Clinical audit for insertion and removal of Cu T380a intrauterine device in a Secondary Care Center in Upper Egypt

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Clinical audit comes under the clinical governance umbrella and forms part of the system for improving the standard of clinical practice. Many organizations worldwide have published standards for intrauterine device (IUD) use and removal. There is no audit that has been published about using IUD in Egypt; therefore, our objective was to audit the current IUD insertion and removal, identifying the gap between the current practice and ideal practice and setting recommendations to fill the gap to improve client satisfaction and minimize complications and to reaudit the magnitude of improvement. A total of 500 IUD insertion/removal clients (350 cases for preaudit and 150 cases for postaudit) were included in the study. There were statistically significant improvement in several preinsertion, insertion, postinsertion, preremoval, and removal steps of IUD in postauditing in comparison to preauditing, but there are no statistically significant differences in the frequency of all postremoval steps of IUD in postauditing in comparison to preauditing. The present audit identified a gap in a number of items that were partially improved in the reaudit phase and this indicates the value of audit in IUD insertions and removal steps.

Keywords:
Egypt, Assiut University, clinical audit, intrauterine device, Obstetrics and Gynecology Department

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Introduction

Globally, intrauterine device (IUD) is the most widely used reversible method of birth control [1].

Egypt Demographic and Health Survey[2] found that 59% of the currently married women in Egypt are using a contraceptive method. The most widely used method is the IUD (30%), followed by the pills (16%) and injectables (9%).

In a US-based WHO study about 92% of women are still using the Copper T 380A (Pregna International Limited, Dabhel, Daman, India) even at 1 year after insertion [3].

Nonhormonal IUDs, such as the Copper T, may protect against endometrial and cervical cancer [4].

Many organizations worldwide have published standards for IUD use and removal from which The WHO Medical Eligibility Criteria (the WHO MEC) for contraceptive use has been formulated. The WHO MEC first issue in: 1996; revised: 2000, 2003, 2004 help providers and assist clients in weighing the risks and advantages of different family planning methods relative to specific conditions [5].

Clinical audit is an essential and integral part of clinical governance. Clinical governance is a system for improving the standard of clinical practice. Clinical audit comes under the clinical governance umbrella and forms part of the system for improving the standard of clinical practice [6].

The reaudit stage is critical to the successful outcome of an audit process – as it verifies whether the changes implemented have had an effect and to see if further improvements are required to achieve the standards of health-care delivery identified in stage 2 [7].

Participants and methods

Setting

Outpatient clinics of family planning in ElEman General Hospital, Assiut, Egypt.

Study design

Clinical audit for IUD insertions and removals (complete audit cycle).

Study population

The participants were women who were attending the outpatient clinics of family planning in ElEman General Hospital for IUD insertion and removal. The total number of cases were 500 case (350 cases for preaudit and 150 cases for postaudit) were included in the present study.

Type of intrauterine device used

TCu 380A.

Ethical aspect

The present study was observational and so there was no harm to the clients as there was no intervention.

Tools of the audit

We selected a checklist (that modified from IUD Guidelines for Family Planning Service Programs [8]) for auditing IUD which included the following steps.

Steps regarding intrauterine device insertion
(1) Preinsertion steps.
(2) Insertion steps.
(3) Postinsertion steps.

Steps regarding intrauterine device removal
(1) Preremoving steps.
(2) Removing steps.
(3) Postremoving steps.

Data collection and analysis

Data from checklists of included clients were collected and analyzed by a software to show the variables of number, percentage, mean, and SD of the collected data against the standards listed in the checklist to identify the missed items that represent the gap we are searching for.

Postdata collection and analysis

Recommendations as regards the most frequently neglected items in the checklist were done and a planner was designed to highlight the missed items and was placed in the family planning clinic in ElEman General Hospital.

Results

The results of the present audit are presented in Tables 1 and 2 which show that there were statistically significant increases in the frequency of the preinsertion steps of IUD (steps of having the client empty her bladder and wash her perineal area, washing hands thoroughly and dry them, palpation of the abdomen and washing hands thoroughly and dry them again) in postauditing in comparison to preauditing (all the remaining steps have been done in the preauditing and postauditing and therefore no statistically significant differences in between) there were statistically significant increases in the frequency of the insertion steps of IUD (step of insertion of a sterile sound using the nontouch technique) in postauditing in comparison to preauditing (all the remaining steps have been done in the preauditing and postauditing and therefore no statistically significant differences in between). Finally, there are no statistically significant differences in the frequency of postinsertion steps of IUD in postauditing in comparison to preauditing (all steps have been done in preauditing and postauditing).

The table shows that there were statistically significant increases in the rate of adherence in the preremoval steps of IUD (step of washing hand thoroughly) in postauditing in comparison to preauditing (all the remaining steps have been done in the preauditing and postauditing and therefore no statistically significant differences in between). There are statistically significant increase in rate adherence in the removal steps of IUD (steps of cleaning the external cervical os and vaginal wall with antiseptic, applying steady gentle traction, and pulling strings toward you to remove IUD and placing IUD in a 0.5% chlorine solution for decontamination) in postauditing in comparison to preauditing (all the remaining steps have been done in the preauditing and postauditing and therefore no statistically significant differences in between). Finally, there are no statistically significant differences in the frequency of postremoval steps of IUD in postauditing in comparison to preauditing (all steps have been done in preauditing and postauditing).

Discussion

Clinical audit is very important in any work. The present audit has many characters: first of all, this is the first audit to be done in Assiut about IUD practice in family planning services in terms of comparison to specific standards; second, the recruited number of clients were 500 cases (350 for preaudit and 150 for postaudit) which is a good sample; third, a set of standards were chosen and a practice checklist was generated for these standards to compare practice against these standards; and finally, the checklist was used by only one observer which has ensured accuracy and non-bias of the collected data.

