

***Batang Ina: Teenage Fertility
Experience of Young Women in
Cagayan Valley***

Antonio I. Tamayao and Christian Joy P. Cruz

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Message from the Executive Director

Since the turn of the century over fifteen years ago, the Philippines has seen the rise of the millennial generation of young Filipinos who are currently shaping the political landscape in late 2016 as they take a committed stand on the issues of the day.

It is appropriate for those concerned with Philippine development work to now start looking at the next generation of Filipinos and the Commission on Population has had a tradition of producing studies concerning young people.

“Post-Millennial Filipinos: Renewed Hope vs Risks” compiles 17 regional papers based on the dataset of the 2013 Young Adult Fertility and Sexuality (YAFS) Study. These studies explore and discuss the emerging issues and concerns of the youth that need appropriate policy and program responses.

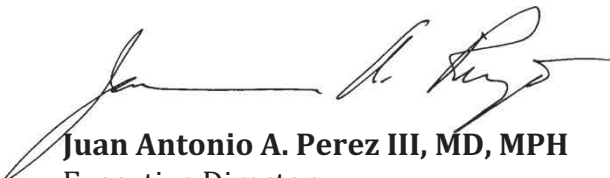
The latest YAFS comes more than a decade after the 2002 YAFS. The 2002 YAFS showed the concerns of the millennial Filipino much like the latest YAFS of 2013 marks the rise of the Filipinos born around the turn of the century and could foretell the shape of things to come for the 21st century young Filipino.

The post-millennial Filipino is focused on screens (smart phone, tablet and monitor) and the media is full of “hashtag-worthy” statements of 140 words.

The studies we are presenting continue to note and update matters such as sexual risk behaviors, early sexual involvement, teen pregnancy, reproductive health problems including sexually-transmitted infections as well as non-sexual risk behaviors such as smoking, alcohol abuse and drug use as well as suicide ideation and lifestyle.

We invite you to tune in to the latest findings about the post-millennial Filipino. It can only result in a more informed thread of interaction with the shapers of our country’s future.




Juan Antonio A. Perez III, MD, MPH
Executive Director
Commission on Population

Background

The 2013 Young Adult Fertility and Sexuality (YAFS) Study is the fourth installment of a series of nationally representative cross-sectional surveys on Filipino youth aged 15-24 (for YAFS 1 and 2 and 15-27 for YAFS 3). The YAFS has yielded valuable information about young people's sexual and non-sexual behavior, education, labor force participation, family relationships, attitudes and values regarding certain issues concerning them, personal characteristics like self-esteem, and adverse conditions like suicidal ideation and depression symptoms, all of which are of pertinence to one's understanding of this significant sector of society. The 2013 YAFS or YAFS 4 in particular was a response to the need of updating information on the situation of today's young people. From YAFS 3 in 2002, there have been many important new developments in the environment where young people are situated that need to be studied as these affect not just their sexual and non-sexual risk taking behaviors but also their total well-being. For instance, the changes in communication and information technology such as the prevalent use of cellular phones and the internet and the new forms of communication that these have produced like social networking were not explored in the previous YAFS. The foregoing expansion in technology is presumed to have resulted to notable changes in the patterns and topographies of courtship, dating and relationships among young people. The upsurge in the incidence of HIV infection primarily among men who have sex with other men (MSMs) requires more recent reliable data on male sexual and non-sexual risk behaviors which is currently not available because regular survey rounds like the National Demographic and Health Surveys conducted every five years does not routinely include men. Moreover, with YAFS 4, core behaviors that have been monitored over time in YAFS 1, 2 and 3 were also updated. Among these are the sexual risky behaviors, such as the prevalence of early sexual involvement, teen pregnancy and reproductive health problems including sexually transmitted infections (STIs) as well as non-sexual risk behavior like smoking, drinking and drug use.

With the wealth of information yielded by the YAFS 4, the Commission on Population (POPCOM) in partnership with the Demographic Research and Development Foundation, Inc. (DRDF) came up with seventeen (17) regional papers (Regions 1-13, 4B, CAR, NCR and ARMM) that explore and discuss the emerging issues and concerns of the young people that need appropriate policy and program responses.

Batang Ina: Teenage Fertility Experience of Young Women in Cagayan Valley

Antonio I. Tamayao¹ and Christian Joy P. Cruz²

Abstract

The increasing rate of teenage fertility among young adults in Cagayan Valley ushered the conduct of this study, which determined the differentials and determinants of teenage fertility of young women in the region. Teenage fertility was operationally defined as all females having their first birth below 20 years old. The 2013 Young Adult Fertility and Sexuality Study (YAFS4) data set was utilized in this paper. Results revealed that young females have their sexual debut at an average age of 18 years and that this is done without contraception. Young people not raised by both parents have an earlier sexual debut compared with those raised by both parents. More young people who are Ilocano, who were not raised by both parents, who have a sibling who got pregnant or got someone pregnant, and who had menarche below age 13 experienced childbearing during their teenage years. Among all factors, earlier sexual debut and not being raised by both the father and the mother significantly explain teenage fertility. Young females, regardless of whether they had teenage fertility, experienced complications during their first pregnancy. A lower proportion of young females with teenage fertility experience consulted a health care professional for their pregnancy-related complications. Similarly, fewer of them gave birth in a health facility and were assisted by a health professional while giving birth. This paper recommends the strengthening of the government's campaign and services on adolescent health and development, health care services for young pregnant mothers, and social networks and other support systems to delay sexual debut and to avoid the risk of teenage pregnancy.

