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The satisfaction and perception of intern pharmacists towards their training in government hospitals in the northern region of Malaysia

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Abstract

Background: In Malaysia, graduate pharmacists undergo a structured internship programme in government hospitals.

Aim: As there are no prior studies, this study aims to evaluate the interns' satisfaction level and perception towards their training.

Methods: A self-administered questionnaire to gauge job satisfaction and perception towards the internship programme in terms of preceptors, self-competence, the workplace, logbooks and training duration.

Results: Mean scores on job satisfaction (3.27), perception towards preceptors' competence (3.65) and self-competence (3.65), and preparedness for training upon university graduation (3.40) were above average on a five-point Likert scale. Fairness in the workplace scored below average (2.90). The internship duration was mostly deemed "just nice" (85%), while 38% felt that the log books were complicated.

Conclusion: Job satisfaction level was moderate among intern pharmacists and is influenced by the place of work according to the provincial state, ethnicity of the intern, perceived fairness in the workplace and the perception towards preceptors' and own competence.

Keywords: *Hospital, Intern, Internship, Perception, Satisfaction*

Introduction

Beginning September 2004, the Ministry of Health Malaysia has enforced the requirement of all newly graduated pharmacists to undergo internship (as Provisionally Registered Pharmacists [PRPs]) training for a period of not less than a year in any listed government hospitals before applying for registration as full-fledged pharmacists, or Fully Registered Pharmacists (Liang & Paraidathathu, 2011). The internship is a paid position in the Malaysian civil service. Successful applicants may be posted to any training hospital within Malaysia for the internship programme.

During this structured programme, interns would be rotated to various units within a hospital pharmacy department such as the Outpatient and Inpatient Pharmacy Units, the Drug and Poisons Information Unit, the Manufacturing and Prepacking Unit, the Pharmacy Inventory Unit, the Oncology and Parenteral Nutrition Preparation Units, the Ward Pharmacy Unit and the Therapeutic Drug Monitoring Unit (Pharmaceutical Services Division, 2015). The completion of a set of nine log books, divided according to these units, is pre-requisite to registration application. Each log book details the duration of rotation per unit, and also contains targets for different procedures, *e.g.* the number of medication history assessment performed in the Ward Pharmacy Unit, or the number of parenteral bags prepared in the Parenteral Nutrition Unit. The interns are assessed by appointed preceptors within each unit, with a passing mark of 60% which is set by the Ministry (Pharmaceutical Services Division, 2015). To date, there are no studies on how this internship is perceived in relation to the comprehensive logbooks, the preceptors and workplace factors.

It is necessary to measure perception from the interns' point of view towards their preceptors, as a study showed that preceptors tended to overestimate the quality of their own performance compared to the preceptees' evaluation (Sonthisombat, 2008). Another study found that pharmacy students expect excellent preceptors to serve as role models and show interest in teaching (Young *et al*., 2014)

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In terms of job satisfaction, Smith, Kendall & Hulin (1969), listed five facets: pay, promotion, co-workers, supervision and the work itself. Locke (1976) added recognition, working conditions and company management to factors affecting job satisfaction. Hardigan & Carvajal (2007) found that age, income and practice site can predict a pharmacist's job satisfaction level in the United States. Another study by Liu & White (2011) in Australia found that the primary determinants of job satisfaction among Australian hospital pharmacy staff were the work itself and ability utilisation as a pharmacist.

As there are no studies on Malaysian intern pharmacists to the best of our knowledge, the objective of this study is to evaluate their satisfaction level and perception towards their training.

Methods

Instrument preparation

The study was conducted using a self-administered questionnaire which consists of four sections. The first section is a demographic tool to collect socio-demographic information of the respondents. The second section measures job satisfaction which is adopted from the Brayfield & Rothe (1951) job satisfaction scale. The third section involves the interns' perception towards the training in three subsections; in terms of preceptor competence adopted from Sonthisombat (2008), self-competence after training adopted from Mak *et al.* (2013), and also perceived fairness in the workplace. A question on whether their university has prepared the interns for training is also included in this section. Responses are marked on a five-point Likert Scale in the second and third sections. The suitability and relevance of the training duration and the logbooks were explored in the final section.

