

# Primary Care in a Rural Set Up in Nepal: Perspectives of a Generalist

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### ABSTRACT

This article deals with the author's personal perspectives while having to serve as a generalist in a rural hospital in one of the most underdeveloped and far away regions of Nepal. Having been deputed in Kalikot District Hospital (KDH) through Nick Simons Institute's (NSI) Rural Staff Support Program (RSSP), the author mentions the technical hardships and resource constraints of the government hospital. Highlighting the improvement in the hospital profile after the arrival of the RSSP, the article cursorily mentions the modalities of primary care spanning the common clinical presentations. Particularly, the difficulties related to the provision of Comprehensive Emergency Obstetric Care (CEOC) services are highlighted. Also, a brief introduction as to the NSI, Kathmandu is provided.

**Keywords:** CEOC, Kalikot District Hospital, Nick Simons Institute, Rural Staff Support Program

### Introduction

I have been serving in the Kalikot District Hospital (KDH), Manma, Nepal in the capacity of the Clinical and the Medical Education Coordinator through Nick Simons Institute's (NSI) Rural Staff Support Program (RSSP) for the last 6 months now. The purpose of this paper is to reflect up on my own personal experiences, in terms of the primary care management of various kinds of emergencies and other presentations in the emergency room (ER), outpatient department (OPD) and in-patient department (IPD) of the hospital.

### Kalikot and the district hospital

Kalikot is a district located in the mid-western development region of Nepal and is one of the districts of the Karnali zone which is touted as the most backward and underdeveloped region of the whole country. Kalikot was placed in the 72<sup>nd</sup> position among the 75 districts in terms of its district health office performance in a report issued by the Ministry of Health this year. No doubt, the general health scenario and related public awareness in the area are abysmal.<sup>[1]</sup>

The district hospital is located in the district headquarter Manma. It has a three-bedded ER and a 15-bedded IPD. It caters to around 10-15 emergencies and 100-150 out-patients on any given working day. It also provides radiology and lab services during the office hours. Presently, besides the RSSP MD (General Practice) doctor, there is one more MBBS doctor who is working in the hospital under the Government's scholarship contract.

Although presently C-sections are regularly being conducted here, the Health ministry's Comprehensive Emergency Obstetric Care (CEOC) program is formally going to be operational soon and for the purpose a CEOC building is under construction. The two main hospital blocks housing the ER, OPD, lab, and the in-patients, however, are in dilapidated condition.

As in any other district hospital, lack of awareness as to its assets of all kinds and consequently the lack of their maintenance are rampant in this hospital too. Hence, the prevalence of "disuse atrophy" rather than wear and tear due to use is more visible regarding almost each and every biomedical equipment and other devices. It's indeed very disheartening to see the same tendency in terms of the government-supplied drugs as well.

The state of the cleanliness, orderliness, and the measures for the infection prevention are nominal even when described in the most optimistic term.

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No need to mention that like any other district hospital it's understaffed, underresourced, and too often overexerted. The fact that it's linked to the rest of the country by a highway track that is meagrely a fair-weather road and remains clogged throughout the rainy season only makes the matters worse for it.

However, after the RSSP's inception about 2 years ago, things have slowly been improving. There has been a general trend of improvement and increase in terms of OPD, ER visits, and IPD admissions, major and minor procedures being undertaken in the hospital itself. If anything the Health Ministry's Health Management Information System data comparing the last 3 fiscal years' parameters show a positive trend for KDH [Table 1].

### Clinical conditions

Regarding the conditions requiring primary emergency care that we mostly encounter in the KDH, to name a few would include:

1. Acute gastroenteritis (AGE),
2. Fever of unknown origin (FUO),
3. Fractures and trauma,
4. Chronic obstructive pulmonary disease (COPD),
5. Upper and lower respiratory tract infections (U and RTIs),
6. Abdominal pain (acute abdomen, biliary colic, renal colic, acid peptic disorder, and so on),
7. Obstetric (and gynecologic) emergencies.

Not many emergency presentations related to the lifestyle disorders such as hypertension, diabetes mellitus, stroke, renal failures, and so on are encountered. We do come across congestive cardiac failure once in a while, mostly secondary to rheumatic heart disease. Most of the emergencies are further complicated and overlapped by the presence of protein energy malnutrition, both in the paediatric and adult populations.

**Table 1: Comparative hospital indicators for the last 3 fiscal years in Kalikot District Hospital, Nepal**

Indicators	FY2009/10	2010/11	2011/12
Number of sanctioned beds	15	15	15
Number of available beds	18	18	18
Total no. of OPD cases	14286	18304	15957
Total no. of emergency cases	1144	1354	1625
Total no. of OPD (OPD + Emergency) cases	15430	19658	17572
Total no. of inpatients discharged	628	954	1111
Total no. of preventive service provided	2319	3764	3203
Total no. of lab services provided	—	5266	8174
Total no. of hospital services provided	18719	25109	22340
Total no. of delivery conducted	189	213	304
Referral cases (in) total	0	0	0
Referral cases (out) total	43	60	64
Total maternal death	0	1	1
Total hospital death	4	11	9
Total minor procedures	60	41	109
Total major procedures	0	0	23

EMR: Emergency, OPD: Outpatient department. (Nick Simons Institute started the Rural Staff Support Program in this hospital in the fiscal year 2010/11. The major procedures were, however, started only in the year 2011/12 after the set up of operating room and other amenities)<sup>21</sup>

Once in a while we also come across poisonings, mostly organophosphates and other kinds of pesticides, insecticides. Once in a while burns also present in our ER. Foreign body ears and noses, particularly in the kids are also fairly common. Unlike in the OPD, not much in terms of dermatology is seen in the ER. Abscesses of all kinds alongside impetigo and other kinds of wound and skin infections are rampant, mostly in the OPD and also in the ER.

