



Egypt Family Planning Method Mix Indicates Shifting toward Hormonal Contraceptives

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Abstract

Edited by: Sasho Stoleski
Citation: Wahby G, Sabry H, Abdel-Razik M, Salem MR, EL Aguizy F. Egypt Family Planning Method Mix Indicates Shifting toward Hormonal Contraceptives. Open Access Maced J Med Sci. 2021 Nov 24; 9(E):1279-1287. <https://doi.org/10.3889/oamjms.2021.7512>
Keywords: Family planning; Intra uterine device; Oral contraceptives; Family planning method—Mix; Incentives; Health system research
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Received: 05-Oct-2021
Revised: 16-Nov-2021
Accepted: 19-Nov-2021
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Funding: This research did not receive any financial support
Competing Interests: The authors have declared that no competing interests exist
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BACKGROUND: The study is of practical importance for policy makers and family planning (FP) program managers as the profile of FP method-mix with a shift from a mechanical method as intrauterine devices (IUD) to hormonal methods such as oral contraceptives (OCs) and injectables predicts a critical situation for maternal and child health and reflects shortcomings in FP service delivery program.

AIM: The purpose of the current study was to identify reasons for the progressive shift from IUD to OCs in Egypt.

METHODS: The study is an-operations research conducted at four levels of the Ministry of Health and Population/FP (MOHP/FP) service delivery: Central (headquarter, HQ), governorate, district, and service delivery points. It included five of MOHP/United Nations Fund for Population Activities-Contraceptive Security Project governorates that represent, urban governorates, Lower Egypt, and Upper Egypt. Both qualitative data in-depth interviews with MOHP/HQ staff, Two Focus Group Discussions with FP Health Directorates staff and nurses in the five governorates, and quantitative data through a self-administered questionnaire for 607 service providers (SP).

RESULTS: There was a consensus on the actual shift from IUD to OCs use. Reasons were the absence of incentives for healthcare providers for IUD insertion services (64%) and improper training of physicians (45%), and the availability of OCs all time.

CONCLUSION: The three articulating issues that lead to shifting from IUD to OCs are: Unsatisfactory training and incentive systems for SPs and the clients' choice of OCs for independent use/autonomy, and availability of OCs all the times at a reasonable cost in both the public and private sectors.

Introduction

There is evidence that Sustainable Development Goals (SDGs) will not be achieved unless, and there is universal access to quality reproductive health services [1], [2]. Therefore, new target has been added to SDGs that emphasizes the importance of family planning (FP), increasing contraceptive prevalence rate (CPR), reducing unmet needs for FP (UNFP) and discontinuation rate (DR), and proper FP method-mix to support reducing maternal morbidity and mortality [3], [4].

According to Egypt Demographic and Health Survey (EDHS) 2014, the public sector was the source of FP methods for 56.7% of all FP methods users; 62.9% of intrauterine device (IUD) users, 34.4% of oral contraceptives (OCs) users, and 83.1% of injectables users [5]. EDHS 2005 showed that CPR was 56.5% with IUD 61.5%, OCs 16.7%, and injectables 11.9% [6]. In EDHS 2014, CPR was 56.9% with IUD 51.4%, OCs 27.4%, and injectables 14.5%. According to the Ministry of Health and Population (MOHP)/FP program statistics 2015, FP method mix profile (the profile of the relative level of use of different contraceptive methods) among

MOHP clients was 54% for OCs, 37% for injectables and 7% for IUD [7]. Similar findings were provided by studies in other countries [8], [9].

Senegal study, 2015 showed DR as follows: Implants had the lowest 1-year DRs (6.3%) followed by the IUD (18.4%) while higher rates were seen for daily pills (38%), injectables (32.7%) [8].

The shift from IUD as an effective long-term, one-decision, lowest DR FP method compared to OCs that have highest DR could have negative impact on FP Program [10], [11]. In addition, the use of combined estrogen-progestin OCs could interfere with lactation with subsequent increased risk of child morbidity. High DR of OCs could lead to unintended pregnancy with increased risk of poor maternal health [12], [13].

