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Gestation in Teenage women between 15 to 19 years. Assessment of five years in a General Hospital.

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Abstract

INTRODUCTION. Despite a substantial 12% decline in adolescent-specific fertility rates over the past two decades globally, approximately 21 million girls in the 15-19 age group become pregnant in developing countries. The WHO estimates that about 11% of all births occurred to women under 20, and 95% occurred in low- and middle-income countries, generally among the most disadvantaged adolescents.

MATERIAL AND METHOD. A descriptive, longitudinal, observational study of 127 teen pregnancies between 15 and 19 years from 2018-2022. We used descriptive statistics of percentages, measures of central tendencies, and dispersion.

RESULTS. During the study period, 584 late adolescent pregnant women were treated at the Gynecology and Obstetrics Service of the Playa del Carmen General Hospital, selecting 127 cases distributed by age into five groups from 15 to 19 years with more significant risks as the pregnant women age increases.

DISCUSSION. Over the past 15 years, most countries have reported a continued decline in the adolescent pregnancy rate, attributable to adolescent support, education, contraception, and other pregnancy prevention strategies. Unfavorable adolescent pregnancy outcomes are major public health problems with significant socioeconomic impacts. We know that favorable pregnancy outcomes are less common in adolescent girls than in older women, but the actual cause of these complications, biological or socioeconomic, remains uncertain. Adolescent pregnancy is increasingly becoming a public health problem rather than a clinical practice problem. The majority of teenage pregnancies are unplanned.

CONCLUSIONS. For the state of Quintana Roo we were able to observe a significant decrease in the specific fertility rate in adolescents between 15 and 19 years of age, for 2019 there were 59.8 births per thousand adolescents, while for the pre-2022 closing date there was a rate of 38.5 births per thousand adolescents, having a difference of 21.3; being that at the national level by 2030 it is expected to decrease to 62.2 births per thousand.

Keywords. Teenage women; Pregnancy; Teenage Pregnancy; Adverse pregnancy outcomes; Risk factors.

INTRODUCTION

Despite a substantial 12% decline in adolescent-specific fertility rates over the past two decades globally, approximately 21 million girls in the 15-19 age group have become pregnant in developing countries. The WHO estimates that about 11% of all births occurred to women under 20, and 95% occurred in low- and middle-income countries, generally among the most disadvantaged adolescents. Although the rights-based approach to health tries to ensure that women have rights and control over their bodies and are free to decide on matters related to their sexuality and reproductive health, Child Marriage, Early Marriage, and Forced Marriage is one of the practices widespread, affecting mainly girls and women [1].

Mothers with an early pregnancy have a higher chance of exposure to eclampsia, systemic infections, preterm delivery, and low birth weight than older mothers. The consequences of early pregnancy do not end with their health but also harm their social and economic status. Girls who became pregnant before the age 18 will also face violence, stigma, school dropout, and employment opportunities [2].

In the developing world, teenage pregnancy and early marriage continue to derail girls' health and socio-economic development prospects and undermine efforts to lift families and communities out of poverty. Adolescent mothers are at increased risk of obstetric complications, such as obstetric fistula incontinence, eclampsia, postpartum hemorrhage, and sepsis, making pregnancy difficult [3].

The WHO recognizes that investing in adolescent girls offers triple dividends through the immediate result during the adolescent period, in their adult life, and in the well-being of their future children. As one of the sustainable development goals, ending preventable maternal deaths is one of the goals. The goal is to reduce maternal mortality rates to less than 70 deaths per 100,000 live births globally by the year 2030, and the prevention of adolescent pregnancy can help achieve this goal, as it is associated with poor maternal and child health outcomes and increased risks of dying during pregnancy and childbirth [4].