Keywords: teenage fertility, sexual debut, health risk experience, health-seeking behavior

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Background and context

A major issue besetting Filipino young adults today is teenage fertility. According to the 2013 Young Adult Fertility and Sexuality Study (YAFS4), teenage fertility in the Philippines, measured as the proportion of females 15–19 years old who have begun childbearing, has doubled within the past decade, from 6.3 percent in 2002 to 13.6 percent in 2013. When they were interviewed in 2013, one in ten girls aged 15–19 was already a mother, while a smaller proportion (2.6%) was already pregnant with their first child.

Teenage fertility continues to be a major public health concern in the country for two reasons. First, teenage fertility leads young women to pregnancy-related health risk experience, as complications are greater for young pregnant women than for older ones. Second, women with teenage fertility experience show less knowledge about appropriate health-seeking behavior from health professionals. For instance, the United Nations Children’s Emergency Fund (2005) revealed that pregnant teens are less likely to receive prenatal care, often seeking it only in the third trimester, if at all.

Across the Philippines, increasing teenage fertility is pronounced among young adults in Cagayan Valley. Based on the 2010 Census of Population and Housing by the National Statistics Office (2012), Cagayan Valley has a population of 3.2 million, of which 0.6 million are aged 15–24. Significantly, the YAFS4 data reveal that the youth of this region have the second highest teenage fertility in the country (18.1%) next to the Cordillera Administrative Region (18.4%). This is corroborated by data from the National Demographic and Health Survey (2013), which shows that early childbearing is more common in Cagayan Valley (37%) than in other regions. The rising teenage fertility in the region, according to YAFS4, is related to the fact that over one in four young people in the region have engaged in premarital sex activity, of which 86.2 percent are unprotected from pregnancy and sexually transmitted infections (STIs).

This high level of teenage fertility in the region is a cause for immediate attention and concern. It calls for policy review and formulation on the part of the regional offices of the Department of Health and the Commission on Population to effectively reduce the fertility level and conceptualize early intervention programs that support the well-being of young females with fertility experience. This study attempted to capture the fertility experience of young fathers in the region; however, due to the few cases of males with fertility experience in the YAFS4 data set, the analysis was limited only to the young females in the region.

Based on this context, the overarching purpose of this study is to provide relevant information on teenage fertility in Cagayan Valley, which shall be the basis for more specific and more focused regional-level policy and program intervention. Specifically, the study

aims to determine the level and differentials of the teenage fertility experience of young females, examine the determinants of teenage fertility experience, and compare the pregnancy-related health risks and health-seeking behavior of those who experienced teenage fertility and those who did not.

Objectives of the study

This study examines the teenage fertility of young females in Cagayan Valley. Specifically, it addresses the following questions:

1. What is the profile of the young females in Cagayan Valley?
2. What is the sexual debut experience of young females in Cagayan Valley in terms of age and use of contraception/protection?
3. What is the level of teenage fertility among young females in Cagayan Valley?
4. Is there a significant difference in the sexual debut and teenage fertility experiences of young females in the region across the following socio-demographic, family, and personal factors as well as peer factors:
 - a. Type of residence
 - b. Ethnicity
 - c. Religion
 - d. Person/s who raised R
 - e. Pregnancy experience of sibling before age 18
 - f. Age at menarche
 - g. Pregnancy experience of unmarried male and female friends
5. Is there a significant difference in the teenage fertility experience of young females in the region across their age of sexual debut?
6. What are the determinants of teenage fertility experience of young females in Cagayan Valley?
7. What are the differences in the health risk experience and health-seeking behavior among those who experienced teenage fertility and those who did not?

Review of literature and study framework

This study is premised on the idea that teenage fertility among young females is influenced by multiple factors. The framework, which is presented in Figure 1, assumes that teenage fertility is influenced by various elements, namely socio-demographic, family, peer, and personal factors.

With respect to socio-demographic factors, the type of residence is associated with teenage fertility (Sayem & Nury, 2011). In a study on Bangladeshi women, those born in urban areas were significantly less likely to experience teenage marital pregnancy. Sayem and Nury (2011) claimed that this is expected because the age at first marriage is lower for rural women than for their urban counterparts in Bangladesh. Another factor cited by the authors is the fact that urban women might have a chance of avoiding social pressure through work (5.7% of women born in urban areas were working vs. 2.3% in rural areas), and they experience the related advantages that come with urban culture; hence, less focus on early family establishment along with a higher age at marriage might have contributed to the lower teenage pregnancy rate.

Religion is another determinant that can also shape the key demographics of a population. It is well documented how different religious denominations react toward entry into sex, marriage, use of modern contraception, and abortion, which then affect fertility (Marline, 2014). Family factors are equally important in explaining the teenage fertility experience of young women. Family disorganization may prompt family members to engage in risky behaviors. When the family is dysfunctional, little or no love is offered to the offspring in such households. Thus, the youth tend to seek love and affection elsewhere (United Nations Population Fund [UNFPA], 2013). Similarly, Sturgeon (2008) posited that adolescents from intact family structures tend to delay sexual initiation until a significantly older age compared with their peers from non-intact family backgrounds. Adolescents from intact families are less likely to have had sexual intercourse, have had fewer sexual partners on average, are less likely to report a sexually transmitted disease, and are less likely to have experienced a pregnancy or live birth compared with their peers from non-intact families.

