

RESEARCH NOTE

APPROACHES AND INTERVENTIONS TO INCREASE VOLUNTARY INTRAUTERINE CONTRACEPTIVE DEVICES (IUCD) UTILIZATION

Netra Prasad Bhatta
Bishow Raman Neupane
Liladhar Dhakal

Introduction

The Intrauterine Contraceptive Device (IUCD) is the family planning method of choice for approximately 150 million women worldwide and is the most commonly used form of reversible contraception (Hubacher, Vilchez et al. (2006). The global popularity of the method is driven by China, where approximately 36% of married women of reproductive age use the IUCD. Prevalence of IUCD use, however, varies tremendously around the world. For example, only 1.9% of married women in the United States use an IUCD, whereas 15% of women in Europe and 14% in Mexico use this method (Hubacher et al. 2006).

Because the IUCD has proven to be safe, effective, and cost efficient, many international agencies and ministries of health are actively trying to increase voluntary IUCD use (Hubacher et. al. 2006). However, there is little concrete understanding of how best to accomplish this. Outreach interventions that involve peer education, social marketing, rural midwives, and community-based distribution of Family Planning (FP) methods have been used to promote and distribute many contraceptive methods, but it is unclear how or if similar strategies can increase clinic-based uptake of the IUCD (Hubacher et al. 2006).

As a part of Nepal's national strategy, the Ministry of Health and Population aims to increase accessibility and availability of Family Planning (FP) services, including underutilized FP methods. Long-acting methods, such as the IUCD and Norplant, are of particular interest. However, according to the Nepal Demographic and Health survey report (New Era, Macro international Inc, 2006), IUCD use is quite low in the country compared with other FP methods. The proportion of married women who have ever used IUCD is approximately 1% compared with 43% for injectables and 28% for pills.

Several factors contribute to the method's low standing in Nepal's family planning method mix. First among these factors is lack of availability and accessibility of services for IUCD. In 2005, ADRA/Nepal conducted a rapid assessment of health facilities in six project districts. Results indicated that availability of IUCD services is limited and irregular at the district hospitals (DH), primary health care centers (PHCCs), and at the health post level because of a lack of trained service providers and frequent transfer of trained providers (especially female providers) to other health institutions. The gap between Nepalese women's knowledge and use of IUCD is quite significant. Sixty eight percent of currently married women *know* about the IUCD, but current and ever *use* of the method in the same group are 0.4% and 1% respectively. One key reason for this knowledge-practice gap is likely to be inadequate availability of and access to IUCD services in the community.¹ Rumors, myths, and cultural barriers are another cause of the IUCD's underuse. According to a study conducted by Engender Health [Engender Health (2003): Contraceptive use and discontinuation patterns in Nepal], rumors about the method include that it can move outside of or rupture the uterus and that it causes cancer.

The study described in this article examines whether IUCD use increased after an intervention through which (1) service providers were trained and supported in IUCD counseling, insertion, and removal and (2) community mobilization activities were held to correct the socio-cultural myths related to the IUCD. This research project was approved by the National Health Research Council (NHRC).

According to the baseline Knowledge Practice and Coverage (KPC) survey report (New Era 2004), the level of knowledge and use of family planning is high in the Eastern Region Family Planning Expansion Project (ERFPEP) areas. In the method mix, though the share of sterilization is highest, the use of spacing methods like injectables and pills is encouraging (18% and 3% respectively). Based on the same survey, the use of other methods like implant and IUCD is almost non-existent (1% and 0.4% respectively).

Study design

This is a descriptive study with both quantitative and qualitative components. Four District Hospitals (DHs) and eight Primary Health Care Centers (PHCCs) in Terathum, Panchthar, Dhankuta, and Sankhuwasabha districts were selected. The health facility is the unit of study. Observations were made for 18 months pre- and 18 months post intervention with the middle of

November 2006 as the midpoint between the pre-intervention and post intervention parts of the study. Hence, this study examines the differences in the proportion of IUCD use among new FP acceptors between the period of May 15, 2005 to November 15, 2006 and November 16, 2006 to May 13, 2008. For this measure, Health Management Information System (HMIS) service statistics from DHs and PHCCs were reviewed and analyzed during the 18-month-period pre-intervention period and on a monthly basis from each study site during the post intervention period.

