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Fellowship Training in Nepal: Current Prospects

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ABSTRACT

The need of subspecialty training has been acutely felt in Nepal now with the rapid advancement in the field of medical sciences, the changing burden of diseases, the acute shortage of highly specialized health professionals, the evolving concept of learning and medical education and the ever-increasing focus on right and safety of patients.Fellowship Training is obtained in a specific specialty or subspecialty. Fully academic 3-year Fellowship programsin Pulmonary and Critical Care Medicine, Hepatopancreatobiliary Surgery and Cardiologyhavebeen initiated for certification of the training for the first time in Nepal at Chitwan Medical College (CMC) and all three are recognized by the Nepal Medical Council.The three Fellowship training programs, run in affiliation with Lincoln University, at the CMC have all the training criteria of DM/MCh included along with extra requirement of one more paper publication and the trainees are paid adequate stipend without any tuition fee or bond. The high volume of cases and procedures in CMC, exposes the FCMC Fellows to an increased chance of appropriate skill development along with appropriate postings in various other institutions for adequate experience of hands on training.Fellowship programs are the cornerstone of providing super specialized patient care.The need today is to focus on the basic training concepts and criteria, rather than on various names like diploma, MD, MS, DM/MCh of training.Nepal should focus onthe prerequisites, infrastructure and human resource for expanding the quality Fellowship trainingprograms in the country and thereby enhancing the standard of patient care.

Keywords: Cardiology; DM; FCMC; fellowship; hepatopancreatobiliary surgery; MCh; PCCM.

INTRODUCTION

The development of medical education in Nepal is a relatively new phenomenon. The need of subspecialty training has now been acutely felt in Nepal with the rapid advancement in the field of medical sciences, the changing burden of diseases, the acute shortage of highly specialized health professionals, the evolving concept of learning and medical education and the ever-increasing focus on right and safety of patients.Fellowship Training is obtained in one of the general specialties or subspecialties.The ultimate goal of fellowship training is to build a cadre of experts in a focused area. It is to be understood that the primary training objective of any fellowship is to impart advanced interpretive as well as interventional expertise.[1] Many fellowships, in addition, also train health professionals who evolve into leaders in the field of medicine, education as well as research.[1]

The sub-specialist training was initially started in the NAMS with the name of Fellowship as FNAMS, which was subsequently changed to DM/MCh for the sake of uniformity in the country and the region.[2] Several Fellowship Programs have started in Nepal since then and fully academic 3-year fellowshipprograms in Pulmonary & Critical Care, Hepatopancreatobiliary Surgery and Cardiology have been initiated for certification of the training for the first time in the history of Nepal at Chitwan Medical College. A hallmark of the full three-year academic fellowship program is the incredible diversity and refinement of the training experience, thus considerably raising the standard of patient care. The robust clinical experience and the didactic instruction equips fellows to meet the challenges of managing highly specialized case scenarios. This article aims to highlight the current prospects in Fellowship Training in Nepal and gives an overview of Fellowship Programs (FCMC) at Chitwan Medical College.

DEVELOPMENT OF MEDICAL EDUCATION IN NEPAL

The advent of Medical Education in Nepal took place about 85 years ago with the start of Nepal Rajakiya Ayurved Vidyalaya in 1933 at Kathmandu for the training of Ayurvedic health workers.[3] A year later, the Civil Medical School at Kathmandu was set up for compounders and dressers who were basic level health workers.[4] Subsequently, in 1972, the Institute of Medicine (IOM) was started and it initiated the process for the training of various cadres of basic, middle and higher level of resources for health. In 1963, the idea for training of doctors was conceptualized. However, the

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program for MBBS doctors within the country started at a later phase; the Course eventually started with a lot of planning and forethought and was system - based, community oriented and with integrated model of teaching. The MBBS doctors' training started in 1978.[4]

