Knowledge and Perceptions of Intrauterine Devices (IUDs) Among Family Planning Providers in Nepal

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While clients’ attitudes toward the IUD are known in different contexts, little is known about providers’ knowledge and perceptions of the IUD in developing countries. This brief seeks to provide evidence of cognitive barriers that may prevent Nepalese providers from recommending IUDs. Nepal’s permissive IUD service policies afford the opportunity to explore these findings among a variety of cadres and sectors.

KEY FINDINGS

- Overall knowledge of IUDs is fair among providers, but knowledge of medical eligibility criteria is poor.
- IUD knowledge is similar between sector and cadre.
- Recent receipt of IUD training and employment in multiple facilities appears to improve IUD knowledge scores.
- One-third of providers in Nepal view at least one IUD side effect as “unacceptable”.
- Perceptions of IUD side effects are similar between sector and cadre.

BACKGROUND

Understanding provider attitudes and knowledge regarding family planning is essential when developing and improving contraceptive programs. For the IUD, an underutilized but cost-effective reversible method, exploring provider aptitudes and attitudes is key to making family planning programs comprehensive. This study takes advantage of Nepal’s permissive IUD service policies, which allow for insertion by lower-level cadres and the private sector, to explore differences in providers’ IUD competencies and perceptions.

In Nepal, the IUD remains one of the least known and least used contraceptive methods, despite an increase in use from 0.8% to 1.3% from 2006 to 2011. [1, 2] Even with a moderate contraceptive prevalence rate (43.2%), Nepal’s family planning landscape is dominated by sterilization (15.2%), and there remains considerable unmet need (27.5%). [2] The country’s low provider-to-client ratio has dictated that family planning services are often provided by mid-level cadres such as nurses and lower-level cadres such as auxiliary nurse midwives (ANMs) [1, 3]. The private sector has also increasingly played an essential role in filling provision gaps by providing 30% of all family planning services. [2]

Nepal’s Ministry of Health and Population (MoHP) has supported the need for more human resources in family planning, endorsing task sharing among lower cadres and private sector involvement. The MoHP’s legalization of ANMs as the lowest-level IUD provider is consistent with the World Health Organization’s reproductive health task shifting recommendations released in 2012. [4]

In this context, Population Services International (PSI) introduced a program in Nepal in 2009 to address long-acting reversible contraception (LARC) provision gaps and revitalize IUD use. Since its inception, PSI’s Women’s Health Project (WHP) has worked with 481 private health outlets under a franchise known as Mahila Swastha Sewa (MSS). Franchise providers receive training in IUD and implant insertion, removal, and counseling, supplies and necessary equipment, quality assurance through supportive supervision, and provider behavior change communications (i.e., medical detailing). In a vivid example of task-sharing, 88% of franchise providers providing LARC in the region are ANMs. Starting in 2012, the WHP program began studying providers’ IUD competencies inside and outside of the MSS franchise.

STUDY OBJECTIVES

1) To understand and quantify providers’ IUD knowledge and perceptions for program improvement.
2) To analyze differences between provider cadres and sectors.

METHODOLOGY

Data was collected between January 2012 and February 2012 among MSS and non-franchise providers. MSS providers were randomly selected from a pool of 300 active franchise providers.

The franchise has since been rebranded to OK.
providers. Non-franchise providers, which included public sector providers and private non-MSS providers, were randomly selected from lists of providers in the same and neighboring districts as MSS providers. These providers were considered eligible if they had adequate facilities to provide IUDs, were at least an ANM, offered FP services, and had experience with pelvic examination. A total of 176 MSS providers and 169 non-franchise providers were included.

A questionnaire was administered to providers at their facility by a trained interviewer. General knowledge was assessed via 2 multiple choice and 6 true/false questions on TCu 380A IUD efficacy, mechanism, and appropriate time of insertion. Knowledge of IUD medical eligibility was assessed via 14 statements of medical history or risk factors (i.e. anemia, obesity, sexually transmitted infection (STI)), based upon World Health Organization (WHO) eligibility criteria. Knowledge of eligibility based on personal characteristics (i.e. poor, illiterate, unmarried) was assessed via 13 statements, and sought to capture provider attitudes towards providing IUDs to these types of women. Perception of IUD side effects was assessed by asking providers to name the side effects associated with the TCu 380A IUD, and then identify if the side effect was “acceptable”, “unacceptable” and a barrier to IUD provision.