MATERIAL AND METHODS

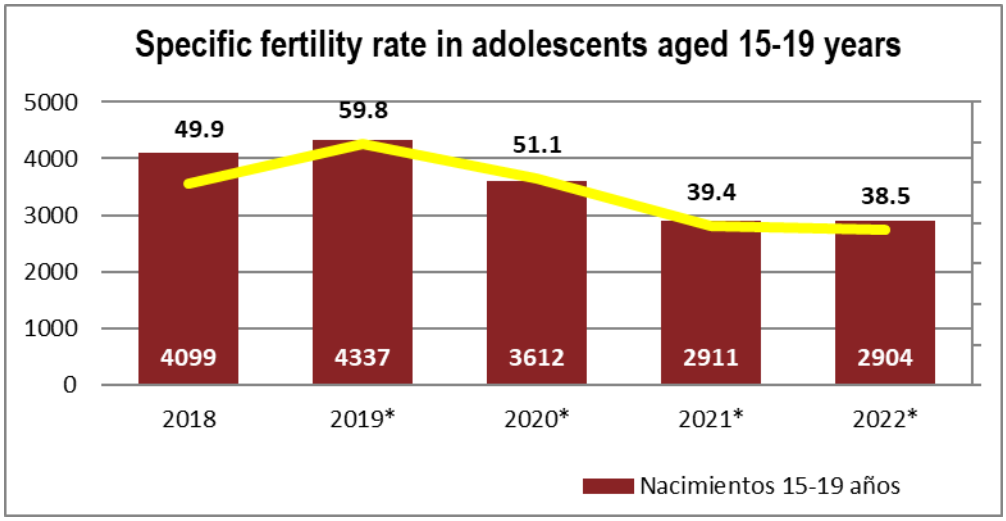
A descriptive study was carried out on late adolescent pregnant women between 16 and 19 years of age during a period of five years from 2018 to 2022 to compare the variables included between each age group and observe the differences between each

group—descriptive statistics with measures of central tendency and measures of dispersion used.

RESULTS

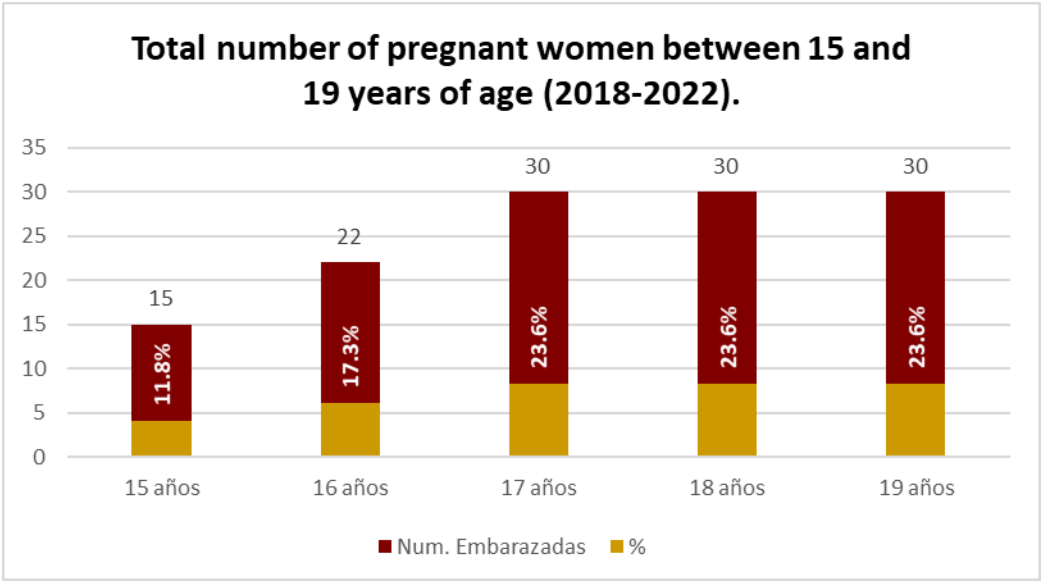
During the study period, 584 (100%) late teen pregnant received attention at the Obstetrics and Gynecology Service of the General Hospital of Playa Del Carmen, and 127 cases (22%) were selected. We can observe the specific fertility rate in this age group in the state of Quintana Roo in Fig. 1.

Figure 1. Specific fertility rate from 2018 to 2022 in Quintana Roo.



Source: Cubes of SINAC births/CONAPO population projections.

Figure 2. Age, sample, and percentages correspond to 127 cases of pregnant late adolescents between 15 and 19 in General Hospital Playa del Carmen, Q. Roo, Mexico.



Source: Own.