The change in FP method mix profile across time indicates changes in demand for FP method as availability, accessibility, effectiveness, safety, and/or acceptability (cultural, social, religious, or economic) and/or supply of FP methods (policies/regulations, availability of quality FP methods, accessibility of quality services, availability of service providers (SP), training, logistic management, time management/clients, supervision, incentive system,

family medicine model approach, and/or integrated services) [14], [15], [16].

The study conducted by El-Zanaty and Associates [17] and Abdel-Razik *et al.* [18] provided evidence that FP program in its transition phase from vertical to integrated program has reported shortage in FP program specific activities as clinical supervision and on-job training [17], [18].

Identifying factors influencing the profile of method mix is crucial for adjustment of the FP services policies and regulations that ensure the use of effective and safe methods and considering the cultural background of Egyptian women.

Policy and practical implications of the study

The study is of practical importance for policy makers and FP program managers as the profile of FP method-mix with a shift from a mechanical method as IUD to hormonal methods such as OCs and injectables predicts a critical situation for maternal and child health and reflects shortcomings in FP service delivery program. Thus, the objective of this study is to identify reasons behind the change in the FP method mix profile (the shift from IUD to OCs use) among MOHP/FP clients considering demand and supply components.

Methods

Study setting

MOHP/HQ, five governorates included in MOHP/UNFPA-Contraceptive Security Project (CSP) and presenting geographic regions of Egypt: Urban governorates (Cairo), Lower Egypt (Sharkia and Menofia), and Upper Egypt (Fayoum and Beni-Suef).

Study design

Health system-operations research, exploratory study conducted at four levels of MOHP- FP service delivery: Central (HQ), Governorate, District and service delivery points.

Sample size and sampling technique

Five selected governorates showed increase in FP clients OCs users and decrease in IUD users as derived from MOHP service statistics [7] (Table 1).

All districts' FP directors and nurse supervisors were included in the sample. Available physicians and nurses were included in the study (Table 2).

Table 1: Percent of MOHP- FP clients 2007 versus 2011 according to OCs and IUD use (MIS-MOHP/FP) for five CSP governorates

2007 Vs. 2011 Governorates	% increase in total FP clients	% increase in OCs users	% decrease in IUD users
Sharkia	80%	26%	-7%
Menofia	49%	17%	-8%
Cairo	6%	9%	-7%
Beni-Suef	34%	10%	-6%
Fayoum	31%	11%	-7%

Data collection

Quantitative data

The sources of the quantitative data were self-administered questionnaire form to a sample of 600 respondents. The form included inquiries about:

1. The changing attitude of clients toward FP methods
2. Changes in FP method supply and management of resources regarding policies, regulations, incentives, supervision, and training
3. The questionnaire included statements related to influential power (IP) that contributed to shift from IUD to OCs use by FP clients. The acceptability to specific statements related to SPs, policies and managerial methods are recorded in the form completed by respondents.

Table 2: Sample size and characteristics of respondents distributed according to governorates included in the sample

Governorates	District directors	Nurse supervisors	Physicians	Nurses	Total
Cairo	23	23	30	30	106
Fayoum	7	7	40	40	94
Beni-Suef	7	7	40	40	94
Sharkia	13	13	65	65	156
Menofia	10	10	65	65	150
Total	60	60	240	240	600

Qualitative data

In-depth interview with MOHP/HQ staff members and one focus group discussions (FGDs) with MOHP/FP directors and another one with nurse supervisors in the five governorates.

Qualitative data presented as views of staff members at central and governorate level were used to provide explanation and interpretation to the quantitative data regarding the demand and supply sides. Before each FGD, the investigator facilitated the discussion by introducing all participants, explaining the broad subjects of discussion, and encouraging everyone to express their thoughts. Following each FGD, the reviewed recorded scripts are typed.

