# Familial factors associated with adolescent pregnancy in San Juan City

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## Abstract

***Introduction*** One significant challenge facing the Filipino youth today is adolescent pregnancy, as the nation having one of the highest rates of adolescent births rates in the ASEAN region. Various sociocultural, economic, and individual factors have been identified as contributing factors. However, the impact of family, including maternal intergenerational factors, has yet to be substantially explored. This study aimed to investigate the root cause of adolescent pregnancy in San Juan city through the identification and examination of common familial factors.

***Methods*** This was an unmatched case-control study with a 1:2 ratio using a non-probability sampling. It included two groups of adolescent females: pregnant/ever pregnant and non-pregnant) aged 13 to 19. A three-part modified questionnaire was used to collect the data and was administered through a face-to-face interview.

***Results*** This study revealed that adolescent women in grandparent-headed families are 4.47 (CI: 1.33, 15.0) times more likely to be pregnant as adolescents compared to the reference group. Adolescents with low educational attainment among their fathers and mothers are 4.25 (CI: 1.80, 10.10) and 3.30 (CI: 1.58, 6.93) times more likely to get pregnant, respectively. Additionally, if a mother is unemployed, they were 1.89 (CI: 1.09, 3.30) times more likely to get pregnant, and if their mother passed away, they were 4.24 (CI: 1.03, 17.42) times more likely to experience pregnancy. Moreover, they are 7.69 (CI: 4.21, 14.02) and 9.07 (CI: 2.74, 30.03) times more likely to get pregnant if their mother and sister have a history of adolescent pregnancy. There was also a significant association found between severe family dysfunctionality (p=0.0430) and adolescent pregnancy. Cases were 8.33 times less likely to have a severely dysfunctional family than controls.

***Conclusion*** A statistically significant association was found between adolescent pregnancy and several familial factors, including exposure to a grandparent-headed family structure, low parental educational attainment, maternal unemployment, maternal death, and a family history of early pregnancy involving the mother or an older sister. While moderate family dysfunction was also associated, this relationship was not statistically significant.

***Key words***: Adolescent pregnancy, Familial factors, Intergenerational factors

According to the United Nations Population Fund (2020), adolescent pregnancy continues to be one of the major issues impacting young Filipinos today, as the country continues to have one of the highest rates of adolescent births among ASEAN nations. In the Philippines, there were 47 births per 1,000 women between the ages of 15 and 19 compared to 44 and 33.5 for the world and other ASEAN regions (Denila et al., 2024). Considering the enormity of the adolescent pregnancy situation in the country, preventive policies and programs were developed. In 2012, Republic Act No.10354, recognized as the

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Responsible Parenthood and Reproductive Health Act of 2012, was implemented according to the Philippine Commission on Women (2012). In 2021, Executive Order No. 141, "Adopting as National Priority the Implementation of Measures to Address the Root Causes of the Rising Number of Teenage Pregnancies and Mobilizing Government Agencies for the Purpose," was also adopted (Commission on Population and Development, 2021). Despite existing laws and interventions, adolescent pregnancy remains a challenge. The Commission on Population and Development has raised the alarm over the significant increase in adolescent pregnancies, especially in the number of births among women who are 10 to 14 years old (Moaje, 2025). According to the Philippine Statistics Authority (2023), births among 10-14 years old have increased by 35.13 percent (2,320 in 2021 to 3,135 in 2022), and the registered live births by adolescent women aged 19 and under also altered in 2022 when live births in that category increased by 10.15% (136,302 in 2021 to 150,138 in 2022). It was also noted that in 2020, the youngest mother who gave birth was 10 years old.

Wall-Wieler et al. (2016) mentioned the importance of recognizing risk factors before identifying ways to reduce adolescent pregnancy. Several literature sources have pointed out an interplay of sociocultural, economic, and individual factors as their determinants (Alukagberie et al., 2023; Senkyire et al., 2022; Mpimbi et al., 2022). Still, the impact of family, including maternal intergenerational factors, especially in the Philippines, has yet to be substantially explored. Furthermore, there is a lack of research regarding the roots of adolescent pregnancy instances at both the national and local levels. The researcher acknowledges that at the national level, laws have been crafted to ensure that adolescent pregnancy has been recognized; thus, government agencies have created strategies that will equip adolescents to avert "teen pregnancy." At the local level, data and information are available, health service providers have been trained, and health services/information are prepared to address the sexuality and reproductive health needs of adolescents. However, the researcher observed the need to go beyond health education and looked into factors leading to behavioral change and multifactorial strategies to break the repetitive chain of adolescent pregnancy.