The strong influence of peers during the adolescent years cannot be underestimated. Kirby (2001) argued that the norms of the individuals or groups with whom adolescents are connected affect their sexual behavior. Teenagers are influenced by their peers and likely to take pieces of advice and information about sex from them rather than from their parents (Thobejane, 2015). Moreover, Sieving, Eisenberg, Pettingell, and Skay (2006) posited that the higher the proportion of the youth's friends who have sexual experience, the greater the odds of sexual debut.

The role of family and peer factors in this study can be captured by Bandura's social learning theory. Social learning theory asserts that an individual's capacity to serve as a model of behavior is enhanced when that person interacts frequently with another (Bandura, 1977). As Kowal and Blinn-Pike (2004) stated, the modeling effects of siblings on the sexual attitudes and sexual behavior of the youth are most prevalent when siblings interact frequently and have a warm and amiable relationship. The risk of pregnancy among young women was more strongly associated with the teenage parenting status of their sisters than of their mothers. Having a sister who had a teenage birth and having both a sister and a mother who had a teenage birth were both associated with elevated risks of pregnancy (East, Reyes, & Horn, 2007).

Literature on teenage fertility is replete with studies stating that an earlier age of first sexual intercourse is a factor of teenage pregnancy. Women who had their sexual debut at earlier ages are more likely to participate in high-risk behaviors and experience unintended pregnancy (Pettifor, Straten, Dunbar, Shiboski, & Padian, 2004). Klavs, Rodrigues, Wellings, Weiss, and Hayes (2006) also found that early sexual initiators were more likely to report undesired consequences of sexual initiation, such as not using condom at first sex, teenage motherhood, and STIs.

Teenage fertility can lead to a number of complications and infections. These are associated with changes in the physiological and metabolic functions of the woman's body. According to the Population Reference Bureau (2000), the risk of death due to pregnancy-related causes is double among women 15–19 years old compared with women in their twenties. In the developing world, a third to half of women become mothers before the age of 20, and pregnancy-related complications are the leading cause of death among them. With respect to pregnancy-related health risks, Raj, Rabi, Amudha, Van Teijlingen, and Glyn (2010) found that pre-term delivery, still birth, fetal distress, birth asphyxia, anemia, low birth weight, pregnancy-induced hypertension, and spontaneous abortion were the most frequently encountered complications during teenage pregnancy. Similarly, Sharma, Verma, Khatri, and Kannan (2001) indicated that the frequency of antenatal check-ups among teenage pregnant women in Nepal is poor compared with mothers who are in their twenties. The possible reason given by the authors for the lower uptake of antenatal care facilities by pregnant teenagers is the lack of physical and mental maturity.

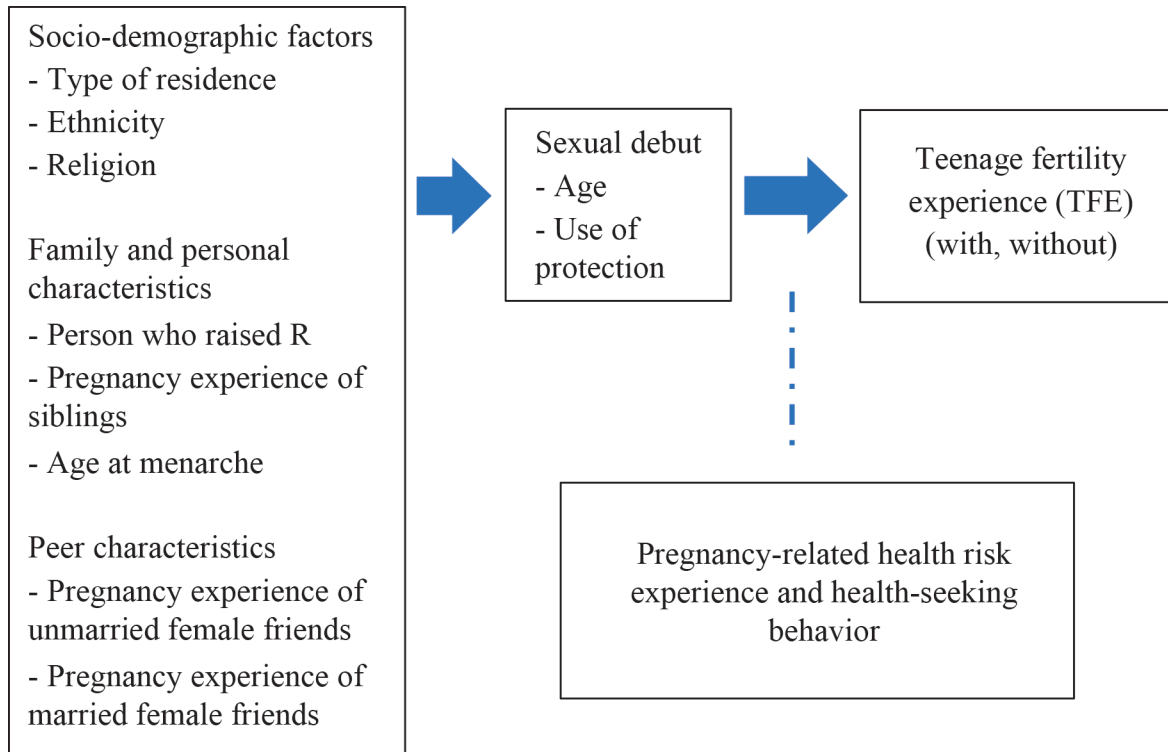


Figure 1. Study framework

Data and methods

The YAFS4 data set was used in this investigation. In Cagayan Valley, 1,099 young males and females 15–24 years old were interviewed. These respondents were obtained from 71 barangays and 1,060 households. The partner institution for the data gathering in the region was the Cagayan State University. All the variables identified and discussed in the study framework were selected from the YAFS4 data set. The dependent variable is teenage fertility experience, operationally defined as all females having their first birth below 20 years old.

