

Update on evidence based practices in health policy and systems



How to strengthen primary health care services in Sri Lanka to meet the future challenges

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Abstract

Despite being a lower middle income country, Sri Lanka has achieved commendable health indicators. The main contributory factor for this achievement lies with the policy of 'free education' and provision of health care services free of charge to the people at the point of delivery. Despite the success, Sri Lanka is currently experiencing an epidemiological transition, where the burden of diseases has shifted from communicable diseases to the non-communicable diseases (NCDs). Strengthening primary health care (PHC) with comprehensive community-based and family-focused care is the solitary solution to address the existing health issues in Sri Lanka. Four strategic approaches have been identified. First strategy is to adopt PHC based life-course approach and task shifting of PHC workers to combat NCDs, while maintaining the three tier health service model. Innovative public health interventions need to be implemented through primordial, primary, secondary and tertiary prevention levels. Second strategy is to re-model and re-orient Primary Medical Care (PMC) units in the country, by establishing a 'general practitioner (GP) system' to link the preventive and curative PHC services at divisional level. Third strategy is to establish a referral and gatekeeping system to minimize the bypassing of PHC services. Final strategy is to introduce electronic medical record systems to minimize compartmentalization of treatment and to improve the continuum of care. Health authorities should consider these first-hand approaches in their health master plans and attempt to re-orient the health services to meet future health challenges.

Key words: primary health care, strengthen, Sri Lanka

Introduction

The history of current allopathic health system in Sri Lanka goes back to mid-19th century, during which time the Civil Medical Department was established to provide curative health care services to the public (1). The first community health centre was established in 1926 at Koholana in Kalutara district as the pioneering step in preventive health services of the country (2). Since then, the health system in Sri Lanka has evolved

under various governments with many long-term health plans. Successive regimes have invested on human development, education and health, which have given enough dividends, as the current health indicators in Sri Lanka lie almost on par with any developed country in the world, yet at a very low cost (Table 1). Allopathic medicine is provided through both public and private sectors. The public sector is under the Ministry of Health and is delivered through two parallel streams: *curative health services* varying from basic care at primary level

Table 1. Key health related indicators for Sri Lanka

Indicator	Year	Data	Source
Demographic Indicators			
Total population (in thousands)	2014*	20,771	Registrar General's Department
Population density (persons per sq. km)	2014*	332	Registrar General's Department
Crude birth rate (per 1000 population)	2014*	16.9	Registrar General's Department
Crude death rate (per 1000 population)	2014*	6.2	
Urban population (%)	2012	18.2	Census of Population and Housing, 2012
Sex ratio (No. of males per 100 females)	2012	93.8	
Socio-economic Indicators			
GNP per capita at current prices (Rs.)	2014*	461,650	Dept. of Census and Statistics
Human Development Index	2014	0.711	UNDP, Human Development Report, 2015
Literacy rate (%) Total	2012	95.7	Census of Population and Housing, 2012
Health and Nutrition Indicators			
Life expectancy at birth (years)			
Female	2011	78.6	Department of Census and Statistics
Male	2013	72.0	
Neonatal mortality rate (per 1000 live births)	2010	7.0	Registrar General's Department
Infant mortality rate (per 1000 live births)	2010	9.9	Registrar General's Department
Under-five mortality rate (per 1000 live births)	2010	12.2	
Maternal mortality rate (per 100,000 live births)	2010*	22.0	Registrar General's Department
Primary Healthcare Coverage Indicators			
% of pregnant women attended by skilled personnel	2006/07	98.6	Demographic and health survey, 2006/07
Contraceptives (%)			
Modern method	2006/07	52.5	Demographic and health survey, 2006/07
Traditional method	2006/07	15.9	
Pregnant mothers protected for Tetanus %	2014	97.8	Family Health Bureau
Health Resources			
Government health expenditure as a % of GNP	2014	1.62	Department of Health Services
Government health expenditure as a % of total government expenditure	2014	5.96	Department of Health Services
Per capita health expenditure (Rs.)	2014	7,497	Department of Health Services
Medical officers (per 100,000 population)	2014	84.8	Medical Statistics Unit
Public health midwives (per 100,000 pop.)	2014	28.7	Medical Statistics Unit
Hospital beds (per 1,000 population)	2014	3.9	Medical Statistics Unit

*Provisional

Source: Annual Health Bulletin, 2014 – Ministry of Health and Indigenous Medicine, Sri Lanka.