This study aimed to examine the root causes of adolescent pregnancy in San Juan City by identifying and analyzing common familial factors. The city was purposely selected due to its documented incidence of adolescent pregnancy and the availability of relevant demographic and health data, which provide a meaningful context for investigating these factors in an urban setting. Furthermore, the study sought to generate evidence to inform interventions that adopt a whole-of-government approach, with the goal of breaking the cycle of adolescent pregnancy.

**Methods**

The research was an unmatched case-control study with a 1:2 ratio, aimed at identifying family factors linked to adolescent pregnancy. The study was conducted after receiving ethics committee approval from the Ethics Review Committee of the UERMMCI Research Institute for Health Sciences with RIHC ERC Code 1739/G/2024/106.

The study involved two (2) groups of adolescent females (currently pregnant/ever-pregnant and non-pregnant) aged 13 to 19 years old, residing in San Juan City. The cases were adolescents who were either pregnant or had given birth to at least one (1) child and had undergone prenatal visits to the barangay health centers and stations in the city. The controls were adolescents who were neither pregnant nor had given birth before, lived in the same city, and were enrolled at the city's public high school.

This study used convenience sampling. The 81 cases were taken from the adolescent (13-19 years old) pregnancy watch board list 2022-2023 and were chosen based on their age and current place of residence. The 162 controls were chosen based on the student's class section and availability, current place of residence, and parental consent.

A modified questionnaire was utilized to gather the data, which was administered through a face-to-face interview. The three-part modified questionnaire, which underwent face validation and reliability testing, was used for both the case and control groups. The first two parts of the questionnaire were based on the research by Cleland et al. (2014) regarding the World Health Organization's Topics for In-depth Interview and Focus Group Discussions: Partner Selection, sexual behavior, and Risk-taking, Section One: Socioeconomic and Family Characteristics, which was translated into Tagalog. The third part was adapted from another study (Cabahug et al., 1992). The collected data on family income, family structure,

family size, and the mother's and older sister's adolescent pregnancy were categorized and measured using a grouping method. The Filipino Family Adaptation, Partnership, Growth, Affection, and Resolve (APGAR) score (Cabahug et al. 1992) was measured using a 5-item Likert scale, whose value ranges from 0 (never) to 2 (always), with a maximum possible score of 10 and a minimum possible score of 0.

Face validation was done for the questionnaire to measure if the questionnaire was clear, appropriate, and adequate for the study participants. Before data collection began, the questionnaire was revised with the validator's corrections.

A test-retest reliability was also conducted. Correlation was used to measure the strength and direction between the two responses (Collins 2007). A correlation is considered statistically significant if the p-value is less than 0.05, and is generally regarded as having a strong correlation when the r-value of two variables is more than 0.7 (Mindrila et al.).

Descriptive statistics entailed using the mean with standard deviation for numerical variables and counts with percentages for categorical variables. Frequency distribution tables were generated to show the comparative distribution of pregnant/ever-pregnant and non-pregnant adolescents according to socio-demographic characteristics (father's monthly income, father and mother's educational attainment, employment status, and vital status), family structure, household size, family history of adolescent pregnancy (maternal and older sister), and family functionality. To determine the association between socio-demographic characteristics, family history of adolescent pregnancy, and family functionality, the odds ratio was computed with a 95% confidence interval and using p-value <0.05 as the cut-off for significance. SPSS version 21 was used to analyze the data.

**Results**

Two hundred forty-three (243) adolescent females participated in the study, 81 pregnant or previously pregnant from the adolescent pregnancy watch board list of the City of San Juan (cases), and 162 non-pregnant from San Juan National High School (controls).