The developed questionnaire was initially piloted on interns who completed their training in the Kedah state within the last year. From this initial study, the questionnaire was revised slightly; one item each on preceptor competence and on perceived fairness were dropped due to redundancy, Cronbach's alpha for each of the subsections were more than 0.6. Hence, the third section of the final questionnaire version consists of ten items on preceptors' competence, four items on perception towards self-competence after a year of training, three items to measure perceived fairness at work and one item on training preparedness. Ethics approval for this study was obtained from the Malaysian Research Ethics Committee, Ministry of Health Malaysia (Reference number: NMRR-14-695-21345).

Study Population and Data Collection

The actual study was conducted from June to August 2014 on all 292 interns training in the northern region of Malaysia, which comprises of four provincial states: Perlis, Kedah, Pulau Pinang and Perak. The inclusion criteria for this study are interns who had completed at least three months of training. The three-month cut off was selected as it encompasses at least a quarter of the designated one-year training period, and is deemed sufficient time to gauge their perception and satisfaction.

Questionnaire packets were allocated to the appointed representatives of each state, which is then distributed to the training hospitals within the state. Each packet contains an invitation letter to participate in the study, the validated questionnaire, and a stamped, addressed return envelope. The letter stated that participation is voluntary and responses would be confidential. The interns were requested to mail the completed questionnaire to the collection centre at the State Health Department of the Kedah state. Return of questionnaires served as consent to participate in the study.

Data Analysis

Data were entered into and analysed using the Statistical Package for Social Sciences (SPSS) Version 20. All entries were checked individually for any discrepancies. Questionnaires with missing data on place of training and date of training commencement were excluded, as were those with more than ten percent missing responses in the second, third and fourth sections. The item mean is used as substitute in those with less than ten percent missing data. Statistical significance was set at 0.05. Univariate analysis (independent *t*-test, ANOVA, Pearson correlation) was employed to determine factors which were significant in determining job satisfaction. Multi-way ANCOVA was used to confirm the results.

Results

Of the 292 questionnaires sent to all 15 training hospitals, 258 questionnaires were returned, giving a response rate of 88.4 percent. However, only 204 questionnaires were analysed; 54 were excluded due to incomplete information or answered by interns whose training was less than three months. The demographic of respondents are shown in Table I.

The job satisfaction of the respondents was scored at a mean of 3.27 (SD 0.54). The perception towards preceptor's competence was 3.65 (SD 0.53) and towards self-competence after a year of training was 3.65 (SD 0.54). Perceived fairness in the workplace was calculated to a mean of 2.90 (SD 0.7).

The respondents scored a mean of 3.40 (SD 0.88) in terms of their preparedness for internship training upon graduation from university. There was no difference in preparedness in terms of the type of university, public or private, where the interns graduated from (independent *t*-test, p=0.211).

The overall training experience is shown in Table II. A majority (84.8 percent) felt that the training duration was "just nice." In terms of log book, 38.4 percent of respondents felt that the training log books were too complicated, with nearly half (45.5 percent) commenting that the targets were set too high, and not one respondent

thought that the targets were too low. Further analysis showed that the logbooks for the Outpatient Pharmacy and Ward Pharmacy Units were deemed to be the two most complicated; with 46.3 percent thought that the targets set for the Ward Pharmacy Unit were too high. While most of the respondents (74.4 percent) felt that the facilities available in the training site were adequate, 21.1 percent of the respondents commented that the Drug and Poison Information Unit has inadequate facilities for training.

