (magulang at mga anak) 2 - Extended (magulang, anak at mga kamag-anak) 3 - Single-Parent 4 - Blended (magulang, at mga anak sa dating pamilya)	
B. Family Set-Up	
1 - Democratic 2 - Authoritarian	
C. Presensiya ng Magulang	
1 - Parehong magulang 2 - Isang magulang lang	
D. Kasaysayan sa pamilya ng maagang pagbubuntis	
1 - Oo 2 - Wala 3 - Hindi alam	
E. Ang iyong mga magulang ba ay nagbibigay ng sapat na suporta ukol sa iyong pagkakamali at mga desisyon?	
0 - Hindi kailanman 1 - Bihira 2 - Minsan 3 - Madalas 4 - Palagi	
F. Ikaw ba ay nakararanas ng alitan sa pagitan ng bawat miyembro ng pamilya?	
0 - Hindi kailanman 1 - Bihira 2 - Minsan 3 - Madalas 4 - Palagi	
G. Sa tingin mo, ang negatibong pakikipag-ugnayan ba sa iyong pamilya ay nakakaapekto sa iyong emosyon?	
0 - Hindi kailanman 1 - Bihira 2 - Minsan 3 - Madalas 4 - Palagi	
H. Ikaw ba ay nakararanas ng hirap sa paggabay ng iyong magulang?	
0 - Hindi kailanman 1 - Bihira 2 - Minsan 3 - Madalas 4 - Palagi	

II	
PSYCHOSOCIAL FACTORS	
A. Ikaw ba ay naninigarilyo?	
0 - Hindi kailanman 1 - Bihira 2 - Minsan 3 - Madalas 4 - Palagi	
B. Ikaw ba ay umiinom ng alak?	
0 - Hindi kailanman 1 - Bihira 2 - Minsan 3 - Madalas 4 - Palagi	
C. Ikaw ba ay gumagamit ng ipinagbabawal na gamot?	
0 - Hindi kailanman 1 - Bihira 2 - Minsan 3 - Madalas 4 - Palagi	
D. Sa tingin mo ba, kaya mong iresolba ang mga problema ng ganung kadali?	
0 - Hindi kailanman 1 - Bihira 2 - Minsan 3 - Madalas 4 - Palagi	
E. Isipin mo ang buhay mo sa ngayon, gaano kahalaga sa iyo ang pagiwas sa pagbubuntis?	
0 - Hindi alam 1 - Hindi mahalaga 2 - Mahalaga ng kaunti 3 - Medyo mahalaga 4 - Napakahalaga	
F. Kung nalaman mong buntis ka ngayon, ano ang iyong mararamdaman?	
0 - Hindi alam 1—Hindi alintana 2 - Kaunting kaguluhan 3 - Maguguluhan 4 - Sobrang maguguluhan	
G. Ikaw ba ay biktima ng pangaabusong sekswal?	
0 - Hindi kailanman 1 - Bihira 2 - Minsan 3 - Madalas 4 - Palagi	

H. Ikaw ba ay kasalukuyang may karelasyon kung saan ikaw ay nakikipagtalik rin??	
0 - Itanggi 1 - Hindi Alam 2 - Walang kasalukuyang karelasyon 3 - Kasalukuyang may karelasyon	
I. Ikaw ba ay nakipagtalik na dati?	
1 - Hindi 2 - Oo	Kung oo, anong edad? : _____
J. Naimpluwensiyahan ka ba ng mga kaibigan mo na makipagtalik?	
1 - Hindi 2 - Oo	
K. Nagkaroon ka ba ng impormasyon tungkol sa birth control o kung paano maiiwasan ang maagang pagbubuntis?	
1 - Hindi 2 - Oo	Kung oo, Saan at kanino? : _____
L. Nakarinig ka na ba ng mga paraan kung paano maiiwasan ang maagang pagbubuntis?	
1 - Hindi 2 - Oo	Kung oo, ano klase ng contraceptive? : _____
M. Sino nakaimpluwensiya sa iyo ng gumamit ng contraceptives?	
1 - Pamilya 2 - Kaibigan 3 - Doctors/Nurse 4 - Media	Iba pa: _____
N. Anong uri ng media sa tingin mo ang maaring makaimpluwensiya sa mga kabataan na makipagtalik sa napakaagang edad?	
1 - Print Media 2 - Radyo 3 - Internet 4 - Television	Iba pa: _____