ELECTIVE (SSC5b) REPORT (1200 words)

A report that addresses the above four objectives should be written below. Your Elective supervisor will assess this.

Elective Report: Dhulikhel Hospital, Nepal

Part of my elective period was carried out in Dhulikhel Hospital, Nepal, associated with Kathmandu University. I worked within the emergency department which consisted of a triage area, a two-bed shock room, and a twelve-bed assessment and treatment area. This report will discuss the four objectives of the elective.

Identify the most prevalent health conditions in the population attending the emergency department in Dhulikhel, Nepal, and discuss the relevance of these findings in the context of global health.

There was difficulty in identifying literature related to emergency cases within Dhulikhel. Therefore, the objective has been broadened to encompass emergency cases in Nepal, and where possible Dhulikhel is referenced. Changes in political, economic and technological circumstances have led to a shift in the prevalence of conditions presenting in the emergency department (ED). Chronic and acute medical conditions, in addition to trauma cases are seen in the ED in Dhulikel. Chronic obstructive pulmonary disease, especially infective exacerbations of COPD, is quite commonly seen in the ED. This has largely been attributed to the prevalence of smoking and a lack of public health measures tackling this issue. Furthermore, the acute presentations and the complications of coronary artery disease, stroke, cancer and diabetes are managed in the ED. (Bhandari et al., 2014)

There has been a significant increase in trauma cases, particularly road traffic accidents. The Department of Health Services reported 87,726 road traffic accidents in Nepal in 2014, a 5.3% increase since 2013. (Pandey, 2016) The presence of the Araniko Highway, a large road running through Dhulikhel, poor road conditions and lax road safety rule adherence have all played a role in contributing to this issue. (Shrestha et al., 2013) The other major cause of trauma, especially in Dhulikhel, is accounted for by falls from a height. (Shrestha et al., 2013) The rural surroundings have also given rise to a large number of musculoskeletal cases such as fractures, dislocations, and open wounds due to trauma related to occupational hazards amongst farmers and women carrying heavy loads on their backs. Over 90% of the world's injury related deaths arise from low- and middle-income countries, amongst which South-East Asia accounts for one of the most highly affected regions. (Shrestha et al., 2013)

Common surgical emergencies that were managed in Dhulikhel Hospital included acute appendicitis, ectopic pregnancies, and acute cholecystitis. Additionally, the prevalence of alcohol abuse amongst the rural population surrounding Dhulikhel has led to the prevalence of related conditions such as oesaphageal varices, acute pancreatitis, and neurological complications.

Describe the modes of healthcare provision in Nepal, and compare it to those of Bali, Indonesia.

Current health expenditure (CHE) as a percentage of GDP in 2015 in Nepal was 6.1%, compared to Indonesia's 3.3.%. (WHO, 2017) Domestic general government expenditure as a percentage of CHE accounted for about 18.1% and 38.2% in Nepal and Indonesia in 2015, respectively. (WHO, 2017) Furthermore, out-of-pocket expenditure accounted for more than half the health expenditure in Nepal (2015) at 60.4%, whereas it only accounted for about half at 48.3% in Indonesia (2015). (WHO, 2017)

© Bart's and The London School of Medicine & Dentistry 2017

With regards to healthcare provision in Nepal, primary health services are provided through multiple modalities at the district level, including primary health care centres, health posts, and sub-health posts. (WHO, 2007) Secondary and tertiary healthcare is provided via specialised tertiary centres and regional/zonal hospitals. (WHO, 2007) 60% of Department of Health Services staff worked in rural areas in 2005-2006. (WHO, 2007) Whereas the private sector in rural areas mainly took the form of traditional practitioners who provided ambulatory care services.

Health provision in Indonesia follows a decentralised structure, whereby district and provincial governments provide services at different levels. At the local level health services are provided at the provincial and district/municipality level. The provincial governments organise services through provincial health offices and manage provincial hospitals. District/municipality governments manage district/municipality hospitals and organise services through district/municipality health offices. District health offices also provide primary health services through centres called puskesmas and their networks. (Mahendradhata et al., 2017) Tertiary services are provided by the central Ministry of Health which operates specialist centres. (Mahendradhata, 2017)

Describe and compare public health measures implemented to manage infectious diseases between Nepal and the UK.

Increasing investment in public health in Nepal has given rise to improved health infrastructure and governance, including a National Health Policy 2071 (Baisakh). With regards to infectious disease control, three strategies have been adopted:

i. In addition to immunization services, management of communicable diseases will be updated and implemented in accordance with the agreed plan of action.

ii. Specific provisions within the Infectious Disease Control Act, 2020 will ensure the relevant authorities are informed of outbreaks with the potential of evolving into epidemics in a timely manner.

iii. The development of a mechanism to manage the coordination of stakeholders in response to diseases transmitted to humans by insects and animals.

