

A SURVEY ON CAREER CHOICES AND EXPECTATIONS OF FINAL YEAR UNDERGRADUATE PHARMACY STUDENTS OF KATHMANDU UNIVERSITY, NEPAL AND THE IMPACT OF TWO-DAYS CAREER GUIDANCE PROGRAM

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ABSTRACT

Background: It is necessary to know the reasons students have for getting enrolled in certain educational field, what motivated them and expectations they have regarding salary and their profession during the study. There isn't a single research on this topic in Pharmacy education in Nepal. Thus for the first time in Nepal, we surveyed to explore the career choices and expectations of pharmacy students and assessed the impact of a two days "Career Guidance forum and my-road map contest-2015". **Methods:** It is a descriptive, interventional and cross-sectional study. After getting the consent from the researcher the questionnaire used in a research named "Pharmacy Undergraduate Students: Career Choices & Expectations Across A Four-Year Degree

Program", Aston University, 2006 was administered to the participants of the career Guidance Forum and my-road map contest-2015. Data from the questionnaires were analyzed following coding and entry into the Statistical Package for Social Sciences Version 15 (SPSS). Valid responses were used throughout the results section. **Results:** The response rate was 100%. 66.7% (n=44) of the respondents were female and 33.3% male and the mean age was 21.64 (0.957) years. All have considered pharmacy as a field with good career opportunity. First three career ambitions in pre-test was - Pharmaceutical Industry (42.2%), hospital/community split post (22.2%), and hospital/industry split post (17.8%). After the forum significant number of students changed their mind regarding the choice of

pharmaceutical industry. **Conclusion:** This study has collected the opinion of pharmacy students on the motivations of pharmacy as a career and influences of various role-players and media to choose school of Pharmacy. The opinion of many participants on the topics like salary scale, future career ambitions and running a community Pharmacy was not as per the current scenario in pharmacy field but the post test showed change in their opinion which aligned with opinions of various experts who took the session in the forum. Thus we recommend different school of pharmacy for conducting career guidance forum like this in order to disseminate the information related to current scenario of Pharmacy sector to the students.

KEYWORDS: Undergraduate, pharmacy students, career choices, expectation, career guidance forum, Nepal.

INTRODUCTION

For Nepal, it is a time of great importance in Pharmacy education because of following reasons; job placements in industry is saturated^[1], inadequate government job opportunity for hospital pharmacy, negligible job placement in Community Pharmacy, abundant pharmacy graduates each year.^[2] Capability of Nepalese Industry in reverse engineering of new molecules would have created tremendous job opportunity, but the possibility is very low up to now and the research and development work in pharmaceutical industry is limited to formulation development and testing only.^[3] But still pharmacy graduates have much appeal towards pharmaceutical industry which does not coincide with the saturated status of employment in industry. But there is no any regulation about minimum salary. Thus with this situation of lower demand and higher number of graduates available, graduates are even working in low salary.^[1-3]

Any program that targets pharmacy students to make them aware about the current scenario of pharmacy profession in terms of opportunity, salary scale and satisfaction would be beneficial for both the employee and employer.^[1,2] Career Guidance forum targeting pharmacy students can be a good platform to create awareness about the real scenario of Pharmacy Profession. So, a program with the same mission mentioned above was conducted and the program name was given as "career Guidance forum and my-road map contest-2015".^[4] But at the time we thought to conduct this program there was not a single research on the career expectation and choices of undergraduate pharmacy students of Nepal. That would have made us clear about our planning as in general the inquiry of students could be

addressed more vividly. This was the reason we moved forward to make a survey to explore many variables that has impact on the career choice and expectation of pharmacy students in Kathmandu University, Nepal.

Though there are many psychological theories used in career studies, two well-known theories; rational choice theory^[5] and human capital theory^[6] has been considered in this research. Rational choice theory states that rewards and cost of action are motivating factor for humans and they consider profits while doing any work.^[5,7] It is one of the most commonly used theory in studying career choices and motivation, particularly in those choices made at age 16.^[8] In Nepal bachelor level education starts after 12 years of schooling which includes 10 years of schooling and 2 more years of Intermediate education. The end of 10th year of schooling is called School Leaving Certificate (S.L.C) and after a student passes this level, he/she is able to choose either Intermediate in science or other than science which includes humanities, management and arts.^[9] For Pursuing bachelor in Pharmacy education, Intermediate in science or its equivalent is a compulsory criterion.^[10] Thus in this ground the age of 16 that has been considered in rational choice theory is justified. The rational choice theory assumes the decision maker as rational, motivated by self interest and calculating the option with the highest utility is chosen and the choice is made on perfect information about the likely consequences of the decision.^[7] Young adolescence from 11 to 14 years of age has tentative choices based on interests but with little attention to realistic constraints. By the age of 14-24, adolescence are in the exploration stage with progressive narrowing of career options from identifying tentative options to making final decisions regarding career choice.^[11]

In relation to careers, the theory of rational choice states that when faced with several courses of action, people usually do what they believe will have the best overall outcome for themselves.^[7] Human capital theory assumes a process of rational choice, based upon rational man theory, to acquire resources. "Human capital refers to the resources, qualities (including personality traits) skills and knowledge that are either available to or acquired by an individual to maximize their own employability. One of the common reasons in pursuing further education is the economic benefit that can be obtained.^[7] Thus in a developing country like Nepal where per capita income the year 2017 was 862 US dollar^[12], this theory bears much appeal.

Aspirations represent a person's orientation towards particular goals and can be influenced by gender, socio economic status and family support. Traditional theories of career development propose that career aspirations develop in specific stages from childhood to adult hood.^[13] According to Silvia (2001), aspirations refer to an individual's expressed career related goals or intentions and also include motivational components which are not present in mere interests.^[14] Thus various motivational components that led a student to study pharmacy have been explored in this research for the first time in Nepal in Pharmacy education.