Table I: Demographic of Intern Pharmacists from the Northern Region of Malaysia (n=204)

Characteristic	Category	Frequency (%)	Mean (SD)
Age (years)			24.7 (1.12)
Gender	Male	40 (19.6)	
	Female	164 (80.4)	
Ethnicity	Malay	101 (49.5)	
	Chinese	92 (45.1)	
	Indian & Others	11 (5.4)	
Marital Status	Single	187 (91.7)	
	Married	17 (8.3)	
Workplace of Choice	Yes	137 (67.2)	
	No	67 (32.8)	
Provincial State	Perlis	13 (6.4)	
	Kedah	60 (29.4)	
	Pulau Pinang	60 (29.4)	
	Perak	71 (34.8)	
University* (n=202)	Public Institutions	115 (56.9)	
	Private Institutions	87 (43.1)	

*Refers to the university where interns graduate from. Public institutions refer to government universities within Malaysia, while private institutions refer to all non-government universities within Malaysia and also universities outside of Malaysia.

Table II: Overall Training Experience

Item	Response
The total training period of 1 year is (n=204)	14.2% too short 84.8% just nice 1% too long
The log books are generally (n=203)	2% too simple 59.6% just nice 38.4% too complicated
The targets set in the log books are (n=202)	0% too low 54.5% just nice 45.5% too high
The facilities available in the training hospital are (n=203)	74.4% adequate 25.6% not adequate

Table III: Univariable Analysis for Factors towards Job Satisfaction (n=204)

Characteristic	n	Mean score (SD) of job satisfaction	Correlation Coefficient	*p*-value
Overall Job Satisfaction		3.27 (0.54)		
Gender				0.672†
Male	40	3.24 (0.59)		
Female	164	3.28 (0.53)		
Ethnicity				0.022‡
Malay	101	3.17 (0.55)*		
Chinese	92	3.38 (0.51)*		
Indian & Others	11	3.20 (0.53)		
Marital Status				0.560†
Single	187	3.26 (0.55)		
Married	17	3.34 (0.49)		
Workplace of Choice				0.064†
Yes	137	3.31 (0.55)		
No	67	3.17 (0.52)		
Provincial State				<0.001‡
Perlis	13	3.18 (0.48)		
Kedah	60	3.39 (0.47)*		
Pulau Pinang	60	3.02 (0.49)*		
Perak	71	3.39 (0.59)*		
University				0.162†
Public Institutions	115	3.22 (0.54)		
Private Institutions	87	3.33 (0.53)		
Age	204		-0.085	0.227¶
Perceived fairness in the workplace	204		0.527	<0.001¶
Perception toward preceptors' competence	204		0.456	<0.001¶
Perception towards self-competence	204		0.319	<0.001¶

† Independent T-Test
‡ ANOVA
¶ Pearson correlation
*Post-hoc Tukey's test indicates significant difference among these groups.

Univariable analysis showed that ethnicity, the provincial state, perception towards preceptors' and own competence, as well as perceived fairness in the workplace were factors deemed significant in determining job satisfaction (Table III). Post-hoc Tukey's test showed that the Malay ethnicity had significantly lower satisfaction scores compared to the Chinese; and interns in the state of Pulau Pinang had a significantly lower satisfaction score compared to those in Kedah and Perak, as confirmed in Table IV. Multivariable analysis also found that whether being posted to the workplace of choice was a factor which determined job satisfaction.

Nearly half of the respondents (n=93; 45.6 percent) wrote additional comments in the questionnaire. Of these, most of the comments were preceptor- and facility-related. Twenty-seven respondents mentioned that they were satisfied with their preceptors but 21 respondents were not. In terms of facilities, 26 respondents felt that training facilities were adequate but 21 felt otherwise. Some comments are shown in Table V.

Table IV: Multivariable Analysis for Factors towards Job Satisfaction (n=204)

Group	F stat	*p*-value†
Ethnicity	6.094	**0.003**
Workplace of choice	3.961	0.048
Place of work (by provincial state)	5.051	**0.002**
Perceived fairness in the workplace	31.822	**<0.001**
Perception towards preceptors' competence	16.485	**<0.001**
Perception towards self-competence	7.479	**0.007**

† ANCOVA Model (R^2= 0.459)

Table V: Representative quotes from comments regarding respondents' internship

Preceptors deemed Competent
"...show the passion to teach us and guide us."
"...willing to teach and they would carry out discussions to allow us to prepare and present."