The groups between 15 and 16 years of the total pregnancy cases during the study period of 17 to 19 years were randomly selected. The variables' results can be observed in Tables 1-5) and their summary risk is in Table 6.

Table 1. Variables of 15-year-old pregnant teens.

VARIABLE	MEDIAN	SD	MIN	MAX	NUM.	%
MENARCH	12	0.62	10	13		
START ACTIVE SEXUAL LIFE	14	0.62	13	15		
GESTATE					15	100
DELIVERY					2	13.3
ABORTION					0	0
CESAREAN SECTION					0	0
MATERNAL WEIGHT	62	12	53	99		
HEIGHT	1.52	0				
BODY MASS INDEX	25		18	91		
MARITAL STATUS					SINGLE WOMAN = 4 MARRIED = 1 FREE UNION = 10	26.6 6.6 66.6
SCHOLARSHIP					ELEMENTARY SCHOOL= 5 MIDLE SCHOOL= 10	33.3 66.6
GESTATION WEEKS	38.3	2.6	33	41		
DELIVERY					SPONTANEOUS = 11 DEFERRED =4	73.3 26.6
RESOLUTION OF LABOR					DELIVERY = 9 CESREAN SECTION = 6	60 40
PREGNANCY RESOLUTION					TERM DELIVERY = 11 PRETERM DELIVERY = 4	73.3 26.6
MATERNAL RISK FACTORS					AGE 15 YEARS = 15 UT I = 2	100.0 13.3
FETAL RISK FACTORS					AFD = 1	6.6
RISK FACTORS CHILDBIRTH CARE					0	0
NEWBORN WEIGHT	2850		2640	3950		
APGAR	9.9		8.9	9.9		

UTI= Urinary tract infection,

AFD= Acute fetal distress,

PRM=Premature rupture of membranes,

PPC=PoorPrenatalCare,

AFD=Acutefetaldistress

Table 2. Variables of 16-year-old pregnant teens (n = 22).

VARIABLE	X	DE	MIN	MAX	NUM.	%
START ACTIVE SEXUAL LIFE	16	1.0	15	18		
CONTROL PRENATAL						
GESTATE					GESTATION 1 = 13 GESTATION 2 = 7 GESTATION 3= 2	59.0 31.8 9.0
ABORTION					3	13.6
CESAREAN SECTION					3	13.6
MATERNAL WEIGHT	67.5	13.3	50	106		
HEIGHT	1.51	0.06				
BODY MASS INDEX	31.9	13.17	16.4	69.3		
MARITAL STATUS					SINGLE WOMAN = 2 MARRIED = 3 FREE UNION = 13	9.0 13.6 59.0
SCHOLARSHIP					ELEMENTARY SCHOOL = 3 MIDLE SCHOOL =15 HIGH SCHOOL = 11 BACHILLER = 1	13.6 68.1 50.0 4.5
GESTATION WEEKS	38.8	1.7				
DELIVERY					SPONTANEOUS = 20 MANAGED DELIVERY = 2	86.3 9.0
RESOLUTION OF LABOR					DELIVERY = 18 CESAREAN SECTION = 4	81.8 18.1
PREGNANCY RESOLUTION					TERM DELIVERY = 16 PRETERM DELIVERY = 6	72.7 27.2
MATERNAL RISK FACTORS					AGE 16 YEARS = 22 UTI = 1 CERVICOVAGINITIS = 1	100.0 4.5 4.5
FETAL RISK FACTORS					AFD = 1 RCIU = 1	4.5 4.5
RISK FACTORS CHILDBIRTH CARE					MECONIUM = BIDELPHO = 1	4.5 4.5
NEWBORN WEIGHT	3031	502	2100	4215		
APGAR	8.9	0.55	6.8	9.9		

UTI= Urinary tract infection, **AFD**= Acute fetal distress, **PRM**=Premature rupture of membranes, **PPC**=Poor Prenatal Care

Table 3. Variables of 17-year-old pregnant teens (n=30).

