Status and drivers of maternal, newborn, child and adolescent health in the Islamic world: a comparative analysis

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Summary

Background The Millennium Development Goal (MDG) period saw dramatic gains in health goals MDG 4 and MDG 5 for improving child and maternal health. However, many Muslim countries in the south Asian, Middle Eastern, and African regions lagged behind. In this study, we aimed to evaluate the status of, progress in, and key determinants of reproductive, maternal, newborn, child, and adolescent health in Muslim majority countries (MMCs). The specific objectives were to understand the current status and progress in reproductive, maternal, newborn, child, and adolescent health in MMCs, and the determinants of child survival among the least developed countries among the MMCs; to explore differences in outcomes and the key contextual determinants of health between MMCs and non-MMCs; and to understand the health service coverage and contextual determinants that differ between best and poor or moderate performing MMCs.

Methods In this country-level ecological study, we examined data from between 1990 and 2015 from multiple publicly available data repositories. We examined 47 MMCs, of which 26 were among the 75 high-burden Countdown to 2015 countries. These 26 MMCs were compared with 48 non-Muslim Countdown countries. We also examined characteristics of the eight best performing MMCs that had accelerated improvement in child survival (ie, that reached their MDG 4 targets). We estimated adolescent, maternal, under-5, and newborn mortality, and stillbirths, and the causes of death, essential interventions coverage, and contextual determinants for all MMCs and comparative groups using standardised methods. We also did a hierarchical multivariable analysis of determinants of under-5 mortality and newborn mortality in low-income and middle-income MMCs.

Findings Despite notable reductions between 1990 and 2015, MMCs compared with a global esimate of all countries including MMCs had higher mortality rates, and MMCs relative to non-MMCs within Countdown countries also performed worse. Coverage of essential interventions across the continuum of care was on average lower among MMCs, especially for indicators of reproductive health, prenatal care, delivery, and labour, and childhood vaccines. Outcomes within MMCs for mortality and many reproductive, maternal, newborn, child, and adolescent health indicators varied considerably. Structural and contextual factors, especially state governance, conflict, and women and girl's empowerment indicators, were significantly worse in MMCs compared with non-MMCs within the high-burden Countdown countries, and were shown to be strongly associated with child and newborn mortality within low-income and middle-income MMCs. In adjusted hierarchical models, among other factors, under-5 mortality in MMCs increased with more refugees originating from a country (β=23·67, p=0·0116), and decreased with better political stability or absence of terrorism (β=–0·99, p=0·0285), greater political rights or government effectiveness (β=–1·17, p<0·0001), improvements in log gross national income per capita (β=–4·44, p<0·0001), higher total adult literacy (β=–1·69, p<0·0001), higher female adult literacy (β=–0·97, p<0·0001), and greater female to male enrolment in secondary school (β=–16·1, p<0·0001). The best performing MMCs were Azerbaijan, Bangladesh, Egypt, Indonesia, Kyrgyzstan, Morocco, Niger, and Senegal, which had higher coverage of family planning interventions and newborn or child vaccinations, and excelled in many of the above contextual determinants when compared with moderate or poorly performing MMCs.

Interpretation The status and progress in reproductive, maternal, newborn, child, and adolescent health is heterogeneous among MMCs, with little indication that religion and its practice affects outcomes systemically. Some Islamic countries such as Niger and Bangladesh have made great progress, despite poverty. Key findings from this study have policy and programmatic implications that could be prioritised by national heads of state and policy makers, development partners, funders, and the Organization of the Islamic Cooperation to scale up and improve these health outcomes in Muslim countries in the post-2015 era.

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Introduction

The world has made major strides in improving maternal and child health and mortality across the Millennium Development Goals (MDG) period spanning 1990–2015.[1,2] Launched in the year 2000, the Millennium Declaration set targets for improving health and reducing mortality of children by two-thirds (MDG 4) and mothers by three-quarters (MDG 5) from 1990 base figures.[1,2] Globally,