The first objective of this research was to explore the career aspirations, motivations and expectations of students within undergraduate pharmacy education in Kathmandu University with the questionnaires around two theories, rational choice and human capital theory. The second objective was to assess the impact of a two days "Career Guidance forum and my-road map contest-2015".

METHODOLOGY

Survey design and core questions

The questionnaire [Annex 1] used in a research named "Pharmacy Undergraduate Students: Career Choices & Expectations Across A Four-Year Degree Program", Aston University, 2006 has been modified as per Nepalese context with the consent of the original researcher.^[15] Questionnaires that are not relevant to Nepalese context have been omitted or replaced.

The survey included all the final year participants of "2015 Career Guidance Forum & My Life Road-map Contest", a program conducted by Kathmandu University, Department of Pharmacy in January 8 and 9, 2015. All the students of third and final year participated in the program.^[4]

Career guidance forum

Career guidance forum was the program organized by the department, targeting the third and final year pharmacy students to inform them about the current status of pharmaceutical sector in Nepal in terms of management, job opportunity, salary scale and future potential of pharmacy profession in Nepal. Pharma Experts [Annex 2] involved in hospital pharmacy, community pharmacy, marketing, industrial pharmacy, education, investors and policy makers were invited as speaker.^[4] Presentation was followed by question and answer session and in few sessions focused group discussion was also done.

Survey was done before and after the career guidance forum. Only that part of the questionnaire which has influence on the career guidance forum was post tested as the section one and section two consist of the questions related to choice of school of pharmacy and motivation and influences.

Questionnaire administration

The questionnaire was administered one hour before the start of the program for pre-test and for the post-test, after the program. A verbal consent from the respondents was taken before the administration of the questionnaire.

Data from the questionnaires were analyzed following coding and entry into the Statistical Package for Social Sciences Version 15 (SPSS). Valid responses were used throughout the results section. Simple descriptive statistics such as percentage and cross tabulation were used. A chi-square test was done to find the association between the categorical variables.

RESULT

Demographic profile of the respondents

The response rate was 100%. 66.7% (n=44) of the respondents were female and 33.3% male and the mean age was 21.64 (0.957) years. The age of 71.1% of the respondents was 22 years [Table 1]. All the respondents were unmarried. Average percentage in intermediate in science was 72.74 (5.26) (n=44, range = 32). None of them had participated in career guidance forum before. All of them studied in a full time basis.

Motivation and influences

Three factors that showed as net positive in terms of importance are - A university prospectus, A visit to a careers fair / conference and A visit to a university open day, with the first one rated important by more than 80% of respondents [Figure 1]. The least important factor was the influence of radio or TV program which was rated as not important by 56%.

Females have perceived all the reasons as more important than males. In an average 58.09% of male and 77.60% of the females agreed in favor of the statements. Males have given equal importance to; A subject teacher at school / college, A careers teacher at school / college, Careers leaflets or booklets, where 53.3% have agreed. 83.3% of females have equally agreed to the following statements: A subject teacher at school / college, A careers teacher at school

/ college, A visit to a university open day and A university prospectus. More percentages of females have agreed on the statements.

Personal Influences

The most important personal factors for choosing pharmacy for study were: the encouragement of parents and family [Figure 2]. The least important factors were: the influence of friends, a family member owning a pharmacy and a pharmacy work experience. There were no significant differences between the responses of males and females. (Chi, $p \leq 0.05$, d.f = 5).

Attitude about pharmacy as a career

All have considered pharmacy as a field with good career opportunity. The two statements where the respondents have not agreed are: I wanted the part-time job and I was attracted by the financial rewards. 100% of respondent have considered pharmacy as a job with good career opportunity.

Choice of school of Pharmacy

28 (62.2%) respondents had Pharmacy as their first choice among which 11 were male and 17 were female. 22.2% had pharmacy second choice to medicine. None of them had intended to study dentistry.

The degree of importance and non-importance given by the respondents on the aspects of schools of pharmacy on influencing the choice of institution for study is almost equal. The most important factor was the reputation of the university, followed by universities facilities and the nature of the course as described in the prospectus. The most un-important factor considered was family at this university, followed by location of university in relation to where I live and friends at pharmacy school.

Desire to study pharmacy

84.4% and 86.7% of respondents respectively had strong desire to study pharmacy and be a pharmacist. 100% (n=16) male were in agreement, while only 75.9% (n=29) of females were in agreement to study pharmacy. 79.8% had strong desire to be a pharmacist.

Career Image

98% of respondents have agreed with the statements concerning their commitment to pharmacy as a career.

Attitudes about pharmacy as a career

All the boys have agreed to the statements "I am proud to tell others that I am studying Pharmacy" and "*I am strongly committed to the values and ideals of the pharmacy profession*" both in pre and post test. 10.3% females have agreed to change the profession if such opportunity comes but in the post test none of them have agreed. 10.3% females in pre-test have regretted that they entered pharmacy profession. None have agreed to the statement in the post-test.

Future career ambitions

First three career ambitions in pre-test are - Pharmaceutical Industry (42.2%), hospital/community split post (22.2%), and hospital/industry split post (17.8%). As in the pre-test same hierarchy has been noticed in the post test also but the percentage of students choosing pharmaceutical industry has dropped to 22.2%. Figures for hospital/community split post has remained static while a decrease by about 4% has been seen in hospital/industry split post. 28.88% of males and 13.33% of females have chosen pharmaceutical industry in the pre-test.

From the graph below [Figure 3] it can be seen that the percentage in almost all career choice in post test has dramatically decreased. But Chi-Square Test for industry as an ambition comparing pre and post test reveals significant change in post test (chi, $p < 0.05$). Significant number of students has changed their mind regarding the choice of pharmaceutical industry.

36% had intention to own their own pharmacy but after the forum this has declined to, 8%. Above 20% decrease in response has been observed in industry, Private hospital and own my own pharmacy.

