Annals of Neonatology Journal

OPEN ACCESS
ISSN: 2636-3596

Original Article

Prevalence of Early Miscarriage among Female Teenagers in Minia and Sohag Governorates: A Prospective Cross–Sectional Study

Ahmed M. Abdelghany, Ayat A. Ibrahiem*, Ayman M. Yousif

DOI: 10.21608/anj.2023.193315.1063
***Correspondence:** Department of Obstetrics & Gynecology, Faculty of Medicine, Minia University, Egypt
Email: aayatmoftah@gmail.com
Full list of author information is available at the end of the article.

Abstract

Background: Approximately three million teenage girls are presumed to have had unsafe abortions that may end up with serious reproductive consequences or mortality. In 2008, approximately 13% of teenagers aged <15 years and 14% of adolescents aged 15-17 years had a miscarriage. **Aim**: this study aimed to determine the prevalence and rates of related factors of teen early miscarriage at Minia and Sohag governorates. **Subjects and methods:** A cross–section study was carried out at Minia University Hospital and Sohag General Hospital Obstetrics and Gynaecology departments in the period from July 2018 to November 2020. **Results**: A total of 400 teenage pregnant were included. The age of respondents at their 1st pregnancy ranged from 15 to 19 years. About 16% of cases had complications related to previous pregnancy. About one-fifth (19.5%) had a previous history of abortion. Also, about one-tenth (10.5%) experienced miscarriage. Further, about half cases (n=198) used contraception. Likely, about two-thirds (n=242) of the sample delivered by CS. Similarly, 198 cases (49.5%) experienced complication during pregnancy. Also, 4% of mothers had birth injury while only 1% of neonates had birth injury. Additionally, 48% of cases had depression, 3.5% had thoughts of suicide, 1% had suicide attempts and 50.5% had stress disorders, 48% were exposed to violence by the parents/exposed to neglect and 51.5% exposed to abuse. **Conclusions:** The majority of teenage pregnant mothers were uneducated and housewives. Most teenage mothers had no pre-existing diseases and irregular antenatal care. Higher rates of preeclampsia and low Apgar scores were notably increased among teenage pregnant. Pregnancy complications were closely associated with the patients' socio-demographics.

Key words: Miscarriage; teenage; pregnancy; prevalence

Introduction

Expulsion of a foetus from the uterus before viability is known as abortion (around the 20th weeks of gestation). Miscarriage is the synonyms of natural abortion and induced abortion is the synonyms of intentionally instigated abortion [1]. Although, it is estimated that 10-20% of pregnancies end in early miscarriage, these figures likely underestimate the true incidence of spontaneous miscarriage. This may be attributed to that many miscarriages occur before the clinical recognition of pregnancy and are simply mistaken for heavy and delayed menstruation. As a result, 30% is the true rate of spontaneous abortion [2]. The process of a spontaneous abortion can be divided into four stages: threatening, unavoidable, incomplete, and complete. The four abortion stages are interconnected [3].

Early pregnancy loss can result in complications like hypovolemic shock from profuse bleeding and septic abortion from an infection of retained sperm or egg. Luckily, these adverse outcomes are uncommon, and their rates are matched with the anticipated medical and surgical squeal [2]. As a result, spontaneous abortion is predicted to be notably positive. Contrarily, in low-income countries with limited access to first-rate obstetric care by the social determinants of health, bleeding and infection brought on by miscarriage can increase maternal mortality [4].

Teenage pregnancy/motherhood is of universal global concern. WHO estimated that nearly 16 million teenage girls aged 15-19 years and about one million under 15 years give birth yearly. Nowadays, as the majority of adolescent pregnancies occur in low- and middle-income countries with insufficient health-care resources, complications during pregnancy, birth, and the postpartum period are prevalent and are considered the 2nd leading cause of mortality among girls aged 15 to 19 years, worldwide.. Additionally, the

number of teenage girls with unsafe abortions is estimated to be about three millions, which may result in consecutive reproductive adverse events or even death [5].