Preceptors deemed Incompetent
"Preceptors should be enthusiastic, ... assist and encourage PRP more in completing their tasks."
"...are quite dictatorial and won't listen to explanation."

Training Facilities Adequate
"The training place is nice and facilities are adequate for us to do training. Different facilities are provided for us (TDM, CDR, TPN) to learn…"
"Facility provided in this hospital is actually good and adequate for training. We can actually learn a lot throughout the year…"

Training Facilities Inadequate
"Since this is a smaller hospital, there are less opportunities for learning e.g. TPN and less medications available."
"Should improve training facilities such as TPN and CDR clean room."

Logbooks and Targets
"Logbooks are a nuisance!"
"... logbooks too complicated to be completed..."
"Lots of targets need to be met within short duration."

TDM: Therapeutic Drug Monitoring Unit
CDR: Oncology Preparation Unit
TPN: Parenteral Nutrition Preparation Unit
PRP: Provisionally Registered Pharmacist/ Intern Pharmacist

Discussion

Our intern pharmacists are moderately satisfied with their training; job satisfaction was scored at a mean of 3.27 (SD 0.54). This is comparable to a US study on pharmacy students' job satisfaction which scored 3.22 (SD 0.91) (Mihm *et al*., 2011) and a study on Spanish hospital pharmacy residents, 3.24 (SD 0.69) (Mateo-Carrasco *et al.*, 2014). Five factors were identified to influence job satisfaction: perceived fairness in the workplace, perception towards preceptor's competence, and towards own competence, place of work and ethnicity.

There is a positive correlation between perceived fairness at work and job satisfaction, which suggests that if the interns felt that they were treated fairly, they would be satisfied with their jobs. In a study on pharmacy students by Young *et al.* (2014), when the students were treated with trust and respect, their preceptors were deemed to be effective teachers and had created a good learning environment. Similarly for our interns, a positive perception about preceptors' competence is a factor that affects job satisfaction. Young *et al*'s study demonstrated that preceptors served as role models in their own setting for student pharmacists, and that showing interest in teaching and in students' learning are key factors in being an excellent preceptor. In our study, there was a positive correlation between perception towards preceptors' competence and job satisfaction. Our interns perceived their preceptors as competent when preceptors answer questions clearly and precisely, and provided opportunities for discussion and exchange of opinions. In addition, preceptors were also deemed competent when they demonstrate an interest to teach, show enthusiasm in their practice and exhibit professional and ethical standards.

There is currently no structured training programme for preceptors in Malaysia. Preceptors themselves underwent the internship programme and later appointed as preceptors as part of their professional responsibilities. Some preceptors may have completed their internship programme less than a year prior to being appointed as preceptors; their lack of experience as a preceptor may have led to the respondents' comments on perceived incompetence. Some recommendations might be to initiate a preceptor training programme, or to only appoint as preceptors those who have more than three years of work experience post-internship.

The interns' perceived self-competence after a year of training was of moderate level with a mean of 3.65. In the questionnaire, interns were asked if they feel confident in medication dispensing, in patient care and medicine information provision, and in being part of a multidisciplinary healthcare team. On further scrutiny, the modes of response to all four items were 'agree' (score 4), which implies that the internship training is deemed suitable to develop the necessary competence to become registered pharmacists.

Of the four states, the state of Pulau Pinang ranks the lowest in terms of job satisfaction and this may be due to

the higher living cost in this city-state. This may reflect a spill over relationship, whereby the non-work life of the interns (experiencing high cost living) may have affected their job experiences, and in turn, their job evaluation (being satisfied at work). Although salary is one of the determinants of job satisfaction (Smith, Kendall, & Hulin, 1969; Hardigan & Carvajal, 2007), this was not explored in our study because in the Malaysian government service, the remuneration scheme is standardised for the post of intern pharmacists. All intern pharmacists receive the same amount regardless of place of training. Future research may explore the relationship between training locations and acceptable salary amount. Recently, internship training is also conducted outside of government hospitals, such as in private hospitals, retail pharmacies and pharmaceutical companies (Malaysian Pharmaceutical Society, 2012) with their own remuneration package. This may be used as a comparator in future studies.

