Self-reported knowledge and use of emergency contraception among women presenting for termination of pregnancy

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Background: Emergency contraception (EC) is widely accepted as a safe method of preventing conception following unprotected coitus. Use of EC has been promoted in South Africa, yet uptake among women appears to remain low. The aim of this study was to assess knowledge and use of EC among women presenting for termination of pregnancy at a district hospital in KwaZulu-Natal.

Methods: This was a hospital-based cross-sectional study. Data were collected from women attending a termination of pregnancy (ToP) service at a district hospital using a questionnaire and analysed descriptively.

Results: A total of 218 women participated, of whom 25% were under 20 years of age and 87% were single. Reported knowledge of EC was good with 70% of participants indicating that they knew about EC. However, knowledge around EC was not complete, with less than 50% knowing the time interval between intercourse and EC action and some believing that EC acted by inducing an abortion. Reported usage of EC was only 40%.

Conclusion: This study revealed that there is much more to be done to enhance knowledge and use of EC in this context. Reasons for the discrepancy between knowledge and usage need further exploration.

Keywords: emergency contraception, KwaZulu-Natal, pregnant women, self-reported knowledge, termination of pregnancy

Introduction

This descriptive study focuses on the self-reported knowledge and use of emergency contraception (EC) among women attending an urban hospital in the province of KwaZulu-Natal, South Africa, for termination of pregnancy (ToP). KwaZulu-Natal is one of the most populous provinces in South Africa with over 9500 ToPs accounting for 3.6% of all pregnancies in the province in 2014.1 It would therefore be beneficial to enhance prevention of pregnancy strategies such as EC alongside strengthening availability of ToP services.

Attention to provision of all forms of contraception for women is a global priority; having access to multiple contraceptive choices is in keeping with Sustainable Development Goals 3.7 and 5B, which aim to improve both maternal and reproductive health.2 EC is one type among the armamentarium of contraceptives, and is designed to prevent pregnancy following unprotected coitus. Broadly there are two different types of EC available in South Africa: (a) oral (also known as the ‘morning-after pill’); and (b) mechanical barriers (the intrauterine contraceptive device or IUCD).3,4 Although EC should be administered as soon as possible after unprotected sexual intercourse, it is effective for up to 120 hours thereafter.

National Guidelines on Contraception include recommendations that family planning clinics provide a variety of types of contraception, including EC.5 In 2000, in support of enhancing the specific availability of EC, prescriptions for EC were rescheduled by the South African Medicines Council, making it available in public hospitals and pharmacies without a doctor's prescription.3,4 Recognising that merely enhancing availability was insufficient to enhance usage, a National Emergency Strategic Meeting on contraception was held in 2005, which identified the need to improve women's knowledge about contraception in general and their knowledge on the use of EC.4 With 42 million abortions carried out worldwide each year (22 million safely and 20 million unsafely)6 and over 45,745 ToPs done annually in South Africa,7 there is a pressing need for a comprehensive contraceptive programme to prevent unplanned and unwanted pregnancies and reduce the high mortality in Africa associated with the practice of unsafe abortion.8,9 Such a strategy for the provision of contraception is important, as many unplanned pregnancies and ToPs could be prevented if safe and effective contraception were available to all who are sexually active. Such a strategy would also enhance the autonomy of women around their reproductive choices.

EC in particular provides women with a safe means of preventing pregnancy following unprotected coitus or potential contraceptive failure. For many, access to contraception (including EC) is a rights issue, with women having a right to contraception (including EC) that is accessible from a convenient location without intrusive questions about their sex life, age or morals.4,5,6,7,10 Additionally, every child has the right to be a wanted child and not to enter this world because his/her mother was denied access to EC. Increasing access to all forms of contraception, including EC, may thus act as a surrogate marker for broader issues such as social justice for females and for children.

