



# THE POSTPARTUM IUD (PPIUD) PROJECT

## DEPARTMENT OF GLOBAL HEALTH AND POPULATION

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The new year ushers in the final phase of the PPIUD project. The project team has been working hard with exceptional dedication and effective collaboration to achieve project aims. This work has yielded several outstanding publications and more are in progress.

In this Newsletter, we are pleased to share the progress of the project, together with highlights of activities and findings from recently published papers.

We gratefully acknowledge the financial support of the project donor, collaboration with FIGO, and the hard work of the project team.

The PPIUD team wishes you best for 2020 and beyond.

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PPIUD Study Principal Investigator, Iqbal Shah, with members from the PPIUD Sri Lanka study team, Sir Sabaratnam Arulkumaran, Dr. Moazzam Ali, and SLCOG staff at the National Dissemination Meeting in Colombo, Sri Lanka, September 28, 2019.

# NOTES FROM THE FIELD

## NEPAL

With data collection complete, the PPIUD team in Nepal is focusing its attention on data analysis, manuscripts writing and dissemination of study results.

On May 24, 2019, in collaboration with the Harvard T.H. Chan School of Public Health, the Center for Research on Environment Health and Population Activities (CREHPA) organized a national event to disseminate PPIUD project results in Nepal at the Hotel Himalaya in Lalitpur, Nepal. Over 60 people attended the event representing higher level officials from Ministry of Health and Population (MOHP), Ministry of Women, Children and Senior Citizens, bilateral and



multilateral organizations, international and national non-governmental organizations working in the family planning and health sector including USAID, UNFPA, DFID, Population Services International, Marie Stopes International, Abt Associate, Family Health International, Fairemed, CARE International, Ipas, Family Planning Association of Nepal, Adventist Development and Relief Agency, Nepal Health Sector Support Program/Option, Universities, Journalists, among others. The event received media coverage in national television such as Nepal Television, Sagaramatha Television, and Health Television. Prof Dr Kiran Regmi, past Secretary of Ministry of Health and Population, chaired the event. Ms Kabita Aryal, Chief, Family Planning and Reproductive Health Section at the Family Welfare Division of MOHP, and Prof. Heera Tuladhar, President of the Nepal Society of Obstetricians and Gynecologists, made key remarks.

Check out the following links for news coverage of the event:

<https://www.youtube.com/watch?v=b4hUcFRcq9c&feature=share>

<https://www.dainiknepal.com/2019/05/393845.html>

<http://www.newsofnepal.com/2019/05/28/215292/>



In April and May of 2019, CREHPA released three Reproductive Health Services Policy Briefs that succinctly reported PPIUD study results. The first brief focused on providers' perspectives on delivering postpartum family planning services in Nepal while the second focused on women's perceptions on quality of family planning counseling during antenatal care. The final brief looked at the overall impact of the PPIUD intervention on counselling and

uptake of PPIUD in Nepal. One can read the briefs on the PPIUD website at the following address: <https://projects.iq.harvard.edu/ppiud/research-briefs-2>.

In early July, Mahesh Puri, Saugat Joshi, and Dev Maharjan met with the Harvard PPIUD study team to work on data analysis and manuscripts for dissemination of results through publication in journals. The PPIUD Nepal team has two manuscripts under review and is diligently working on two others.



## SRI LANKA



The PPIUD study team in Sri Lanka took the opportunity to show the quality and structures of their quantitative and qualitative data in a National Dissemination Meeting held on September 28, 2019 for researchers from different academic institutions, government officials and other stakeholders. Thirty participants attended the meeting. Presenters included Sir Sabaratnam Arulkumaran, FIGO past president; Dr. Sanjeewa Godakandage, Director of Maternal and Child

Health, FHB/Consultant Community Physician; Dr. Iqbal Shah, Principal Investigator, PPIUD Project Harvard; Professor Hemantha Senanayake, Principal Investigator, PPIUD Project Sri Lanka; Ranjith de Silva, Research Scientist; and Arnjali Samarasekera, Research Associate. The audience included the Director General of Census & Statistics, Members of PPIUD Data Safety Monitoring Board, Researchers in Demography and Reproductive health, SLCOG Council members, Dr. Moazzam Ali from the World Health Organization, and PPIUD Project Staff. Professor Anthula Kaluarachchi, President of Sri Lanka College of Obstetricians and Gynaecologists (SLCOG) chaired and conducted the meeting.