Teen miscarriage rates fall within the general rates. Additionally, teen abortion varies little according to ethnicity or age. According to the Guttmacher Institute, around 13% of teenagers under the age of 15 and 14% aged 15 and 17 years had miscarriage in 2008 [6]. Rate of adolescent pregnancy/birth/abortion is calculated as the number of incidents per 1,000 15–19 years females. Adolescent pregnancy, birth, and abortion rates are calculated as the number of incidents per 1,000 females aged 15 to 19 years. If rates for 13 to 14-year-olds could be calculated, they would most likely be higher for young adolescents (when most of these events occur), but there is lack of data on estimates for age group for many countries. Moreover, the adolescent's age is determined at the time of the pregnancy's outcome for all pregnancies [7].

Aim of the Work: The objective of this study was to assess the prevalence and rates of associated factors of teen early miscarriage at Minia and Sohag governorates.

Methods

This cross–section study was carried out at the Obstetrics & Genecology, Minia university hospital and Sohag General Hospital in the period from July 2018 to November 2020. Based on early miscarriage rate of 13-15% [6] and using G*Power 3 software [8], with 0.05 α-error, and power 95%, the required sample was 364 and raised to include 400 cases.

The study population included pregnant teen female aged from 13 to 20 years recruited from the antenatal care clinics. All patients were subjected to:

I. Complete history taking; this included, socio-demographic data (age, the marital status, residence, education level), menstrual history

(age of menarche, menstrual disturbance, dysmenorrhea, related symptoms), obstetric history (parity and mode of delivery (VD or CS)), reproductive history (number of previous births and abortions, type of each one and its fate, number of CS, previous surgery on uterus and cervix.

II. Current pregnancy: last menstruation, gestational age, U/S Findings, discharge or bleeding, frequency of antenatal visits, history of drug abuse/exposure to irradiation/chronic diseases (DM or HTN)/other diseases.

III. Family history: history of serious illness (DM, HTN, CVD), degree of consanguinity and frequency of previous pregnancies.

IV. Examination:

A. General examination: evaluation of vital signs (HR, RR, blood pressure, temperature) and anthropometric measurement (weight, height and body mass index (BMI)

B. Examination confirming pregnancy: Blood test (quantitative blood test and qualitative blood test Internal examination

C. Obstetric examination: to check the changes in the uterus and cervix.

V. Laboratory investigation: Complete blood picture (CBC) i.e., hemoglobin level, RBCs, WBCs, platelet count. Blood group

VI. U/S: Miscarriage should be diagnosed via ultrasound only when the mean gestation sac diameter is 25 mm with no evident yolk sac or when the fetal pole has a crown rump length of 7mm with no indication of fetal cardiac activity. Trans-vaginal U/S is the gold standard for miscarriage diagnosis. Once a miscarriage diagnosis is determined based on the aforementioned sonar data, the patient might be provided several

methods of therapy based on their clinical state and patient preference.

Ethical considerations

The ethical committee of Minia College of medicine approved the study. Study information sheet was provided for all participants before they signed written informed consent. The study was carried out in accordance with the guidelines of the Declaration of Helsinki **(9)**. Objectives and methods and possible outcomes of study were explained to every participant to boost response rate. Confidentiality, anonymity, and withdrawal were assured.

Statistical analysis

Data was processed and analyzed using the Statistical Package for Social Sciences (IBM-SPSS/PC/VER 24)*. Continuous data was expressed as mean, standard deviation (SD), median, range and qualitative data was reported as frequencies and percentage.

Results

This observational study included 425 pregnant teen females during the 1st trimester recruited from antenatal care clinics, in Minia university hospital, and Sohag general hospital in the period from July 2018 to November 2020. 25 women were excluded during the follow-up period due to incomplete data or presence of disease as COVID infection before pregnancy; hence, 400 women were included in the final analysis.