Career choice upon registration in Nepal Pharmacy Council

The data obtained in this section is more or less similar to the data on career ambitions before registration. But since in this section, contrary to the above, the students were given flexibility in choosing all that is true to them, this section shall explore the mentality of students about the alternate options. In the pre-test 73% chose industry and 60% NGO/INGO which reflects that if a graduate do not end in industry he/she will apply for NGO/INGO related job. During the pre-test 9% of the respondents were not sure about their career choice and 2% were not sure whether they will work (within paid employment) and 2% were wanting to work in non-pharmacy job. But in post test all chose one or the other field which

shows that career guidance forum has become able to motivate and give confidence regarding the decision about future ambition [Figure 4].

Before the forum 36% were interested to have their own pharmacy business. This figure declined to 8.9% which could be due to knowledge acquisition of the investment cost and competencies to open up the pharmacy. In this section too, a decrease from 73% to 48.9% has been seen in post test in industry while in NGO/INGO and community/retail independent a slight decrease of 2.2% and 6.7% has been seen. Hospital turns out to be the second career choice with 53% of respondents choosing this in pre-test although an average decrement of 17% has been observed in post test. However in research increment of 6.6% (38% to 44.4) is seen.

Salary expectations

Majority of respondents (42.2%) in pre test's and post test (39.4%) on expectation on salary is in the category Rs. 20, 000 - Rs. 24,999. But the response of as high as 62.5% male in pre-test lies in this category while only 31% female has this response. The figure for salary is in Nepalese Rupees. None of the respondents has salary expectation below 10,000. Responses for all other category in pre and post-test are similar except for above category where it has dropped to 28.9%. More than 50% of the students' responses lie in the category 15,000 - 24,999.

Work life balance

56% of respondents had a plan to work abroad in pre-test. After the forum this has declined to about 24%. All males are clear about their plan ahead. But 17.2% and 6.9% of females in pre and post test lack this.

There is difference in the response about working full time until typical retirement age between male and female. In pre-test 56.3% male and 34.5% female were for the statement but in post test the figure for male decreased to 18.8 and for female rose to 55.2%. Thus a clear gender variation has been observed in this statement. Travelling has been liked by both genders though working as a locum pharmacist has been chosen by relatively less number of male and female.

Majority of females have planned to work part time after full time if they have family. In post test for male this response declined to 18.8% and for female it increased to 51.7%. This gives

us in insight about the nature of females for wanting to work more and consequently earn more than female.

Highest career level

Industrial Pharmacist, QA Manager, Chief Pharmacist and Hospital Pharmacist were the top three levels chosen in the pre-test. In the post test also, Industrial Pharmacy remained the top most level which respondents would like to achieve. QA manager went down to third number. In an average 7.9% decrease in the agreement has been observed in the post test as compared to the post test. 50% of males wanted to become Chief Pharmacist in pre-test but in the post test only 18.8% had this desire. While females response on this statement was same after guidance forum.

A significant difference between male and female response has been observed in the pre-test in the career related to: Multiple community retail management / administration (Chi- 2.91, $P < .005$), Practice/PCT pharmacy (Chi- 4.849, $P < .005$) but in the post test significant difference has not been observed in a single point.

Opinion on work load

Majority of students want to work 30-38 hours with about 25% and 11% wanting to work more than 38 hours in pre and post test respectively.

There is no difference between the male and female responses in both pre and post test. When comparing the response before and after the guidance forum no significant change in response has been observed.

Perception about working as a Community Pharmacist

Both Male and female have given priority to the following reasons on “working as a pharmacist in Community Pharmacy would mean”- Opportunities to be part of a healthcare team, Having direct contact with patients, Having the opportunity to use my specialist knowledge. Same reasons as with community pharmacy has been observed with Hospital Pharmacy also.

An average agreement of 59.6% was observed in the pre-test but this decreased to 40.82% in post test. Majority of respondents do not feel there is any shortage of pharmacists and this is true as far as present scenario is concerned. A decrease in “don’t know “response has been observed in post test (12.52 to 10.29).

Perception about working as a hospital Pharmacist

Although in pre-test about 47% of male and female considered there is shortage of pharmacist in hospital pharmacy in post test this figure declined to about 28%. Near about 20% decrease in agreement in post test has been observed in the following statements; Having a variety of work each day, Opportunities to be part of a healthcare team and Opportunities to interact with other pharmacists on a daily basis.

A decrease in “don’t know” response has been observed in post test (9.81 to 8.1).

An average agreement of 64.47% was observed in the pre-test but this decreased to 50.10% in post test.

Comparison on perception about working as a Hospital and Community Pharmacist

Working in Hospital was considered more “working under pressure” than Community Pharmacy. In comparison to community, hospital has been perceived as the job with good job opportunity.

The opinion of respondents on hospital and community related points coincide in most of the cases. However, hospital has been considered the place for interaction with other pharmacist than community pharmacy. Hospital setting is perceived as working more under pressure than community pharmacy.

Important reasons when thinking about which sector to work in as a Pharmacist

The top three priority given by the respondents in terms of “very important” when thinking about which sector to work in as a pharmacists are as follows : Opportunities to be part of a healthcare team, Having opportunities to move up a career ladder, Having the opportunity to use my specialist knowledge. In the post-test also same statements have come in top three priorities.

Perception of respondents about how *family and friends* think about pharmacy

80% of family and friends in respondents view consider Pharmacy as a part of National Health Service. In the post test this figure has declined to 62%. 69% have considered pharmacy as a second profession to medicine. In the post test this figure has declined to 49%. 58% have considered pharmacy profession as well respected by the general public. 67% have considered pharmacy with the guaranteed employment in the pre-test while in the post test

56% has this view. In an average 57.06% of agreement was achieved about the statements in pre-test which declined to 44.94% in the post test.

Perception of respondents on how general public sees the status of pharmacy

The top three professions that has been considered higher status than pharmacy by the general people in respondents views in pre-test are; medicine (75.6%), dentistry (71.1%), physiotherapy (46.7%). In the post test there is a slight change in the order with dentistry (57.8%) topping medicine (53.3%) and optometry (31.1%).