In August 2019, the study team produced two Reproductive Health Services Research Briefs that succinctly report PPIUD study results. The first brief focuses on the impact of PPIUD intervention on contraceptive counseling and choice in Sri Lanka, while the second looks at ethnolinguistic concordance and the receipt of PPIUD counseling services in Sri Lanka. These briefs are also on the PPIUD website at: <https://projects.iq.harvard.edu/ppiud/research-briefs-2>.



Additionally, since publication of the last newsletter in December 2018, the Sri Lanka team has seen two manuscripts published, “The effect of a postpartum IUD intervention on counseling and choice: Evidence from a cluster-randomized stepped-wedge trial in Sri Lanka,” and “Ethnolinguistic Concordance and the Receipt of Postpartum IUD Counseling Services in Sri Lanka.”

Finally, in late June 2019, Arnjali Samarasekera and Ranjith de Silva attended a data analysis and manuscript development meeting with the Harvard PPIUD team at the Harvard T.H. Chan School of Public Health in Boston. During this visit, the team developed two manuscripts, which are currently in progress for submission to journals.



## TANZANIA

Work on data analysis and manuscripts is ongoing. Members from the PPIUD Tanzania study team co-authored one manuscript entitled, “Women’s perspectives on postpartum intrauterine device in Tanzania,” that was published in the journal *Studies in Family Planning*, and three additional manuscripts that are currently under review.

The team held regional dissemination meetings at satellite clinics to present the overall PPIUD study findings.



# STUDY PROGRESS

The PPIUD study team recently published overall results for Nepal and Sri Lanka (see recent publications on page 8). The graphs below show trends in PPIUD counseling rates and PPIUD uptake in Nepal (Figures 1 and 2) and Sri Lanka (Figures 3 and 4) from baseline (September 2015) to project end (March 2017).

Figure 1: Trends in PPIUD counseling rates at Group 1 and Group 2 hospitals between September 2015 and February 2017 in Nepal.

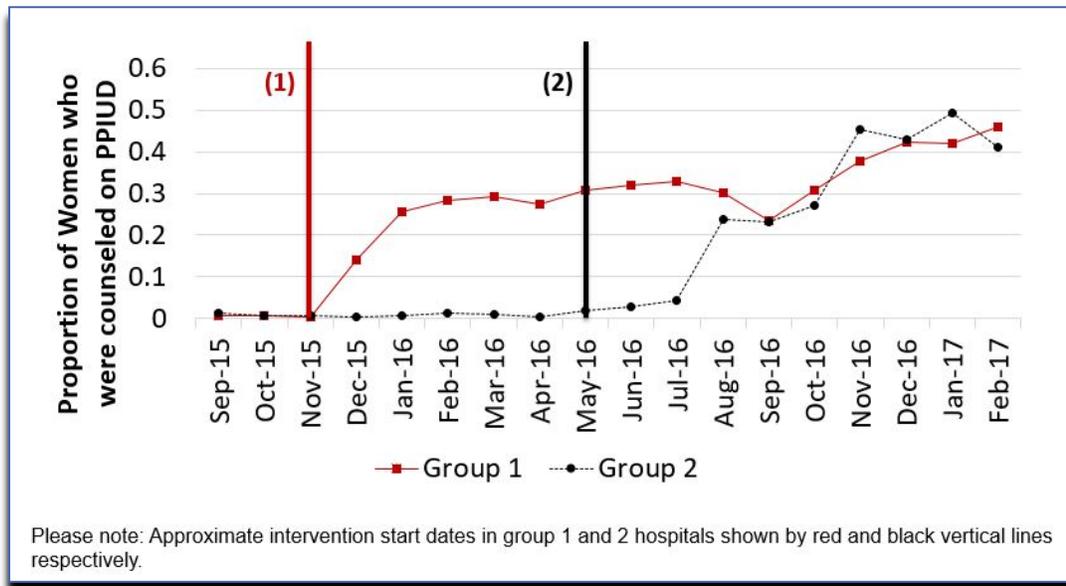


Figure 2: Trends in PPIUD uptake at Group 1 and Group 2 hospitals between September 2015 and February 2017 in Nepal.

