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Contraceptive Use, Unmet Need for Contraception, and Unintended Pregnancy in a Context of Mexico-U.S. Migration

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Abstract. This study examines the impact of migration on contraceptive use, unmet need for contraception, and unintended pregnancy among migrants from Tlacuitapa, Jalisco, a migrant-sending community in Mexico with a long history of out-migration to the United States. Our analysis found that after controlling for demographic factors, being born in the United States and having lived in the United States for at least one year during youth have a statistically significant positive effect on using medical contraception. We also found that having lived in the United States during youth has a negative influence on unmet need, suggesting that exposure to the United States during these formative years may facilitate access to contraception. In terms of migration and unintended pregnancy, our analysis yielded that being born in the United States and having lived in the United States during youth have a positive effect on unintended pregnancies, suggesting that U.S. experience may in fact be a risk factor for, rather than protective against, unintended pregnancy.

Keywords. Migration, contraception, unintended pregnancy, Mexico, Jalisco.

1 Introduction

1.1 Family Planning in a Migration Context

Migration may have either protective or harmful effects on family planning behaviors such as the use of contraception, as well as outcomes such as unmet need for contraception and unintended pregnancy. Postulated mechanisms for a relationship between migration and sexual and reproductive health include the following: (1) migrants are often exposed to more liberal social contexts in urban areas, where risk (extramarital sex, substance use, and multiple partners) as well as protective behaviors (increased condom use, more openness to discussing sexuality) are more commonplace than in their more rural home communities; (2) migrants who are separated from their partners or families may engage in riskier sexual behaviors by seeking companionship and social support in extramarital partners, often maintaining concurrent relationships in both "home" and "temporary" communities; and (3) psychosocial vulnerability and economic marginalization may cause some migrants to engage in riskier behaviors than they would have if they had remained in their home communities (Brockerhoff and Biddlecom 1999; Desmond *et al*. 2005; Goldenberg *et al*. 2008; Meekers 2000; Steen *et al*. 2000). Also important to consider is the stage of a person's life during which migration occurs, which may differentially influence habits and behavior formation.

In general, use of medical contraception[1] is higher in urban than in rural areas; thus rural-urban migrants often report higher contraceptive knowledge and use (Lindstrom and Muñoz-Franco 2005; Lindstrom and Hernandez 2006). In the context of Mexico-U.S. migration, most studies have examined the relationship between fertility and migration rather than contraceptive use. Higher contraceptive use prevalence in the United States compared with Mexico (92% of sexually active adult women in the United States use medical contraception versus 74% in Mexico) suggests that Mexican migrants in U.S. cities may be more likely to use contraception than they would have before migrating.

Despite potential improved access to contraception in the United States compared to Mexico, migrating to the United States may concomitantly pose risks. Higher numbers of sexual partners, earlier sexual debut, and increased drug and

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[1]Contraceptive methods vary greatly in their failure rate, or the rate at which women experience unintended pregnancy with method use. The World Health Organization (2006) reports efficacy of contraceptive methods with perfect use (correct use of method with each act of sexual intercourse) and with typical use (the method was not always used correctly or not used with every act of sexual intercourse). Medical methods are defined as physical barrier (condoms), hormonal (pills, patch, Depo-Provera injections), or surgical (male and female sterilization), which are all highly effective at preventing pregnancy when properly used.

Figure 1. "Countryman, go healthy and return healthy. Protect yourself against AIDS". This photo was taken in the community of Tlacuitapa, Jalisco, where fieldwork was conducted.

alcohol use in the United States are all potential risks that the U.S. context poses for Mexican migrants. For example, 81% of women ages 20 to 24 in the United States had first intercourse before age 20, compared with 48.3% of women in Mexico (Darroch 2001). Likewise, while rates of sexually transmitted infections (STIs) are lower in the United States than in Mexico, risk behaviors that are more prevalent in the United States (higher numbers of sexual partners, substance use) and socioeconomic disparities often result in disproportionately high rates of these outcomes among Latinos (Brindis *et al*. 1995).

