

Anaesthesia and Perioperative Care in Remote Health Camps: Patients' Concerns

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ABSTRACT

Introduction: Identifying patients' concerns and expectations regarding anaesthesia and perioperative care in mobile surgical camps is relevant for the camp workers. This prospective observational study was conducted to assess knowledge, concerns, and expectations about anaesthesia and perioperative care in patients undergoing surgery in mobile surgical camps in remote mountainous districts of Eastern Nepal.

Methods: A questionnaire with seven items related to anaesthesia and perioperative care was used for interviewing 80 individuals of age ≥ 12 years, 20 from each camp at Solukhumbu, Sankhuwasabha, Khotang and Bhojpur districts.

Results: Data of two patients were lost leaving only 78 individuals for analysis. The mean age of the subjects was 30.5 (± 14.6) years with the male: female ratio of 43: 35. Fifty-eight (74.4%) patients had some gross idea about the modality of administration of anaesthetics. Twenty-six (33.3%) individuals preferred GA over local anaesthesia, whereas 22 (28.2%) were happy either way if there was no pain. Pain was the main concern for 73.1% of the patients. Of the 25 patients expressing fear of GA, death or not being able to wake up anymore was the main concern for 60.0%. Increasing age was associated with lower fear of GA ($p < 0.05$). Surgical experience was distressing for 17 (21.8%) patients. The overall experience of the anaesthesia and surgery was worse than expected for 25.6% of the patients.

Conclusions: Patients presenting to these health camps have limited knowledge regarding anaesthesia and perioperative care but have valid concerns and expectations in respect of their safety, comfort and outcome.

Keywords: anaesthesia, concerns, expectations, perioperative care, surgical camps

INTRODUCTION

Medical attention including surgical care through mobile health camps (organized time to time by government or national/international NGOs) is one of the limited but only practical options left for many marginalized people of remote hills of Nepal. Identifying their perceptions,

concerns and expectations regarding anaesthesia and perioperative care can be helpful in making the care being provided more effective, acceptable and satisfying as well as for planning for the future. Distorted concerns about anaesthesia and surgery are

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associated with preoperative anxiety and poor quality of recovery.¹⁻³ No study investigating patients' concerns regarding anaesthesia and perioperative care in such a camp setting has so far been reported from Nepal. The present study was conducted to find out knowledge, concerns and expectations about anaesthesia and perioperative care in patients undergoing surgery in four mobile camps organized by the Government of Nepal in mountainous districts of Eastern Nepal in the years 2006 and 2007.

METHODS

This prospective observational study was carried out in patients of both sexes presenting for surgical procedures in the health camps organized by Ministry of Health, Government of Nepal in Solukhumbu, Sankhuwasabha, Khotang and Bhojpur districts in the years 2006 and 2007. The first 20 consecutive patients, conversant in Nepali language, aged 12 years or more, presenting for surgical procedures in each camp were interviewed. Patients of age less than 12 years and those who were unable to understand and speak Nepali language properly were excluded. The nature of the study was explained to the subjects and verbal consent was obtained from each. The instrument used was a preformed questionnaire containing seven items. It was first made in English then translated into Nepali and was validated by translating it back into English by expert linguists. Data collection was done by the anaesthetist of the camp team before the operation and after the operation on the first postoperative day. The variables recorded were: age, sex, ethnicity, literacy status, type of surgery, type of anaesthesia, the most desirable way of getting operated, fear of surgery and general anaesthesia, knowledge about techniques of anaesthesia, and expectations and experience of operation and anaesthesia.

The data were entered in the Microsoft Excel[®] programme and analyzed using the statistical package SPSS (Version 10). The data were expressed as frequencies and percentages. Categorical data were compared using Chi square test and association between factors was analyzed using linear-to-linear association test.

RESULTS

All together 80 patients (20 from each camp) were interviewed but data of two patients from Bhojpur camp were lost during transport, therefore, only 78 patients remained for analysis.

The demographic profile of the patients interviewed is given in Table 1. The mean age (\pm SD) of the subjects was 30.5 (\pm 14.6) years with the range of 12-66 years. Forty-five (57.7%) patients were operated under general

anaesthesia while 33 (42.3%) had regional anaesthesia. Sixty (76.9%) patients underwent major surgeries, while 18 (23.1%) underwent minor surgeries.

