
Awareness perception and attitudes of adolescent towards infertility in Kaduna state, northern Nigeria

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Abstract: Background - in sub-Saharan Africa, about one-third of couples are known to suffer from infertility, predominantly from infection related causes which are mainly preventable. Children in these societies are highly valued. The array of psychological consequences and the magnitude of socio-economic disempowerment associated with infertility may be incomprehensible to someone not familiar with the scourge of involuntary childlessness in sub-Saharan Africa. Objective - this study surveyed adolescent awareness perception and attitudes towards infertility and safe practices in the prevention of infertility. Study design- multicentre cross-sectional study. Setting- six senior secondary schools. Results - of the 720 respondents, 476(66.1%) were familiar with the term infertility, 336(46.6%) were aware that infertility is a common reason for gynaecological consultation in Nigeria, 203(28.2%) felt that infertility could only happen to women over 40 years and 233(32.3%) were of the opinion that infertility is 100% curable. In this study, 683(94.9%) were concerned about their ability to have children someday, 693(96.4%) said protecting their fertility is very important, although 261(36.3%) students said they will be embarrassed to ask for information on infertility. The students' reaction towards safe practices that could help protect from infertility showed that more than 50 percent agreed to all the itemised measures except for abstinence from sex with a rate of 46.3% (333 respondents) and the use of birth control pills with 39.9% (287 respondents). Conclusion- this study re-emphasises the premium placed on fertility in Nigerian society. Study amongst this subset of population would serve as an important tool in planning preventive programs for the uninformed adolescents. Inclusion of infertility as a taught topic in high school curriculum would be a rewarding step towards preventing infertility in sub-Saharan Africa.

Keywords: Adolescent, Infertility, Prevention, Awareness, Attitude

1. Introduction

Infertility is an entity with public health interest, this is due to psychosocial consequence which is common in sub-Saharan Africa and issues that relate to limited access to treatment especially assisted reproductive technology. Sub-Saharan Africa has the highest proportion of population with infertility and paradoxically this region is known to have the greatest constraint in term of access to treatment (1). The aforementioned, justify the need to plan, institute and propagate infertility prevention strategies as a priority.

In Nigeria, of the total population of 170 million, 20 percent are adolescents (2). Challenges are known to exist in varied dimensions during adolescence and these are mainly characterized by vulnerability to reproductive health

complications because adolescents are poorly informed and prone to exploitation.(3,4). In Nigeria, two-fifth of teenage pregnancies are thought to culminate in unsafe abortion and reported to account for a high proportion of abortion related admissions in Nigerian health facilities (4). In many sub-Saharan African cultures, it is a known taboo for parents to engage in discussion on topics relating to reproductive health with their teenage children (2) thus, the little but distorted information they may have is from peer group.

It was against this background that we carried out a survey on awareness, perception and attitudes of adolescents towards infertility. The result from this study could serve as baseline tool in planning knowledge and awareness base educative

programs for adolescents towards prevention of infertility later in life. The study may also serve as a motivation towards the inclusion of infertility as a taught topic especially in settings where sex education is not part of curriculum in the senior secondary schools.

2. Materials and Method

A cross-sectional study using convenient sampling of adolescents in six senior secondary schools in Kaduna state. The survey took place between October 2010 and March 2011. Of these six schools, 4 are mixed male/female and 2 are girls' only schools. Pre-tested self administered questionnaires completed by 720 students were analysed. The respondents were made up of 303 male and 417 female students. The questionnaire included sections on awareness, perception, attitude towards infertility and reaction towards some safe practices that could help prevent infertility. Apart from the section that asked for what is infertility and pelvic inflammatory disease, other questions were either answered as yes, no or I do not know. Awareness of infertility was assessed by asking them to define infertility and how common infertility presentation to the gynaecologic clinic. Perception of infertility was surveyed by asking at what age group is infertility common, if advanced age has impact on fertility, if infertility is curable in all cases and predisposing factor to infertility. Attitudes to infertility were assessed by asking about their concern for future fertility, reaction to safe practices that may help protect fertility and enquiry into information on infertility.