The wife's age in the study ranged from 13 to 19 years with mean of 15.5 ± 3.6 years. The husband's age ranged from 15 to 28 years with mean of 20.1 ± 4.7 years. Also, the mean BMI was 24.1 ± 6.5 Kg/m2. The timing (onset) of puberty ranged from 10 to 13 years with mean age 11.4 ± 1.1 years. Cases with died mothers represented 14% of the sample (n=56) and those with died father represented 16% (n=64) (Table 1).

The number of sisters and brother ranged from 2 to 5 with mean of 3.4 ± 1.1 and 194 (48.5%) of them were married. About half of the sample (n=192) lived in

the family house and 160 (40%) of them had medium socioeconomic level. Most wives (83.5%) were housewives while 49% of their husbands were hand workers. More than half (55%) women had secondary education and most of their husbands (69.5%) had secondary education (Fig. 1). About four-fifths (n=324) of the studied women were Muslims and 19% were Christian. About half of women (51.5%) lived in rural areas (Table 1).

The age of respondents at their 1st pregnancy ranged from 15 to 19 years with mean of 16.3 ± 3.3 years. About 16% of cases had complications related to previous pregnancy. Gestational DM was found in 5% of cases and 4% of them had hypertension. About one-fifth (19.5%) had previous history of abortion. Also, about one-tenth (10.5%) experienced miscarriage. Further, about half cases (n=198) used contraception. Likely, about two-thirds (n=242) of the sample delivered by CS. Similarly, 198 cases (49.5%) experienced complication during pregnancy (Table 2).

Figure 2 showed the rates of birth injury in the studied cases; regarding mothers, 16 (4%) cases had birth injury while there were 4 (1%) neonates had birth injury, while figure 3 showed the frequency of neonatal disorders occurred in neonates of studied women in the form of prematurity, low birth weight, respiratory distress, asphyxia, jaundice and NICU admission.

Additionally, none of studied cases had low self-esteem, 192 (48%) cases had depression, 14 (3.5%) cases had thoughts of suicide, four (1%) cases had suicide attempts and 202 (50.5%) cases had stress disorders (Figure 4). Further, 192 (48%) cases were exposed to violence by the parents, 192 (48%) cases exposed to neglect and 206 (51.5%) cases exposed to abuse. (Not showed in the results)

Table 3 showed that there were trials of divorce/separation in 208 (52%) cases. Regarding surgery on uterus and cervix, 14 (3.5%) exposed to cone surgery, 42

(10.5%) exposed to removal of septum, 62 (15.5%) cases exposed to myomectomy and 38 (9.5%) cases exposed to cervical cerclage. Regarding blood groups, 118 (29.5%) cases had group O, 98 (24.5%) cases had group B, 92 (23%) cases had group A and AB. During current pregnancy, 102 (25.5%) cases had bleeding and 62 (15.5%) cases had brown discharge. 6 (1.5%) cases were exposed to radiation, 202 (55.5%) cases had family history of DM, 178 (44.5%) cases had family history of hypertension and 112 (28%) cases had family history of cardiovascular disease. There was a high consanguinity rate between husband and wife as presented in 340 (85%) cases. Furthermore, the mean gestational age among the studied groups was 10.3 ± 2.3 weeks, the mean Hb was 12.6 ± 1.3 gm/dL, and the average number of antenatal visits was 4.3 ± 1.4 visits (Table 4).

Table 5 showed that there were 46 (11.5%) cases had crown rump length more than 6mm and 354 (88.5%) cases had Crown rump length less than 6mm. embryonic cardiac activity was positive in 330 (82.5%) cases. The mean gestational sac diameter was more than 20 mm in 29 (14.5%) cases. Yolk sac was found in 338 (84.5%) cases and embryonic pole was found in 350 (87.5%) cases. Empty gestational sac was found in 52 (13%) cases. 100 (25%) cases exposed to miscarriage.