Among the variables studied, including family structure and household size, father's and mother's profiles, history of adolescent pregnancy, and family APGAR, it was observed that the father's monthly income was relatively similar for both cases and controls (less than P10,957). Among the cases, a higher proportion of the father's income ranged between less than Php10,957 (42%) and Php10,957 to Php21,194 (23.5%) while the father's income of controls ranged between Php10,957 to Php21,194 (24.1%) and Php 21,195 to Php 43,828 (10.5%) as compared to cases (Table 1).

For the family structure and household size, it was shown that extended families (44.4%) and blended families (6.2%) made up most of the cases' family structure compared to controls. Regarding the number of members per household, the cases have less than 4 members (21%) compared to controls. On the other hand, there are more nuclear and single-parent families (41.36% and 16.7%, respectively) among controls than cases, and there are 4 or more members per household (84.6%) among controls than cases (Table 2).

The father's profile revealed that among the cases, 58% of the fathers have completed their high school education. A higher percentage of those who have not attended any schooling at all or have just completed their pre- and primary education were also observed (4.9%, 3.7%, and 17.3%, respectively) among the fathers of cases than controls. Furthermore, there was also a higher prevalence of unemployed fathers (12.35%) and deceased fathers (14.8%) as compared to controls. Among the controls, a higher percentage of fathers have attended college (35.8%), and the majority were employed (82.1%) and still living (91.4%) as compared to the cases (Table 3).

Conversely, the majority of the cases' mothers have completed high school (65.4%), and a higher percentage of those who have finished pre- and primary school (3.7% and 16%) are also present compared to controls. There was also a higher rate of unemployment, 53.1%, and deceased (7.4%) mothers among the cases as compared to the mothers of controls. In comparison, a higher percentage of the controls' mothers have attended college (36.4%), and the majority were employed (57.4%) and still living (98.2%) as compared to the cases (Table 4).

Table 5 revealed that among the cases, adolescent pregnancy in the mother and sister occurred more (71.6% and 17.3%) than in controls (24.7% and 2.5%). In contrast, an older age of adolescent pregnancy among mothers was noted for controls (M=23.5, SD = 5.2 years old) than cases (M=19, SD = 3 years old). Similarly, the age of adolescent pregnancy in elder sisters was older for controls (M=17.8, SD = 1.3 years old) than for cases (M=16.6, SD = 1.3 years old).

**Table 1.** Father's monthly income information.

| | Cases n=81 | Controls n=162 | Total N=243 |
|---|---|---|---|
| Father's monthly income (PhP) | | | |
| < 10,957 | 34 (42.0) | 67 (41.3) | 101 (41.5) |
| 10,957 to 21,194 | 19 (23.5) | 39 (24.1) | 58 (23.9) |
| 21,195 to 43,828 | 7 (8.6) | 17 (10.5) | 24 (9.9) |
| 43,829 to 76,669 | 0 | 6 (3.7) | 6 (2.5) |
| 76,670 to 131,484 | 0 | 1 (0.6) | 1 (0.4) |
| 131,485 to 219,140 | 0 | 3 (1.9) | 3 (1.2) |
| > 219, 140 | 0 | 1 (0.6) | 1 (0.4) |
| NA | 21 (25.9) | 28 (17.3) | 49 (20.2) |

**Table 2.** Family structure and household size.

| | Cases n=81 | Controls n=162 | Total N=243 |
|---|---|---|---|
| Family structure | | | |
| Nuclear family | 24 (29.6) | 67 (41.4) | 91 (37.45) |
| Extended family | 36 (44.4) | 55 (34) | 91 (37.45) |
| Single-parent family | 8 (9.9) | 27 (16.7) | 35 (14.4) |
| Grandparent family | 8 (9.9) | 5 (3.1) | 13 (5.35) |
| Blended family | 5 (6.2) | 8 (4.94) | 13 (5.35) |
| Household size | | | |
| < 4 | 17 (21.0) | 25 (15.4) | 42 (17.3) |
| ≥ 4 | 64 (79.0) | 137 (84.6) | 201 (82.7) |

