



Health and social determinants of health in Vietnam: local evidence and international implications

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Received: 28 November 2016 / Accepted: 30 November 2016 / Published online: 9 December 2016
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Vietnam has made significant progress relating to the health status of its people and has achieved several health-related Millennium Development Goals such as the reduction of infant, under-five, and maternal mortality. These improvements in health outcomes have resulted from the developments in social, economic and health care conditions in Vietnam. However, Vietnam still faces many challenges regarding the protection and promotion of human health, as the country is now facing the burdens of diseases, adverse impacts on the environment, aging trends, the inadequate capacity of health system, and problems of inequities in health and health care.

The increase in non-communicable problems in Vietnam was demonstrated by the longitudinal research of Le-Thi et al. (2016). Students who were victimized often, as well as those who were classified as highly involved as both victims and bullies, during one or both surveys, showed significantly higher levels of depression, psychological distress, and suicidal ideation than other students. Persistent and frequent bullying was strongly linked with poor mental health for males and females (Le et al. 2016).

There are also significant environmental health issues in Vietnam. Tuyet-Hanh et al. (2016) traced the presence of legal livestock feed antibiotics to pork meat, liver and kidney in wet markets in Nghe An and Hung Yen provinces. The risk associated with microbial contamination in pork is significant. Dang-Xuan et al. (2016) used quantitative microbial risk assessment (QMRA) to estimate an 17.7% annual incidence rate of salmonellosis in humans who consumed boiled pork in urban Hung Yen province. Le-Thi et al. (2016) also used QMRA to show that the annual diarrhea risks caused by exposure to three pathogens (*E. coli* O157:H7, *G. lamblia*, and *C. parvum*) in biogas effluent were much higher than the acceptable risk proposed by WHO (reference level of 10⁻³ as annual risk) for wastewater reuse in agriculture. Vu-Van et al. (2016) showed that the addition of locally available materials (lime, and rice husk) to human faeces during storage can help deactivate *Ascaris lumbricoides* eggs more quickly to achieve a safe reuse of human faeces as fertilizers after 3 months. Winkler et al. (2016) employed a health impact assessment (HIA) approach that indicated, from a public health perspective, the reuse of liquid and solid waste as a means to recover water and nutrients and to produce energy, has considerable potential for health benefits if appropriately managed and tailored to local contexts.

To address health problems and improve the health status of Vietnamese populations, evidence-based public health interventions are needed. Dang et al. (2016) showed that pre-treatment factors such as height, weight, Hepatitis B vaccination and platelet infusion made a significant difference between the treatment failure or success of HIV patients. In addition, the starting age of treatment, CD4 percentage, and opportunistic infection were found to significantly predict treatment outcome, implying the importance of clinical markers in the treatment response.

This editorial is part of the supplement “Health and social determinants of health in Vietnam: local evidence and international implications”.

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Bich and Cuong (2016) completed a quasi-experimental, pre-test/post-test, non-equivalent control group design study, and concluded that breastfeeding, education materials, and counseling services yielded improvements in fathers' knowledge, attitude and involvement in supporting exclusive breastfeeding.

Quality of prenatal health care services is an important issue in Vietnam. Ha et al. (2016) conducted a cross sectional study on the prenatal diagnostic (PND) services provided in Vietnam and found there to be a variety of services among centers and, specifically, that the number of services provided by three PND centres in the study group was below the target set by the Ministry of Health. As well, there are still limited capacities in human resource, facilities and equipment in PND centers. Duong et al. (2016) also conducted a PND cross-sectional study, and reported in 2016 that only 65.4% of pregnant women were satisfied with the PND services they used.

Equity-oriented reform has also been identified as a key orientation of the health system in Vietnam. Inequities in health care across different groups of population still exist. Kien et al. (2016) used 2000, 2006, 2011, and 2014 data from the Vietnam Multiple Indicator Cluster Surveys to investigate children-related socioeconomic factors. Belonging to ethnic minority groups, having mothers with lower education, and belonging to the poorest group, meant these children were less likely to receive measles vaccines, although their vaccine coverage rates did increase with time. Research by Nguyen and Wilson (2016) found the insurance coverage of the near-poor in selected communities was only 20.3%, where the enrollment in the health insurance scheme was significantly associated with poor health status, good knowledge of health insurance, interest in health insurance, and the perceived cost of the insurance premium.

The findings from this cluster of research provide additional evidence on health and social determinants of health in Vietnam. We hope that policy makers, managers, health care services staff and other health system stakeholders in Vietnam and in other countries will find this cluster of scientific papers useful.

Acknowledgements We gratefully acknowledge Julie Hood, a Veterinarian Without Borders volunteer, for an English language review of this editorial.

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