

*Original Article***Anaesthesia education in Nepal - What residents think**

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**Background:** Education in Anesthesiology is one of the growing fields of medical education in Nepal. The feedback and constructive suggestions from the Anesthesiology residents regarding their training program is essential for the improvement of the training program.

**Methods:** This prospective questionnaire based study was done at five different medical institutions of Nepal where postgraduate training in Anesthesiology is available. Questionnaire consisting of several questions related to anesthesia training were distributed to 45 anesthesiology residents of different institutions and were asked to fill and return to the investigator.

**Results:** Out of 45 questionnaires 38 responded. Only 50% of the respondents said that classes were regular in their institution. Only 23.68% of the residents were satisfied with the exam system. More than two third (76.32%) felt that their undergraduate education in anesthesiology was inadequate. Majority of the residents think that the education in anesthesiology in Nepal is at par or better than education in other subjects and 81.58% think that it is becoming better than before. Half of the residents feel that the facilities provided to them is better considering the national condition. Sixty-six percent of the residents think that the future of anesthesia in Nepal is bright.

**Conclusion:** Majority of the residents think that the anesthesia education in undergraduate level is inadequate and developing anesthesia as a separate subject may attract more students to join anesthesiology. Most of the residents are satisfied with the improvement in education in anesthesia and its future but feel that there are lot more to do.

**Key Words:** Anesthesia, Education, Nepal

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**Introduction**

Medical education is still in its growing phase in Nepal. Undergraduate medical education in Nepal is more or less established however Post graduate programs are still not fully developed. Only few seats are available in Post graduate degree in Anaesthesiology, though the

number of seats are increasing year by year. Postgraduate education in anesthesiology started in 1985 as Diploma in Anaesthesiology (DA) as a joint venture between the Institute of Medicine, Nepal and the University of Calgary, Canada.<sup>1</sup> Since then the formal education in

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anesthesiology had begun. At that time there were only seven anesthesiologists in the country compared to about 80 Surgeons.<sup>2</sup> Attracting medical students for pursuing career in anesthesiology was also difficult at that time due to various attractions in other speciality.<sup>2</sup> Although it was difficult, there has been continuing progress in education in anesthesiology in Nepal. Three years post graduate program, Doctor of medicine in Anesthesiology (MD Anesthesiology) was started in 1996 under Postgraduate Medical Education Coordination committee (PGMECC) in Institute of Medicine and different hospitals of Ministry of Health.<sup>3</sup> Since then the education in anesthesiology has gained momentum and many different institutions have come up with their own postgraduate training program in anesthesiology.

Continuing efforts are made to improve the quality of education in Anaesthesiology. It is necessary that we evaluate our programs routinely to make improvement in the education system. There were few studies in the past that evaluated the DA programs to see its effectiveness,<sup>1,4</sup> but no recent studies could be found. It is also important to evaluate the programs from the trainee's point of view so that the real difficulty and problems could be identified. 'How is the education in Anaesthesiology in different institute of Nepal? How it should be? How is its future? 'What should be done to improve it? We tried to evaluate these questions from the anaesthesiology residents' point of view. We tried to evaluate their perception and suggestions for future improvement in the field of anaesthesiology.

**Methods**

This prospective questionnaire based study was done at five different medical institutions of Nepal where postgraduate training in Anesthesiology is available. Questionnaire consisting several questions related to anesthesia training were distributed to 45 anesthesiology residents of different institutions and were asked to fill and return to the investigator.

Questions included were regarding their classes, exams, Thesis, undergraduate knowledge, anaesthesia education compared to other subjects, role of faculties, role of Society of Anesthesiologists of Nepal (SAN) and the future of anaesthesiology in Nepal.

The institutes were Institute of Medicine (IOM), National Academy of Medical Sciences (NAMS), B. P. Koirala Institute Health Science (BPKIHS), Manipal College of Medical Sciences (MCOMS), and College of Medical Sciences (CMS).

The data collected were entered into the computer and analyzed using Microsoft excel program.

**Results**

Out of 45 questionnaires distributed, 38 residents responded. Fourteen residents (36.84%) were first year

residents, 13 (34.21%) were second year and 11 (28.94%) were third year residents. Six residents (15.79%) had undergraduate medical degree from outside Nepal and rest (84.21%) had undergraduate degree from Nepal. Thirty-three (86.84%) residents were Nepali citizens and the rest (13.16%) were foreign students.

