

## ORIGINAL RESEARCH ARTICLE

# Reduced sexual activity and increased sexually transmitted infections risk among left-behind women in rural China

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Qiang Li<sup>1</sup>, Yuli Ye<sup>2\*</sup> and Lian An<sup>3</sup>

Faculty of Finance, City University of Macau, Taipa, Macau<sup>1</sup>; School of Transport and Economic Management, Guangdong Communication Polytechnic, Guangdong, 510642. China<sup>2</sup>; Department of Economics and Geography Coggin College of Business, University of North Florida Jacksonville, FL 32224. USA<sup>3</sup>

\*For Correspondence: Email: yeyuli2023@gmail.com

## Abstract

Spousal migration creates a unique situation for "left-behind women" in rural China, who face challenges to their sexual and reproductive health and rights (SRHR). Using the Chinese Health and Family Life Survey 2000 dataset, we compare SRH outcomes of left-behind women and non-migrant counterparts. While reporting significantly lower sexual activity, left-behind women are disproportionately affected by chlamydia, despite no increase in risky behaviors. This, coupled with their higher prevalence of unwanted sex, suggests unwanted encounters as a potential contributor to their higher sexually transmitted infections risk. These findings highlight the complex SRH challenges faced by left-behind women and emphasize the need for tailored interventions, including promoting safer sex practices and addressing the risk of unwanted encounters. Furthermore, understanding the situation in China can inform interventions for left-behind women in other contexts with high spousal migration, such as parts of Africa. (*Afr J Reprod Health* 2025; 29 [2]: 78-85).

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**Keywords:** Sexual and reproductive health, Sexually Transmitted Diseases, sexual behavior, contemporary China

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## Résumé

La migration conjugale crée une situation unique pour les « femmes laissées pour compte » en Chine rurale, qui font face à des défis en matière de santé sexuelle et reproductive (SSR). En utilisant l'ensemble de données de l'enquête chinoise sur la santé et la vie de famille de 2000, nous comparons les résultats de la SSR des femmes laissées pour compte et de leurs homologues non migrantes. Bien qu'elles déclarent une activité sexuelle nettement plus faible, les femmes laissées pour compte sont touchées de manière disproportionnée par la chlamydia, sans augmentation des comportements à risque. Ceci, associé à leur prévalence plus élevée de relations sexuelles non désirées, suggère que les rencontres non désirées pourraient contribuer à leur risque accru d'infections sexuellement transmissibles (IST). Ces résultats mettent en évidence les défis complexes en matière de SSR auxquels sont confrontées les femmes laissées pour compte et soulignent la nécessité d'interventions adaptées, notamment la promotion de pratiques sexuelles plus sûres et la lutte contre le risque de relations non désirées. De plus, comprendre la situation en Chine peut éclairer les interventions destinées aux femmes laissées pour compte dans d'autres contextes à forte migration conjugale, comme certaines régions d'Afrique. (*Afr J Reprod Health* 2025; 29 [2]: 78-85).

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**Mots-clés:** Santé sexuelle et reproductive, Infections sexuellement transmissibles, Comportement sexuel, Chine contemporain

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## Introduction

China's rapid economic development has spurred substantial internal migration<sup>1</sup>, resulting in millions of rural women separated from their husbands who seek employment opportunities in urban centers. This phenomenon, often referred to as rural spousal migration, is driven by the hukou system, which functions as a household registration mechanism and restricts access to social benefits like healthcare and education for migrants in urban areas. As a

consequence, rural wives typically remain in their hometowns to care for children and elderly family members. These women who are separated from their husbands due to spousal migration are known as left-behind women. According to the Ministry of Civil Affairs of the People's Republic of China, an estimated 47 million left-behind women in rural China in 2010<sup>2,3</sup>.