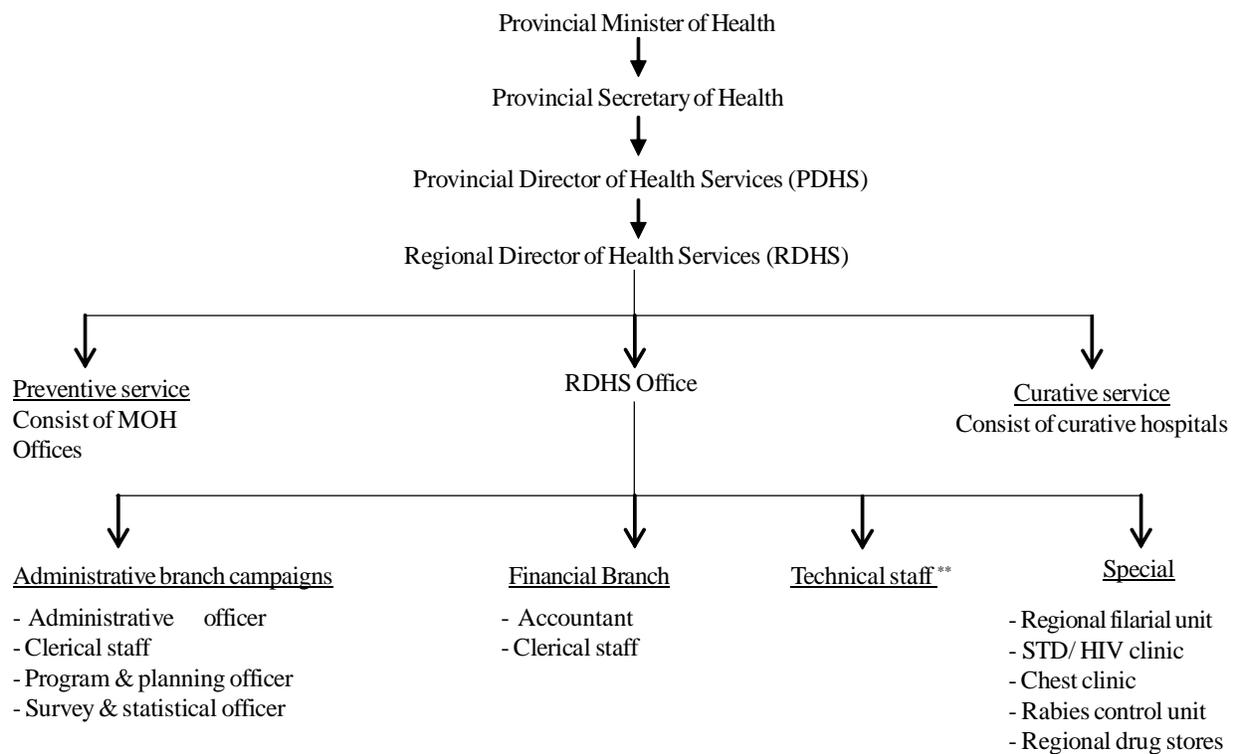
to specialized care through a range of hospitals, and *community health* services that focus mainly on promotive and preventive health needs of the population.

Cornerstone of the success of Sri Lankan health systems lies with community-based health services supported by the PHC system. Health sector planning is carried out from district level upwards, with every district preparing a “district health plan” on par with the “health master plan” at national level. The organizational structure of the district level health care services is given in Figure 1 (3). Within each district, health units headed by medical officers of health (MOH) provide preventive health services to people living in a demarcated geographical area. Organization structure of a health unit is given in Figure 2. Public health midwife (PHM) is

responsible for providing maternal, child health, nutrition, family planning and other reproductive health services to a defined community of 3000-5000 (4). However, these services are confined to ‘eligible families’ – a family with a married (legal/customary) woman aged 15 to 49 years or a family with a child under 5 years of age (5). Public health inspector (PHI) is the other frontline health worker responsible for communicable disease surveillance, school health, environment and occupational health, food safety, etc. (3). This is a unique health system focusing solely on preventive health, whereas primary health care is a combination of both preventive and curative services (6). Government is spending heavily on curative services compared to preventive health, but the efficiency and cost effectiveness of curative care is not the optimum in relation to investments.