The response of males regarding the status of pharmacy compared to other healthcare professions prior and post to the career guidance forum is not related. It means that there is no significant difference in the response of respondents prior and post training.

Nursing was considered very similar field to the pharmacy by majority of respondents. Response to question regarding higher status than pharmacy is not related to the gender. Both male and female's response is similar.

48.3% of females have considered nursing as higher status than pharmacy while only 12.5% males have this notion. Only significant difference in the response has been observed in case of Nursing (Chi-sq: 5.760, $p=0.016$), dentistry only (chi-sq = 4.012, $p < 0.05$) and radiology (3.246 $p < 0.1$).

Table and figures

Table 1: Demographic Characteristics of Fourth-Year Bachelor of Pharmacy Students in Kathmandu University (n= 45).

Characteristic	Number (%)
Gender	
Male	15(66.7)
Female	30(33.3)
Age, mean	21.64
Marital status	
Unmarried	45(100)
Religion	
Hinduism	41(91.1)
Buddhism	3(6.7)
Muslim	1(2.2)
Ethnicity	
Brahman	18(40)
Chhetri	10(22.2)
Newar	14(31.1)
Janajati	2(4.4)

Table 2: Reasons for studying pharmacy as a second choice. Results are shown as % of respondents.

	Reason	% (n=45)
a	Pharmacy was my second choice to medicine	22.2
b	Pharmacy was my second choice to dentistry	0
c	Pharmacy was my second choice to another science degree	4.4
d	I wanted to work in any health related field	15.6
e	Pharmacy matched the A Levels I was taking	2.2

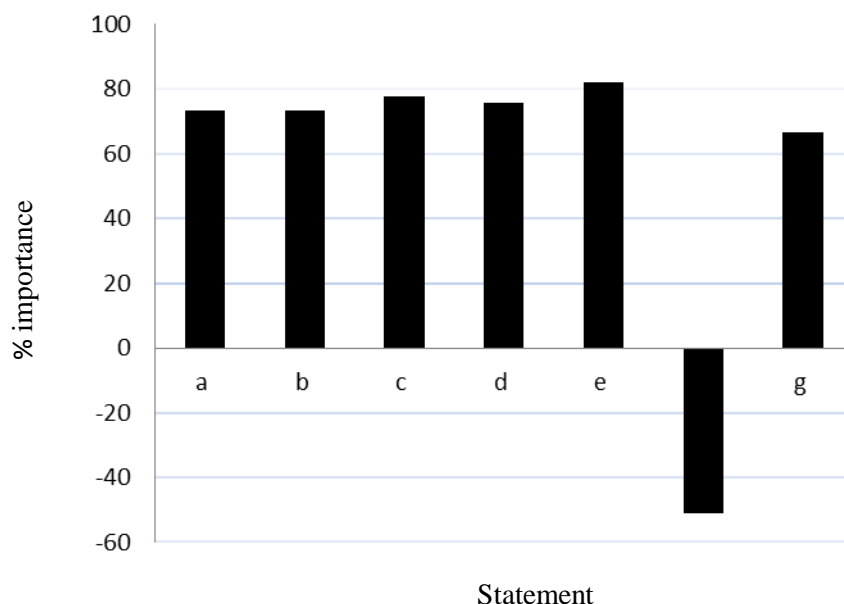


Figure 1: Importance of education related reasons why people choose to study pharmacy. Results are shown as the difference between the % of respondents who rated as important and the % who rated as not-important.

-Key

	Reason	Male	female
a	A subject teacher at school / college	(10)53.3	(23)83.3
b	A careers teacher at school / college	(9)53.3	(24)83.3
c	A visit to a careers fair / conference	(10)60	(25)86.7
d	A visit to a university open day	(10)60	(24)83.3
e	A university prospectus	(13)80	(24)83.3
f	Radio or TV program	(8)46.7	(14)50
g	Careers leaflets or booklets	(9)53.3	(21)73.3

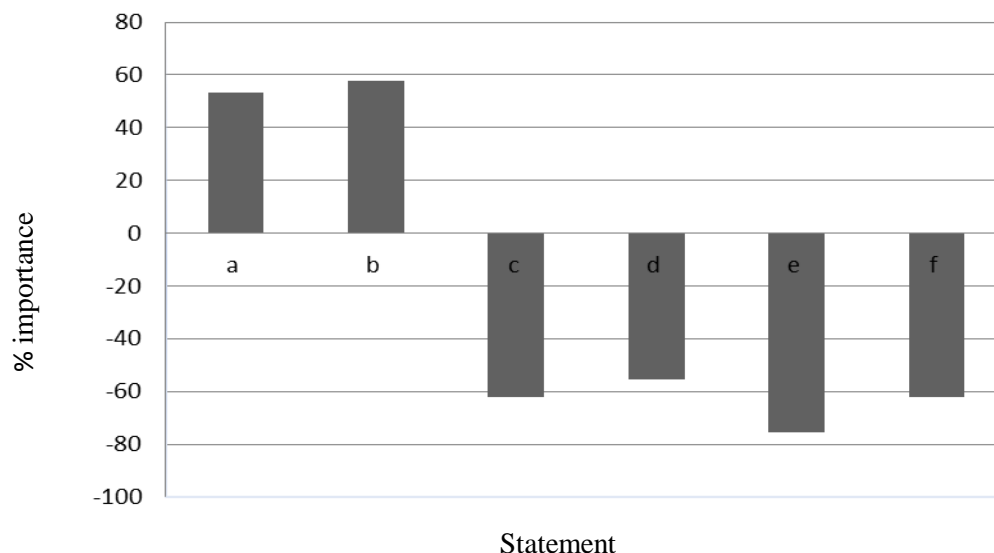


Figure 2: Importance of personal reasons why people choose to study pharmacy. Results are shown as the difference between the % of respondents who rated as important and the % who rated as not-important.