Earlier in the past, medical doctors after graduation, were expected to practice independently with or without having some experience in health institutions. However, with the evolving concept of learning and medical education, increasing scope and diversity of medical sciences and the ever-increasing focus on right and safety of patients, such independent practice for any medical graduate was deemed inadequate.[5] The need of structured residency program for medical training was acutely felt with the rapid and massive growth of diagnostic and therapeutic interventions and specializations. It was rationalized that every medical graduate needs to undertake structured residential training to be able to practice in medical field.[5] It was realized that the provision of optimal Peripheral Health Services to people as promised by the Government and related agencies may not be achieved by posting MBBS doctors to the periphery without structured residential training,[6] and that, ensuring access to skilled health workers is a necessary condition for realizing the human rights to health.[7] Thus, Post Graduate Training of Masters in General Practice (MDGP) started in 1982. Subsequently, there were introduction of various shorted duration courses such as Diploma in Obstetrics and Gynaecology, Eye, Paediatrics, Anaesthesia, etc. which were eventually discontinued and substituted by a three years ResidentialTraining Courses of MD/MS to provide a team of specialists for hospitals in the country.[8,9]

Along with the formation of a Post Graduate Medical Coordination Committee (PGMECC) in 1993, incorporating a public medical teaching institution and valley group of Public Hospitals, the Residential Training Program in many General Specialties (MD/MS) started in the country. Later, almost as an extension of PGMECC, the National Academy of Medical Sciences (NAMS) was established by the Government in 2002, incorporating the public hospitals and Institute of Medicine started its own such programs independently.[8,9] In the MD/MS programs of PGMECC, the residents were enrolled under the faculty with MD in a related specialty subject, not necessarily Internal Medicine, who were managing the General Medicine units, largely because of dearth of faculty of MD (Internal Medicine).[2] Likewise, the Specialists and the Consultants of other hospitals were also awarded PG Teacher of preceptor, for supervision and/or thesis study of the residents. In this way, the residential General Specialty Training of MD/MS got established in Nepal and the experience helped to shape its regulations made for the first time in 2002, i.e. decades after the initiation of such programs, and successively later.[2] The existing and evolving hierarchy of medical education in Nepal is illustrated in Figure 1. The current trend in the medical education is to focus on the basic training concepts and criteria, rather than on various names like diploma, MD, MS, DM/MCh and others, and thus in the US and UK after the structured training the Fellows are just awarded Certificate of Fellowship and Completion of Training respectively.[2]

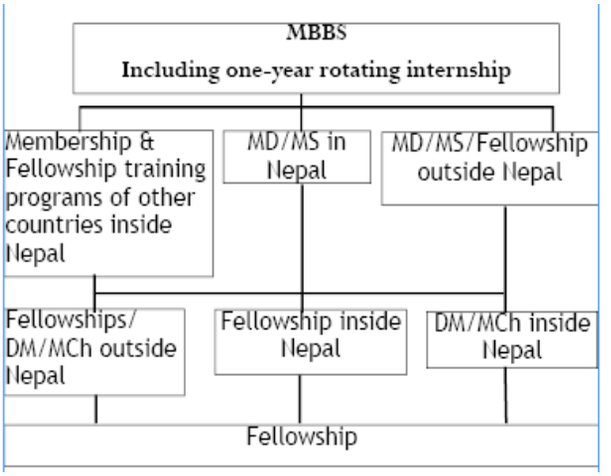

Figure 1.Scheme of specialist training in Nepal.

NEED FOR SUBSPECIALTY TRAINING IN NEPAL

With the advancement in the field of medical sciences, the changing burden of diseases in the country, and the acute shortage of highly specialized health professionals, subspecialty training has become the need of the hour. South-East Asia as we know, is one of the endemic zones to approximately 25 percent of the world's population andit shares almost 30 percent of the global disease burden.[10] However, South – East Asia has only 10 percent of the global health workforce.[10] This regional context is also reflected by Nepal and the country has been identified by the WHO as one of the 57 nations with a critical shortage of health workers, thus creating a considerable deficit in the requirements for high coverage of essential interventions.[11] This also creates a hindrance in achieving the Sustainable Development Goals (SDGs). This is unlikely in Nepal, until the threshold density of health care professionals (doctors, nurses and mid wives) is at least 23 per 10,000 population.[12]

