RESEARCH ARTICLE

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Men on the move and the wives left behind: the impact of migration on family planning in Nepal

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Abstract: *Nepali migration is longstanding, and increased from 2.3% of the total population in 2001 to 7.2% in 2011. The estimated 1.92 million migrants are predominantly men. Consequently, 32% of married women have husbands working abroad. Social structures are complicated as many married women live with their in-laws who typically assume decision-making power, including access to health services. This study compares access to reproductive health services, fertility awareness, and decision-making power among a sample of married women aged 15–24 years (*n = *1123) with migrant husbands (*n = *485), and with resident husbands (*n = *638). Predictably, women with migrant husbands had significantly lower contraceptive use than other married women (9.3% vs 30.3%, respectively), and expressed a higher intention to become pregnant in the next year. Despite their intentions, women with migrant husbands scored lower on a fertility awareness index, were less likely to discuss pregnancy planning with their spouse, and less likely to describe their relationships positively. Decision-making for both groups of married women was dominated by both husbands and in-laws in different ways. Yet, across multiple normative scales, fewer women with migrant husbands felt pressure to conform to existing social norms. Married women with migrant husbands reflect a subset of women, with unique fertility issues and desires. Interventions that increase knowledge of fertility among this subset of women, promote healthy preconception behaviours. Linking women for counselling opportunities throughout the pre and postnatal periods may help improve health outcomes for mothers and children.* DOI: 10.1080/26410397.2019.1647398

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Introduction

Movement of people from Nepal to other countries over the last 200 years includes pilgrims, devotees, political refugees, and soldiers. Throughout the twentieth century, Nepal has increased its role as a major labour-exporting country, facilitated in part through an easier acquisition of passports and increased opportunities to travel overseas for work.[1,2] Between 2001 and 2011, the number of Nepalis living abroad for at least six months increased from 2.3% to 7.2% of the country's total population, an estimated 1.92 million migrants (more recent figures on migration do not present information on the same parameters).[3]

Until 1981, India was the dominant destination for most Nepali migrant workers. In 2017, migrants were more likely to land in the Gulf States, such as Bahrain, Kuwait, and Oman, with Qatar as the top destination, receiving approximately 31% of all Nepali migrants.[4] A World Bank study found that Nepali migrant workers in the Gulf States come from traditionally excluded castes, including 34.3% of Muslims, 17.4% of Hill Janajati, and 15.8% Terai Dalit households.[5]

Migration impacts some geographic groups within Nepal more than others. For example, there is little uniformity in migration rates across Mountain, Hill and Terai groups in the Eastern Central, Western, and Far Western areas.[6]

The decision to migrate for work comes with great challenges that include leaving behind wives and other family members. The decision is a collective one that involves the extended family and is driven by the opportunity of remittances for those left behind.[7–10] Migration and health researchers cite the complexity of migration on family members left behind. Globally, studies have identified health disparities among women with migrant husbands[11] and negative consequences of migration on other family members' health,[12] children's education,[13] and child well-being.[14] Mental health issues have also been identified among wives of migrant husbands, including increased feelings of loneliness and isolation[15] and depressive symptoms.[16] In India, women with migrant husbands have higher levels of reproductive morbidity[17] and sexually transmitted infections than women married to non-migrants.[18] This is further complicated by limited access to sexual and reproductive health services for wives left behind.[19]

Positive impacts of husbands' migration include increased accrual of money and material items and improvement in women's decision-making power, particularly for the management of resources and household affairs.[20] Unfortunately, these benefits can also complicate familial relationships and may place a greater burden on women's well-being.[10,21] This is particularly relevant for wives living with their in-laws. Decision-making power is more likely to reside with in-laws and can extend beyond general household decisions. For example, some wives reported that their mothers-in-law made decisions regarding when a woman with a migrant husband should visit a doctor, attend antenatal care, and who is to accompany them on clinic visits related to their reproductive health.[10]

The cultural impact of migration on women's roles is suggested to have rendered women with migrant husbands "… invisible, and their role, experience, well-being, and interconnectedness with the practice of migration are not well understood"[10,22,23] Migration often challenges traditional roles of women at home, as the increased workload for women and dependence on remittances alters the expectations of autonomy and decision-making power.[24] Understanding women's reproductive health and related household decision-making may provide insights on how they manage changing dynamics with in-laws in their husbands' absence.

