Lay health workers in primary and community health care for maternal and child health and the management of infectious diseases

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This review suggests that lay health workers are effective in promoting the uptake of immunization in childhood, initiation of breastfeeding, any breastfeeding, exclusive breastfeeding and pulmonary tuberculosis cure rates. While these findings provide evidence for the potential effectiveness of lay health workers in maternal and child health, the eventual success with these workers in various settings will depend on the local conditions and the extent of implementation of the interventions.

RHL commentary by Nkonki L

1. INTRODUCTION

The World Health Organization estimates that four million health-care workers are needed globally to meet the health-care needs of the world. In this regard, sub-Saharan Africa and East Asia are presently faring the worst. In 2006, the estimated rate of health-care workers per thousand population was 2.9 in Africa, 5.8 in East Asia and 40.3 in Europe (1). There is a longstanding heavy burden of disease from infection, malnutrition, maternal complications and malaria in sub-Saharan Africa. In addition, there has been the recent upsurge in HIV/AIDS and tuberculosis concurrently along with the emergence of chronic vascular disease, diabetes, cancers and lower respiratory tract conditions (2).

Task-shifting, defined as the delegation of tasks to health-care workers with lower qualifications, has been one of the key strategies for dealing with the shortage of health-care workers. Recently, lay health workers (LHW) have been used widely in task-shifting. Although LHWs are not new to health systems, the upsurge of HIV/AIDS coupled with the chronic shortage of health-care workers has resulted in a renewed interest in their use. Despite the widespread use of LHWs there is only limited evidence on their effectiveness compared with usual care. In 2005, Lewin et al. (3) published a Cochrane systematic review examining the global evidence from randomized controlled trials (RCTs) on the effects of LHW programmes, as compared to usual primary and community health care, on maternal and child health and the management of infectious disease. The aim of the current review was to identify and synthesize the results of more recent studies on LHW programmes.

2. METHODS OF THE REVIEW
For the purposes of this review LHWs were defined by the authors as any health-care worker who performed functions related to health-care delivery, had been trained in some way in the context of specific interventions, but had not received any formal professional or paraprofessional certificate or tertiary education degree.

The review authors searched a number of databases. They also searched reference lists of all papers and relevant reviews they had identified and contacted the authors of those papers regarding any further published or unpublished works. The review authors sought to include randomized controlled trials that had used LHW to deliver interventions aimed either at improving maternal or child health or at managing infectious disease. The following types of study were excluded: peer health counselling programmes in schools, teachers delivering health promotion or related activities, LHWs trained to deliver care and support to their own family members, interventions in which clients of LHWs were not part of the population because of their involvement in the intervention, LHWs in non-primary institutions, and LHW interventions that did not have a comparison group or had been directly compared with another LHW intervention. The review authors assessed the risk of bias in two ways: two authors assessed all included trials independently for bias; and they rated the quality of the body of evidence for each key outcome as high, moderate, low, or very low.

The primary outcomes studied in the review were: (i) health behaviours achieved in clients (e.g. adherence to care plans); (ii) health-care outcomes achieved (e.g. mortality reduction, physiological measures, and clients' self reports of symptom resolution); and (iii) harms or adverse effects of LHW use. Secondary outcomes were: (i) utilization of services; (ii) consultation processes (e.g. interaction with health-care providers, and how often patients were managed correctly according to guidelines); (iii) client satisfaction with care provided; (iv) costs; and (v) social development measures (e.g. creation of support groups for the promotion of other community activities).

3. RESULTS OF THE REVIEW

A total of 82 studies from high- (Australia, Canada, Ireland, New Zealand, United Kingdom and USA ), middle- (Brazil, China, India, Mexico, Philippines, Thailand, Turkey and South Africa) and low-income (Bangladesh, Burkina Faso, Ethiopia, Ghana, Iraq, Jamaica, Nepal, Pakistan, United Republic of Tanzania and Viet Nam) countries were reviewed. The majority (n = 55) of the studies were from high-income countries. These studies had focused on low-income and minority populations. Twelve studies were from middle-income countries and ten from low-income countries. Moderate-quality of evidence of effectiveness was found for the promotion of: (i) immunization uptake in childhood [relative risk (RR) 1.22; 95% confidence interval (CI) 1.10–1.37]; (ii) initiation of breastfeeding (RR 1.36; 95% CI 1.14–1.61); (iii) any breastfeeding (RR 1.24; 95% CI 1.10–1.39); (iv) exclusive breastfeeding (RR 2.78; 95% CI 1.74–4.44); pulmonary tuberculosis cure rates (RR 1.22; 95% CI 1.13–1.31). The authors also found moderate-quality evidence or no effect for TB preventive treatment completion, child morbidity, neonatal mortality and health-care seeking for childhood illness.