The respondents' ethnicities were included in the questionnaire as Malaysia is composed of a multi-ethnic society with no one ethnic group dominating more than 70 percent of the population. In our study, we found that ethnicity is a determinant of job satisfaction. This suggests some element of socio-cultural difference in the workplace which can be further explored in future studies on ethnography.

The interns' comments about inadequate facilities may have stemmed from the unavailability of specialised services in some training hospitals. The smaller hospitals may not have the Oncology or Parenteral Nutrition Preparation Units, or the Therapeutic Drug Monitoring Unit. The interns from such hospitals would be attached to larger training hospitals in order to fulfil this component of their internship. Smaller hospitals may also not have a designated Drug and Poison Information Unit; the Outpatient or Inpatient Pharmacy Units would serve this role.

Some respondents commented that the logbooks were too complicated and that targets were too high. Units that have complicated logbooks were also perceived as units with "too high" targets. Of the nine different units, respondents felt that the Ward Pharmacy Unit has targets which were "too high," followed by the Outpatient Pharmacy Unit. Some of them (24.7 percent) also felt that the training period for Ward Pharmacy was too short. Interns spend eight weeks in the Ward Pharmacy Unit and have to achieve targets such as 15 cases per week of medication history taking as well as clinical clerkship, ten cases of bedside counselling per week, preparation of case reports and presenting their clinical cases in small groups. The Outpatient Pharmacy Unit requires 12 weeks, and includes tasks such as screening of and intervening on prescriptions, dispensing (50 prescriptions per day), individual counselling (three cases per week) and group (once per month) counselling, and extemporaneous dispensing (ten cases).

Our results suggests that, if given a longer training period for the Ward Pharmacy Unit, the training may be more wholesome and targets that were perceived as "too high" could be achieved readily. In a counter-based service unit such as the Outpatient Pharmacy, interns were required to complete a string of tasks in a limited time. In turn, the logbooks posed a burden to them and hence, were deemed too complicated due to the high targets.

The Malaysian Pharmacy Board has a strict list of recognised pharmacy degrees (Pharmaceutical Services Division, 2016). In order to be registered with the Board, our interns must be graduates from one of these universities. From the results of our study, it is reassuring to note that our interns felt that their Board-approved universities had prepared them to face the internship training.

It is worth noting that the number of female interns outnumbered male interns by four-fold. This is expected as pharmacy is commonly regarded as a profession with a higher proportion of women, especially in hospital pharmacy settings (CSHP Hospital Pharmacy Management Task Force, 2008; Hawthorne & Anderson, 2009). With the internship programme being a full-time job, we postulated that being married and having family responsibilities would affect job satisfaction. This was not observed in our study; although literature suggests that women prefer the flexible hours of a part-time job (Hawthorne & Anderson, 2009; Janzen *et al*., 2013). In summary, gender did not affect job satisfaction, as confirmed by the study in Australia (Liu & White, 2011).

Interns may not have been posted to training hospitals of their choice. Thus, we assessed the relationship between the hospital location, with an average commuting distance of 18 kilometres in this study, and job satisfaction. No relationship was identified. This finding is similar to that by Liu and White. Their study also showed that age group affected job satisfaction; but our study did not, most possibly due to the narrower age gap of the respondents (mean age 24.7 years, range 22-30) The study by Liu and White included pharmacy personnel with diverse working experience, such as interns, technicians and pharmacy managers; their respondents range from under 30 years to over 50 years old.

The coefficient of determination, R^2, is 0.459 for our study; which implied that the place of work (by provincial state), ethnicity, perceived fairness in the workplace and perception towards preceptor's competence constitutes less than half (45.9 percent) of the aspects determining job satisfaction.