Although Nepal has improved across many reproductive health indicators, challenges remain. Since 2006, the contraceptive prevalence rate (CPR) has stagnated (48% vs 53% in 2016), while traditional method use has more than doubled in the same time period.[25] Use of modern family planning is nearly three times higher among married women who live with their husbands (68%) than those who do not (24%).[25] The rate of family planning discontinuation has become a major concern for the government of Nepal. NDHS 2016[26] identified the association between husbands moving away from their homes (for any purpose) as the primary reason for discontinuation of family planning, followed by side effects, and desire to become pregnant. The Nepal Family Health Program survey also showed that women with migrant husbands tend to discontinue family planning methods when separated from their spouses to avoid rumours about infidelity from in-laws and community members.[27]

The objective of this paper was to identify the proportion of women with migrating husbands and describe the understudied implications of male-partner migration on family planning and related reproductive health factors. We examined various reproductive health-related factors including social norms and spousal communication dynamics, fertility awareness, and family planning use. This paper describes the reproductive health context and spousal communication among a large sample of adolescent and young women (15–24 years) with migrant husbands from five districts of Nepal and assesses selected reproductive health indicators compared with women whose husbands are present in the home.

Methods

A cross-sectional baseline quantitative survey was conducted in Nepal between August and September 2016 as part of the Fertility Awareness Community Transformation (FACT) Project. This USAID-funded project implemented by the Institute of Reproductive Health at Georgetown University (IRH), in collaboration with Save the Children, is a cluster randomised, three-arm prospective study. The intervention aims to increase fertility

awareness, educate on fertility awareness-based methods, increase access to family planning services, and increase uptake of all modern family planning methods in Nepal.

Sample

Three clusters of three Village Development Committees (VDCs) within five districts of Nepal were identified and randomly assigned to one of three study arms. The five districts reflected the geographic variation in the country: Mountain – Bajura; Hill – Pyuthan and Nuwakot; Terai – Rupandehi and Siraha. Each district contains a blend of religious and ethnic groups (castes) somewhat unique to that area of the country. The clusters tended to have a higher rate of marginalised individuals, which included, for example, Muslims, Dalit and Janajati. Sites were identified from the locations where Save the Children had existing programmatic infrastructure. For the baseline survey, women and men aged 15–24 years were surveyed using a standardised questionnaire across the total of 45 VDCs. The study described here used baseline data that were collected prior to the implementation of the intervention. This study received ethical approval from the Georgetown University's Institutional Review Board and the Nepal Health Research Council prior to data collection.

The goal of the larger study was to assess changes in contraceptive use among women in Nepal. The average CPR (42%) across the five project implementing districts was used to calculate the sample size[28] of 162 women per cluster to detect a 10% increase in CPR among women 15–24 years with 80% power at a significance level of 5% with a one-sided test, resulting in 2430 women across all 45 clusters. Participant selection included a multistep process. First, a list of eligible households was generated through local contacts and government officials at the ward level, the smallest unit of government administration. Next, households were systematically selected (i.e. every fourth household) from the list and approached for an interview. Households that were not available at the time of data collection were revisited up to three times, and in the instances where they were not available or interested in participating, the next household was selected and approached.

Data collection

Data were collected using mobile/smart phones running the Android platform and the REMO program.[29] Written consent was obtained from all the participants in a private setting whereas consent from illiterate participants was obtained with the help of a witness. Voluntary participation and freedom of refusal at any stage of the session were emphasised prior to data collection. Women and men between 15 and 18 years old were treated as adults and administered consent forms without parental approval per ethical approval listed above. Data were double entered and cross-checked in order to enhance reliability.

Measurement

Primary outcome variables within the survey included family planning use and intention to use. Both questions were adopted from the Nepal Demographic Health Survey[25] and other questions from previous FACT studies implemented in African countries by IRH. All questions were adapted for the Nepali context which ensures that they are, to a degree, valid and reliable.[30] Final data collection tools were pre-tested prior to final field survey.

Women self-reported as married. Women with migrating husbands were defined as having a husband who travels outside of the country for work for more than six months at a time. Across the variety of migration definitions, we focused on the wives of international migrants, as remittances from abroad provide some families with significant income, and the impact of those monies on factors associated with reproductive health has received limited attention in the literature.

Five questions were used to understand women's decision-making power across a variety of topics: visiting family or friends, financial matters, seeking health care, spending money on health care, and when to get pregnant. Response options on the decision-maker included: the respondent herself; jointly with their partner; and multiple family members (i.e. partner, father-in-law, mother-in-law) reflecting the decision was made by others. Responses were then categorised as either "full autonomy" (making decisions herself), "partial autonomy" (making decision with partner) or "no autonomy" (the decision was made by others).

