

and prioritize maternal and child health challenges (Houweling et al., 2011; Morrison et al., 2010). In Myanmar, there are several reports regarding the use of lay maternal health workers, although there is great variation across programs in terms of the different societies and cultures involved (Htoo Htoo, 2010; Japanese Organization for International Cooperation in Family Planning, 2013; Mullan et al., 2008; Teela et al., 2009). We established women's health volunteer groups in rural Myanmar and investigated the relationship between women's health volunteer groups and community-based maternal and child health.

**Socio-environmental factors relevant in Myanmar.** Myanmar is one of the poorest countries in Southeast Asia, with a per capita gross domestic product of \$1,105 and a poverty rate of 37.5%, one of the highest in the region (World Bank Group, 2014). Among ASEAN (Association of Southeast Asian Nations) countries, Myanmar has the second-highest infant (41 per 1,000 live births) and under-5 mortality rates (52 per 1,000 live births), prevalence of severe underweight (5.6%), and prevalence of HIV infection (0.6%) (UNICEF, 2014).

In 2012, of an estimated total population of 52.8 million, 39.7 million (75%) resided in rural areas with limited access to health care services (UNFPA, 2014). The rate of antenatal care (at least four visits) in rural areas is 68% compared to 90% in urban areas. Skilled attendance at delivery is 63% in rural areas compared to 90% in urban areas; the infant mortality rate is 43 and 25 per 1,000 live births in rural and urban areas, respectively (Population Reference Bureau, 2015). Increasing access to basic health services in rural areas could have a large impact on maternal and child health. However, government expenditures on health are the lowest globally and account for only 1.3% of the total government expenditure (about US\$ 2 per person per year) (World Bank Group, 2014).

Midwives play a pivotal role in improving the quality of services for pregnant women, new mothers, and newborns, especially in rural areas. The Ministry of Health, Myanmar has set a national target of at least one midwife in each village; the reality continues to lag behind the ideal.

Although the youth literacy rate in Myanmar (96%) is higher than those in regional neighbors

Cambodia (87%) and Laos (72%), as are secondary school gross enrollment rates, about 25% of students leave basic education after primary school (World Bank Group, 2014).

**Women's group intervention.** During September 2003, the Women's Health Volunteer Group (WVG) program was introduced in two Myanmar villages to improve maternal and child health in a rural area of Meiktila Township, Mandalay Division, Myanmar, as part of a nongovernmental organization project (Oguro & Horiuchi, 2006). The two experimental villages were selected based on their distance from the nearest urban area, with experimental village 1 (E1) being relatively close to the urban area (~10 miles), and experimental village 2 (E2) being relatively far from the urban area (~22 miles). The WVGs were established by organizing women and training them using a participatory approach. Our program supported the WVGs in developing independent activities between September 2003 and March 2008.

To become a WVG member, each woman had to be (a) a resident, (b) literate, (c) 18–50 years old and willing to participate in the group, (d) interested in local health and social issues, and (e) trusted by the community. The WVG members had three major responsibilities: (a) planning and managing safe maternal habits: WVG members created lists of children and pregnant mothers to receive regular checkups and immunization services, (b) implementation: WVG members mobilized pregnant mothers and children to receive antenatal care and immunization when health care workers visited the village, and (c) monitoring: WVG members monitored the mothers and children until the next immunization or childbirth. Each member was responsible for ~15 households. These criteria were selected after discussions with the village authorities.

International and local facilitators visited the WVGs at least twice per month during the first year to participate in meetings and provide training and feedback. The facilitators occasionally used participatory rural appraisal tools (e.g., a resource map, seasonal calendar, and daily schedule) to guide the discussions and used storytelling to describe maternal and child health challenges. Through the meetings and training, the WVG members identified and prioritized maternal and child health issues,