4. DISCUSSION

4.1 Applicability of the results
This review suggests that LHWs are effective in promoting the uptake of immunization in childhood, initiation of breastfeeding, any breastfeeding, exclusive breastfeeding and pulmonary tuberculosis cure rates. LHWs appear to be less effective in the areas of completion of tuberculosis preventive treatment, child morbidity, and care-seeking for childhood illnesses. These findings shed light on the potential effectiveness of LHW interventions on maternal and child health, but the success of such interventions in various settings will depend on the local conditions and extent of implementation of such interventions.

4.2 Implementation of the intervention

The studies reviewed in this systematic review were largely from high-income countries. However, a substantial proportion (33%, n=27) were conducted in low- and middle-income countries, or were targeted at low-income groups in high-income countries. The question is: are low-income and minority groups in high-income countries comparable to low-income groups in low-income countries? Even if there are similarities between these groups, the context in which such interventions will be delivered in low-income countries will vary greatly. This may have consequences for the effectiveness of these programmes in low-income countries. For example, high-income countries have more resources (both financial and human) compared with low-income countries. Financial limitations may lead to these interventions being implemented differently in resource-poor settings. For example, it has been noted previously that constraints to scaling up of LHW programmes have occurred due to: inadequate training; lack of ongoing supervision; inadequate funding for incentives, equipment and drugs; and failure to integrate LHW initiatives into the health-care system. Addressing these constraints will require careful planning and financial resources. Even though cost data and cost–effectiveness analysis are not generalizable from one context to another, the can provide essential information such as which cost items are likely to be cost drivers. There is a general dearth of cost and cost–effectiveness data related to LHW programmes (4, 5). For instance, only three studies were identified for a recent systematic review on the cost–effectiveness of vaccination programmes delivered by LHWs (6).

Another important factor in the applicability of these findings relates to the role of the LHW programme within a health system. The LHW programme may complement an existing and competent district and primary health-care system, as noted in a trial in South Africa (7). However, in contexts where the health-care system is weak and characterized by a severe shortage of health-care workers, LHWs may be the clients’ only contact with the health-care system. This would in turn place a heavy burden on LHWs, and possibly result in LHWs attrition, especially if LHWs are expected to perform tasks they have not been trained for and are required to deal with too many cases.

When considering the results of this review, it is important to note that there were considerable differences between studies in the number of LHWs working in these interventions, LHWs’ level of education, selection of LHWs, and duration of training. These details are important as they can become key determinants of the success of the intervention. Anderson (8) has pointed out that effectiveness is complex and depends on the specific combination of elements in an intervention, and or its interaction with different community and organizational contexts.

4.3. Implications for research

Three main areas in LHW interventions require further study: cost–effectiveness of LHW interventions, quality of care provided by LHW, and the integration of LHW interventions within the health system. This review highlighted the lack of cost–effectiveness data on LHW programmes. Detailed costing data are needed to inform policy-makers on what percentage of the health-care budget would have to be allocated to scaling-up the use of LHW in their contexts. In addition, simultaneous consideration of LHW intervention cost and health outcomes is essential for aiding decision-makers in deciding whether the intervention should be implemented or not.

One of the key attractions in the use of LHW is that they can bring health-care closer to communities. The quality of the care (preventive and curative) provided by LHW is important. Good-quality care is influenced by a variety of factors, namely adequate training, specified roles and responsibilities, regular supportive
supervision and reward for good-quality work. This review noted that available trials scored poorly with respect to these factors. Therefore, studies evaluating the effectiveness different approaches to the training of LHW’s, how to provide regular supportive supervision, and what incentives best work for LHWs are needed. Documenting failures and successes of LHW interventions that are linked with other health system components, such as referral systems, will also yield valuable information for scaling up LHW interventions.

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References