Limitations

Some factors which may influence job satisfaction were not measured in this study. Examples include the prospect of career advancement, whether pharmacy is a chosen career path, as well as the opportunity to apply skills and knowledge as a pharmacist (ability utilisation). These may serve as topics for future studies.

This study only involved interns training in government hospitals located in the northern region of Malaysia, and the findings may not be generalised to interns in other

regions of Malaysia. Our country's ethnic composition differs from state to state; as an example, the northern region of Malaysia has three major ethnic groups, whereas East Malaysia has numerous other ethnic groups, and ethnicity may not be a significant determinant of job satisfaction. The northern states are also less densely populated compared to the southern region of Malaysia, and living costs are generally lower in the northern region (Central Bank of Malaysia, 2016) which in turn may affect job satisfaction.

Aside from government hospitals, pharmacy graduates may choose to undergo training in the private sector with the recent liberalisation of internship training scheme (Malaysian Pharmaceutical Society, 2012). Training in a non-government hospital setting would have its own advantages and challenges, and the interns' experience may be compared with those in government hospitals.

The limitations can be addressed in future studies encompassing interns at every training institution in the country.

Conclusion

The level of job satisfaction of intern pharmacists in the northern region of Malaysia was comparable to that in Spain and the USA, and is significantly influenced by the place of work (by provincial state), ethnicity, perceived fairness in the workplace and perception towards preceptor's and own competence. Further studies are required to explore other factors which were not measured that may influence the job satisfaction of intern pharmacists. In terms of duration, the training module laid out by the Ministry is deemed suitable for training intern pharmacists; however, the targets specified and the complexity of the log books may require further review.

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Appendix A: Questionnaire

THE SATISFACTION AND PERCEPTION OF INTERN PHARMACISTS (PROVISIONALLY REGISTERED PHARMACISTS) TOWARDS THEIR TRAINING IN GOVERNMENT HOSPITALS IN THE NORTHERN REGION OF MALAYSIA

SECTION A

*Please (√) **or** fill in the blanks, where appropriate*

1) Place of training: _____ (hospital name)
2) Date of starting training (tarikh lantikan): _____ (dd/mm/yyyy)
3) Graduated from which University: _____
4) Age: _____ (years)
5) Gender: □ Male □ Female
6) Race: □ Malay □ Chinese □ Indian □ Others, please specify : _____
7) Marital Status: □ Single □ Married, please specify no. of children : _____
8) Where is your hometown? _____ (district, state)
9) Were you posted to your place of choice? □ Yes □ No
10) Distance travelled to work from current place of stay (one way): _____ km

SECTION B

Use the following scale to indicate your agreement with the following statements ***(please circle your choice)*** :

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a.	I feel fairly satisfied with my present job (training).	1	2	3	4	5
b.	Most days I am enthusiastic about my work.	1	2	3	4	5
c.	Each day at work seems like it will never end.	1	2	3	4	5
d.	I find real enjoyment in my work.	1	2	3	4	5
e.	I consider my job (training) to be rather unpleasant.	1	2	3	4	5

SECTION B-1

Use the following scale to indicate your agreement with the following statements ***(please circle your choice)*** :

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
f.	I feel that I am always being blamed for others' mistakes.	1	2	3	4	5
g.	I feel that all tasks are shared equally among all staffs within the department.	1	2	3	4	5
h.	I often have to perform unwanted duties of other staffs.	1	2	3	4	5
i.	My university has fully prepared me to face the internship training.	1	2	3	4	5
j.	I would be competent in dispensing activities after completing the one year training.	1	2	3	4	5
k.	I would be confident in providing patient care after completing the one year training.	1	2	3	4	5
l.	I would be confident in providing medicine information after completing the one year training.	1	2	3	4	5
m.	I would be able to work in a multidisciplinary team (doctors, nurses, pharmacists, etc.) after completing the one year training.	1	2	3	4	5
n.	My preceptors communicated the internship posting expectations to me at the beginning of any rotation.	1	2	3	4	5
o.	The rotation activities were structured and well-organized.	1	2	3	4	5
p.	My preceptors answer my questions clearly and precisely.	1	2	3	4	5
q.	My preceptors demonstrate an ability and interest to teach.	1	2	3	4	5
r.	My preceptors are enthusiastic about their practice area and inspire interest in the pharmacy practice.	1	2	3	4	5
s.	My preceptors role-modeled appropriate relationships with other healthcare professionals.	1	2	3	4	5
t.	My preceptors exhibit professional and ethical standards.	1	2	3	4	5
u.	My preceptors role-modeled compassion and care in professional practice.	1	2	3	4	5
v.	My preceptors assist and encourage me in independent problem solving.	1	2	3	4	5
w.	My preceptors give me opportunities to discuss and exchange opinions.	1	2	3	4	5