The geographic separation has exposed left-behind women to a heightened risk of sexual aggression and repression<sup>4</sup>. Paradoxically, while

left-behind women report significantly lower rates of sexual activity compared to their non-migrant counterparts, they experience a disproportionate burden of certain sexually transmitted infections (STI). This seemingly contradictory phenomenon suggests a potential link between husband migration and the sexual and reproductive health and rights (SRHR) of left-behind women.

This study delves deeper into this complex issue by leveraging data from the Chinese Health and Family Life Survey (CHFLS). Our primary aim is to investigate the impact of spousal migration on the SRH of left-behind women in rural China, specifically focusing on the observed disparity between reduced sexual activity and increased STI risk. We aim to contribute to the existing body of research, which presents mixed evidence on the relationship between husband migration and SRH outcomes for left-behind women.

Despite the apparent link between husband migration and the SRHR of left-behind women, the existing research presents a complex and often contradictory picture. While studies from certain countries like Armenia<sup>5</sup> and Mexico<sup>6,7</sup> suggest a negative impact on SRHR, with evidence of higher STI prevalence among left-behind women, others from Bangladesh<sup>8</sup> and South Africa<sup>9</sup> find no clear association. Findings on fertility outcomes are equally mixed, with Miskinzod<sup>10</sup> reporting no impact, while Shattuck *et al.*<sup>11</sup> observed an increased likelihood of pregnancy among left-behind women in Nepal. These inconsistencies highlight the need for further investigation, particularly in the context of China's unique socio-economic landscape and evolving sexual norms.

### Literature review

While the phenomenon of left-behind women is not exclusive to China, the scale and specificities of migration patterns in the country necessitate a nuanced approach. Studies focusing on broader migration trends, such as those by Graves, Arthur, and Sexton<sup>12</sup>, Rodgers and Rodgers<sup>13</sup>, Cebula<sup>14</sup>, Hong<sup>15</sup>, and Lara<sup>16</sup>, provide valuable insights into the socio-economic drivers of migration but do not directly address the specific SRHR concerns of left-behind women in China.

Within the limited body of research directly examining left-behind women and SRH, several studies highlight potential detrimental effects of husband migration. Roy and Nangia<sup>17</sup> found an association between spousal migration and symptoms of reproductive morbidity in India, although methodological limitations raise concerns about generalizability. Sevoyan and Agadjanian<sup>18</sup> reported higher STI prevalence among left-behind women in Armenia, but their sample selection limits generalizability. Similarly, while Shattuck *et al.*<sup>11</sup> identified an increased desire for pregnancy among left-behind women in Nepal, it does not directly address the specific paradox under investigation in China.

Existing research in the Chinese context primarily compares left-behind women to non-migrant counterparts, focusing on various aspects of mental and reproductive health. These studies, while valuable, do not directly address the specific SRH concerns of left-behind women in China, particularly the paradoxical relationship between reduced sexual activity and increased STI risk. For instance, Wu and Ye<sup>19</sup> reported hesitant discussions about sexual repression among left-behind women, while Qin *et al.*<sup>20</sup> found lower sexual activity and higher self-reported HIV infection rates.

This study addresses a crucial gap in the literature by focusing on the specific paradox of reduced sexual activity yet higher STI prevalence among left-behind women in China. By employing a nationally representative dataset and a rigorous analytical framework, we aim to shed light on the underlying mechanisms driving this phenomenon and contribute to a more comprehensive understanding of the SRH challenges faced by this vulnerable population.

### Model and data

This paper investigates the effect of spousal migration on the SRH of left-behind women by utilizing the following model:

$$y_i = \alpha + \beta_1 lbw_i + X_i' \beta_2 + \epsilon_i \quad (1)$$

where  $y_i$  is the measure of SRH. We employ several key variables. One such variable is "time since last sexual activity," which captures the duration since

a respondent's most recent sexual encounter. This variable is categorized as follows: 1) within a week, 2) within two weeks, 3) within one month, 4) more than a month ago but within a year, and 5) a year ago or more. Additionally, we create a binary variable indicating "never had sex in the past year". This variable is coded as 0 for respondents who reported having sex within the past year (categories 1-4 of the "time since last sexual activity" variable) and 1 for those who reported no sex within the past year (category 5). Furthermore, we examine the presence of diagnosed chlamydia and trichomonas infections, as well as unwanted sexual experiences, to gain a comprehensive understanding of SRHR.

