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ORIGINAL ARTICLE

Knowledge, attitudes and prescribing pattern of emergency contraceptives by health care workers in Kampala, Uganda

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Abstract

Background. Health care workers (HCWs) play an important role in making emergency contraceptives (ECs) available to clients. They can influence accessibility positively through counselling, prescribing or advocating the use of ECs. However, in some settings, HCWs have been blamed for unfavourable attitudes and lack of accurate information. *Objective*. To assess the knowledge, attitudes and prescribing pattern of EC by HCWs in Kampala district, Uganda. *Methods*. The total number of health units at different levels of health care delivery in Kampala (894) was obtained. Probability proportional to size (PPS) technique of sampling was applied. Some 247 HCWs completed a self-administered questionnaire on their knowledge about EC, including methods, mechanism of action, prescription of EC, sources of information, attitudes towards EC, and if and how it should be made available. *Results*. Of the HCWs, 80% had knowledge of ECs. However, 1 in every 4 was not sure about the time limit within which EC is effective. A total of 50% of the participants had obtained information from a physician (26.4%) or from a training school (24%). The Yuzpe regimen was the most commonly mentioned and prescribed method of EC. The HCWs attitudes to EC were generally positive, and it was suggested that the community should be informed and sensitised about EC. There was a significant difference between having had a family planning educational update or not in the last year and knowledge of EC ($p = 0.005$). *Conclusion*. Most HCWs were aware of EC, but some lacked important knowledge on its use or available methods. *Recommendation*. HCWs should have regular (annual) in-service training in reproductive health issues, such as counselling on EC. This will enable them to keep up to date with the current evidence-based recommendations in the field of contraceptive technology.

Key words: *Emergency contraception, health care workers, Uganda*

Abbreviations: *COC: combined oral contraceptives, EC: emergency contraception, ECP: emergency contraceptive pill, FP: family planning, HCU: health care units, HCWs: health care workers, IUD: intra uterine (contraceptive) device, KCC: Kampala city council, OTC: over the counter, POP: progestin only pills, PPS: probability proportional to size, RH: reproductive health, Sida/SAREC: Swedish international development agency/research division*

Introduction

Health care workers (HCWs) play an important role in making emergency contraceptives (ECs) available to clients. They can increase access to EC through counselling clients, prescribing or advocacy. However, HCWs have, at times, been blamed for the difficulties encountered by clients in accessing ECs, either because of negative attitudes towards ECs or lack of accurate information about these methods (1–3).

Emergency contraception has been available since 1974, but it is not easily accessible in many low income countries. Some people have called it the best kept reproductive health (RH) secret of the 20th

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century (4). With the recent development of levonorgestrel-only EC pills (ECP), the issue of whether ECP should be available over the counter (OTC) is a matter of debate world-wide (5).

In a study among Indonesian HCWs, it was shown that most participants (70%) did not support OTC availability of EC. The reasons given were that women would be missing out on the benefits of consultation, that EC is not the most effective, or safe form of contraception, that some women may use it frequently, and that pharmacies are unsuitable for dispensing EC. Physicians and other HCWs, who do not prescribe EC, are not always likely to support the increased availability of EC (6).

In a study among nurses and nursing students in Nairobi, Kenya in 1998, over 95% knew at least 1 regular contraceptive method, and 48% of the respondents had heard of EC. However, only 3% spontaneously listed EC as a contraceptive method. Knowledge about the different types of EC, applications, and side effects was poor, and 49% of the respondents considered EC as an abortifacient (7).

We undertook a study to assess knowledge, attitudes and prescribing pattern of EC among HCWs in Kampala district, Uganda, in order to identify training needs about EC.

Materials and methods

Study setting

This cross-sectional study was carried out among HCWs in Kampala district, Uganda. Kampala district has a population of about 1.2 million persons at night, and it increases up to more than 2 million during the day due to influx of persons from the neighbouring districts. Some of the persons come for business, but others come for health care. A list of all the health care units (HCUs) in Kampala was obtained from Kampala city council (KCC) (Table I). Fifteen HCUs were on the list, but were found not providing family planning (FP), while 16 new units providing FP were not on the list. The HCUs included health centres and hospitals (8). A HCW was defined as any person employed in a health care setting and providing FP methods. The term HCW was used because almost all the HCWs provided other health services in addition to FP.

