Int J Clin Pharm (2012) 34:579–586
DOI 10.1007/s11096-012-9647-x

RESEARCH ARTICLE

Turkish pharmacists' counseling practices and attitudes regarding emergency contraceptive pills

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Received: 1 March 2011 / Accepted: 14 April 2012 / Published online: 24 April 2012

Abstract *Objective* The aim of this study is to assess Turkish pharmacists' counseling practices and attitudes regarding emergency contraception pills (ECPs). *Setting* This cross-sectional observational study was conducted via a web-based survey in Turkey. *Methods* Pharmacists registered at a professional web site (n = 822) were invited to fill in the study questionnaire; 624 questionnaires were completed and further analyzed. Pharmacists who agreed to participate in the study completed the questionnaire which was structured to elicit their demography, professional experience, counseling practices and attitudes regarding ECP. Attitudes were measured by 18 items under four domains: "reproductive health; information and availability; risk behavior and regulatory restrictions". The answer choices consisted of five items as: "totally agree, agree, neither agree nor disagree, disagree and totally disagree". *Main outcome Measures* The rate of counseling on various aspects of the ECPs and the rate of negative/positive attitudes. *Results* The aspects most frequently counseled on by the pharmacists were dosage, timeframes, efficacy and pregnancy testing. Less frequently counseled aspects were mechanism of action, methods of contraception and side-effects. In general, the pharmacists displayed positive attitudes towards all domains of the survey; while they were negative to the items suggesting that ECP should be sold only to women and only on prescription. Another interesting finding is that 58 % of the pharmacists agreed with the item suggesting limiting the ECP sales to those over 18 years of age. *Conclusions* Our results showed that the pharmacists served the clients in need of emergency contraception more frequently than the other health-care providers and in general had favorable attitudes towards ECP. Some aspects of their counseling practices need to be improved. This can be accomplished through continuous education programs that would equip them with the competence to provide counseling on emergency contraception which will in turn help prevent unintended pregnancies and reduce abortion rates.

Keywords Attitude · Counseling · Emergency contraception pill · Non-prescription · Pharmacist · Turkey

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Impact of findings on practice

- Pharmacists in this study served the clients in need of emergency contraception more frequently than the other health-care providers.
- Some aspects of pharmacists' counseling practices in Turkey need to be improved through continuous education programs.
- Pharmacists in general had favorable attitudes towards ECP and may be a good source of information regarding emergency contraception.

Introduction

Emergency contraception pills (ECPs) are safe and effective oral products for reducing the risk of pregnancy after unprotected sexual intercourse [1, 2]. If taken within 72 h

of unprotected intercourse, they can reduce the risk of pregnancy by at least 75 % [3]. ECPs contain either progestin alone or a combination of estrogen and progestin in higher doses than regular oral contraceptives. The progestin-only emergency contraception products have no medical contraindications; therefore, they can be safely dispensed without a prescription [4]. Supplying ECP through community pharmacies without the need for a doctor's prescription is an important public health role for pharmacists, as a way of reducing unwanted pregnancies [5]. Today, the EC products are available without prescription in many countries [6].

Access to family planning and contraception has been proven to prevent unintended pregnancies and reduce rates of abortion. In Turkey, the contraception rate in 2003 was 71 %, of which 42.5 % consisted of those using a modern method [7]. Not using a contraceptive method or a contraception failure may result in unintended pregnancies. Worldwide, it is estimated that approximately 87 million unplanned pregnancies occur each year [8], while not all of these unplanned pregnancies result in labor. Although, the rate of induced abortions in Turkey has been declining over a decade's time it is still estimated to be relatively high (11.3 abortions per 100 pregnancies in 2003) [7, 9]. One of the major issues arising from this relatively high ratio is that, despite its legality, induced abortion is still a cause of maternal deaths in Turkey [10].