(Department of Health Services, 2016)

Nepal also has multiple programmes for the management and prevention of communicable diseases. (Department of Health Services, 2016) For example, Tuberculosis Control a joint initiative by the government, NGOs and the private sector to extend DOTS programme coverage to all 75 districts, and to integrate it with HIV/AIDS management programmes. Other such programmes include Sexually Transmitted Infection and HIV/AIDS Control Program, Leprosy Control Program, Malaria Control Program, Yellow Fever Control, Japanese Encephalitis Control, and a Disease surveillance programme. (Department of Health Services, 2016)

The UK has well-established agencies in place to manage communicable diseases, including Public Health England (PHE). It is responsible for a wide-ranging surveillance of communicable diseases through national laboratory reporting, clinical reporting and statutory notification systems, the data and appropriate management is published on the PHE website and a weekly bulletin. (ECDC, 2018) There are also systems in place to detect and report a wide range of notifiable diseases such as acute encephalitis, meningococcal septicaemia, and diphtheria. (PHE, 2010). Health workers notify these

© Bart's and The London School of Medicine & Dentistry 2017

conditions to the local council or local health protection team, where additional procedures such as contact tracing and prophylactic treatment is employed to contain any outbreaks.

Furthermore, an extensive national immunisation and vaccination programme, which is subject to constant assessment and improvement by the PHE, is available for free through the National Health Service. (ECDC, 2018)

A stark contrast between the two countries with regards to the prevention of communicable diseases is the lack of comprehensive vaccination programmes, particularly childhood vaccination schedules, in Nepal compared to the UK. As Nepal is prone to outbreaks of epidemics, it would greatly benefit from a national vaccination programme for children that is widely available and ideally free at the point-of-care, particularly for the rural population of the country.

To gain an insight into how emergency medicine physicians provide care in a low-resource setting.

Emergency medicine as both a department in a hospital and a specialty as a whole is still relatively in its infancy in Nepal. The ED in Dhulikhel hospital is only around five years old. This inevitably causes some structural issues to arise. While Dhulikhel has one of the few EDs in Nepal with a triaging system in Nepal which helps classify patients into an appropriate level of urgency, sometimes patients have to be moved around the ED due to the need for other interventions. For example, a patient in an orange or yellow category bed might have to self-transfer to a bed in the shock room to have further investigations such as an ultrasound scan, or complex procedures such as a catheter put in, before returning to their bed. Additionally, patients need to self-transfer and rely on family members to escort them to have x-rays or CT scans done.

Moreover, patients are prescribed drugs and equipment such as a cannula, or an IV giving set that has to be purchased out-of-pocket usually by a relative. Due to the socioeconomic status of the attending population, purchasing such equipment multiple times may be unfeasible. Therefore, at times if opening an IV line or taking bloods is unsuccessful, multiple attempts would be made with the same needle or cannula. While this practice is discouraged in the UK, within the context of this hospital it becomes clear why it is unfortunately necessary in order to balance delivery of healthcare with minimal financial burden on often economically disadvantaged patients.

Furthermore, a heavy reliance on foreign investment and a reduced input from the government has led to an insufficiently equipped ED. While diagnostic equipment such as an ultrasound machine are available within the ED itself, most equipment are not serviced or replaced as regularly as it would be in a more high-income country.

Doctors within this ED work hard to care for their patients while being mindful of the economic burden hospitalisation and illness causes to the person and their families. At times I have wondered how difficult it must be for fully trained physicians to compromise their practice, be it referring them for a diagnostic test that is not as sensitive as the gold standard but is the only one the family can afford, in order to provide some care for their patient. While in the UK you would think very little of the cost of a procedure if it benefits the patient as it is borne by a nationalised health system. An important aspect of pursuing medicine for me is to work in developing countries as a physician. This experience has caused me to reflect on how in the future I might also be making such tough decisions for my patients, and the challenges that arise within the health systems of a low-income country.

© Bart's and The London School of Medicine & Dentistry 2017

References

Bhandari, G., Angdembe, M., Dhimal, M., Neupane, S. and Bhusal, C. (2014). State of non-communicable diseases in Nepal. BMC Public Health, 14(1).

Pandey, N. (2016). Emergency medicine in Nepal: present practice and direction for future. International Journal of Emergency Medicine, 9(1).

Shrestha, R., Shrestha, S., Kayastha, S., Parajuli, N., Dhoju, D. and Shrestha, D. (2013). A Comparative Study on Epidemiology, Spectrum and Outcome Analysis of Physical Trauma cases Presenting to Emergency Department of Dhulikhel Hospital, Kathmandu University Hospital and its Outreach Centers in Rural Area. Kathmandu University Medical Journal, 11(3), pp.241-246.

WHO. (2017). Health financing. [online] Available at: http://apps.who.int/gho/data/node.main.HEALTHFINANCING?lang=en [Accessed 6 Apr. 2018].

WHO (2007). Health system in Nepal: Challenges and strategic options. Kathmandu: World Health Organization, pp.20-28.

Mahendradhata, Y. and et al. (2017). The Republic of Indonesia Health System Review. Health Systems in Transition. New Dehli: World Health Organization, pp.19-24.

Department of Health Services (2016). Infectious Disease Control Guideline. Kathmandu: Ministry of Health and Population, pp.9-12.

ECDC. (2018). Public Health England - Centre of Infectious Disease Surveillance and Control. [online] Available at: https://ecdc.europa.eu/en/public-health-england-centre-infectious-disease-surveillance-and-control [Accessed 6 Apr. 2018].

PHE. (2010). Notifiable diseases and causative organisms: how to report. [online] Available at: https://www.gov.uk/guidance/notifiable-diseases-and-causative-organisms-how-to-report#list-of-notifiable-diseases [Accessed 6 Apr. 2018].

© Bart's and The London School of Medicine & Dentistry 2017