The study framework used the following four factors:

- a. *Socio-demographic factors*, which include type of residence (urban, rural), ethnicity (Ilocano, non-Ilocano), and religion (Catholic, non-Catholic)
- b. *Family and personal factors*, which include the person who raised the respondent (both father and mother, other family arrangement), pregnancy experience of sibling (with or without siblings who got pregnant/got someone pregnant before age 18), and age at menarche or first menstruation

- c. *Peer factors*, which include the pregnancy experience of unmarried female friends (with or without unmarried female friends who got pregnant) and the pregnancy experience of unmarried male friends (with or without unmarried male friends who got someone pregnant)
- d. *Intervening factor*, which is the sexual debut measured in terms of their age at first sexual intercourse and the use of contraception during sexual debut
- e. *Health risk experience of young females* (various variables measured at first pregnancy). Young females with teenage fertility experience are those who had their first pregnancy before 20 years old, while young females without teenage fertility experience are those who had their first pregnancy at 20 years old and above. Health risk experience revolves around whether they have experienced any complication that required treatment, whether they have delivered by cesarean section, and whether they have experienced any complication around the time of birth that required treatment.
- f. *Health-seeking behavior of young females* (various variables measured at first pregnancy) pertains to seeking consultation for prenatal care, person/s consulted for prenatal care, health professional consulted for these complications, person/s who assisted in the delivery, place of delivery, visit from a health professional/traditional birth attendant to check on R's health after delivery, and having ever breastfed.

Chi-square tests were used to infer differences in the teenage fertility experience of young females in the region across socio-demographic, family, peer, and intervening factors. Independent sample t-tests were employed to test for differences in the mean age at sexual debut across factors. Logistic regression was used to examine the determinants of teenage fertility experience of young females in the region.

Results

Profile of respondents

Table 1 presents the profile of young females in Cagayan Valley. Of the 535 respondents, 87.3 percent are rural residents, 67.9 percent are Ilocanos, and 78.7 percent are Roman Catholic. With respect to family characteristics, the great majority of young females were raised by both their father and mother (81.5%), and 88.1 percent reported having no siblings who got pregnant/got someone pregnant. With regard to age at menarche, 58.1 percent had their first menstruation at 13 years old and above. In terms of pregnancy experience of unmarried male and female friends, 26.2 percent of the respondents have unmarried female friend/s who got pregnant, while 15.3 percent have unmarried male friend/s who got someone pregnant.

Table 1. Profile of the respondents in Cagayan Valley

Characteristics	Frequency	Percent
<i>Type of residence (N = 535)</i>		
Urban	68	12.7
Rural	467	87.3
<i>Ethnicity (N = 535)</i>		
Ilocano	363	67.9
Non-Ilocano	172	32.1
<i>Religion (N = 532)</i>		
Catholic	421	78.7
Non-Catholic	111	20.7
<i>Person/s who raised R (N = 535)</i>		
Both father and mother	436	81.5
Other arrangement	99	18.5
<i>Pregnancy experience of sibling/s (N = 520)</i>		
With a sibling who got pregnant/got someone pregnant	62	11.9
Without a sibling who got pregnant/got someone pregnant	458	88.1
<i>Age at menarche (N = 534)</i>		
Below 13	224	41.9
13 and older	310	58.1
<i>Pregnancy experience of unmarried female friend/s (N = 535)</i>		
With unmarried female friend/s who got pregnant	140	26.2
Without unmarried female friend/s who got pregnant	395	73.8
<i>Pregnancy experience of unmarried male friend/s (N = 535)</i>		
With unmarried male friend/s who got someone pregnant	82	15.3
Without unmarried male friend/s who got someone pregnant	453	84.7

Sexual debut experience and level of teenage fertility

Determining the sexual debut experience of young females is important because it has implications on childbearing, contraceptive use, and STIs among the teenage population. Table 2 shows the sexual debut experience of young females in the region. Of the 535 female respondents 15–24 years old, 39.1 percent have already engaged in sex, while 60.9 percent reported no sexual initiation. The mean age at sexual debut of young females in Cagayan Valley is 18.19 years. In terms of the use of contraception during sexual debut, 90 percent reported no contraceptive use, implying that their first sexual experience was exposed to the risk of unintended pregnancy and STIs.

Table 2. Sexual debut experience of young females in Cagayan Valley

Sexual debut experience	Percent
<i>Sexual debut</i>	
Yes	39.1
No	60.9
N of cases	535
<i>Mean age at sexual debut</i>	
	18.19
N of cases	209
<i>Use of contraception during sexual debut</i>	
Yes	10.0
No	90.0
N of cases	110

Table 3 illustrates the level of teenage fertility of young females in Cagayan Valley. Close to one fifth of the 535 female respondents (18.7%) have teenage fertility experience; that is, they began childbearing before age 20. On the other hand, 12.1 percent began childbearing when they were 20 years old or older. Finally, 69.2 percent of the young people in the region have not yet started childbearing.

According to the YAFS4, teenage fertility in the region more than tripled in the past decade. There was an 11-percentage-point increase in females 15–19 years old who are mothers (from 3.7% in 2002 to 14.9% in 2013). There was a 12.5-percentage-point increase in females 15–19 years old who have begun childbearing (from 5.6% in 2002 to 18.1% in 2013).