This study piloted a fertility awareness scale and refined five social normative scales. Fertility awareness is defined as "actionable information about fertility throughout the life cycle and the ability to apply this knowledge to one's own circumstances and needs".[31,32] Ten knowledge-based questions about the onset of fertility for boys and girls, including facts about the menstrual cycle and fertile window, were included in the scale.

Confirmatory factor analysis (CFA) was used to describe the consistency of measurement for a latent construct (fertility awareness),[33] while item response theory allows for detailed investigation of items in relation to the latent construct of interest and is more appropriate for measuring knowledge scales.[34,35] When testing the scales, the 10 questions yielded a two-factor model that accounted for 41.4% of the variance in responses. The two distinct scales are as follows: (a) the fertility awareness scale measures knowledge around onset of fertility and duration of fertility for both females and males, and knowledge around the menstrual cycle and menstruation; (b) the fertile window scale measures knowledge specifically on the timing of the fertile window in relation to pregnancy intention. Responses were marked correct and incorrect. Sum scores were calculated for each scale and then dichotomised into either a low or high category. Low fertility awareness knowledge scores were means of less than 3.51 of 8, while low fertile window scores were less than 0.45 of 2.

The social normative scales describe participants' perceived norms related to family planning use: delaying first birth after marriage, couple communication, migration, and preference for sons over daughters. Each social normative scale is comprised of types of questions that relate to what a participant thinks other people in their social group or community actually *do* (descriptive norms), approve of (injunctive norms), and expect (subjective norms) of other people's behaviours.[36,37] CFA was used to identify the relationship between the observed items for each social norms scale and its underlying latent constructs.[38] Items were removed based on standardised inclusion parameters. As a best practice, we report the internal consistency of the scales using two statistics, Cronbach's coefficient alpha (α) and the Guttmann split-half reliability (λ_2) in the tables below.[39–42]

Analyses

The clean dataset was transferred to STATA and was analysed using descriptive statistics including cross-tabs. To test the statistical significance between group difference (e.g. women with migrant and non-migrant husbands), a chi-square test was used to find any independent factors associated with group membership. Differences were considered significant at a *p*-value of 0.05 or less. Additionally, logistic regression was used to test differences for the two groups of married women across multiple variables including: pregnancy desire, family planning use, and intention to use family planning (at three and six months). Odds ratios and 95% confidence intervals are presented below.

Results

A total of 2430 women aged 15–24 years from 45 VDCs across the five project districts were surveyed. Less than half ($n = 1123$) of women in the sample were married. More than two-fifths (43.2%) of all married women met our definition of having a migrant husband. An additional 5.3% of married women had husbands who travelled outside of their community, but within Nepal, for work for three or more months.

Married women's mean age was consistent across the two sub-groups (21.5 years). Within our sample, the Hill Region had the highest percentage of women with migrant husbands (48.5%) followed by women in the Terai Region (32.0%) and Mountain Region (19.5%). Almost all women with migrant husbands identified as Hindu (91.1%), which was higher than other married women ($p < 0.001$). The proportion of women with migrant husbands differentiated across ethnic groups ($p < 0.05$). Ethnicities with the highest percentage of migrant husbands were the Dalit (52.0%), Brahman/Chhetri (42.5%), and Muslim (41.7%) (Table 1).

Access to health services

Sixty-nine percent of women visited a health clinic recently ($n = 769$). However, less than a third of those women reported receiving any family planning counselling ($n = 236$). There were no statistical differences between women with and without migrant husbands. In Nepal, Female Community Health Volunteers (FCHVs) and other staff from health clinics provide information about healthy timing and spacing of pregnancies, supply condoms, (second-cycle) contraceptive pills, and refer clients for other FP services. Women with migrant husbands were less likely to receive counselling or outreach services from FCHVs, while they had a greater likelihood of receiving outreach services in the previous six months (Table 2).

