A study of the attitude and knowledge of teenagers in the Pietermaritzburg area towards contraception

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Background. Preventing teenage pregnancy is an important means of improving adolescent health and reducing perinatal mortality.
Objectives. To improve our understanding of teenagers' attitudes towards and knowledge about contraception, access to contraception and sexual activity in our health district.
Methods. A descriptive, cross-sectional, questionnaire-based study analysed demographic data, knowledge about, access to and use of contraceptives and knowledge about sexually transmitted infections (STIs) in teenagers from 13 to 17 years of age in seven schools in the Pietermaritzburg area, KwaZulu-Natal, South Africa.
Results. Of the 350 participants who answered the questionnaire completely, 24.9% reported being sexually active, of whom 70.1% used contraception. Knowledge about emergency contraception (EC) was generally poor (8.7%). Sexually active respondents were more aware of condoms (78.6% v. 56.9%), injectable contraception (57.4% v. 41.8%) and EC (14.6% v. 6.1%) than those who were not. Knowledge about STIs was generally good (71.7%) and improved with increasing grade at school. Males had a better understanding of condoms being protective against STIs than females (60.8% v. 39.4%).
Conclusion. Knowledge about condoms and injectable and oral contraception is adequate, whereas that about EC and dual contraception needs to be improved. Use of contraceptives other than condoms is poor, indicating a disparity between knowledge and use.

S Afr J Obstet Gynaecol 2016;22(1):25-28. DOI:10.7196/SAJOG.2016.v22i1.1044

The World Health Organization recognises adolescent fertility regulation and pregnancy prevention as one of the most important healthcare concerns of the 21st century.[1] Correct and consistent use of dual contraception prevents or reduces the incidence of teenage pregnancy and HIV transmission.[2] The rates of teenage pregnancy and HIV transmission in South Africa (SA) remain high, highlighting a need to address poor use of contraceptives among sexually active teenagers.[1]

Causes of unprotected sexual intercourse are multifactorial: poor sex education, incorrect and inconsistent contraceptive use, attitudes of healthcare workers (HCWs), poor access to contraceptive services, gender inequality and sexual taboos.[3] Trans-generational sexual relationships in which girls engage in transactional relationships with older men contribute to teenage pregnancy and HIV acquisition.[4]

Contraception is freely available from government clinics as per the National Contraception Policy Guidelines.[2] These allow for a variety of contraceptives to be offered and for information to be dispensed in a confidential, non-judgemental manner.

A local study found that clinic staff and hours were obstacles to use of contraception and that HCWs did not allow teenagers to choose their contraceptives.[5] Jewkes *et al.*[6] found that 5% of teenagers reported HCW attitudes as a problem, while Bana *et al.*[7] revealed that in 54% of cases fear of parents finding out was a barrier to contraceptive use.

In 2008, a national population-based survey revealed that the national HIV prevalence among 15 - 24-year-olds was 8.7%; however, in KwaZulu-Natal (KZN), SA, the rate was 15.3% in this age group.[8]

James *et al.*,[9] in their study of secondary school learners in the Midlands of KZN, found that teenagers had a high level of knowledge regarding the causes of and protection against HIV and STIs.

The literature suggests there is no single intervention that is universally effective in reducing the impact of unprotected sexual intercourse. The best chance lies in developing tailored strategies to suit the community environment.[4] We therefore conducted this study in our teenage population to assess their knowledge and attitudes towards contraception and STIs.

Objectives

To determine knowledge about contraception among teenagers in the Pietermaritzburg (PMB) area, to determine attitudes towards sexual activity and access to contraception, and to determine knowledge about HIV and STIs and how contraception may help to prevent spread.

Methods

A descriptive cross-sectional questionnaire-based study was used. All non-pregnant persons aged 13 - 17 years were eligible to participate.

The study was conducted in PMB, the capital city of KZN. We aimed for a target sample size of 800, 100 per school. Of the initial eight schools selected, one was excluded because the questionnaire needed to be administered individually by means of personal interviews with each pupil. Owing to time constraints this was not possible. A total of 630 questionnaires were distributed, of which 371 were returned. Of these, 21 were excluded because they did not meet the age criteria. This left a total of 350 completed eligible questionnaires, which represented a 55.6% response rate.