Table 3. Level of teenage fertility of young females in Cagayan Valley

Teenage fertility experience (TFE)	Percent
With TFE	18.7
Without TFE	12.1
Have not begun childbearing	69.2
N of cases	535

Sexual debut experience of young females across socio-demographic, family, personal, and peer factors

Table 4 presents the sexual debut experience of young females across socio-demographic factors. Results show no significant difference in the mean age at sexual debut and use of protection at the respondents' sexual debut based on their type of residence, ethnicity, and religion. This finding suggests that age at first intercourse and use of protection at sexual debut do not differ whether young females of the region reside in urban or rural areas, whether their ethnic group is Ilocano or non-Ilocano, and whether their religious affiliation is Catholic or non-Catholic.

Table 4. Sexual debut experience of young females across socio-demographic factors

Socio-demographic factors	Mean age at sexual debut	N of cases	Use of protection at sexual debut		N of cases
			Yes	No	
<i>Type of residence</i>					
Urban	17.77	22	(15.4)	(84.6)	13
Rural	18.23	187	9.3	90.7	97
<i>Ethnicity</i>					
Ilocano	18.12	151	9.6	90.4	83
Non-Ilocano	18.36	58	(11.1)	(88.9)	27
<i>Religion</i>					
Catholic	18.11	165	10.6	89.4	85
Non-Catholic	18.45	42	(8.3)	(91.7)	24

Note. Figures in parentheses are based on fewer than 30 cases.

Results on the sexual debut experience of young females across family and personal factors indicate that age at first intercourse and the use of protection at sexual debut differ depending on the person/s who raised them (Table 5). On the other hand, sexual debut experiences of young females do not vary based on their age at menarche or on the pregnancy experience of their siblings.

The differences in the age at first sexual intercourse when respondents are grouped according to the person/s who raised them show that a higher proportion of young people in the region who were raised by persons other than their mother and father had an earlier sexual debut (17.62 years old). Conversely, having been raised by both the father and mother delays the age at first sexual intercourse (18.35 years old).

Table 5. Sexual debut experience of young females across family and personal factors

Family and personal factors	Mean age at sexual debut	N of cases	Use of protection at sexual debut		N of cases
			Yes	No	
<i>Person/s who raised R</i>					
Both father and mother	18.35	164	10.0	90.0	90
Other arrangement	17.62	45	(10.0)	(90.0)	20
<i>Pregnancy experience of sibling/s</i>					
With a sibling who got pregnant/got someone pregnant	17.68	32	(17.6)	(82.4)	17
Without a sibling who got pregnant/got someone pregnant	18.24	167	8.2	91.8	85
<i>Age at menarche</i>					
Below 13	17.96	88	10.4	89.6	48
13 and older	18.36	121	9.7	90.3	62

Note. Figures in parentheses are based on fewer than 30 cases.

* $p < .05$.

Table 6 presents the sexual debut experience of young females across peer factors. There is no significant difference in the age at first sexual intercourse and use of protection at sexual debut of the respondents when grouped according to the pregnancy experience of the respondents' unmarried female and male friend/s. This finding implies that the age at first sexual intercourse and use of protection at the sexual debut of young females do not vary regardless of whether they have unmarried female and male friend/s who got pregnant or got someone pregnant.

Table 6. Sexual debut experience of young females across peer factors

Peer factors	Mean age at sexual debut	N of cases	Use of protection at sexual debut		N of cases
			Yes	No	
<i>Pregnancy experience of unmarried female friend/s</i>					
With unmarried female friend/s who got pregnant	18.32	64	15.6	84.4	45
Without unmarried female friend/s who got pregnant	18.13	145	6.2	93.8	65
<i>Pregnancy experience of unmarried male friend/s</i>					
With unmarried male friend/s who got someone pregnant	18.51	33	(0.0)	(100.0)	26
Without unmarried male friend/s who got someone pregnant	18.13	176	13.1	86.9	84

Note. Figures in parentheses are based on fewer than 30 cases.

Teenage fertility experience of young females across socio-demographic, family, personal, and peer factors

Table 7 displays the teenage fertility experience (TFE) of young females across socio-demographic factors. Of the three socio-demographic factors, ethnicity is the only variable associated with differences in the fertility experience of young females. This means that there are more Ilocano females with higher TFE than non-Ilocanos. Meanwhile, no difference in TFE was found between young females in the region living in rural and urban areas.

Table 7. Teenage fertility experience of young females across socio-demographic factors

Socio-demographic factors	Teenage fertility experience			N of cases
	With	Without	Have not begun childbearing	
<i>Type of residence</i>				
Urban	14.7	8.8	76.5	68
Rural	19.3	12.6	68.1	467
<i>Ethnicity**</i>				
Ilocano	22.3	11.6	66.1	363
Non-Ilocano	11.0	13.4	75.6	172
<i>Religion</i>				
Catholic	20.7	12.4	67.0	421
Non-Catholic	11.5	10.8	77.5	113

** $p < .01$.

Across family and personal factors, the fertility experience of young females in the region differs based on the person/s who raised them, the pregnancy experience of their sibling/s, and their age at menarche (Table 8). Those who were raised by both parents delay their entry into childbearing, as reflected in the lower proportion of them with TFE (17.0%). More young females with a sibling who got pregnant/got someone pregnant have TFE (32.3% vs. 16.8%). Moreover, a higher proportion of young females who had their menarche before age 13 have TFE (22.8% vs. 15.8%).

