Original Article

Clinical Presentation and Management Outcome of Emergency Adolescent Gynecological Disorders at Federal Teaching Hospital, Abakaliki, Nigeria

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Abstract

Background: Gynecological emergencies which affect the adolescents may pose a serious challenge to both the patient and the gynecologist. **Objectives:** The objective of this study is to determine the clinical presentations and management outcomes of emergency adolescent gynecological disorders at Federal Teaching Hospital, Abakaliki. **Materials and Methods:** This is a retrospective review of all cases of adolescent gynecological emergencies managed at Federal Teaching Hospital Abakaliki between January 1, 2012, and December 31, 2014. Data obtained from their case notes were analyzed using the IBM statistics version 20 (IBM Corp., Armonk, NY, USA). Data were presented using percentages and pie chart. **Results:** The prevalence of adolescent gynecological emergency disorders was 5.1%. The majority (82%) of the patients belong to the age bracket 15–19 with a mean age of 16.7 (2.4) years. About 90% of the patients were nulliparous. Unmarried patients comprised 80% of the study group. Vaginal bleeding was the most common clinical presentation (86%). The two most common diagnoses were abortion (60%) and sexual assault (26%). Only 10% of sexually active adolescent were using any form of contraception. Care received includes manual vaccum aspiration, laparotomy, and antibiotics. Blood transfusion was given in 18% of the cases. No death was recorded in all the cases. **Conclusion:** Abortive conditions and sexual assault were the most common clinical diagnosis among adolescents in the study. The percentage of adolescent assaulted in our study is unacceptable and should be prevented and efforts should be made to reduce the high unmet need for contraception seen in the study.

Keywords: Abortion, bleeding, contraception, gynecological-emergencies, pelvic inflammatory disease, sexual assault

Introduction

Adolescents are young people between the age group of 10 and 19 years.[1] It has been estimated that of the 7.2 billion people worldwide, >18% are adolescents. This percentage represents about 1.2 billion adolescents globally.[1,2] During adolescence, young people go through many changes as they move from childhood into physical maturity; it could be associated with the onset or exacerbation of a number of health-related problems such as depression, eating disorders, substance abuse, and dependence, risky sexual behavior, antisocial, and delinquent activity.[3] In general, adolescents are thought of as a healthy group, and the occurrence of a gynecological problem in this group is a source of worry to the patient and their parent.[4] Importantly for adolescent females, risky behaviors associated with the onset of sexual activity, and alcohol and substance abuse may coincide with pathologies such as polycystic ovary syndrome (PCOS) and abnormal uterine bleeding, and a negative body image leading to eating disorders.[5] This could lead to iron deficiency anemia,[5] which could be exacerbated by menstrual abnormalities. This menstrual disorders in adolescence may be a marker for hyperandrogenemia with an increased metabolic risk in later life.[6] Hyperandrogenemia may be a consequent of PCOS.[6] They are at increased risk of HIV infection because of risky behavior. Compared to children and adults, adolescents living with HIV have poorer retention in care, lower rates of viral suppression and higher rates of mortality.[7] Other gynecological disorders

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seen among the adolescents include acute pelvic inflammatory disease (PID), ectopic gestation, postabortal sepsis, torsion or rupture of an ovarian cyst, imperforate hymen, Bartholin's abscess, abnormal uterine bleeding, and inability to menstruate or delay in the onset of menstruation.[4,8] Some of these may present with associated life-threatening complications, thus warranting the need for prompt and decisive care.

Globally, in 2015, about 1.2 million adolescents died, with the majority of this death in Africa.[2] The main causes of adolescent deaths include road injury, lower respiratory infections, self-harm, diarrheal diseases, drowning, interpersonal violence, and maternal conditions.[9,10] These are usually made worse by other socioeconomic factors such as poverty, ignorance, inadequate family and community support, poor government health policies, and poor eating habits with the associated chronic anemic state. The unmet need for contraception is high among adolescent in Nigeria[11] which predisposes them to the problem of unwanted pregnancy, unsafe abortion, and ectopic pregnancy. Ectopic pregnancy remains a common gynecological emergency in Nigeria.[12] A study by Omokanye *et al*. in southwest Nigeria showed that ectopic pregnancy accounted for 6.9% of all gynecological admissions in Ilorin; among which, 17% were seen in undergraduates students.[13] Previous PID 78 (83%), previous pelvic surgery, and previous history of ectopic pregnancy were the most common risk factors for ectopic pregnancy in Omokanye *et al*.'s study.[13] In southeast Nigeria, however, the most common identifiable risk factor for ectopic pregnancy is a previous history of induced abortion.[14,15] This might be complicated by postabortal infective complication because of unsafe abortion since abortion law in Nigeria is restrictive.[16]

