Prevalence of Postpartum Family Planning Service Coverage in Selected Referral Facilities of Nepal

Kusum Thapa,1 Rolina Dhital,1 Sameena Rajbhandari,1 Shikha Thapa,1 Sabina Pokhrel,1 Sangeeta Mishra,2 Shanti Subedi,3 Dela Singh,4 Shreedhar Acharya,5 Sunil Mani Pokhrel,6 Kalpana Thapa,2 Aiti Poudel,4 Sapana Vaidya,1 Emily Anne Tunnacliffe,9 Anita Makins,9 Sabaratnam Arulkumaran9

1Nepal Society of Obstetricians and Gynaecologist, Paropakar Maternity and Women's Hospital, Thapathali, Kathmandu, Nepal, 2Koshi Zonal Hospital, Biratnagar, Morang, Nepal, 3Nobel Medical College Teaching Hospital, Biratnagar, Morang, Nepal, 4Western Regional Hospital Pokhara, Nepal, 5Lumbini Zonal Hospital, Butwal, Nepal, 6Bharatpur Hospital, Bharatpur, Nepal, 7Bheri Zonal Hospital, Nepalgunj, Nepal, 8Bhakatpur Hospital, Bhaktapur, Nepal, 9International Federation of Obstetrics and Gynecology, London, United Kingdom.

ABSTRACT

Introduction: Nepal Society of Obstetricians and Gynecologists jointly with the Nepalese government and with the support from the International Federation of Obstetrics and Gynecology has implemented an initiative to institutionalize postpartum family planning services in selected major referral facilities of Nepal to address the gap of low uptake of postpartum family planning in Nepal. The aim of the study is to find the prevalence of the service coverage of postpartum contraception in the selected facilities.

Methods: A descriptive cross-sectional study was conducted in seven major referral facilities across Nepal. Data were collected from the hospital records of all women who delivered in these facilities between October 2018 and March 2019. Ethical approval for this study was obtained from Nepal Health Research Council. Data analysis was done with SPSS version 23.

Results: Among the 29,072 deliveries from all the facilities, postpartum family planning counseling coverage was 27,301 (93.9%). The prevalence of uptake of Postpartum Intrauterine Device is 1581 (5.4%) and female sterilization is 1830 (6.3%). In total 11387 mothers (52.2%) had the intention to choose a postpartum family planning method. However, 36% of mothers neither used nor had the intention to choose a postpartum family planning method.

Conclusions: The coverage of Postpartum Intrauterine Device counseling service coverage in Nepal is higher in 2018 as compared to 2016-2017 and in other countries implementing Postpartum Intrauterine Device initiatives. However, the prevalence of service coverage of immediate Postpartum Family Planning methods, mainly Postpartum Intrauterine Device in 2018 is lower in Nepal as compared to 2016-2017, and other countries implementing Postpartum Intrauterine Device initiative. More efforts are needed to encourage mothers delivering in the facilities to use the postpartum family planning method.

Keywords: family planning services; female sterilization; intrauterine devices; postpartum period.

INTRODUCTION

Nepal Society of Obstetricians and Gynecologists (NESOG) jointly with the Nepalese government and with the support from International Federation of Obstetrics and Gynecology (FIGO) had implemented the initiative of institutionalizing immediate postpartum family planning (PPFP) services in selected major referral facilities of Nepal between 2015 and 2019.1-3 The initiative had focused on PPFP services that could be incorporated as
a routine part of maternity care in the selected hospitals. The outcome of institutionalization was to improve the coverage of PPFP counseling and uptake of immediate PPFP methods.1-3

The increasing institutional deliveries in Nepal provides a one-stop approach to provide maternity and PPFP service at the same time.4 However, the data on postpartum family planning service coverage from the health facilities in Nepal remains limited.

This study aims to assess the service coverage related to postpartum contraception in selected referral health facilities in Nepal that were implementing PPFP programs.

METHODS

We conducted this descriptive cross-sectional study in seven referral facilities implementing the PPFP initiative across Nepal. The data was collected from Koshi Zonal Hospital (KZH), Lumbini Zonal Hospital (LZH), Western Regional Hospital (WRH), Bheri Zonal Hospital (BZH), Bharatpur Hospital (BH), Bhaktapur Hospital (BKTH), and Nobel Medical College Teaching Hospital (NMCTH) for a period of 6 months between October 2018 and March 2019. We obtained ethical approval for this study from the Nepal Health Research Council. Permission to conduct the study was also obtained from all the seven health facilities. We collected the anonymized data from all the facility records.

The maternity registers had details of deliveries as well on the uptake of immediate PPFP methods which included female sterilization and Postpartum Intrauterine Device (PPIUD). Additionally, as part of the study, a separate register was used by the implementing sites to assess the coverage of counseling on PPFP in each facility. All the registered delivery in each of the 7 hospitals were included in the study. Data with insufficient variables, improperly registered data, and unreadable data were excluded from the study.