3. Result

Table I. awareness of infertility.

	CORRECT ANSWER	%
Define infertility	476	66.1
Is infertility the commonest reason for gynaecological consultation	336	46.5

In this survey, of the 720 respondents, 476(66.1%) were familiar with the term infertility, though none could define infertility in term of time frame. However, 336(46.5%) knew that infertility is the commonest reason for gynaecological consultations in Nigeria (table I) and 203(28.2%) are of the opinion that infertility can only occur in women above 40years of age, even though 521(72.4%) felt it will be easy for a woman to have a baby at age 40years like women in early reproductive years.

It is pertinent to note in this study that 233(32.3%) of the respondents were of the opinion that infertility is 100percent curable. Only 226(31.4%) respondents knew what pelvic inflammatory disease is and 488(67.8%) were aware that sexually transmitted infections could lead to infertility, however only 212 (29.4%) and 28(3.9%) did identify gonorrhoea and Chlamydia respectively as infections that may cause infertility. On the contrary, 509(70.7%) students recognize that screening and treatment of STI is a good way of preventing infertility. On impact of life style on fertility, smoking and excessive alcohol intake were identified as predisposing factors of infertility by 366(50.8%) and 352(48.9%) students respectively, while 391(54.3%) recognized that underweight and overweight could affect fertility (table II).

Table II. perception of infertility.

	CORRECT ANSWER	%
Infertility can only occur after 40 years of age in female	203	28.2
Is easy for a woman to conceive after 40years	521	72.4
Infertility is 100% curable	233	32.3
Sexually transmitted infection can cause infertility	488	67.8
What is pelvic inflammatory disease?	226	31.4
Chlamydia can cause infertility	28	3.9
Gonorrhoea can cause infertility	212	29.4
Smoking can predispose to infertility	366	50.8
Alcohol can predispose to infertility	352	48.9
Overweight and underweight can affect fertility	391	54.3

On the students' attitude towards infertility, 683(94.9%) were concerned about their ability to have children someday, 702(97.5%) said it would upset them if they are unable to have a child someday and as an aftermath of the latter, 694(96.4%) said protecting their fertility is of paramount importance, even though 261(36.3%) of the students would be embarrassed to ask for information on infertility. On the respondents' reaction

towards some safe practices that could help preserve their fertility, 509(70.7%) would not mind to undergo screening for STI, 413(57.4%) were opinionated towards safe sex, 333(46.3%) would abstain from sex, 287(39.9%) would not mind to use birth control pills, 476(66.1%) would avoid multiple sexual partners and 609(84.6%) would not engage or encourage their partners to undergo induced (unsafe) abortion.

Of great importance, 688(95.6%) would like to have more information on how to prevent infertility (table III).

Table III. Attitude towards infertility.

	POSITIVE RESPONSE	%
I am concerned about my future ability to have children	683	94.9
I will be worried if i can have children in future	702	97.5
Taking measure to protect my fertility is very important	694	96.4
If given the opportunity, i will like to be screened for sexually transmitted infection	509	70.7
I will like to engage in safe sex to protect my fertility	413	57.4
I will like to abstain from sex to protect my fertility	333	46.3
I will like to use birth control pills to prevent unwanted pregnancy	287	39.9
I will avoid multiple sexual partner to protect my fertility	476	66.1
I will not engage or encourage my partner to engage in abortion to protect my fertility	609	84.6
Will you be embarrassed to ask for information on infertility?	261	36.3
Will you like to have more information on infertility?	688	95.6

4. Discussion

In this survey, about 66% of the respondents were aware of the term infertility, though none of the students could describe infertility in relation to duration of sexual exposure. This figure is low when compared with 79% from a similar study conducted in a developed country; Canada (5). Furthermore, about 46% knew that infertility is the commonest reason for gynaecological consultation in most Nigerian settings. The awareness rate of infertility recorded in this study is worrisome considering the fact that infertility is common in sub-Saharan Africa with prevalence rate as high as 46 % (6). On their perception about infertility, about 28% thought infertility could only occur after 40years of age while 27.6% felt it would not be easy to conceive after 40years in contrast to 85.4% reported in another study(5). The importance of age in fertility cannot be over-emphasised. The optimal age interval for conception is reported to be 20 to 24years with marked decrease in fecundability noticed from age 35years which become markedly significant from 38years (7). When asked if infertility is 100percent curable, 67.7% were of the opinion that it is not 100% curable comparable to figure from similar study(5). This era has witnessed mega technological advancement in assisted conception, even with that infertility is far from curable in most instances. Assisted conception is known to cure about 50% of infertility cases (1).