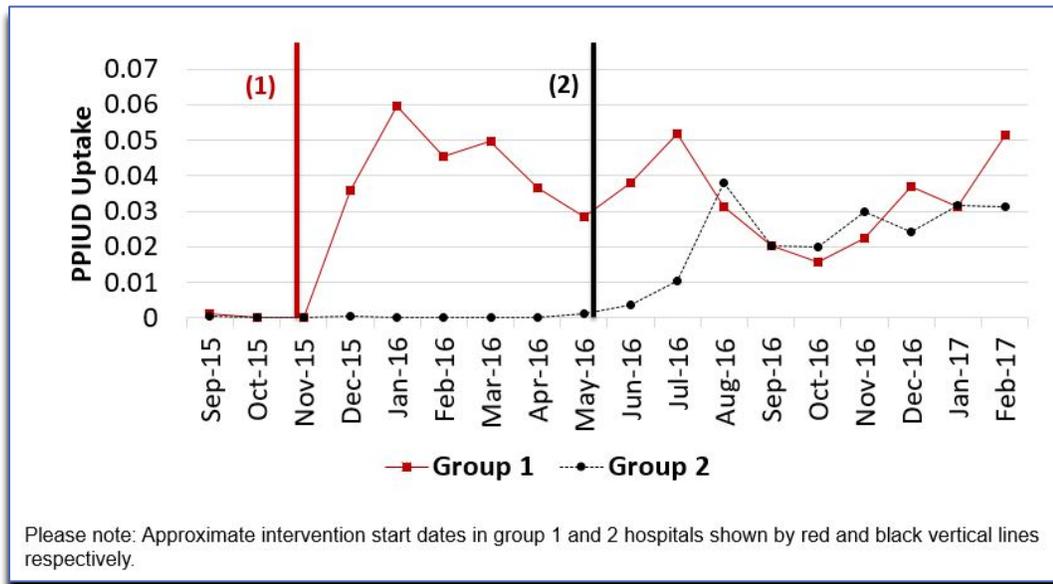


Figure 3: Trends in PPIUD counseling rates at Group 1 and Group 2 hospitals between September 2015 and February 2017 in Sri Lanka.