The study used the Quick Investigation of Quality (QIQ) tool to assess the DHs and PHCCs for accessibility and availability of quality FP services including the IUCD. The QIQ approach includes three data collection instruments: (1) facility audit, (2) observation of client-provider interactions, and (3) client exit interviews. The QIQ was done before starting and after completing the intervention. Focus group discussions (FGDs) and in-depth interviews with FP users (IUCD users and non-users) were conducted to examine socio-cultural myths and perceptions that both hinder and facilitate the use of IUCD among the local population. At least two FGDs per district were carried out to include ethnic minorities, disadvantaged groups, including users and non-users of the IUCD. Additionally, in-depth interviews and FGD's were also carried out with service providers during pre and post intervention.

Lastly, mystery clients were used to assess the quality of IUCD counseling services at the end of the intervention. A total of seven mystery clients with a background in health care were trained, and sent to intervention sites. Upon completing their time at the service sites, mystery clients completed a checklist about the quality of services they received.

Implementation of the intervention

Community mobilization activities: Comprehensive information about family planning including the IUCD services was disseminated to increase the community's awareness through activities such as training of the Health Facility Management Committee (HFMC), refresher training of the Female Community Health Volunteers (FCHVs), celebrations of special days (e.g., International Women's Day, FCHV day, and Teej Festival (specially celebrated by women) at district and peripheral levels, training for the Men as Partners (MAP) groups, and meetings with District Reproductive Health Coordination Committee. In addition, the project distributed FP-related Information, Education and Communication (IEC) materials, such as method mix including IUCD promotional materials, posters, pamphlets, and

flipcharts to providers and the clients whenever and wherever appropriate through FCHVs, HFMC, MAP groups, mother groups, and peer educators.

IUCD training to service providers: Service providers at the operations research sites took a standard 18-day training based on the National Health Training Center (NHTC) curriculum that included both theory and practice on IUCD counseling, insertion, and removal. Training typically included a maximum of four participants and two trainers. After the training was completed, the trainers used a standard checklist to determine the competency of trainees. By the end of the research period, more than 24 service providers at the study sites had been trained on the IUCD.

Monitoring of intervention: Monitoring was done to ensure that the two primary intervention strategies were implemented as planned and defined above. Community mobilization activities were monitored with the project's monitoring and evaluation system by using checklist, forms and formats, which were designed to document the number of people reached by family planning messages including IUCD. The IUCD training was monitored by the NHTC to ensure compliance with the center's standard guidelines on using required checklists. Follow-up with and on-site coaching of the newly-trained providers were conducted by the FP trainers who used a standard checklist developed by the NHTC to observe trainees' counseling and clinical skills, coached providers to update their technical knowledge, and corrected any mistakes providers made.

Inclusion and exclusion criteria

All DHs in the four focus districts were included in the study. In addition, PHCCs in the same districts and the health workers of these facilities were included. IUCD users and non-users at these DHs and PHCCs also were included. Other than these DHs and PHCCs such as health posts and sub health posts, health workers other than IUCD providers and community members not mentioned here were excluded from the study.

Ethical considerations and informed consent

The study complied with standard protocols for research ethics involving human participants. Emphasis was placed on informed, voluntary consent of each respondent. Participants' privacy and confidentiality were maintained. Participation in the study was voluntary. The informed consent process respected the language and socio-cultural norms of the participants. Approval

for the study was obtained from Nepal Health Research Council (NHRC) before fieldwork began.

Outcome measures

Independent and dependent variables

Independent variables included (1) training for service providers on IUCD counseling, insertion, removal and (2) counseling and community mobilization in selected communities to generate demand for and reduce myths about IUCD. Dependent variables were the number of new FP acceptors and proportion of new FP acceptors choosing IUCD.