Descriptive and multivariate linear techniques were used in the analysis of provider responses. Descriptive analyses used Student’s t-test and Pearson’s chi-squared test to compare cadres and sectors. Differences in demographic characteristics, knowledge, and side effect perceptions were examined between groups. Equally weighted summative scores were generated for each of the knowledge categories (general knowledge, medical eligibility knowledge, and personal characteristic eligibility knowledge), and a fourth score was generated from all three scores (overall knowledge). Outcomes for each of the 4 most commonly named side effects were divided into 3 categories: providers who did not name the side effect, providers who named it but did not say that it would prevent them from recommending the IUD (“acceptable”), and providers who named the side effect and said that it would prevent them from recommending the IUD (“unacceptable”).

Multivariate analyses of knowledge outcomes used backward stepwise linear regression (with a probability of exclusion at p>0.1) to generate one regression model for each of the four knowledge scores. Covariates were chosen that have been shown to be positively associated with family planning knowledge in previous studies. Provider cadre and facility type were forcibly included in each model to observe their impact.

KEY FINDINGS

- Overall knowledge of IUDs is fair among providers, but knowledge of medical eligibility criteria is poor.

Providers answered an average of 61.4% knowledge questions correctly (21.5/35). Scores were fairly good regarding general knowledge of IUD properties and knowledge of personal characteristic eligibility criteria. In these respective categories, providers answered an average of 5.8 out of 8 general knowledge questions, and an average of 9.8 out of 13 personal eligibility questions correctly.

Knowledge of medical eligibility criteria, however, was poor. For 9 of 14 cases, less than 50% of providers correctly identified the conditions under which a woman would be eligible for an IUD. In 5 of these 9 cases, less than 40% providers correctly identified that women were eligible for the IUD without screening: history of ectopic pregnancy (1.2%), anemia (31.3%), pelvic inflammatory disease 3 years ago (33.3%), less than 48 hours post-partum (31.6%), and irregular menstruation (37.4%). In 4 of these 9 cases, less than 50% of providers correctly identified that women were eligible for the IUD with screening: history of ectopic pregnancy (32.5%), HIV positive (35.9%), antiretroviral therapy use (36.8%), and vaginal discharge (44.6%).

- IUD knowledge is similar between sector and cadre.

Knowledge scores were fairly similar between sectors. When compared, scores did not significantly differ between MSS providers and public providers. However, 2 of the 4 knowledge scores differed between the public sector and private non-MSS providers. Public sector providers had higher personal eligibility criteria scores (78.5% vs. 70.2%, p<0.001) and overall knowledge scores than private non-MSS providers (63.1% vs. 57.6%, p=0.016).

When knowledge scores were compared between cadres, none of the 4 knowledge scores differed significantly (p<0.05) between ANMs and nurses. When ANM and nurses’ scores were compared within each sector, only one significant difference emerged: MSS ANMs have significantly higher general knowledge scores than MSS nurses (73.8% vs. 65.0%, p=0.007). (See Figure 1.) The lack of significant knowledge differences among sub-groups suggests that additional training on medical eligibility criteria may be needed among all providers.

When adjusted for covariates, results showed that a provider’s cadre is not significantly associated with any of the 4 knowledge scores, and a provider’s sector is not significantly associated with 3 of the 4 knowledge scores. (See Table 1.) Sector was found to be significantly associated with personal eligibility criteria knowledge, as public sector providers have higher scores in this category (p = 0.005). However, it is important to bear in mind that providers scored relatively well in this category overall. Evidence that private providers share the same level of competence as public providers is important, considering the increasingly essential role the private sector has been playing in filling family planning provision gaps in Nepal.

- Recent receipt of training and employment in multiple facilities appears to improve IUD knowledge scores.

Multivariate analysis revealed two covariates to be consistently associated with provider knowledge across the knowledge categories: employment in multiple facilities simultaneously, and recent receipt...
Figure 1: Proportion of correct responses for knowledge sub-categories by cadre and sector

Significant differences within each sector are indicated by ** p < 0.05.

Table 1: Multivariate linear regression of factors associated with each knowledge score, n = 340