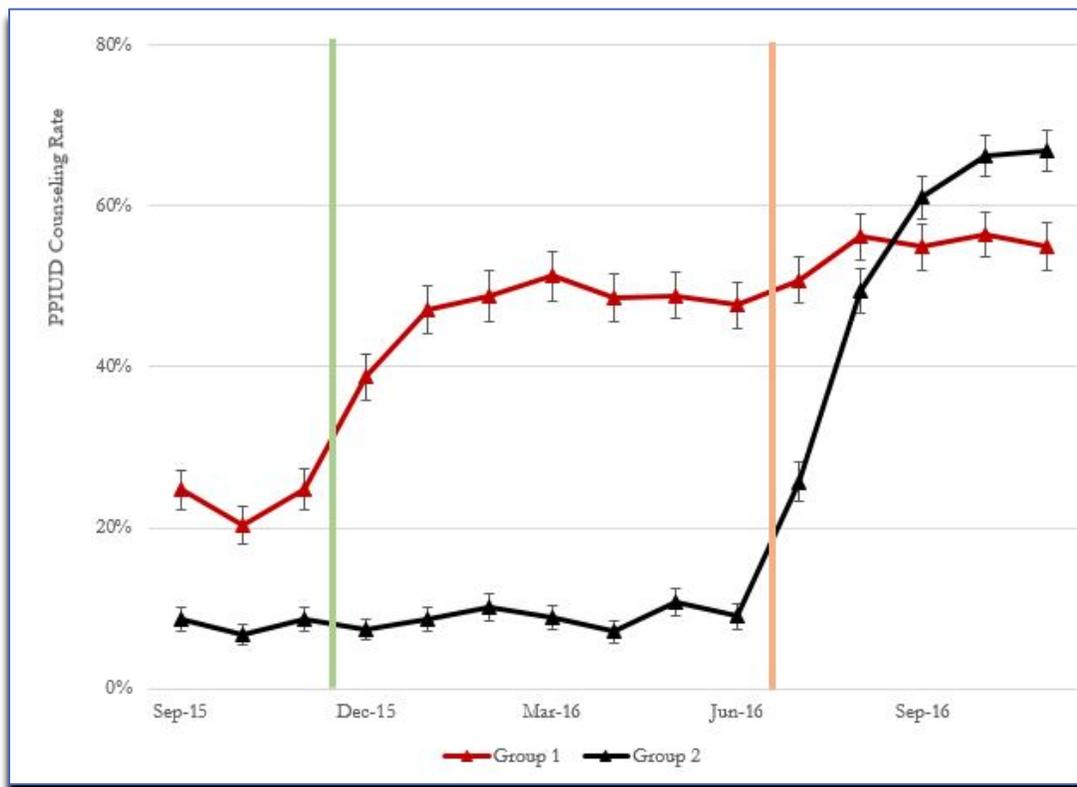
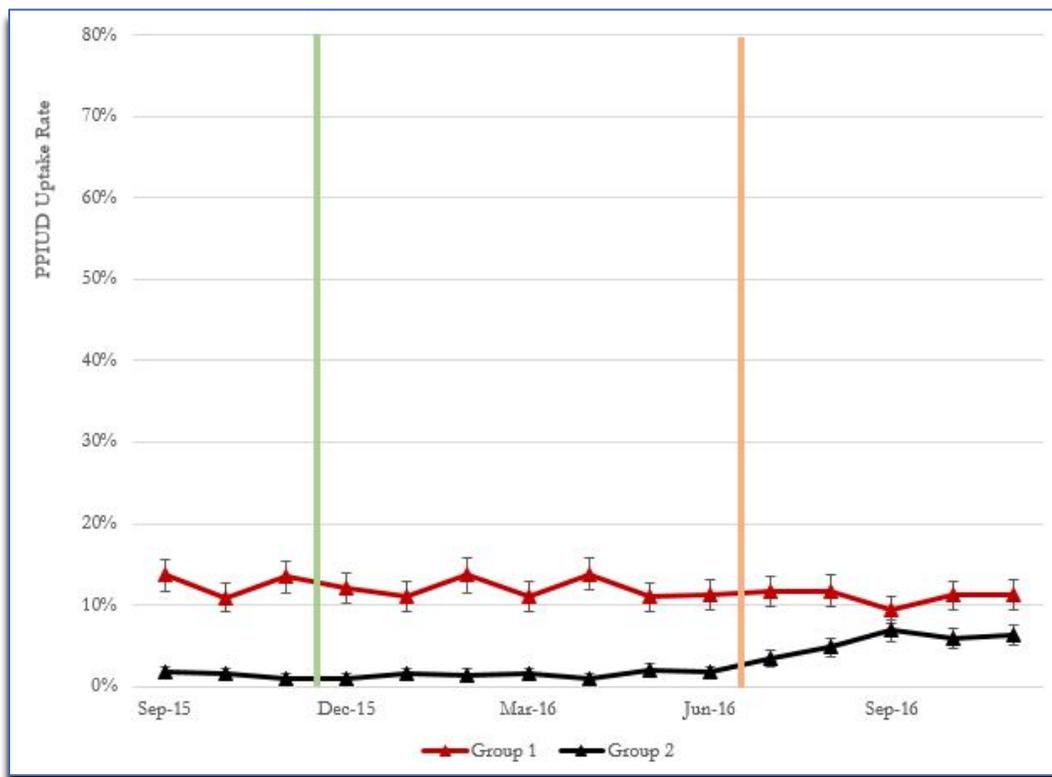


Figure 4: Trends in PPIUD uptake at Group 1 and Group 2 hospitals between September 2015 and February 2017 in Sri Lanka.



# NEWS AND EVENTS

## **IQBAL SHAH PRESENTS AT SCIENTIFIC CONFERENCE ON FAMILY PLANNING AND COMPREHENSIVE ABORTION CARE IN ADDIS ABABA, ETHIOPIA**

Iqbal Shah was invited to share PPIUD study results in a presentation entitled, “Institutionalizing Immediate Postpartum IUD Services and Its Impact in Improving Access,” at the inaugural scientific conference, *Family Planning and Comprehensive Abortion Care: Strengthening Preservice Training*.