Operational definition of variables

Counseling: Counseling sessions focused on meeting individual clients' needs, provided correct and unbiased information, and enabled clients to make informed decisions about family planning services. The IUCD provider educated clients about the benefits and side effects of all FP methods, and helped clients make an informed choice by using GATHER model.² The quality of counseling was measured with QIQ assessment tool at the beginning and shortly after the study period. The mystery clients were mobilized after 12 months of the study.

Community mobilization: Community groups, such as HFMC members, FCHV, MAP groups, and social workers, were mobilized to disseminate the comprehensive FP information including IUCD described earlier. The number of community mobilization activities and the level of community participation in the events were measured through monitoring records and reports.

IUCD service providers: Nurses and midwives at DH and PHC levels were trained and certified by NHTC to provide the IUCD. The numbers of service providers were measured through the project and/or NHTC records on a quarterly basis.

IUCD training to service providers: Under the supervision of certified FP trainers by NHTC, IUCD providers received the standard 18-day training based on NHTC curriculum. The training included both classroom learning and practice on IUCD counseling, insertion, and removal. The quality of training sessions was monitored through the standard checklists developed by the government.

New acceptors: “New acceptors” were clients at the study’s four DHs and PHCCs who received IUCD or any FP method for the first time. This variable was measured through the service statistics of government’s HMIS on monthly basis.

Proportion of new FP acceptors choosing IUCD: The research team calculated the proportion of new acceptors of FP who chose the IUCD by using the following formula:

$$\frac{\text{Number of new IUCD acceptors}}{\text{Total number of new FP acceptors}} \times 100 \text{ per month}$$

Data analysis

Before initiating the data analysis, data was validated by visual inspection for omissions and inconsistencies. The data analysis program Statistical Package of Social Science (SPSS) was then used to compile the quantitative data and complete the necessary descriptive analysis (e.g., frequencies and proportions). The qualitative data from FGDs and in-depth interviews were summarized, analyzed, and interpreted.

Results

The IUCD information was disseminated through 150 HFMC trainings (1500 people), refresher training to over 2000 FCHVs, training to 200 teachers, training to 200 peer educators and mobilizing them for various BCC activities. Total of 5000 community members reached by comprehensive FP information including the IUCD services through the BCC activities.

More than 24 IUCD service providers were trained from the study districts, specifically from district hospitals and PHCCs. The trainees were followed up and their performance monitored to ensure that the acquired knowledge and skills were utilized as per the set standard. Basic logistical support, such as IUCD service kits and materials required for counseling including IEC materials, was provided to the service sites.

IUCD service statistics

IUCD service statistics from the health management information system revealed that the new acceptors choosing IUCD (both in absolute number and in proportion of total acceptors) increased in the post intervention period as compared to the pre-intervention period. Data by district are presented in Table 1.

Table 1: Comparison of Pre- and Post Intervention IUCD Service Statistics

Districts	Pre-Intervention		Post-intervention	
	Total new FP users N	IUCD users n (%)	Total new FP users N	IUCD users n (%)
Dhankuta	997	7 (0.7)	1057	39 (3.69)
Panchthar	1122	54 (4.81)	1207	97 (8.04)
Terhathum	576	31 (5.38)	739	29 (3.92)
Sankhuwasabha	1033	36 (3.48)	997	103 (10.33)
Total	3728	128 (3.43)	4000	268 (6.70)

As illustrated in Table 1, data from the government's health management information system showed an increase in the proportion of new FP acceptors who chose the IUCD from 3.4% in the pre-intervention period to 6.7% in the post intervention period irrespective of Terhathum district. The new users of condom are not included in this analysis because of the different recording and reporting system currently practiced in HMIS.

