

■ *Original Article*

What influences residents in selecting their subject in post-graduation?

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Abstract

Background: B P Koirala Institute of Health Sciences (BPKIHS), Dharan, Nepal runs undergraduate medical education program with an innovative, community-oriented/based and integrated MBBS curriculum since 1994, which aims to prepare basic medical graduates appropriate for the country in the twenty-first century. **Objective:** To examine factors that influence the BPKIHS graduates in selecting their choice of specialty in post-graduation. **Methods:** A total of 19 factors influential in doctor's choice of specialty¹ assessed on Likert scale of 0-4 (where factor 0=not at all and 4=a great deal) amongst 37 BPKIHS-graduates who were in the pay-roll at the time of study in the BPKIHS (23 junior residents and 14 senior residents/faculty members) through a questionnaire. **Results:** Intrinsic factors were more influential (81.1%) than extrinsic factors (37.8%) in choosing specialty in residency. Amongst the intrinsic factors, advancement prospects was rated highest (89.1%). Other highly rated intrinsic factors in order were job security prospects (86.4%), prestige of discipline (83.7%), financial prospects (75.6%), intellectual content of the specialty and interest in helping people (73.0%), and appraisal of own skills and aptitudes (64.9%). Amongst the extrinsic factors, the highly rated factors were opportunity to do procedural work and opportunity for research/teaching (83.7% rating factor). **Conclusion:** No matter what characteristics the medical school curriculum has, the intrinsic factors inculcated into the minds of the graduates based on their own interests seem more influential in choosing a specialty as their career choice.

Keywords: post-graduation, choice of specialty, influence factors, BPKIHS

Introduction

B P Koirala Institute of Health Sciences (BPKIHS), Dharan, Nepal runs undergraduate medical education program with an innovative, community-oriented, community-based and integrated MBBS curriculum since 1994 and the postgraduate program (a 3-year residency) since 1999. The undergraduate curriculum aims to prepare basic medical doctors appropriate

for the country in the twenty-first century. The basic features of the curriculum are - community oriented; beginning from and throughout the course, students are extensively in contact with the community; early patient contact; clinical sciences are taught from the very beginning and the volume increases as the students progress; integrated; basic-science components are more in the first two academic years (Phase I), decreasing as the students progress; teaching is organ-system oriented, not discipline-oriented; partially problem-based; student centered; innovative student assessment system; community-oriented compulsory internship; six month in a district

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hospitals and peripheral health institutions (under faculty supervision) and six month in the teaching hospital; elective postings during clerkship. With these curricular attributes, one can understand that the BPKIHS has given a huge weight to the community-based education which has made an impact on subject choice of its graduates.

BPKIHS gives preference to the graduates to join its teaching hospital services, and encourages them to join its residency program. The graduate selection process for the residency reflects the encouragement by giving 10 additional marks in the entrance examination to those BPKIHS graduates who have served the Institute for one complete year.² The entrance examination draws a merit order of the candidates for counseling which finally allows them to decide on their selection of specialty in the residency. The present study examines the factors that influence BPKIHS graduates in selecting their choice of specialty in post-graduation.

While digging into the literature many studies are found published in many countries on factors affecting career choices of doctors. Medical student career choice has identified several influences that can be categorized as student demographics, medical school characteristics, students' perceptions of specialty characteristics, and student-held values.³ Great importance was attached to self evaluation of aptitude and ability as a factor in determining the choice of career and also to awareness of promotion prospects and difficulties. The absence of or failure of careers advice to influence choice of career was notable as was the little importance attached to financial circumstances. Domestic circumstances were an important determinant, particularly for general practice and for women doctors.⁴

Davidson⁵ reported that factors that were scored as having the greatest influence by both men and women were appraisal of their own skills & aptitudes and enthusiasm for or commitment to the specialty. Other factors having high rating scores were domestic circumstances (for female specially), hours & working conditions and experience of jobs in training. In another study on factors influencing career choice reported that factors specified as having the greatest influence were self appraisal of own skills and aptitudes, experience of chosen career, hours and working conditions, and domestic circumstances.⁶ In a mailed questionnaire survey

carried out by Harris et al¹ among the Australian medical graduates, majority of the respondents rated appraisal of own skills and aptitudes as influential in their choice of specialty followed by intellectual content of the specialty. In the same study extrinsic factors rated as most influential were work culture, flexibility of working arrangements and hours of work.