<table>
<thead>
<tr>
<th>Factor</th>
<th>General knowledge score ß coefficient (95% CI)</th>
<th>Medical eligibility score ß coefficient (95% CI)</th>
<th>Personal characteristic score ß coefficient (95% CI)</th>
<th>Overall knowledge score ß coefficient (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provider is ANM</td>
<td>–0.034 (–0.35 to 0.29)</td>
<td>0.078 (–0.67 to 0.82)</td>
<td>–0.156 (–0.61 to 0.30)</td>
<td>–0.127 (–1.23 to 0.98)</td>
</tr>
<tr>
<td>Provider works in public sector</td>
<td>–0.235 (–0.52 to 0.05)</td>
<td>0.436 (–0.27 to 1.15)</td>
<td>0.622*** (0.19 to 1.05)</td>
<td>0.833 (–0.20 to 1.87)</td>
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<tr>
<td>Provider works at private non-franchise</td>
<td>–0.238 (–0.64 to 0.16)</td>
<td>–0.389 (–1.30 to 0.52)</td>
<td>–0.522 (–1.08 to 0.04)</td>
<td>–1.125 (–2.42 to 0.18)</td>
</tr>
<tr>
<td>Provider currently using contraception</td>
<td>0.215 (–0.04 to 0.47)</td>
<td>0.299 (–0.05 to 0.65)</td>
<td>0.895** (0.08 to 1.71)</td>
<td>0.278 (–0.02 to 0.57)</td>
</tr>
<tr>
<td>Facility is provider’s primary place of work</td>
<td>–0.847** (–1.58 to –0.11)</td>
<td>–0.528 (–0.99 to –0.06)</td>
<td>–1.306** (–2.40 to –0.21)</td>
<td></td>
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<tr>
<td># of FP methods facility offers</td>
<td>0.252** (0.05 to 0.45)</td>
<td></td>
<td></td>
<td>0.278 (–0.02 to 0.57)</td>
</tr>
<tr>
<td>Facility is located in hill region</td>
<td>–0.767*** (–1.03 to –0.51)</td>
<td>0.702** (0.12 to 1.28)</td>
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<tr>
<td>Years since provider’s most recent IUD training</td>
<td>–0.110** (–0.19 to –0.03)</td>
<td>–0.059** (–0.11 to 0.00)</td>
<td>–0.19*** (–0.32 to –0.06)</td>
<td></td>
</tr>
</tbody>
</table>

** p < 0.05; *** p < 0.001
of IUD training. (See Table 1.) This evidence supports the provision of refresher trainings to improve knowledge, and supports theories that the increased experience provided by exposure to a wider range of clients may facilitate increased knowledge. [5]

- One-third of providers in Nepal view at least one IUD side effect as “unacceptable.”

When asked to list the side effects associated with the IUD, the majority of providers were able to name the 3 side effects most frequently associated with its use: cramping (73%), excessive bleeding (69%), and painful menstruation (60%). However, a side effect considered rare by international standards – spotting – was named the most frequently among providers (86%).

One finding of concern was that 1/3 of all providers identified one normal side effect (excessive bleeding) and one rare side effect (spotting) as “unacceptable” and a barrier to IUD provision. (See Table 2.) This finding implies that providers’ perceptions of IUD side effects may present a larger barrier to IUD provision than previously understood. Training materials may need to be assessed for their ability to provide adequate side effect management information, and where possible, direct interaction with providers to address these barriers should be considered.

Perceptions of IUD side effects are similar between sector and cadre.

When IUD side effect perceptions were compared between sectors, no significant differences appeared between MSS, public, and private non-franchise providers. When cadres were compared, ANMs and nurses were similar in their perception of 3 of the 4 IUD side effects. Regarding painful menstruation, nurses were more likely to name this side effect and consider it “acceptable” (p=0.035).

CONCLUSION

Results provide evidence that lower-level providers such as ANMs have similar levels of knowledge and perceptions as mid-level providers such as nurses. This finding is beneficial for proponents of task sharing, and remains consistent with WHO recommendations. This finding also suggests that in Nepal, ANMs should continue to be supported as competent IUD providers who play an important role in meeting family planning demand. Additionally, despite a lower volume of clients, private sector providers have similar levels of knowledge and perceptions to public sector providers. PSI’s programs in the private sector can continue to influence and increase the ability of these providers to contribute to an increased contraceptive prevalence rate in Nepal.

Findings from this study point to at least two programmatic recommendations. First, poor IUD medical eligibility knowledge among all providers suggests the need for additional emphasis during trainings on IUD medical eligibility criteria. Providers may be unknowingly denying access to LARC for women with an expressed need. The association between more recent training and increased knowledge scores also encourages the provision of refresher training. Second, the finding that 1/3 of providers consider at least one IUD side effect “unacceptable” suggests that side effect management components in Nepalese training materials may need to be revisited. Side effects such as cramping and painful menstruation can be addressed with the prescription of readily available pain medication, while providers could counsel women to be aware of spotting and excessive bleeding so they are prepared with clean cloths and sanitary pads. Left unaddressed, provider perceptions of side effects may act as a barrier to potential IUD clients.

REFERENCES