In addition, the district wise total new users of all modern FP methods have been increased except in Sankhuwasabha district. According to the district health office of Sankhuwasabha, one of the causes of decreasing new acceptors was the improvement in the HMIS in recent time. Moreover, as per the district health authorities and HMIS data of the focus districts, the Couple Years of Protection (CYP) has also been decreased in most of the districts in recent time, due to improvement in recording/reporting and temporary migration of the local residents of the focus districts. The IUCD service has been increased significantly compared to other FP methods which might be because of increasing the service availability at the service sites compared to the previous time. There was almost nonexistent of the IUCD services in pre-intervention period. Most of the district health authorities claimed that the family planning method switch from short acting to the long acting, for example from pills or Depo-Provera to IUCD, might be another cause of increasing the IUCD service utilization, as there were more options available for any FP methods.

Quick Investigation of Quality (QIQ)

The QIQ was conducted at study sites pre and post intervention. A summary of some of the findings are shown in Table 2 below.

Table 2: Client-provider Interaction and Client Exit Interview

Indicators/Variables	Baseline	End line		N	Observation n (%)	Exit interview n (%)
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Demonstrates good counseling skills	169	139 (82.2)	142 (84.0)	94	80 (85.0)	86 (81.2)
Assures client of confidentiality	169	114 (67.5)	140 (83.0)	94	56 (59.6)	85 (90.4)
Mentioned HIV/AIDS: discussed	169	35 (20.7)	28 (16.6)	94	31 (33.0)	32 (34)
Discusses dual method use	158	36 (22.8)	30 (19.2)	45	18 (40.0)	16 (36.1)
Treats client with dignity/ respect	169	163 (96.4)	168 (99.4)	93	89 (95.7)	92 (98.9)
Gives instruction on when to return	169	156 (92.3)	166 (98.2)	94	63 (67.0)	78 (83.0)
Explains how to use selected method	166	142 (85.5)	146 (88.0)	86	81 (94.2)	80 (92.9)
Explains side effects of method selected	166	156 (94.0)	132 (79.6)	86	82 (95.4)	74 (85.1)

The data revealed that from the baseline period to the end line period, there were slight improvements in counseling skills, discussion of dual method use, and providing assurance to clients about maintaining their confidentiality. However, there are some aspects of counseling that need to be improved, such as explaining when clients should return for their next visit. There is also some discrepancy between observation and clients' exit interview, which might be partly due to observation bias or clients' perception bias.

Health facility audit

According to the health facility audit, there has been improvement in most of the indicators in end line period compared to the baseline period. In the end line period, the availability of IUCD services with trained health workers was found in all 11 health facilities we studied, where as there was no services in the baseline period. There was no stock out of any FP commodity in end line compared to 10 out of 11 facilities in baseline period. All 11 health facilities have offered the privacy in pelvic exam and IUCD insertion in both the baseline and end line period. Similarly, the supervisory visits were increased to seven health facilities in end line period, compared to six facilities in

baseline period. Lastly, proper storage of commodities was found in 10 out of 11 facilities in both the base line and end line period.

FGD with FP users (Users and non-users of the IUCD)

Pre-intervention FGD findings indicated that the number of service providers trained to offer the IUCD, and the number of sites that were equipped to offer IUCD services was very limited in number, and the client flow was also very low. Many interviewed clients had mistaken beliefs about family planning services, especially about the IUCD. This may be contributing to very low use of IUCD services in targeted communities. The common myths on IUCD include that IUCD may cause uterine cancer, that the IUCD can enter the stomach and heart, and that the IUCD can easily fall down or become displaced, thereby causing difficulties in physical movement.

The post intervention FGDs indicated that most clients receive information about the IUCD from neighbors or health facilities. One of the participants said, "I have heard about IUCD from the sister (nurse) at the hospital and also seen in the pamphlets produced by ADRA and government. I don't have any problems but I felt pain on lower abdomen during the first month of IUCD use." The IUCD is available at hospitals and at PHCCs but not as reliably other commodities such as Depo-Provera, pills, and condoms. One of the participants said, "We didn't have alternative choice for FP methods before a year but now we have. Here we can get service of Copper T, Depo-Provera, Norplant, and other FP methods." Most of the participants expressed that they can receive IUCD services at PHCCs and district hospital and that now they know there are trained service providers who can provide the services confidently. One of the participants said, "I go to hospital to take FP methods (IUCD) and there is no problem to use FP methods from the hospital. Some methods like condoms and pills are also available there."