VARIABLE	X	DE	MIN	MAX	NUM.	%
MENARCH	12	1.0	10	14		
START ACTIVE SEXUAL LIFE	15	1.0	13	17		
GESTATE					GESTATION 1 = 25 GESTATION 2 = 4 GESTATION 3 = 1	83.3 13.3 3.3
DELIVERY					DELIVERY 0 = 27 DELIVERY 1 = 3	90.0 9.9
ABORTION					2	6.6
CESAREAN SECTION					3	9.9

MATERNAL WEIGHT	63	9.5	47	86		
HEIGHT	1.50	0.1	1.40	1.60		
BODY MASS INDEX	28	9	15	48		
MARITAL STATUS					SINGLE WOMAN = 1 MARRIED = 2 FREE UNION = 27	3.3 6.6 90.0
SCHOLARSHIP					ELEMENTARY SCHOOL = 4 MIDLE SCHOOL =23 HIGH SCHOOL= 2 BACHILLER = 1	13.3 76.6 6.6 3.3
GESTATION WEEKS	37	5.9	7.1	41		
DELIVERY					SPONTANEOUS = 17 MANAGED DELIVERY = 3 LWP = 10	56.6 9.9 33.3
RESOLUTION OF LABOR					DELIVERY= 18 CESAREAN SECTION = 12	60.0 40.0
PREGNANCY RESOLUTION					TERM DELIVERY = 20 PRETERM DELIVERY = 10	66.6 33.3
MATERNAL RISK FACTORS					AGE 17 YEARS = 30 RISK FREE = 14 UTI = 6 CERVICOVAGINITIS = 3 UTI/PRE-ECLAMPSIA = 3 UTI/CERVICOVAGINITIS = 2 PRE-ECLAMPSIA = 4 RCIU = 1	100.0 46.6 20.0 9.9 9.9 6.6 13.3 3.3
FETAL RISK FACTORS					RISK FREE = 27 OLIGOHYDRAMNIOS = 1 TWINS = 1 ANHYDRAMNIOS/RCIU = 1	90.0 3.3 3.3 3.3
RISK FACTORS CHILDBIRTH CARE					EUTOCIA = 19 DYSTOCIA = 6 PRM = 1 MECONIUM = 1 MECONIUM/PRM = 1 ECS = 2	63.3 20.0 3.3 3.3 3.3 6.6
NEWBORN WEIGHT	2859	441	2859	3540		
APGAR	8.9	0.4	7.9	9.9		

UTI= Urinary tract infection, **AFD**= Acute fetal distress, **PRM**=Premature rupture of membranes, **PPC**=Poor Prenatal Care, **ECS**= Emergency cesarean section, **LWP**= Labor Without Progression.

Table 4. Variables of 18-year-old pregnant teens (n=30).

VARIABLE	X	DE	MIN	MAX	NUM.	%
MENARCH	12.6	1.0	11	14		
START ACTIVE SE-XUAL LIFE	16	1.0	15	18		
CONTROL PRENATAL						
GESTATE					GESTATION 1 = 20 GESTATION 2 = 8 GESTATION 3= 2	66.6 26.6 6.6
GIVE BIRTH					P 1= 4 P2 = 3 P 3= 23	13.3 10.0 76.6
CESAREAN SECTION						
MATERNAL WEIGHT	67.5	13.3	50	106		
HEIGHT	1.51	0.06				

BODY MASS INDEX	31.9	13.17	16.4	69.3		
MARITAL STATUS					SINGLE WOMAN = 2 MARRIED = 3 FREE UNION = 25	6.6 10.0 83.3
SCHOLARSHIP					ELEMENTARY SCHOOL = 3 MIDLE SCHOOL =15 HIGH SCHOOL = 11 BACHILLER = 1	10.0 50.0 36.6 3.3
GESTATION WEEKS	38.8	1.7				
DELIVERY ESPONTA-NEO/INDUCIDO/ NO PROGRESS					SPONTANEOUS = 22 MANAGED DELIVERY = 8 LWP = 6	73.3 26.6 20.0
RESOLUTION OF LA-BOR					DELIVERY = 24 CESAREAN SECTION = 6	80.0 20.0
PREGNANCY RESOLU-TION					TERM = 21 PRETERM = 9	70.0 30.0
MATERNAL RISK FAC-TORS					NONE=20 AGE18 YEARS = 30 UTI = 5 CERVICOVAGINITIS = 4 ECLAMPSIY = 1	66.6 100.0 16.6 13.3 3.3
FETAL RISK FACTORS					NONE = 29 TACHICARDIA = 1	96.6 3.3
RISK FACTORS CHILDBIRTH CARE					NONE = 23 MECONIUM = 2 ABNORMAL PRESENTATION = 2 PRM = 1 PROLONGED LABOR = 1 CARDIORESPIRATORY ARREST = 1	76.6 6.6 6.6 3.3 3.3 3.3
NEWBORN WEIGHT	3192	4398	2550	4150		
APGAR	9.07	0.37	8.9	9.9		