The research instrument was a non-validated, peer-reviewed, self-administered questionnaire (available in English and isiZulu).

Data were collected in June 2013. Interested learners were given consent forms for their parents/guardians to sign and information leaflets on the study. Completed consent forms were collected and the questionnaires were distributed to those who were eligible.

Data were transcribed onto an MS Excel spreadsheet (Microsoft, USA). This was imported into the statistical software and used and coded appropriately, after which the biostatistician performed statistical support and analysis. SPSS version 19.0 (IBM Corp., USA) was used. A *p*-value of <0.05 was considered statistically significant. Results were summarised by frequencies and percentages for categorical data, and means, medians, standard deviations or percentiles for continuous numerical data. Normally distributed data were analysed using Student's *t*-test when comparing two groups. Pearson's χ^2 test or Fischer's exact test were used to identify trends between categorical variables as appropriate.

Ethical approval

Ethical approval was obtained from the Biomedical Research Ethics Committee of the University of KwaZulu-Natal. Written consent was obtained from the Head of the Department of Education for KZN. Written consent was obtained from parents or guardians for their child/ward to participate.

Results

The median age of sexual debut was 15 years, with 24.9% of the study population reporting being sexually active, 17.1% of girls and 44.4% of boys (Table 1).

Of the sexually active population 70.1% were using contraception (60.4% of sexually active girls and 79.5% of boys reported using contraception). The proportion of boys using contraception increased with age; however, among the girls there was a decrease in contraceptive use between the ages of 14 and 16 years.

Condoms, the most commonly used contraceptive among both boys and girls, were used by 87.3%. Injectable and oral contraception were each being used by 6.8%. Only 3.4% reported using dual contraception (DC) and 1.7% emergency contraception (EC).

Of the 6.8% who were using injectable contraception, all were 17 years old. Of the 6.8% who were using oral contraceptives, 3.4% were 16 years old and 3.4% were 17. Of those who were using EC and DC, all were 17 years old. The only contraceptive that the 14-year-olds reported using was condoms, whereas the 17-year-olds used a variety of contraceptives.

The best-known contraceptive method was the condom (Table 2). Those who were sexually active were more aware of condoms than those who were not (78.6% v. 56.9%; $p<0.001$) (Table 3).

Knowledge about the intrauterine contraceptive device (IUCD), bilateral tubal ligation (BTL), the patch and EC was generally poor. Of those who were not sexually active, 6.1% (v. 14.6% of those who were) were aware of EC ($p=0.028$). Half of the girls (50.2%) were aware of DC compared with 29.8% of the boys ($p=0.003$).

Access to contraceptives

Eighty-four per cent of the total study population, and 86.2% of the sexually active population reported they would access contraception from a clinic; 51.0% reported having good access to contraceptive services, while 35.0% felt that their access was poor. Of the boys, 48.8% compared with 51.9% of girls felt they had good access to contraceptive services, and 40.0% of grade 8s (13 - 14-year-olds) reported having good access to contraceptive services compared with 61.0% of grade 12s (17 years old).

Contraception: seeking advice, barriers and knowledge about emergency contraception

Table 4 shows the age, gender and sexually active groups and the barriers that they reported to seeking contraceptive advice.

There was a significant difference in terms of gender and being embarrassed, with more girls reporting it as a barrier. Fear of parents or teachers finding out was the most common barrier, for which there was no difference across ages, gender or sexually active groups.

Most teenagers would seek advice from an HCW. Those who had an idea of what EC was best understood it as being the use of the 'morning-after pill'; 42.8% of respondents were unsure of when EC should be taken.

Knowledge about EC gradually increased with age. More girls than boys knew about EC (35.0% v. 21.3%); 26.2% of those who were not sexually active understood EC to be the 'morning-after pill' compared with 44.1% of those who were sexually active.