The Center for International Reproductive Health Training at the University of Michigan hosted the conference on April 4 & 5, 2019 in Addis Ababa, Ethiopia. Approximately 250 participants from 33 countries attended the conference, including obstetrician-gynecologists, nurses, midwives, faculty and trainees, and policy makers.

## **PPIUD PRESENTATIONS AT PAA 2019 IN AUSTIN, TEXAS**

Sarah Huber-Krum, Mahesh Karra, and Leigh Senderowicz travelled to Austin, Texas to present PPIUD project results at the Annual Meeting of the Population Association of America in April.

Sarah presented two posters titled, "The Effect of Antenatal Contraceptive Counseling and the IUD Insertion Services on Modern Contraceptive Use and Method Mix in Nepal: Results from a Stepped-Wedge Randomized Controlled Trial," and "Women's Perspectives on, and Experiences of Using Postpartum Intrauterine Device in Tanzania." Mahesh presented a paper entitled, "Ethnolinguistic Concordance and the Provision of Postpartum IUD (PPIUD) Counseling Services in Sri Lanka." Leigh Senderowicz presented a poster entitled, "Women's Experiences of Quality of Counseling in Tanzanian PPIUD Intervention."

## **PPIUD PRESENTATIONS AT THE 8<sup>TH</sup> AFRICAN POPULATION CONFERENCE**



Leigh Senderowicz reports that both of her presentations delivered at the 8<sup>th</sup> African Population Conference held in Kampala, Uganda, November 18-22, 2019, were well received. On the second day of the conference, Leigh presented, “Women’s Perspectives on Counseling Quality in a Tanzanian Postpartum Contraception Intervention,” as part of a panel entitled, “Rights-Based Family Planning in Resource Poor Settings.” She presented her second paper, “The Effects of a PPIUD Intervention on Family Planning Counseling Quality: Results from a Stepped-Wedge Randomized Controlled Trial,” on the last day of the conference as part a panel entitled, “Emerging Evidence for Improved Family Planning Outcomes.”

## CONGRATULATIONS DR. LEIGH SENDEROWICZ



In May 2019, Leigh Senderowicz completed her dissertation, “Conceptions and Measurement of Contraceptive Autonomy,” for her Doctor of Science degree. Leigh's dissertation used a sequential mixed-methods study design that included a formative qualitative phase as well as a large-scale quantitative survey in Burkina Faso.

In July, Leigh started as a postdoctoral fellow in the Health Disparities Research Scholars program within the Department of Obstetrics and Gynecology at the University of Wisconsin School of Medicine and Public Health. While there, Leigh will explore patient-centered measures for reproductive health and develop new approaches to measurement and evaluation that promote reproductive autonomy. We wish her luck in her academic career and future endeavors.

## GOOD LUCK SARAH GLEASON

In May 2019, Sarah Gleason left the PPIUD project team to pursue a graduate degree in nursing at Columbia University in New York City, New York.

As the Project Assistant for PPIUD, Sarah was a huge asset to the team in keeping administrative and data management tasks on track and organized. As someone who is eager to learn and cares deeply about the needs and well-being of others, we know Sarah will do very well as a future nurse practitioner.



## CONGRATULATIONS DR. JULIA ROHR



Dr. Julia Rohr has been promoted to Project Director for the Health and Aging in Africa: A Longitudinal Study of an INDEPTH Community in South Africa (HAALSI) at the Harvard Center for Population and Development Studies. In her new role, Julia oversees all aspects of the study, including data management and analysis, research dissemination, and training team members on data collection.

We wish her all the luck in her new role, and look forward to hearing about the exciting and groundbreaking research that comes out of the HAALSI project.

## RECENT PUBLICATIONS

To access the full version of a paper, click on the highlighted title within the publication summary.