Various studies in Africa have reported the high burden of unwanted pregnancies among adolescents with majority seeking induced abortion,[17,18] which is still unlawful or restricted in most African countries. The findings from above further explain why postabortal complications, which could present as a dire emergency, are common among adolescents in our environment. Complications such as hemorrhage, sepsis, shock, and secondary infertility are common occurrences following induced, septic abortions, especially in the hands of unskilled health personnel whom these adolescents patronize because of restrictive abortion laws in Nigeria.[16] Sexual assaults are another dangerous social vice that affects adolescent females negatively. It has been shown that sexual assault is a major cause of injury, unplanned pregnancy, HIV infection, and mental health problems worldwide,[19] thus necessitating an urgent and emergency intervention to reduce both the short and the long-term sequel. A study in Kenya, estimated the baseline incidence of sexual assault among adolescent girls to be 24.5%.[20] In Nigeria, Adeleke *et al*. showed that the incidence of sexual assault among women was 2.1%, and among this, 73.7% were seen in girls <18 years of age,[21] whereas Omonijo, in his work in 2013, estimated the incidence among adolescent girls to be 18.5%–50%.[22] This finding is worrisome, and all hands are needed on deck to reduce its burden in Nigerian adolescent's girls. The burden of the adolescent gynecological disorder has not been documented in the study area, thus warranting the need for this study. The finding from the study will assist in advocacy and in the education of people of Abakaliki and Nigeria in general of the plight of adolescent girls in our environment. The current study is, therefore, aimed at determining the clinical presentations and management outcomes of emergency adolescent gynecological cases at Federal Teaching Hospital, Abakaliki, Ebonyi State.

Materials and Methods

Study background

Ebonyi State, with its capital in Abakaliki, is one of the five states that make up the South-eastern geopolitical zone of Nigeria. The state has an estimated population of 3 million people. The inhabitants of Abakaliki are mainly Igbos but other ethnic groups also live within the city. The people are predominantly Christians. They are mainly traders, businessmen, and women, farmers, and civil servants. Federal Teaching Hospital Abakaliki (FETHA) is formed from the merger in 2011 between the former Ebonyi State University Teaching Hospital and the then Federal Medical Centre, both in Abakaliki. It is located at the center of the town. Being a tertiary institution, it serves as a referral center for other peripheral hospitals and health centers in the state. Referrals are also received from the neighboring States of Abia, Benue, Cross River, and Enugu. The Department of Obstetrics and Gynecology of FETHA is managed by 30 consultants and 80 residents' doctors with the help of trained nurses. There are five teams which are divided into 10 units. Two units run their obstetrics and gynecological clinics during the weekday. Gynecological clinics hold daily from Mondays through Fridays. The clinics are run by consultant gynecologists with their team of resident doctors and house officers, assisted by nurses. Emergency gynecological cases are managed at the Accident and Emergency Unit of the department. It is manned by a team of the senior registrar, Registrar, House officer, and nurses which undergo cyclical rotation. They are under the supervision of a Consultant. The hospital has an obstetrics and gynecology theatre with functional laboratory and blood banking services.

Study population

The study is a retrospective review of all the adolescent patients managed for emergency gynecological disorders in the Department of Obstetrics and Gynaecology of the FETHA between January 1, 2012 and December 31, 2014. The hospital numbers were obtained from the Accident and Emergency, Gynecology ward and theater record books making sure that double entries are avoided. The case notes were then traced and collected from the Record Department of the Hospital. With the aid of a predesigned pro forma, information obtained from the case notes include: sociodemographic characteristics of the patient, clinical presentations, examination findings, diagnosis, and the management/intervention offered to the

patient. Patients whose case notes could not be retrieved or those retrieved with inadequate or incomplete documentation were excluded from the study. All nonadolescent gynecological emergency conditions managed within the period were also excluded. Ethical approval for the study was obtained from the Research and Ethics committee of the hospital.

Data analysis and results

The data obtained were analyzed using the IBM SPSS Statistics version 20 (IBM Corp., Armonk, NY, USA). The data are represented using a frequency table and simple percentages.