Some of the participants expressed that the IUCD can disturb sexual intercourse, especially for the husband. A few of the participants stated that the IUCD causes lower abdominal pain. Most of the clients said that they are satisfied with the IUCD as a good FP method because it has very few disadvantages. Most of clients did not have any side effects from the IUCD, but some reported heavy bleeding and feeling uneasy during the first few months after IUCD insertion. IUCD users are satisfied with the method and the service they received from health facilities. The discontinuation rate is low for IUCDs, but some women are compelled to remove their IUCD because of temporary migration of husband, outside the country to find the job. One of the participants expressed that "Most of my friends say IUCD

harms people but I am satisfied with this. I have a daughter of eight months. Probably I will continue it till 12 years. When I had IUCD, one of my neighbors and my sister in law also took IUCD. I think IUCD clients have increased in our village."

In-depth interviews with service providers

In pre-intervention interviews, the service providers were confident that if they provided proper counseling, there would be fewer complaints from their clients. They also stated that most of the IUCD users did not complain of many side effects while using the IUCD. In the post-intervention period, the service providers expressed that they used the GATHER³ method for counseling, with flip charts, posters, pamphlets, and models of various FP methods. They also used the informed choice poster for technical issues during the counseling. One of the service providers said, "PHCCs don't have separate counseling rooms. But we are conscious of clients' right to privacy and confidentiality. Therefore, we evacuate other patient from the room and counsel clients in FP one at a time." Another participant said, "We have a separate room for counseling. ADRA has supported the management of a separate room for counseling and service provision." Most of the service providers expressed that the side effects of methods and temporary absence of husbands to find the job outside the country, are major causes of dropout among FP clients.

All health facilities of this study have at least one service provider trained on IUCD. One of the participants said, "There are two health workers trained on IUCD and one trained on Norplant in our health facility. But we need refresher training to be updated and to clarify some confusion." Most of the service providers experienced fewer complaints from their IUCD clients. One service provider said, "To date I haven't met any user with complaints on IUCD. However, the scaring of the clients about IUCD initiates uterus cancer, possible displacement downward to the cervix are some comments we have to deal during the counseling." Most of the service providers expressed that majority of clients had positive attitudes about the IUCD because it has fewer side effects compared to other methods and it works for longer duration. Most of the service providers expressed that there were no stock-outs of any FP methods offered in any of the health facilities. Adequate numbers of commodities, including the IUCD, are available at the health facilities. One of the service provider said, "We ask for commodities before the stock runs out. We have stock of all commodities now."

Mystery clients

The mystery clients identified that almost all health facilities offered IUCD services with at least one trained health worker trained on IUCD provision. More than seven out of 11 health facilities displayed and used the informed choice poster (which explains all FP methods), nine out of 11 service providers behavior was acceptable to the clients, eight out of 11 health workers assured clients about the confidentiality of their information, and five out of 11 health facilities maintained clients' privacy during service provision. About 10 out of 11 service providers provided information about the IUCD as a method of FP. The mystery clients mentioned that most of the health facilities established and maintained a separate counseling room and that the health workers followed the counseling process and displayed and used the appropriate IEC materials.