UTI= Urinary tract infection, **AFD**= Acute fetal distress, **PRM**=Premature rupture of membranes, **PPC**=Poor Prenatal Care, **LWP**= Labor without progress.

Table 5. Variables of 19-year-old pregnant teens (n=30).

VARIABLE	X	DE	MIN.	MAX.	NUM.	%
MENARCH	12	1	9	15		
START ACTIVE SEXUAL LIFE	15	1.5	13	18		
GESTATE					GESTATION 1 = 2 GESTATION 2 = 3 GESTATION 3 = 1	86.6 10.0 3.3
GIVE BIRTH					1 = 3	10.0
ABORTION					2	6.6
CESAREAN SECTION					2	6.6
MATERNAL WEIGHT	67	6.6	56	85		
HEIGHT	1.50	0.1	1.40	1.70		
BODY MASS INDEX	30.9	S 6	22	47.3		
MARITAL STATUS					SINGLE WOMAN = 5 MARRIED = 2 FREE UNION = 23	16.6 6.6 76.6
SCHOLARSHIP					ELEMENTARY SCHOOL = 2 MIDLE SCHOOL = 24 HIGH SCHOOL = 3 BACHILLER = 1	6.6 80.0 10.0 3.3
GESTATION WEEKS	38.7	2.4	28	41		
DELIVERY					SPONTANEOUS = 15 DEFERRED = 12 INDUCED LABOR = 3	50.0 40.0 10.0

RESOLUTION OF LABOR					DELIVERY 20 CESAREAN SECTION 10	66.6 33.3
PREGNANCY RESOLUTION						
MATERNAL RISK FACTORS					AGE = 19 MAP = 17 GESTATIONAL DIABETES = 1 UTI = 5 CERVICOVAGINITIS = 3 RCIU/PRE-ECALMPSIA = 1 RCIU III/PRE-ECLAMPSIA = 1 ALCHOLISM = 1	100.0 56.6 33.3 16.6 10.0 3.3 3.3 3.3
FETAL RISK FACTORS					RISK FREE = 28 AFD = 1	93.3 3.3
RISK FACTORS CHILDBIRTH CARE					RISK FREE = 25 PRM = 2 PELVIC = 2 MECONIUM = 1	83.3 6.6 6.6 3.3
NEWBORN WEIGHT	3059	523	1820	4215		
APGAR	X = 8.8	0.63	6.8	9.9		

UTI= Urinary tract infection, **AFD**= Acute fetal distress, **PRM**=Premature rupture of membranes.

Table 6. Summary of risk in all ages.

Cases	**Age**	**Factors of maternal risk**	**Risk free**		**Fetal Risk Factors**	**Risk free**		**Risk factor's Labor and Birth**	**Risk free**	
15	15	UTI Cervicovaginitis	1 1	13 (86%)	AFD	1	14 (93%)	None	0	15 (100%)
22	16	UTI Cervicovaginitis	1 1	20 (99%)	AFD Rciu	1 1	20 (99%)	Meconium Bidelphos uterus	1 1	20 (99%)
30	17	UTI Cervicovaginitis UTI/preclampsia UTI/cervicovaginitis Pre-eclampsia	6 3 3 4 1	14 (47%)	Oligohydramnios Twin Anhydramnios/ Rciu	1 1 1	27 (90%)	PRM Meconium/PRM Meconium UCS	1 1 1 2	25 (83%)
30	18	UTI Cervicovaginitis Eclampsia	5 4 1	20 (67%)	Tachicardia	1	29 (97%)	Meconium Pelvic PRM Delivery Cardiac arrest	2 2 1 1 1	23 (77%)
30	19	PPC UTI Cervicovaginitis Gestational Diabetes Pre-eclampsia/Rciu I Pre-eclampsia/Rciu III Alcoholism	1 7 5 3 1 1 1	1 (3%)	AFD	1	29 (97%)	Meconium PRM Pelvic presentation	1 2 2	25 (83%)

UTI= Urinary tract infection, **AFD**= Acute fetal distress, **PRM**=Premature rupture of membranes, **PPC**=Poor Prenatal Care,**UCS**= Urgent caesarean section.