As a descriptive study using hospital records, the aim of this study was to assess the overall service coverage. As the data of all the deliveries recorded within the study period is included in this study, we did not perform inferential statistical analysis and performed descriptive analysis only for interpretation.5

Nevertheless, the minimum required sample size was calculated to be 28,782, using the formula for a finite population6 based on the annual delivery across all the 7 facilities as follows.

\[
 n = N \frac{X}{X + N - 1}
\]

where,

\[
 X = \frac{Z_{\alpha/2}^2 \cdot p \cdot (1-p)}{MOE^2},
\]

and \( Z_{\alpha/2} \) is the critical value of the Normal distribution at \( \alpha/2 \) for a confidence level of 95%, \( \alpha \) is 0.05 and the critical value is 1.96, MOE is the margin of error at 0.40%, \( p \) is the sample proportion at 36% based on the prevalence from previous study4 and N is the population size of 60,000 based on the annual deliveries across the 7 facilities.

Considering incomplete data, we increased the sample size to 29,072 records of all deliveries between October 2018 and March 2019. The data is presented in numbers and percentages. Data analysis was done using SPSS version 23.

RESULTS

The counseling coverage was 27,301 (93.9%) of all the 29,072 deliveries across all seven sites. NMCTH and BKTH which were the newest implementing facilities had 4,084 (99.6%) and 625 (100%) PPFP counseling coverage (Table 1).

| Hospitals     | Deliveries during data collection | Counseling coverage n (%) |
|---------------|-----------------------------------|---------------------------|
| KZH           | 4879                              | 4410 (90.4)               |
| BZH           | 2643                              | 2601 (98.4)               |
| LZH           | 4945                              | 4531 (91.6)               |
| WRH           | 4510                              | 4014 (89.0)               |
| BH            | 7371                              | 7036 (95.5)               |
| BKTH          | 625                               | 625 (100)                 |
| NMCTH         | 4099                              | 4084 (99.6)               |
| Total counseling coverage | 29072                            | 27301 (93.9)             |

Among all the mothers who gave birth in the selected facilities, 3411 (11.7%) used a PPFP method immediately after childbirth. In total, 1581 mothers chose to use PPIUD from selected seven facilities accounting for 5.4% of all the deliveries. Among the mother who gave birth in each facility, the proportion of uptake of PPIUD was the highest in BKTH 625 (26%) and the lowest in
LZH 4945 (2%) deliveries. In total, 1830 mothers from the seven facilities chose to have female sterilization immediately after childbirth accounting for 6.3% of all the deliveries. The proportion of mothers undergoing female sterilization was observed to be the highest in the two facilities in Province One with 706 (17%) in NMCTH and 679 (14%) in KZH. The overall proportion of women using an immediate PPFP method including both PPIUD and female sterilization was highest in BKTH and lowest in BH (Table 2).

The other PPFP methods include the options that are provided to women after 6 weeks of childbirth in Nepal. The combined oral contraceptive pills containing estrogen are provided only 6 months after childbirth in Nepal. The details of the methods and the timing of using these different PPFP methods are provided to the mothers during PPFP counseling in the selected facilities. Among mothers who preferred other PPFP methods, the highest proportion was observed for injectables accounting for 4102 (16.4%) of the total deliveries in the seven facilities, followed by 669 (14.4%) women prefer their husbands to have male sterilization. In total, 1887 (7.1%) of mothers giving birth in the seven facilities preferred implants followed 1779 (4.9%) women preferring male condoms, and 1073 women preferring interval IUD (4.1%). The lowest preferences were for oral contraceptive pills by only 897 (2.6%) women and natural methods such as withdrawal methods by 980 (2.4%) women (Table 3).
DISCUSSION

This study shows that the institutionalization process of PPFP services has resulted in high coverage of more than 90% PPFP counseling services of the deliveries across all the implementing facilities. However, the uptake of immediate PPFP methods such as PPIUD and female sterilization remained low at 12% of the total deliveries. Over 50% of the mothers intended to use a PPFP method at some point. However, 36% of the mothers neither took up any PPFP method nor had the intention to use any PPFP method later.

In this study, though the counseling coverage seemed consistent across all the facilities, there was a variation in the uptake of immediate PPFP methods. Bhaktapur hospital which had started the initiative more recently had the highest service coverage for PPIUD at 24% of all the deliveries. Studies suggest that reduced ratios of patients to health providers improve the quality of care and patient satisfaction.7-9

This study showed that over 50% of women giving childbirth across seven facilities intended to use a PPFP method at some point. Injectable was the most commonly intended method which is consistent with the national data in Nepal.10 The second most common intended method among the postpartum mothers was male sterilization of their partners. PPFP programs focus primarily on the methods used by women only and the methods used by their male partners are not given sufficient attention. The implant was the third commonly preferred PPFP method among mothers. The World Health Organization guidelines suggest that implant can be used by the mothers immediately after childbirth.11 Although it has been discussed, the implant has not yet been introduced as an immediate PPFP method in Nepal.