Fertility awareness, communication, and strength of relationships

Nepali Ministry of Health and Population (MoHP) guidelines advise women to be 20 years old at first pregnancy, and more than 90% of women in the study reported that as the optimal age.[43] However,

Table 1. Socio-demographic characteristics of married women

Variables	Lives with husband (*n* = 638)		Migrant husbands (*n* = 485)		Total (*n* = 1123)		X2 Df	*p*-value
	n	%	*n*	%	*n*	%		
Ecology belt wise								
Mountain region	152	23.8	95	19.5	247	22.0	2	<0.01
Hill region	213	33.4	235	48.5	448	39.9		
Terai region	273	42.8	155	32.0	428	38.1		
Age distributions								
Mean age (SD)	21.5 (2.6)		21.6 (2.4)		21.5 (2.5)		1121	0.48
<21 Years	248	38.9	180	37.1	428	38.1	1	0.55
≥21 Years	390	61.1	305	62.9	695	61.9		
Religions								
Hindu	548	85.9	442	91.1	990	88.2	1	<0.01
Non-Hindu religion	90	14.1	43	8.9	133	11.8		
Caste/ethnicity								
Brahman/Chhetri	184	28.8	136	28.0	320	28.5	4	0.03
Janajati	175	27.4	116	23.9	291	25.9		
Other Madhesi	132	20.7	84	17.3	216	19.2		
Muslim	28	4.4	20	4.1	48	4.3		
Dalit	119	18.7	129	26.6	248	22.1		
Age at marriage								
≤19 years	547	85.7	426	87.8	973	86.6	1	0.31
≥20 years	91	14.3	59	12.2	150	13.4		
Number of children								
No children	222	34.8	129	26.6	351	31.3	2	0.01
1 child	190	45.7	201	56.5	391	50.7		
≥2 children	226	54.3	155	43.5	381	49.4		
Age at first pregnancy								
Mean age (SD)	18.8 (2.0)		18.6 (1.9)		18.7 (1.9)		770	0.09

Table 2. Access to health services

Variables	Married women						*p*-value
	Lives with husband (*n* = 638)		Migrant husbands (*n* = 485)		Total (*n* = 1123)		
	n	%	*n*	%	*n*	%	
Visited health facility for self or children in last 6 months	440	69.0	329	67.8	769	68.5	0.69
Counselled on FP at last visit to health facility (*n* = 769)	143	32.5	93	28.3	236	30.7	0.21
Visited by FCHV & discussed FP in last 6 months[a]	218	34.2	127	26.2	345	30.7	0.01
Previously received with outreach services[b]	99	15.5	129	26.6	228	20.3	0.01

[a]FCHVs: linked to the local health center and provide lower level counselling on nutrition and family planning (i.e. provision of second-cycle contraceptive pills and condom distribution).
[b]Outreach services: comprised of larger health-related campaigns implemented through the ministry of health (i.e.; malaria, cholera, and vaccination campaigns).

women's knowledge about fertility, its onset and some details about the menstrual cycle was low. Women answered fewer than half of the questions correctly, with women with migrant husbands scoring lower than other married women ($p = 0.02$) (Table 3). Although close to three-quarters of women knew what the menstrual period was, less than one-third had accurate knowledge around male fertility and less than one-fifth had knowledge of the fertile window. Women with migrant husbands also scored lower than other married women on two questions about the fertile window ($p < 0.01$).

Fewer women with migrant husbands reported speaking with their husband about their family size and timing of children (64.5%) vs other married women (74%) ($p < 0.01$). More than 80% of women from both groups reported the strength of their relationship as "strong" or "good". However, a higher percentage of women with migrant husbands reported their relationships as "fair" or "poor", than other married women (11.4%, $p < 0.01$). (Data not shown).

Decision-making

Women were asked several questions about who makes specific decisions in their lives related to visiting and mobility, finances, seeking health care, and when to get pregnant. Responses were categorised in accordance with a perceived level of autonomy: Full (makes decisions independently), Partial (makes a decision jointly with spouse), and No Autonomy (decisions are made for the women). Across multiple variables, about 60% of married women reported no autonomy (neither partial nor full) and that decisions were made by husbands or other family members. Healthcare seeking behaviour is an exception, as roughly half of women from both groups reported either full or partial autonomy. Though partial autonomy was more common than full autonomy across all decision-making topics, wives with migrant husbands were 3.6–5.5 times more likely ($p < 0.01$) to have full autonomy over the measured decisions vs their counterparts (Table 4). Within the group of women who reported no autonomy, we explored who assumed this decision-making across the four questions with statistical differences. When compared with women living with their husbands, women with migrant husbands were 2.0–5.9 times more likely ($p < 0.01$) to report these decisions being made by other family members as opposed to their spouses.