### Management

Most of the common primary care conditions are managed in the local level itself. However, for a few of them, referral to the higher centre is opted for. Availability of a fairly wide variety of government-supplied drugs (KDH being a secondary level district hospital) and also due to the growth of privately owned drug stores due to opening of the Karnali highway track has made the practice of modern day medicine fairly easy in KDH.

The AGEs mainly present during the summer and rainy seasons and is equally common in the pediatric and the adult population. They are managed both on the OPD as well as the ER in-patient basis, depending up on the severity and degree of dehydration. The use of WHO's Integrated Management of Childhood Illness (IMCI) guidelines in the children by classifying the dehydration into no, some, and severe classes and use of plans A, B, and C help us medicos save more lives than any other modality and practice in medicine. Oral Rehydration Solution (ORS) is the blessing of modern day medicine — personally I have come to realize this fact only after working in this rural set up.

IMCI guidelines come equally handy for pneumonias in children. Use of respiratory rate along with other physical signs to classify pneumonia is another blessing of our age in medicine, particularly true for the rural set ups. Availability of nebulizers has made life easy for us in terms of managing pediatric URITs, although nebulized racemic epinephrine is not available.

Lack of culture facilities and unavailability of all spectra of antibiotics particularly pose a challenge in terms of management of FUOs in the ER in-patient areas. Rampant and injudicious use of antibiotics, particularly the third generation cephalosporins and macrolides could pose some serious problems in the days to come but I suppose this is equally as much a problem in the tertiary set ups too. Now, they are being used even in the grass root levels such as subhealth posts and more concerning is the fact that they are even sold over the counter. The latter practice must be barred by the government's drug authority, and this holds equal truth in the hinterlands as it does in the center.

COPDs are again managed in much the same manner as in a tertiary set up as availability of beta agonists and anticholinergics along with corticosteroids have become fairly common now.

Mostly, the closed fractures are reduced and plastered (in casts or slabs) locally itself, except for the severely displaced varieties such

as Gartland type 3 fractures of supracondylar region. Intravenous anesthesia (IVA) ketamine is used mostly for the reduction of fractures and dislocations. Open fractures are referred after primary wound cleaning and dressing. Similarly, minor traumas and wounds that need suturing are managed locally under local or intravenous (IV) anesthesia. For severe traumas that need referral, primary care is provided as much as possible before patient disposal.

IVA ketamine or local anesthesia is used also for the incision and drainage, lump excisions, foreign bodies of ear and nose removal, and so on depending on the patient's age and condition.

Acute abdomen that need emergent surgical management such as the ones presenting with peritonism are referred quickly after initial analgesic, antibiotic doses, IV access and IV fluid placement, free nasogastric drainage placement and explanation of the need for nil per os status. Laparotomy in such situations has not been possible in KDH so far due to the unavailability of general anesthesia mainly. However, possibly due to better availability of *Helicobacter pylori* eradication therapy and other antibiotics, acute abdomen such as duodenal ulcer perforation, enteric perforation, and so on, are seen relatively less here. Acute appendicitis is operated in the KDH itself under subarachnoid block (SAB) [Table 2].

As of now a lack of trained ultrasonography (USG) operator has been a hindrance to its full use in terms of management of emergencies. However, after having undergone a USG training to be held shortly, I expect to use it much more properly and it should be of greater help in the timely and correct diagnosis of many emergencies.