Table 1 Comparison between the rate of adherence in the preauditing and postauditing regarding preinsertion, insertion, and postinsertion steps of the intrauterine device

	Pre (*n*=250) [*n* (%)]		Post (*n*=100) [*n* (%)]		*P*
	Done	Not done	Done	Not done	
Preinsertion steps					
Having the client empty her bladder and wash her perineal area	0 (0.0)	250 (100.0)	100 (100.0)	0 (0.0)	<0.001**
Wash hands thoroughly and dry them	0 (0.0	250 (100.0)	100 (100.0)	0 (0.0)	<0.001**
Palpation of the abdomen	0 (0.0)	250 (100.0)	90 (90.0)	10 (10.0)	<0.001**
Wash hands thoroughly and dry them again	0 (0.0)	250 (100.0)	100 (100.0)	0 (0.0)	<0.001**
Insertion steps					
Insertion of a sterile sound using the nontouch technique	205 (82)	45 (18)	100 (100)	0 (0.0)	0.031*

*Difference is significant if *P* value < 0.05, ***P*<0.01, statistically significant difference.

Table 2 Comparison between the rate of adherence in the preauditing and postauditing regarding preremoval, removal, and postremoval steps of intrauterine device

	Pre (*n*=100) [*n* (%)]		Post (*n*=50) [*n* (%)]		*P*
	Done	Not done	Done	Not done	
Preremoval steps					
Wash hands thoroughly	40 (40.0)	60 (60.0)	50 (100.0	0 (0.0)	<0.001**
Removal steps					
Cleaning the cervical OS and vaginal wall with an antiseptic	40 (40.0)	60 (60.0)	40 (80.0)	10 (20.0)	<0.001**
Applying steady gentle traction and pulling strings toward you to remove IUD	100 (100.0)	0 (0.0)	0 (0.0)	50 (100.0)	<0.001**
Placing IUD in a 0.5% chlorine solution for decontamination	0 (0.0)	100 (100.0)	50 (100.0)	0 (0.0)	<0.001**

IUD, intrauterine device. ***P*<0.01, statistically significant difference.

From the family planning records, '5000' clients have asked for a family planning method at the clinics throughout the study period in ElEman General Hospital in Assiut. Only '500' of them have used the IUD (10%). This rate is much lower than the reported rate for IUD use in Egypt in 2014 (30%) [2].

The explanation for this lower rate of IUD use may be due to many causes such as more popular satisfaction of the pills in terms of side effects and easiness of use, gender of the health-care provider (many clients have revealed they would refuse to discuss or being examined with a male physician as they had preferred a female one), having a negative impression of the method by most family planning clients who had never used an IUD before, the prospect of whether they will experience insertional and subsequent pain, bleeding, and/or discomfort with their IUD is the main barrier to most acceptors, the notion that a woman can only receive an IUD during a certain time of the menstrual cycle (during or shortly after menstruation), the assurance of the acceptor being not pregnant (but even in those situations where it is certain that there is no pregnancy, some acceptors have turned away and were required to return at this time of the cycle and this is the main barrier to providing an IUD. Other barriers impeding IUD use are insufficient education about the method and insufficient number of providers with practical experience. Overall, side effects were cited as the major reason for discontinuing the IUD compared with other methods.

Some women have asked for IUD but they were inappropriate candidates for IUD use due to many causes from which they had a nulliparous OS, anemic (especially in the high parity, rural, and low socioeconomic level), had a uterine fibroid that is distorting the uterine cavity, they had immediate second trimester abortion or immediate postmolar pregnancy.

Analysis of the audit's results

As regards preaudit

During insertion stages, some steps were not applied at all such as having the client empty her bladder and wash her perianal area, washing hands thoroughly and dry them, palpating the abdomen, washing hands thoroughly and dry them again (100%). This nonadherence to standards can be explained by shortness of time available to every client as the clinicians were busy and had no time to wait, sometimes soap and disinfectants were unavailable, palpation of the abdomen and bimanual examination were not done at all as the vast majority of clinicians had believed that it will be unbeneficial, unawareness about cross contamination and lack of experience and technical skills of the clinicians may be the cause.

On the other hand, inserting a sterile sound using the nontouch technique was the only step that was not applied among audit subjects in a lesser percent (18%). And this nonadherence to standards can be explained by overconfidence of few clinicians, as they did not

sound the uterus; however, others had been feared of causing perforation by the tapering end of the uterine sound.

During removal stages, two steps were not applied among audit subjects in a greater percent (>50%) which were the following: washing hand thoroughly (60%) and cleaning the cervical OS and vaginal wall with an antiseptic (60%). Only one step was not done at all which was placing the IUD in a 0.5% chlorine solution for decontamination (100%). And this nonadherence to standards can be explained by business of the clinicians, unavailability of soap and disinfectants.

As regards postaudit

During insertion stages, only one step was not applied among audit subjects in a lesser percent (<50%) which was the palpation of the abdomen (10%). And this nonadherence to standards can be explained by insufficient training and unawareness of some clinicians, overflow, and large number of cases and unsound attitudes of some caregivers despite the awareness by steps and normal flow of cases.

During removal stages, some steps were not applied at all such as applying steady gentle traction and pulling strings toward you to remove IUD (100%). Others were not applied to a lesser percent such as cleaning the cervical OS and the vaginal wall with an antiseptic (20%). And this nonadherence to standards can be explained by insufficient training of some clinicians.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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