Sampling procedures

Due to differences in staffing, the probability proportional to size (PPS) sampling method was applied (9). According to this technique, the greater the number of health workers a HCU had, the greater the chances of being selected into the sample. A list of all HCUs in KCC with their total number of staff was generated before starting the study. Thereafter, the cumulative number of staff in the HCU was calculated. Using the cumulative number of staff, systematic sampling was used to select the desired HCUs. Systematic sampling involved obtaining a random start number and a selection interval (r). From then on, every rth HCU was selected.

The estimated cumulative total of the HCWs in the health units was 1,889, and this was divided by the total health units (894) to get the interval range (r). The interval range was 2 (every second number starting from the random start was selected). Where 2 numbers corresponded with the same HCU, twice as many staff was selected. Informed consent was sought after introducing the study to the participants. In case of refusal by the selected participant, an alternate HCW was selected from the same unit.

Sample size

The sample size was calculated using the Kish and Leslie formula for cross-sectional studies (8,10). The variable used for sample size calculation was knowledge of EC. With a 95% confidence interval, a 5% margin of error, and based on the data from a previous study carried out in Uganda among FP providers (12), where 80% had knowledge of EC, the required sample size was 246. One extra participant was enrolled giving a total of 247 HCWs. The extra number helped to adjust for those participants who were not answering all the questions.

Table I. Health care units in Kampala district as of 2002.

Health unit	Government	NGO	Private	Total	HCWs (FP)
Hospital	6	4	6	16	96
HC* II–IV	24	11	843	878	1,793
Total	30	15	849	894	1,889

*HC refers to health centre grade. There are health centre grades II-IV. HC II serves a population of about 5,000 people. It provides out patient care, antenatal care, immunisation, and outreach. Among the HC II, 836 were private. HC III provides all the services of HC II plus in patient care, and HC IV serves a population of about 100,000 people. It provides all the services of a HC III, plus surgery.

Tools

A self-administered questionnaire with closed and open ended questions was given to the HCWs. The questionnaire explored participants' age, category of health facility, profession and contraceptive methods prescribed in the last year; educational updates in RH issues, knowledge and prescribing pattern of EC. Other questions included OTC availability and views about the influence of EC on condom use. The HCW in charge of FP services at the clinic was given the questionnaires to distribute to the selected HCWs.

Data management

All filled questionnaires were checked for completeness. Responses from open ended questions were coded. The computer program Epidata 3.1 was used for data entry, and the data were exported to Stata version 8.0 for analysis. Consistency and range checks were made and errors were corrected in Epidata before exporting to Stata V.8.0.

Data analysis

The main outcome variable was knowledge of EC. Key independent variables included socio-demographic characteristics and having had an educational update of FP. Analysis involved descriptive statistics, such as frequency distribution tables and inferential statistical analysis like cross tabulations. Binary logistic regression was used to explore possible relationships between knowledge of EC and the rest of the variables. The outcome variables for the logistic regression included ever heard about ECs and ever prescribed ECs.

Two researchers analysed all statements and description of the codes from the open ended questions. A comparison of the categories by the two researchers showed agreement.

Ethical considerations

The study was approved by the Department of Obstetrics and Gynecology, Faculty of Medicine higher degrees research and ethics committee, National Council for Science and Technology and the resident district commissioner, Kampala district. It was also approved by the regional ethics committee, Karolinska Institutet, Stockholm, Sweden. Informed written consent was obtained from all participants prior to inclusion.

Results

The study was conducted from March to November 2005. A total of 247 HCWs participated in the study and were included in the analysis. The vast majority (93%) of the participants were women. The age range of the HCWs was 21–64 years (Table II). Most of the HCWs were nurses and midwives employed in private health centres. Other professionals included clinical officers and physicians.

