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Transportation Delay Related Deaths of Severely Diseased Patients of Rural Nepal: A Health care Hurdle

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ABSTRACT

The diverse topography of Nepal, neutral economy, unstable government and improper budget allocation have impacted one of the most important infrastructure of development that is road transportation. Such critical scenario has severely impacted the quality health care of grievous patients of rural Nepal. The lack of proper transport facility, ambulance deficiency, large distance to be covered to reach primary health care centres and further more rigorous travel to tertiary care centres in urban areas have led to on-way death of maximum number of serious patients of rural Nepal. Moreover this has become very strong health care obstacle for developing country like Nepal.

Keywords: Deaths; Inter-facility delay; Rural Nepal; Transportation delay

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INTRODUCTION

Nepal constitutes of rural places like Rukum, Rolpa, Humla, Jumla, Dolpa, Jajarkot and even more districts where even the transfer of such serious patients through road transport might take even 2-3 days to reach the higher health care centres of urban areas. Adding to it the unaffordability of the air ambulance and even lack of such developed health care facility have become a major health care hurdle for developing country like Nepal. The acute disease like myocardial infarction, stroke, respiratory distress, acute gynaecological and obstetrics conditions and many more such grievous conditions needs prompt treatment and medication within less than 12-24 hours. Absence of proper ambulance facility, very large distance to be covered to reach even the primary health care centre and later referral to higher centres which takes even more rigorous hours of road transport. Unfortunately in most of the cases it results in on-way death of the grievous patients.

SCENARIO OF RURAL AREAS OF NEPAL

Tertiary level health care centres and specialty centres, private hospitals and clinics are mostly localize in urban areas of Nepal only. Moreover primary health care centres, health posts, missionary hospitals are very scarce in number and are rarely found in most of the rural districts of Nepal. A study done in three remote areas of Nepal i.e Baglung, Ramechhap, Dolakha regarding maternal mortality in hilly areas shows that among 33 maternal mortality cases 13 deaths are due to cost of transport, 8 deaths due to lack of transport services and 4 deaths due to distance to health facility.¹ Another study conducted in BP koirala institute of Health sciences among 2211 patients regarding transport and pre-hospital care prior to arrival in tertiary care emergency department of eastern Nepal shows that median time taken by ambulance is 2 hours (IQR 1-3 hrs), median distance covered is 55km (IQR 38km-80km), median cost paid was USD 31.25 or NRs 3500(IQR NRs 2000-6000) with main reason for not choosing ambulance service was high cost and reason for delay to reach tertiary care centre was long distance travel.² In another study carried out regarding impact of snake bites and determinants of fatal outcome in south-eastern Nepal shows that among 10550 persons only 143 had gone through fatal outcomes due to snake bite and among them 16 patients died during transfer to health

care centre.³ Moreover such cases of mortality and morbidity due to transportation issues are vaguely prevalent in other several medical and traumatic conditions if we properly scrutinize the hospital data bases and past medical literature of Nepal .

According to the research published in BMC from Makawanpur Nepal, both the distance and the transportation costs were contributing factors in making decision to child births at home.⁴ Article published in Journal of Clinical and Diagnostic Research concluded that the major delay in the diagnosis and management of TB patients in Nepal were the longer distance to reach the TB center (>5km) and unavailability of transportation means to reach the site.⁵ Another study done in Patan Hospital in 2007 showed that only 10% of the patients arrived at the ER via ambulance services. This study also showed that only 17% of ambulances have oxygen and none had personnel who have had basic first aid training.⁶ This means ambulance is a little more than a private taxi with siren. This is still the exact condition of most areas of the country. Similar study done in Dhulikhel hospital showed 31% arrive to the hospital via ambulance. The main reasons for not using ambulance were they did not know ambulance number, ability to find other vehicles easily and cheaply rather than ambulance and having private vehicles.⁷ A study done in emergency department of TUTH in 2010 further revealed that 19.75% of the patients presented to the emergency department were bought dead.⁸ One of the major issues for this could be delay in transportation of the patient to the health care centre.