Unmet need for contraception is defined as the proportion of fertile individuals who do not use contraceptives despite wanting to space or limit their childbearing (Potts *et al*. 2009).[2] In Mexico, despite successful campaigns to increase family planning, unmet need is an ongoing challenge that is disproportionately experienced by young and rural populations. Unmet need in Mexico is measured at 10% nationally but rises to 26% among women 15 to 19 years of age (ENSAR 2003). The corresponding figure is unreported in the United States; however, the proportion of married women reporting contraceptive use in the United States is similar to that in Mexico (68% and 75%, respectively), suggesting that exposure to the United States might result in similar or slightly lower rates of unmet need (ENSAR, 2003; PRB, 2008). While these national disparities suggest that migration may be associated with a reduction in unmet need, this has not been explicitly studied within the context of Mexico-U.S. migration.

Unintended pregnancy is the result of unmet need for contraception or contraceptive failure or improper use, and includes pregnancies that are either unplanned (earlier or later than desired) or undesired. The disproportionately high incidence of these outcomes among Latinos in urban U.S. communities often approaches that of rural Mexico. For instance, while the adolescent pregnancy rate in the United States is estimated at just over 4%, 16% of all births among Latinas are to women under the age of 20 (Unger and Molina 2000), which closely mirrors the 17% adolescent pregnancy rate in Mexico. These rates suggest that social disadvantage and marginalization may position migrants' reproductive health to eventually become worse than that of the U.S.-born population. Several possible explanations exist to explain high rates of unplanned pregnancy among Latinas in the United States, including a strong cultural emphasis on family and motherhood (Giachello 1994), machismo and gender relations that result in women's reluctance to use contraceptives or ask their partners to do so (Wiest 1993), and inadequate access to contraceptives or information about how to use them effectively (Russell *et al*. 1993; Unger and Molina 2000).

1.2 Research Objectives

Based on differences in use of medical contraception, unmet need for contraception, and unintended pregnancy in Mexico and the United States and changes in the context of family planning that migrants may experience as a result of migration, our research objectives were to assess whether Mexico-U.S. migration (1) increases the use of medical contraception, (2) reduces unmet need for contraception, and (3) reduces unintended pregnancies.

1.3 Migrant Health Theoretical Framework

Several competing theories may explain associations between migration and family planning behaviors (Kulu 2005). The adaptation hypothesis posits that the reproductive health and behavior of migrants comes to resemble that of the local population at migrants' destination; the disruption hypothesis emphasizes the disruptive effects of migration; and the selection hypothesis posits that migrants are a population whose behaviors are healthier than the general population in their home communities (Myers and Morris 1966; Brockerhoff and Yang 1994; White *et al*. 1995; Kulu 2005). These three hypotheses are commonly drawn upon to explain the Latino health paradox—that is, the low disease rates observed in spite of elevated levels of known risk factors (Patel *et al*. 2004). The healthy migrant effect posits that migrants are selected as a group of healthier individuals who are able to migrate, which could account for healthier behaviors and better outcomes than among the native population. However, over time many migrant populations adopt health behaviors that increasingly reflect characteristics in settlement communities (Abraido-Lanza *et al*. 1999, 2005).

2 Methods

2.1 Data Collection

This study was part of the binational Mexican Migration Field Research Program, which examines Mexican migration to the United States by visiting one of three rural Mexican communities each year. The project aims to work with a complete sample population, interviewing every member of the study community between the ages of 15 and 65.

[2]The proportion of women of reproductive age who prefer to limit or space births but are not using modern contraception are considered to have an unmet need for medical contraception. This concept is usually applied to married women but can also apply to sexually active unmarried women and to couples whose current method is inappropriate or inadequate.

The fieldwork reported here was conducted in January 2010 by a team of 25 U.S. and Mexican interviewers in Tlacuitapa, Jalisco, and in two U.S. communities that receive Tlacuitapense migrants—Union City, California, and Oklahoma City, Oklahoma. The research team conducted 835 interviews with Tlacuitapenses; this population included individuals with varying degrees of exposure to the United States—from no migration experience to second-generation migrants born in the United States.