Definition of variables and indicators

- IP of SPs for OCs use: The percent of respondents accepted the statement that, physicians versus nurses versus community workers (CW) accepted the statement that refer to category of SPs who influence clients toward shift to OCs use

- IP of resources management for OCs use: The percent of respondents accepted the statement that point to the role of MOHP six operational policies as influential factors for FP method shift to OCs. Those operational policies included: Incentives for IUD insertion, Family Medicine, Training of SPs in IUD, insertion, FP method supply/logistic management, central teams' supervision, and district teams' supervision
- IP of clients' acceptability for OCs use: The percent of respondents accepted the Statements related to reasons that make FP clients prefer using OCs than other FP methods: Availability of OCs all times in MOHP clinics, no need for gynecological examination, no side effects, reasonable price and the user has control over OCs' use
- IP for shifting from IUD to other contraceptive methods: The percent of respondents accepted the six statements related to reasons of shifting from IUD to other contraceptive methods: Unsatisfactory training of physicians in IUD insertion, improper response of physicians to manage side effects of the IUD, to incentives to SPs in case of IUD insertion, the need for follow-up of IUD users, IUD insertion consume much of physician's time and IUD insertion is linked with non-response to clients' rights.

Data analysis plan

The analysis covered two major components: Demand and supply of FP methods to identify significant responses across the groups of respondents.

Data quality check

Completed self-administered questionnaire formats had been office- reviewed and further revision during data entry and preliminary analysis.

Quantitative data

Data entry was carried out using Statistical Package for Social Science (SPSS) version 24.0 (IBM, SPSS, USA). Categorical variables were expressed in percentages; Chi-square was used and applied. $p < 0.05$ was considered significant.

Qualitative data: FGDs and in-depth interview

We based data processing on the thematic content analysis technique, which aims to get descriptions of the message content using a systematic and objective procedure. The analysis was carried out independently by two authors M.R and M.S. They read the transcript multiple times, condensed, made meaningful statements, and devised themes and subthemes.

Ethical approval

There was an approval by the MOHP/FP Technical Committee to conduct the study, approved the proposal, questionnaire form and in-depth and FGD guidelines. Qualitative data are collected after getting informed consent from participants. The questionnaire form was anonymous, and informed consent was obtained from participants as instructions in the form.

Results

Quantitative data included a total of 607 respondents where (94%) affirmed their observation of proportionate increase in OCs clients over time. Table 3 illustrates responses of respondents toward acceptability to statement about role of SPs as an influential factor contributing to FP method shift toward OCs. The IP of physicians to incline clients to use OCs was accepted by 35% of respondents, versus (22%) for nurses and (28%) for CWs. IP of physicians to motivate toward OCs use was the highest (72%) in Fayoum Governorate ($p = 0.00$). IP for nurses was (41%) in Fayoum ($p = 0.002$) and IP of CW was the highest in Beni-Suef governorate (38%) ($p = 0.00$).

Table 4 demonstrates factors contributing to FP method shift toward OCs related to elements of MOHP operational policies and management of resources. Incentive system had (50%) IP followed by training system (IP=39%). There were statistically significant differences across governorates in the six management elements. Beni-Suef Governorate reported highest IP of incentive system (68%), and IP of FP method supply (75%).

Table 3: Influential power for FP method shift toward OCs: Service providers and outreach workers by governorates

Service providers	Acceptability of statement by respondents	Governorates						p
		Cairo	Fayoum	Menofia	Beni-Suef	Sharkia	Total	
Physicians	Influential power	29%	72%	28%	40%	32%	35%	0.00
	Total respondents	92	29	106	95	149	471	
Nurses	Influential power	16%	41%	25%	29%	18%	22%	0.002
	Total respondents	92	21	105	93	148	459	
Community workers	Influential power	12%	37%	35%	38%	25%	28%	0.00
	Total respondents	91	19	108	94	149	461	

Table 5 presents respondents' acceptability to the statements related to clients' reasons to prefer use of OCs across Governorates. The statement that "the user has control over OCs use" was acceptable by 79% of respondents. Reasonable price of OCs had IP of 68% followed by "reasonable price" IP (75%) followed by, availability all the time in MOHP clinics IP (68%) and "no need for gynecological examination in case of using OCs" (IP = 66%). There was an insignificant difference across governorates regarding specific reason of clients' preference to OCs, which is "no need for gynecological examination" ($p=0.21$). There were statistically significant variations ($p = 0.00$) across governorates for other four reasons for clients' preference to use OCs. Beni-Suef governorate respondents attributed preference of clients to OCs use due to: Availability of OC in MOHP clinics all the times (IP = 95%) and reasonable price (IP = 90%) and less side effects (IP = 57%). Sharkia governorate respondents delineated that clients inclination toward OCs use is due to "the user has control over OCs use (87%).

