Urban rural differentials in spatial distribution of pregnant women’s choice of delivery place by district in Punjab — Results from Pakistan Social and Living Standards Measurements Survey 2014-15

Masood Ali Shaikh

Madam, home deliveries are fraught with higher risks of maternal and neonatal complications, but in many developing countries childbearing women choose to deliver at home.\textsuperscript{1-3} Utilization of public or private maternal healthcare services is predicated on availability of, access to, and cost concerns. Public sector healthcare facilities are designed to essentially provide free services.\textsuperscript{1-3} In this study, percent of delivery sites utilization, disaggregated by urban and rural residency status in each district of the Punjab province were mapped using Geographic information Systems. The spatial distribution of delivery site percentages, disaggregated by three places of either home delivery, delivery at government facilities (hospital, Rural Health Center, and Basic Health Units), and delivery at private hospitals or clinics was done to highlight the urban and rural distribution, including the differences between urban and rural percentages.

The ‘Pakistan Living Standards Measurement’ surveys (PSLM) are conducted by the Pakistan Bureau of Statistics (PBS).\textsuperscript{4} The latest district-level survey report is available for the PSLM 2014-15 in tabular form, and was downloaded from the PBS website as a PDF file.\textsuperscript{5} District level data was entered into Excel programme and joined with the Punjab districts shapefile using GIS programme ArcGIS 10.7. Three sets of three choropleth maps were created using ArcGIS 10.7, showing percentage of pregnant women that delivered either at home, or government hospitals including Rural Health Centers (RHC), and Basic Health Units (BHU), or at private hospitals or clinics, and the differences between urban and rural residency status by district. Five classes were used to depict various percentage levels of delivery places, using natural breaks (Jenks) method for the urban residency status maps. For rural residency status, five classes were also used, but with manually defined intervals to match the urban map for ease of district-level comparisons. Similarly, for the differences between districts by urban residency percentages compared to rural residency percentages, five classes with natural breaks method were used.

Figure-1 shows the map of Punjab province with all 36 districts and their names. Figure-2 shows three maps of home delivery percentages by urban (left map), rural (central map) residency status, and the differences between the two (right map). The home delivery percentage ranged from 5\% to 71\% in urban areas, with six districts falling in the lowest group of 5\%-17\% and another six were in the highest group of 47\%-71\%. Among rural areas, the home delivery percentages ranged from 11\%-92\%, with one district falling in the lowest group of 11\%-17\%. While in thirteen districts the percentages ranged from 47\%-92\%. The differences between the urban and rural home delivery district percentages ranged from -38\% to 16\%; with negative differences between urban and rural residency status implying that rural residents in the district had higher percentages compared to urban residents. Rawalpindi was the only district where urban residents had non-negative i.e. higher percentage of home delivery compared to rural residents. Figure-3 shows three maps of

---

*Correspondence: Masood Ali Shaikh. Email: masoodalishaikh@gmail.com*

DOI: https://doi.org/10.47391/JPMA.22-35
delivery at government facilities. The percentage of women who reported deliveries at government health facilities ranged from 4% to 48% in urban areas, with three districts falling in the lowest group of 4%-7% and four were in the highest group of 35%-48%. Among rural areas, the home delivery percentages ranged from 3%-46%, with fourteen districts falling in the lowest group of 4%-7%. While three districts the percentages ranged from 35%-46%. The difference in percentages between the urban and rural areas in delivery at government facilities ranged from -12% to 27%; with negative differences between urban and rural residency status implying that rural residents in the district had higher...
percentages compared to urban residents. Seven rural
districts had higher percentages of deliveries at government
run facilities, while there was no difference between urban
and rural percentages in the districts of Jhang and Lodhran. In
district Jhelum the difference was merely of one percent
point. Figure-4 shows the shows three maps of delivery at
private health facilities that includes hospitals and clinics. The
private facility delivery percentage ranged from 18% to 76%
in urban areas, with four districts falling in the lowest group of
18%-28% and six were in the highest group of 59%-76%.
Among rural areas, the home delivery percentages ranged
from 4%-60%, with seven districts falling in the lowest group
of 4%-28%. While only Nankana Sahib district reported 60%,
and fell in the highest group of 59%-60%. The differences
between the urban and rural private facility delivery district
percentages ranged from -11% to 29%; with negative
differences between urban and rural residency status
implying that rural residents in the district had higher
percentages compared to urban residents. In eight districts
rural residents had higher percentages compared to urban
residents. Sahiwal district did not report any urban-rural
difference.

In general, women in rural parts of southern districts reported
much higher percentages of delivery at home and
government facilities, compared to their urban counterparts
in the northern part of the province where more women
delivered at private facilities. This is the first study on mapping
of urban-rural residency disaggregated district level
representative data on place of delivery in the Punjab
province. The north-south gap is an interesting pattern that
was clearly depicted in this study. The findings from the PSLM
district level data for the 2014-15 survey will help determine
the trends with the future iterations of PSLM surveys.

References
1. Tessema ZT, Tesema GA. Pooled prevalence and determinants of
skilled birth attendant delivery in East Africa countries: a
multilevel analysis of Demographic and Health Surveys. Ital J
2. Ahinkorah BO, Seidu AA, Budu E, Agbaglo E, Appiah F, Adu C, Archer
AG, Ameyaw EK. What influences home delivery among women
who live in urban areas? Analysis of 2014 Ghana Demographic and
3. Mallick A. Prevalence of low birth weight in India and its
determinants: Insights from the National Family Health Survey
4. Pakistan Bureau of Statistics. 'Pakistan Social And Living Standards
(Accessed: Feb13, 2019)
5. Pakistan Bureau of Statistics. Pakistan Social and Living Standards