$lb_{wi}=1$  if the woman  $i$  is a left-behind woman, and 0 otherwise. The coefficient  $\beta_1$  measures the effect of husband migration on the SRHR of a left-behind woman, which could be positive or negative, depending on the different dependent variables. For example, if the dependent variable is the time since last sexual activity,  $\beta_1$  could be negative. Conversely, if the dependent variable is diagnosed chlamydia,  $\beta_1$  could be positive.

$X$  is a set of control variables. According to previous literature<sup>21</sup>, we generally control for personal characteristics, such as age and age square (divided by one hundred, in order to control for potential nonlinear effect of age), education, income category dummies, and region dummies. In addition, our control variables are chosen to fit certain dependent variables better. For example, when the dependent variable is sexual harassment, we control for respondents' alcohol consumption and extramarital sex. In contrast, when the dependent variable is the frequency of masturbation, we control for a dummy variable indicating whether a woman knows her sensitive part.

This study utilizes data from the CHFLS, a collaborative effort between the University of Chicago, Renmin University, Peking Union Medical College, and the University of North Carolina. Initiated in 1999 and 2000, the CHFLS represents one of the first comprehensive surveys on sexual behavior in the largest developing nation, China. It specifically focuses on contemporary Chinese social dynamics by collecting information through 18 distinct sections, including demographics, health, attitudes towards marriage

and sex, and various aspects of sexual partnerships and experiences. The survey employed a multi-stage sampling approach, recruiting 5,000 respondents aged 20-64 across 18 diverse provinces, excluding Hong Kong, Macau, Taiwan, and Tibet. Sixty villages and urban neighborhoods were strategically selected to achieve a nationally representative sample encompassing the full spectrum of China's socio-economic landscape. Notably, the survey achieved a commendable response rate of 75.3%.

To ensure respondent privacy, interviews were conducted in private locations outside their homes using computer-assisted technology. Additionally, informed consent was obtained electronically and verbally before initiating the interview process. Importantly, the survey design allowed respondents to complete most of the survey independently in a computerized format, with minimal assistance provided only to 13% (primarily older rural women) who required additional support throughout the interview.

The CHFLS data has significantly contributed to research on sexual behavior in contemporary China, as demonstrated in studies by Farris *et al.*<sup>22</sup> and Bogaert and Liu<sup>23</sup>. China's unique position at the forefront of a sexual revolution, coupled with significant regional and generational variations within the country, provides a valuable platform for investigating the factors shaping and influenced by sexual behavior. This study aims to leverage the CHFLS data as a baseline for understanding and anticipating future trends in sexual behavior, potentially leading to significant public health and academic advancements through the analysis of a nationally representative sample.

This study focuses on married women under 55 years old residing in rural villages. We define left-behind women as those whose husbands have migrated out of the region for at least six months in the past year, following the criteria established by Ye *et al.*<sup>4</sup>. To ensure accurate categorization, unmarried, divorced, or widowed women were excluded from the analysis, resulting in a sample of approximately 750 left-behind women. Table 1 summarizes the key characteristics of the sample. Compared to non-migrant counterparts, left-behind women are on average four years younger.