Despite a need for effective strategies to enhance EC accessibility as one component of ensuring access to safe and effective contraception, there have been few recent studies on EC in a South African context. In a study carried out in the Western Cape in 2007, only 15% of 831 sexually active women in the sample spontaneously mentioned EC as an option following unprotected coitus, and only 30% had ever heard of EC.11 In a study among university students in Durban in 2006 only 21% of the women who participated in the study had ever used EC.12 A South African...
study in 2001 reported poor knowledge of EC among women requesting ToP, highlighting the need for effective strategies to ensure access to reliable contraception including EC. The aim of this study was to access self-reported knowledge of and use of EC among women presenting for ToP at a district hospital in KwaZulu-Natal. This study is relevant as EC is relatively unexplored in the context of women presenting for ToP in KwaZulu-Natal, and isiZulu-speaking women, who form the dominant culture, may hold culture-specific ideas or even suspicions around EC. Arising from a limited amount of local data concerning pregnant women and EC in South Africa, this study considers the following three study questions: (a) What are the demographics of women who attend for ToP at the study site?; (b) What is their self-reported knowledge of EC?; and (c) How do they report their use of EC?

**Research methods and design**

**Study design**

This was a hospital-based cross-sectional study, which focused on the important topic of EC among pregnant women presenting for ToP. The findings may guide healthcare professionals working at local healthcare facilities towards enhancing access to EC.

**Setting**

The study site was a ToP service based in an urban district hospital in KwaZulu-Natal. This site was chosen as the ToP service at the hospital is busy, with on average 58 ToPs being carried out per month.

**Study participants**

The study population was all women who attended for ToP at the study site over a six-month period (September 2013 to March 2014). Clinic statistics suggest that on average 348 women attend the ToP clinic over a six-month period. Based on this figure a sample size of 218 (confidence level of 95% and margin of error of 0.05%) was chosen.

**Data collection**

Data were collected by interviews between participants and the researcher, a male Family Medicine registrar who was working in the ToP clinic during the study period. All women presenting at the ToP clinic were approached by a nurse working at the ToP clinic as they registered for the ToP service and were invited to take part in the study. This step was included to minimise any sense of coercion for these vulnerable women to join the study. The nurse was female and spoke isiZulu, which is the first language of women at the study site. The nurse had been fully briefed on the purpose of the study by the researcher. There were no exclusion criteria as all women presenting for ToP were asked to participate in the study. No one who was approached refused to participate in the study. Participant selection continued until the sample size was reached. Selection bias was reduced by the sequential inclusion of all women who presented for ToP during the study period.

In the interview the researcher assisted participants to complete a questionnaire, which was available in both English and isiZulu. An isiZulu-speaking nurse was available if there were challenges in communication.

The questionnaire comprised three sections: (a) demographic features (age, race, place of residence, occupation, schooling level, and parity); (b) self-reported knowledge of EC; and (c) self-reported use of EC. The self-reported knowledge section included questions about how EC works and the time period after sex in which EC must be used to be effective. Participants were asked to choose from a list of options, which included a ‘don’t know’ option. No attempt was made to score the reported knowledge and to categorise patients’ knowledge into good, average and poor knowledge. The section on self-reported usage asked whether they had ever used EC.

Prior to data collection the questionnaire was piloted among a small group of nurses and women to check that the questions were understood by patients attending the ToP clinic. Minor changes were made to the questionnaire following the pilot study.

**Data analysis**

Data from the questionnaires were entered onto a spreadsheet and analysed using the Statistical Package for the Social Sciences (SPSS®) version 21 (IBM Corp, Armonk, NY, USA). Variables were summarised descriptively using mean, standard deviation and range (minimum–maximum). Associations between variables were considered using a standard Pearson’s chi-square test. A p-value of less than 0.05 was deemed statistically significant.

**Issues of validity**

The data were collected using a standardised method (the questionnaire), and all data were collected by the researcher, which reduced potential bias. The knowledge and usage of women regarding EC was assessed by asking them to self-report, and their responses were not validated against an objective measurement of their actual knowledge or usage.

**Ethical considerations**

Women who are attending a ToP clinic form a very vulnerable population, and there may be many ethical issues involved when studying such participants. Women may be embarrassed or traumatised at being at a ToP clinic. Trauma would be enhanced if they were attending for ToP without the knowledge of their partners or husbands. The researcher interviewed participants in a private room and assured them that all information would be completely anonymous and confidential. The study had approval from the Biomedical Research Ethics Committee at the University of KwaZulu-Natal (BE003/13). Additionally, written permission to conduct the study was obtained from the hospital management and the Provincial Department of Health. All participants signed a consent form prior to completing the questionnaire.