### **INCORPORATING PPIUD SERVICES INTO POSTPARTUM CARE IS FEASIBLE AND POTENTIALLY EFFECTIVE IN SRI LANKA AND NEPAL**

Two recent articles published with open access report on study results of the FIGO PPIUD intervention in Sri Lanka and Nepal. The first article, titled “[Integrating postpartum contraceptive counseling and IUD insertion services into maternity care in Nepal: results from a stepped-wedge randomized controlled trial](#)” appeared in *BMC Reproductive Health* on May 29, 2019 with lead author Elina Pradhan and co-authors David Canning, Iqbal H. Shah, Mahesh Puri, Erin Pearson, Kusum Thapa, Lata Bajracharya, Manju Maharjan, Dev C. Maharjan, Lata Bajracharya, Ganga Shakya, and Pushpa Chaudhary. The second article, “[The effect of postpartum IUD intervention on counseling and choice: Evidence from a cluster-randomized stepped-wedge trial in Sri Lanka](#),” appeared in *BMC Trials* on July 8, 2019, with lead author Mahesh Karra and co-authors Erin Pearson, Elina Pradhan, Ranjith de Silva, Arnjali Samarasekera, David Canning, Iqbal Shah, Deepal Weerasekera, and Hemantha Senanayake.

To evaluate the PPIUD intervention, investigators collected data from 39,084 women in Sri Lanka who delivered at one of the six study hospitals between September 2015 and January 2017 and 75,587 women in Nepal who delivered at one of the six study hospitals between September 2015 and March 2017. The primary outcome of interest was timing and place for when a woman received PPIUD counseling (e.g. during an antenatal clinic visit or after admission to the hospital for delivery). The second outcome of interest was whether a woman chose to have a PPIUD inserted.

In their analysis, investigators at both sites found similar results. First, researchers saw a definite increase in PPIUD counseling rates once the PPIUD intervention began; however, receipt and quality of counseling varied across hospitals and within hospitals and between different groups of women. The variation of rates of counseling women indicates some provider bias and targeting of counseling for different groups, reluctance of women from certain groups to receive counseling, and other issues. In their discussion, the study authors of the Nepal paper state that PPIUD uptake was much greater in women who were counseled, but only a quarter of women were counseled on family planning, and for those who were counseled, almost one-third were provided information on only one type of contraceptive method. Pradhan et al. also note that quality of counselling often plays a factor in whether or not a woman will opt for PPIUD and continue with that method. If women receive counseling on both the benefits *and* disadvantages of PPIUD, they are more likely to choose it than if they were told only the benefits *or* disadvantages.

The study team in Sri Lanka found similar results in terms of quality of counseling. Karra et al state that women who received counseling on the benefits and disadvantages of PPIUD, and were given the opportunity to ask questions, were more likely to opt for PPIUD. In Sri Lanka, researchers also found that implementation of insertion services varied, especially within four hospitals that had never provided PPIUD before the start of intervention. Due to a number of operational issues, women who came to a hospital for delivery would receive counseling, but could not receive PPIUD insertion at the hospital.

Even with the constraints, the authors of both studies report that integrating PPIUD counseling and insertion into post-partum maternity care is feasible and potentially effective. The intervention could be improved in terms of counseling quality, and in Nepal, expanding the coverage of post-partum family planning during antenatal care. Overall, though, the intervention had a positive impact on receipt of PPIUD counseling and choice of PPIUD in both Nepal and Sri Lanka.



### **DISPARITY IN PPIUD COUNSELING MAY BE IN PART DUE TO ETHNIC DISCORDANCE BETWEEN WOMEN AND THEIR SERVICE PROVIDERS**

In looking at study results of PPIUD intervention in Sri Lanka, researchers found a disparity in rate of receipt and quality of counseling on PPIUD, particularly among ethnic minority populations (Tamil and other non-Sinhalese populations). To get a better understanding of why these disparities exist, researchers conducted a set of analyses that focused on how ethnicity and ethnic concordance, as well as language and linguistic concordance may affect receipt of PPIUD counseling. Mahesh Karra, Erin Pearson, David Canning, Iqbal Shah, Ranjith de Silva, and Arnjali Samarasekera present results of these analyses in a recently published paper entitled, “[Ethnolinguistic Concordance and the Receipt of Postpartum IUD Counseling Services in Sri Lanka.](#)” *International Perspectives on Sexual and Reproductive Health* published the paper online on June 26, 2019.

The study’s key outcome variable was whether a woman received PPIUD counseling before entrance to the hospital for delivery. In Sri Lanka, family planning counseling is a service that many women receive from a primary health midwife before entering the health system over the course of pregnancy. Thus, knowing whether a woman received PPIUD counseling within this service allowed researchers to explore disparities in receipt and quality of the PPIUD counseling. Authors then used multivariate logistic regression analyses to examine concordance of ethnicity and language between a woman and her primary health midwife, and if it affects receipt and quality of PPIUD counseling.