General comments (training/facility/preceptor/etc.):

_____
_____
_____
_____
_____
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SECTION C

Please *(√) **or** fill in the blanks, where appropriate*

Please answer this section based on your **OVERALL training experience.**

In your opinion,

1) The total training period of 1 year is: □ Too short □ Just nice □ Too long
2) The log books are generally: □ Too simple □ Just nice □ Too complicated
3) The targets set in the log books are: □ Too low □ Just nice □ Too high
4) The facilities available in the training hospital are: □ Not adequate □ Adequate for training

SECTION C-1

*Please (√) **or** fill in the blanks, where appropriate*

Please answer this section based on your **training experience in the following unit**:

1. OUT-PATIENT PHARMACY SERVICES

a) Have you been attached to the out-patient pharmacy unit?
□ Yes, ___ **week(s)** □ No
If YES, please answer the questions below. If NO, go to **In-patient Pharmacy Services**.

b) The training period of 12 weeks in the out-patient pharmacy unit is:
□ Too short □ Just nice □ Too long

c) The log book for the Out-patient Pharmacy Services is:
□ Too simple □ Just nice □ Too complicated

d) The targets set in the log book for the Out-patient Pharmacy Services are:
□ Too low □ Just nice □ Too high

e) The training facilities provided in the Out-patient Pharmacy Department is:
□ Not adequate □ Adequate for training

f) General comments about the out-patient pharmacy training:
_____
_____
_____

2. IN-PATIENT PHARMACY SERVICES

a) Have you been attached to the in-patient pharmacy unit? □ Yes, ___ **week(s)** □ No
If YES, please answer the questions below. If NO, go to **Ward Pharmacy Practice**.

b) The training period of 8 weeks in the in-patient pharmacy unit is:
□ Too short □ Just nice □ Too long

c) The logbook for the In-patient Pharmacy Services is:
□ Too simple □ Just nice □ Too complicated

d) The targets set in the log book for the In-patient pharmacy Services are:
□ Too low □ Just nice □ Too high

e) The training facilities provided in the In-patient Pharmacy Department is:
□ Not adequate □ Adequate for training

f) General comments about the in-patient pharmacy training:
_____
_____

3. WARD PHARMACY PRACTICE

a) Have you been attached to the ward pharmacy unit? □ Yes, ___ **week(s)** □ No
If YES, please answer the questions below. If NO, go to **Drug and Poison Information Services**.

b) The training period of 8 weeks in the ward pharmacy unit is:
□ Too short □ Just nice □ Too long

c) The log book for the Ward Pharmacy Practice is:
□ Too simple □ Just nice □ Too complicated

d) The targets set in the log book for the Ward Pharmacy Practice are:
□ Too low □ Just nice □ Too high

e) The training facilities provided in the Ward Pharmacy Department is:
□ Not adequate □ Adequate for training

f) General comments about the ward pharmacy training:
_____
_____

4. DRUG AND POISON INFORMATION SERVICES

a) Have you been attached to the drug and poison information unit?
□ Yes, ___ **week(s)** □ No
If YES, please answer the questions below. If NO, go to **Clinical Pharmacokinetic Services**.