The TFE of young females across peer factors is presented in Table 9. There is no significant difference in the TFE of young females relative to these peer factors. In short, these factors do not explain variations in the fertility experience of young females in the region.

Table 8. Teenage fertility experience of young females in the region across family and personal factors

Family and personal factors	Teenage fertility experience			N of cases
	With	Without	Have not begun childbearing	
<i>Person/s who raised R**</i>				
Both father and mother	17.0	14.0	69.0	436
Other arrangement	26.3	4.0	69.7	99
<i>Pregnancy experience of sibling/s*</i>				
With a sibling who got pregnant/got someone pregnant	32.3	11.3	56.5	62
Without a sibling who got pregnant/got someone pregnant	16.8	11.8	71.4	458
<i>Age at menarche**</i>				
< 13	22.8	8.0	69.2	224
13+	15.8	15.2	69.0	310

* $p < .05$. ** $p < .01$.

Table 9. Teenage fertility experience of young females in the region across peer factors

Peer factors	Teenage fertility experience			N of cases
	With	Without	Have not begun childbearing	
<i>Pregnancy experience of unmarried female friend/s</i>				
With unmarried female friend/s who got pregnant	20.0	17.1	62.9	140
Without unmarried female friend/s who got pregnant	18.2	10.4	71.4	395
<i>Pregnancy experience of unmarried male friend/s</i>				
With unmarried male friend/s who got someone pregnant	13.4	18.3	68.3	82
Without unmarried male friend/s who got someone pregnant	19.6	11.0	69.3	453

Teenage fertility experience and sexual debut of young females

Table 10 displays the TFE of young females when grouped according to age at sexual debut and use of protection at sexual debut. The TFE of young females in the region differs by age at sexual debut; that is, a higher proportion of young females who had their sexual initiation below 18 years old experienced teenage fertility compared with those whose sexual initiation occurred when they were 18 years old and older (69.9% vs. 17.0%).

Table 10. Teenage fertility experience and sexual debut of young females

Sexual debut experience	Teenage fertility experience			N of cases
	With	Without	Have not begun childbearing	
<i>Age at sexual debut***</i>				
< 18	69.9	2.9	27.2	103
18+	17.0	50.9	32.1	106
<i>Use of protection at sexual debut</i>				
Yes	(36.4)	(45.5)	(18.2)	11
No	43.4	24.2	32.3	99

Note. Figures in parentheses are based on fewer than 30 cases.

*** $p < .001$.

Determinants of teenage fertility among young females in the region

Table 11 shows the regression model of the TFE of young females. The intervening variable, which is age at sexual debut, is excluded from the first model but included in the second model. Results of the regression analysis in the first model reveal that only the person/s who raised R is significantly related to TFE among young females in the region. Type of residence, ethnicity, religion, pregnancy experience of sibling/s, pregnancy experience of unmarried male/female friend/s, and age at sexual debut were not significant determinants of teenage fertility.

Table 11. Logistic regression model of the teenage fertility experience of young females

Factors	Exp (B)	
	Model 1	Model 2
<i>A. Socio-demographic factors</i>		
Type of residence		
Urban	0.962	0.324
Rural (reference)		
Ethnicity		
Ilocano	1.999	3.004
Non-Ilocano (reference)		
Religion		
Catholic	1.658	6.454
Non-Catholic (reference)		
<i>B. Family factors</i>		
Person/s who raised R		
Both father and mother	0.102**	0.101
Other family configuration (reference)		
Pregnancy experience of sibling/s		
With a sibling who got pregnant/got someone pregnant	2.414	1.835
Without (reference)		
<i>C. Peer factors</i>		
Pregnancy experience of unmarried female friend/s		
With unmarried female friend/s who got pregnant	0.902	0.198
Without (reference)		
Pregnancy experience of unmarried male friend/s		
With unmarried male friend/s who got someone pregnant	0.522	0.638
Without (reference)		
<i>D. Age at sexual debut</i>	-	0.074***
<i>Nagelkerke R²</i>	0.218	0.802

** $p < .01$. *** $p < .001$.

The significant relationship between person/s who raised R and the TFE means that young females who were raised by both their father and mother are less likely to have TFE. This finding supports Troccoli's (2006) assertion that teens who are closely connected to

their parents are more likely to delay sexual activity, have lower rates of sexual activity, and have lower rates of pregnancy and childbearing.

Interestingly, age at sexual debut as the intervening variable became the only factor significantly related to TFE when added to the logistic regression model. This finding reveals that delaying age at sexual debut reduces young females' TFE. The results of the second regression model point to the possibility of interaction between the age at sexual debut and the other explanatory factors, specifically the person/s who raised the respondent. Upon checking the interaction of these two factors, they were not found to have a significant effect on the TFE of the young females in the region.

Health risk experience and health-seeking behavior of young females with and without teenage fertility experience

Examining young females' pregnancy-related health risk experience and health-seeking behavior is crucial. This is a dimension of teenage fertility that requires policies and intervention programs.

Table 12 presents the health risk experience and health-seeking behavior of young females with and without TFE. Ninety percent of those with TFE and 96.9 percent of those without TFE saw someone for prenatal care. While both groups predominantly consulted a midwife (70.0% for those with TFE and 70.8% for those without TFE) for prenatal care, more young people without TFE consulted a doctor (26.2% vs. 12.0%) or a nurse (6.2% vs. 2.0%) compared with those with TFE.