Knowledge of the participants about EC

Most of the participants had heard about EC (79.4%). Some 50% had obtained information from either a physician (26.4%) or from the training school (24%). Friends, the print and electronic media were mentioned as other important sources of information. Two of the participants (0.6%) had first heard about EC from patients. The combined oral contraceptive pills (the so called Yuzpe regimen) were the most commonly mentioned methods for EC. However, 1 in 4 (24.1%) of the participants did not know the time limit within which EC is effective (Table III). Gynomin (contains methylestradiol 0.3 mg, methylestrenolone 0.5 mg, used in treatment of secondary amenorrhoea), which is not an EC, was also mentioned by the HCWs. The majority of the participants (66.2%) had not received any educational updates about FP methods in the 12 months prior to the study. A significant difference in awareness of EC between participants who had had an educational update in FP in the last 12 months and those who had not was noted (Table VI) ($p = 0.005$). There was, however, no significant

Table II. Background characteristics of the 247 health care workers.

Characteristic	$n = 247$	%
Age group		
21–30	105	42.5
31–40	84	34.0
>40	33	13.4
Not indicated	25	10.1
Professions		
Midwives/nurses	18.5	74.9
Clinical officer	16	6.5
Doctor (medical officer)	27	10.9
Gynecologist	11	4.5
Other	8	3.2
Health facility of employment		
Government	74	30.0
Private	152	61.5
NGO	15	6.1
Other	6	2.4

Table III. Knowledge of EC by the 247 health care workers.

Knowledge aspect	*n*	%
Ever heard about ECs (*n* = 247)		
Yes	196	79.4
No	47	19.0
Not indicated	4	1.6
Sources of information (*n* = 348)*		
School	83	23.9
Nurse/midwife	64	18.4
TV, radio, newspaper	43	12.3
Doctor	92	26.4
Friends	43	12.3
Workshops	10	2.9
From patients	2	0.6
Others	11	3.2
Time limit after sexual intercourse within which EC can work (*n* = 195)		
Within 24 h	27	13.8
Within 72 h	137	70.3
Within 120 h	11	5.6
Don't know	20	10.3
Methods mentioned as ECs (*n* = 52)		
Pills (COC and POP)	42	80.0
IUD	7	13.5
Other (Gynomin 2)	2	3.8
Mifepristone	1	1.9
Updates/seminars in FP methods in previous 12 months (*n* = 234)		
Yes	79	33.8
No	155	66.2

*The number is greater than 247 because some participants gave more than 1 answer.

relation between having ever heard about EC and age ($p = 0.914$).

Suggestions about EC

The participants gave various suggestions, from those encouraging use to those who wanted restriction of the ECP (Table IV). However, slightly more than half (53.3%) wanted to make the population sensitised about EC issues. About 28% wanted EC available and accessible in convenient places for all. Only 4% wanted the ECs restricted legally. Some HCWs expressed the need for more training, such as seminars in FP methods.

Places for distribution of ECs

The venues suggested where ECs should be availed varied considerably and included the nurse or midwife's office (25.2%), FP clinics (22.1%), pharmacy OTC (17.9%), general practitioner (15.8%), youth clinics (13%) and others (6%) (Table IV). More than one option could be given.

Table IV. Suggestions by health care workers about EC.

Suggestion (*n* = 157)	*n*	%
Inform and sensitise the community	87	55.4
Increase availability/accessibility in convenient places for all potential users	46	29.3
Involvement of all partners	10	6.4
Legalise restriction on the EC pill	7	4.5
Dispense by qualified people	4	2.5
Increase of STDs/immorality	2	1.3
Not for sale	1	0.6
Where should EC be available (*n* = 385)*		
Nurse/midwife	97	25.2
Family planning clinics	85	22.1
Pharmacy without prescription	69	17.9
General practitioner	61	15.8
Youth clinic	50	13.0
School nurse	14	3.7
Others	9	2.3

*The number is greater than 247 because participants gave more than 1 answer.

Views about advance provision of EC and condom use

One in every 2 HCWs (53.8%) was in favour of advance provision of EC (Table V). Some 54% thought condom use would decline if clients were aware of EC.

