

Manuscript Number: THELANCETONCOLOGY-D-16-00267

Title: Cancer at the time of Nepal's earthquakes aftermath

Article Type: Unsolicited Comment

Keywords: Nepal, Earthquakes, Cancer, Registry

Corresponding Author: Mr. Shiva Raj Mishra,

Corresponding Author's Institution: Nepal Development Society, Bharatpur-10

First Author: Shiva Raj Mishra

Order of Authors: Shiva Raj Mishra; Vishnu Khanal; Per Kallestrup

Manuscript Region of Origin: NEPAL

Abstract: Nepal currently reports a high burden of cancers. Cancer medicines and treatment costs are still one of the highest health care expenditures in the country of 28 million people where a quarter of the population lives below the poverty line. Furthermore, a risk pooling mechanism such as a health insurance is not available, and neither basic nor specialist services for cancer are affordable by private payment. Aftermath of the earthquake which is characterized by scarcity of medicines and absenteeism of doctors, might further peril the lives of people living with cancer. Moreover, health agendas including strengthening of cancer services might be overlooked during the political turmoil and sluggish efforts in rebuilding.

Cancer at the time of Nepal's earthquakes aftermath

Shiva Raj Mishra^{1,2}, Vishnu Khanal^{2,3}, Per Kallestrup⁴

1. School of Population Health University of Western Australia, WA 6009, Australia
2. Nepal Development Society, Bharatpur-10, Narayani, Nepal
3. School of Public Health, Curtin University, WA 6102, Australia
4. Center of Global Health, School of Public Health, Aarhus University, Denmark

SRM: shivarajmishra@gmail.com

VK: khanal.vishnu@gmail.com

PK: kallestrup@dadlnet.dk

Correspondence,

Shiva Raj Mishra

Nepal Development Society (NEDS), Bharatpur 10, Nepal

Email: shivarajmishra@gmail.com

Cancer at the time of Nepal's earthquakes aftermath

Nepal witnessed massive earthquakes in April and May which has been suggested to damage Nepal's economy with a loss of 5-10 billion USD, and faltering GDP growth from 6% to 2%.^{1,2} Health infrastructures in earthquake affected districts (15 out of the 75 nation-wide) have been seriously damaged, and are still waiting reconstruction in many instances.³ Amidst this crisis, health system priorities for addressing the country's burgeoning cancer problem is at risk of being neglected as scarcity of medicines remains high, and absenteeism of doctors has increased due to greater employment insecurity.⁴

The country currently reports estimated 8,000-10,000 new cases of cancer each year.^{5,6} Cancer medicines and treatment costs are still one of the highest health care expenditures in the country of 28 million people where a quarter of the population lives below the poverty line.⁷

Furthermore, a risk pooling mechanism such as a health insurance is not available, and neither basic nor specialist services for cancer are affordable by private payment.^{7,8}

The 2015 earthquakes displaced nearly 10 million people.⁹ Temporary-displacement combined with a situation of instability in the community and health system, can decrease the early detection and diagnosis potential of cancers. For the health system, resources (which are already stretched to meet the needs of those affected by the earthquakes) can be lost to competing priorities that otherwise may have been invested in cancer screening and treatment. An earlier review of 48 published studies found natural disasters like cyclone, flood and storm impact on treatment management and care of people with Non Communicable Diseases (NCDs), with exacerbation of illness, complications or even death.¹⁰ During post hurricane Katrina in the USA, availability of transportation affected access to cancer care in patients with early stage cancer.¹¹

We fear that a similar situation is likely as a result of the current natural crisis in Nepal. Further the Nepalese government has not prioritized cancer services, with NCD received less than 1% of Nepal's health budget in 2010 and cancer, like any other NCD, has been neglected with insignificant resources, and still remains the same.¹

Despite the issues currently faced, some opportunities exist for Nepal. Gyawali and Colleagues have advocated in *Lancet Oncology* that Nepal can be a crucial juncture for future studies on cancer because of its diverse geography and climate, and populations that represents both Caucasian and Mangoloid .¹² Also, there are cost savings because of cheaper cancer treatments and English-based medical education which increases ease of international collaboration.¹² Also, Nepal can be a crucial environment for studies of climate change and the association with NCDs like cancer as both burden of NCDs and temperature is rising in Nepal.^{5,13} This is in accordance with a 2016 editorial in *Lancet Oncology* which highlighted a need for more research in this area given the possible relationship has been poorly studied to date.¹⁴ However, the first point towards achieving this goal is the establishment of a population-based statutory cancer registry.