The health sector in Nepal constitutes about one-fourth of the total personnel of the public sector. The existing data reveals that only 4% of total health care providers are doctors, 12% nurses, excluding ANMs, 47% paramedics and 0.92% public health officers. There still is a high number of unskilled support staff (28% of the

total health care workers), thus posing a health system challenge to decrease the volume of unskilled and semi-skilled labour as a percentage of the total health care workers.[13] To add to this, the health policy of the country has not adequately addressed the changing demographics in the country, as is evident by the fact that in spite of a population increase of more than 45 percent in the last two decades, the human health resource has increased by 3.4 % during that time.[14] There is a huge variation in the distribution of health workers among Provinces and between three ecological zones. The lack of qualified health professionals in the far-flung areas of Nepal has also been a long-standing issue.[15]

The prevention and control of infectious diseases continues to pose challenges in Nepal whereas due to a changing lifestyle and environment, the emergence of non-infectious diseases represents more than half the burden of diseases. The mixed epidemiological transition, the triple burden of disease, and new emerging diseases require more medical experts, health researchers and epidemiologists to tackle health issues at the population level.[15] The specialty registered doctors (Post MD/MS) in Nepal as of 2017, as per data from Nepal Medical Council is tabulated below:[16]

Table 1. Specialty registered doctors (post MD/MS) in Nepal, 2017.

Specialty	Male	Female	Total
Cardiac Surgery	3	0	3
Cardiology	107	7	114
Clinical Genetic	0	1	1
Critical Care Medicine	1	0	1
CTVS	6	1	7
Endocrinology	13	4	17
Gastroenterology	33	1	34
Geriatric Medicine	1	0	1
Hepatobiliary Surgery	2	0	2
Hepatology	1	0	1
Haematology	1	0	1
Nephrology	17	4	21
Neurology	23	3	26
Neurosurgery	31	0	31
Nuclear Medicine	9	1	10
Paediatric Surgery	10	2	12
Plastic Surgery	4	1	5
Rheumatology	1	1	2
Surgical Oncology	20	0	20
Transfusion Medicine & Tissue Typing	1	0	1
Urology	34	1	35

Data Source: Nepal Medical Council[16]

The largest proportion of the total DALYs in Nepal is contributed by Noncommunicable Diseases (51%), followed by communicable, maternal and nutritional deficiencies (35%) and injuries (14%).[17] The noncommunicable diseases with large proportion of DALYs include cardiovascular diseases (17%), chronic respiratory diseases (10%), and diabetes (8%).[17] In comparison to the high-income countries, the DALY rates for chronic respiratory diseases, cirrhosis and other chronic liver diseases are higher in Nepal.[17] A cross-sectional study (n=4000) which randomly selected patients from 31 health institutions found that chronic obstructive pulmonary disease (43%) was the most common NCD followed by Cardiovascular Disease (40%), diabetes mellitus (12%) and cancer (5%). Ovarian (14%), stomach (14%) and lung cancer (10%) were the main cancers accounting for 38% of the distribution. GBD estimates show that the DALY rate for cirrhosis of liver increases to 1746 per 100,000 among those 70 years or older in Nepal. CVD had the highest DALY rate among NCDI for all ages (3502 per 100,00).[17]

Thus, the burgeoning growth of such diseases in the country has led to the increasing demand for diagnostic and therapeutic technologies and interventions all over the country. Government hospitals, medical colleges and institutions are striving hard to provide such services; however, there is acute shortage of well-trained medical professionals. There is a need of well-equipped intensive care units with skilled medical professionals in pulmonary and critical care medicine in different parts of the Nepal. There is also a demand for diagnostic and therapeutic interventions in liver diseases including of liver transplant now.

Taking the above evidences in consideration, it is imperative to have highly specialized academic courses in the country which will cater to producing a cadre of highly skilled human resource in Nepal.

NEED FOR FELLOWSHIP TRAINING

Fellowship Training is obtained in one of the focused areas of a specific specialty or subspecialty.