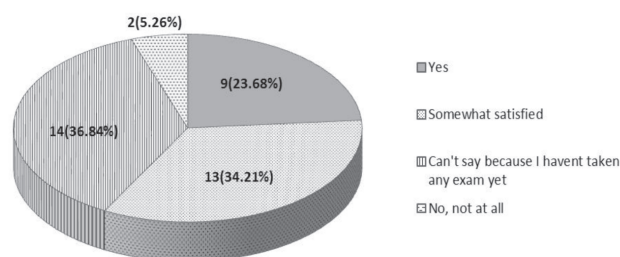
**Evaluation of the classes**

Nineteen (50%) of the respondents feel that classes in their institution are regular and 18 (47.37%) feel that the classes are regular only sometimes. One respondent (2.63%) felt that the classes were never regular. Five residents (13.16%) think that the class should all be interactive discussions while 2.6% think it should be case presentation but most of the residents (81.58%) think that the classes should consists of all types of classes like lectures, case presentation, seminars, journal club etc. Twenty seven (71.05%) residents think that the classes should be taken by the faculties while 22 (57.89%) think that the residents should also take classes. Two to four classes per week were preferred by 76.32% while 13.16% preferred classes everyday and 10.53% said only one class per week is enough.

**Evaluation of the exam system**

Only 23.68% of the residents were satisfied with the exam system.

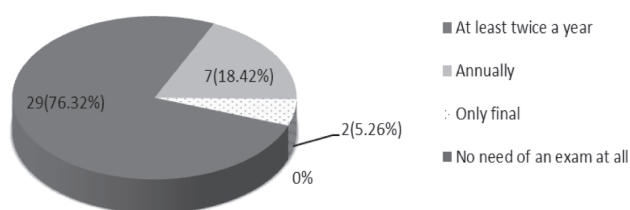
**Are you satisfied with the exam system?**



**Fig 1: figure showing resident's satisfaction with the exam system**

Most of the residents (76.32%) think that there should be at least two exams in a year.

**How regular should be the exam ?**

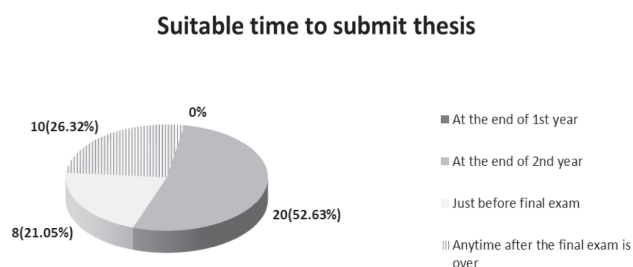


**Fig 2: figure showing number of exams residents wants in a year.**

Twenty-eight (73.68%) of the residents said they prefer mixed types of question in the exam however 13.16% wanted only multiple choice questions and another 13.16% said they wanted mixed type with no viva. Most of the residents (78.95%) think that the current exam system does not evaluate the candidate completely but it reflects the knowledge they acquire, however 13.16% think that it totally depends on the examiner. Two residents (5.26%) think that the exam accurately evaluates the candidate and one (2.63%) think that it does not evaluate the candidate accurately at all.

**Role of Thesis**

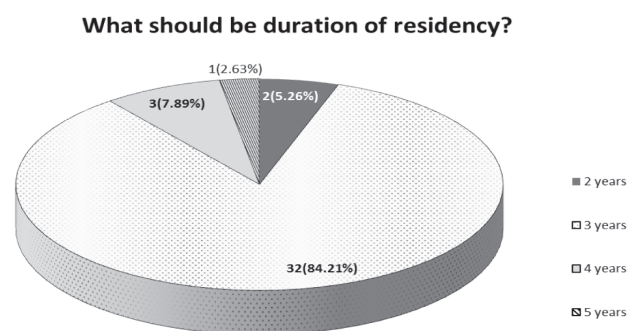
Half of the respondent (50%) feel that the thesis only help to increase their research ability, while 17 (44.74%) think that thesis helps to increase both research ability and clinical knowledge. One (2.63%) think that it only increases clinical knowledge while another one (2.63%) think thesis is just a waste of time. Twenty (52.63%) residents think that the suitable time to submit thesis is at the end of 2<sup>nd</sup> year.



**Fig 3: figure showing suitable time to submit thesis as felt by residents**

**Residency duration and postings**

Most of the residents (84.21%) feel that the duration of residency should be 3 years.