To lower rates of unintended pregnancies women need better access to both regular contraceptive methods and ECPs. Pharmacy provision of the ECPs could increase access by eliminating the barriers associated with obtaining a prescription from a health care provider within 72 h of unprotected intercourse [11]. Although recent research has shown that ECPs are still effective when taken up to 120 h after unprotected intercourse [12], another study has shown that the sooner the ECPs are taken, the higher their efficacy is [13]. In Turkey, in the community pharmacy setting, ECPs are supposed to be dispensed upon a physician's prescription. However, the real life practice is quite different. Although, there is not an official non-prescription or over-the-counter status for the ECPs, customers can purchase these products directly from the community pharmacies without a prescription. This special situation confers the pharmacist a deeper responsibility in counseling on ECPs as well as on the conventional methods of contraception, in order to rationalize the use and prevent the misuse of these agents. During the time-period of this study two dedicated products, one combined, the other progestin-only, were available on the market. These products were not reimbursed by the State's social security system and clients had to purchase them out of their own pockets.

Aim of the study

To our knowledge, there is no published study regarding pharmacists' counseling practices and attitudes on ECPs conducted in Turkey. Therefore, we aimed to assess the pharmacists' counseling practices and attitudes regarding ECPs.

Method

Study sample

The questionnaire was administered to the members of a professional web site (http://www.marmaraecza.org). The aim of this web site was to establish a network among the pharmacists and also to provide a professional forum where pharmacists exchange their ideas and views particularly on professional issues. This web site which is now closed was active during the period of the survey. Considering that by the year 2008, there were 30725 registered pharmacists in Turkey (http://www.teb.org.tr/tablolar/tablo64.html), all the members of this web site consisted of 2.7 % of all pharmacists in Turkey. As the community pharmacists in Turkey need to log into the State's Social Security System's web site everyday in order to process the prescriptions, all pharmacists are very familiar with web-based applications. Therefore, our sample of pharmacist does not differ very much from the whole pharmacists in this aspect.

Pharmacists registered at this professional web site (n = 822) were invited to fill in the study questionnaire. Pharmacists practicing in community pharmacies were asked to fill in the whole questionnaire; while those not practicing in community pharmacies were requested to answer the questionnaire excluding the questions on providing/selling ECP and counseling practices about ECP.

Survey tool

A modification of the questionnaire developed by Aneblom et al. [14] was used as the survey tool, with the permission of the authors. This questionnaire was based on results from previous studies of knowledge, experiences and attitudes regarding ECP among users and providers [14]. Our questionnaire consisted of three parts. The first part contained questions on demography and professional experience. Second part consisted of questions on providing/selling ECP, sources of information regarding ECP and counseling practices about ECP. All questions in this part had multiple-choice response alternatives. The third part of the questionnaire consisted of questions on attitudes towards ECP. Attitudes were measured by 18 items under four domains: "reproductive health (5 items); information

and availability (7 items); risk behavior (3 items) and regulatory restrictions (3 items)". The answer choices consisted of five items as: "totally agree, agree, neither agree nor disagree, disagree and totally disagree".

Data analysis

Categorical variables are presented as n (%), while the continuous variables are presented as the mean value ± SEM (standard error of the mean). The differences between the categorical variables were tested using Pearson's χ^2 test. A p value <0.05 was considered statistically significant. Statistical analyses were performed using the software SPSS 11.5. The results of attitudes were presented as positive attitudes (totally agree and agree), negative attitudes (totally disagree and disagree) and neutral attitudes (neither agree nor disagree). For the negatively formulated items of the survey (ECP should be sold only to women; ECP should only be sold on prescription; ECP should be sold only to those at the age of ≥18 years) positive attitudes were represented by the percent who "totally disagreed and disagreed"; while, negative attitudes were represented by the percent who "totally agreed and agreed". The effect of age, gender and ECP sales per month on counseling practices and attitudes were also analyzed.

Results

Study sample

Of those pharmacists invited, 667 filled in the questionnaire. The response rate was 81 %. Forty three questionnaires consisted of only the demographic data; thus were not included in the analysis. 624 questionnaires were complete and further analyzed. Although, the distribution of the pharmacists among the seven geographic regions of Turkey was quite different from the whole Turkish pharmacists' distribution, all geographic regions of Turkey were represented to some extent by participants from these regions. As half of the respondents were from Istanbul, the rest of the regions were underrepresented (Table 1) (http://www.plan9.dpt.gov.tr/oik45_ilac/ilacsan.pdf).