**Results**

A total of 218 women participated in the study. The results are described in the following sections: (a) demographic profile; (b) self-reported knowledge; and (c) self-reported use.

**Demographic profile**

Most participants were African (217; 99%) with 1 Indian woman. Their ages ranged from 16 to 52 years, with a mean age of 25 years and 6 months (range 16–35 years). Table 1 gives greater detail on the sociodemographic profile of the participants.
Most (190; 87%) were single and had a secondary-level education (161; 74%). Almost half (96; 44%) were unemployed, with a just over a third (83; 38%) still studying. A third (73; 33.5%) had one child and just over a further third (79; 36%) had two or more children.

**Self-reported knowledge of emergency contraception**

In total, 70% (n = 153) of participants reported that they had knowledge of EC. Details of self-reported knowledge are given in Table 2.

| Question | Answer | Frequency (n) | Percentage of total sample (%) |
|----------|--------|---------------|--------------------------------|
| Where did you hear about EC? | Peers | 98 | 45.0 |
| | Clinic | 34 | 15.6 |
| | Hospital | 7 | 3.2 |
| | Others | 14 | 6.4 |
| | Total | 153 | 70.2 |
| Do you know what an EC is? | Prevents pregnancy after sex | 134 | 61.5 |
| | Abortion pill | 11 | 5.0 |
| | Do not know | 8 | 3.7 |
| | Total | 153 | 70.2 |
| Within how many hours after sexual intercourse is EC effective? | Immediately after sexual intercourse | 16 | 7.3 |
| | Within 72 hours | 55 | 25.2 |
| | Within a week | 7 | 3.2 |
| | Do not know | 75 | 34.4 |
| | Total | 153 | 70.2 |

Among those women reporting knowledge of EC, two-thirds (98/153; 64%) had received information from their peers, with only 34 reporting that they received information about EC from a clinic. Self-reported awareness of EC was statistically significantly associated with educational level (p < 0.001), with those women with higher education levels more frequently reporting knowledge of EC. Knowledge was also significantly associated with marital status (p < 0.001), with single women more frequently reporting knowledge than those who were married, cohabitating or divorced. Similarly, there was a correlation between age and self-reported knowledge (p < 0.001), with
those between 15 and 25 years of age more frequently reporting knowledge than relatively older women.

Of the 153 women who had self-reported knowledge of EC, most (134/153; 88%) reported that EC prevents pregnancy after intercourse. Less than half (71; 46.4%) knew of the time interval after unprotected intercourse within which EC can be effective. Greater detail can be seen in Table 2.

### Table 2: Self-reported knowledge of emergency contraception among women presenting for termination of pregnancy

| Question                                                                 | Answer                                      | Frequency (n) | Percentage (%) |
|--------------------------------------------------------------------------|---------------------------------------------|---------------|----------------|
| What EC have you used?                                                   | Morning after pill                          | 82            | 91.1%          |
|                                                                          | Intrauterine contraceptive device           | 2             | 2.2%           |
|                                                                          | Unspecified                                 | 6             | 6.7%           |
|                                                                          | Private pharmacy                            | 63            | 70%            |
|                                                                          | Government clinic                           | 13            | 14.4%          |
|                                                                          | General practitioner                        | 10            | 11.1%          |
|                                                                          | Government hospital                         | 1             | 1.1%           |
| Where did you access EC from?                                            | Private pharmacy                            | 63            | 70%            |
|                                                                          | Government clinic                           | 13            | 14.4%          |
|                                                                          | General practitioner                        | 10            | 11.1%          |
|                                                                          | Government hospital                         | 1             | 1.1%           |

**Self-reported use of emergency contraception**

Just over 40% (90/218) of participants had used EC, with only those who self-reported knowledge also reporting use of EC (see Table 3).