Table 6 indicates consensus among respondents in different FP jobs ($p > 0.05$) regarding the factors related to, "user has control over OCs use" (IP = 79%), availability of OCs all times in MOHP clinics (IP = 68%), and accessibility to OCs without

gynecological examination (IP = 68%). However, there were statistically significant differences across categories of respondents regarding clients' preference toward OCs due to limited side effects (IP = 42% for nurses) ($p = 0.01$) and reasonable price (IP = 79%) as confirmed by nurses ($p = 0.03$).

Figure 1 highlights rank order of IP for causes of shift from IUD use to OCs as expressed by respondents. No incentives for IUD insertion services were priority reason (IP = 64%), and IUD use needs follow-up services (51%).

Table 7 clarifies presence of statistically significant differences across governorates regarding the six determinants for FP clients shift from IUD to OCs use ($p = 0.00$). Respondents from Beni-Suef governorate demonstrated highest IP for shifting from IUD to OCs use: No incentives for IUD insertion services (IP = 74%), ineffective training of physicians (IP= 67%), IUD use needs follow-up services (IP = 62%), improper response of physicians to side effects (IP = 58%), and IUD insertion is linked with non-response to clients' rights (IP = 47%).

Table 8 shows the statistically significant differences between perspectives of respondents in different jobs regarding three determinants for shift from IUD to OCs use. FP nurse supervisors (77%) and FP

Table 4: Influential power for FP method shift toward OCs: FP operational policies and regulations and management of resources by governorates

MOHP operational policies	Acceptability	Governorates						p
		Cairo	Fayoum	Menofia	Beni-Suef	Sharkia	Total	
Incentive system	Influential power	49%	21%	34%	64%	57%	50%	0.00
	Total respondents	92	14	120	97	148	471	
Family medicine system	Influential power	22%	18%	23%	32%	13%	22%	0.002
	Total respondents	92	15	102	97	145	451	
Family planning method supply	Influential power	8%	31%	18%	68%	8%	24%	0.00
	Total respondents	92	15	102	97	145	451	
Training system	Influential power	26%	42%	44%	48%	38%	39%	0.02
	Total respondents	91	16	111	96	150	464	
Central supervision	Influential power	3%	9%	17%	5%	1%	6%	0.00
	Total respondents	92	15	102	97	150	456	
Local supervision	Influential power	2%	4%	11%	6%	1%	5%	0.00
	Total respondents	92	15	100	91	150	448	

Table 5: Influential power for clients' choice for OCs as expressed by the respondents by governorates

Reasons for clients' choice of OCs	Acceptability	Governorates						p
		Cairo	Fayoum	Menofia	Beni-Suef	Sharkia	Total	
Availability all the times in MOHP clinics	Influential power	55%	74%	69%	90%	58%	68%	0.00
	Total respondents	96	93	125	96	150	560	
No need for gynecological examination	Influential power	68%	65%	63%	66%	70%	66%	0.21
	Total respondents	97	94	131	99	151	572	
No side effects	Influential power	38%	18%	36%	57%	33%	36%	0.00
	Total respondents	92	85	112	97	148	534	
Reasonable price	Influential power	74%	71%	72%	85%	74%	75%	0.00
	Total respondents	97	92	120	97	148	554	
The user has control over OCs use	Influential power	77%	77%	76%	73%	87%	79%	0.00
	Total respondents	97	88	136	92	149	562	

Table 6: Influential power for clients' choice for OCs as expressed by the respondents according to their current job

Advantages of OCs	Acceptability	Current Job of the respondents						p
		FPDD	FPDNS	Male physician	Female physician	FP nurse	Total	
Availability all the times in MOHP clinics	Influential power	59%	67%	77%	66%	70%	68%	0.13
	Total respondents	55	57	70	139	203	524	
Accessible without Gyn. Examination	Influential power	72%	75%	67%	64%	67%	68%	0.14
	Total respondents	57	62	69	147	204	539	
No Side Effects	Influential power	39%	39%	35%	28%	42%	36%	0.01
	Total respondents	53	59	68	136	187	503	
Reasonable price	Influential power	74%	75%	77%	69%	79%	75%	0.03
	Total respondents	55	59	69	138	198	519	
The user has control over OCs use	Influential power	82%	80%	74%	80%	79%	79%	0.13
	Total respondents	57	59	69	141	202	528	

district directors (76%) emphasized role of incentives for IUD insertion services. Nurses attributed the shift from IUD to OCs to the need for follow-up services for IUD users (IP = 56%).