Prescription of ECs

Almost half (49%) of the participants who knew about EC had prescribed it in one form or another and 1 in every 10 had prescribed ECPs in the previous 12 months (11.9%). The most common method prescribed was the Yuzpe regimen (73.5%). Other methods prescribed or dispensed for EC were the progestin only pills (8.8%) and the intra uterine contraceptive device (IUD) (2.9%). About 78% of the participants said they would increase prescribing if they had more knowledge about EC. A few HCWs (2.9%) prescribed a combination of methylestradiol 0.3 mg and methylestrenolone 0.5 mg (which is not an EC or a contraceptive method) as an EC.

Table V. Health workers opinions about advance provision of EC and use of condoms in lieu of EC.

Should ECs be prescribed in advance (*n* = 238)	*n*	%
Yes	128	53.8
No	96	40.3
Other	14	5.9
Use of condoms and EC use as perceived by HCW (*n* = 237)		
Would condom use reduce if clients are aware of EC?		
Yes	128	54.0
No	95	40.1
Other	14	5.9

Table VI. Educational updates about family planning methods versus ever heard about EC.

Updates in FP in last 12 months	Ever heard of EC		
	No (%)	Yes (%)	Total (%)
No	38 (24.8)	115 (75.2)	153 (100)
Yes	7 (9.1)	70 (90.9)	77 (100)
Total	45 (19.6)	185 (80.4)	230 (100)

Pearson chi (1) = 8.0695; p value = 0.005.

Discussion

The HCWs were predominantly women and only one-third of the participants were employed by the government. Two-thirds were working in private and non-governmental organisations (NGOs) HCUs. This may indicate that making ECs available in private and NGO health units may increase accessibility.

The majority of the participants had heard about EC, which is in agreement with previous studies (11–13). As Kampala is the capital city of Uganda and cosmopolitan in nature, it is first to obtain most of the recent developments in medicine and other disciplines. However, even in this mainly urban part of the country, 1 in every 5 participants had never heard of EC. This is similar to what has been found in studies carried out in other parts of the world (14–16).

Provider awareness and knowledge has to be high and up to date if the clients are to benefit from the various RH services, such as EC. Our findings correspond with results from studies carried out elsewhere indicating that HCWs knowledge about EC is usually not as high as expected (2,11,13, 14,17,18).

It can be challenging or provoking to obtain information about health issues for the first time from a patient while expected to be the expert, as happened to some of the HCWs in our study. Internet is one source of information in high income countries (19). In low income countries, the opportunity to access and use internet is low. This is, at times, due to lack of facilities or because of inadequate computer skills by the HCWs. Hence, many HCWs still rely on training updates, organised and given by the Ministry of Health, university staff or NGOs, and, at times, the print media. Some women have indicated that HCWs would be their preferred choice for accurate information about EC (20). Our data points to the need for information on ECs to be given more attention during both pre-service and in-service training.

About a quarter of the participants were not sure about the time limit within which EC can work. Recent research has indicated that levonorgestrel pills can be effective up to 5 days (120 h) post-coitum (21,22), the same time span as for copper IUD. The Yuzpe regimen is effective up to 72 h. For the hormonal methods, the sooner they are taken the more effective they are. Thus, the group of participants who gave the time limit as 24 h would not counsel potential users correctly.

A total of 54% of HCWs believed that condom use would decline if clients were aware of EC. Concern was also raised on the risk of increased STDs and immorality following increased EC access. This is similar to the attitudes among HCWs and women in other studies, but in contrast to the observed effect of EC (23,24). Advance provision of EC or OTC access is not associated with any increased risk for reduced use of regular contraceptive methods including condoms or for STI (25–27). Despite some concerns, the general attitude to EC was positive. Most of the suggestions by HCWs were for the promotion of and increasing accessibility to EC. Some even wanted ECs made available to all requiring to use it without restriction.

Conclusions

Most of the HCWs were aware of EC. They wanted the community to be more informed and sensitised about EC. One in 4 was of the view that EC should be available and accessible in convenient places for all in need of it. The participants had a positive attitude towards EC.

Recommendations

Health care workers need regular training updates in RH issues, such as EC. This will enable them to keep up to date with the current evidence-based recommendations in the field of contraceptive technology. Pre-service training should emphasise RH issues including EC.

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