Social norms scales

Table 5 includes the reliability statistics and number of items for each of the normative scales and t-test comparisons of mean scores for the two groups of married women. Each of the scales exceeded the 0.70 threshold for Cronbach's alpha and Guttmann's lambda suggesting that the scales have reasonable levels of internal

Table 3. Fertility awareness

Variables	Married women						
	Lives with husband (n = 638)		Migrant husbands (n = 485)		Total (n = 1123)		p-value
	n	*%*	*n*	*%*	*n*	*%*	
General fertility questions							
Sign girl becomes fertile	428	67.1	268	53.5	696	62.0	$p < 0.01$
Sign boy becomes fertile	142	22.3	105	21.6	247	22.0	$p = 0.81$
Definition of menstrual period	474	74.3	340	70.1	814	72.5	$p = 0.12$
Definition of menstrual cycle	167	26.2	122	25.2	289	25.7	$p = 0.70$
Beginning of menstrual cycle	192	30.1	143	29.5	335	29.8	$p = 0.83$
Ending of menstrual cycle	165	25.9	123	25.4	288	25.6	$p = 0.85$
Duration of menstrual cycle	515	80.7	382	78.8	897	79.9%	$p = 0.42$
Days of male fertility	239	*37.5%*	139	*28.7%*	378	*33.7%*	$p < 0.01$
	Mean	***SD***	**Mean**	***SD***	**Mean**	***SD***	
Fertility Awareness Score	3.64	*2.39*	3.34	*2.46*	3.51	*2.42*	$p = 0.02$
	n	*%*	*n*	*%*	*n*	*%*	
Fertile Window Questions							
Days of female fertility	121	*19.0%*	64	*13.2%*	185	*16.5%*	$p = 0.01$
Time to avoid unprotected sex	214	*33.5%*	108	*22.3%*	322	*28.7%*	$p < 0.01$
	Mean	***SD***	**Mean**	***SD***	**Mean**	***SD***	
Fertile Window Score	0.53	*0.71*	0.35	*0.60*	0.45	*0.67*	$p < 0.01$

Note: Percentages reflect the percentage correct for each item.
The General Fertility Score (range: 0–8) and the Fertile Window Score (range: 0–2) reflect the aggregate mean of dichotomised correct responses for participants.

consistency. Women with migrant husbands scored significantly lower on the family planning norms (2.53 vs 2.64), delaying first birth (2.10 vs 2.21), and son preference scales (2.15 vs 2.34) (Table 5). When controlling for ethnicity, religion, age, and literacy, women with migrant husbands were 0.6 times less likely (CI: 0.5–0.8, $p < 0.01$) to perceive family planning use as acceptable

Table 4. Autonomy in decision-making among married women

Variables	Married women						
	Lives with husband		With migrant husband		Total		*p*-value
	n	%	*n*	%	*n*	%	
Decision maker to visit family or relatives							
Full Autonomy: Respondents	17	2.7	51	10.5	68	*6.1%*	<0.01
Partial Autonomy: Joint	209	32.8	113	23.3	322	*28.7%*	
NO Autonomy: Spouse or Other	412	64.6	321	66.2	733	*65.3%*	
Decision maker for financial matters							
Full Autonomy: Respondents	9	1.4	58	12.0	67	*6.0%*	<0.01
Partial Autonomy: Joint	253	39.7	130	26.8	383	*34.1%*	
NO Autonomy: Spouse or Other	376	58.9	297	61.2	673	*59.9%*	
Decision maker for health care seeking							
Full Autonomy: Respondents	84	13.2	163	33.6	247	*22.0%*	<0.01
Partial Autonomy: Joint	229	35.9	106	21.9	335	*29.8%*	
NO Autonomy: Spouse or Other	325	50.9	216	44.5	541	*48.2%*	
Decision maker for spending on health services							
Full Autonomy: Respondents	22	3.4	72	14.8	94	*8.5%*	<0.01
Partial Autonomy: Joint	240	37.6	111	22.9	351	*31.3%*	
NO Autonomy: Spouse or Other	376	58.9	302	62.3	678	*60.4%*	
Decision maker to get pregnant							
Full Autonomy: Respondents	13	2.0	18	3.7	31	*2.8%*	0.12
Partial Autonomy: Joint	240	37.6	163	33.6	403	*35.9%*	
NO Autonomy: Spouse or Other	385	60.3	304	62.7	689	*61.4%*	

Note: Degrees of freedom = 2; $n = 1123$ women.

among their immediate community, compared to women who live with their husbands. Women with migrant husbands were also 1.5 times more likely (CI: 1.4–1.9, $p < 0.01$) not to feel pressure from their families to get pregnant immediately after marriage and 1.5 times less likely to feel pressure to have a son (CI: 1.2–1.9, $p < 0.01$) (Data not shown).