**Fig 4: figure showing adequate duration of residency as felt by residents**

Almost half (44.73%) of the residents think that the postings in sub speciality hospitals help learn more while 13.16% think that it does not help and 42.11% think that it helps a little. Twenty-seven (71.05%) residents feel that they should also have postings outside anesthesiology (internal medicine, ER etc.) for extra learning while 28.95% did not want the outside postings. Only 39.47%

liked the inclusion of basic sciences into their curriculum while 42.11% think only few topics should be included and 18.42% did not want any basic science topics.

**Undergraduate program and priority subject**

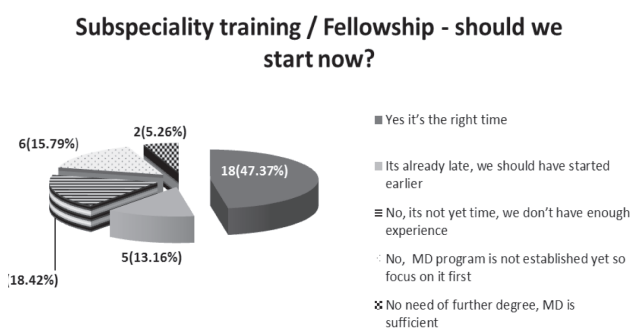
Most of the residents (76.32%) said they did not have adequate knowledge about anesthesia in their undergraduate program. Only 21.05% said they had adequate knowledge in undergraduate program while 2.63% said they did not have any anesthesia teaching at all. Twenty-one (55.26%) residents said anesthesiology was one of their priority subjects for post graduate training. Majority of the residents(73.68%) agree that if anesthesiology were a separate subject, more residents would join anesthesiology for post graduate degree while 10.53% think it wouldn't make any difference and rest (15.79%) think few more may join anesthesiology.

**Anesthesiology as compared to other subjects**

Less than half (42.10%) residents think that anesthesiology is lagging behind other subjects in Nepal while 28.95% think it is at par and another 28.95% think that it is better than other subjects. Only few (13.16%) think that anesthesia education in Nepal is at par with other countries. Almost half (47.37%) think that it is way behind while 36.84% think that they can't be compared. Most of the respondents (81.58%) think that the education in anesthesia is getting better in Nepal while 18.42% were undecided about it.

**Other programs**

Majority (89.47%) are not in favour to restart the Diploma in Anesthesiology as 52.63% think that it is already obsolete program while 36.84% think that the DA program is incomplete. Only 10.53% think that we should restart DA program as we need more anesthesiologists. Almost half (47.37%) think that it is right time to start the sub speciality program.



**Fig 5: figure showing the residents view about starting sub speciality trainings.**

**Role of professional society**

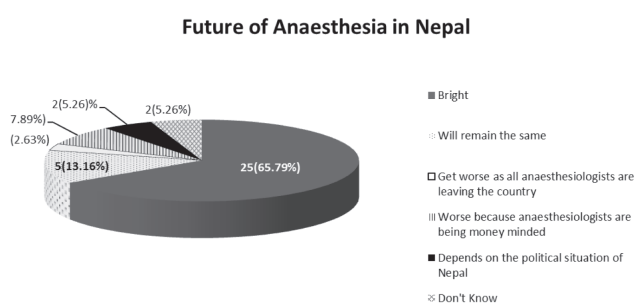
Most of the residents (76.32%) think that the continuing medical education (CME) programs conducted by Society of Anesthesiologists of Nepal (SAN) are helping them in their studies. Four (10.53%) said they haven't attended any such CME programs while 7.89% said it is helping just a

little and 5.26% said the CMEs are not helping them in their studies. Twenty-five(65.78%) of the participants stressed that such CMEs should focus more on recent advances while 28.94% said it should focus on policy making and implementation.

**Field, facilities and future**

Intensive care (73.68%) and pain management (57.89%) were the two field that the residents think need more attention while post operative care (36.84%), intraoperative management (18.42%) and resuscitation (18.42%) were other fields that need attention. Half of the respondents (50.00%) think that the facilities provided to them is better considering the condition of the country for good education. Seven (18.42%) were satisfied with the facilities while 28.95% were somewhat satisfied and only 2.63% were not satisfied. Half (50.00%) of the residents think that their department are doing enough to improve the anesthesia education in Nepal and 47.37% think that the departments are doing just a little to improve it while 2.63% think that everyone in the department are busy with their practice. Lack of newer drugs and equipment (55.26%) and lack of attention given by the institution to the anesthesiology (31.58%) were the two things that most of the residents think are main obstacles for good education in anesthesia. The residents think that anesthesiologists themselves (55.26%) and the institutes (47.37%) should be blamed for lack of good education. Overall 65.79% residents think that the future of anesthesia is bright in Nepal.