Results

A total of 1260 gynecological emergencies were recorded in FETHA within the study period, in which 64 were adolescents. The prevalence of adolescent gynecological emergency disorders was 5.1% (64/1260; 1:20 gynecological emergencies). A total of 60 patients' case notes were used for this study because of the nonavailability of the remaining four case notes [Table 1]. The majority (82%) of the patients belong to the age bracket 15–19; and the mean age of the patients was 16.7 (2.4) years. Nulliparous patients were 54 in number accounting for 90% of the study group.

Vaginal bleeding contributed the majority (71.7%) of the clinical presentations. This was followed by abdominal pain (68.3%) and urinary symptoms (28.3%). Vulva swelling was seen in only two patients (3.3%) following assault [Table 2].

Distribution of diagnosis

As shown in Figure 1, abortions had the highest prevalence in the study with spontaneous abortions, induced abortions, and threatened abortions occurring in 18%, 38%, and 4% of the cases respectively. Induced abortion was at gestational ages of 10–12 weeks. The mean gestational age of induced abortion was 11.4 (0.40) weeks. Only six adolescents were using any form of contraception. Sexual assault was seen in 26% of cases, whereas 2% had ectopic pregnancy.

No death was recorded in all the cases. Antibiotics were administered in all of the patients; whereas in 15% of the cases, blood transfusion was given. Postexposure prophylaxis was given in 13 patients following sexual assault [Table 3].

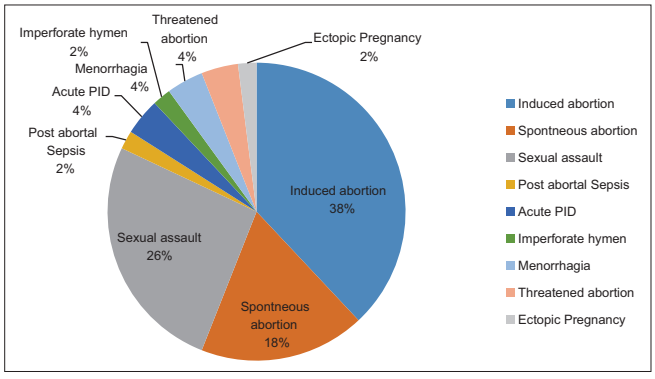

Figure 1: Pie chart showing the distribution of patient's diagnoses

Discussion

This study is a retrospective review of cases of emergency adolescent gynecological disorder managed at Federal Teaching Hospital, Abakaliki. The study showed that abortion-related

Table 1: Frequency distribution of the study population sociodemographic status

	Frequency (%)
Age	
10-14	11 (18.3)
15-19	49 (81.7)
Total	60 (100)
Parity	
0	54 (90.0)
1	6 (10.0)
Total	60 (100)
Educational status	
Primary	17 (28.3)
Secondary	40 (66.7)
Tertiary	3 (5.0)
Total	60 (100)
Marital status	
Married	12 (20.0)
Single	48 (80.0)
Total	60 (100)

Table 2: Frequency distribution of clinical presentations of participants ($n=60$)

Clinical symptoms	Frequency (%)
Vaginal bleeding	43 (71.7)
Vaginal discharge	16 (26.7)
Abdominal pain	41 (68.3)
Abdominal swelling	1 (1.7)
Fever	9 (15.0)
Vulva swelling	2 (3.3)
Urinary symptoms	17 (28.3)
Onset of symptoms	
Gradual	29 (48.3)
Sudden	31 (51.7)
Conscious state	
Alert	53 (88.3)
Drowsy	7 (11.7)

Table 3: Frequency distribution of medical interventions received

Intervention	Frequency (%)
MVA	25 (41.70)
Laparotomy	1 (1.70)
Blood transfusion	9 (15.0)
Antibiotics	60 (100.0)
PEP	13 (21.7)
Emergency contraception	12 (20.0)