**Table 3.** Fathers' profile.

| Paternal Characteristics | Cases n=81 | Controls n=162 | Total N=243 |
|---|---|---|---|
| Father's highest educational attainment/ year completed (n, %) | | | |
| No Grade Completed | 4 (4.9) | 3 (1.9) | 7 (2.9) |
| Pre-Primary/ Pre-School | 3 (3.7) | 4 (2.5) | 7 (2.9) |
| Primary/ Elementary | 14 (17.3) | 19 (11.7) | 33 (13.5) |
| Secondary/ High School | 47 (58.0) | 72 (44.4) | 119 (49.0) |
| Tertiary/College | 11 (13.6) | 58 (35.8) | 69 (28.4) |
| Vocational | 0 | 3 (1.9) | 3 (1.2) |
| NA/Don't know | 2 (2.5) | 3 (1.9) | 5 (2.1) |
| Father's employment status | | | |
| Employed | 58 (71.6) | 133 (82.1) | 191 (78.6) |
| Unemployed | 10 (12.35) | 11 (6.8) | 21 (8.64) |
| NA/Don't know | 13 (16.05) | 18 (11.1) | 31 (12.76) |
| Father's Vital Status (n,%) | | | |
| Alive | 69 (85.2) | 148 (91.4) | 217 (89.3) |
| Dead | 12 (14.8) | 14 (8.6) | 26 (10.7) |

**Table 4.** Mother's profile.

| Maternal Characteristics | Cases n=81 | Controls n=162 | Total N=243 |
|---|---|---|---|
| Mother's highest educational attainment/ year completed (n, %) | | | |
| No Grade Completed | 0 | 0 | 0 |
| Pre-Primary/ Pre-School | 3 (3.7) | 3 (1.9) | 6 (2.5) |
| Primary/ Elementary | 13 (16) | 14 (8.6) | 27 (11.1) |
| Secondary/ High School | 53 (65.4) | 82 (50.6) | 135 (55.5) |
| Tertiary/College | 10 (12.3) | 59 (36.4) | 69 (28.4) |
| Vocational | 1 (1.2) | 4 (2.5) | 5 (2.1) |
| NA/Don't know | 1 (1.2) | 0 | 1 (0.4) |
| Mother's employment status | | | |
| Employed | 32 (39.5) | 93 (57.4) | 125 (51.4) |
| Unemployed | 43 (53.1) | 66 (40.7) | 109 (44.9) |
| NA/Don't know | 6 (7.4) | 3 (1.9) | 9 (3.7) |
| Mother's vital status (n,%) | | | |
| Alive | 75 (92.6) | 159 (98.2) | 234 (96.3) |
| Dead | 6 (7.4) | 3 (1.8) | 9 (3.7) |

A greater proportion of moderate dysfunctionality was seen among cases (44.4%) than among controls (29.6%), while severe dysfunctionality was seen more among controls (11.1%) than among cases (1.2%) (Table 6).

Table 7 shows that the family socio-demographic factors statistically associated with adolescent pregnancy were the following: a grandparent-headed family structure (OR=4.47), the father's highest educational attainment being pre-primary to primary/elementary (OR=4.25) and secondary/high school or vocational (3.30), the mother's highest educational attainment being pre-primary to primary/elementary (OR=5.55) and secondary/high school (3.81), the mother's unemployment (OR=1.89), and the mother's vital status as dead (OR=4.24). Cases were 4.47 times more likely to have a grandparent-headed family structure than controls. Cases were 4.25 times more likely to have fathers who had completed pre-primary or primary/elementary education than controls. Cases were 3.30 times more likely to have fathers who had completed secondary/high school or vocational education than controls. Cases were 5.55 times more likely to have mothers who completed pre-primary to primary/elementary education than controls. Cases were 3.81 times more likely to have a mother who had completed secondary/high school education than controls. Cases were 1.89 times more likely to have mothers who were unemployed than controls. Cases were 4.24 times more likely to have mothers who are no longer living than controls.

The history of adolescent pregnancy in the mother and older sister was also found to be statistically associated with adolescent pregnancy. Cases were 7.69 times more likely to have a mother with a history of adolescent pregnancy than controls, and for every year increase in the age of mothers with a history of adolescent pregnancy, the odds of being pregnant with an adolescent decrease by 23.8%. Cases were also 9.07 times more likely to have an older sister with a history of adolescent pregnancy than controls (Table 8).