Discussion

Transition from childhood to adulthood is referred to as adolescence. Historically, this ranged from 12 to 18 years of age, roughly corresponding to the interval between pubertal onset and guardian independence [10]. Teenage pregnancies and parenting are a worldwide source of worry. Every year, over 16 million females aged 15 to 19 years and approximately one million girls < 15 years give birth, according to the WHO [5].

Nowadays, as the majority of adolescent pregnancies occur in low- and middle-income countries with insufficient

health-care resources, complications during pregnancy, birth, and the postpartum period are prevalent and are considered the 2nd leading cause of mortality among girls aged 15 to 19 years, worldwide.. Additionally, the number of teenage girls with unsafe abortions is estimated to be about three millions, which may result in consecutive reproductive adverse events or even death [5,6].

Teenage pregnancy is a global occurrence and girls aged 15 to 19 accounts for around 11% of all births globally. The average worldwide birth rate among 15-19-year-old females is 49/1000, according to 2014 WHO Statistics, whereas nation rates range from 1-299 births/1000. The greatest rates were seen in Sub-Saharan Africa [7]. Egypt has a high birth rate that is practically constant at 2.7%, and adolescent pregnancy rates range from 4.1% in metropolitan society to 11.3% in rural regions. Upper Egypt has the greatest rate of adolescent childbearing, particularly in rural regions. Teenage pregnancy rates are increasing for a variety of reasons: behavioral, traditional, social, cultural, or religious foundations. Poverty, low social level, and a lack of education are the most critical contributors [11].

Adolescent pregnancy presents the following challenges: Every year, 3.2 million adolescents have unsafe abortions; 20,000 girls give birth every day; 70,000 adolescents die as a result of pregnancy and childbirth complications; adolescent mothers miss educational and other opportunities; it perpetuates poverty, basic human rights are denied, and girls' potential remains unfulfilled [12]. This might be either spontaneous or induced. Adolescent sexual activity can result in an undesired pregnancy, which can lead to major maternal difficulties in the form of septic abortion. In the long run, it may cause pelvic inflammatory disease and, as a result, infertility [13, 14].

As a result, prognosis for spontaneous abortion is quite favorable. However, miscarriage hemorrhage and infection can contribute to maternal mortality, particularly in low-income countries where social determinants of health limit access to high-quality obstetrical treatment [4]. This proportion includes teen miscarriage rates. Teen pregnancy loss varies little depending on ethnicity or age. According to the Guttmacher Institute, around 13% of teenagers below 15 years and 14% of those aged of 15 and 17 years miscarried in 2008 [6]. Rates of adolescent pregnancy/birth/abortion are calculated as the frequency of incidents/1,000 females (15-19 years). Young adolescent rates are measured as the frequency of occurrences/1,000 girls (10-14 years). Rates among early teenagers would almost certainly be greater if they could be calculated for 13-14 year age group that most likely to experience these occurrences, but population data for this age span lacking for many countries [7].

Early pregnancy loss can also be identified if no embryo with cardiac activity is detected at least 14 days after a previous U/S indicated a gestational sac or at least 11 days after previous sonar revealed a gestational sac with a yolk sac. Some U/S findings, however, such as an embryonic heart rate < 85 beats/minute, are suggestive but not definitive for early pregnancy loss. Trending beta-hCG levels every 2-3 days and repeating the pelvic ultrasound in 7-10 days are advised when the diagnosis of spontaneous abortion is questionable [15, 16]. When a spontaneous pregnancy loss is detected, there are three treatment options: expectant, medicinal, or surgical. Gestational age, whether the pregnancy loss is delayed or total, maternal hemodynamic stability, the presence of infection, and, most significantly, patient preference all influence the best manner of care [3].

Emotional cost of postponing miscarriage process might be enormous. Making an immediate intervention is

often a more enticing option. After one week of expectant care, the chance of spontaneous ejection decreases dramatically. As a result, it may be fair to provide a patient with an early spontaneous loss one week without intervention before considering alternate management alternatives. When providing expectant treatment, the stage of pregnancy loss must also be considered [17].