2.2 Data Analysis

We used multivariate regressions to examine migration-related predictors of the use of medical contraception, unmet need, and unintended pregnancies among fertile men and women between ages 15 and 49. We analyzed two measures of U.S. birth and having spent at least one year of one's youth in the United States.[3] These two measures allow for a nuanced understanding of how exposure to the United States at different stages of the life-course can affect family planning behaviors and outcomes.

3 Findings

3.1 Migration and Sexual Behavior

Tlacuitapa is characterized by a large proportion of young, sexually active people, with 86 men per each 100 women (figure 2). Among our sample, 71% reported an intimate relationship in the past year, and 58% had ever been married. With 85% of married participants reporting that they see their partner daily, less partner separation was documented among our sample than expected, reflecting an ongoing trend toward less circular Mexico-U.S. migration than found previously. While circular Mexico-U.S. migration patterns and their impact on temporary spousal separation and fertility have been described (Lindstrom and Giorguli Saucedo 2007, among others), our sample provides an opportunity to examine how family planning practices and desires may have changed in concert with evolving migration patterns.

3.2 Migration and Use of Medical Contraception

Approximately 62% of Tlacuitapenses who reported being in an intimate relationship also reported currently using some method to prevent pregnancy or an STI. Of those using contraception, the most common methods were condoms (19%), hormonal methods (birth control pill, Depo Provera) (11.5%), fertility awareness (rhythm, withdrawal) (10%), and male or female sterilization (9%). Only 39% of the sexually active population reported using medical contraception (hormonal, barrier, or sterilization), with 10% reporting natural (fertility awareness) methods, and 14% using no method.

[3]For our analysis, we are defining youth as ages 10 to 25 to measure the impact of migration on contraceptive use during these formative years, when patterns of sexual and reproductive health decision making and behaviors are often formed. While 25 extends the typical upper age bound of "adolescence," the later sexual debut in Mexico warrants this extended upper limit for the purposes of this study.

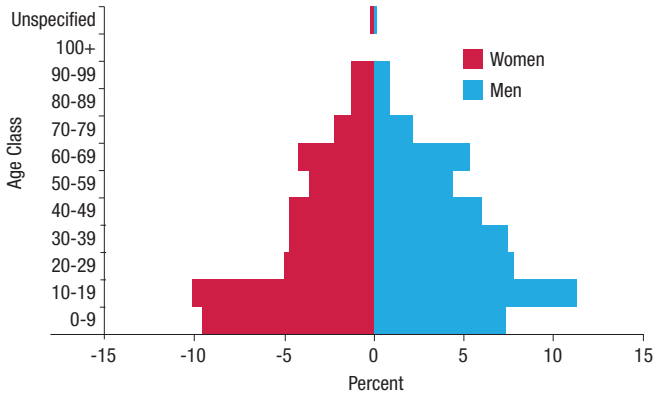

Figure 2. Total Population in Tlacuitapa (2005): 586 Men, 678 Women

Source: INEGI 2005

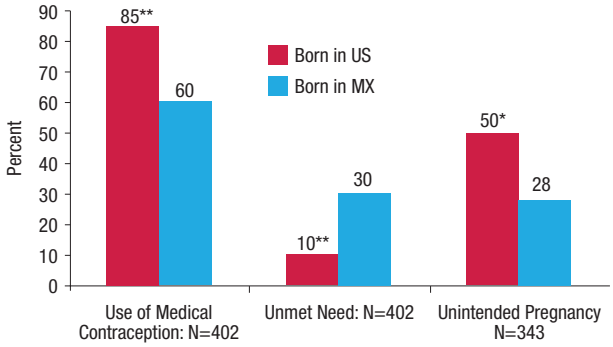

Figure 3. Use of Medical Contraception, Unmet Need, and Unintended Pregnancy among Sexually Active Respondents Ages 15 to 49, by Country of Birth