A majority of the mothers have the intention to choose a PPFP method, however, the services are not readily available in the immediate postpartum period. Methods such as implants, female sterilization after vaginal delivery and male sterilization are approaches that could be provided in the immediate postpartum period to mothers and their male partners. However, these methods are not considered as options for immediate PPFP, limiting method choice and subsequent uptake of contraception. In order to meet the 2020 FP goals,12 the supply must meet the demand, and so we must strive to make these methods an integral part of immediate PPFP services.

This study has certain limitations. First, the length of the study is too short due to the time limitation of the initiative. A longer study would have provided an opportunity to carefully follow up the trend in the long run. Second, this study only provides descriptive data on the selected facilities and does not provide inferential statistics. Detailed characteristics of the mothers from the facilities could have enriched the results and interpretation of this study and plan for the future programs at larger scales. However, the qualitative study from previous phases had already reflected the mothers’ perception regarding PPFP from other facilities.3
CONCLUSIONS

This study reflects the findings of a PPFP program in Nepal. The study showed that improving PPFP counseling coverage alone may not necessarily improve the uptake of PPFP methods. Moreover, the intention of mothers to use different PPFP methods highlights the need to find a balance between demand and supply which addresses the unmet need of PPFP. The findings also highlight that PPFP programs in Nepal must assess factors influencing service uptake and be flexible in its approaches in order that the program can be continuously adapted according to lessons learned.

ACKNOWLEDGEMENTS

The authors would like to thank the entire FIGO team for their valuable guidance and support and also be grateful to the NESOG executive team for all the hard work and dedication to make this initiative grow. The authors would like to acknowledge Ms. Ankita Singh Rathore, Project Manager, Mr. Dinesh Luitel, Finance officer and Mr. Balkrishna Marasini, Project assistant of this initiative for their contribution in the management and coordination of this study. We are also thankful to the data collection officers for assisting in data collection. We are obliged to all the participants of this study for their valuable time.

Conflict of Interest: None.

REFERENCES

1. Makins A, Arulkumaran S. Institutionlization of postpartum intrauterine devices. Int J Gynaecol Obstet. 2018 Sep;143 Suppl(1):1-3. [PubMed | Full Text | DOI]
2. Thapa K, Dhitl R, Karki YB, Rajbandhari S, Amatya S, Pande S, et al. Institutionalizing postpartum family planning and postpartum intrauterine device services in Nepal: Role of training and mentorship. Int J Gynecol Obstet. 2018;143Suppl(1):43-8. [PubMed | Full Text | DOI]
3. Thapa K, Dhitl R, Rajbandhari S, Acharya S, Mishra S, Pokhrel SM, et al. Factors affecting the behavior outcomes on post-partum intrauterine contraceptive device uptake and continuation in Nepal: a qualitative study. BMC Pregnancy Childbirth. 2019 May 2;19(1):148. [PubMed | Full Text | DOI]
4. Makins A, Taghinejadi N, Sethi M, Machiyama K, Thapa K, Perera G, et al. Factors influencing the likelihood of acceptance of postpartum intrauterine devices across four countries: India, Nepal, Sri Lanka, and Tanzania. Int J Gynaecol Obstet. 2018 Sep;143 Suppl 1:13-9. [PubMed | Full Text | DOI]
5. Gutterman TC. Basics of statistics for primary care research. Fam Med Community Health. 2019 May; 7(2): 000067. [PubMed | Full Text | DOI]
6. Daniel WW. Biostastics: A foundation for analysis in the health sciences, 7th Edition. New York: John Wiley & Sons. 1999.
7. Aiken LH, Sermeus W, Van den Heede K, Sloane DM, Busse R, McKee M et al. Patient safety, satisfaction, and quality of hospital care: cross-sectional surveys of nurses and patients in 12 countries in Europe and the United States. BMJ. 2012 Mar 20;344.e1717. [PubMed | Full Text | DOI]
8. Aiken LH, Clarke SP, Sloane DM, Sochalski J, Silber JH. Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction. JAMA. 2002 Oct 23-30;288(16):1987-93. [PubMed | Full Text | DOI]
9. Kane RL, Shamliyan TA, Mueller C, Duval S, Wilt TJ. The association of registered nurse staffing levels and patient outcomes: systematic review and meta-analysis. Med Care. 2007 Dec;45(12):1195-204. [PubMed | Full Text | DOI]
10. Ministry of Health. Nepal Demographic and Health Survey. Final report 2017 Nov. Kathmandu, Nepal: Ministry of Health: 2017 Nov. 636p. Report No.: FR336. Available from: https://www.dhsprogram.com/pubs/pdf/fr336/fr336.pdf. [FullText]
11. World Health Organization. Programming Strategies for Postpartum Family Planning [Internet]. Geneva: World Health Organization; 2013 [cited 2019 Nov 27]. Available from: https://www.who.int / reproductivehealth / publications/family_planning/ppfp_strategies/en/. [FullText]
12. Family Planning 2020. Nepal commitment maker since 2015 [Internet]. Nepal: Family Planning 2020; 2015 [updated 2017 July 7; cited 2019 Nov 27]. Available from: https://www.familyplanning2020.org/nepal [FullText]