Medical management may be a good option for women who have had a delayed pregnancy loss and want as little intervention as possible [18]. Sharp curettage, electronic vacuum aspiration (EVA), manual vacuum aspiration (MVA), or a combination may also be used in the surgical treatment of spontaneous first trimester pregnancy loss [19]. Its usefulness and complications have been well researched. MVA is conducted with a flexible curette connected to a 60-mL syringe capable of applying negative pressure equivalent to EVA. MVA devices are advised to be used in pregnancies that are < 12 weeks gestation [20].

Conclusions

According to the findings of this study, Teenage pregnant women are more likely to get preeclampsia and their neonates have poor Apgar scores. The majority of adolescent pregnant moms were illiterate/housewives. The majority of mothers had a history of unfavorable medical conditions. Also, the majority of them missed prenatal care. Pregnancy complications are strongly related to socio-demographic factors such as age and educational level, employment, residence, type of family and smoking.

Acknowledgements

The authors expressed their thanks for the help and support of the staff members (physicians, nurses, and office workers) of the obstetric/gynaecology departments at Minia University Hospital and Sohag general hospital. Also, we acknowledge the eminent role of the participants; their keen participation was the cornerstone for this work.

Author's contributions

Ahmed M. Abdelghany shared in conception, design, literature search, clinical studies, statistical analysis, manuscript preparation, editing, Ayat A Ibraheim shared in design, literature search, manuscript preparation and review and Ayman M. Yousif shared in literature search, clinical studies, manuscript editing and final draft.

Conflict of interest

The authors have no conflict of interests to declare.

Funding

This study received no special funding and was totally funded by the authors.

Author's details

Department of Obstetrics & Gynecology,
Faculty of Medicine, Minia University, Egypt

Date received: 18th April 2023, accepted 5th June 2023

References

1- ESHRE Capri Workshop Group. Induced abortion. Human Reproduction 2017 32(6), 1160-1169.

2- American College of Obstetricians and Gynecologists. ACOG practice bulletin no. 200: Early pregnancy loss. Obstetrics and gynecology 2018; 132(5), e197-e207.

3- Alves C, Rapp A. Spontaneous Abortion. [Updated 2022 Jul 18]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK560521/

4- Kim, C., Barnard, S., Neilson, J. P., Hickey, M., Vazquez, J. C., & Dou, L. Medical treatments for incomplete miscarriage. Cochrane Database of Systematic Reviews 2017; (1).

5- World Health Organization. Adolescent pregnancy: adolescence is a time of opportunity during which a range of actions can be taken to set the stage for healthy adulthood: factsheet (No. WHO/RHR/14.08). World Health Organization. 2014

6- Henshaw, S. K., & Kost, K. L. Trends in the characteristics of women obtaining abortions, 1974 to 2004 (p. 11). New York: Guttmacher Institute. 2008

7- Sedgh, G., Finer, L. B., Bankole, A., Eilers, M. A., & Singh, S. Adolescent pregnancy, birth, and abortion rates across countries: levels and recent trends. Journal of Adolescent Health 2015; 56(2): 223-230.

8- Faul, F., Erdfelder, E., Lang, A.-G. & Buchner, A. G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. Behavior Research Methods 2007, 39: 175-191.

9- World Medical Association. World Medical Association Declaration of Helsinki. Ethical principles for medical research involving human subjects. Bulletin of the World Health Organization 2001; 79 (4): 373 - 374.

10- Jaworska, N., & MacQueen, G. Adolescence as a unique developmental period. Journal of psychiatry & neuroscience: JPN 2015, 40(5): 291.

11- Abdelsattar, M. Teenage pregnancy in Upper Egypt. Int J Adv Res Biol Sci 2016; 3(4): 35-41.

12- Ghose, S., & John, L. B. Adolescent pregnancy: an overview. Int J Reprod Contracept Obstet Gynecol 2017; 6: 4197-203.

13- Munakampe, M. N., Zulu, J.M., & Michelo, C. Contraception and abortion knowledge, attitudes and practices among adolescents from low and middle-income countries: a systematic review. BMC health services research 2018; 18(1): 909.