Among those who had knowledge, just over half (82/153; 53%) had used EC in the form of the morning-after pill, two (1%) had used an IUCD and six participants who reported using EC did not specify which type they had used. Of the 90 who had used EC only 87 indicated where they had accessed the EC from, with the majority of participants obtaining EC from the pharmacy, as indicated in Table 3. EC was more commonly reported to be used by younger women (less than 25 years of age), and this was found to be statistically significant (p < 0.05). There was, however, no significant difference in use among those who had higher levels of education or those who were married.

### Discussion

In this study the profile of women utilising the ToP services at this urban district hospital is that they are young (76.1% are younger than 30 years of age), single women, most of whom have had at least one child. In one sense the large number of women utilising ToP services represents a failure of the health services to provide adequate information about or make available appropriate and accessible contraceptive facilities, as correct contraceptive use (including EC) could have prevented many of these unwanted pregnancies.

With over 70% of women in this study aware of EC, this compares favourably with averages of 40% to 80% reported from the United States of America (USA) and Switzerland.14-15 This is also higher than the 48% of nurses and nursing students who reported knowledge of EC in Kenya in 1999,16 and the 56.6% reported among university students in 200417 and 49.8% reported among university students in Durban in 2012.18 It is also higher than previous South African studies, which reported a low level of awareness of EC among women receiving care at public sector healthcare facilities, where knowledge of EC ranged from 11% to 44%.8,15,19 The finding from this study is encouraging as it speaks of ‘a right to information’. In order for a woman to exercise autonomy regarding contraception she needs access to reliable information and education on EC, which will enable her to make informed decisions and avoid unintended pregnancy.64 This discussion on autonomy and rights is set against the finding that a quarter of women presenting for ToP were under 20 years of age and most were single. Young, single women may face many barriers to accessing contraception including, for example, poor attitudes of nurses at clinics — some of whom believe that EC encourages promiscuity and that EC works as an abortifacient.21 A study in Kenya found nurses’ level of knowledge and attitudes to EC to be poor, which negatively influenced their decision to provide EC.22 The lack of knowledge of healthcare professionals as well as their poor attitudes towards EC, which limit their willingness to prescribe EC, have been highlighted in a number of local and international studies.4,20,23 and more information and training of healthcare professionals on EC has been recommended.15

Considering rights to access information is of particular importance in any South African context where historically the African population had poor access to any type of education, including health education. IsiZulu women in the traditional societies of KwaZulu-Natal may still have poor access to sufficient accurate and unbiased information regarding the mode of action, efficacy and appropriateness of EC. It is important that this information be presented to them without the personal, religious or moral beliefs of the provider intruding.4,9

The study thus guides local healthcare providers around an urgent need to disseminate knowledge about EC, which must be tailored to the population.17-19 In the USA the success of EC awareness campaigns is linked to whether information and education are coupled with consideration of complex issues including cultural competency awareness and respect for community concerns.24 The same may hold true in South Africa, with the success of EC information campaigns depending on consideration of uniqueness of context.

Consistent with other South African studies,9 knowledge was lowest among those with lower education levels, and this has profound implications for an EC enhancement strategy. Information must be presented in an accessible way, and perhaps innovative ways to disseminate information could include means such as short text messages on mobile phones. This method has been shown to be successful elsewhere.25 Other means of dissemination of information, although not appropriate for those with a low level of education, could include web-based methods, which may be accessible to this urban-based population. Other studies have reported on the success of web-based dissemination of information on EC among teenagers in Kenya and Brazil.26
Literature indicates that EC interventions specifically targeted to the youth increased awareness and use of contraceptives including EC. However, a significant finding from this study is that knowledge awareness was less in older women than in younger women. Any proposed intervention around EC knowledge must not ignore the relatively older woman.

In this study only 27% (41/153) of participants reported accessing information about EC from healthcare professionals, which is similar to the findings from a study among women who had delivered at Baragwanath Hospital in 2015.20 Peers have been found to be a major source of information regarding EC in this and other studies,4,17,18,20,27 with 65% (98/153) of participants having received knowledge from their peers. However, misconceptions around EC can arise when women receive information from their peers; as an example, in this study less than half of those who reported knowledge of EC were correct in their knowledge concerning the time interval between unprotected intercourse and taking EC.