Key

	Reason	Male important N(%)	Female important N(%)
a	My <i>parents</i> encouraged me to choose pharmacy	(9)53.3	(15)53.3
b	My <i>family</i> encouraged me to choose pharmacy	(8)46.7	(18)63.3
c	Someone in my family who owns a pharmacy influenced me	(4)26.7	(13)43.3
d	I was influenced by a pharmacist I know, as a role model	(8)46.7	(12)43.3
e	My friends influenced me	(10)20	(9)26.7
f	I was influenced by pharmacy work experience	(6)40	(11)36.7

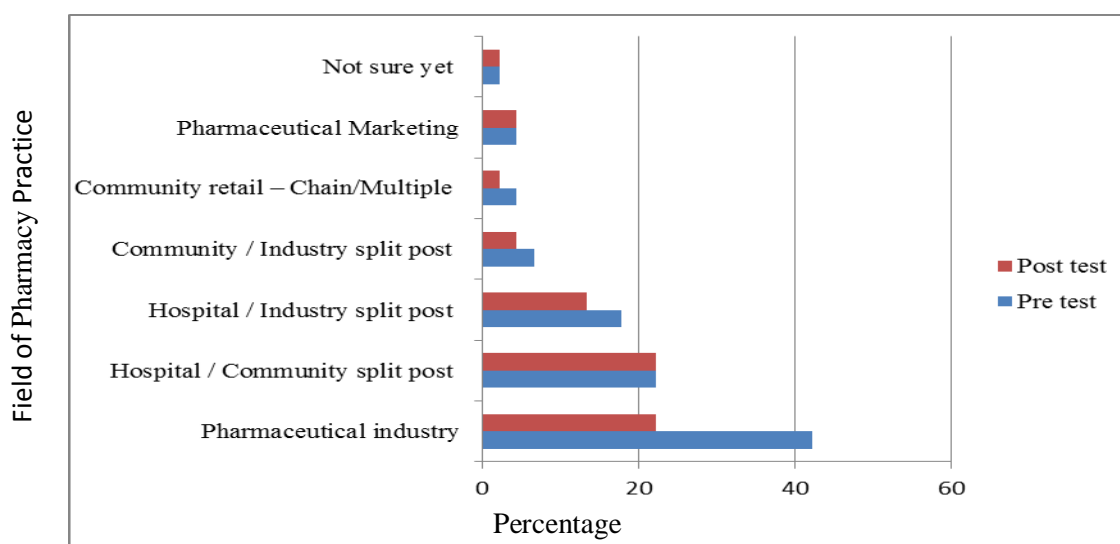


Figure 3: Preferred Field of Pharmacy Practice for Preregistration Employment of Final Year Pharmacy Undergraduates both pre and post test.

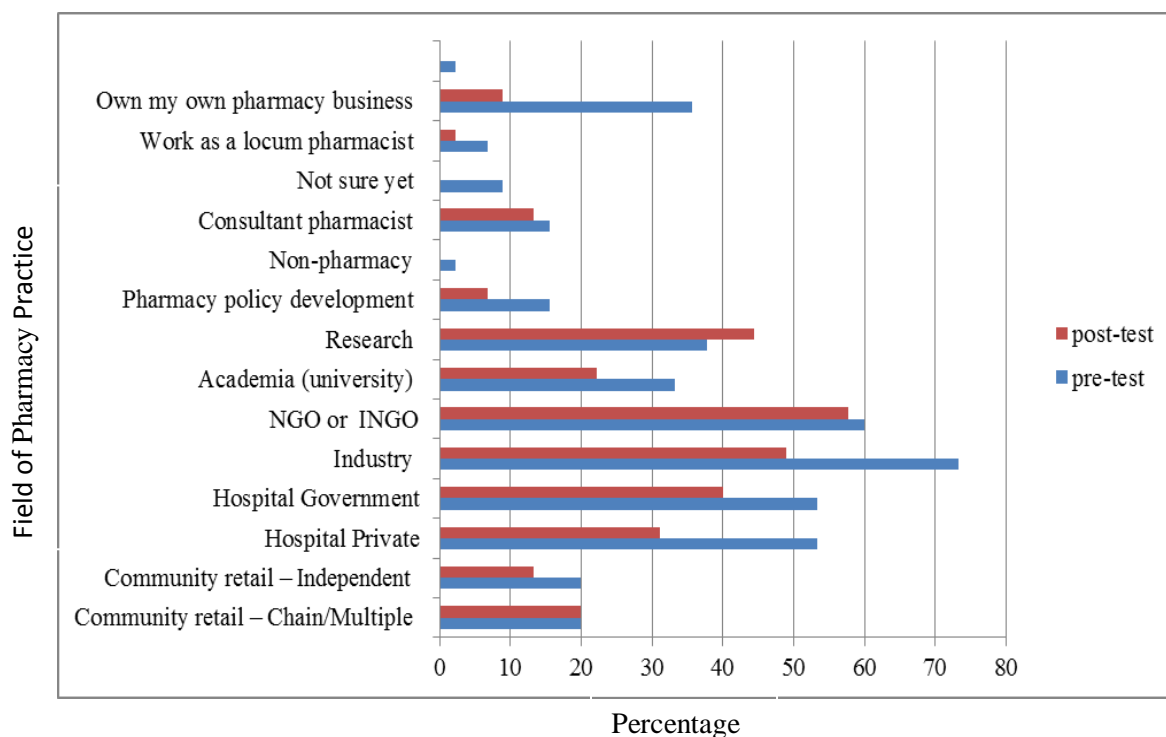


Figure 4: Preferred Field of Pharmacy Practice after registration in Nepal Pharmacy Council (Both pre and post test).

Annex 1: Questionnaire used for assessing career choices and expectation across undergraduate Pharmacy Program in Kathmandu University.

HOW TO COMPLETE THIS QUESTIONNAIRE

This research study has been commissioned by the faculty of Pharmacy to inform workforce planning.

This questionnaire has been designed for self-completion by **FINAL YEAR** students. This is an opportunity for you to participate. We value your opinions and welcome your contribution. However, whether you participate or not will have no effect upon either your pharmacy degree.

What to do.