Figure 1. Organizational structure of the Regional Director of Health Services office at district level

Regional Director of Health Services (RDHS) office – at district level

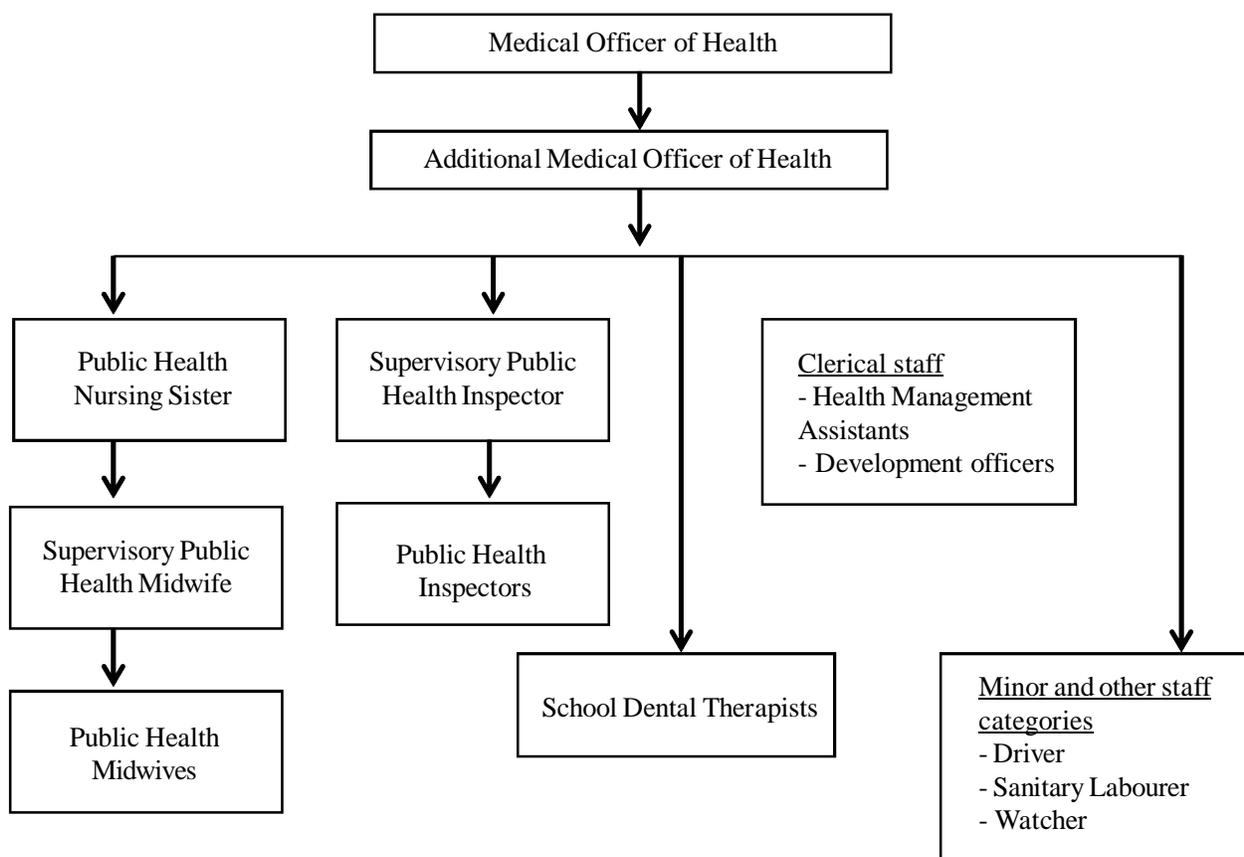


Other units under the RDHS:

- Regional Medical Supplies Division (RMSD)
- Bio-medical engineering unit

Technical staff available at district office:** Regional Epidemiologist (RE), Medical officer – Maternal and Child Health (MO-MCH), Medical officer – Planning (MO-Planning), Medical officer – Non Communicable Disease (MO-NCD), Medical officer – Mental Health (MO-MH), Regional Dental Surgeon (RDS), Regional Supervisory Public Health Nursing Sister (RSPHNS), Supervisory Public Health Inspector – District (SPHI-D), Regional School Dental Therapist (RSDT), Divisional Pharmacist, Divisional Dispenser, Divisional Registered Medical Officer (DRMO), Health Education Officers (HEO), Food and Drug Inspector

Figure 2. Organizational structure of a Medical Officer of Health (MOH) Office at divisional level