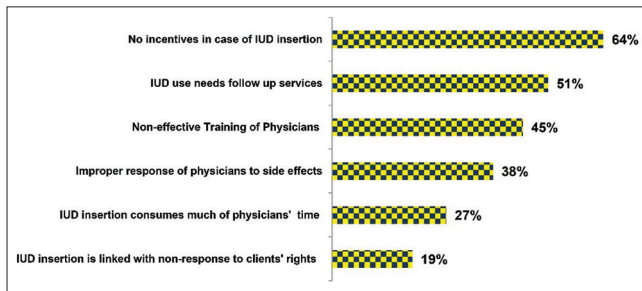


Figure 1: Percent of responses of Family Planning service providers according to reasons for shift from IUD use to other methods

Inquiries about acceptability of respondents to involve nurses to provide IUD insertion services, showed that 65% did not accept this policy, 21% accepted, and 14% highly accepted this policy. Table 9 showed that in case of accepting policy of adding services of IUD insertion to nurses' job, selection criteria will be training nurses worked in FP for more than 5 years as expressed by nurses (IP = 65%) and to have specialized nurses for IUD insertion (IP = 44%).

Qualitative data

Themes.

Public - private partnership.

The transcripts of the interviews displayed the following themes as stated by study participants.

Current situation of family planning method mix

FP program managers affirmed the shift from IUD to OCs use, after withdrawal of USAID donations and technical assistance to Egypt FP program

Almost of participants from MOHP - FP sector HQ and FP directors at governorate levels affirmed the observation that during the last 10 years, there was progressive increase in proportion of OCs clients. The previous pattern of method mix with predominance of IUD is attributed to donor support

program (1977–2005) where IUD was supplied through USAID. Technical assistance, training and supervision of SPs were included under the umbrella of USAID projects after phasing out of donor support and shortage in trained FP SPs as well as constructive supervision.

The success of Egypt pharmaceutical companies in mass production of OCs

Having OCs available through Egypt pharmaceutical companies could facilitate supply OCs through public and private sectors without seeking medical counseling in FP clinics. This issue could have a negative outcome on FP program in the community and reduce Contraceptive Coverage Rate (CCR) (i.e., Percent of contraceptive methods dispensed from MOHP facilities expressed as Couple Year Protection per all married women in a certain period of time and locality).

MOHP/FP staff members referred the observation of shift from IUD to OCs use to governorates' requests for progressive increase in the amount of Microcept pills production by Egypt pharmaceutical companies. MOHP staff in governorates highlighted issue of true increase in the proportion of OCs clients in MOHP/FP clinics as recorded in service statistics. However, MOHP governorate staff considered that the indicator measuring their performance is CCR rather than method-mix. The increase of combined OCs use has shortcomings related to hormonal contraceptive use and women's and children's health, especially using combined OCs by lactating women. The use of combined OCs keeps using under control of women with increase probability of discontinuation and increases the unwanted pregnancy and its subsequent misbehavior as unsafe abortion.

Clients' choice to OCs is pivotal for formulating pattern of shift from one method to another

FP District Directors-Sharkia governorate raised the issue of improvement in quality of client's usage of OCs on-daily bases. The participants described situation in MOHP/FP clinics that constitute a driving force for women to shift toward OCs.