CHALLENGES

Ambulance plays a pivotal role in providing individuals with early treatment for acute life threatening illness, injuries and delivery complications. Particularly in country like Nepal where advanced medical facilities are available only in urban settings, the relationship between transport service and patient outcome have become main pillar for uprooting such health care obstacles. Along with it the topography of country followed by its neutral economy, unstable government, and improper healthcare budget lays as further more burden. Some tip of the iceberg causes for such delay in receiving proper health care facility by the people of rural Nepal could be due to following reasons:

- Centralization of human resources and services
- Road system, harsh landscape
- Rural areas far from access and difficult to outreach in short time intervals
- Centralized Nepal Ambulance Service
- Affordability; Nepal has an annual per capita health expenditure of \$30 as per World Bank.
- Interfacility delay
- Lack of funding
- Custom stockings
- Traffic systems, strikes
- Lack of help and sense of urgency by public towards ambulances

SUSTAINABLE SOLUTIONS

1. Efficient operation of ambulance services require specific kind of relationship and trust, cooperation and collaboration between provider organization, drivers and the users followed by creation of ambulance funds by national and international organizations.
2. In every rural areas where even ambulance transport is difficult motorcycle and bicycle ambulance services can be used to reach out to primary health care centers. In rural Rupandehi, Kapilvastu areas such modified transport services are being used as well.
3. Management of air ambulance services for inter-facility referral in every rural areas should be directly worked upon by central states in association with health ministries.
4. Yearly mapping of motorable distance that could be covered to rural districts by respective authority and consistently working upon it to increase the motorable distance might help in long run.
5. Health insurance can also play a major role in easing the draught of health care facility.
6. Operating tertiary level health care centres as well as some needed specialty centres in rural areas as well.
7. Separate lane in major cities for ambulances and zero customs.

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REFERENCES

1. Shrestha B. Maternal mortality in hilly districts of Nepal. *Journal of Institute of Medicine*. 2010;32(1).
2. S Chaudhari, G Malla , R Bhandari , M Poudel , S Giri. Transport and Pre- Hospital Care Prior to Arrival in Tertiary Care Emergency Department of Eastern Nepal: a Cross sectional study. *Journal of BP Koirala Institue of Health Science*. 2019;2(1):60-67.
3. Sharma SK, Chappuis F, Jha N, Bovier PA, Loutan L, Koirala S. Impact of snake bites and determinants of fatal outcomes in southeastern Nepal. *The American journal of tropical medicine and hygiene*. 2004;71(2):234-8.
4. J. Morrison, R. Thapa, M. Basnet, B. Budhathoki, K. Tumbahangphe, D. Manandhar, A. Costello, and D. Osrin, 'Exploring the First Delay: A Qualitative Study of Home Deliveries in Makwanpur District Nepal', *BMC Pregnancy Childbirth*, 14 (2014), 89.
5. R. K. Mahato, W. Laohasiriwong, K. Vaeteewootacharn, R. Koju, and R. Bhattarai, 'Major Delays in the Diagnosis and Management of Tuberculosis Patients in Nepal', *J Clin Diagn Res*, 9 (2015), Lc05-9.
6. R. Gongal, and P. Vaidya, 'Responding to the Need of the Society: Nepal Ambulance Service', *Journal of Institute of Medicine Nepal*, 34 (2013), 1.
7. S. K. Shrestha, K. Koirala, and B. Amatya, 'Patient's Mode of Transportation Presented in the Emergency Department of a Tertiary Care Centre, Kavre, Nepal', *Kathmandu Univ Med J (KUMJ)*, 16 (2018), 39-42.
8. R. K. Maharjan, '(P2-76) Mortality Pattern in the Emergency Department in Tribhuvan University Teaching Hospital, Kathmandu, Nepal', *Prehospital and Disaster Medicine*, 26 (2011).