Misconceptions regarding the action of EC may also limit its use. For example, in this study some women believed that EC was a method to induce abortion rather than prevent pregnancy. This finding is replicated elsewhere in South Africa,20 and in other countries; for example, women in the United Kingdom perceived EC as an ‘abortion pill’.28 Such conceptions may preclude women from accessing EC as they may hold strong views against abortion.

Despite the potential of EC to promote women’s health by reducing the morbidity and mortality attributable to unwanted pregnancies, it is still under-used16,17 with only 40% of participants ever having used EC. This study shows higher use than reported from other studies in Africa, with a study in Nigeria reporting EC usage of less than 2% among 880 undergraduate students,29 and a study among female students attending a university in south-west Kenya reporting EC uptake of only 28%.30 In a study among university students in Durban only 11.9% (91 students) had ever used EC,31 while a 2012 study among female university students reported that only 21% had used EC.18

From the information collected in this study it is difficult to determine whether those presenting for ToP had used EC in this pregnancy or in a previous situation following unprotected coitus. If EC had been used in this pregnancy and they were still presenting for ToP, this requires further investigation around issues such as did they take EC incorrectly, or did they take EC correctly and it failed?

Of those who had used EC, 70% (63/90) reported that they had accessed it from the pharmacy, suggesting that the change in prescriber level that makes EC available at pharmacies is important in making EC more accessible to women following unprotected coitus. A population-based study in Canada demonstrated a substantial increase in use of EC following the change in legislation that allowed pharmacists to prescribe EC. This was attributed to the greater accessibility and longer opening hours of pharmacies.32 A systematic review of 23 articles looking at improved access to EC concluded that increased access is important as it leads to increased use.31

Another important finding is that 70% of the women in this study had at least one child, with only 18% (41/218) reporting that they heard about EC from a healthcare worker. This is similar to the finding from a study in Soweto, where only 20% of participants who had received antenatal care and delivered at Baragwanath Hospital learned about EC from healthcare workers.33 This represents (multiple) missed opportunities, as all healthcare workers should discuss reproductive plans at every consultation with all women in the reproductive age group. Such counselling must include information on where to obtain EC and the time interval between unprotected sexual intercourse and EC. Further research is needed in this area to assess the impact of such opportunistic family planning on the uptake of contraception, use of EC and use of ToP services.

Limitations

This study has limitations in that the findings are based on a small sample taken from one ToP site. In future, data could be triangulated towards gaining more generalisability by repeating the study at other sites and using a variety of data-collection methods. However, despite this limitation the findings are useful to guide the need for training and further research in this area of KwaZulu-Natal. In addition participant responses were not validated against objective measurement — for example, participants were not requested to complete a quiz measuring their knowledge of EC — and it would be useful to assess how their reported knowledge correlates with their actual knowledge.

The study considered only pregnant women presenting for ToP; investigating the knowledge of others, including men, nurses and doctors, would provide further information. To include doctors is important as other studies in a developing world context indicate that only 24% of general practitioners/family physicians interviewed had adequate knowledge of EC and only 42% had a favourable attitude towards EC.20

The format of the data-collection tool (open-ended questionnaire) did not provide participants with an opportunity to discuss EC in further detail. It also did not afford an opportunity to collect more sensitive data; for example, women may not select to use EC because their male partners influence their choice of contraception.

Conclusion and recommendations

This study illustrates that use of EC among the sample of pregnant women presenting for ToP was low. This finding is juxtaposed against the finding that most had self-reported knowledge of EC. Reasons for the discrepancy between having knowledge and low uptake require urgent further investigation. There may be misconceptions around EC; for example, some may not have known the time interval between unprotected intercourse and EC, and thus pregnancy may have resulted as it was not taken correctly.

The need for a strategy to increase knowledge and expand usage of EC is demonstrated. Any intervention must be sensitive to this potentially vulnerable population. The need to focus interventions on the young without excluding older women is also highlighted.

This study raised many important points but there is still much that remains unanswered, particularly relating to access and healthcare professionals’ knowledge of and attitudes towards EC. This study has highlighted a need for information sharing and future research in this important area.

Conflict of interest – None declared.

References

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