Family planning status

Approximately three in 10 married women reported their intention to become pregnant in the next year. A higher percentage of women with migrant husbands (36.5%) intend to become pregnant than other married women (26.1%) (Table 6). Data from regression analysis are not

Table 5. Social norms comparative mean scores for married women with and without migrant husbands

	With migrant husband			Lives with husband					
Scales	Mean	*(SD)*	95% CI	Mean	*(SD)*	95% CI	*p*-value	α	λ_2
Family planning norms score	2.53	*(0.56)*	(2.48, 2.58)	2.64	*(0.56)*	(2.60, 2.69)	<0.001	0.79	0.80
Delay first birth norms score	2.10	*(0.82)*	(2.03, 2.18)	2.21	*(0.82)*	(2.14, 2.27)	0.019	0.85	0.86
Couples communication score	2.55	*(0.68)*	(2.49, 2.61)	2.59	*(1.03)*	(2.51, 2.67)	0.257	0.70	0.72
Migration norms score	2.73	*(0.32)*	(2.70, 2.76)	2.70	*(0.41)*	(2.67, 2.74)	0.106	0.77	0.78
Son preference	2.15	*(0.80)*	(2.08, 2.22)	2.34	*(0.84)*	(2.28, 2.41)	<0.001	0.79	0.81

Note: $n = 1123$ women.
Acceptable internal consistency statistics for α and λ_2 is 0.70.

shown but summarised as follows. Controlling for their current number of children, women with migrant husbands were 1.7 times more likely (CI: 1.1–2.5, $p < 0.01$) to desire a pregnancy within the next year than a woman whose husband lives at home. About one-fifth (20.4%) of all married women reported that they are currently using modern family planning methods. When controlling for pregnancy status and intention, women with migrant husbands were 80% less likely (OR: 0.2, CI: 0.1–0.3, $p < 0.001$) to be using family planning. Intention to use family planning six months after data collection remained low for women with migrant husbands (OR: 0.57, CI: 0.4–0.8, $p < 0.001$). Almost all women (94%) reported husbands' support for family planning use, but only 37.7% of women with migrant husbands had discussed ever using family planning methods with their spouse compared to more than half (53.5%) of non-migrant wives ($p < 0.01$). When controlling for migration status, pregnancy status and desire, and the strength of the marital relationship, women who discussed using a family planning method with their spouse were 4.0 times more likely (CI: 2.9–5.5, $p < 0.001$) to intend to use a family planning method in the next six months.

Discussion

This study compared reproductive health-related knowledge, decision-making, and family planning use between women with migrant husbands and other married women in Nepal. Although statistical differences were not identified in many socio-demographic variables, significant differences were found in health-related factors such as strength of relationship, fertility awareness, and decision-making power. Across these factors, women with migrant husbands were more likely to have full autonomy of decision-making and desired to become pregnant in the next year more frequently than other married women. This combination of factors suggests that programming for all married women should consider a wide range of familial dynamics and fertility desires resulting from migrating husbands.

Within our sample of married women, rates of migration varied by region. Yet, the experiences of these women are not unique and are becoming more commonplace as the number of couples experiencing spousal separation for one or more years continues to increase in Nepal, from 35% to 49%.[26] New regions of the country are beginning to experience this exodus of men. Currently, in Nepal, male migration is increasing in the western region. For example, the Labor Migration for Employment report (2014/2015) found that the far western districts of Nepal, which is designated as a mountain region within the ecological belts, has seen the greatest increase in permits for migrant labour.[44] One study site, Bajura, is in a far-west mountain region and experienced a seven-fold increase in migration between 2009 and 2015, which is a relatively low increase in comparison to other neighbouring districts (rage: Doti – eight-fold and Acham – 17-fold increases). Interestingly, some of the lowest rates of migration are also in neighbouring, yet more isolated districts bordering China (Mugu and Humla). These dynamics are

Table 6. Family planning status

Variables	Married women						*P*-value
	Lives with husband (*n* = 638)		Migrant husbands (*n* = 485)		Total (*n* = 1123)		
	n	%	*n*	%	*n*	%	
Currently pregnant	97	15.2%	42	8.7%	139	12.4%	<0.01
Wishes to become pregnant within next year	166	26.1%	177	36.5%	343	30.6%	<0.01
Currently using modern FP method	193	30.3%	45	9.3%	238	21.2%	<0.01
Intends to use FP method within next 6 months	259	40.6%	137	28.3%	396	35.3%	<0.01
Discussed using FP method with spouse	341	53.5%	183	37.7%	542	46.7%	<0.01
Spouse supportive of using FP method	320	93.8%	173	94.5%	493	94.1%	0.75

having a dramatic impact on women, and the proportion of female-headed households across Nepal nearly doubled from 16% in 2011 to 31% in 2016.[27]