DISCUSSION

South Asia has one of the world's highest rates of teenage pregnancy. Within the region, Bangladesh, Nepal, and India have reported the highest prevalence of adolescent pregnancy at 35, 21, and 21%, respectively. The high burden of teenage pregnancy in South Asia could be due to many factors related to low socioeconomic status and lack of comprehensive sex education based on traditional social norms that encourage early marriage and low autonomy of adolescents [5].

Over the past 15 years, most countries have reported a continued decline in the adolescent pregnancy rate, attributable to adolescent support, education, contraception, and other pregnancy prevention strategies. Unfavorable adolescent pregnancy outcomes are major public health problems with significant socioeconomic impacts. Although favorable pregnancy outcomes are less common in adolescent girls than in older women, biological or socioeconomic, the actual cause of these complications remains uncertain. Adolescent pregnancy is increasingly becoming a public health problem rather than a clinical practice problem. The vast majority of adolescent pregnancies are unintended [6].

Research suggests that adolescent girls, compared with older women, are at greater risk of inadequate prenatal health care (ANC), cephalopelvic disproportion, obstructed labor, and death during pregnancy and childbirth [12–16]. Adolescent girls' height and pelvic dimensions are only complete two years after menarche, which may be related to an increased risk of cephalopelvic disproportion and consequently obstructed labor [14, 15]. Recognize that obstructed labor is one of the most frequent and preventable causes of maternal and perinatal mortality and disability and concern among adolescent pregnancies [7].

Leonel P et al. [8] highlight the specific vulnerabilities and strengths related to pregnant Haitian adolescents and their families during the transition to motherhood. The results revealed that the participants experienced physical, social, economic, material, and health vulnerabilities. In contrast, the strengths identified were the solidarity and safety net offered by family members through social support, the responsibility and dedication of most partners, and the support and mentoring of parents. Family support was present in all circumstances. The negative consequences of the transition to motherhood affect pregnant adolescents, couples, and parents. Mutual aid and solidarity remain the most effective means to reduce the adverse effects during this transition period in the Haitian context, characterized by the lack of specific economic and social policies [8].

In Zambia, as in most of sub-Saharan Africa, adolescent pregnancy is a prominent issue in social, political, and cultural discourse. In 2018, adolescent pregnancy was estimated at 29%, making Zambia one of the countries with a significantly high prevalence of adolescent pregnancy among sub-Saharan African countries. The prevalence, however, has decreased markedly from 32% in 1992 to 29% in 2018, although with significant variations within the country. The prevalence is significantly higher in rural areas (37%) than in urban areas (19%) [9].

In Ghana, 76 out of every 1,000 births are to teenage mothers between the ages of 15 and 19. Globally, 49 out of every 1,000 births are to mothers aged 15-19. Thus, in Ghana, the prevalence of adolescent pregnancy within the age mentioned earlier range is almost one-fifth of the global prevalence [10].

Teenage pregnancy is one of the social concerns in the world as well as in Malaysia. Sabah and Sarawak show a high total adolescent birth rate. According to the 2011 WHO report, 15.9 million babies were born to adolescent mothers, representing approximately 15% of maternal mortality worldwide. Despite increased efforts to educate the entire public, and adolescents in particular, public health concerns related to the sexual habits of Malaysian adolescents remain [11]. Only in Mexico, in 2017, more than 2.2 million births were registered; 17.5% occurred in women between the ages of 10 and 19, a little over 390,000, of which 9,748 were products of conception in girls between the ages of 10 and 14 [12]. In Gahana, 14% of adolescents aged 15-19 contributed 30% of all deliveries in 2014 [13]. In Nigeria, more than 23% of adolescent girls aged 15-19 have started having children [14].