There was also a significant association found between severe family dysfunctionality (p=0.0430) and adolescent pregnancy. Cases were 0.12 times more likely or 8.33 times less likely to have a severely dysfunctional family than controls (Table 9).

## Discussion

Curbing the "alarming trend" of early and unintended pregnancy in the Philippines is of utmost importance, and this national problem cannot be traced to a single cause. In addition to examining the interactions among biological, economic, and sociocultural factors,

**Table 5.** Family history of adolescent pregnancy and age at adolescent pregnancy.

| Family characteristic | Cases n=81 | Controls n=162 | Total N=243 |
|---|---|---|---|
| Family history of adolescent pregnancy (n,%) | | | |
| Mother | | | |
| Yes | 58 (71.6) | 40 (24.7) | 98 (40.3) |
| No | 23 (28.4) | 122 (75.3) | 145 (59.7) |
| Older sister | | | |
| Yes | 14 (17.3) | 4 (2.5) | 18 (7.4) |
| No | 27 (33.3) | 70 (43.2) | 97 (39.9) |
| NA | 40 (49.4) | 88 (54.3) | 128 (52.7) |
| Age at adolescent pregnancy (mean, sd) | | | |
| Mother | 19.0, 3.0 | 23.5, 5.2 | - |
| Older sister | 16.6, 1.3 | 17.8, 1.3 | - |

**Table 6.** Family adaptation, partnership, growth, affection, and resolve (APGAR) information.

| Family functionality | Cases n=81 | Controls n=162 | Total N=243 |
|---|---|---|---|
| Family functionality (APGAR) | | | |
| Highly functional | 44 (54.3) | 96 (59.3) | 140 (57.6) |
| Moderately dysfunctional | 36 (44.4) | 48 (29.6) | 84 (34.6) |
| Severely dysfunctional | 1 (1.2) | 18 (11.1) | 19 (7.8) |

**Table 7.** Family socio-demographic factors associated with adolescent pregnancy.

| Factors | Odds ratio (95% CI) | p-value |
|---|---|---|
| Father's monthly income | | |
| < 10,957 | 2.03 (0.80, 5.12) | 0.1340 |
| 10,957 to 21,194 | 1.95 (0.72, 5.26) | 0.1880 |
| > 21,194 | 1.0 | - |
| Family structure | | |
| Grandparent family | 4.47 (1.33, 15.0) | 0.0150 |
| Extended family | 1.83 (0.98, 3.42) | 0.0600 |
| Blended family | 1.74 (0.52, 5.86) | 0.3680 |
| Single-parent family | 0.83 (0.33, 2.07) | 0.6850 |
| Nuclear family | 1.0 | - |
| Household size ≥ 4 | 0.69 (0.35, 1.36) | 0.2820 |
| Father's highest educational attainment/ year completed | | |
| Pre-primary to Primary/Elementary | 4.25 (1.80, 10.10) | 0.0010 |
| Secondary/High school/Vocational | 3.30 (1.58, 6.93) | 0.0020 |
| Tertiary/College | 1.0 | - |
| Mother's highest educational attainment/ year completed | | |
| Pre-primary to Primary/Elementary | 5.55 (2.13, 14.45) | 0.0001 |
| Vocational | 1.48 (0.15, 14.59) | 0.7400 |
| Secondary/High school | 3.81 (1.79, 8.11) | 0.0010 |
| Tertiary/College | 1.0 | - |
| Father's employment status | | |
| Unemployed | 2.08 (0.84, 5.18) | 0.1140 |
| Employed | 1.0 | - |
| Mother's employment status | | |
| Unemployed | 1.89 (1.09, 3.30) | 0.0240 |
| Employed | 1.0 | - |
| Father's vital status | | |
| Dead | 1.84 (0.81, 4.18) | 0.1470 |
| Alive | 1.0 | |
| Mother's vital status | | |
| Dead | 4.24 (1.03, 17.42) | 0.0450 |
| Alive | 1.0 | - |