Table 1. Demographic profile of patients (n = 78)

Variables	Frequency (n)	Percentage (%)
Age		
12-20 years	24	30.8
20-45 years	43	55.1
>45 years	11	14.1
Sex		
female	35	44.9
male	43	55.1
Ethnic group		
Indo-Aryan*	46	59
Tibeto-Burmeset†	27	34.6
Others‡	5	6.4
Literacy		
Literate§	36	46.2
Illiterate	42	53.8

* (Bahun, Chhetri and Dalits),

† (Rai, Limbu, Magar, Gurung, Tamang and Sherpa),

‡ (Newar and non-specified),

§ (as per Government of Nepal definition)

Only 48 (61.5%) patients could express their most desirable way of being operated while the remaining 30 (38.5%) did not have a particular choice (Table 2).

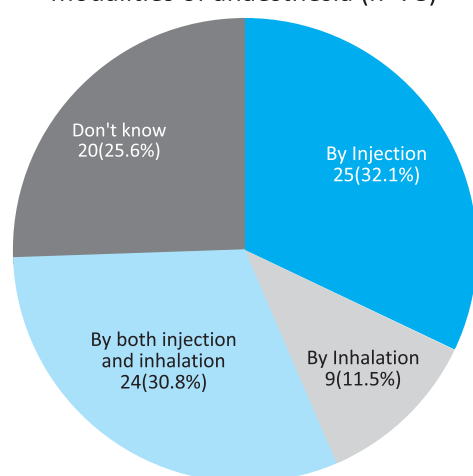
Table 2. Patients' preferences for undergoing surgery (n = 78)

Variables	Frequency (n)	Percentage (%)
Without knowing (Under unconsciousness)	26	33.3
Without pain (painlessly)	22	28.2
Can't say	30	38.5

The main fear expressed during surgery was pain by 57 (73.1%) patients and unspecified complications by five (6.4%) while 16 (20.5%) patients could not ascertain the cause of their fear.

In all, 58 (74.4%) patients knew that giving anaesthesia involved injection, inhalation or both while 20 (25.6%) had no idea as to how anaesthesia is given (Figure 1). Of the total 78 patients, 53 (67.9%) expressed no fear of general anaesthesia while the remaining 25 (32.1%) expressed fear of being unconscious. Increasing age was found to be associated with decreasing fear of being anaesthetized ($p < 0.05$) (Figure 2). Of the 25 patients who expressed fear of general anaesthesia, 15 (60.0%) were afraid of death or not being able to wake up any more while one (4.0%) was afraid of pain but the remaining nine (36.0%) could not ascertain the

Patients' knowledge regarding modalities of anaesthesia (n=78)

**Figure 1.** Prevalence of knowledge regarding modalities of anaesthesia (n = 78)

reason for their fear.

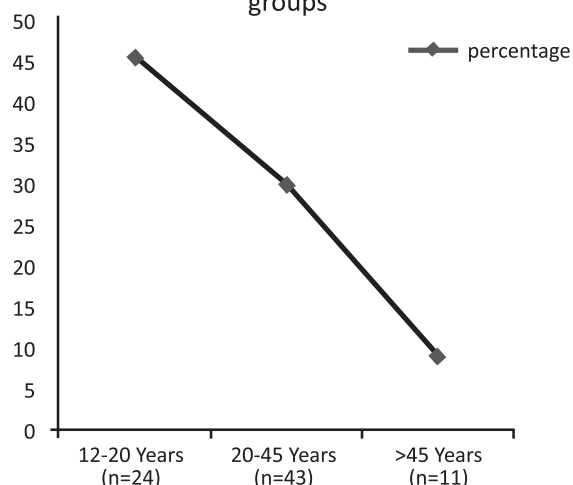
An unwanted or distressing experience during anaesthesia and surgery was expressed by 17 (21.8%) of the patients while the remaining 61 (78.2%) had no complaints at all. Of the 17 patients who reported experiencing distressful experience, four (23.5%) blamed pain for their distress, one (5.9%) blamed inability to move their legs while the remaining 12 (70.6%) were unable to pinpoint the reasons for their distress.