From this study, more than 70% did not know what PID is and could not identify that gonorrhoea and chlamydia could lead to infertility, though about the same percentage knew that STI may lead to infertility. It is however re-assuring to know from this survey, that more than 70% of the respondents were aware that screening and treatment of STI can help prevent infertility; as such they will not mind to undergo screening for STI. Study has shown that 18% of couples who sought for ART treatment did so on account of tubal disease secondary to chronic PID (8). In the United States, chlamydia infection is highest among adolescents and adults within the age group 20 to 24 years associated with increasing incidence of STI(9,10). Early detection and treatment of STI, especially chlamydia can prevent tubal pathology (11). The finding in this survey that most respondent would not hesitate to be screened for STI is encouraging. Social habits like tobacco smoking and alcohol consumption are well known predisposing factors of

infertility with identifiable and proven deleterious effect on reproductive functions (12). The negative effect of tobacco smoking are in the spectrum of decreased fecundability, ovulatory dysfunction, early menopause, lower volume of ejaculate, low sperm count and impaired spermatozoa morphology(13,14,15,16,17). Alcohol ingestion on the other hand have been associated with increased rate of infertility in males when taken in excess of 20units per week while in females, alcoholism is known to cause amenorrhoea and ovulation disorders most probably through its effect on the central system(18,19,12). This study reveal that about 50% of respondent did not know that alcohol and tobacco smoking could predispose to infertility, this figure is comparably lower than that quoted in the Canadian study(5) . Authors have also reported improvement in fertility following stoppage of alcohol intake (19)

Normal BMI is equally important in reproduction and spontaneous conception. In this series, about 50% of the students knew that underweight and overweight/obesity could be a mitigating factor to normal fertility, this is in consonant with figure from a similar study(5). The increasing trend towards western lifestyle in Nigeria have been documented and the negative impact of obesity on fertility have been well researched, reviewed and reported (20). In Nigeria, involuntary childlessness is a disastrous event if it occurred in a couple's lifetime, this is because children are highly valued in the society. It is therefore not surprising that over 90% of respondents in this study were concerned about their future fertility, upset if they cannot have children in future and alluded to the fact that protecting their fertility is important. These high levels of concern about parenthood should make education on infertility attractive to this cohort of the population. The high level of interest in parenthood recorded in this study is in concordance with result from a Swedish study but contrary to low figures between 40 to 69 percent reported by Quach from Canada (5, 21)

Towards preventing infertility, attitudes that would help decrease the incidence of STI and unwanted pregnancy which may ultimately culminate in unsafe abortion, are safe practices that should be encouraged. Figures for practice of safe sex, abstinence from sex, avoidance of multiple sexual partners and use of birth control pills are not impressive in this study. Low figures have also been the report in other studies from

both developed and developing countries (5, 22). Concerning illegal abortion, about 84% will not engage or encourage their partner to undergo induced abortion, this is in conformity with figure obtained from a survey carried out in Democratic Republic of Congo(23). In conclusion, the high percentage of respondents that would be embarrassed to ask for information on infertility and the equally high number of students that required more information on infertility in this study, depicts the narrative scenario of restrictive cultural deprivation of sex education to adolescents at a cross road with unmet need for adolescents' sexuality education. In developing world, the time has come to face reality and rise above cultural inclinations that support restriction of information dissemination to adolescents on sexuality and infertility related issues. This is to make parenthood materialize in the future for all that desire it, through informed and conscious avoidance of hazardous practices that may affect fertility.

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