The low incidence of premarital sex and unwanted pregnancy in Asia suggests that pregnancies are more likely to be planned and occur within marriage. Pregnancies within marriage can be intentional but are often not freely chosen by adolescents due to social pressures to conceive, coercion by family members, and lack of control over contraceptive choice and use, which allows pregnancy in adolescence. Adolescents who live in contexts with sociocultural norms, such as the belief that the only role of girls is to have children, that pregnancy marks the transition to womanhood and is a test of maturity, and that pregnancy is a means to earn the respect of society, they also face a predisposition to pregnancy in adolescence [15].

Adolescent pregnancy and childbearing remain a widespread health problem with potential short- and long-term consequences. Integral social, economic, environmental, structural, and cultural factors significantly impact adolescent sexual and reproductive health and early pregnancy. Health professionals can play a fundamental role in preventing unplanned pregnancies. Better access to family planning, sex education in schools, community interventions, and policies go a long way toward reducing the risk of teen pregnancy and adopting respectful and responsible sexual behaviors. In addition, health professionals can support pregnant adolescents in making decisions in these circumstances and provide appropriate medical care [16].

In preparing for pregnancy, attention has recently shifted from the period immediately before pregnancy to the early years or throughout life. The WHO identifies adolescents as people who require specific attention. Adolescent health behaviors can affect their adult years and have significant implications for the health of future generations. Additionally, recent studies consistently report that grooming for both men and women is essential for pregnancy preparation. Therefore, now is the time to present a new strategy by identifying and understanding the factors influencing the two genders [17].

Pregnant adolescents often experience psychosocial

challenges, such as a great deal of stress when dealing with an unwanted pregnancy, lack of preparation for parenthood, lack of income, and birth complications—complicated by the stigma from their families, friends, and community. Unaddressed psychosocial challenges during adolescent pregnancy can negatively affect health outcomes for both mother and child [18].

The results of the present study indicate that despite the negative attitude of adolescents and their mothers towards early pregnancy, they had a low level of knowledge about early pregnancy. Consequently, increasing the knowledge of girls and their families about the consequences of early marriage and pregnancy and creating a culture to correct cultural and social misconceptions to prevent child marriage and child pregnancy can reduce the severity of this damage [19].

Adolescent pregnancy is associated with adverse health, psychosocial, and economic outcomes. As of 2017, the % of women aged 15-19 who have started having children in the Philippines is 9%. To counter this, the Philippine government and its partners in the private sector disseminate information on family planning and contraception to the general population. Therefore, we studied the effect of exposure to this information on family planning and contraception in different forms of media and its effect on adolescent pregnancy. We analyzed the 2017 Philippine National Demographic and Health Survey. After controlling for the effect of other variables, we found that this information on family planning and contraception had little effect on adolescent pregnancy in the country [20].

IN THEIR STUDY, Sserwanja Q et al. [21] suggest that using the Internet and reading newspapers or magazines can trigger behavior change as a practical approach to reducing teen pregnancy. Behavior change communicators can implement mass media campaigns using newspapers, magazines, and the Internet to disseminate adolescent health messages that can. According to the Ethiopia Demographic Health Survey (2016), data showed that 13% of women aged 15-19 in Ethiopia have started childbearing: 10% have had a live birth, and 2% were pregnant with their first child at the time of the interview [22].

In 2021, the United States had a birth rate of 14.4 births per 1,000 women ages 15 to 19. The current teen birth rate is due to its steady decline from the peak teen birth rate at the turn of the 20th century. Although teen births have declined in all areas of the United States, the decline has been most significant in urban communities. The slower decline in teen birth rates in rural communities is because they have fewer socioeconomic resources and opportunities. For example, rural adolescents often have few opportunities to receive sexual health education and have limited sexual and reproductive health education. Rural communities may also have limited reproductive health services, and adolescents may feel uncomfortable using the services available [23].