Table 7: Influential power for shift from IUD to OCs expressed by respondents from different governorates

Causes of shift from IUD to OCs	Acceptability	Governorates						p
		Cairo	Fayoum	Menofia	Beni-Suef	Sharkia	Total	
Non-effective Training of Physicians	Influential power	27%	42%	45%	67%	43%	45%	0.00
	Total respondents	93	88	141	96	150	568	
Improper response of physicians to side effects	Influential power	22%	37%	38%	58%	37%	38%	0.00
	Total respondents	94	86	120	93	149	542	
No incentives in case of IUD insertion	Influential power	60%	68%	49%	74%	71%	64%	0.00
	Total respondents	96	89	137	91	147	560	
IUD use needs follow-up services	Influential power	50%	59%	47%	62%	44%	51%	0.00
	Total respondents	96	92	116	92	149	545	
IUD insertion consumes much of physicians' time	Influential power	22%	45%	18%	39%	20%	27%	0.00
	Total respondents	89	86	114	89	145	523	
IUD insertion is linked with non-response to clients' rights	Influential power	11%	17%	12%	47%	15%	19%	0.00
	Total respondents	89	86	114	89	145	523	

Table 8: Influential power for shift from IUD to OCs according to current Job of respondents

Causes of shift from IUD to OCs	Acceptability	Current job of the respondents					Total	p
		FPDD	FPDNS	Male physician	Female physician	FP nurse		
Non-effective training of physicians	Influential power	49%	49%	43%	45%	47%	47%	0.23
	Total respondents	56	58	69	145	205	533	
Improper response of physicians to side effects	Influential power	41%	41%	37%	40%	39%	40%	0.007
	Total respondents	55	57	68	137	191	508	
No incentives in case of IUD insertion	Influential power	76%	77%	66%	62%	61%	65%	0.017
	Total respondents	56	62	68	142	199	527	
IUD use needs follow-up services	Influential power	48%	39%	53%	51%	56%	51%	0.002
	Total respondents	54	57	70	135	195	511	
IUD insertion consumes much of physicians' time	Influential power	30%	33%	24%	26%	27%	28%	0.39
	Total respondents	53	56	66	130	188	493	
IUD insertion is linked with non-response to clients' rights	Influential power	11%	18%	21%	20%	23%	20%	0.13
	Total respondents	53	57	64	134	185	493	

Family planning challenges

SPs' performance was influenced by work climate created by foreign donations

Throughout the period of foreign donor – supported FP projects, physicians and nurses were fascinated to work in FP program. The surplus of resources and legislations to get incentives from the fund raised from dispensed contraceptive methods were motivating for SPs to work in FP services especially IUD insertion services. In addition, well-designed practical training in FP was very attractive for new generations of physicians. Currently and after phasing out of foreign donation support, and cancelling the incentive legislation and decreased quality of training, physicians became no more interested to work in FP especially IUD insertion. Therefore, the physicians have the sense of unsatisfactory skills in IUD insertion. Physicians become no more interested to upgrade their performance in IUD insertion and to carry the risk of IUD insertion, while there is an alternative way to provide FP service through dispensing OCs. This situation had made MOHP/FP clinics work as pharmacies for dispensing OCs, rather than providing quality FP services that is based on proper counseling and discussing the cafeteria of FP methods to clients, to build up the informed choice for FP method users. SPs delineated that newly supplied IUDs, imported by the Government of Egypt, were not of adequate quality compared with those were supplied by USAID.

The multiple competing MOHP programs reducing support to FP service

There was marked reduction in the role of CWs due to involvement in different health activities in addition to FP. Provision of FP as free service compared to other Family Health Model facilities, reduced motivations of doctors and nurses to give priority to FP clients.

OCs use is matched with requirements of women for self-control method

FGD participants affirmed that women became highly oriented about different FP methods regarding use, side effects, needs for gynecological examination and follow-up. Consequently, women build up their decision for using OCs based on the fact that the use of OCs satisfies women's autonomy in selecting and using the method. OCs use satisfies the concept of "independence" of use and the use at any time and for any period. Other methods as IUD need both gynecological examination and follow-up and management of side effects as bleeding. injectables need the nurse for three-monthly injection. Condom use needs cooperative husband. implanon insertion needs trained qualified physician for implanon insertion and removal, as well as implanon is not available all the time in MOHP/outlets.