However, literatures are not available to explain the factors that affect choice of specialty in residency of medical graduates of curricularly-defined, community-oriented and community-based medical schools of Nepal. BPKIHS has a dilemma whether its undergraduate curriculum have influencing role on its graduates in selecting specialty in their postgraduate education.

Methods

An institutional approval was obtained before introducing the self administered-questionnaire to the BPKIHS graduates (those who received basic medical degree from the BPKIHS) and working at the BPKIHS as residents or faculty members were the subjects of study. Thirty-seven (37) BPKIHS-graduates were working at BPKIHS at the time of study, out of which 23 were junior residents (i.e., post-graduate students) and 14 were senior residents/faculty members.

A tool developed by Harris et al¹ was used in this study for examining influential factors in selecting residency specialty. The investigators slightly modified the tools matching with the local context. A total of 19 factors influential (divided into extrinsic and intrinsic categories) in doctor's choice of specialty¹ was assessed on Likert scale of 0-4 (where factor 0=not at all and 4=a great deal) amongst 37 BPKIHS-graduates who were in pay-roll (in 2009) at the BPKIHS. The rating of 0, 1 and 2 were considered as least or non-influential. The rating of 3 and 4 only were considered as influential.

For the purpose of analysis, the whole factors included in this study were divided into two categories. The factors which are not in control of the graduates or do not belong to them were categorized as "extrinsic factors". On the other hand, the factors that the graduates can manipulate or perceive according to their interests or nature were categorized as "intrinsic factors". Similarly, the strength of factors was also categorized into two: non-influential and influential.

The investigators informed all the study subjects of the aim of the research and maintenance of strict confidentiality of their information with a covering letter attached to the questionnaire form. Filling in the form was considered as their consent to participate in the research. The investigators provided with a self-administered questionnaire requesting the subjects to fill it reflecting the true picture of their selection of specialty in the residency. The investigators collected the filled-in questionnaires after a week enquiring the respondents on their completion. Within a month, all the questionnaires were collected. SPSS was the software used for analyzing the information.

Results

Table 1 shows average weight of rating for each factor in extrinsic and intrinsic categories. Amongst the extrinsic factors, the highest influential factor rated is opportunity to do procedural works (83.8%) and opportunity for research/teaching (83.7%). However, opportunity to work flexible hours is rated as most non-influencing factor (86.5%) by the BPKIHS graduates. Similarly, in the intrinsic category, highly rated factors are advancement prospects (89.1%), job security prospects (86.4%), and prestige of discipline (83.7%).

Table 2 shows the average rating proportions of the two categories of factors- extrinsic and intrinsic. The BPKIHS graduates are highly influenced by the intrinsic factors (average influence rating 81.1%) than the extrinsic factors (average influence rating 37.8%).

Table 1: Extrinsic-intrinsic factors and their ratings

Factors influencing choice of specialty (i.e., 3 or 4 on a Likert scale of 0 – 4) (0 = not at all; 4 = a great deal)	Influence Factor	
	Non-Influence or least influential Factor Rated in % (0, 1 and 2 combined)	Influence Factor Rated in % (3 and 4 combined)
Extrinsic factors		
Work culture typical of the specialty	78.4	21.6
Opportunity to work flexible hours	86.5	13.5
Influence of consultants/mentors /role models	32.4	67.6
Hours of work typical of the specialty	73.0	27.0
Opportunity to do procedural work	16.2	83.8
Type of patients	46.0	54.0
Experience as a medical student	51.4	48.6
Availability of training placement	43.3	56.7
Opportunity for research/teaching	16.3	83.7
Cost of training in the specialty	75.7	24.3
Intrinsic factors		
Appraisal of own skills and aptitudes	35.1	64.9
Intellectual content of the specialty	27.0	73.0
Interest in helping people	27.0	73.0
Job security prospects	13.6	86.4
Domestic circumstances	91.9	8.1
Advancement prospects	10.9	89.1
Prestige of discipline	16.3	83.7
Financial prospects	24.4	75.6
Parents/relatives	81.1	18.9