Respondents who completed the whole survey were considered as "being aware of the ECPs". The respondents (n = 43) of the questionnaires consisting only the demographic data, but not the parts on ECP were considered as "not being aware of ECPs". Thus, the rate of ECP awareness was 93.5 %.

Demographics and the professional characteristics of the respondents were as presented in Table 1. Majority (n = 551; 88 %) of the respondents were practicing in community pharmacies. The gender and age distribution of the study sample (63 % female; mean age: 34) was somewhat comparable with those on the national register of Turkish pharmacists of whom 53 % are female and whose mean age is 34.7 [15].

Data on ECP provision and source of information

Data regarding ECP provision that was gathered from those practicing in the community pharmacies are presented in Table 2. Ninety-eight percent of the pharmacists reported

Table 1 Demographics and the professional characteristics of the respondents (n = 624)

Female/male (%)	63/37
Practicing in community pharmacy (%)	88.3
Age, mean (SEM)	33.9 (0.38)
Years of practice, mean (SEM)	10.9 (0.36)
Geographic distribution of the respondents (%)	
Mediterranean	6.6
Eastern Anatolia	4.8
Southeastern Anatolia	2.1
Black Sea	7.2
Aegean	9.3
Central Anatolia	9.6
Marmara/*Istanbul*	8.0/*51.4*
Other	1.0

SEM standard error of the mean

Table 2 Data regarding provision of emergency contraceptive pills (n = 551)

	n (%)
Dispensing ECP	539 (98)
Dispensing of ECP to men	
Never	102 (18)
Seldom	385 (70)
Sometimes	50 (9)
Often	14 (3)
Number of ECPs dispensed per month	
None	12 (2)
<1 pack per month	88 (16)
1–5 packs per month	230 (42)
6–10 packs per month	90 (16)
11–20 packs per month	67 (12)
21–50 packs per month	53 (10)
>50 packs per month	8 (1)
Just at night shifts	2 (<1)
Just in summer time	1 (<1)

Pharmacists practicing at the community pharmacies

ECP emergency contraceptive pills

to experience ECP selling and majority (70 %) of the pharmacists reported to seldom sell ECP to men. The most frequent ECP sales range was 1–5 packs/month (42 %), followed by 6–10 packs/month (16 %).

When the presence of a private counseling area was questioned, 75 % reported to have a suitable place for ECP counseling in their pharmacies. Seventy-nine percent reported to be comfortable while providing contraception counseling and 16 % reported to be comfortable only while counseling with patients of their gender.

The major sources of information regarding ECP were stated to be the pharmaceutical company representatives (53 %) and continuous education programs (26 %).

Counseling

The majority of pharmacists always or often counseled about almost all aspects of ECPs; namely timeframes (89 %), dosage (86 %), efficacy (73 %), pregnancy test (63 %), side-effects (50 %) and methods of contraception (48 %). This rate was only 34 % for the mechanism of action (Table 3).

When the effect of gender on counseling practices was examined it was observed that more women pharmacists "often or always" counseled about the timeframes (92 vs. 85 %), dosage (88 vs. 82 %), pregnancy test (68 vs. 54 %), side-effects (58 vs. 37 %) and methods of contraception (57 vs. 34 %) ($p < 0.05$, for all). This positive intention of the women pharmacists' was supported by the fact that while 80 % of them told that they had a private counseling area at their pharmacies, this rate was 66 % for the male pharmacists ($p < 0.001$). More women pharmacists (83 vs. 73 %) reported to be comfortable while providing contraception counseling to clients ($p < 0.05$).

When the effect of age on counseling practices was examined it was observed that when compared with the older ones [(35–49) and (50–64)] a higher number of younger pharmacists (<35) "often or always" counseled about the dosage (87 vs. 84 % and 84 %, respectively; $p = 0.001$), timeframes (91 vs. 90 % and 84 %, respectively; $p < 0.001$), and efficacy (75 vs. 73 % and 64 %, respectively; $p < 0.01$).

On the other hand, the aspects of the counseling practices (efficacy, pregnancy test, side-effects) which were found to be affected by the rate of the ECP sales seemed to get worse as the ECP sales increased ($p < 0.05$) (Table 4).