Over dispersion of OCs in MOHP facilities is due to shift toward OCs use

Among participants' responses, there were debates to the issue of leakage of OCs from MOHP FP-Clinics to other outlets. The FP directors and nurse supervisors attributed the increased requirements to increase supply of Microcept to the shortage of availability of Microcept in private pharmacies. Consequently, private pharmacy clients had shifted toward MOHP clinics to get Microcept which is usually available in MOHP/FP clinics. However, MOHP/HQ staff ascertained that Microcept is distributed to private pharmacies, and no shortage in Microcept supply to pharmacies. Therefore, the causes of shift toward OCs use could be due to changes in the pattern of service delivery in MOHP/FP clinics that motivate women to use OCs, and/or invisible leakage of OCs through

Table 9: Acceptability score for requirements for eligibility of nurses to provide IUD insertion services as expressed by the respondents by current job

Requirements to accept nurses for IUD insertion	Acceptability	Current job of the respondents					Total	p
		FPDD	FPDNS	Male physician	Female physician	FP nurse		
Training of nurses in age of 18–35	Acceptability score	38%	46%	43%	39%	47%	44%	0.7
	Total respondents	43	49	43	77	150	362	
Training of nurses in any age group	Acceptability score	21%	33%	38%	24%	37%	32%	0.1
	Total respondents	38	47	41	79	141	346	
Training of nurses worked in FP for more than 5 years	Acceptability score	46%	61%	63%	50%	65%	59%	0.03
	Total respondents	40	47	40	82	146	355	
Have Specialized nurse for IUD insertion	Acceptability score	28%	38%	32%	39%	44%	39%	0.07
	Total respondents	38	49	38	72	140	337	

over-recording of OCs use as dispensed Microcept to clients rather than true users of the method. Thus, auditing at the clinic level that includes review of the clients' form and the amount of dispensed method could investigate the leakage process. If it is there, it is the issue of logistic management cycle for contraceptive commodities.

Revising the contraceptive technology issues for IUD use

The FGD participants went through brainstorming activity to deal with the issue of shift from IUD to OCs use. Raised issues were related to contraceptive technology of IUD and dynamics of use. After declaration of the WHO that IUD could be inserted and to remain in the uterus for ten years and more, women do not have to shift to another method. Therefore, IUD users become continuing users without contacting the FP clinic for follow-up. However, OCs users/continuers carry on visiting FP clinics to get the method on-monthly basis and recorded as return visit users for OCs. The issue related to new young female generations who added new cohorts of women in the child bearing period raises many inquiries about the pattern of contraceptive use. The new FP users could be interested to use OCs rather than IUD for different personal and fertility reasons or they did not find SPs to guide them for informed choice to other long-term method as IUD.

The incentives and training policies have major role for shifting from IUD to OCs

FGD participants focused on two important disputes; the incentives and the training systems. Incentives to physicians to provide the IUD insertion services are pivotal issues. The physicians are looking for training that fulfill the quality standards, and build the trustable skills in IUD insertion. The attentiveness toward good training and acquiring skills in IUD insertion delineates that those skills are essential to be practiced in public sector to get experience and to provide this service in private clinics with good quality to keep good reputation. However, the current training in FP is not enough to satisfy the needs of physicians. In addition, the high turnover, and thinking about the professional career had made thinking about capacity building in FP become no more appreciated.

Nurses could provide IUD insertion services, but legislations outlaw this policy

The participants from MOHP/HQ and FP nurse supervisors had demonstrated interest to build the capacity of nurses to provide IUD insertion services. They claimed that nurses are currently included in the midwifery training program which is more difficult and

risky practice than IUD insertion. In addition, in some of the FP clinics, the nurse – behind the seen successfully provides the IUD insertion service compared with non-trained physician.

However, some participants raised the issue that the nursing legislation forbids the task of IUD insertion to be within the job description items of FP nurse. However, testing this intervention is needed before advocacy for making nurses perform the task of IUD insertion.