**Table 1:** Descriptive statistics

Variable	non-left-behind women		left-behind women		
	Obs.	mean	Obs.	Mean	Mean-diff
Age	691	37.09	61	33.08	4.01***
Primary school	691	0.3010	61	0.2459	0.0551
Junior high school	691	0.3806	61	0.5082	-0.1276*
Senior high school	691	0.2113	61	0.1475	0.0637
Never had sex past year	685	0.0116	59	0.1525	-0.1409***
Time since last sex	685	1.8200	59	2.7797	-0.9596***
Paid money for sex	688	0.0015	58	0.0000	0.0015
Extramarital sex	689	0.0435	59	0.1186	-0.0751**
Unwanted sex	689	0.2743	59	0.3220	-0.0477
Chlamydia	689	0.0029	59	0.0339	-0.0310***
Trichomonas	689	0.1001	59	0.0847	0.0154

While educational attainment does not differ significantly between the two groups, the data reveals a notable discrepancy in sexual activity. Approximately 15% of left-behind women report no sexual activity in the past year, compared to only 1.16% of non-migrant women. This suggests a significantly longer duration of sexual inactivity among left-behind women. Interestingly, both groups report minimal engagement in paid sex. Contrary to expectations, the data indicates a significantly higher prevalence of extramarital sex among left-behind women. Notably, the data reveals a higher prevalence of chlamydia diagnoses among left-behind women compared to their non-migrant counterparts, whereas trichomonas infection rates do not show any significant difference.

## Results

Table 2 presents the findings on how spousal migration impacts sexual activity among women. The first column examines whether left-behind women had any sexual activity (with their husband or any other partner) in the past year. Controlling for other relevant factors, the results show that left-behind women are significantly less likely to have had any sex in the past year compared to their non-migrant counterparts, with an odds ratio (OR) of 27.37 (95% confidence interval [CI]: 7.76-96.51). This indicates that they are approximately 27 times more likely to report no sexual activity in the past year. The second column of Table 2 delves into the duration since last sexual activity using an ordinal

logistic regression model. The results reveal that left-behind women are significantly more likely to report a longer duration since their sexual activity (OR: 4.88, CI: 2.78-8.57) compared to their non-migrant counterparts. This suggests that left-behind women experience a substantial decrease in overall sexual activity frequency.

Table 3 examines the prevalence of STI among left-behind women. The results show that left-behind women are significantly more likely to have been diagnosed with chlamydia during their lifetime compared to non-migrant women (OR: 6.33, CI: 1.12-35.80). However, no significant difference was observed between the two groups regarding trichomonas infection. Our results also indicate that women higher education are less likely to be affected with STI, which is consistent with previous findings from African<sup>24</sup>.

To understand the seemingly contradictory findings of reduced sexual activity and increased STI risk, we explore potential mechanisms in Table 4. We hypothesize that extramarital sex and unwanted sex might play a role.

The first column of Table 4 investigates the association between spousal migration and extramarital sex among left-behind women. The results do not show a statistically significant difference between the two groups in terms of engaging in extramarital sex, suggesting that this may not be a primary explanation for the higher STI prevalence among left-behind women.

However, the second column of Table 4 reveals a significant association between spousal migration and unwanted sex.

**Table 2:** Husband migration and frequency of sex of Left-behind Women, odds ratio

	Logit	ordered logit
	Never had sex	Time since last sex
left-behind women	27.37*** (5.15)	4.878*** (5.51)
age	1.111 (0.34)	0.907 (-1.17)
age square/100	0.949 (-0.13)	1.223* (1.87)
primary school	0.747 (-0.35)	0.684 (-1.50)
junior high school	0.384 (-1.06)	0.652 (-1.60)
senior high school and above	0.137 (-1.46)	0.620 (-1.57)
region dummies	Yes	Yes
income category dummies	Yes	Yes
Observations	744	744

Z statistics in parentheses \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

The results indicate that left-behind women are nearly twice as likely to experience unwanted sex compared to non-migrant women (OR: 1.69, CI: 0.94-3.04). This suggests that unwanted sexual encounters may be a contributing factor to the higher STI prevalence observed among left-behind women. It is important to note that this analysis cannot rule out the possibility of STI transmission from returning husbands due to data limitation. The distinction between extramarital sex and unwanted sex is crucial. Consensual extramarital sex, if practiced safely, may not be a significant risk factor for STI. In contrast, unwanted sexual encounters, often lacking negotiation or condom use, can significantly increase the risk of STI transmission for left-behind women.