Overall, 58 (74.4%) patients found their anaesthetic or surgical experience as expected or even better while the remaining 20 (25.6%) rated their experience worse than what they had expected.

DISCUSSIONS

Our study has shown that though more than two third of the patients had some idea, almost one third of the patients (or every third patient) presenting for surgery in these health camps had no idea at all regarding the basic modalities of anaesthesia. Similar but a tertiary care hospital-based study has shown every seventh patient having no idea about the basic modality of anaesthesia.⁴ Although the difference may not be considered surprising but it indicates a clear need of improving their knowledge and confidence on health related issues including anaesthesia and surgery. One strategy for doing so could be including comprehensive health education component in such camps. It was very interesting to note people's belief about techniques of anaesthesia. We came across one patient who believed that electric shock is used for rendering a patient unconscious.

Prevalence of fear of anaesthesia in different age groups

**Figure 2.** Prevalence of fear of anaesthesia in different age groups in percentage.

Although only one third of the patients in our study preferred to be operated under unconsciousness (GA), major concerns in majority (three fourth) was pain. Of the patients who expressed fear of general anaesthesia, the majority (more than 60%), which comprises one fifth of the total patients interviewed, were afraid of death or not being able to wake up after surgery. Surprisingly this finding is not different from other research in patients presenting for surgery in many different settings including Eastern Nepal and other countries, with the prevalence ranging from 12 to 54%.⁴⁻¹¹

But remaining awake during general anaesthesia (awareness) as a concern expressed by patients reported in other studies⁵⁻⁸ with the prevalence ranging from 5 to 52% was not expressed by any of our patients. This probably reflects low general awareness about medical and health related subjects owing to the lack of access to facilities providing comprehensive medical/ surgical care, in turn due to the remoteness of their dwelling. Patients from the Terai (Southern plain) have been found to express fear of awareness during anaesthesia more than those from the hills.⁴ Probably for similar reasons postoperative nausea and vomiting (PONV), reported as one of the most common concerns in most of the studies was not mentioned as a concern at all in our study.

Our finding of a significant association between increasing fears of general anaesthesia with decreasing age is consistent with the findings of the studies by McGaw et al and Kindler et al.^{10,12} Their studies also found that young people are more apprehensive and fearful than more matured ones.

Proper preoperative consultation has been found to reduce certain concerns such as pain and awareness.¹³

Therefore, preoperative consultation by the anaesthetist in such health camps could prove beneficial provided that the time can be managed.

In our study more than one fifth of the patients had undesirable or distressing experience; however, the majority of them were unable to express the actual cause of their distress. Pain and inability to move the legs were the only causes reported by 30% of them again indicating the need for better preoperative consultation and counseling.

The experience of anaesthesia and surgery was as expected or even better for three fourth of the patients. However, not meeting the expectations of more than one fourth of the patients is something that can not be ignored and warrants further investigation.

Understandably anaesthesia and surgery in the less sophisticated remote rural setting of Nepal is riskier than in a sophisticated hospital set up.¹⁴ But taking this risk can be considered worthwhile to prevent individuals from suffering the consequences of life long disability, social exclusion or premature death.¹⁵ However, the importance of adequately equipped medical team with minimum required medications and equipment as well as the confidence can not be exaggerated. Undoubtedly, the very objective of organizing health camps in remote

areas is to cater to the neediest patients. This is possible only if we can improve the confidence of the target group and reduce their apprehension. Identifying their concerns and expectation can form the basis of doing this. Despite the limitations of having a small sample size, non-probability sampling method and limited variables, this study provides useful feedback to the organizers and service providers of such camps. It also indicates the need of conducting further studies in this area in a more comprehensive way.

CONCLUSIONS

The study reveals that patients presenting to mobile health camps in remote hills of Nepal have limited knowledge regarding anaesthesia and surgery and have valid concerns and expectations in respect of their safety, comfort and potential outcome. Appropriate actions are needed to address these issues.

ACKNOWLEDGEMENT

We are grateful to the organizing team of the camps and BPKIHS for allowing us to carry out the study. We extend our sincere thanks to Professor Badri Badhu MD, Department of Ophthalmology, BPKIHS, and Dr. Stephen Pickering FANZCA, New Castle, Australia, for their valuable suggestions in preparing the manuscript.

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