Table 2: Average rating factor according to extrinsic/intrinsic influence

Extrinsic Influence			Intrinsic Influence		
Influence	Frequency	Percent	Influence	Frequency	Percent
0	23	62.2	0	7	18.9
1	14	37.8	1	30	81.1
Total	37	100.0	Total	37	100.0

0 = Non-influential or least influential rating (0, 1 and 2 in the Likert scale)

1 = Influential rating (3 and 4 in the Likert scale)

Table 3 shows the influence factor rated by the BPKIHS graduates in percentage and their means according to the weight-order (highest to lowest rated factor). A factor having mean value of more than 3 can be considered as more influential to the graduates in deciding selection of their specialty in residency where as a mean value of less than 2 can be considered as least influential.

Table 3: Influence factor according to their rated weight-order (in %) and their means

Factors influencing choice of specialty	Mean	Influence Factor Rated in Priority (%)
Advancement prospects	3.30	89.1
Job security prospects	3.22	86.4
Opportunity to do procedural work	3.11	83.8
Opportunity for research/teaching	3.08	83.7
Prestige of discipline	3.24	83.7
Financial prospects	3.05	75.6
Intellectual content of the specialty	2.70	73.0
Interest in helping people	2.76	73.0
Influence of consultants/mentors /role models	2.59	67.6
Appraisal of own skills and aptitudes	2.57	64.9
Availability of training placement	2.57	56.7
Type of patients	2.51	54.0
Experience as a medical student	2.41	48.6
Hours of work typical of the specialty	2.00	27.0
Cost of training in the specialty	2.14	24.3
Work culture typical of the specialty	1.62	21.6
Parents/relatives	1.57	18.9
Opportunity to work flexible hours	1.35	13.5
Domestic circumstances	1.22	8.1

Amongst all the factors listed, the BPKIHS graduates rated *advancement prospects* highest (89.1%) as influential in selecting specialty in residency. The graduates rated the *domestic circumstances* as a least influential factor of all (8.1%) in deciding their career choice.

Discussion

The main objective of the study was to explore how much a factor is influencing selection of a specialty in postgraduate studies of the BPKIHS graduates. The BPKIHS graduates are trained with an innovative curriculum designed by the Institute involving all major stakeholders of it, and with new concepts and strategies of teaching learning. The teaching learning stresses on unconventional approaches including structured-interactive session (SIS), learning-in-field (LIF), clinical posting (CLIP), seminar (SEM), library hours (LH), laboratory exercises (LABEX), small group discussions (SGD), case-based learning (CBL), family health exercises (FHE), elective posting (EP), problem-based learning (PBL), sharpening clinical skills (SYCS), and unconventional learning exercises (UNCLE). The curriculum aims to produce competent, compassionate and caring medical graduates appropriate for the country in the twenty-first century.⁷ The BPKIHS encourages its graduates to join the residency program offering a variety of specialties (basic-clinical, para-clinical and clinical). It further encourages graduates to study basic clinical subjects. This would be an interesting research subject to see whether its graduates in postgraduate education select specialty matching with the promotions offered by the BPKIHS.