As a signatory to the Global Monitoring Framework on Non-communicable diseases, Nepal has committed to build a cancer registry to report on cancer incidence and cancer types as an indicator for the 2025 mortality target.¹⁵ There has been some effort in linking hospital data on cancer in the past, however, a systematic-linkage for aggregating all hospital registries is missing.⁶ The International Association for Cancer Registries (IARC) puts Nepal among the countries where 'cancer registry activity has started', but has not yet reached full potential.¹⁶ Knowledge transfer and collaboration between Nepal and its larger neighbours like India, and China in particular, both rated II (on a scale of I to IV) for high quality regional registry¹⁶, will

be important because of geographical proximity and strong bilateral relationships that further aids collaboration.

Besides that, in line with the Sendai Framework for Disaster Risk Reduction (2015-2030), the traditional disaster approaches for ‘building back better’ needs to incorporate NCDs like cancer with understanding of direct and indirect (preventable) factors that exacerbate them during and after the disasters, to retain and restore health of people.¹⁰ Healthy people are resilient, and quickly recover from emergencies and disaster like earthquakes.¹⁷ So, it is imperative to Nepal’s sustainable recovery and resilience to have disaster rebuilding, reconstruction and rehabilitation go hand in hand with health system-strengthening, building of population based registry to deal a menace of NCDs like cancer.

References

1. Koirala J. Effects of 2015 Earthquake on Nepalese Economy http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2603212 (accessed February 2 2016).
2. Republica. Nepal to become poorest in South Asia. 2015. <http://www.myrepublica.com/economy/story/32890/nepal-to-become-poorest-in-s-asia.html#sthash.nAsnUVob.dpuf> (accessed January 2016 2016).
3. Ministry of Health and Population. Health Sector Response: Earthquake. Daily Situation Update Report. Kathmandu: Health Emergency Operation Centre, . 2015. <http://heoc.mohp.gov.np/index.php/2-uncategorised/18-graphs-charts> (accessed February 2 2016).
4. Caprara D. Nepal's hospitals suffer under economic blockade. 2015. <http://america.aljazeera.com/articles/2015/12/22/nepals-hospitals-suffer-under-economic-blockade.html> (accessed 29 January 2016).
5. Mishra SR, Neupane D, Bhandari PM, Khanal V, Kallestrup P. Burgeoning burden of non-communicable diseases in Nepal: a scoping review. *Global Health* 2015; **11**: 32.
6. Pun CB, Pradhananga KK, Siwakoti B, Subedi K, Moore MA. Malignant Neoplasm Burden in Nepal - Data from the Seven Major Cancer Service Hospitals for 2012. *Asian Pacific journal of cancer prevention : APJCP* 2015; **16**(18): 8659-63.
7. Mishra SR, Khanal P, Karki DK, Kallestrup P, Enemark U. National health insurance policy in Nepal: challenges for implementation. *Glob Health Action* 2015; **8**: 28763.
8. Gyawali B. Me, Too. *Journal of Global Oncology* 2016: JGO000588.
9. Mishra SR. Earthquake aftermath: Support Nepal to rebuild sustainably. *Nature* 2015; **524**(7563): 35.
10. Ryan B, Franklin RC, Burkle FM, Jr., et al. Identifying and Describing the Impact of Cyclone, Storm and Flood Related Disasters on Treatment Management, Care and Exacerbations of Non-communicable Diseases and the Implications for Public Health. *PLoS Curr* 2015; **7**.
11. Loehn B, Pou AM, Nuss DW, et al. Factors affecting access to head and neck cancer care after a natural disaster: A post-Hurricane Katrina survey. *Head & neck* 2011; **33**(1): 37-44.
12. Gyawali B, Poudyal B, Shimokata T, Ando Y. Cancer care and research in India: what does it mean to Nepal? *Lancet Oncology* 2014; **8**(15): e299-e300.
13. Shrestha AB, Budhathoki KP, Shrestha RK, Adhikari R. Bathymetric survey of Tsho Rolpa Glacier Lake-2002. *Hydrology Journal of SOHAM* 2004; **1**(1): 13-5.
14. The Lancet O. Climate change and non-communicable diseases. *The Lancet Oncology* 2016; **17**(1): 1.
15. International Agency for Research on Cancer WHO. Cancer Registries: Why, what and how? 2015. <http://www.uicc.org/sites/main/files/private/UICC%20Cancer%20Registries-%20why%20what%20how.pdf> (accessed 29 January, 2016 2016).
16. Bray F, Znaor A, Cueva P, et al. Planning and developing population-based cancer registration in low-and middle-income settings. *IARC Publ* 2014; **43**.
17. UNISDR. Sendai Framework for Disaster Risk Reduction 2015-2030. 2015. http://www.who.int/hac/techguidance/preparedness/sendai_2015/en/ (accessed February 2 2016).