Challenges in the current health system

Current health statistics show that deaths due to communicable diseases and those related to maternal, childbirth and perinatal causes have gone down while deaths due to NCDs and accidents/ injuries have gone up (3). Chronic NCDs are long term debilitating disorders that consume 35% of the current health expenditure, representing the largest portion among the broad categories of illnesses (7). Most chronic NCD patients require lifelong treatment and present with complications needing extensive human resources to manage and rehabilitate (8). Most of the accident victims too require extensive care at both hospital and community levels during rehabilitation and follow up. Most of these patients are from economically active age groups causing an irreparable economic loss to the country. It requires serious thinking, careful planning and rational decision making to move the PHC services forward to cater to the rising burden of NCDs in Sri Lanka (9).

It has been observed that most of the secondary and

tertiary health care facilities are overcrowded with patients including exceptionally high bed occupancy rates, whereas many PHC facilities are underutilized (8). Annual ambulatory care (Out Patient Department) service data of government hospitals show that the number of new and old visits exceeds three times of the total population, whereas the private sector provides more than 50% of ambulatory care services (3). Expansion of curative care services needs more nurses than doctors, yet the successive governments have invested on producing more doctors than nurses. As a result, the doctor nurse ratio of government health sector has become smaller over the decades (3). The government health sector requires twice the number of nurses as now and other paramedical staff to provide comprehensive healthcare to the public.

Strengthening primary health care services

World Health Organization has identified PHC as an essential part of health with the implementation of

'Declaration of Alma-Ata' in 1978 (10). Its main objective has been to have better health for all. Minimizing social disparities, service delivery reforms, integrating health into all public policies, leadership reforms and high stakeholder participation are the key fundamentals in this approach (11). In line with the Alma-Ata declaration, four key reforms have been identified, which need early attention in Sri Lanka.

a. Adopting PHC based life-course approach to combat NCDs and task shifting while maintaining the three tier health service model

The conventional role of PHM is confined to maternal and child health, family planning and health education/ promotion, where services are more focused towards females of a family (4). This strategy totally ignores the other family members especially the male counterparts, adolescents and elderly. Adolescents are vulnerable to risk factors of NCDs and the elders to NCDs, which could remain undetected. Therefore, it is the right time to change the role and scope of PHM to look after and to provide total care for the family through a comprehensive family health programme. Converting the conservative role played by the PHM to a more sophisticated 'family health worker' is a challenging task. In order to make the PHM ready to take up this new challenge, PHM training curriculum need to be revised along with adequate in-service training programmes designed according to a planned timeframe. It is suggested to reduce the size of the catchment population for PHM from 3000 to 1500 and to enhance the role of public health inspectors for health promotive and preventive activities related to NCD (12).

NCDs are the results of long-term exposure to risk factors such as obesity, physical inactivity, use of tobacco and alcohol, improper dietary habits and high stress levels (13). It is mandatory to have a life-course approach with four levels of prevention to cover the total population against NCDs (14). Innovative community-based interventions need to be designed at all four stages of prevention along with re-designing of PHC services including the community health services to meet the mounting demand.

Primordial Prevention: The target population is the group not exposed to any of the risk factors. This is a population-based strategy with modifications in physical, social and health service environments (15). Equitable and comprehensive pre-pregnancy and maternal care can produce a baby with appropriate birth weight. This is a

significant achievement, as low birth weight, premature and intra-uterine growth retardation would have higher tendencies to develop chronic NCDs in future (16). Early interventions targeting adolescents and youth through health promotion, school health programmes, lifestyle modification through education are needed to ensure healthy living, and thereby minimize the harmful effects of risk factors for NCD (17).

Primary Prevention: This is the group of general population already exposed to risk factors such as obesity, consumption of junk food, not doing adequate physical exercise, exposed to active/passive smoking and alcohol consumption. The main objective should be to reverse the risk factors and delay the onset of NCD through a series of health promotional interventions (14).

Secondary Prevention: This is the group of people who have had long-term exposure to risk factors, thus having the disease. Either they are not yet diagnosed of NCDs or already diagnosed and currently on treatment. Initiating community screening programmes is one important factor to recognise these undiagnosed patients early (14).

The initiation of 'healthy lifestyle centres' at PMC units is one positive step forward. However, it needs to be coordinated well with the preventive health service to achieve better coverage. A PHM can play a supervisory role in screening programmes for NCD at the community level. The aim is to identify NCDs early by appropriate referrals and to initiate long-term treatment to prevent complications of the disease (18).