Read each question carefully. Most of the questions can be answered by putting a tick ✓ in a box next to the answer you want to give. Sometimes you are asked to write your answer in the space under the question, please write clearly. It will take you no longer than 15 minutes to complete. We will treat your answers with the strictest confidence.

Section One: Motivations and Influences

In this section, we have listed ways in which pharmacists have said they were influenced to study pharmacy. Read through each list before you begin to write your answers. If there is anything we have missed, you can write it in the section at the end.

Q1. Here are some education related reasons why people choose to study pharmacy. For each option a-h below, indicate how important each one was for you (scale 1-4, where 1 is important and 4 is not important).

	Reason	1 Important	2	3	4 Not Important
a	A subject teacher at school / college	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b	A careers teacher at school / college	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c	A visit to a careers fair / conference	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d	A visit to a university open day	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e	A university prospectus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f	Radio or TV program	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g	Careers leaflets or booklets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q2. Here is a list of more personal influencers who might have encouraged you to study pharmacy. How important would you rate the influence from each on you personally (scale 1-4, where 1 is important and 4 is not important)?

	Reason	1 Important	2	3	4 Not Important
a	My <i>parents</i> encouraged me to choose pharmacy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b	My <i>family</i> encouraged me to choose pharmacy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c	Someone in my family who owns a pharmacy influenced me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d	I was influenced by a pharmacist I know, as a role model	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e	My friends influenced me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f	I was influenced by pharmacy work experience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q3. The following reasons has been given by people as influences on their decision to choose to study pharmacy as a career choice. How strong each reason was for you personally (scale 1-4, where 1 is a strong reason and 4 is not a strong reason)?

	Reason	1 Strong	2	3	4 Not Strong
a	I liked science / was good at science at school	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b	I wanted to do a science based course	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c	I wanted to work in a well respected profession	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d	I wanted a job with good career opportunities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e	I thought pharmacy would be intellectually satisfying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f	I wanted a job where I am socially useful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g	I wanted to work with patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h	I wanted to own my own business	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i	I wanted the opportunity for self-employment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j	I wanted the opportunity for part time work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k	I was attracted by the financial rewards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l	I wanted flexible working hours	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m	I wanted a profession where you can always get a job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n	I wanted to work with medicine or in the medical profession	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
o	I wanted to study medicine/dentistry or another medically related subject	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Was/were there any other event(s) or person(s) that we have not offered here?

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Section 2: Choice of School of Pharmacy (SOP)

Now some questions about your choice of School of Pharmacy.

Q4. When you were making your choice about what to study at university, how committed were you to pharmacy?

Pharmacy was my first and only choice	Yes <input type="checkbox"/>	No <input type="checkbox"/>
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If answer is Yes,
GO TO Q6 ⇒

Q5. If you have answered “No” to Question 4, which other subjects did you consider?

Tick one box only.

a	Pharmacy was my second choice to medicine	<input type="checkbox"/>
b	Pharmacy was my second choice to dentistry	<input type="checkbox"/>
c	Pharmacy was my second choice to another science degree	<input type="checkbox"/>
d	I wanted to work in any health related field	<input type="checkbox"/>
e	I came into pharmacy through clearing	<input type="checkbox"/>
f	Pharmacy matched the A Levels I was taking	<input type="checkbox"/>

Q6. Which of the following aspects influenced your choice of School of Pharmacy (SOP)?

(Scale 1-4, where 1 is important and 4 is not important.)

	Reason	1 Important	2	3	4 Not Important
a	Nature of the course as described in the prospectus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b	Reputation of the SOP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c	An open day visit to the university	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d	Reputation of the university	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e	Reputation of the city/town where the university is located	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f	Location of the university in relation to where I lived	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g	Availability of accommodation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h	University facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i	Personal recommendation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j	Friends at pharmacy school	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k	My parents wanted me to attend this SOP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l	This was the only place I could get into	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m	Family at this University	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n	Matching entrance grades to predicted expectations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q7. How strong would you say your desire to study pharmacy was when you started pharmacy school? **Tick one box only.**

Strongly agree	Tend to agree	Tend to disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q8. How strong would you say your desire to be a pharmacist was when you started pharmacy school? **Tick one box only.**

Strongly agree	Tend to agree	Tend to disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section 3: Career Image (i)

Q9. This question contains statements about your commitment to pharmacy as a career. Tick the **ONE** box which show to what extent you agree or disagree with the following statements.

a) *I am proud to tell others that I am studying pharmacy*

Strongly agree	Tend to agree	Tend to disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b) *I am strongly committed to the values and ideals of the pharmacy profession*

Strongly agree	Tend to agree	Tend to disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

j. Q10. Listed below are several statements that describe your attitudes about pharmacy as a career. For each statement tick **ONE** box to show the level with which you agree or disagree.

a) *If I could pick a different occupation which paid the same amount, I would probably change degree.*

Strongly agree	Tend to agree	Tend to disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b) *I definitely want a career in pharmacy.*

Strongly agree	Tend to agree	Tend to disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

c) *If I could do it all over again, I would choose to study for the same profession.*

Strongly agree	Tend to agree	Tend to disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

d) *Pharmacy is the ideal profession for a career for life.*

Strongly agree	Tend to agree	Tend to disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

e) *I regret that I entered pharmacy school.*

Strongly agree	Tend to agree	Tend to disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

f) *I intend to undertake a second degree after completing pharmacy.*

Strongly agree	Tend to agree	Tend to disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section 4: Future career ambitions

Q11. Thinking ahead, upon graduation, in which field of practice will you complete your training?

Tick one box only.

a	Community retail – <i>Chain/Multiple</i>	<input type="checkbox"/>
b	Pharmaceutical industry	<input type="checkbox"/>
c	Pharmaceutical Marketing	<input type="checkbox"/>
d	Hospital / Community split post	<input type="checkbox"/>
e	Hospital / Industry split post	<input type="checkbox"/>
f	Community / Industry split post	<input type="checkbox"/>
g	Not sure yet	<input type="checkbox"/>
h	I do not want to complete training	<input type="checkbox"/>
i	Other Please specify : _____	<input type="checkbox"/>

Q12. Upon registration in Nepal Pharmacy Council, in which field of pharmacy will you look for a job?