14- Chandra-Mouli, V. Unsafe abortion in adolescents. World Health Organization. 2018

15- Barnhart, K. T., Guo, W., Cary, M. S., Morse, C., Chung, K., Takacs, P. et al. Differences in Serum Human Chorionic Gonadotrophin Rise in Early Pregnancy by Race and Value at Presentation. Obstetrics and gynecology 2016, 128(3): 504.

16- Hendriks, E., MacNaughton, H., & MacKenzie, M. C. First trimester bleeding: evaluation and management. American Family Physician 2019, 99(3): 166-174.

17- Shorter, J. M., Atrio, J. M., & Schreiber, C. A. Management of early pregnancy loss, with a focus on patient centered care. In Seminars in perinatology 2019; 43(2): 84-94).

18- El-Hachem, H., Crepaux, V., May-Panloup, P., Descamps, P., Legendre, G., and Bouet, P. E.. Recurrent pregnancy loss: current perspectives. International journal of women's health 2017, 9: 331.

19- Cubo Nava, A., Soto Pino, Z. M., Haro Pérez, A. M., Hernández Hernández, M. E., Doyague Sánchez, M. J., & Sayagués Manzano, J. M. Medical versus surgical treatment of first trimester spontaneous abortion: A cost-minimization analysis. PloS One 2019, 14(1): e0210449.

20- Baqai, S., & Waheed, A. A. Manual Vacuum Aspiration (MVA): A Safe and effective alternative for the surgical management of early pregnancy loss. Pakistan Armed Forces Medical Journal 2016, 66(2): 194-98.

Table 1: Baseline Demographic and Delivery Characteristics of the studied Cohort

Item			Studied cases (n = 400)	
Wife age	• **Mean± SD**		15.54± 3.56	
	• **Median**		15.50	
	• **Range**		13.0- 19.0	
Husband Age	• **Mean± SD**		20.01± 4.73	
	• **Median**		25.0	
	• **Range**		15.0-28.0	
BMI (Kg/m2)	• **Mean± SD**		24.01± 6.54	
	• **Median**		24.0	
	• **Range**		18.0-30.0	
Timing (Onset) of puberty	• **Mean± SD**		11.43± 1.10	
	• **Median**		11.0	
	• **Range**		10.0-13.0	
Sisters and brothers	**Number**	• **Mean± SD**	3.42± 1.14	
		• **Median**	3.0	
		• **Range**	2.0- 5.0	
	Any Married	• **No**	206	51.5%
		• **Yes**	194	48.5%
Place of Living	• **Family House**		192	48.0%
	• **Flat**		188	47.0%
	• **Room**		20	5.0%
Socioeconomic Level	• **Low**		118	29.5%
	• **Medium**		160	40.0%
	• **High**		122	30.5%
Education Level	**Wife**	• **Illiterate**	74	18.5%
		• **Primary**	98	24.5%
		• **Secondary**	220	55.0%
		• **University**	8	2.0%
	Husband	• **Illiterate**	10	2.5%
		• **Primary**	80	20.0%
		• **Secondary**	278	69.5%
		• **University**	32	8.0%
Religions	• **Muslim**		324	81.0%
	• **Christian**		76	19.0%
Residence	• **Rural**		206	51.5%
	• **Urban**		194	48.5%