Tertiary Prevention: The purpose of tertiary prevention is to postpone complications of NCDs as far as possible, since these complications consume a large amount of money, human resource and other resources of health (19). Secondary and tertiary care hospitals need to be strengthened to handle complicated patients. Rehabilitation of patients having NCD complications is another challenge for the health sector. This can only be addressed by establishing community and family based rehabilitation programmes (20). Forming new cadre positions such as community health nurse and community physiotherapist needs to be considered while evidence-based public health interventions need to be initiated in line with the existing community health service structure.

b. Re-modelling of PHC services provided in the country

Strengthening PHC is the key to success to meet the community health needs at a lower cost (12).

Therefore, it is necessary to strengthen the PMC units in the country with special emphasis on quality of care (21). Adequate human resources need to be provided, including doctors, nurses, pharmacists and PHMs. Necessary infrastructure such as laboratory and diagnostic facilities need to be established to perform essential investigations and to confirm diagnosis. All essential medicines should be available at these PMC units with qualified staff to dispense them. This would reverse back the current by-passing phenomenon of PHC centres and will attract more public to these institutions. It is the mandate of policy makers to provide adequate funds to strengthen PHC services with rational resource mobilization.

A defined population (community) should be allocated to doctors who are providing curative care in primary healthcare level as in preventive health system. Currently, all medical graduates of state universities are being absorbed by the Ministry of Health. Considering the number of medical graduates produced annually and the absorption capacity of medical graduates into government health services, there will be a time that recruitment of medical graduates would be limited. To overcome this scenario, it is proposed to establish a 'general practitioner (GP) system' with the support of the central government. The Ministry of Health together with the provincial ministries of health shall define demarcations for GP areas and invite new medical graduates to set up their practice. The government should provide essential medicine, laboratory equipment (to perform few essential investigations) and soft loans to establish their own practice. All the suspected cases from screening programmes conducted at community level shall be referred to the area GP for confirmation of diagnosis. The cases which require expert opinion may be referred to the nearest medical consultant for further investigations, confirmation of diagnoses and acute management. These patients shall be referred back to the GP for long-term follow up. PHM and Community health nurse of the MOH team shall work closely with the GP to provide better care at community level. Whenever in-patient care is need, GP shall refer the patient to the nearest hospital for required care. All these patients should be referred back to the GP with a follow-up plan.

Human resource management plans should be developed to train an adequate number of nurses, paramedical staff, while the capacity of training of supportive medical staff has to be enhanced with new policies and strategies to encounter the requirement.

c. Establishing referral and gate keeping system within the health sector

It is mandatory to have a good referral system to get the best benefit of PHC network. It is not only to refer patients upwards (forward referral) to the next level of care, but also to refer them back (back referral) after managing the acute condition which requires special care. Although curative care hospitals are designed in a hierarchical manner, patients are bypassing PHC facilities to visit secondary and tertiary care facilities in expectation of better services. This has resulted in overcrowding at secondary/ tertiary care facilities. Since there is no clinic appointment system adopted as a national policy, outpatient clinics conducted by medical specialists are overloaded. Patients are used to visiting clinics early morning to obtain calling numbers, resulting in an influx of people to bigger hospitals every day. This referral system should be formalised with clinic appointment systems for new patients as well as of subsequent visits in a uniform manner.

Hospital clinic patients should be referred back to the closest GP or PHC facility with follow up instructions, so that GPs could serve as gatekeepers of hospitals and only the most deserving patients are sent to specialized clinics (17). This will minimize the overcrowding at secondary/ tertiary care health facilities and increase the efficiency of care provided at higher level. Emergency Treatment Units need to be established in all major hospitals (at least two units per district) to cater to the rising road traffic accidents. A proper ambulance network has to be operated with modern GPRS system with mobile paramedical teams who are well trained to provide basic life support. A national ambulance communication system needs to be implemented with a hot line number for emergencies. The referral-back referral system needs to be incorporated in to this emergency care service to further strengthen the bond between the PHC and specialized care services.

d. Introduce electronic medical record systems with exchanging of records

Success of a referral system depends on the sharing of information about the patient. Therefore, medical record keeping plays a vital role. Patient records are to be shared with GP/ PHC facility and specialized hospitals as it will help to manage patients efficiently and effectively. This will save time and reduce unnecessary duplication of investigations performed at different levels. The current paper based medical and clinic record

keeping system needs to be converted to an electronic patient record keeping system. This will be a practical solution as many of the modern medical equipment are digital and the investigations (laboratory, radiology and other special investigations) could be saved electronically. Issues related to privacy and confidentiality of patient records during data sharing can be minimized by using electronic system, as it will provide immense benefits in the long run.