Our analysis found that fewer women with migrating husbands access reproductive health-related services. They also have a high desire to become pregnant. High interest in becoming pregnant in this sample may be partially explained by the mean number of pregnancies of 1.1, which is below the national desired family size of 2.3.[26] Limited engagement with health service providers may prove to be a barrier for women with migrant husbands as they attempt to maximise their opportunities for pregnancy with husbands who typically return to their families every 12–18 months, often around major festivals, like Dashain. The elevated interest in pregnancy among women with migrant husbands may provide an opportunity for integrating additional preconception interventions that have been found to be effective in high resource settings.[45] In fact, the World Health Organization guidance on preconception interventions includes a wide range of topics that include nutritional screening and counselling, tobacco use, genetic conditions using oral family history, interpersonal violence screening, and sexually transmitted infections including HIV screening.[46] These interventions are supported by rigorous research and could potentially be integrated into services delivered by FCHV or mobile auxiliary nurse midwives (a programme soon to be expanded in Nepal). For instance, FCHVs could increase their nutrition counselling services to include dietary interventions (healthier eating), promotion and or provision of folic acid, discuss the harms associated with alcohol and cigarette use and, if relevant, identify ways to increase healthy physical activity among women seeking pregnancy prior to their husband's return.

Interventions focused on the basic foundations of fertility would benefit women with migrant husbands. Such interventions may provide the opportunity to promote antenatal care guidelines, facility-based delivery, and access to postnatal services, vaccination, and possibly postpartum family planning use. Timing the preconception counselling to provide proper lead-time prior to the return of migrant husbands may increase their chances for conception and improve maternal and child outcomes.

Fewer women with migrant husbands reported their marriage as "strong" while also reporting lower rates of spousal communication. Consistent with previous research,[10,21] about two-thirds of women reported no autonomy over their decisions across several behaviours. When considering preconception interventions for women, program developers should develop activities that find ways to increase healthy communication among couples. Globally, improved couple communication has been linked to stronger relationships[47] and joint decision-making.[48] Two Nepali studies highlight the importance of linking women's autonomy with opportunities for improving couple communication and negotiation skills.[49,50] Enhancing women's autonomy is all the more relevant given the

increased prevalence of female-headed households in Nepal. As such, understanding how autonomy translates to educational or professional opportunities for wives and development gains for children, as well as cohesion and support within families and the wider community, may provide programmatic platforms that maximise sound financial management of remittances and promote health and well-being for the entire family.

Even when considering multiple factors associated with family planning (including migration status), couple communication, and discussing family planning method-use, was the most significant predictor of intended use. The findings from this study suggest that programming related to family planning and reproductive health should engage both spouses and also include components that promote discussion and equitable decision-making, particularly as it relates to the extended family. Understanding the differential impact of interventions that effectively integrate in-laws and place an emphasis on communication with the entire family may help to fill the gaps left by fathers working abroad for extended periods of time. Additionally, in each district, women with migrant husbands were not alone. Identifying ways to harness the collective experience of women with migrant husbands in communities to form collectives and work together may build community bonding and social cohesion.

Limitations

Data collection occurred in October of 2016, shortly after the extended festival season in Nepal. It is a time of year when many migrant husbands return home. As a result, some of the participants' responses and our conclusions could be influenced by these recent reunions. Future research should take into consideration the timing of visits on family planning use and relationship status. Our study only sampled 5 of the 75 districts of the country and does not capture data from a wide enough swatch of provinces and geographic zones. As a result, the large sample from which this sub-analysis was conducted may not truly provide a comprehensive picture of the experiences of Nepali women. Finally, this sample is comprised of young married women. In Nepal, the average desired family size among women is 2.2, and the average number of children is 2.3.[26] The mean number of children among this sample of married women was 1.1, which may help explain the high desire for pregnancy among participants and influences family planning use.