**Fig 6: figure showing residents view about future of anesthesia in Nepal.**



**Discussion**

More than 25 years has passed since the formal education in anesthesia in Nepal started. We have come a long way to improve the education in anesthesia. From single institute providing anesthesiology training for few medical graduates we have now several postgraduate programs running.<sup>3</sup> It is necessary that we evaluate our training program regularly.

In the developed world, anesthesia has progressed to a comprehensive medical specialty in the past few decades with a well established presence in allied disciplines, including intensive care medicine, emergency medicine,

and pain therapy.<sup>5</sup> However, in developing countries, anesthesia is mostly focused on intraoperative patient care for basic surgical procedures.<sup>6</sup> Anaesthesia in less developed countries has often gained little or no interest.<sup>5</sup> The condition in Nepal is no different however progress has been made. It is necessary that good education be provided to lift the overall condition of any speciality. Good education in anesthesia would lead to better anesthesia service of the country. As evident by our data, the education of anesthesiology in undergraduate level is severely lacking. Only about 21% felt that the anesthesia education was adequate in undergraduate level and most of the respondents felt that if there had been a separate subject of anesthesiology in undergraduate level the interest in anesthesia would grow a lot. In a study done in university hospital in Nigeria none of the 54 medical students selected anesthesia as a first choice.<sup>7</sup> The short duration of exposure to anaesthesia, insufficient participation in practical anaesthesia during their posting and inadequate provision of teaching aids were considered by the students to require improvement. The authors also suggest early introduction of anaesthesia in their curriculum. In another study by Faponle AF, 80% of the medical students found anaesthesia interesting and important but none would pick anaesthesia as a first choice for future career.<sup>8</sup> This may also be due to lack of proper anesthesia education in undergraduate level.

Most of the residents in our study think that the current 3 year residency program is effective and also agree with the type of questions asked in the exam however most of them think that exam should be more often. Basic science and posting in other areas like medicine and emergency are part of anesthesiology residency program and most of the residents who took part in the study think that they are helpful.

More than half of the residents think that the education in anesthesiology in Nepal is at par or better than education in other speciality. That is a positive sign for the growth of anesthesia education. Majority of the participants also think that the condition has improved a lot and anesthesia education is getting better than before. It shows that there has been progress made in the field of anesthesia. That will also encourage the new anesthesiologists to improve the quality of education in future. Majority of the residents were against restarting the DA program. They think that it is an obsolete program or it is not a complete training program. In today's challenging medical field where even a smallest mistake could lead to severe consequences, the anesthesiologists need to be very competent and should bear wide range of knowledge and skills which may not be acquired from one year or two year DA program. In our study more than half of the residents think that we need to start subspecialty training programs. The development in the field of surgery has made it imperative to upgrade our knowledge to catch up with newer technologies and newer surgical approach for the safety of the patients.

With subspecialty trainings we could handle much more complicated surgeries and patients with complicated diseases.

The Society of Anesthesiologists of Nepal (SAN) was formed in 1987<sup>1</sup> and since then it has been working to improve the anesthesia service and anesthesia education in Nepal. Most of the residents (76.32%) in the study think that CMEs conducted by SAN is helping them in their study. From that evaluation It could be said that SAN has been successful with its CME programs and is somewhat helping to improve the anesthesia education. It is mostly the responsibility of the institutes to work on improving anesthesia education and half of the resident in the study think that their department are doing adequate to improve the field of anesthesia however most of the respondents think that anesthesiologists themselves or the institute are the one to blame for lack of good education. They think that lack of newer safer drugs and equipment and lack of interest of the institutes are the main obstacle for better education and service. It is not only the problem in Nepal but a common problem of least developed countries<sup>9-10</sup>

Almost two-third (65.79%) residents in our study think that the future of anesthesia in Nepal is bright. It can be taken as a positive note that the newer generations of anesthesiologists are optimistic about their profession and career.

### Conclusion

All the residents are concerned about the education in Anaesthesia. Most of them are satisfied with the improvement in Anaesthesia education but feel that there are lot more to be done. Institutions and faculties should do more to improve the quality of anaesthesia education. Anaesthesia education in undergraduate course is inadequate and providing adequate anesthesia education to undergraduate level may attract more students to join anesthesiology. CMEs conducted by SAN is helping to promote anaesthesia education. The future of anaesthesiology in Nepal looks bright.

**Conflict of Interest:** None

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