The ultimate goal of fellowship training is to build a cadre of experts in a focused area. It is to be understood that the primary training objective of any fellowship is to impart advanced interpretive as well as interventional expertise, beyond that which is attainable during residency.Many fellowships, in addition, also train health professionals who evolve into leaders in the field of medicine, education as well as research.[1] Thus, it is

these cadre of health professionals who play a pivotal role in teaching future medical students, residents and allied health professionals.

A fellowship program grants the opportunity to master the skills, gain progressive autonomy and have access to further mentorship. The experience also helps facilitate the transition from training to independent practice. Fellows could help fulfill the clinical work load pertaining to highly specific disease conditions; increase research productivity in highly specialized areas of disease; and most importantly, once the training has been completed, allow for improved patient outcomes. [18] Fellowship can also allow a fellow to choose the training centre, and choose the mentor directly and allows a fellow to choose the area of super specialty.

Evidence from several different surgical and medical specialties indicate that the primary reason a fellowship is chosen is to gain extra training and expertise in a particular area of interest and progressively gain confidence and maturity.[19] A study on general surgery fellows specializing in minimally invasive surgery in Canada and the United States revealed that most of the fellows felt unprepared for clinical practice at the end of training, particularly with regard to performing advanced laparoscopic surgery.[20] In another study, fellows of palliative medicine were asked about the relative priorities for receiving various types of fellowship training. In this study, a total of 94% identified clinical training as very important, 63% identified educational training as very important, 33% identified research training as very important, and 21% identified administrative training as very important.[21] Other reasons cited were the perception of entering a more favorable job market and receiving more prestige.[22] Studies have cited proficiency in technical skills, clinical knowledge, teaching and teamwork as the most attractive qualities of an effective clinical fellow.[23] Certain fellowships have the key goal of preparing a fellow specialist to become a productive researcher, and the additional years of training in fellowship adequately prepares a specialist for an academic position.[24]

FELLOWSHIP IN INDIA

India has been successfully conducting DNB/MD/MS/MCH programs in the country. However, realizing the need for Fellowships, India has identified well equipped centres which have been accredited in the concerned specialties by the National Board of Examinations (NBE), India.[25] The post-doctoral fellowship course in India aims to facilitate and encourage post-graduates aspiring to hone their skills and competencies in their area of interest and aspires to provide the highest quality of specialty services comparable to any country in the world. The post-doctoral fellowship course also aims to recognize "Centres of Excellence" and to identify experts in a wide array of sub specialties and allied sciences. The post -doctoral fellowship course also aims to improve and promote the existing medical institutions in India to perform high professional services in various fields; create a forum for high level scientific interaction between expert groups and to promote and enhance medical research and innovations which are adaptable to the socio-economic and cultural milieu of the country.[25] The eligibility for the Fellowship program is the candidates with DNB/MD/MS/MCH qualification in the concerned specialty. The selection is based on an entrance test. The admission to the courses is through centralized merit-based counseling. The trainee will maintain a performance record book and undergo an examination at the end of the training, subsequent to which, the candidates will be awarded Fellow of National Board of Examinations.[25]

However, physicians with MD/MS from Nepal often only get the opportunity of shorter one year observer Fellowship in sub-specialties in corporate hospitals in India. The situation indicates the need to start structured Fellowship training program in our country also.

FELLOWSHIP – A NEW PARADIGM FOR NEPAL

The fellowship training program was initially started in the NAMS sixteen years back; however, the name of FNAMS program was subsequently changed to DM/MCh for the sake of uniformity in the country and the region.[8] Clinical Fellowship started in Tilganga Eye Hospital from January 2011.[26] The course ranges from 3 months to 18 months. Fellowship in Emergency Medicine (FEM) was started in BPKIHS in 2013 and is of 18 months duration.[27] Fellowship in Emergency Medicine is also being conducted in PAHS and is of 18 months duration. [28] Fellowship in Urogynaecology, Gynaecologyand Hand Surgery has been started in NAMS recently from 2018.[29]

A fully academic 3-year fellowship in Pulmonary & Critical Care, Hepatopancreatobiliary Surgery and Cardiology has been initiated for certification for the first time in the history of Nepal at Chitwan Medical College. A full three-year academic fellowship, allows a fellow to tailor the training to coincide with personal interests and future practice goals.A hallmark of the full three-year academic fellowship program is the incredible diversity and refinement of the training experience, thus considerably raising the standard of patient care. The robust clinical experience and the didactic instruction equips fellows to meet the challenges of managing highly specialized case scenarios.