Table (2): Clinical characteristics of the studied sample

Item		Studied cases (n = 400)	
Age of women at 1st pregnancy	**Mean± SD**	16.32 ± 3.32	
	Median	16.0	
	Range	15.0-19.0	
Any disease prior to pregnancy	**No**	350	87.5%
	Hypertension	24	6.0%
	Gestational DM	26	6.5%
Complication related to Previous Pregnancy	**No**	336	84.0%
	Yes	64	16.2%
Complication related to Previous Pregnancy	**No**	336	84.0%
	Hypertension	16	4.0%
	Gestational DM	20	5.0%
	preterm labor	8	2.0%
	Preeclampsia	8	2.0%
	Infection	12	3.0%
Number of previous Pregnancy	**0**	162	40.5%
	1	148	37.0%
	2	90	22.5%
number of abortions	**0**	322	80.5%
	1	64	16.0%
	2	14	3.5%
Miscarriage	**0**	358	89.5%
	1	36	9.0%
	2	6	1.5%
Birth	**0**	174	43.5%
	1	104	26.0%
	2	86	21.5%
	3	28	7.0%
	4	8	2.0%
Any Contraception	**No**	202	50.5%
	Yes	198	49.5%
Mode of delivery	**NVD**	158	39.5%
	CS	242	60.5%

Table 3: Other data collected from the studied groups

Item		Studied cases (n=400)	
Any trials of divorce or separation	**No**	192	48.0%
	Yes	208	52.0%
Previous surgery on uterus and cervix	**No**	244	61.0%
	cone biopsy	14	3.5%
	removal of septum	42	10.5%
	myomectomy	62	15.5%
	cervical cerclage	38	9.5%
Blood Group	**A**	92	23.0%
	AB	92	23.0%
	B	98	24.5%
	O	118	29.5%
Brown discharge or bleeding during current pregnancy	**No**	236	59.0%
	Brown discharge	62	15.5%
	Bleeding	102	25.5%
Exposure to irradiation	**No**	394	98.5%
	Yes	6	1.5%
Family history of Diabetes Mellitus	**No**	198	49.5%
	Yes	202	50.5%
Family history of Hypertension	**No**	222	55.5%
	Yes	178	44.5%
Family history of cardiovascular diseases	**No**	288	72.0%
	Yes	112	28.0%
Consanguinity between husband and wife	**No**	60	15.0%
	Yes	340	85.0%

Table (4): Gestational age, Hemoglobin and number of antenatal visits among the studied cases

Item		Studied cases (n = 400)
Gestational age (for miscarriage)	**Mean ± SD**	10.28± 2.31
	Median	10
	Range	7- 14
Hemoglobin (gm/dl)	**Mean ± SD**	12.61± 1.31
	Median	12.55
	Range	10.40- 14.80
Number of antenatal visits	**Mean ± SD**	4.27± 1.42
	Median	4.0
	Range	2.0- 6.0

Table (5): U.S findings in the studied cases

Item		Studied cases (n = 400)	
Crown rump length (CRL)	**<6mm**	354	88.5%
	>6mm	46	11.5%
Embryonic cardiac activity	**No**	70	17.5%
	Yes	330	82.5%
Mean gestational sac diameter	**<20**	342	85.5%
	>20	58	14.5%
Yolk sac	**No**	62	15.5%
	Yes	338	84.5%
Embryonic pole	**No**	50	12.5%
	Yes	350	87.5%
Empty of gestational sac	**No**	348	87.0%
	Yes	52	13.0%
Miscarriage	**No**	300	75.0%
	Yes	100	25.0%