Table 1. Gender and sexually active distribution of the study population according to age and grade

	n (%)	Males, *n* (sexually active)*	Females, *n* (sexually active)*
Age (years)			
13	31 (8.9)	7 (0)	24 (0)
14	51 (14.6)	17 (2)	34 (1)
15	81 (23.1)	18 (5)	63 (9)
16	94 (26.9)	26 (12)	68 (11)
17	93 (26.6)	31 (25)	62 (22)
Total	350	99 (44)	251 (43)
Grade			
8	80 (22.9)	31 (2)	49 (0)
9	70 (20.0)	19 (8)	51 (7)
10	89 (25.4)	23 (13)	66 (10)
11	74 (21.1)	14 (11)	60 (14)
12	37 (10.6)	12 (10)	25 (12)

*Numbers in brackets indicate the number of sexually active teenagers in each group.

Table 2. Knowledge about contraception (*N*=254)*

Type of contraception	*n* (%)
Condom	161 (63.4)
Injection	120 (47.2)
Pill	115 (45.3)
DC	112 (44.1)
EC	22 (8.7)
Abstinence	18 (7.1)
IUCD	8 (3.1)
Patch	1 (0.4)
BTL	1 (0.4)

*Only 254 of the 350 respondents answered these questions.

Table 3. Knowledge about various contraceptive methods by age, educational grade, gender and sexually activity (*N*=254)*

	N	Condoms, *n*	*p*-value	Injectables, *n*	*p*-value	Pills, *n*	*p*-value	EC, *n*	*p*-value	DC, *n*	*p*-value
Age (years)			0.016		0.018		0.030		0.198		0.005
13	13	7		3		4		0		4	
14	39	19		12		12		1		10	
15	58	34		30		23		4		22	
16	73	45		33		34		7		33	
17	71	7		42		42		10		43	
Grade			0.001		0.000		0.030		0.010		0.000
8	39	17		7		4		0		7	
9	64	43		33		12		1		25	
10	61	31		20		23		8		20	
11	58	44		37		34		9		37	
12	32	26		23		42		4		23	
Gender			0.020		0.000		0.007		0.418		0.030
Male	77	57		20		25		5		23	
Female	177	104		100		90		17		89	
Sexually active			0.001		0.018		0.264		0.028		0.276
Yes	75	59		44		38		11		37	
No	179	102		76		77		11		75	

*Only 254 of the 350 respondents answered these particular questions.

Knowledge about sexually transmitted infections

Most respondents knew about STIs; 75.3% of the sexually active and 70.4% of those who were not sexually active correctly identified an STI as a disease acquired after unprotected sexual intercourse. Of the sexually active, 55.4% knew that contraception was protective, compared with 42.1% of those who were not.

Most respondents identified condoms as being protective against STIs. Boys had a better understanding of condoms being protective against STIs compared with girls (60.8% v. 39.4%). School grade was found to be significantly associated with knowledge about condoms being protective against STIs. This question was generally correctly answered by all grades, except grade 10 (15 - 16-year-olds), where only 53.3% knew that a condom was protective against STIs.

The three most commonly reported problems that were associated with teenage pregnancy were financial and related to health and education. Improving awareness of contraception and increasing availability were the two most common suggestions for improving contraceptive services.

Discussion

Our study showed a low rate of sexual activity (24.9%) compared with others. This may be due to under-reporting of sexual activity out of fear of parents or teachers finding out. Implementation of the abstinence-based approach to teenage pregnancy as outlined in the Department of Basic Education's 'Measures for the prevention and management of learner pregnancy'[10] may be another explanation. A high percentage of sexually active teenagers reported use of condoms. This finding is in keeping with the study by Shisana *et al.*[8] that also showed high rates of condom use. There was a steady increase in contraceptive use among boys as age increased.

Overall, we showed that contraception was being used, most commonly condoms, but use of other methods of contraception was poor.

In the USA, one successful approach has been the use of long-acting reversible contraception.[11] Implementation of this strategy in SA may help to reduce the rate of teenage pregnancy.

Among 14-year-olds the only contraceptive being used was the condom. Possible explanations for this include a lack of access to a variety of contraceptives on account of discrimination at local clinics, fear of being punished by parents or teachers, and poor knowledge about contraceptive options.