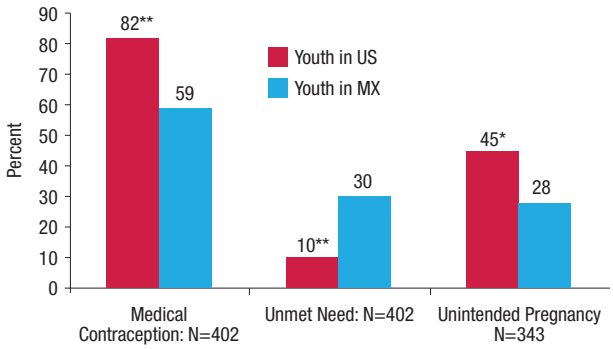

Figure 4. Use of Medical Contraception, Unmet Need, and Unintended Pregnancy among Sexually Active Respondents Ages 15 to 49, by Having Spent at Least One Year in U.S. during Youth

Figure 3 indicates that a significantly larger proportion of U.S.-born Tlacuitapenses reported using medical contraception than their Mexico-born counterparts (85% and 59%, respectively). Figure 4 illustrates the results of our descriptive statistics comparing Tlacuitapenses who spent at least one year in the United States as youths to those who did not, showing a significantly higher proportion of those with U.S. exposure as adolescents also reporting current use of medical contraception.

To more precisely measure the independent effects of U.S. birth (Model 1) and having spent at least one year in the United States during youth (Model 2) on the use of medical contraception by sexually active respondents, we constructed two logit regression models testing each of these independent variables separately. The omitted category in the dependent variable is natural contraception. Each model controls for age, age-squared, gender, religiosity (defined by the number of times respondents attended church in the month prior to our survey), years of education, and wealth.[4] Included in the regression are sexually active men and women ages 15 to 49.

Table 1 shows the independent effects of U.S. birth (Model 1) and having spent at least one year of youth in the United States (Model 2) on the use of medical contraception. The omitted category is natural contraception. Table 1 indicates that being born in the United States and having spent at least one year of youth in the United States have a positive effect on using medical contraception. This increased use suggests that U.S. exposure, especially during youth, plays an important role in the decision to use medical contraception.

Table 1. Logit Models: Use of Medical Contraception among Sexually Active Respondents Ages 15 to 49

	Model 1 Born in U.S.	Model 2 ≥1 Year of Youth in U.S.
Age	0.873	0.875
Age-squared	1.002	1.002
Gender	1.09	1.103
Religiosity	**0.931****	**0.928****
Years of education	0.985	0.985
Wealth	1.573	1.376
Born in U.S.	**3.643****	
≥1 year of youth in U.S.		**3.133****
N	397	397

* 90 percent; ** 95 percent; *** 99 percent confidence intervals

3.3 Migration and Unmet Need for Contraception

Next we studied unmet need for contraception among sexually active, fertile men and women. We calculated unmet need as the proportion of the population ages 15 to 49 that reported seeing their partner in the past 6 months, does not use contraception, and does not plan to have a child this year. We calculated that almost one-third of Tlacuitapenses currently experience an unmet need for contraception. As demonstrated in figures 3 and 4, there are large differences in unmet need by country of birth and having spent at least one year of youth in the United States.

The same controls and population examined in table 1 also apply in table 2, which displays the results of our logit regression of unmet need for contraception. Controlling for other factors, having lived in the United States for at least one year of youth has a statistically significant negative influence on unmet need.

[4]The wealth index was defined in our survey by relative socioeconomic status among our respondents in terms of their household possessions.