Globally, adolescent birth rates dropped significantly from 65 births per 1,000 adolescent women ages 15-19 in 1990 to 42 in 2018. However, this decline was not evenly distributed across countries, as the Low- and middle-income countries, including Nige-

ria, reported the highest birth rates, while high-income countries had the lowest. Given the increasing number of adolescents worldwide, adolescent pregnancies we expected to increase by 2030, with sub-Saharan Africa reporting the highest increase, mainly due to the region's high prevalence of child marriage. [24].

Jakubowski et al. [25] conducted a study in Canada that can use objective data to measure whether an adolescent pregnancy has occurred and the outcome (miscarriages, miscarriages, and live births). They also had access to objective measures of school performance in the 9th grade, before any pregnancies, and characteristics related to the socioeconomic conditions in which they grew up. They found lower rates of high school completion among women who had a teen pregnancy, regardless of pregnancy outcome, suggesting that factors that contribute to teen pregnancy, but not necessarily teen parenthood, play an important role in teen pregnancy decision to finish high school. The use of income assistance is significantly higher for women who have a live birth but only marginally higher for those whose pregnancy ended in miscarriage or abortion; the burden of caring for a child as a young mother seems to have harsh economic consequences for women. Poor and average school performance was among the most predictive risk factors for never completing high school and receiving financial aid. Interventions prioritizing young women struggling with their studies and ensuring access to high-quality reproductive health education and services, including contraception, can be particularly effective public policy priorities.

A low birth weight product is an infant born with a weight of less than 2500 g. The WHO documented a global prevalence of low birth weight babies of 15%. About 20 million low-birth-weight babies are born yearly, the majority in developing countries. The prevalence of low birth weight in Malaysia was 10% in 2000 and increased to 11% in 2012 and 2015. In Malaysia, low birth weight babies admitted to neonatal intensive care units increased from 33 to 39% between 2012 and 2016. Low birth weight represents a burden for hospitals and the Ministry of Health to provide optimal treatment with limited resources [26].

Early initiation of sexual activity and marriage at an early age with an older partner increases the probability of conception in the absence of contraception among adolescent girls in stable relationships, marriage, or common-law relationships compared to those who are not. The risk of teen pregnancy is also high due to a lack of sexuality and family planning education and a lack of ability to put that knowledge into practice. Lower educational levels, lower socioeconomic class, and poverty also increase the rates of such pregnancies. Sexual abuse, peer pressure to have sex, low self-esteem, depression, low knowledge of birth control, and substance abuse also increase teen pregnancy. Family factors such as prolonged absence of parents, single-parent households, children of a teenage mother, and lack of adequate communication with parents are also important determinants of this type of pregnancy [27].

Annually, about 70% of unsafe abortions occur among adolescents, which contributes to maternal death, maternal morbidity, and long-term health

complications. Adolescent pregnancy is associated with several complications, including preterm birth, intrauterine growth retardation, low birth weight, neonatal death, obstructed labor, fistula and eclampsia, increased maternal mortality and morbidity, preterm premature rupture of membranes, gestational hypertension, preeclampsia, poor intrauterine growth and stillbirths, unsafe abortion, and sexually transmitted infections. Teenage girls are twice as likely to die during pregnancy and childbirth as women in their twenties [28].

Despite being in favor of raising the legal minimum age for female marriage in India to 18, teenage pregnancy is a significant public health problem in India. According to data from the National Family Health Survey, 16% of women between the ages of 15 and 19 had already begun to have children. Jharkhand state (28%), followed by West Bengal (25%) and Bihar (25%), both in eastern India, have the highest percentage of this group with adolescent pregnancies [29].

Tanzania reported an increase in adolescent childbearing from 23 to 27% in 2010 and 2016, with an increase in the maternal mortality ratio from 446 to 556 maternal deaths per 100,000 live births, a high rate among teenage mothers. 32% of adolescents who have begun to have children are rural women (19%). Studies have shown that adolescents between 15 and 19 are most affected, and almost 60% of unsafe abortions in Africa are in girls [30].

CONCLUSIONES. For the state of Quintana Roo we were able to observe a significant decrease in the specific fertility rate in adolescents between 15 and 19 years of age, for 2019 there were 59.8 births per thousand adolescents, while for the pre-2022 closing date there was a rate of 38.5 births per thousand adolescents, having a difference of 21.3; being that at the national level by 2030 it is expected to decrease to 62.2 births per thousand.

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