Our findings add a nuanced perspective to the existing literature on left-behind women's sexual health in rural China.

**Table 3:** Husband migration and STI contraction of left-behind women, Logit odds ratio

	(1) Diagnosed chlamydia	(2) Diagnosed trichomonas
left-behind women	6.333** (2.09)	0.851 (-0.33)
age	0.507** (-2.28)	1.413** (1.97)
age square/100	2.529* (1.78)	0.640* (-1.92)
primary school	-0.623** (-2.15)	-0.684** (-2.05)
junior high school	-0.758** (-1.98)**	-0.752** (-1.97)
senior high school and above	-0.837* (-1.76)	-0.820* (-1.77)
extramarital sex	17.08* (1.90)	2.367* (1.93)
Income category dummies	Yes	Yes
region dummies	Yes	Yes
Observations	748	748

z statistics in parentheses \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

While prior research often emphasizes the concept of sex repression of left-behind women in rural China<sup>4,19</sup>, our statistical analysis reveals a stark reality: left-behind women are approximately 27 times less likely to have had any sexual activity in the past year compared to their non-migrant counterparts. This observed decrease in sexual activity is seemingly contradicted by the higher prevalence of diagnosed STI among left-behind women, which aligns with previous findings<sup>20</sup>. This discrepancy suggests a potential paradox: reduced sexual activity coupled with an increased risk of STI among left-behind women. Our analysis further sheds light on this paradox by highlighting unwanted sexual encounters as a possible contributing factor to the higher STI rates, rather than extramarital sex.

**Table 4:** Husband migration and SRH of left-behind women: frequency of thinking about sex and masturbation, and extramarital sex (odds ratio)

	Logit Extramarital sex	logit Unwanted sex
left-behind women	1.889	1.685*
	(1.26)	(1.74)
age	1.322	1.019
	(1.19)	(0.19)
age square/100	0.671	1.006
	(-1.29)	(0.05)
Education category dummies	Yes	Yes
region dummies	Yes	Yes
income category dummies	Yes	Yes
Observations	748	748

## Discussion and conclusion

This study explored the impact of spousal migration on the SRH of left-behind women in China, focusing on the intriguing paradox of reduced sexual activity and increased risk of certain STI. Utilizing data from the nationally representative CHFLS, we examined the sexual activity and diagnosed STI among left-behind women compared to their non-migrant counterparts.

Our analysis confirms a significant decrease in sexual activity among left-behind women. Compared to non-migrant women, they are considerably less likely to have had any sex in the past year and report a longer duration since the last sex encounter. This finding aligns with expectations, as spousal migration often disrupts marital intimacy due to physical separation.

However, the data reveals a seemingly contradictory observation: despite the reduced sexual activity, left-behind women are disproportionately affected by certain STI. Specifically, they are significantly more likely to be diagnosed with chlamydia compared to non-migrant women. This finding, coupled with the lack of an increase in risky sexual behaviors such as

extramarital sex, suggests that unwanted sexual encounters may be a potential contributing factor to the higher STI prevalence among this population. Our data supports this hypothesis, indicating that left-behind women are significantly more likely to experience unwanted sex compared to their non-migrant counterparts.

While this study offers valuable insights, it is crucial to acknowledge its limitations. Firstly, the study design, being cross-sectional, cannot definitively establish causal relationships. Secondly, the analysis focuses solely on married women under 55 residing in rural areas, limiting the generalizability of the findings to the broader population of left-behind women. Additionally, the use of self-reported data on sexual activity might introduce bias due to social desirability and recall issues. Furthermore, data limitations prevent us from conclusively ruling out the possibility of STI transmission from returning husbands. It is also important to acknowledge that our analysis might be susceptible to endogeneity bias due to omitted variables. Unobserved factors, such as pre-migration sexual behavior or mental health status, could influence both spousal migration and sexual activity, potentially leading to biased estimates. Future research employing longitudinal data and exploring a wider range of factors, including pre-migration sexual behavior and mental health, could provide a more comprehensive understanding of the relationship between spousal migration and sexual activity among left-behind women.