Table 2. Logit Models: Unmet Need for Contraception among Sexually Active Respondents Ages 15 to 49

	Model 1 Born in U.S.	Model 2 ≥1 year of youth in U.S.
Age	0.963	0.961
Age-squared	1.001	1.001
Gender	1.076	1.066
Religiosity	1.038	1.039
Years of education	0.992	0.995
Wealth	0.515	0.608
Born in U.S.	**0.355***	
≥1 year of youth in U.S.		**0.295****
N	397	397

* 90 percent; ** 95 percent; *** 99 percent confidence intervals

3.4 Migration and Unintended Pregnancy

To assess unintended pregnancy, we asked male and female participants ages 15 to 49 who had children about their fertility desires at the time of conception of their last child. Overall, 30% of this population reported unintended pregnancy, including those who had wanted to delay the pregnancy (17%) or had not wanted to conceive their last child at all (12%).

A much larger proportion of U.S.-born than Mexico-born participants reported that their last pregnancy was unintended, as shown in figure 3. We examined the breakdown of unintended pregnancy by period of life spent in the United States to determine when in the migration process patterns of contraceptive use and fertility may shift. As figure 4 illustrates, a significantly larger proportion of Tlacuitapenses who spent at least one year of their youth in the United States reported that their last pregnancy was unintended than did those who did not spend any time in the United States between the ages of 10 and 25.

The same controls and population followed in tables 1 and 2 also apply for table 3, which displays the results of our logit regression of unintended pregnancy. Controlling for other factors, U.S. birth and having lived in the United States for at least one year during youth have a positive effect on unintended pregnancies, suggesting that U.S. experience may in fact be a risk factor, rather than protective, for unintended pregnancy.

Table 3. Logit Models: Unintended Pregnancy among Sexually Active Respondents Ages 15 to 49

	Model 1 Born in U.S.	Model 2 ≥1 year of youth in U.S.
Age	**0.688*****	**0.696*****
Age-squared	**1.005*****	**1.005*****
Gender	1.22	1.232
Religiosity	**0.916*****	0.915**
Years of education	0.952	0.95
Wealth	1.699	1.519
Born in U.S.	**3.494****	
≥1 year of youth in U.S.		**2.542****
N	336	336

90 percent; ** 95 percent; *** 99 percent confidence intervals

4 Discussion

Our study detected migration-related factors that may influence contraceptive use, unmet need, and unintended pregnancy in a traditional migrant-sending community in Jalisco, Mexico.

Returning to the question of whether migration increases the use of medical contraceptive methods, being born in the United States and having lived in the United States for at least one year during youth have a positive effect on using such methods, suggesting that migrants adapt to contraceptive practices in place in the United States and providing evidence for the adaptation hypothesis. Also, evidence for our hypothesis that U.S. migration will be associated with reduced unmet need for contraception was provided by our finding that having lived in the United States for at least one year of youth has a negative influence on unmet need. This finding is in line with our previous observation that spending time in the United States as a young person plays an important role in contraceptive use, suggesting that exposure to the United States during these formative years may be instrumental in helping young people obtain contraception as needed. Lastly, U.S. birth and having lived in the United States for at least one year as a youth have a positive effect on unintended pregnancies. This finding is contrary to our hypothesis that exposure to the United States would be protective for unintended pregnancy, and it suggests that U.S. experience may instead put migrants at risk of an unintended pregnancy.

Despite higher levels of contraceptive use among migrants compared with nonmigrants, the apparent paradox of migrants reporting more unintended pregnancies than nonmigrants may be explained by other studies of Mexican migration and sexual and reproductive health, which have also documented incongruencies between reported behavior and health outcomes. For example, Aroian (2001) reported increased peer pressure toward drug use, sexual activity, and violence among migrant adolescents compared to their U.S.-born counterparts but no increase in use or intent to use illicit drugs (Aroian 2001; see also Kandula *et al*. 2004). However, these conflicting data may be an artifact of our question design, explored below.

4.1 Strengths and Limitations

Our study design provides a unique opportunity to assess migration and family planning behaviors and outcomes by providing such data from a control group (people who have never migrated) and a sample of migrants reporting varied migration experiences. This was the first cycle in which the Mexican Migration Field Research Program explored reproductive health, so although we were unable to assess longitudinal changes in behaviors, this study collected baseline data for future assessment.