Discussion

The study described the situation of FP program in Egypt throughout the historical period of foreign donations to FPP that ended in 2005 and the current situation of self-reliance on the governmental policies and resources to operate FP program. The issues raised by this study are crucial to policy makers and FP program managers. Egypt goals of reducing fertility rate based on FP program had the challenges related to health system-contraceptive security, management manpower resources, cultural/women factors, and contraceptive technology. Those challenges formulate the determinants and dynamics related to method mix across time and geographical areas of Egypt [19], [20]. The notion that raised the need to conduct the current study was raised first by the National Population Council [21] where the Annual statistical Reports published the fact that the CCR for the dispensed FP methods at national level showed marked decrease from 56% (2002) to 53% in 2007 [21]. The percent contribution of Governmental, Private and NGOs in CCR showed changes from 79%, 15%, 6% (2002) to be 82%, 12%, 5% (2007) for the three sectors, respectively. The percent contribution of IUD to national CCR was 73% in 2003 and reach to 69% in 2007, versus 12% and 16% for OCs for the same years [7]. The changes in method mix in CCR were reflected on information published by EDHS 2005-2014. EDHS 2005 showed that CPR was 56.5% with method mix: OCs 16.7%, IUD 61.5% and injectables 11.9%. In EDHS 2014 CPR was 56.9% (OC 27.4%, IUD 51.4% and injectables 14.5%) [5], [6], [17]. Therefore, service statistics predicted those changes as presented at community level in EDHS [7]. Such findings indicate the importance of health services research that consider output data/service statistic guides for the need for operations research to answer specific managerial problem that explain the changes in pattern of FP method use [22], [23], [24].

The study design involved FP managers at central, governorate, district and SPs in FP clinic, with participation through self-administered questionnaires, in-depth interview, and FGDs. This approach was crucial to go in-depth into very critical determinant issues related

to the health system, contraceptive technology and cultural background that influence shift from IUD to OC use [25], [26]. The study could provide specific roles in FP services delivery. Physicians play the dominant role in formulating the profile of method mix. Well-trained physicians and incentives for IUD insertion services could influence FP counseling process to build clients' positive attitude toward IUD use [27]. On the other hand, current situation is characterized by shortage in number physicians, ineffective training, and stopping incentive system after phasing out of foreign donation. Consequently, the decision-making for selecting the FP method is left to clients who formulate specific criteria –outside the scientific concepts of contraceptive technology. Clients evaluate the method from specific aspects, as autonomy, independent of SPs, availability all the time in Primary Health Care facilities and at low price, and do not need gynecological examination [28]. OCs use according to those criteria become the method of choice for women at any age, with any morbidity (that contradict use of hormonal contraceptives), and lactation status [29]. The problem of availability of physicians had been tried in service deprived areas through mobile clinics where Gynecologist and FP specialist could provide IUD insertion process. However, the cost efficiency was high if compared with services in fixed clinics [30].

The study raised important sensitive issues related to leakage of OCs from MOHP clinics to other outlets. In addition, it provided thinking about the policy of involvement of nurses in IUD insertion. Contraceptive technology has to work on safer IUD with less side effects [31].

Strengths of the study

The current study builds the evidence-based information about shift from IUD use to OCs from survey studies as EDHS 2008 and 2014. Supporting of this view was also from policy makers and FP programs planners and services providers. The foreign donations for supported FP program that depend on long-acting, safe and effective method as IUD and motivating doctors through quality training and supervision and incentive. Phasing out of donor support, and self-dependency on OCs manufactured in the country could answer the research question. The study adds a new dimension for IUD regarding the technology regarding methods of insertion, side effects, and follow-up for scaling up its use as effective long acting FP method. The major strength of the study is related to the methodology. The study used both quantitative and qualitative data. The study worked on four level of FP-service delivery system: Central, governmental, district and FP SPs levels. Therefore, the study included multiple sources of data and information.

Limitations of the study

The study did not included FP clients who shifted from IUD to OCs. This needs specific study

with large sample size to get appropriate information as this issue is multifactorial as it will include different individual issues rather than health system issues. The results of the study could not be generalized as it is a health system research, and results are specific to a certain communities, in which UNFPA-CSP is working. However, the methodology of the study could be generalized.

Conclusion

The three articulating issues that lead to shift from IUD to OCs: Unsatisfactory training and incentive systems for SPs and the clients' choice of OCs for independent use/autonomy without need of provider's services and availability of OCs at reasonable cost in the public sector all times.

The study was part of consultancy activities for MOHP-CSP.

Acknowledgments

All researchers are thankful to all study participants.

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