**Table 8.** Family history of adolescent pregnancy factors associated with adolescent pregnancy.

| Factors | Odds ratio (95% CI) | p-value |
|---|---|---|
| Adolescent pregnancy in the mother | 7.69 (4.21, 14.02) | 0.0001 |
| Adolescent pregnancy in the older sister | 9.07 (2.74, 30.03) | 0.0001 |
| Mother's mean age at adolescent pregnancy | 0.76 (0.70, 0.83) | 0.0001 |
| Older sister's mean age at adolescent pregnancy | 0.52 (0.21, 1.31) | 0.1660 |

**Table 9.** Family adaptation, partnership, growth, affection, and resolve (APGAR) associated with adolescent pregnancy.

| Factors | Odds ratio (95% CI) | p-value |
|---|---|---|
| Family functionality (APGAR) | | |
| Moderately dysfunctional | 1.64 (0.93, 2.87) | 0.0850 |
| Severely dysfunctional | 0.12 (0.02, 0.94) | 0.0430 |
| Highly functional | 1.0 | - |

the Commission on Population and Development has emphasized that interventions to prevent adolescent pregnancy should be initiated at the household level. This study shows the different family factors significantly associated with adolescent pregnancy in San Juan City and focuses on seven main findings. First, in terms of family structure, this study observed that adolescent mothers are 4.47 times more likely to have a grandparent-type family structure. According to Reis et al. (2023), adolescents who do not live

with their biological parents may experience unstable family dynamics, resulting in early sexual initiation. This is consistent with the analysis of the Philippine National Demographic and Health Survey (NDHS) 2017, which indicated that adolescent pregnancy was more prevalent among teens living without either parent (Tabei et al., 2021). Parents significantly influenced their children's sexual behavior (Ashcraft et al., 2017), and a systematic review and meta-analysis by Kassa et al. (2018) revealed that adolescents who lack parental communication regarding their sexual and reproductive well-being were three times more likely to engage in childbearing.

Second, a greater proportion of fathers and mothers in the cases have only completed high school (58% and 65.4%, respectively) compared to the proportion of fathers and mothers of controls who finished college (35.8% and 36.4%, respectively). When it comes to paternal education, it was observed in this study that the father's education, specifically pre-primary to primary and secondary/high school/vocational, was significantly associated with adolescent pregnancy. Cases were 4.25 times more likely to have fathers who had completed pre-primary or primary/elementary education than controls. Cases were 3.30 times more likely to have fathers who had completed secondary/high school or vocational education than controls. Additionally, an association has also been found between maternal education and adolescent pregnancy, specifically preprimary to primary/ elementary and secondary/high school. Cases were 5.55 times more likely to have mothers who completed pre-primary to primary education and 3.81 times more likely to have completed high school education than controls.

According to Price et al. (2008), adolescents whose parents possessed low levels of education were more likely to engage in early sexual activity. On the other hand, educated parents set greater educational and employment ambitions for their children, encouraging them to avoid early pregnancy (Risby et al. 1998). Based on a systematic review of cohort studies conducted by Reis et al. (2023), lower maternal education emerged as a significant risk factor linked to early initiation of sexual activity. Jordahl et al. (2009) discovered in their study, "Bioecological Analysis of Risk and Protective Factors Associated with Early Sexual Intercourse Among Low Income Adolescents," that maternal education is a protective factor against early sexual intercourse among low-income adolescents. This may explain why the control group, despite being categorized as poor, did not experience adolescent pregnancy. This is further supported by East et al. (2007), who noted that a mother's educational level acted as a mediator in the cycle of intergenerational adolescent pregnancies. Mothers with higher levels of education were generally more engaged and supportive, modeling effective parenting practices that foster a nurturing home environment, thereby shielding adolescents from risky behaviors like early sexual initiation (Hendrick et al., 2019).

Third, unemployment among the mothers (OR=1.89) was associated with adolescent pregnancy. Economic stress resulting from joblessness could lead to poor parenting practices, which could cause adverse childhood experiences according to Judd et al. (2023). Extended periods of joblessness among mothers have also been linked to a greater likelihood of severe child abuse (Repetti et al., 2009). These adverse childhood experiences could influence a child's decision to adopt health-harming behaviors as an adult, such as participating in early sexual interaction that may lead to early unintended pregnancy (Bellis et al., 2013).