While our measure of unintended pregnancy was based on perceptions of whether a respondent's last child was intended at the time of conception, our measures of contraceptive use and unmet need are based on responses to current use at the time of the interview. Thus the discrepancy between unmet need and unintended pregnancy may be partially explained by respondents who experienced a past unintended pregnancy and from thereon used contraception, thereby filling their unmet need. Further, our measure of unintended pregnancy was perception-based; differences in the cultural and social context surrounding fertility and sexual health likely influenced responses. For example, the social emphasis on motherhood and fertility and more conservative values in Tlacuitapa may have biased nonmigrants to be less likely to respond that a pregnancy was unintended than did their U.S.-born counterparts.

4.2 Interventions and Implications

Research and policy have indicated that increasing access to free contraception and providing comprehensive sex education result in fewer unintended pregnancies (Gold 2006; Darroch 2001). According to formal policy, the Mexican government provides services and education to increase access to and utilization of family planning, reducing unmet need and unplanned pregnancies. Though state health officials described government efforts to reduce the risk of such negative health outcomes as adolescent pregnancy, our findings suggest that these federal policies have variegated impacts at the local level.

In rural communities like Tlacuitapa, where open discussions of sexuality and reproductive health are less likely than in the urban United States, nuanced methods for exploring such sensitive topics are necessary. Our research team consulted with community leaders in the design of our survey, and although all possible efforts were made to gather robust indicators of contraceptive use behaviors and outcomes, we struggled to develop appropriate and sensitive questions for this community. Developing more sensitive and robust measures for exploring sexual health in rural Mexico would be an important goal in future research.

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References:

Abraido-Lanza, A. F., B. P. Dohrenwend, D. S. Ng-Mak, and J. B. Turner (1999), "The Latino Mortality Paradox: A Test of the 'Salmon Bias' and Healthy Migrant Hypotheses," American Journal of Public Health, Vol. 89, No. 10, pp. 1543-1548.

Abraido-Lanza, A. F., M. T. Chao, and K. R. Flórez (2005), "Do Healthy Behaviors Decline with Greater Acculturation? Implications for the Latino Mortality Paradox," Social Science & Medicine, Vol. 61, pp. 1243-1255.

Aroian, K. J. (2001), "Immigrant Women and Their Health," Annual Review of Nursing Research, Vol. 19, pp. 179-226.

Brindis, C., A. Wolfe, et al. (1995), "The Associations between Immigrant Status and Risk-Behavior Patterns in Latino Adolescents," Journal of Adolescent Health, Vol. 17, No. 2, pp. 99-105.

Brockerhoff M. and A. E. Biddlecom (1999), "Migration, Sexual Behavior and the Risk of HIV in Kenya," International Migration Review, Vol. 33, No. 4, pp. 833-856.

Brockerhoff, M. and X. X. Yang (1994), "Impact of Migration on Fertility in Sub-Saharan Africa," Social Biology, Vol. 41, No. 1-2, pp. 19-43.

Darroch, J. E. (2001), "Differences in Teenage Pregnancy Rates among Five Developed Countries: The Roles of Sexual Activity and Contraceptive Use," Family Planning Perspectives, Vol. 33, No. 6, p. 244.

Desmond N., C. Allen, S. Clift, B. Justine, J. Mzugu, M. L. Plummer, D. Watson-Jones, and D. A. Ross (2005), "A Typology of Groups at Risk of HIV/STI in a Gold Mining Town in North-Western Tanzania," Social Science & Medicine, Vol. 60, pp. 1739-1749.

Encuesta Nacional sobre Salud Reproductiva (ENSAR). (2003).

Giachello, A. L. M. (1994), "Maternal/Perinatal Health," in C. W. Molina and M. Aguirre-Molina (eds.), Latino Health in the US: A Growing Challenge, American Public Health Association, Washington, DC.

