Migration and reproductive health behaviors of young Peruvian women

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The aim of this study is to explore reproductive health behaviors and risk factors among young Peruvian women who have migrated before age 20. Peru is a modernizing country with rapidly advancing demographic and health transitions. Migration, too, is in transition. Over half of Peruvians currently migrate at least once in their lifetimes, aided by improving transportation and communication networks (Altamirano 2003). The once dominant rural-to-urban migration streams have begun to reverse in recent years and have been surpassed by urban-to-urban streams. These rapidly changing spatial dynamics are likely changing reproductive behavioral patterns as well. As young people from vastly different backgrounds mix, so do their concepts and mores regarding sexuality, marriage and childbirth (Pick and Cooper 1997). As fertility has fallen and age at marriage has increased, more young people are at risk of unprotected sex, a phenomenon recently documented in Colombia and Peru by Ali, Cleland and Shah (2003). Magnani et al (2001) documented attitudinal predictors of adolescent reproductive health risk-taking among urban Peruvian adolescents. The present study extends that work by focusing on migrants and by modeling contraceptive use, nuptiality and childbirth conditional on the social structural factors of the receiving areas. Three distinct theoretical models have been advanced to explain the effects of migration on reproductive and demographic behaviors (Brockerhoff 1994, Guo 1995). According to the selectivity model, rural-to-urban migrants should have better outcomes than those who remained behind because of their superior characteristics (David 1999). For others, migration presents disruption of social ties, uncertain living arrangements or other physical risks, particularly for rural-to-urban migrants (Brockerhoff 1994). A third model stresses how migrants adapt to their new surroundings (National Research Council 2003). If there are greater health resources in the receiving area, reproductive outcomes ought to improve. For example, fertility in urban areas is lower in Peru and elsewhere, ostensibly because family planning services are more accessible. However, risky behaviors are as likely as "positive" health concepts to diffuse across social space (Bunton, Murphy and Bennett 1991). Exposure to new health concepts and behaviors ought to be greatest among those who migrate to destinations with relatively developed communications and transportation infrastructures, whose residents are relatively heterogeneous and whose socioeconomic levels are relatively higher. Those migrating from urban to rural areas encounter a range of new health risks, however, there may be greater social control over premarital sex, which would have a protective effect on young migrants. The data for this study come from Peru's 1996 DHSIII and 2000 DHSIV surveys. The datasets were linked at the district level (n=589) using census geocodes provided by Peru's Instituto Nacional de Estadistica e Informatica (INEI). Three-level logistic variance components models were estimated using Stata's gllamm program. The models were stratified by type of migration flow. Dependent variables included current modern contraceptive use, having ever used a contraceptive, having initiated sex before entering a union and having given birth before age 18. Household and individual level controls include Spanish fluency, educational

attainment, union status, presence of a dirt floor and a dummy for region. Random intercepts were specified at DHS cluster and district levels. The relationships between district-level structural covariates and individual outcomes were also modeled. These include gini indexes and entropy coefficients derived from the household wealth quintile and occupational distributions for each census district. These measures capture the independent macro-level effects of social inequality and heterogeneity, both of which favor information transmission and social exchanges broadly defined (Blau and Schwartz 1984, Blau 1988). Additional contextual effects are measured by mean educational attainment, availability of water and electricity, proportion of households with televisions, computers and other appliances and that speak Spanish. Residuals were analyzed and the district-level posterior means were ranked and compared across the surveys. Preliminary results show that, among rural migrants and nonmigrants, contraceptive use and having had a birth before age 18 are generally clustered at the (DHS) cluster level. This was not the case among urban migrants. Secondly, the choices of urban migrants are more constrained by their socioeconomic status than is the case with rural migrants. Thirdly, district-level covariates have weak to insignificant direct effects on contraceptive use and early childbirth. Fourthly, the posterior mean ranks for the two samples shift somewhat, indicating that omitted variable effects on these behaviors changed over the five-year period. Nested models are being used to determine whether the macro-level structural measures are correlated with the random effects as theoretically predicted. In a final set of models the datasets will be pooled, increasing the number of observations and allowing more robust models to be estimated.