PEP – Postexposure prophylaxis; MVA – Manual vacuum aspiration

conditions are the most common gynecological disorder recorded among the adolescent during the period under review. It had an incidence rate of 60% with a sizeable portion (38%) being cases of induced abortion; the majority of the cases occurred within the age bracket of 15–19. This rate and age bracket of the adolescent that had an abortion in our study is in concordance with an earlier finding by Ikeako *et al*.[23] however, the rate of induced abortion is higher than in their study. The rate of induced abortion seen in our study is however, in keeping with the higher rate reported in the previous studies[14,15,24] and it has been reported that the majority of abortion seekers were adolescents.[18] The rate of induced abortion seen in our study is discomforting as this could be associated with maternal mortality and morbidity since they were cases of unsafe abortion. This could also predispose this adolescent to an ectopic pregnancy in further obstetrics endeavor.[14,15] Even though no maternal death was seen in the study, it has been reported that the risk of maternal death from unsafe abortion in sub–Saharan Africa is 75 times more than women from the developed world.[1,2] Majority of the adolescents in our study are not aware of different methods of contraception and does not use any even though premarital sex has been commenced. This supports an earlier finding.[23] The high unmet need for contraception seen in our review is in tandem with finding in Nigeria.[11] It might be a contributing factor to the rate of unwanted pregnancy seen in this study. A study in Lagos, Nigeria, revealed that only 5% of adolescents with knowledge of contraception are users, whereas 85% of sexually active respondents were not bothered concerning contraception.[25] Adolescents are adventurous and lack of correct information related to their bodies' physiological and sexual changes[3] might also predispose them to the problem of unwanted pregnancy, as seen in our study.

Ectopic pregnancy is a significant contributor to maternal death in Nigeria.[8] In this study, only 2% of they presented in the acute condition when the ectopic pregnancy had ruptured. They had exploratory laparotomy and salpingectomy. The rate in our study is much less than what was obtained in a study in Ilorin by Omokanye *et al*.[13] in which ectopic pregnancy occurred in 1% of all pregnancies and 17% were found among adolescents. The difference in the study population and design are plausible reasons that might have accounted for this difference. Sexual assault was found in 26% of the cases in this study and is similar to the incidence recorded by Sinclair *et al*. of 25.5%[20] and also within the range obtained by Omonjo *et al*.[22] in Ogun state, Nigeria.[13] The burden of sexual assault seen in our review is discomforting as this is a violation of the reproductive right of this adolescent. It also places this group at increased risk of being infected by sexually transmitted infections including HIV/AIDS.[26] Postexposure prophylaxis against HIV infection and emergency contraception was used in the management of sexual assault among the unfortunate adolescent. This childhood assault could lead to posttraumatic dissociation and its squeal of PostTraumatic Stress Disorder and impairment of future intimate partner relationship.[27] Omole *et al*.[28] reported that the incidence of Bartholin's gland cyst increase with a number of children, and this is very rare in adolescents. This might explain why no case of the condition was recorded in the index study since none of the patients was a multipara. Other disorders among the respondent include menorrhagia, pelvic infection, and postabortal sepsis. This calls for astute care by gynecologists to reduce complication. Broad-spectrum antibiotics are essential to reduce infectious morbidities as was used in the adolescent under our care. The most common clinical presentations in this study were vaginal bleeding (86%), abdominal pain (82%), and urinary symptoms (34%). This is as expected, considering the most prevalent clinical disorder in the study population. This agrees with a previous study.[23] In our study, no maternal mortality was recorded, unlike in the report by Ikeako *et al*.[23] where abortion-related gynecological deaths accounted for 34.2% of the deaths. Manual vacuum aspiration was used in the management of incomplete abortions as this is less associated with abortal uterine synechiae. Less than 20% of the study population received blood, and this was patient that was severely anemic or with some cardiovascular compromise following hemorrhage.

Conclusion

This study has shown that abortive conditions and sexual assault were the most common clinical diagnosis among adolescent in the study area. This could be explained by a high level of unmet need for contraception in our study predisposing to a significant risk of unwanted pregnancy seen in the study. The percentage of adolescent assaulted in our study is unacceptable and should be prevented by girl child education, community education, and appropriate legislation and punishment to the offenders. Proper care is important for an adolescent with these problems as improper care can impart negatively on the entire future reproductive/obstetric carrier of this adolescent.

Recommendation

The adolescent should be educated on the dangers of premarital sex and other reproductive health issues. They should be encouraged to delay sexual intercourse until marriage but for those who cannot effective modern method of contraception should be made available in a friendly adolescent and youth center for easy access. Because various conditions may present with similar clinical presentations, a high index of suspicion is required to make the right diagnosis and health facilities should be well equipped and "emergency ready" to offer the best services at the right time. We recommend also that nongovernmental agencies and Government should cooperate in the implementation of policies that should women in the study area.

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Conflicts of interest

There are no conflicts of interest.

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