Table 3 The content of counseling regarding emergency contraceptive pills provided to customers, % (n = 551)

	Never/ seldom	Sometimes	Often/ always
Side-effects	27.1	22.8	50.1
Pregnancy test	20.6	16.7	62.7
Mechanism of action	40.6	25.8	33.6
Dosage	8.7	5.6	85.7
Efficacy	12.8	14.1	73.1
Timeframes	6.3	4.5	89.2
Methods of contraception	27.9	23.9	48.2

Pharmacists practicing at the community pharmacies

Table 4 The effect of ECP sales on the attitudes and counseling practices

Attitudes	Rate of positive attitudes (%)		
ECP sales (box per month)	≤10	11–20	≥21
ECP should be sold only to those over 18 years of age	46.3	56	64.7
All sexually active men should be aware of ECP	70.5	74.7	81.7
ECP increases women's control of reproduction	51.1	50.5	57.3
ECP gives women increased sexual safety	50.5	52.7	65.9
ECP should be as well known as condoms	78.8	90.1	90.2
For adult fertile women to keep ECP at home is positive	59.8	50.5	58.5

Counseling practices	Rate "often or always" counsel (%)		
ECP sales (box per month)	≤10	11–20	≥21
Efficacy	71.3	56.1	69.5
Pregnancy test	63.3	56.1	41.5
Side-effects	47.3	35.2	39

On the other hand, the aspects of the counseling practices (efficacy, pregnancy test, side-effects) which were found to be affected by the rate of the ECP sales seemed to get worse as the ECP sales increased ($p < 0.05$) (Table 4).

Attitudes

In general, the pharmacists showed positive attitudes towards all domains of the survey (Table 5). The two items of the "reproductive health" domain towards which the pharmacists most frequently showed positive attitudes were the items suggesting that existence of ECP is positive and ECP is ethical. Only 52–57 % of the pharmacists had a positive attitude towards the other items of the "reproductive health" domain, namely: "teenagers and youngsters can take responsibility for the use of ECP"; ECP gives women increased sexual safety; and ECP increases women's control of reproduction.

High percents of pharmacists displayed positive attitudes towards most of the items under the "information and availability" domain. The item towards which the lowest percent of pharmacists displayed a positive attitude was the one suggesting that it is positive for adult fertile women to keep ECP at home. Perhaps, the most interesting finding for this domain is that while 92 % of the pharmacists agreed that all sexually active women should be aware of

Table 5 Pharmacists attitudes towards emergency contraceptive pills

Domains and items	Negative attitudes (%)	Neutral attitudes (%)	Positive attitudes (%)
Reproductive health			
Existence of ECP is positive	4.5	9	86.5
ECP is ethical	10.1	16.7	73.2
Teenagers and youngsters can take responsibility for the use of ECP	25	23.2	51.8
ECP gives women increased sexual safety	33.8	12	54.2
ECP increases women's control of reproduction	30.6	12.7	56.7
Information and availability			
All sexually active women should be aware of ECP	6.1	1.8	92.1
ECP should be as well known as condoms	12.5	7.1	80.4
Routine information about ECP should be included in contraceptive counseling	9.2	5.9	84.9
All sexually active men should be aware of ECP	20.1	7.9	72
Information of ECP should be included in sex education in school	15.2	11.7	73.1
To have ECP available without prescription is positive	20.2	11.4	68.4
For adult fertile women to keep ECP at home is positive	28.8	12	59.2
Regulatory restrictions			
ECP should be sold only to women	66.2	7.5	26.3
ECP should be sold only to those over 18 years of age	32.6	9.1	58.3
ECP should be sold on prescription only	59.6	13.5	26.9
Risk behavior			
Men will be less willing to use condom when they know about ECP	25.2	10.9	63.9
Increased knowledge of ECP results in more unsafe sex	26	12.2	61.8
ECP can make it more difficult for women to refuse unprotected intercourse	22.8	13.8	63.4

ECP, the percentage of pharmacists agreeing that all sexually active men should be aware of ECP was 72 %.

In general, pharmacists were negative to the items suggesting that ECP should be sold only to women and only on prescription. Another interesting finding is that 58 % of the pharmacists agreed with the item suggesting limiting the ECP sales to those over 18 years of age.