Research in context

Evidence before this study

We searched MEDLINE, Embase, Global Health Library (IMEMR), and Scopus electronic databases for articles published from Jan 1, 1980, to Dec 6, 2016, concerning the health of Muslim populations or countries without language restrictions. Studies that did not include at least one Muslim-majority country, were of men only, or were published before 1980 were excluded. Broad search terms used include (muslim* OR islam* OR moslem* OR arab world OR arab states OR arab OR muslim world OR African region OR north africa OR northern africa OR sub-saharan africa OR west africa OR western Africa OR south africa OR southern Africa central asia OR central asia OR east asia OR eastern asia OR south-east asia region OR south-eastern asia OR southern asia OR south asia OR western asia OR west asia OR middle east OR middle east and north Africa OR eastern and southern africa OR west and central Africa OR east asia and pacific OR African region OR south-east asia region OR eastern Mediterranean region OR western pacific region) AND (maternal OR women OR child* OR infant* OR adolescen* OR neonat* OR newborn OR new-born OR under 5 OR under five OR under-five OR under-5 OR child health OR maternal health OR mortalit* OR health OR health status indicator* OR conflict* OR war OR governance OR health systems OR policy OR finance OR financing). Grey literature was searched for the same timeframe, using similar search terms and inclusion and exclusion criteria in Google, Google Scholar, Islamic Development Bank (ISDB), Statistical, Economic and Social Research and Training Centre for Islamic Countries (SESRIC), UNICEF, UNPD, WHO, WHOLIS, World Bank, and government websites.

We found that existing literature on RMNCH and survival was mostly concentrated on Arab countries, which represents less than half of all Muslim nations. Razzak and colleagues explored disparities in mortality and life expectancy between Muslim majority and non-Muslim majority countries and indicated gross national income, literacy rate, access to clean water and level of corruption as key predictors of mortality. A few subnational studies provided mixed results. A report of the Muslim populations in China indicated that the two largest populations of Muslims in the country—the socially accepted and dispersed Hui and the marginalised but localised Uighur (in the Xinxiang province)—had clearly different social, economic and health opportunities. The Hui performed better mainly due to their effective integration into the Chinese community, often through lingual and cultural assimilation. A study of child survival differentials between Muslim and Christian populations in Lebanon found that Muslim children younger than 5 years had comparatively higher mortality rates consistently over a 10 year period and attributed this to poverty and higher levels of fertility among Muslim groups. The 2006 Sachar Commission's report from India found that Muslims relative to Hindus exhibited deficits and deprivation in all dimensions of human development, especially in female education and economic status, yet child mortality levels were significantly lower. In this case, the role of Islam—as contributing to lifestyle, behaviour and practices such as those for personal hygiene—could have contributed to health outcomes. Similarly, diverse findings have been reported of Muslim populations in other studies in India, Bangladesh, Ghana, Israel, and Switzerland.

Added value of this study

To our knowledge, this is the first systematic and comprehensive analysis of reproductive, maternal, newborn, child and adolescent health among all 47 Muslim majority countries worldwide. Our study underscores many key findings among Islamic nations. Muslim nations globally have higher mortality among vulnerable populations relative to non-Muslim countries, and coverage of essential interventions, especially those around reproductive health, prenatal, delivery and labour, and childhood vaccines, are significantly lower. Our findings suggest that structural and contextual factors in these countries could be the leading causes of disparities and poor outcomes. Although widespread conflict, political instability, and insecurity in Organisation of Islamic Cooperation (OIC) countries could also be a contributing driver of adverse outcomes, some evidence suggests that relatively low empowerment of women and young girls, as evidenced by lower literacy rates, higher levels of fertility and younger ages at marriage and could be important contributors to observed differentials.

Implications of all the available evidence

Findings from this study could be used by policy makers, development partners, secretariat of the OIC, and civic society representatives of Islamic countries for tangible actions to improve reproductive, maternal, newborn, child and adolescent health. Concerted efforts should focus on interventions to empower women and young girls, for example, by promotion of delayed onset of marriage and first pregnancy and initiatives to promote female education. Initiatives to resolve conflict and insecurity within and across Islamic countries are critically needed, and should be led by the Muslim countries themselves with support from international stakeholders. Addressing of social deprivation, investments in promotion of equity, and peace negotiations will prevent deprivation and a sense of injustice that breeds insurgency and civil uprisings. A focus on implementation of community-based, outreach, and primary care initiatives as well as social safety nets could help in this regard. Governments should prioritise human development and provision of human resources, funding, infrastructure, and commodities for reproductive, maternal, newborn, child and adolescent health, especially among marginalised populations and in unstable conflict affected areas. Transparent and accountable state governance underlies success in all these initiatives and should be encouraged and supported locally and internationally. Resource sharing from wealthier Islamic countries to poorer and fragile states, facilitated through the OIC and other regional stakeholders, would encourage equity across the Islamic world.