

their child for six consecutive months, and then continue to breastfeed and supplement for up to two years; to optimize growth and development. While it has long been recognized that breastfeeding improves child survival by decreasing diarrheal disease and acute respiratory infections, recently it has also been linked to a decreased risk of childhood obesity and diabetes. Moreover benefits to the mother have been underestimated; breastfeeding is associated with a lower risk of cancer and metabolic disorders. Yet the number of women in low-middle income countries (LMIC) who follow the WHO guidelines is low. Optimal practices around birth and socio-demographic factors influence breastfeeding behaviors. We sought to describe the trends in breastfeeding and birthing practices over time in LMICs, and their association with individual and country level economic status.

Methods: Data from the **Demographic Health Surveys (DHS)** from three time periods within a 20-year timeframe in each of 41 countries were used. The DHS is a nationally representative household survey that provides data in the areas of population, health & nutrition. Sample sizes for surveys ranged from 1169 to 7530 infant/mother pairs. Descriptive analysis was conducted to examine trends in breastfeeding and birthing practices (type of delivery and location). Unadjusted and adjusted logistic regression models were conducted for each survey to estimate the relationship between breastfeeding and birthing practices. Results for each country were combined for a meta-analysis.

Findings: Preliminary findings. Country-level and individual-level wealth were associated with breastfeeding practices. In general as a country's wealth increased breastfeeding behaviors declined. Within countries wealthier individuals had poorer breastfeeding behaviors. Wealthier individuals had higher rates of c-sections. After controlling for socio-demographic variables individuals who had a vaginal delivery had significantly greater odds of breastfeeding.

Interpretation: There is a need for optimal practices around birth to support immediate breastfeeding.

We recommend training hospital staff and other health care workers on practices that protect, promote and support breastfeeding, like those outlined in WHO/UNICEF's Baby-Friendly Hospital Initiatives.

Other health system strengthening interventions should be explored.

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Disparity in Delivery: Why Is What Is Good for the Goose, Not Good for the Gander? Cervical Cancer Screening Program Strategies in LMICs Are Inferior

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Background: The incidence of cervical cancer is significantly higher in Low and Middle Income Countries (LMICs) than in High Income Countries. There are three methods to screen for

cervical cancer: Visual Inspection with Acetic Acid (VIA), HPV testing, and cytology. Cytology based screening resulted in drastic reduction in cervical cancer in High Income Countries, but has not been implemented in many LMICs because it is thought to be expensive and for fear of "loss to follow-up." In this study, we surveyed countries in various income groups and correlated income with the published screening strategy in each country. Through our pilot program, we also show that cytology can be implemented successfully with minimal resources in LMICs.

Methods: Published resources from IARC and WHO were surveyed for available cervical cancer screening strategies. We categorized the countries according to income levels. VIA, Pap smear, and HPV testing availability was collected.

A low-cost cytology laboratory in Tamil Nadu, India was established, and we trained 6 cyto-screeners for staining and reading cytology slides in 2 years.

Findings: Our study shows that while 90.9% of High Income Countries and 70.9% of Upper Middle Income Countries have cytology programs, only 45.0% of Lower Middle Income Countries and 18.2% of Low Income Countries have cytology based cervical cancer screening.

In our pilot program, we were able to implement a laboratory for cervical cytology with minimal cost and resources (<3000USD/year/laboratory). It takes 6 months to 1 year to fully train (95% concordance) a cytoscreener in these locations with sparse resources.

Interpretation: Cytology based programs are available in High Income Countries and Upper Middle Income Countries, but less frequently in Lower Middle Income Countries or Low Income Countries. We hypothesize that non-availability of cytology based programs may be associated with persistent higher incidences of cervical cancer in these countries. Much rigorous analysis is required to link this association. Through our pilot programs, we show that it is possible to create low cost cytology based screening programs in LMICs.

Thus, if cytology based programs can effectively decrease cervical cancer, then this should be available globally, rather than less effective methods.

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Coordination and Partnership for Improved Maternal-Child Health in Rural Chiapas, Mexico

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Program/Project Purpose: Improving maternal-child health remains a major goal worldwide for the most marginalized and vulnerable populations. New methods that implement what is known to work medically, but that also comprehensively address the myriad factors contributing to poor outcomes, are needed. Chiapas has one of the highest rates of maternal mortality in Mexico at