FELLOWSHIP IN CHITWAN MEDICAL COLLEGE (FCMC)

Fellowship in Pulmonary & Critical care at Chitwan Medical College (FCMC) started in2017. Fellowship in Hepatopancreatobiliary Surgery and Fellowship in Cardiology has been initiated in Chitwan Medical College from 2018 and all three fellowships are recognized by Nepal Medical Council. CMC has run the Fellowship programs in affiliation with Lincoln University, Malaysia and both are keen on running the quality training programs for the development of specialists. The FCMC is a full academic qualification comprising of 3 years training and is a full residential program requiring more than 90% of working days' experience.

A Fellowship Subject Committee implements the FCMC program. Fellowship in FCMC has a rigorous selection method; unlike other programs where the entrance exam consists of only written exam, the entrance exam of Fellowship in FCMC consists of both written exam and practical exam. In FCMC, the competency level is assessed at four levels: Observer status /Assistant status/ Performed under immediate supervision / Performed under distant supervision.FCMC has also set out a mandatory minimum number of procedures, teaching and learning activities (like directly observed procedural skill, mini-clinical evaluation exercise, case-based discussion and others), presentations and minimum number of teachings to medical students and residents.

During the three-year training period, the students will have to teach and supervise medical students and residents as assigned by the pulmonary and critical care Program Director. All the classes taken have to be entered in the logbook. The teaching requirement is at least eight theory and twelve clinical classes per year (excluding in the round, OPD). The fellow should conduct one thesis study. The thesis should be approved before the final examination.The candidate should publish, or get acceptance letter for publication of, the two research (original) papers in a national/regional/ international indexed journal as specified in the curriculum.In Fellowship at CMC, the assessment criteria are particularly given attention, as it is appropriately highlighted"Whatever you want your students to do, include it as a part of the assessment first, and then only they will learn and do actively"[3]The eligibility criteria for exit exam is maintained through portfolio incorporating logbook, training and conference certificate, and other academic activities. The exit exam consists of Theory and Practical (with four examiners with minimum two external examiners). The Fellowship Subject Committee supervises the eligibility of the fellow for exit exam after fulfillment of all the training criteria.

In summary, the training program criteria are set as required for any DM/MCh programs inside and outside the country. On the top of such criteria, there is also the requirement of one extra paper publication. The additional advantages of an FCMC are that, there is no bond of any sort with CMC. No tuition fee that is charged and adequate stipend is provided to the trainees. CMC is keen on developing quality service and its volume to the people. The high volume of cases and procedures in CMC, exposes the FCMC Fellows to an increased chance of appropriate skill development along with appropriate postings in various other institutions for adequate experience of hands on training. This assures to fulfill the mandatory number of procedures and clinical experiences required for adequate training.

THE WAY FORWARD

Healthcare and medical professionals require adequate training and certification to work in the health system to fill the gap between the available scientific knowledge and technologies and the effective utilization by the patients.[30] Fellowship programs for the medical professionals are the cornerstone of providing specialized care to patients. Nepal should focus on providing all the prerequisites, infrastructure and human resource for expanding fellowship programs in the country and thereby enhancing the standard of patient care. The development of Specialty Health Services and Residential Training in the specialty is closely linked with, almost dependent on, each other, i.e. they are complementary to each other and the residential and Fellowship trainingsare built on the existing and required Specialty Health Services for the hospitals and community strengthening both the service and training.[8] The need today is to focus on the basic training concepts and criteria, rather than on various names like diploma, MD, MS, DM/MCh and others, as in the US and UK from where the modern medical care, education and training has evolved. Let the Fellowship training programs at the CMC having all the training criteria with adequate stipend to the trainees without any tuition fee or bond for the candidates to bear be the example for other institutions to consider similar points.

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