Conclusion

The health system in Sri Lanka requires major changes within the system to meet the upcoming challenges. Solutions suggested need to be debated well among all levels of care providers, professional organizations as well as trade unions for consensus, so that appropriate policies and strategies could be adopted.

References

1. Urugoda CG. *A history of medicine in Sri Lanka from the earliest times to 1948*. Colombo: Sri Lanka Medical Association, 1987.
2. Department of Medical and Sanitary Services. *Administration Report of the director of medical and sanitary services for 1948*. Colombo: Department of Medical and Sanitary Services, 1949.
3. Medical Statistics Unit. *Annual Health Bulletin 2013, Sri Lanka*. Colombo: Ministry of Health and Indigenous Medicine, 2014.
4. Ministry of Health. *Annual Report on Family Health 2013*. Colombo: Family Health Bureau, Ministry of Health, Sri Lanka, 2014.
5. Ministry of Health. *Revised health information system guidelines on maternal and child health/ family planning*. Colombo: Family Health Bureau, Ministry of Health, Sri Lanka, 2010.
6. Hewa S. Sri Lanka's Health Unit program: A model of "selective" primary health care. *Hygiea Internationalis* 2011; 10(2): 7-33.
7. Health Economic Cell. *Sri Lanka national health accounts 2013*. Colombo: Ministry of Health, Nutrition & Indigenous Medicine, Sri Lanka, 2016.
8. Michael Engalgau, Kyoko Okamoto, Kumari Vinodhani Navaratne, Sundararajan Gopalan. *Prevention and control of selected chronic NCDs in Sri Lanka: policy options and action*. World Bank's Human Development Network, 2010.
9. De Silva W. The age structure transition and the demographic dividend: an opportunity for rapid economic take-off in Sri Lanka. *Sri Lanka Journal of Advanced Social Studies* 2013; 2(1).
10. WHO. *Declaration of Alma-Ata*. International conference on primary health care, Alma-Ata, USSR, 1978. Available from: www.who.int/hpr/NPH/docs/declaration_almaata.pdf.
11. WHO. *Primary health care*. Geneva: World Health Organization, 2016. Available from: http://www.who.int/topics/primary_health_care/en/.
12. WHO – South East Asian Regional Office. *Strengthening community based health care services – Report of the technical consultation*. 15-16 June, 2015.
13. Non Communicable Disease Unit. *Major risk factors for chronic NCDs*. Colombo: Non Communicable Disease Unit, Ministry of Healthcare and Nutrition, 2008. Available from: <http://www.health.gov.lk/en/NCD/How%20to%20prevent%20&%20control.html>.
14. Ministry of Healthcare and Nutrition. *The national policy and strategic framework for prevention and control of chronic non-communicable diseases*. Colombo: Ministry of Healthcare and Nutrition, Sri Lanka, 2009.
15. Starfield B, Hyde J, Gervas J, Heath I. The concept of prevention: a good idea gone astray? *Journal of Epidemiology and Community Health* 2008; 62(7): 580-3.
16. de Boo HA, Harding JE. The developmental origins of adult disease (Barker) hypothesis. *Aust N Z J Obstet Gynaecol*. 2006; 46(1): 4-14.
17. WHO. *WHO Package of essential noncommunicable (PEN) disease interventions for primary health care in low-resource settings*. Geneva: World Health Organization, 2010.
18. Ministry of Health. *Guidelines for the establishment of healthy lifestyle centers in healthcare institutions*. Colombo: Department of Health, Ministry of Health, Sri Lanka, 2011.
19. Centers for Disease Control and Prevention. *The concept of prevention*. *Centers for Disease Control and Prevention*, 2013. Available from: <http://www.cdc.gov/arthritis/temp/pilots-201208/pilot1/online/arthritis-challenge/03-Prevention/concept.htm>.
20. WHO. *Community-based rehabilitation (CBR)*. Geneva: World Health Organization, 2016. Available from: <http://www.who.int/disabilities/cbr/en/>.
21. Kwon S. Health care financing in Asia: key issues and challenges. *Asia Pacific Journal of Public Health* 2011; 23(5): 651-61.