Discussion

ADRA Nepal attempted to increase voluntary IUCD use through an approach that involves community mobilization and increasing the access of IUCD services by providing competency-based family planning training to HWs on the IUCD. The information collected for the 18-month pre-intervention and post-intervention periods indicates an increasing proportion of new FP users who chose the IUCD. There were massive comprehensive FP including IUCD-related community mobilization activities implemented around the study sites through HFMC trainings, refresher training to FCHVs, and BCC activities with peer educators, teachers, and community members to increase the awareness within the community about family planning services including IUCD. The awareness activities have been increased about FP methods, including the IUCD's advantages, benefits and its side effects. Although ADRA Nepal disseminated information not only about IUCD but also about other modern methods, the utilization of the IUCD increased considerably. This increase in IUCD use is probably due to addressing misconceptions and myths and increasing IUCD knowledge among community members. Family planning method switch from short acting to the long acting might be another factor of increasing the IUCD service utilization as there were more options for any FP methods.

We trained IUCD service providers from district hospitals and PHCCs within our study districts. The resulting improvement in health workers' knowledge and counseling skills resulted in improved acceptance of the IUCD in the community. The trainees were followed up and their performance was monitored to ensure that the knowledge and skills they

acquired continue to be applied as per national standards. The availability of IUCD services at nearby health facilities is an important factor in efforts to increase voluntary IUCD use. In our study districts, the number of trained providers and the number of sites that offered IUCD services were low. Also, client flow was very low because there were so many myths and misconceptions about family planning services, especially about the IUCD. However, after this study's intervention, IUCD services are available at district hospitals and PHCCs and HPs. The IUCD service users are satisfied with the method and with the service they receive from health facilities.

Improvement in the quality of FP services also has contributed to increasing voluntary IUCD use. The GATHER method for counseling, which employs flip charts, posters, pamphlets, and models of various FP methods, has helped to improve client satisfaction and minimize the discontinuation rate. The poster on the FP method mix helps clients make an informed choice by providing information about the advantages and possible side effects of modern FP methods. Maintaining confidentiality and ensuring clients' privacy has increased client satisfaction with the counseling services they receive. Through the research project described here, ADRA Nepal has supported separate rooms for counseling and service provision. However, as explained earlier, some of the clients have dropped out (stopped using FP methods) due to the temporary migration of husbands to find out the job outside the country. Similarly, some difficulties faced by the clients more than their expectation, has contributed the dropping rate higher in some community.

Having at least one trained health worker (nurse) per health facility is crucial to continuing IUCD service provision and to maintaining or even decreasing providers' case loads. The follow-up of the trained health workers by the FP trainer is a key factor in maintaining providers' confidence in their ability to offer the method to their clients. Similarly, availability of the commodities at health facilities helps prevent negative rumors of stock outs of any FP methods. Adequate numbers of commodities, including the IUCD, are needed to sustain service provision. Finally, the acceptable behavior and friendly manner of health service providers, and their strong confidence in their skills and knowledge play an important role in increasing use of modern FP methods.

The final and the most important finding of this study is that the combined approach of improving community awareness about FP including the IUCD and increasing its accessibility and availability is associated with increased voluntary IUCD utilization.

The intended focus of this study was to assess an approach for increasing voluntary IUCD use. This comprehensive approach presented considerable methodological challenges that might have compromised scientific rigor. For example, it was very difficult to track information on the effect of other factors (confounders) that might have a positive or negative effect on clients' choice of FP method. However, considering the dispersion of study sites, nature of the service, and existing government strategy regarding FP service provision, the results of this study are encouraging and the approach should be considered or studied further for scale-up.

Conclusion

One potential approach for increasing the voluntary use of IUCD is to combine community mobilization with increased accessibility and availability of services, but this approach was not being thoroughly tested. In order to test an approach, this Operations Research was conducted with an intervention that combined community mobilization and increased accessibility and availability to quality IUCD services. The findings revealed that the proportion of new family planning users who chose the IUCD increased to 6.70 after the intervention compared to 3.43 before the intervention. Therefore, we conclude that community mobilization combined with increased accessibility and availability through training health workers on quality IUCD services contributes to increased voluntary IUCD use.

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Notes

1. Knowledge Practice and Coverage survey, 2004.
2. G: Greet respectfully, A: Ask/Assess needs, T: Tell information, H: Help Choose, E: Explain and demonstrate, R: Return and reinforce/refer.

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