Almost the same percentage of those with TFE (14.0%) and without TFE (13.8%) experienced complications that required treatment. However, more young females without TFE consulted health professionals for these complications (12.3%) than those with TFE (9.0%), although the difference is not significant.

A higher percentage of those without TFE than those with TFE (63.1% vs. 40.0%) sought the assistance of a doctor during their first delivery. As for the place of delivery, government hospitals/health centers are preferred by more young females without TFE (61.5% vs. 49.0%), while more young females with TFE than those without TFE gave birth at home (46.0% vs. 24.6%).

Six percent of those with TFE and 12.3 percent of those without TFE had a cesarean section. More young females without TFE were checked by a health professional or traditional birth attendant after their first delivery compared with those with TFE (92.3% vs. 74.0%). Regardless of TFE, one fifth of the respondents experienced complications that required treatment at the time of their first birth (21.0% for those with TFE and 21.5% for those without TFE). Lastly, the majority of respondents who already started childbearing breastfed their first child (about 86% for both those with and without TFE).

Table 12. Health risk experience and health-seeking behavior of young females with and without teenage fertility experience (TFE) at first pregnancy

Health risk experiences and health-seeking behavior	With TFE	Without TFE
Saw anyone for prenatal care	90.0	96.9
Person/s consulted for prenatal care		
Doctor**	12.0	26.2
Nurse	2.0	6.2
Midwife	70.0	70.8
Hilot	7.0	12.3
Experienced any complication that required treatment	14.0	13.8
Consulted health professional for these complications	9.0	12.3
Person/s who assisted in the delivery		
No one	1.0	0.0
Doctor**	40.0	63.1
Nurse	10.0	21.5
Midwife	31.0	35.4
Hilot	28.0	13.8
Relative/friend	16.0	12.3
Place of delivery**		
Home	46.0	24.6
Government hospital/health center	49.0	61.5
Private hospital/clinic	4.0	13.8
Delivered by cesarean section	6.0	12.3
With a health professional/traditional birth attendant who checked on R's health after delivery**	74.0	92.3
Experienced any complication around the time of birth that required treatment	21.0	21.5
Ever breastfed	86.0	86.2

** $p < .01$.

Discussion

The analysis using descriptive statistics revealed that the young females of Cagayan Valley are mostly Ilocanos, Roman Catholics, rural residents, and had their menarche at age 13 and older. The majority of young females were raised by both their father and mother, and most of them have no siblings who have gotten pregnant/gotten someone pregnant. A great number of them do not have unmarried female friend/s who have gotten pregnant and unmarried male friend/s who have gotten someone pregnant.

An earlier sexual debut is correlated with unintended pregnancy because it often occurs with a reduced or low level of contraception (Raine, Minnis, & Padian, 2003). In the Philippines, YAFS4 data indicate that the median age at sexual initiation for females is 18.2 years. The median age at sexual debut of young females in Cagayan Valley (18.19 years) reflects the national result. Interestingly, contraception use during the sexual initiation of young females in the region is low, which is a risk factor for teenage pregnancy. This finding is congruent with the results at the national level, which showed that most of the first premarital sexual encounters were unprotected from the risk of conception or STIs. This result also supports the conclusion of Ikamari and Towett (2007) that most early sexual activity is unplanned and most premarital pregnancies are unwanted.

Teenage pregnancy is a hot topic in the Philippines. Another key finding of YAFS4 is the dramatic increase of teenage childbearing in the last 10 years, doubling from 6.3 percent in 2002 to 13.6 percent in 2013. A gloomier picture is evident in Cagayan Valley, as nearly one fifth of its young females (15–24 years old) have begun childbearing before age 20.

The first sexual experience marks the exposure to the risk of pregnancy. Across socio-demographic factors, the sexual debut experience of young females does not differ based on their type of residence, ethnic group, and religious affiliation. Being a resident of rural or urban areas, being an Ilocano or non-Ilocano, and being Catholic or non-Catholic are not significant factors in explaining the variation in the sexual debut experiences of young females in the region. However, with regard to family and personal factors, the age at first sexual intercourse differed significantly between those who were raised by both parents and those who were not. Young females in the region who were not raised by both parents had earlier sexual initiation. This is similar to the findings of Sturgeon (2008), which showed that being raised by both the father and mother or coming from intact families delayed the sexual initiation of the youth. Relative to peer factors, the sexual debut experience of young females in the region does not vary based on whether they have unmarried male friends who got someone pregnant or unmarried female friends who got pregnant.

Several factors, which most of the time interact with each other, are associated with teenage fertility. Among the socio-demographic variables studied, the teenage fertility of young females in the region varied across ethnicity; that is, more young Ilocanos experienced teenage childbearing compared with non-Ilocanos.

Differences in the fertility experience of young females in the region were also observed across family and personal factors, namely having been raised by both parents, having a sibling who got pregnant or got someone pregnant, and having menstruation below age 13. A higher proportion of young females who were not raised by both parents experienced teenage childbearing. This can be explained by the fact that when the family is dysfunctional, there is little or no love offered to the offspring, and the youth tend to seek love and affection elsewhere (UNFPA, 2013). More young females who have a sibling who got pregnant or got someone pregnant experienced teenage fertility. A possible explanation for this is the modeling effect of siblings on the youth's sexual attitude and behavior due to their frequent contact and intimate relationship (Kowal & Blinn-Pike, 2004). Having an older sister who had a teenage birth is strongly associated with elevated risks of pregnancy among younger siblings, as noted by East et al. (2007). Results also show that a higher proportion of young females who experienced menarche during their pre-puberty years (below age 13) already gave birth during their teenage years. Girls who mature early are more likely to have an earlier sexual debut, which puts them at greater risk for adolescent pregnancy (Deardorff, Gonzales, Christopher, Roosa, & Millsap, 2005).