Fourth, having a deceased mother was significantly associated with a higher likelihood of adolescent pregnancy. Maternal figures have a unique influence in assisting adolescents in developing their sense of empowerment and purpose (Konowitz et al., 2023). Maternal figures have a unique influence in assisting adolescents in developing their sense of empowerment and purpose and they have also been traditionally viewed as the primary parents responsible for giving guided sexual education (Konowitz et al., 2023). According to Quijano-Ruiz et al. (2021), daughters subconsciously learn about sexual behaviors from their mothers, and the lack of a maternal role model can increase the likelihood of early sexual interaction and adolescent pregnancy. Additionally, a longitudinal and intergenerational study conducted in Cebu, Philippines, by Gipson et al. (2017) from 1994 to 2009 also found that when a mother is empowered, her daughter is less likely to engage in sexual activity, suggesting that a lack of maternal guidance may contribute to early sexual experiences and pregnancy. Furthermore, a literature review by Guzzo et al. (2021) indicated that adolescents may exhibit sexual risk behaviors as a coping mechanism for grief, which can lead to unintended pregnancies.

Fifth, when it comes to the mother's history of adolescent pregnancy, it was noted that the cases were 7.69 times more likely to have a mother with a history of adolescent pregnancy than controls. However, it was observed that with each additional year in the age of mothers who had a history of adolescent pregnancy, the likelihood of experiencing an adolescent pregnancy decreased by 23.8% (OR= 0.76). Aside from the sociodemographic factors the mother and daughter share, the family environment was also a factor. Several studies have shown that an adolescent pregnancy between a mother and a daughter may occur across generations because mothers influence their daughter's perception and attitudes toward sexual and reproductive health practices (Meade et al., 2008; Wall-Wieler et al., 2016; Liu, 2018; Black, 2018). A Swedish birth cohort study examining the direct and indirect associations of intergenerational transmission of early childbearing found that daughters gradually began to adopt and replicate their mother's behavior regarding the timing of childbearing. This indicates that if the mother views early childbearing positively, her daughters are more inclined to emulate it (Högnäs et al., 2019).

Sixth, the present research discovered that adolescent mothers were 9.07 times more likely to have an older sister who experienced early pregnancy. This finding was consistent with the birth cohort research in Manitoba conducted by Wall-Wieler et al. (2016), which found that an adolescent girl whose older sister had an adolescent pregnancy was more likely to get pregnant. A qualitative study by East et al. (2013) mentioned that an adolescent who has an older sister who experienced adolescent birth may also view it as an acceptable situation. Through the social modeling theory (Bandura, 1977), adolescents who witnessed their older sister's early pregnancy may consider early sexual interaction as a norm and adolescent pregnancy as a path to adulthood (East et al., 1992). In terms of a mother's behavior, it has been observed that mothers who have an older daughter who became pregnant early will have lower monitoring, lower achievement expectations, increased tolerance, and increased acceptance of early sexual activity and early childbearing toward her other children (East et al., 1999).

Lastly, severe family dysfunctionality was noted to be statistically associated with adolescent pregnancy (OR= 0.12). This finding aligns with the research conducted by Lusica et al. (2018), which examined the connection between family APGAR scores and teenage pregnancy. According to the study, the Family APGAR score of women living in a poor community (Payatas, Quezon City), was notably linked to an increased risk of teen pregnancy. Additionally, research on the factors influencing early sexual activity identified dysfunctional household dynamics and poor parental relationships as risk elements for early sexual initiation (Price et al. 2009). Muyibi et al. (2010) also identified that the family as a whole has a significant impact on addressing adolescent issues. The study suggests that low family cohesion indicates insufficient family support and inadequate parental monitoring and supervision, which can lead an adolescent to develop relationships with deviant peers and participate in high-risk behaviors. Conversely, adolescents who have high-quality parenting and have supportive and functional families delay their sexual debut and are less inclined to engage in high-risk sexual activity (Okigbo et al., 2015; Abiodun et al., 2020).