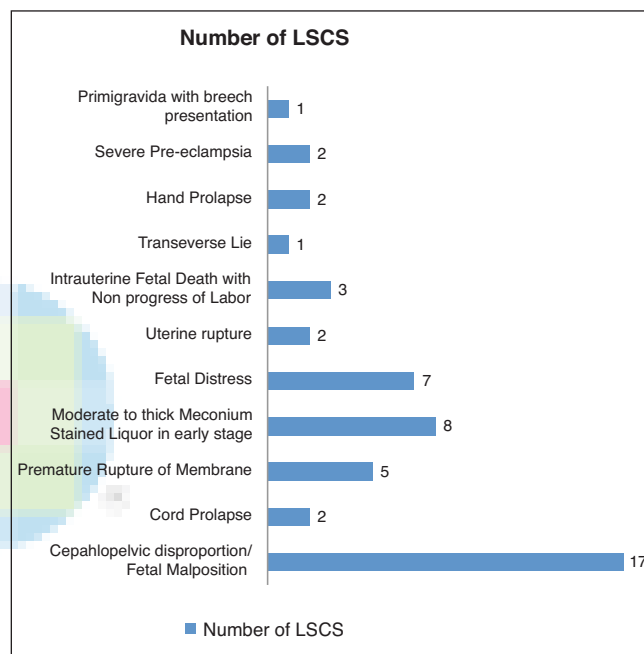
Obstetric and gynecologic emergencies mainly present in the form of per vaginal bleeding, mostly either as a case of dysfunctional uterine bleeding or secondary to medical abortion pill consumption. Availability of postabortion care services along with the presence of complete abortion care trained staff has really made things simpler in these situations now. However, unavailability of blood storage services does pose a genuine threat in such circumstances. The concept of walking blood bank although very pleasant to hear is not much applicable in set ups like these, mostly due to the reason that people do not have awareness regarding the blood donation need. Hence, at times of dire need of blood we either have to look up to our own hospital staff or the police or military personnel for help [Figure 1].

The concept of CEOC is pretty much afloat now in the KDH. A separate hospital block is already under construction for the purpose. Regular cesarean sections are being undertaken in the hospital despite its own unique set of challenges and constraints. During my 4-month long tenure in KDH, I performed 14 emergency C-sections. They were mostly conducted for either nonprogress of labour or fetal malposition, except two of them where fetal distress was the indication.

**Table 2: Various surgical procedures in the Kalikot District Hospital (KDH) after the inception of Rural Staff Support Program**

Procedure	Number
Lower segment cesarean section	31
Appendectomy	3
Pelvic anterior/posterior floor repair	10
Circumcision	3
Vulvar hematoma release	2
Amputation of fingers (postcrush injury)	1
Inguinal hernia repair	2
Hydrocele sac eversion	2

The first lower segment cesarean section took place in Aug 2011. This table includes data from Aug 2011 to Feb 2013, a short period of 18 months in the many decades long history of KDH. Notable is the fact that routine performance of the procedures such as the following is exceedingly rare, not just in KDH but in any Government District Hospital in Nepal<sup>9</sup>



**Figure 1: Breakdown of various indications present in the lower segment cesarean section performed in Kalikot District Hospital**

Possibly due to timely referral from the health centers of the catchment areas and greater availability of safe obstetric services even in the grass root levels, not much in terms of severe complications in obstetrics such as ruptured uterus has been encountered so far.

In the majority of these procedures, I have myself provided the SAB. In a few of these, another doctor has done the job. But mostly, I prefer the junior doctor to be assisting me in the surgery rather than looking after the anesthetic part. Usually, a nurse stands by for the anesthetic monitoring. Sometimes, I would have to be operating entirely with the nursing personnel because the other doctor would be out of station.

Not forgettable at this point is the fact that operating without suction machine and cautery has become a norm here because neither the landline of electricity nor the generator (which is

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mostly out of order) is able to handle the extra load. Mostly, I do not even have the “luxury” (?) of having an oxygen concentrator by my patient’s side. During bad days, I operate under quarter power solar lamps that look and work more like dinner lights in restaurants rather than properly focussed and powered operating theatre light.

### Conclusion

Thus, being the only GP in the hospital and the senior most health staff not only in the KDH but in the entire district comes with a unique set of challenges as well as opportunities to me both as a clinician as well as a manager. Moreover, the roles played by a GP in our own Nepali context vary significantly from those in say a western set up. This too becomes more apparent than ever when one is able to serve in these capacities. Most important of all is the fact that one is able to play the role of a real, complete doctor for an entire community; this is one of the last remaining opportunities left out to be exercised by a quickly vanishing breed of health care providers in the present global scenario. One must feel blessed to be able to exercise all these privileges. Hence, despite whatever dismal conditions I am working under I also have my own reasons for solace.

### A Brief Intro of NSI, Nepal

Nick Simons was 22 years old when he came to Nepal in 2002. He had worked with a nongovernment organization then for about a year. The next year when he went back home in the United States, he shared his dream to become a doctor and be able to help in places like Nepal with his parents, Jim and Marilyn Simons. Tragically, he drowned to death in Bali the same year before he could start his medical studies. In 2006, Jim and Marilyn Simons established the NSI in Kathmandu in memory of their son to provide quality health care to people in rural Nepal.<sup>[4]</sup>

The RSSP is run by the NSI to enhance the effectiveness of Nepal’s government district hospitals, transforming them into institutions that can provide a range of services, including operations. Nepal’s Ministry of Health and Population and the NSI began RSSP in 2007, and today seven government district hospitals are supported under this program. Before implementation of RSSP, all were poorly functioning hospitals located in underserved areas.

RSSP is a bundle of “enabling environment” supports which goes by the acronym, the eight Cs, namely

1. Communication,
2. Continuing medical education,
3. Community governance,
4. Clinical coordination by MD (General Practice) doctor,
5. Capital items,
6. Comfortable staff quarters,
7. Connection with district, and
8. Continuous quality improvement (source: [nsi.edu.np](http://nsi.edu.np)).

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