Tick all the boxes which are true for you.

a	Community retail – <i>Chain/Multiple</i>	<input type="checkbox"/>
b	Community retail – <i>Independent</i>	<input type="checkbox"/>
c	Hospital Private	<input type="checkbox"/>
d	Hospital Government	<input type="checkbox"/>
e	Industry	<input type="checkbox"/>
f	NGO or INGO	<input type="checkbox"/>
g	Academia (university)	<input type="checkbox"/>
h	Research	<input type="checkbox"/>
i	Pharmacy policy development	<input type="checkbox"/>
j	Non-pharmacy	<input type="checkbox"/>
k	Consultant pharmacist	<input type="checkbox"/>
l	Not sure yet	<input type="checkbox"/>
m	Work as a locum pharmacist	<input type="checkbox"/>
n	Own my own pharmacy business	<input type="checkbox"/>
o	I am not sure I will work (within paid employment)	<input type="checkbox"/>

Q13. In four years after you qualify, what level of salary do you expect to earn?

Tick one box only.

a	Under 10,000	<input type="checkbox"/>
b	10,000 – 14,999	<input type="checkbox"/>
c	15,000 – 19,999	<input type="checkbox"/>
d	20,000 - 24,999	<input type="checkbox"/>
e	25,000 - 29,999	<input type="checkbox"/>
f	30,000 +	<input type="checkbox"/>
g	Do not Know	<input type="checkbox"/>

Section 5: Work Life Balance

Q14. Which of the following statements best describe your plans for your future working life?

Tick all the boxes that are true for you.

a	Full time career until typical retirement age (65)	<input type="checkbox"/>
b	Work full time, then part time if I have a family	<input type="checkbox"/>
c	Intend to travel, working holidays	<input type="checkbox"/>
d	Intend to work as a locum	<input type="checkbox"/>
e	Intend to buy my own business	<input type="checkbox"/>
f	Work abroad	<input type="checkbox"/>
g	Practice/Pharmacist Care Taker pharmacist	<input type="checkbox"/>
h	No clear intention yet	<input type="checkbox"/>
i	Other Please specify: _____	<input type="checkbox"/>

Q15. What is the highest level which you would like to attain in your pharmacy career?

Tick your top 3 ambitions.

a	Employee in community retail pharmacy	<input type="checkbox"/>	<input type="checkbox"/>
b	Manager in community retail pharmacy	<input type="checkbox"/>	<input type="checkbox"/>
c	Owner of a community retail pharmacy	<input type="checkbox"/>	<input type="checkbox"/>
d	Multiple community retail management / administration	<input type="checkbox"/>	<input type="checkbox"/>
e	Practice/PCT pharmacy	<input type="checkbox"/>	<input type="checkbox"/>
f	Hospital pharmacist	<input type="checkbox"/>	<input type="checkbox"/>
g	Hospital pharmacy manager	<input type="checkbox"/>	<input type="checkbox"/>
h	Chief Pharmacist	<input type="checkbox"/>	<input type="checkbox"/>
i	Academic Pharmacist	<input type="checkbox"/>	<input type="checkbox"/>
j	A position outside pharmacy	<input type="checkbox"/>	<input type="checkbox"/>
k	Industrial Pharmacist	<input type="checkbox"/>	<input type="checkbox"/>
l	Production Manager	<input type="checkbox"/>	<input type="checkbox"/>
m	QA Manager	<input type="checkbox"/>	<input type="checkbox"/>
n	Not sure yet	<input type="checkbox"/>	<input type="checkbox"/>
o	Other Please specify: _____	<input type="checkbox"/>	<input type="checkbox"/>

Q16. How many hours a week do you want to work?

Tick one box only.

a	Less than 30	<input type="checkbox"/>
b	30 – 38	<input type="checkbox"/>
c	More than 38	<input type="checkbox"/>

These questions are about working as a pharmacist. **PLEASE ANSWER BOTH QUESTIONS.** For each statement please tick the **ONE** box that represents your view.

Q17a. Do you think working as a pharmacist in *community pharmacy* would mean...

		Yes	No	Don't know
a	Good job opportunities because of a shortage of pharmacists	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b	Opportunities to interact with other pharmacists on a daily basis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c	Opportunities to be part of a healthcare team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d	Working under pressure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e	Working long hours (e.g. over 40 hours per week)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f	Having a variety of work each day	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g	Having direct contact with patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h	Opportunities to move up a career ladder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i	Having a secure job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j	Working somewhere that is understaffed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k	Having the opportunity to use my specialist knowledge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q17b. Do you think working as a pharmacist in *hospital pharmacy* would mean...

		Yes	No	Don't know
a	Good job opportunities because of a shortage of pharmacists	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b	Opportunities to interact with other pharmacists on a daily basis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c	Opportunities to be part of a healthcare team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d	Working under pressure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e	Working long hours (e.g. over 40 hours per week)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f	Having a variety of work each day	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g	Having direct contact with patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h	Opportunities to move up a career ladder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i	Having a secure job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j	Working somewhere that is understaffed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k	Having the opportunity to use my specialist knowledge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q18. What is important to you when thinking about which sector to work in as a pharmacist?

For each factor, please tick the **ONE** box to show the level of importance to you.

	Factor	Very important	Quite important	Not important
a	Good job opportunities because of a shortage of pharmacists	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b	Opportunities to interact with other pharmacists on a daily basis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c	Opportunities to be part of a healthcare team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d	Not working under pressure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e	Not working long hours (e.g. over 40 hours per week)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f	Having a variety of work each day	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g	Having direct contact with patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h	Having opportunities to move up a career ladder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i	Having a secure job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j	Not working somewhere that is understaffed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k	Having the opportunity to use my specialist knowledge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q19. How true do you think your *family and friends* think the following statements about pharmacy are? For each statement please tick **ONE** box to indicate whether it is true or false.