Gold, R. B. (2006), "Rekindling Efforts to Prevent Unplanned Pregnancy: A Matter of 'Equity and Common Sense,'" Guttmacher Policy Review, Vol. 9, pp. 2-7.

Goldenberg, S., J. Shoveller, A. Ostry, and M. Koehoorn (2008), "Youth Sexual Behaviour in a Boomtown: Implications for the Control of Sexually Transmitted Infections," Sexually Transmitted Infections, Vol. 84, No. 3, pp. 220-223.

INEGI (Instituto Nacional de Estadística y Geografía) (2005), Censo General de Población y Vivienda, INEGI, Mexico.

Kandula, N. R., M. Kersey, and N. Lurie (2004), "Assuring the Health of Immigrants: What the Leading Health Indicators Tell Us," Annual Review of Public Health, Vol. 25, pp. 357-376.

Kulu, H. (2005), "Migration and Fertility: Competing Hypotheses Re-examined," European Journal of Population, Vol. 21, No. 1, pp. 51-87.

Lindstrom, D. P. and S. Giorguli Saucedo (2007), "The Interrelationship between Fertility, Family Maintenance and Mexico-U.S. Migration," Demographic Research, Vol. 17, pp. 821-858.

Lindstrom, D. P. and C. H. Hernandez (2006), "Internal Migration and Contraceptive Knowledge and Use in Guatemala," International Family Planning Perspectives, Vol. 32, No. 3, pp. 146-153.

Lindstrom, D. P. and E. Muñoz-Franco (2005), "Migration and the Diffusion of Modern Contraceptive Knowledge and Use in Rural Guatemala," Studies in Family Planning, Vol. 36, No. 4, pp. 277-288.

Meekers, D. (2000), "Going Underground and Going after Women: Trends in Sexual Risk Behaviour among Gold Miners in South Africa," International Journal of STD & AIDS, Vol. 11, pp. 21-26.

Myers, G. C. and E. W. Morris (1966), "Migration and Fertility in Puerto Rico,"Population Studies, Vol. 20, No. 1, pp. 85-96.

Patel, Kushang V. et al. (2004), "Evaluation of Mortality Data for Older Mexican Americans: Implications for the Hispanic Paradox," American Journal of Epidemiology, Vol. 159, No. 7, pp. 707-715

Population Reference Bureau (PRB). (2008). Family planning worldwide. 2008 Data Sheet. http://www.prb.org/pdf08/fpds08.pdf. Accessed May 17, 2010.

Potts, M., A. M. Pebley, et al. (2009), "Editorial," Philosophical Transactions of the Royal Society, Biological Science, Vol. 364, pp. 2975-2976.

Russell, A. Y., M. S. Williams, P. A. Farr, A. J. Schwab, and S. Plattsmier (1993), "Patterns of Contraceptive Use and Pregnancy among Young Hispanic Women on the Texas-Mexico Border," Journal of Adolescent Health, Vol. 14, pp. 373-379.

Steen, R., B. Vuylsteke, T. DeCoito, S. Ralepeli, G. Fehler, J. Conley, L. Bruckers, G. Dallabetta, and R. Ballard (2000), "Evidence of Declining STD Prevalence in a South African Mining Community following a Core-Group Intervention," Sexually Transmitted Diseases, Vol. 27, No. 1, pp. 1-8.

Unger, Jennifer B. and G. B. Molina (2000), "Acculturation and Attitudes about Contraceptive Use among Latina Women," Health Care for Women International, Vol. 21, No. 3, pp. 235-249.

White, M. J., L. Moreno, and S. Guo (1995), "The Interrelationship of Fertility and Migration in Peru: A Hazards Model Analysis," International Migration Review, Vol. 29, pp. 492-524.

Wiest, R. E. (1993), "Male Migration, Machismo, and Conjugal Roles: Implications for Fertility Control in a Mexican Municipio," Journal of Comparative Family Studies, Vol. 14, pp. 167-181.

World Health Organization (2006), "Comparing Typical Effectiveness of Contraceptive Methods," WHO, Geneva.