Our findings hold significant policy implications for China and other developing countries facing high spousal migration rates, such as those in Africa. Firstly, the results necessitate the development and implementation of targeted sexual health education programs and reproductive health information specifically tailored to the needs of left-behind women in rural China and African<sup>25,26</sup>. These programs should equip women with accurate information about STI, including transmission modes, testing options, and available treatment. Secondly, our findings highlight the need for social support programs to address the potential isolation and vulnerability experienced by left-behind women. Such programs could provide legal aid or resources to empower these women and enhance their understanding of their rights regarding

unwanted sexual encounters. Finally, the study's relevance extends beyond China. It suggests potential avenues for international collaboration with regions facing similar challenges. This collaboration could involve sharing best practices and successful interventions, as well as undertaking joint research initiatives to gain a deeper understanding of the complexities surrounding the SRH of left-behind women in diverse contexts.

This study contributes to the understanding of the complex challenges faced by left-behind women in China regarding their SRH. Our findings highlight their potential increased vulnerability to unwanted sex and higher prevalence of certain STI, despite a reduction in overall sexual activity. These insights emphasize the need for comprehensive interventions tailored to address the specific needs of left-behind women, including strategies that promote safer sex practices and mitigate the risk of unwanted sexual encounters. Additionally, fostering inclusive healthcare policies that consider the needs of both migrant husbands and left-behind wives is crucial to ensure their well-being.

### Contribution of authors

Qiang Li conceived and designed the study, Yuli Ye collected and analysed the data, and Lian An prepared the manuscript. All authors read and approved the final manuscript.

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### Availability of data and materials

The data used in our analysis was public available at the Chinese Health and Family Life Survey website:

<https://voices.uchicago.edu/popcenter/research/sex-and-reproductive-health/>.

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### Ethics approval and consent to participate

Our research utilized publicly available data only. Since we did not collect any new data from human subjects, we believe that formal IRB or Ethics Committee approval is not applicable.

### Conflict of interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper

### References

1. Li Q, Liu G and Zang W. The health of left-behind children in rural China. *China Economic Review* 2015;36:367–376.
2. Fan CC and Chen C. Left Behind? Migration Stories of Two Women in Rural China. *Social Inclusion* 2020;8(2):47–57.
3. Yi J, Zhong B and Yao S. Health-related quality of life and influencing factors among rural left-behind wives in Liuyang, China. *BMC Women's Health* 2014;14(1):67.
4. Ye J, Wu H, Rao J, Ding B and Zhang K. Left-behind women: gender exclusion and inequality in rural-urban migration in China. *The Journal of Peasant Studies* 2016;43(4):910–941.
5. Agadjanian V and Markosyan K. Male labor migration, patriarchy, and the awareness-behavior gap: HIV risks and prevention among migrants' wives in Armenia. *AIDS Care* 2017;29(6):705–710.
6. Fernández-Sánchez H, Salma J, Márquez-Vargas PM and Salami B. Left-Behind Women in the Context of International Migration: A Scoping Review. *J Transcult Nurs* 2020;31(6):606–616.
7. Fernández-Sánchez H, Salami B and Salma J. Commentary on “Left-Behind Women in the Context of International Migration: A Scoping Review”. *J Transcult Nurs* 2021;32(2):94–95.
8. Kabir H, Fatema SR, Hoque S, Ara J and Maple M. Risks of HIV/AIDS transmission: A study on the perceptions of the wives of migrant workers of Bangladesh. *Journal of International Women's Studies* 2020;21(6):450–471.
9. Lurie MN, Williams BG, Zuma K, Mkaya-Mwamburi D, Garnett G, Sturm AW, Sweat MD, Gittelsohn J and Abdool Karim SS. The impact of migration on HIV-1 transmission in South Africa: a study of migrant and nonmigrant men and their partners. *Sexually transmitted diseases* 2003;30(2):149–156.

