CLINICAL ARTICLE

Reproductive health care and family planning among women in Nepal

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ABSTRACT

Objective: To describe findings from a validated survey examining access to care, contraceptive needs, access to surgical care, menstruation-related healthcare needs, and barriers to receiving reproductive health care in Nepal. *Methods:* An analysis was undertaken using data obtained through a two-part population-based, cross-sectional, cluster-randomized survey corroborated by a visual physical examination performed nationwide between May 25 and June 12, 2014. Women aged 12–50 years were included. The odds of delivering exclusively in a health facility, having a cesarean delivery, and using contraception were modeled using logistic regression. *Results:* Overall, 876 female interviewees were of reproductive age (12–50 years). Only 237 (27.1%) women were using contraception. Maternal education was the strongest predictor of delivering exclusively in a healthcare facility (odds ratio [OR] 7.57, 95% confidence interval [CI] 4.48–12.79; $P < 0.001$). The odds of having a cesarean delivery were doubled by urban living (OR 2.20, 95% CI 1.09–4.13; $P < 0.001$). On multivariable analysis, a predictor of using contraception was a history of having given birth (OR 9.61, 95% CI 4.62–20.01; $P < 0.001$). *Conclusion:* In Nepal, reproductive healthcare disparities for women are manifold. Education for women appears to be a significant determinant of accessing reproductive health care.

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1. Introduction

Nepal is a small landlocked country located in South Asia in the heart of the Himalayas. It is a low-income nation, ranking 157th of 187 countries on the Human Development Index [1]. Since 1999, Nepal has met many health-related targets, especially with regard to maternal health. Nepal's maternal mortality rate decreased from 901 per 100 000 live births in 1999 to 258 per 100 000 live births in 2015 [2]. However, access to surgical care remains low [3]. An estimated 15% of all pregnancies have complications that necessitate a cesarean delivery [4]. Whether needs for cesarean delivery are met is directly tied to the availability of facilities for care around the delivery as well as the reasons for not having a facility birth [5]. Between 2001 and 2011, the cesarean delivery rate among women in Nepal increased by approximately

9% according to Demographic Health Survey data [6], with the 2011 rate estimated at 5.4%.

The Surgeons OverSeas Assessment of Surgical Need (SOSAS) is a standardized survey that was used in Rwanda and Sierra Leone in 2011 and 2012 to describe the need for and access to surgical care [7,8]. The survey also elucidates women's health needs and family planning behavior. The aim of the present analysis was to describe SOSAS findings related to women's reproductive health in Nepal. Access to care, contraceptive use, access to surgical care, menstruation-related healthcare needs, and barriers to receiving reproductive health care were examined.

2. Materials and methods

A countrywide SOSAS survey with two-stage sampling was performed in Nepal from May 25 to June 12, 2014. The overall results on surgical need indicated a 10% need for surgical care [9]. The SOSAS survey and method have been described in detail previously [7–10],

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and specific to Nepal, a pilot study preceded the full country randomized clustered survey [10]. Briefly, 15 of the 75 districts in Nepal were randomly selected on a weighted basis (proportional to the population size). After stratification for urban and rural settings, three clusters—two rural and one urban—were randomly chosen per district, and 30 households per cluster were then selected. A similar method was used in the 2011 Demographic Health Survey of Nepal [11], with every fifth household surveyed starting from a central location.

A total of 100 Nepalese physicians and medical students were trained to be enumerators. All enumerators were fluent in both English and Nepali. The survey responses were obtained in Nepali and recorded via paper surveys in English. The enumerators executed the survey in pairs, with at least one woman and one physician present in each enumerator pair. Only individuals who had an intellectual disability were excluded. If a person was selected but not available for the interview, an appointment was made for a later time.

Institutional review board approval was obtained from the Nepal Health Research Council in Kathmandu, Nepal, and from Nationwide Children's Hospital in Columbus, OH, USA. Verbal consent was obtained from all participants.

The SOSAS tool consists of two parts. The first portion of the survey gathers data on household demographics, the travel time and distance to healthcare facilities, and the total number of deaths within a household during the previous 12 months. For the second portion of the survey, two household members were selected at random. The selected individuals verbally elicit symptoms or experiences over a spectrum of surgical etiologies.

If the survey respondent was female, further questions regarding women's health were asked, including questions about pregnancy history (number of live children, spontaneous abortions, current pregnancies, age at the time of birth of the first child), pregnancy-related complications (bleeding), menstruation (pain, irregular bleeding, hygiene practices, need for health care), contraception (use, type), cervical cancer screening (having been screened, smoking history), uterine prolapse (feeling of something in the vagina, reducibility of the mass, surgical consultation, receipt of surgical care, urinary incontinence), and access to maternal care (cesarean delivery, instrumental delivery, health facility delivery). Data from the present survey regarding uterine prolapse and urinary incontinence [12], and about cervical cancer screening [13] are described elsewhere.