All of the pharmacists displayed concerns about the risk behaviors related with the increased knowledge and availability of the ECP. The rate of positive attitudes towards the items under this domain varied between 62–64 %.

Gender did not seem to affect the attitudes of the pharmacists. Only two items were significantly affected by gender; more male pharmacists were positive towards the items suggesting that "all sexually active men should be aware of ECP" (68 vs. 79 %) and that "for adult fertile women to keep ECP at home is positive" (55 vs. 66 %) ($p < 0.05$, for both).

The age did not seem to affect the pharmacists' attitudes. It was only observed that more (65 %) middle-aged (35–49) pharmacists were positive towards the item suggesting that "ECP increases women's control of reproduction", when compared with younger (<35; 54 %) and older ones [(50–64); 51 %] ($p < 0.01$).

Only one third of the questioned attitudes were found to be affected by the rate of the ECP sales. In general, the rate of positive attitudes towards these items seems to increase by the increased ECP sales (Table 4).

Discussion

In the literature there are no studies conducted among pharmacists regarding ECP counseling practices and attitudes in Turkey. Therefore, we compared our results to local studies conducted among other health-care providers.

The rate of ECP awareness was quite high (93.5 %) for our population. It is higher than reported by most other local studies conducted among physicians, nurses and midwives; where 22 % [16] and 100 % [17] of the respondents received special training in family planning, and in which the awareness rates were quantified as 53.7 % [7, 16], 74 % [18] and 84.4 % [17]. However, our awareness rate is less than reported by several authors where almost all pharmacists [19, 20] and other providers [21] were aware of the ECPs.

The rate (98 %) of pharmacists who served clients in need of emergency contraception in this study was much higher than the rates [34 % [21] and 71 % [17] for other health-care providers in Turkey. Despite the suggestion that emergency contraception should only be administered by providers in the family planning unit [17], our findings support the fact that community pharmacists have the potential to serve the clients who require help regarding emergency contraception.

Many women in need of emergency contraception find it difficult to obtain doctor's appointments (or to attend other service providers) within the crucial 72 h time-frame [22]. Therefore, the pharmacy supply of emergency hormonal contraception will improve access and enable most women to receive it within 24 h of unprotected sexual intercourse

[5]. The majority of the pharmacists in this study stated to have private counseling areas and reported to be comfortable about ECP counseling, overcoming the clients' concerns regarding privacy and confidentiality.

The aspects most frequently counseled on by the pharmacists when supplying ECPs to the patients were dosage, timeframes, efficacy and pregnancy testing. Half of the pharmacists counseled the patients about side-effects; this rate was higher than that reported from Sweden. (33 %) [14] and lower than that reported for the Australian pharmacists (63 % [23] and 90 % [24]). The pharmacists in this study counseled on efficacy more frequently than some other pharmacists in Sweden (56 %) [14] and Australia (34 %) [23]. Although the rate of pharmacists counseling on timeframes was higher than that reported by Aneblom et al. [14], it was still lower than that reported by Queddeng et al. [23]. When compared with the findings of Aneblom et al. [14]. similar rates were observed for counseling on pregnancy test and dosage, while a lower rate was observed for counseling on the mechanism of action. On the other hand, our pharmacists showed higher rates of counseling on mechanism of action than the Australian pharmacists [23, 24]. In our sample of pharmacists, the counseling practices, particularly on the aspects of mechanism of action, methods of contraception and side-effects still improvement. Continuing education programs regarding ECP could help the pharmacists understand the importance of counseling and equip them with the information that should be provided during counseling.

The counseling practices of the women pharmacists were found to be better than those of the male pharmacists. It is likely that the female pharmacists in our study would be more knowledgeable about emergency contraceptive specific counseling topics from their own experience; thus, they more frequently provided ECP counseling. Women pharmacists also reported to be comfortable while providing contraception counseling. Due to cultural and personal influences some male pharmacists could have felt less comfortable. On the other hand, gender of the pharmacists did not seem to affect their attitudes towards ECP.