The study investigates factors and their relative weight affecting choice of specialty in residency of BPKIHS graduates. Medical educators are increasingly interested in understanding the factors that influence students to select certain specialty in their academic career. Studies of the factors which influence the selection of a specialty in medicine represent a major theme in research in medical education.⁸ Many studies have been done and reports have been published on several influencing factors on choices of specialty.^{3, 9, 10} The study shows that BPKIHS graduates are considering *advancement prospects* as one of the most influential factors (average rating 89.1%; mean value 3.3) of all (listed

in Table 3). Other factors they consider as highly influential are *job security prospects* (86.4%), *opportunity to do procedural work* (83.8%), *opportunity for research/teaching* (83.7%), and *prestige of discipline* (83.7%). Davidson et al⁵ reported that *appraisal of own skills and aptitude* (69.1%) and *enthusiasm for or commitment to the specialty* (62.2%) as factors that influenced choice of career a great deal [figures are drawn by averaging the values of men and women for easy comparison]. Their study showed *domestic circumstances* (of women) as the next highest influential factor whereas the study at BPKIHS showed that the factor of *domestic circumstances* rated as a least influential (average rating 8.1%; mean value 1.22). Similarly, a questionnaire survey carried out by Lambert et al⁶ in UK reported *self appraisal of own skills and aptitudes* (71.7%), *experience of chosen career choice* (59.7%), and *hours & working conditions* (52.0%) as the factors having the greatest influence on career choices [figures in parentheses are averaged for the UK doctors working in public sector, abroad and non-public sector].

However, there are multiple factors that influence students in their choice of careers, including the type of work, the length of the residency, exposure to specialties, mentorship, and lifestyle.^{11, 12} Planning for the medical workforce needs to be supported by information about doctors' career plans, destinations, and whole time equivalent years of work. Postgraduate training needs to take account of doctors' eventual choice of specialty (and the timing of this choice).⁵ A study done in Taiwan found that personal intelligence/ability preference and career opportunities were more important factors to the current generation of students in choosing a specialty. Researchers suggest that knowledge of these students' attitudes could form the basis for the development of strategies to enhance the attractiveness of specialties facing the problem of a shortage of manpower.¹³

Exposure to role models in a particular clinical field is strongly associated with medical student's choice of clinical field for residency training. Knowing which characteristics students look for in their role models should help identify the physicians who may be most influential in medical student's career choice.¹⁴ Preclinical and clinical experiences as well as role

models are reported by Japanese students as influential factors when formulating their specialty preferences.¹⁵ In case of the BPKIHS graduates, the factor of *role models* (including influence of *consultants and mentors*) is moderately influential (average rating factor 67.6%; mean value 2.59).

Students are able to accurately predict income by specialty from an early stage of training.⁹ The study also shows that the BPKIHS graduates rate the *financial prospects* relatively high (average rating factor 75.6%; mean value 3.05). Career aspirations of New Zealand junior doctors were similar to those reported by overseas studies. Their choice of a career was mostly based on interest in that specialty.¹⁶ Similarly, in a study carried out by Lieu et al¹⁷ in University of California, San Francisco report that students rated income and lifestyle factors as being less important determinants of specialty choice than are medical school experiences and intrinsic qualities of the chosen specialties. Some specialties like psychiatry, new medical students begin their medical training viewing a career in psychiatry as distinctly and consistently less attractive than other specialties.¹⁸

However, the factors like *interest in a specialty* and *intrinsic qualities of the chosen specialties* may not influence students in developing countries where *intrinsic factors inside the graduates* seem more influential in choosing a specialty as their career choice.

Limitations

Age and gender (few female study subjects) were not considered which might influence choice of specialty. The other factors like chances or the pressure of circumstances that often play a large part in determining what medical professionals do with their lives as a positive and determined preference for particular work⁴ were also not considered.

Conclusion

The BPKIHS graduates are influenced by the factors that belong to their nature. No matter what characteristics the medical school curriculum has, the *intrinsic factors* inculcated in the mind of the graduates based on their own interests seem more influential in choosing a specialty as their career. Therefore, any interventions designed to influence

graduate's choice of specialty should target to enrich at least the following four prospects of choosing a particular subject as career: professional advancement, job security, prestige and financial prospects.

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