Only women of reproductive age (12–50 years) were included in the present analysis. Descriptive statistical analyses were performed using Stata version 13.0 (StataCorp, College Station, TX, USA). Continuous variables were compared using the t test or the Kruskal–Wallis test, as appropriate. Categorical variables were compared using the Pearson χ^2 test. $P < 0.05$ was considered statistically significant. The odds of delivering exclusively in a health facility, having a cesarean delivery, and using only sanitary pads during menstruation were modeled using logistic regression controlling for age, location (urban/rural), education (none/any), and access to a primary healthcare center (motorized/non-motorized), clustered by household. The odds of using contraception were modeled as a logistic regression controlling for above variables and parity.

3. Results

From 1397 households approached for participation, the final sample included a total of 1350 households (response rate 96.6%). Overall, 2695 individuals were interviewed. The heads of each household reported the number of deaths during the 12 months before the survey. A total of 160 deaths were recalled, 70 (43.8%) of which were of women. Among the women who died, 10 (14.3%) were of reproductive age (12–50 years) and 2 (2.9%) were known to have been pregnant at the time of death.

Of the 2695 interviewees, 1261 (46.8%) were female. Of the female interviewees, 876 (69.5%) were of reproductive age. Most of the

women lived in a rural area, were married, were not employed outside the home, and were literate (Table 1).

Overall, 784 (89.5%) women in the reproductive age group said they were healthy overall. The 92 women who were not currently healthy reported a median length of illness of 3.5 months (interquartile range [IQR] 2–8) and a median number of three visits (IQR 1.5–4.5) to healthcare facilities in the past year.

Motorized transport was required to get to the nearest primary healthcare center by 175 (20.0%) women. The median travel time to the primary center was 10 minutes (IQR 5–20). A total of 647 (73.9%) and 782 (89.3%) women needed motorized transport to reach secondary and tertiary health centers, respectively, with the median times of transport being 45 minutes (IQR 15–120) and 120 minutes (IQR 30–240), respectively.

Overall, 604 (68.9%) women had been pregnant a total of 1530 times. The median number of pregnancies (gravidity) was 2 (IQR 2–3) among women who had been pregnant at least once. A total of 583 (66.6%) women had given birth a total of 1408 times. The median number of births (parity) was 2 (IQR 2–3) among women who had given birth at least once. The median age at first childbirth was 20 years (IQR 18–22); childbirth was reported at ages as young as 12 years and as old as 38 years. The age at first childbirth was higher in urban areas (median 20 years [IQR 18–23]) than in rural areas (median 20 years [IQR 17–22]; $P = 0.006$). Similarly, the median age at first childbirth was significantly higher among women who had received any education (20 years [IQR 18–23]) than among those with no education (19 years [IQR 17–21]; $P < 0.001$). A total of 31 (3.5%) women reported being pregnant at the time of the survey; the median age of this group was 23 years (IQR 19–25). Additionally, 104 (11.9%) women reported breastfeeding at the time of the survey. The median age of those breastfeeding was 24 years (IQR 22–28).

Overall, 576 (65.8%) women in the reproductive age group had given birth. Additionally, 363 (41.4%) women had delivered at home a total of 914 times, whereas 313 (35.7%) women delivered in a healthcare facility a total of 475 times. The median number of times a woman had given birth at home was 1 (IQR 0–3), with 261 (45.3%) of the 576 women having given birth exclusively at home. By comparison, the median number of times a woman had given birth at a healthcare facility was 1 (IQR 0–1), and 211 (36.6%) women had exclusively given birth at a healthcare facility. On multivariable analysis, every year increase in age and non-motorized transport to the primary health facility were associated with decreased odds of delivering in a healthcare facility,

Table 1
Demographic characteristics (n = 876).

Characteristics	Value [a]
Age, y	30.0 ± 10.5
Location	
Urban	299 (34.1)
Rural	577 (65.9)
Ever married	656 (74.9)
Education [b]	
None	262 (29.9)
Primary	175 (20.0)
Secondary	292 (33.4)
Tertiary and above	146 (16.7)
Literacy [b]	
Literate	641 (73.3)
Not literate	234 (26.7)
Occupation [b]	
Unemployed	210 (24.0)
Homemaker	427 (48.8)
Domestic help	16 (1.8)
Farmer	58 (6.6)
Self-employed	118 (13.5)
Government employee	23 (2.6)
Non-government employee	23 (2.6)

[a] Values are given as mean ± SD or number (percentage).
[b] n = 875.