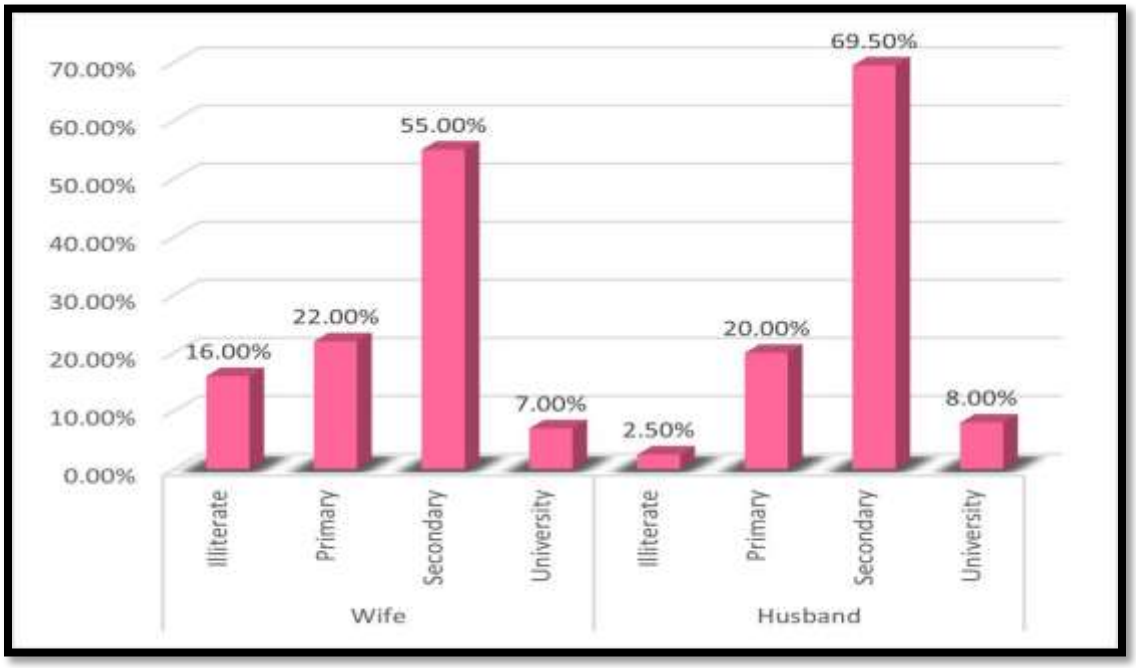

Fig. 1: Educational Level Frequency among the studied women and their husbands

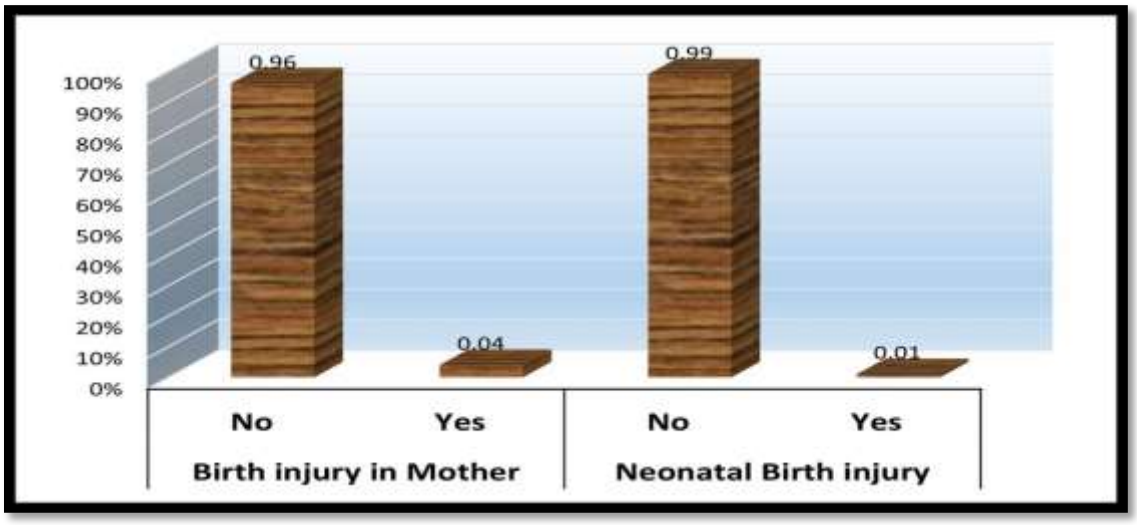

Fig. 2: Birth injury distribution in the studied women

Citation: Ibrahim, A., Abdelghany, A., Youssef, A. Prevalence of Early Miscarriage among Female Teenagers in Minia and Sohag Governorates: A Prospective Cross–Sectional Study. *Annals of Neonatology Journal*, 2023; 5(2): 68-85. doi: 10.21608/anj.2023.193315.1063