Younger pharmacists seemed to provide more counseling than the older ones. This may be due to that they still have fresh knowledge on ECPs or more likely, they have got more time available for counseling. This may be justified with the finding that as ECP sales increased, some aspects of counseling practices decreased. Younger pharmacists are relatively new in the market and usually they may not have as many clients as the older ones.

The pharmacists in this study were favoring the existence of ECP, in compliance with pharmacists and pharmacy staff from Sweden [14], Jamaica [19], Barbados [19] and Kenya [25]; and unlike some other providers in Turkey, of whom only 36.4 % supported the use of ECPs [21]. Moreover, the pharmacists were also favoring the non-prescription availability of ECP, suggesting that they comprehended the positive impact of the ECPs on alleviating the social and medical burden that might be caused by unintended pregnancies and induced abortions. The rate of the pharmacists (68 %) showing a positive attitude towards the non-prescription availability of ECP was higher than those reported from Hungary [26], Puerto Rico [27] and similar to that reported from Sweden [14].

High percentages of pharmacists showed a positive attitude towards most of the items under the "information and availability domain"; while they did not believe that ECP should be sold only to women and only on prescription. Remarkably, 58 % of the pharmacists agreed limiting the ECP sales to those over 18 years of age. This is probably due to the cultural fact that sexual intercourse before-marriage is widely considered as 'not done' in Turkey. On the other hand, 52 % of the pharmacists in this study were positive towards the item suggesting that "teenagers can take responsibility for the use of ECP". In an Australian study less (44 %) agreed that <16 years-olds are capable of taking responsibility for their ECP use and less pharmacists (41 %) declined to supply to this group [24]. A lower rate (31 %) of Swedish pharmacy staff were positive towards the suggestion that "teenagers can take responsibility for the use of ECP" [14]. Fifty-nine percent of the pharmacists were positive towards the item suggesting advance ECP provision to adult fertile women; this finding is higher than those reported by others in the literature (4.1–53 %) [14, 19, 20] and in contrast to that observed by Hussainy et al. [24]. where 69 % of the pharmacists felt that advance provision of ECP is unacceptable for any women in any circumstance.

All of the pharmacists in our study displayed concerns about risk behaviors related with the increased knowledge about and availability of the ECP. However, a randomized clinical trial conducted in the USA has shown that expanded access through community pharmacies and "advance supply" did not increase the rate of unprotected sexual intercourse, nor it changed sexual behavior [28]. But in view of the culture of the Turkish population, these concerns of the health care providers might be reasonable. In order to overcome these concerns, the public (both men and women; particularly the youngsters) should receive proper education on contraception at every level of public health care.

The attitudes that differed between the male and female pharmacists were those suggesting that "all sexually active men should be aware of ECP" and "for adult female women to keep ECP at home is positive". More male pharmacists than the female pharmacists were positive towards these items. The reason for this can be that female pharmacists could have thought knowledge of ECP and keeping advance ECP at home could be abused. Looking

through the window of a "male-dominant society", these two items can be threats limiting women's control over their sexual behaviors.

This study has some limitations. First, the rates of counseling practices were reflecting the pharmacists' claims. Second, various cultural and personal features that might have affected the attitudes were not investigated. Another limitation is that women pharmacists were over-represented among the respondents. The last limitation of the study is the limitation of the generalizability of the results. Although the age and gender distribution of the study sample was comparable with those on the national register of Turkish pharmacists, the geographic locations of the study sample is different. All regions other than the northwestern part might have been underrepresented. However, this limitation might have a larger impact if the study had been conducted on the clients.

Conclusion

In conclusion our results showed that the pharmacists included in this present study, served the clients in need of emergency contraception more frequently than the other health-care providers and in general had favorable attitudes towards ECP. Although majority of them had private consultation areas where they could provide a confidential and discreet ECP counseling service, some aspects of their counseling practices need to be improved. This can be accomplished through continuous education programs that would equip them with the competence to provide counseling on emergency contraception which will in turn help prevent unintended pregnancies and reduce abortion rates.

Acknowledgments We gratefully acknowledge the assistance of Bedreddin Sahbaz (State Social Security Institution) for his helps at various stages of this study.

Funding This project received grant from Marmara University Scientific Research Projects Committee (file no. SAG-D-270109-0016).

Conflicts of interest None.

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