The study also revealed that there was a higher percentage of severe dysfunctionality seen among controls (11.1%) than cases (1.2%). Most of the controls were noted to have a family structure of nuclear and single-parent families, and according to Abubakar et al. (2020) a dysfunctional family may be characterized by several factors such as financial hardship, conflict between family members, and parental separation, all of which can adversely affect children's psychological well-being. On the other hand, most of the cases were already living with their partner and children (Extended and Blended family), and adolescent pregnancy may already be the result of their previously dysfunctional home environment. Dysfunctional families can pass on a dysfunctional way of life to their children or the next generation, leading to the perpetuation of these social issues. A study by Orluwene et al. (2015) mentioned that adolescents in dysfunctional families are more prone to engaging in reckless sexual behaviors; thus, fostering family connectedness could act as a protective influence against risky sexual practices, even among youth considered at high risk.

**Study Limitations**

This study has several limitations. For the case group, pregnant adolescents who could not visit the health center/stations for their prenatal check-ups were not included in the study. For the control group,

adolescent women have not undergone pregnancy tests to verify their non-pregnant status. There may have been selection bias since the interviewed students were chosen based on their availability. In addition, respondents generally fell within a limited and low-income range.

**Conclusion**

Based on this study, a significant statistical association has been found amongst adolescent's exposure to a grandparent family structure, parents' low educational attainment, unemployed mother, deceased mother, exposure of the adolescent to early pregnancy brought about by a member of the family (mother and older sister), and severe family dysfunctionality.

The role of female members in a family plays a factor in the incidence of adolescent pregnancy. Adolescent girls exposed to female family members who had a history of early pregnancy are most likely to participate in early sexual activities, which can result in unplanned pregnancies. Similarly, the death of the mother or parents who are least present in the lives of their daughters, with extended family members given the responsibility to care for the adolescent girl, is most likely to engage in risky behaviors. Overall, the values and factors passed on by the family create an impact on the ability of the adolescent to make sound decisions that can curve her productivity and future. For future studies, a multivariate analysis should be conducted to control for other variables that were found to be associated with adolescent pregnancy. Quantitative research can be conducted to look into the in-depth relationship between adolescent girls modeling the condition of their mother and/or sister who had an adolescent pregnancy. Similarly, an independent study (with a larger sample size and a range of respondents' economic classifications) can also be conducted to associate family and early pregnancy among adolescents. Further research into the protective and risk factors related to family dysfunctionality can also be done to better understand their relationship with early pregnancy.

**Recommendation**

Lobbying for necessary ordinances must be done regarding the provision of age and development-appropriate reproductive health education in schools on topics such as the physical, social, and emotional transformations in an adolescent, the different skills and self-protection against adolescent pregnancy, and responsible teenage behavior. It is essential to advocate for and support the thorough execution of the Comprehensive Sexuality Education (CSE) program by the Department of Education, which seeks to enhance the overall well-being of Filipino adolescents by effectively incorporating scientifically-based, age- and developmentally suitable, and culturally and gender-sensitive information on the cognitive, emotional, physical, and social dimensions of sexuality into the K-12 curriculum.

Launch educational initiatives that focus on strategies to improve family relationships and emphasize the connection between dysfunctional family environments and irresponsible sexual behavior, as well as adolescent pregnancy, targeting both parents and young people within the community.

Provide necessary information and services on the different modern natural and artificial forms of planning the family among adolescent mothers to prevent repeated pregnancies. Ensure the functionality of community—and school-based teen centers, which provide adolescents with relevant information and services related to health, employment, psychosocial development, and education. This teen facility will serve as a haven for adolescents, where trained peer educators and service providers will be available to deliver immediate assistance and referrals to their established network based on the needs and conditions of the adolescents.

Strengthen the collaborative and partnership mechanism of the City Population Development (POPDEV) Office with relevant regional line agencies such as the Department of Education (DepEd) to include and reach out of school youths (OSYs) through the Alternative Learning System (ALS) and come up with strategies that will encourage adolescent mothers to continue and complete their education. Similarly, the same approach should be done with the Technical Education and Skills Development Authority (TESDA), the Public Employment Service Office (PESO), and the Skills and Livelihood Training Center, which can equip and capacitate adolescents to become productive and employable, thus disrupting the cycle of poverty and intergenerational pregnancy.

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