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Do mobile family planning clinics facilitate vasectomy use in Nepal?

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Abstract

Background: Nepal has a distinct topography that makes reproductive health and family planning services difficult to access, particularly in remote mountain and hill regions where over a quarter of modern contraceptive users rely exclusively on vasectomy.
Study design: A three-level random intercept logistic regression analysis was applied on data from the 2011 Nepal Demographic and Health Survey to investigate the extent of influence of mobile family planning clinics on the odds of a male or a female sterilization, adjusting for relevant characteristics including ecological differences and random effects. The analyses included a sample of 2014 sterilization users, considering responses from currently married women of reproductive ages.
Results: The odds of a male sterilization were significantly higher in a mobile clinic than those in a government hospital (odds ratio, 1.65; 95% confidence interval, 1.21–2.25). The effects remained unaltered and statistically significant after adjusting for sociodemographic and clustering effects. Random effects were highly significant, which suggest the extent of heterogeneity in vasectomy use at the community and district levels. The odds of vasectomy use in mobile clinics were significantly higher among couples residing in hill and mountain regions and among those with three or more sons or those with only daughters.
Conclusion: Mobile clinics significantly increase the uptake of vasectomy in hard-to-reach areas of Nepal. Reproductive health interventions should consider mobile clinics as an effective strategy to improve access to male-based modern methods and enhance gender equity in family planning.
Implications: Family planning interventions in hard-to-reach communities could consider mobile clinic as an effective strategy to promote male-based modern methods. Improving access to vasectomy could substantially reduce unmet need for family planning in countries experiencing rapid fertility transition.

Keywords: Vasectomy; Family planning; Mobile clinics; South Asia; Demographic and health surveys; Nepal

1. Introduction

Over the last 15 years, Nepal has achieved a substantial reduction in fertility rates from 4.6 births to 2.6 births per woman [1–3]. Yet, the desired fertility stands at the replacement level of 2.1 births per woman, which implies that women have about one additional unwanted birth in their reproductive life [4]. The desire to stop having more children suggests high demand for family planning (FP) among Nepalese couples, particularly permanent methods.

Although contraceptive use is generally skewed toward females, Nepal is one of the countries in South Asia, apart from Bhutan, to have the highest prevalence of male sterilization [5]. According to the 2011 Nepal Demographic and Health Survey (NDHS), permanent methods constitute more than one-half of modern contraceptive use and about a third of all sterilized couples use vasectomy [4]. Yet, unmet contraceptive need for limiting fertility represents over two-third of total unmet need which vary considerably across population subgroups and ecological zones [4,6,7].

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One of the strategic goals of the National Family Planning Program in Nepal has been to improve access to modern contraception through mobile FP camps targeting the poorest-poor and socially excluded communities residing in geographically isolated and economically deprived areas [8,9]. FP services are generally delivered through a wide network of facilities at different levels, such as hospitals, primary health care (PHC) centers, health (sub)posts, private clinic/pharmacies, mobile camps and nongovernment organizations (NGOs) such as the Family Planning Association of Nepal (FPAN), Marie Stopes and Red Cross [9–11]. FP services in public sectors and some NGOs are available generally free of charge [12].

Sterilization services are usually offered through a network of static (fixed location), seasonal (fixed period of time) and mobile (community-based) sites. Mobile sterilization camps in Nepal have a long history spanning over three decades, and they operate mostly at the village level under the district administration [9–11]. The camps are often the major source for sterilization in remote areas with poor road network and in areas with health/subhealth units not adequately equipped to provide clinical services [12,13]. Most women who seek sterilization services in a clinic/camp in remote areas generally have little or no prior contraceptive use history [13]. Also, women in poor households discourage their husbands against vasectomy, instead choose sterilization on their own, due to fear of losing economic support from their sterilized husbands if they become ill or experience side effects [14].

Nepal has a distinct topography divided into three ecological zones: harsh terrain mountain zone, densely populated hill zone and *terai* (plain) zone where about one-half of the population resides with better access to transportation facilities [4]. The hill and mountain zones have generally poor access to health services [11–13]. These zones have relatively high fertility rates and high unmet need for limiting methods [4,6], and often mobile camps are the only convenient source for FP services [13]. In these remote areas, gynecological surgeons usually travel a long distance with the mobile unit, mostly during dry season, and offer long-term methods including vasectomy, mini-laparoscopy and laparoscopic sterilization [15]. Community health volunteers and female health workers provide information about mobile camps ahead of the schedule on a door-to-door basis [12].

A gender-oriented question arises in this context: do mobile clinics influence the type of sterilization outcome (male/female)? Although women generally exchange reproductive health experiences and interact with health workers/peers more frequently [16,17], men tend to participate in community FP camps and seek contraception either voluntarily or jointly with their spouses or through peer influence [18]. Such decisions are also determined by individual and program/supply factors, for example, education and autonomy [19,20], service standards, cash incentives [11] and other psychosocial and cultural influences including strong son preference [14,21–24]. There is also a perception that vasectomies would render men frail and potentially impair their ability to provide economic support for the family [14].

This paper investigates the influence of mobile FP clinics on vasectomy use in Nepal. We hypothesize that men use mobile FP clinics over other facilities for permanent methods than women.

2. Materials and methods

2.1. Data

Data for this study are drawn from the 2011 NDHS, which collected nationally representative data from 12,674 women aged 15–49 years [2]. Current FP users were asked specific questions about the method type and the source where the method was obtained. The reported source include the following: government hospital/clinic, PHCs, mobile clinic, NGO (FPAN, Marie Stopes, Adventist Development and Relief Agency, Nepal Red Cross and United Mission to Nepal), private clinics, pharmacy and other sources. Public–private partnerships involving NGOs also provide sterilization services through camps [12]. Unfortunately, the 2011 NDHS does not provide any information on whether sterilization services offered under the NGO sector include mobile and outreach services. This is a limitation of the present analysis. Survey instruments and sampling strategies of NDHS are reported elsewhere [4].

The present analysis initially considered 9460 currently married women, of these 50.4% reported using a method at the time of survey. Among current users (n=4787), 42% reported using sterilization — 24.9% female sterilization and 17.3% male sterilization. The final study sample constitutes 2014 sterilization users: 1194 female sterilization and 820 male sterilization users.

Both women and their spouses were asked similar questions about current contraceptive use. We consider only women responses for two reasons. First, wives generally report FP more accurately than men, although some husbands conceal their sterilization experience from their spouses/other family members. Second, NDHS interviewed men from only every second household sampled. We did not explore the male data for detailed statistical investigation since the sample size was small (n=537). Our investigation of the matched couple data showed consistency in reporting contraceptive use between husbands and wives, 89.5% and 94.9% for male and female sterilization, respectively. Interestingly, 4.5% of men reported not using male sterilization when their wives responded affirmative and 0.2% vice versa.

2.2. Measures

The outcome variable was the sterilization (male/female). Source of sterilization was the primary predictor categorized