	Statement	True	False
a	There is guaranteed employment in pharmacy	<input type="checkbox"/>	<input type="checkbox"/>
b	There are few opportunities for promotion and career development in pharmacy	<input type="checkbox"/>	<input type="checkbox"/>
c	Pharmacy is a secondary profession to medicine	<input type="checkbox"/>	<input type="checkbox"/>
d	Pharmacy is a well paid job	<input type="checkbox"/>	<input type="checkbox"/>
e	Pharmacists spend all day dispensing prescriptions	<input type="checkbox"/>	<input type="checkbox"/>
f	Pharmacy is part of the NHS	<input type="checkbox"/>	<input type="checkbox"/>
g	Pharmacists work under a lot of pressure	<input type="checkbox"/>	<input type="checkbox"/>
h	Pharmacists work long hours	<input type="checkbox"/>	<input type="checkbox"/>
i	Pharmacists are well respected by the general public	<input type="checkbox"/>	<input type="checkbox"/>

Q20. This question explores the status of pharmacy compared to other healthcare professions.

How do you think the *general public* sees the status of pharmacy when compared to...?

	Profession	Higher status than pharmacy	Same status as pharmacy	Lower status than pharmacy	Don't know
a	Audiology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b	Dentistry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c	Health service manager	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d	Medicine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e	Nursing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f	Occupational Therapy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g	Optometry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h	Physiotherapy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i	Podiatry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j	Radiology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k	Social work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q21. Is there anything that you have experienced during your four years in a School of Pharmacy that has particularly influenced your thoughts towards pharmacy as a career (positive or negative experiences)?

Please state:

.....

.....

.....

.....

.....

.....

Section 7: About you

And finally, some questions about you.

Q22. Are you: Male Female

Q23. How old are you?

17 – 19

20 – 21

22 – 23

24 – 25

26 +

Q24. Which of the following best describes your religion?

Tick one box only.

Buddhism

Christianity

Hinduism

Islam

Judaism

Sikhism

None

Other

If Other, please specify:

Q25. Which of the following describes your status? children?

Tick one box only.

Single or living as single	<input type="checkbox"/>
Married	<input type="checkbox"/>

Q26. Do you have any dependent.

Tick one box only.

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

Q27. How would you best describe your ethnic background?

Tick one box only.

Brahman	<input type="checkbox"/>
Chhetri	<input type="checkbox"/>
Baishya	<input type="checkbox"/>
Sudra	<input type="checkbox"/>
Newar	<input type="checkbox"/>
Dalit	<input type="checkbox"/>
Madhesi	<input type="checkbox"/>
Vaishya	<input type="checkbox"/>
Janajati	<input type="checkbox"/>
Don't want to say	<input type="checkbox"/>

Q28. What percentage did you achieve in Intermediate of science.

Qualification	Grade/Percentage achieved

Q29. Are you a/an.

Home student?	
International student?	

If you are an international student, please state the country.

Thank you

Annex 2:

Kathmandu University, Department of Pharmacy

Career Guidance Forum

Supported by National Research Foundation, Korea

January 8 & 9, 2015

Program Detail of Day 1

9:30 – 10:00: Registration

10:00 – 10:05: Session opening

10:05 – 10:15: Opening remarks from Prof. Dr. Panna Thapa

10:15 – 10:25: Remarks by Prof. Dr. Haeng Soon Park

10:25 – 10:45: Presentation of Mr. Bal Krishna Khakurel

10:45 – 11:00: Discussion

11:00 – 11:15: Presentation of Mr. Umesh Lal Shrestha

11:15 – 11:30: Discussion

11:30 – 11:45: Photo session & Tea break

11:45 – 12:00: Presentation of Mr. Chain Kumar Bajracharya

12:00 – 12:15: Discussion

12:15 – 12:30: Presentation of Mr. Babu Ram Adhikari

12:30 – 12:45: Discussion

Lunch at KU canteen

Program Detail of Day 2

10:00: Program start

10:00 – 10:15: Presentation of Mr. Bhupendra Bahadur Thapa

10:15 – 10:30: Discussion

10:30 – 10:45: Presentation of Prof. Dr. Dharma Prashad Khanal

10:45 – 11:00: Discussion

11:00 – 11:15: Tea Break

11:15 – 11:30: Presentation of Mr. Jayabir Karmacharya

11:30 – 11:45: Discussion

11:45 – 12:00: Presentation of Mr. Dharendra Kumar Shah

12:00 – 12:15: Discussion

12:15 – 12:30: Presentation of Mr. Amar Mahato

12:30 – 12:45: Closing ceremony

Lunch at KU canteen

DISCUSSION

Although research on career motivations is well documented in other countries, to the investigator's knowledge this is the first survey in Nepalese Pharmacy education. Age of final year students was consistent in Malaysian study done by Syed *et al.*^[16] where the mean age was 22.2 years. Two of the three responses related to career choice by education, rated important in this study is consistent with Aston University study where university prospectus was rated most important to choose pharmacy as career. Family encouragement to study pharmacy was also rated important in Aston University research^[14] but 24% of respondents have stated family encouragement in Malaysia.^[16]

As for registration a student has to pass the licensing exam it makes them more committed. But up to now general question type is given to all the students and is not different based on different field a student may choose to go later. For example; to a student wishing to work in hospital and industry same questions are asked in the licensure examination of Nepal Pharmacy Council.

Salary in Kathmandu valley for Industry and Hospital starts from Nepalese Rupees 12000. But it is quite higher in out of valley and initial salary may start from 20000.^[1-2] Most of the participants had salary expectation in the range 20,000 – 24,999, which was a bit higher than the current scenario. While in most of the countries community pharmacy remains the first career choice Industry was the first choice in our survey.^[19]

It was the first time that 90% of the participants went through such career guidance program and most of them were of the opinion to participate in the future too.

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