The literature is replete with studies showing the strong influence of peers on adolescents' sexual behavior. But the results of this study seem to prove otherwise, since peer factors do not explain variation in the TFE of young females in the region. Teenage fertility does not differ according to whether the respondents have unmarried male friend/s who got someone pregnant and unmarried female friend/s who got pregnant. However, a timing limitation of this analysis must be noted. There is a possibility that the TFE of the male and female friends happened after the respondents experienced teenage childbearing. The survey instruments were not able to capture this scenario.

Identifying the factors that determine teenage pregnancy poses a critical challenge among different stakeholders in the region, as the region registered the second highest teenage fertility in the country. Significantly, not being raised by both parents helps explain the TFE of young females in the region. As the World Health Organization (2010) noted, parents are the first socializing agents, teachers, leaders, and counselors of their children. Parents' guidance, monitoring, and support are always important and greatly needed during adolescence, which is characterized by spurts of physical, mental, emotional, social, and sexual development. The study also revealed that early sexual debut is a major determinant

of teenage fertility. Early sexual initiation exposes young females to the risk of teenage childbearing.

Childbearing at an early age is often risky. In Cagayan Valley, almost the same percentages of young females with and without TFE have experienced complications that required treatment. But relative to health-seeking behavior, fewer young people who experienced teenage pregnancy consulted a health professional for prenatal and postnatal care. Fewer of them gave birth in a health facility and were assisted by a skilled birth attendant. These findings are comparable with the results of the studies done by Raj et al. (2010) and Sharma et al. (2001) indicating that complications are encountered during teenage pregnancy and that teenage mothers' health-seeking behavior is poor, which they attributed to a lack of physical and mental maturity. Another possible explanation for the poor health-seeking behavior of these teenage mothers is that they are stigmatized as young mothers. This underscores the need to encourage more young females with teenage fertility to avail of the services of health care professionals where appropriate, safe, and effective health care services are guaranteed.

Summary and recommendations

The results revealed that young females have their first sexual initiation at 18 years old and that this is done without contraception. Those who come from non-intact families have earlier sexual debuts than those raised by both parents. Being an Ilocano, being raised by persons other than their parents, having a sibling who got pregnant or got someone pregnant, and experiencing menarche before age 13 explain earlier childbearing. Among all factors, earlier sexual debut and being raised by non-intact families are strongly associated with earlier teenage fertility among young females in the region. Finally, young females, regardless of whether they have TFE, have experienced pregnancy complications that required treatment. More young females without TFE consulted health care professionals compared with those with TFE.

Based on these findings, the following recommendations are put forward:

A. Policy recommendations

1. The Department of Education (DEPED) should issue a memorandum to schools to implement the Regional Development Council (RDC) II Resolution No. 02-36-2014 s. of 201, Approving for Adoption and Institutionalization of the Parenting Education on Adolescent Health and Development (AHD) in the Regular Parents-Teachers Association (PTA) Activities of All Schools in Region 2. This resolution aims to institutionalize the

conduct of parenting education on AHD in the regular activities of the PTA to educate parents and to provide them with skills in communicating with their adolescent children pertaining to matters on sexuality. As primary educators, parents need to be more confident in responding to their teenagers' queries on sexuality and reproduction. Parents should be enabled to effectively provide guidance to their teenage children as they start to socially interact and form relationships with the opposite sex. An early onset of menarche among girls requires the timely provision of correct and age-appropriate information on sexuality and reproduction, which should be available in the home to complement the sexuality education provided in schools.

2. Local government units (LGUs), through their *Sanggunian*, should adopt the RDC II Resolution Enjoining the LGUs to Allocate Funds for the Conduct of AHD Programs/Projects/Activities (PPAs). This resolution ensures that funds will be appropriated for the implementation of PPAs that will educate teenagers, especially the out-of-school youth, on sexuality and reproduction and that the needed funds will enforce the implementation of existing local ordinances that promote AHD.

3. LGUs with boarding houses and dormitories within their areas of jurisdiction should come up with an ordinance requiring owners and managers of boarding houses and dorms to strictly adhere to certain provisions (e.g., separate quarters for males and females, implementation of curfew and guidelines on the entertainment of visitors and friends) that will prevent their young boarders from engaging in sexual and non-sexual risk behaviors that may affect their overall well-being.

B. Program recommendations

1. The DEPED, together with the Department of Health and Commission on Population, should integrate AHD concepts and concerns into the modules used in the Alternative Learning System (ALS) and train the ALS teachers and administrators on the use of these modules.

2. Schools should strengthen their support programs for students who come from non-intact families by (a) coming up with appropriate activities that will enhance communication between parents/guardians and children and (b) establishing a mechanism for regular communication between parents/guardians and concerned advisers/guidance counselors to properly address the children's concerns regarding their studies and related concerns that may affect their educational goals.

3. The Commission on Population, in coordination with Region 2 DEPED officials, should continue its advocacy efforts for school heads to support the implementation of PPAs using effective, age-appropriate, and culture-sensitive strategies to educate teenagers on sexuality and reproduction. The primary target audience are those aged 10 to 13 years. These PPAs will complement the sexuality education in schools. The messages of the activities should focus on sexuality, reproduction, and the risks and consequences of teenage pregnancy.

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