b) The training period of 4 weeks in the drug and poison information unit is:
□ Too short □ Just nice □ Too long

c) The log book for the Drug and Poison Information Services is:
□ Too simple □ Just nice □ Too complicated

d) The targets set in the log book for the Drug and Poison Information Services are:
□ Too low □ Just nice □ Too high

e) The training facilities provided in the Drug and Poison Information Unit is:
□ Not adequate □ Adequate for training

f) General comments about the drug and poison information training:
_____
_____

5. CLINICAL PHARMACOKINETIC SERVICES

a) Have you been attached to the TDM unit?
□ Yes, ___ **week(s)** □ No
If YES, please answer the questions below. If NO, go to **Parenteral Nutrition/Intravenous Additive Services**.

b) Which hospital did you do your TDM training?
_____

c) The training period of 4 weeks in the TDM unit is:
□ Too short □ Just nice □ Too long

d) The log book for the Clinical Pharmacokinetic Services is:
□ Too simple □ Just nice □ Too complicated

e) The targets set in the log book for the Clinical Pharmacokinetic Services are:
□ Too low □ Just nice □ Too high

f) The training facilities provided in the TDM Unit is:
□ Not adequate □ Adequate for training

g) General comments about the TDM training:
_____
_____

6. PARENTERAL NUTRITION/INTRAVENOUS ADDITIVE SERVICES

a) Have you been attached to the TPN unit?

□ Yes, ___ **week(s)** □ No

If YES, please answer the questions below. If NO, go to **Inventory Control and Management**

b) Which hospital did you do your TPN training?

_____

c) The training period of 4 weeks in the TPN unit is:

□ Too short □ Just nice □ Too long

d) The log book for the Parenteral Nutrition/Intravenous Additive Services is:

□ Too simple □ Just nice □ Too complicated

e) The targets set in the log book for the Parenteral Nutrition/ Intravenous Additive Services are:

□ Too low □ Just nice □ Too high

f) The training facilities provided in the TPN Unit is:

□ Not adequate □ Adequate for training

g) General comments about the TPN training:

_____
_____

7. INVENTORY CONTROL AND STORE MANAGEMENT

a) Have you been attached to the Store? □ Yes, ___ **week(s)** □ No

If YES, please answer the questions below. If NO, go to **Oncology Pharmacy Services.**

b) The training period of 4 weeks in the Store is:

□ Too short □ Just nice □ Too long

c) The log book for the Inventory Control And Store Management is:

□ Too simple □ Just nice □ Too complicated

d) The targets set in the log book for the Inventory Control And Store Management are:

□ Too low □ Just nice □ Too high

e) The training facilities provided in the Store is:

□ Not adequate □ Adequate for training

f) General comments about the Store training:

_____
_____

8. ONCOLOGY PHARMACY SERVICES

a) Have you been attached to the CDR unit?

□ Yes, ___ **week(s)** □ No

If YES, please answer the questions below. If NO, go to **Manufacturing and Repacking**

b) Which hospital did you do your CDR training?

_____

c) The training period of 4 weeks in the CDR unit is:

□ Too short □ Just nice □ Too long

d) The log book for the Oncology Pharmacy Services is:

□ Too simple □ Just nice □ Too complicated

e) The targets set in the log book for the Oncology Pharmacy Services are:

□ Too low □ Just nice □ Too high

f) The training facilities provided in the CDR unit is:

□ Not adequate □ Adequate for training

g) General comments about the CDR training:

_____
_____

9. MANUFACTURING AND REPACKING

a) Have you been attached to the manufacturing and repacking unit? □ Yes, __ week(s) □ No

If YES, please answer the questions below. If NO, you have completed the survey.

b) The training period of 2 weeks in the manufacturing and repacking unit is:

□ Too short □ Just nice □ Too long

c) The log book for the Manufacturing and Repacking is:

□ Too simple □ Just nice □ Too complicated

d) The targets set in the log book for the Manufacturing and Repacking are:

□ Too low □ Just nice □ Too high

e) The training facilities provided in the manufacturing and repacking unit is:

□ Not adequate □ Adequate for training

f) General comments about the manufacturing and repacking training:

_____
_____

THANK YOU