10. Miskinzod D. The Impact of Men's Labor Migration on the Sexual and Reproductive Health Of Their Left-behind Wives in Tajikistan. 2015;
11. Shattuck D, Wasti SP, Limbu N, Chipanta NS and Riley C. Men on the move and the wives left behind: the impact of migration on family planning in Nepal. *Sexual and Reproductive Health Matters* 2019;27(1):248–261.
12. Graves PE, Arthur MM and Sexton RL. Amenities and the labor earnings function. *Journal of Labor Research* 1999;20(3):367–376.
13. Rodgers JR and Rodgers JL. The effect of geographic mobility on male labor-force participants in the United States. *Journal of Labor Research* 2000;21(1):117–132.
14. Cebula RJ. The Impact of Economic Freedom and Personal Freedom on Net In-Migration in the U.S.: A State-Level Empirical Analysis, 2000 to 2010. *Journal of Labor Research* 2014;35(1):88–103.
15. Hong G. Examining the U.S. Labor Market Performance of Immigrant Workers in the Presence of Network Effects. *Journal of Labor Research* 2015;36(1):9–26.
16. Lara J. Remittances as an Insurance Mechanism in the Labor Market. *Journal of Labor Research* 2016;37(3):368–387.
17. Roy AK and Nangia P. Impact of male out-migration on health status of left behind wives- A study of Bihar, India. 2002;22.
18. Sevoyan A and Agadjanian V. Male migration, women left behind, and sexually transmitted diseases in Armenia. *International Migration Review* 2010;44(2):354–375.
19. Wu H, Ye J. Hollow Lives: Women Left Behind in Rural China. *Journal of Agrarian Change* 2016;16(1):50–69.
20. Qin QR, Ji GP, Xu J, Jiang QC, Hong H, Chu XY, Chen R and Ye DQ. Risk of Sexual HIV Transmission Among Wives Left Behind and Wives of Nonmigrant Men in Rural Areas of China. *Journal of the Association of Nurses in AIDS Care* 2009;20(4):308–315.
21. Nacer N, Fatimi N, Rkha S and Ouzennou N. Syndromes associated with sexually transmitted infections: Prevalence and risk factors among women of childbearing age in Morocco. *African Journal of Reproductive Health* 2022;26(9):94–102.
22. Farris N, He L, Poston DL, Walther CS, Russell C and Kincannon H. Sexuality in China BT - International Handbook on the Demography of Sexuality. In: Baumle AK, editor. . Dordrecht: Springer Netherlands, 2013; p. 107–127.
23. Bogaert AF and Liu J. Physical Size and Sexual Orientation: Analysis of the Chinese Health and Family Life Survey. *Archives of Sexual Behavior* 2013;42(8):1555–1559.
24. Dadzie LK, Agbaglo E, Okyere J, Aboagye RG, Arthur-Holmes F, Seidu AA and Ahinkorah BO. Self-reported sexually transmitted infections among adolescent girls and young women in sub-Saharan Africa. *International Health* 2022;14(6):545–553.
25. Spyrelis A and Ibisomi L. “It is just a lot to deal with”: A qualitative study exploring the sexual and reproductive health needs of a sample of female sex workers in six locations in Southern Africa. *African Journal of Reproductive Health* 2022;26(5):72–80.
26. Ilo P, Ifijeh G, Segun-Adeniran C, Michael-Onuoha HC and Ekwueme L. Providing reproductive health information to rural women: The potentials of public libraries. *African Journal of Reproductive Health* 2021;25(5s):210–218.