Emergency, dual and injectable contraception use was limited to 17-year-olds. Consistent with this was that knowledge about EC was generally poor. While dual and injectable contraceptives were reasonably well known, their use was low, indicating a disparity between knowledge and practice.

Condoms were the best-known contraceptive, which was predictable given the mass media attention they receive coupled with their unrestricted availability. Significantly more boys than girls reported knowledge about condoms, and more boys than girls knew that condoms were protective against acquiring STIs. The use of condoms is protective (against STIs) for both the male and female partner in a sexual encounter, and the results suggest that boys are aware of this protective benefit. Girls knew more about injectable, oral and dual contraception than boys, perhaps because they exclusively utilise these forms of contraception.

Our findings suggest that sexually active teenagers have a greater knowledge about condoms, injectable and emergency contraception than those who were not. If this is a true reflection of the general teenage population, one may speculate that being sexually active influences a teenager's decision to pursue and retain knowledge about contraception.

Table 4. Knowledge about most reliable contraceptive, whom teenagers are most likely to seek advice from, barriers to contraceptive use and knowledge about EC

	n (%)
Most reliable contraceptive (*N*=271)*	
Condom	57 (21.0)
Pill	37 (13.7)
Abstinence	36 (13.3)
Injection	35 (13.0)
None	6 (2.2)
EC	3 (1.1)
BTL	2 (0.7)
Advice from (*N*=330)*	
HCW	180 (54.5)
Parent	58 (17.6)
Friend	56 (17.0)
Teacher	49 (14.8)
Sibling	26 (7.9)
Unknown	23 (7.0)
Nobody	8 (2.4)
Books	4 (1.2)
Google	2 (0.6)
Barriers to contraception (*N*=311)*	
Fear of parents and teachers	154 (49.5)
Embarrassment	137 (44.1)
Lack of health facilities	28 (9.0)
Other	10 (3.2)
Unknown	1 (0.3)
EC knowledge (*N*=275)*	
Unsure	98 (35.6)
Morning-after pill	86 (31.3)
Condoms	50 (18.2)
Pills	16 (5.8)
Termination of pregnancy	12 (4.4)
Injections	8 (2.9)
After rape	7 (2.5)
Before sex	1 (0.4)
Within 24 hours	1 (0.4)
When to take EC (*N*=278)*	
Unsure	119 (42.8)
After sex	82 (29.5)
Before sex	26 (9.4)
The morning after	20 (7.2)
Within 72 hours	17 (6.1)
After rape	14 (5.0)
Within 24 hours	5 (1.8)

*The number of respondents who answered each question varied.

The most common reported access point for contraception was the clinic. Most teenagers reported they would ask an HCW for advice above any other person. This information is of paramount relevance to the public health sector, where it is possible to evaluate, revise and regulate standards of service provision.

Fear of parents or teachers finding out was the most common reason for not seeking contraceptive advice. Expanding the availability of adolescent-friendly clinics that provide confidential services may be a solution to this problem.

Those who were sexually active were more likely than those who were not to know that condoms were protective against STIs. This suggests that sexually active teenagers have a better knowledge about how to protect themselves against the infections for which they are at risk. Girls reported having better access to contraceptive services than boys, which is reassuring since it is they who carry the burden of teenage pregnancy. Access was reported to be lowest among grade 8 (14-year-old) learners, which may be due to discrimination against younger teenagers by HCWs.

Several suggestions were made regarding how to improve current contraceptive services, the most common of which were to increase awareness and availability of contraception. Though controversial, one approach to promoting adolescent sexual and reproductive health would be to provide contraceptive education and services at schools.

Conclusion

Knowledge about condoms and injectable and oral contraception was adequate, but needs to be improved on for EC and DC. Use of contraceptives other than condoms is poor, indicating a disparity between knowledge and use. Teenage pregnancy is a major public health concern and much attention has been focused on improving contraceptive services for this vulnerable group. Implementation of the various laws, policies and programmes remains erratic at best. If we are ever to achieve the national and international targets of improving maternal and child health, efforts to escalate and improve sexual and reproductive health services for teenagers will need to be intensified.

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