Study authors found that women from minority groups were less likely to receive PPIUD counseling than women from the linguistic (Sinhala-speaking) and ethnic (Sinhalese) majority groups; however,

regardless of linguistic concordance, women who were ethnically discordant with their midwife, specifically women of a non-Sinhalese minority, were even less likely to have received PPIUD counseling. This finding suggests that disparity in PPIUD counseling for women from minority groups is driven by an ethnic discordance between women and their primary health midwife, rather than linguistic discordance. Researchers suggest that this disparity may be due to unobservable biases against ethnic minorities, or caution by Sinhalese providers for fear of reprisal because of tensions around issues of alleged contraceptive coercion and forced sterilization of ethnic minorities. Another possible explanation of the disparity is that non-Sinhalese women are more reluctant to receive services from Sinhalese providers.



### **ACCESS TO ULTRASOUND TECHNOLOGY, DESIRE FOR SMALLER FAMILY SIZE, AND PERSISTENT SOCIAL PRESSURE FOR SONS CONTRIBUTE TO IMBALANCED SEX RATIO AT BIRTH IN NEPAL**

Similar to other countries, Nepal has experienced lower fertility rates due to a preference among Nepalese couples for smaller family sizes, yet a predilection for male offspring persists. Although illegal, studies indicate that the combined desire for a small family and sons may lead couples to use ultrasound technology for sex-selective abortions. Thus, using survey data from the FIGO PPIUD intervention in Nepal, along with data from the Nepal Demographic and Health Survey (NDHS), researchers from the PPIUD study team sought to quantify associations between ultrasound access and skewed sex ratios at birth (SRB). Elina Pradhan, Erin Pearson, Mahesh Puri, Manju Maharjan, Dev Chandra Maharjan, and Iqbal Shah report results of their research on ultrasound access and SRBs in a paper titled, “[Determinants of imbalanced sex ratio at birth in Nepal: evidence from secondary analysis of a large hospital-based study and nationally-representative survey data.](#)” *BMJ Open* published the paper online on January 30, 2019.

To carry out their study, Pradhan et al. looked at data from 75,428 women who delivered at six tertiary hospitals in Nepal over a 19-month period (September 2015 – March 2017). Their analysis indicates evidence of skewed sex ratios at birth with preference toward sons, with some of the study hospitals showing upwards of 121 male births per 100 female births. Further analysis shows that male birth correlates with higher parity births and higher education of mothers. The authors did not find that male babies are more likely to be delivered in hospitals than female babies are, thus Pradhan et al. conclude that sex-selective abortion is the primary reason for the skewed SRBs.

The paper by Pradhan et al. highlights the persistent desire for male offspring and gender discrimination in Nepal. The findings in this paper emphasize the urgent need for further research, policy change, and stronger adherence to laws that prevent the practice of sex-selective abortion. The authors argue that a comprehensive strategy that includes laws, policies, and advocacy campaigns to

improve the status of women and eliminate gender-based discrimination is needed to create a more balanced SRB.

## **SUPPORTIVE, COMPREHENSIVE, AND ONGOING COUNSELING FROM HEALTH CARE PROFESSIONALS IS CRITICAL FOR WOMEN'S UPTAKE AND CONTINUED USE OF PPIUD**

To elucidate the quantitative results of the PPIUD data from Tanzania, members from the PPIUD study team conducted in-depth interviews with pregnant and postpartum women. The qualitative data collected through these interviews gave investigators a better understanding of women's rationale for use or nonuse of PPIUD after delivery. Sarah Huber-Krum, Kristy Hackett, Leigh Senderowicz, Erin Pearson, Joel M. Francis, Hellen Siril, Nzovu Ulena, and Iqbal Shah present results of their qualitative analysis in a paper entitled, "[Women's Perspectives on Postpartum Intrauterine Devices in Tanzania.](#)" The journal *Studies in Family Planning* published the paper online with open access on November 21, 2019.