Conclusion

Married women with migrant husbands reflect a subset of women with unique fertility issues and desires. These women are more likely to desire pregnancy despite their husbands' absence. Interventions that increase this subset of women's knowledge of fertility, promote healthy preconception behaviours and link women for counselling opportunities throughout the pre and postnatal periods may help improve health outcomes for mothers and children. For example, improving healthy communication between women and their migrant husbands prior to home visits may improve relationship quality. For some women with migrant husbands, interventions should include in-laws and focus on ensuring women's autonomy over their health, movement and financial decision-making. Such interventions may prove to be timely as the rate of Nepal's female-headed households continues to rise.

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Résumé

La migration népalaise dure depuis longtemps et est passée de 2.3% de la population totale en 2001 à 7.2% en 2011. Les quelque 1.92 million de migrants sont en majorité des hommes. Par conséquent, 32% des femmes mariées ont des conjoints qui travaillent à l'étranger. Les structures sociales sont compliquées puisque beaucoup de femmes mariées vivent avec leur belle-famille qui assume en général le pouvoir de décision, y compris l'accès aux services de santé. Cette étude compare l'accès aux services de santé reproductive, les connaissances sur la fécondité et le pouvoir de décision dans un échantillon de femmes âgées de 15 à 24 ans ($n = 1123$) mariées avec des migrants ($n = 485$), et des résidents ($n = 638$). Comme il fallait s'y attendre, les femmes mariées à des migrants avaient une utilisation de contraceptifs nettement inférieure à celle des autres femmes mariées (9,3% contre 30,3%, respectivement), et exprimaient une intention plus élevée de tomber enceintes l'année suivante. En dépit de leurs intentions, les femmes mariées à des migrants obtenaient un score inférieur sur un indice de connaissance de la fécondité, avaient moins de probabilités de parler de la planification de la grossesse avec leur époux et étaient moins enclines à décrire leur relation de manière

Resumen

La migración nepalés comenzó hace muchos años y aumentó del 2.3% de la población total en el año 2001, al 7.2% en 2011. Se estima que los 1.92 millones de migrantes son principalmente hombres. Por consiguiente, el 32% de las mujeres casadas tienen esposos que trabajan en el extranjero. Las estructuras sociales son complicadas, ya que muchas mujeres casadas viven con sus suegros quiene típicamente asumen el poder de toma de decisiones, incluidas las decisiones sobre el acceso a los servicios de salud. Este estudio compara el acceso a servicios de salud reproductiva, el conocimiento de la fertilidad y el poder de toma de decisiones entre una muestra de mujeres casadas de 15 a 24 años de edad ($n = 1123$) con esposos migrantes ($n = 485$) y con esposos residentes ($n = 638$). Predeciblemente, las mujeres con esposos migrantes informaron uso de anticonceptivos significativamente menor que las otras mujeres casadas (9.3% vs 30.3%, respectivamente) y expresaron mayor intención de quedar embarazadas en el próximo año. A pesar de sus intenciones, las mujeres con esposos migrantes recibieron un menor puntaje en el índice de conocimiento de la fertilidad, eran menos propensas a discutir la planificación del embarazo con su esposo y menos propensas a describir sus relaciones de

positive. La prise de décision pour les deux groupes de femmes mariées était dominée par les conjoints et les beaux-parents de différentes manières. Pourtant, dans de multiples échelles normatives, les femmes mariées à des migrants étaient moins nombreuses à ressentir des pressions les incitant à se conformer aux normes sociales existantes. Les femmes mariées à des migrants constituent un sous-ensemble de femmes, avec des problèmes et des désirs particuliers de fécondité. Les interventions qui accroissent les connaissances de la fécondité parmi ce sous-ensemble de femmes encouragent des comportements sains avant la conception. Mettre les femmes en rapport avec des possibilités de conseil tout au long de la période prénatale et postnatale pourrait aider à améliorer l'état de santé des femmes et des enfants.

manera positiva. En ambos grupos de mujeres, la toma de decisiones era dominada tanto por los esposos como por los suegros de diferentes maneras. Sin embargo, entre las múltiples escalas normativas, menos mujeres con esposos migrantes sintieron presión para cumplir con las normas sociales existentes. Las mujeres casadas con esposos migrantes reflejan un subconjunto de mujeres, con asuntos y deseos únicos relacionados con su fertilidad. Las intervenciones que incrementan el conocimiento de la fertilidad en este subconjunto de mujeres promueven comportamientos saludables antes de la concepción. Vincular a las mujeres con oportunidades de consejería a lo largo de los períodos pre y posnatal podría ayudar a mejorar los resultados para la salud de las madres y sus hijos.