Many Tanzanian women do not use contraception in the postpartum period; thus, unmet need is high and short birth intervals are common. For women who desire to delay their next pregnancy, insertion of a postpartum copper intrauterine device (PPIUD) within 48 hours after giving birth is a safe, convenient, and cost-effective option for them to do so; however, PPIUD is underutilized. To understand the low rate of use, interviewers asked women about their attitudes toward PPIUD and their contraceptive decisions beyond the immediate postpartum period. Interviews were conducted with pregnant women after receiving facility-based contraceptive counseling during a routine antenatal visit and with women who had PPIUD inserted 20 months prior to the interview.

In the antenatal interviews, twelve pregnant women reported actual or intended use of PPIUD. These women stated many perceived benefits including minimal side effects, no impact on breastfeeding, and convenience. Further, these women trusted and felt supported by providers, and were able to ask questions about PPIUD during counseling. On the other side, eight of the pregnant women interviewed expressed that they did not desire placement of PPIUD. Although these women had received counseling from a provider, they still felt under-informed about PPIUD and many reported that they did not have the opportunity to have their questions about contraception answered during the counseling session. These women also expressed that they did not find the health care provider trustworthy.

Researchers interviewed a separate group of 27 postpartum women to understand facilitators of PPIUD continuation and reasons for PPIUD discontinuation. Ten of these women were using the device at the time of interview and most did not intend to stop until they desired another pregnancy. Many of these women had not experienced side effects related to PPIUD, and for those that had, they visited a health care provider who provided supportive counseling and helped them better manage those side effects.

Furthermore, many of these women had received detailed information, support, and answers to their questions about PPIUD during counseling, so they reported they knew what to expect. On the other hand, 17 women discontinued PPIUD due to expulsion or intentional discontinuation. Women largely attributed discontinuation to side effects or other health concerns. Many of these women expressed frustration due to receiving conflicting information about PPIUD, a lack of or misinformation about risks and side effects, and/or a general lack of follow-up and side effect management support from health care providers.

This study highlights important considerations for designing programs and strategies for increasing uptake of the PPIUD in Tanzania and similar settings. Emphasizing the benefits of PPIUD is important, but women should be counseled on PPIUD, and all available methods, in a transparent and supportive way. Women need opportunities to ask questions and be heard with regard to their fears of use. For women that choose PPIUD, they should receive frequent, comprehensive, and supportive follow-up and counseling, which includes information on managing side effects or method switching.

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### *Manuscripts Under Review*

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1. Hackett, K., Huber-Krum, S., Francis, J.M., Senderowicz, L, Pearson, E., Siril, H., Ulenga, N., Shah, I. (2019). *Evaluating the implementation of an intervention to improve postpartum contraception in Tanzania: A qualitative study of provider and client perspectives.*
2. Pearson, E., Senderowicz, L., Pradhan, E., Francis, J., Muganyizi, P., Shah, I., Canning, D., Karra, M., Ulenga, N., Baernighausen, T. (2019). *Effect of a postpartum family planning intervention on postpartum intrauterine device counseling and choice: Evidence from a cluster-randomized trial in Tanzania.*
3. Puri, M.C., Guo, M., Shah, I.H., Stone, L., Maharjan, D., & Canning, D. (2019). *Risk factors for postpartum intra-uterine device expulsion and discontinuation: a two-year follow-up of a randomized trial in Nepal.*
4. Puri, M.C., Joshi, S., Khadka, A., Pearson, E., Shah, I.H., & Dhungel, Y. (2019). *Exploring reasons for discontinuing use of immediate post-partum intrauterine device in Nepal: A qualitative study.*
5. Puri, M.C., Moroni, M., Pearson, E., Pradhan, E., Shah, I.H. (2019). *Investigating the quality of family planning counselling as part of routine antenatal care and its effect on postpartum contraceptive method choice among women in Nepal.*
6. Senderowicz, L., Pearson, E., Rohr, J., Francis, J., Siril, H., Puri, M., de Silva, R., Karra, M., Canning, D., Shah, I. (2019). *Quality of family planning counseling and the ability to realize fertility intentions in Nepal, Sri Lanka and Tanzania.*
7. Huber-Krum, S., Khadka, A., Rohr, J., Pradhan, E., Maharjan, D., Joshi, S., Shah, I., Canning, D. *The Effect of Antenatal Counseling and Intrauterine Device Insertion Services on Postpartum Contraceptive Use in Nepal: Results from a Stepped-Wedge Randomized Controlled Trial*



*A snowier winter in Boston, Massachusetts, USA*

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