INTERNATIONAL CONFERENCE ON PHARMACEUTICAL RESEARCH AND PRACTICE
ISBN: 978-979-98417-5-9 | Universitas Islam Indonesia

Preliminary Study about Pharmacist Interns' Expectation of Their Internship Program

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Abstract. The aim of pharmacist internship program is to prepare students to be able to practice professionally by providing practical experiences that can improve clinical skills and personal development of students. This study is a preliminary study which aim is to assess the expectations of internship students to their internship program that undertaken in pharmacist professional education. This research is an observational study using a research questionnaire instrument. The questionnaire used for the study was a closed ended questionnaire with statement items developed from the guidelines of the pharmacist internship program of Udayana University. Assessment in the questionnaire using a Likert scale with a score of 1 (lowest) to 4 (highest) The research subjects were pharmacist students who is interning at the community pharmacy, hospital pharmacy, industry, drug and food regulatory board and community health centre. There was a total of 66 intern student who join the research. Pharmacist intern expectations score for the pharmacy internship was 3.12 (high), hospital internship score was 3.12 (high), industry internship score 3.10 (high), drug and food regulatory board and community health centre score 3.10 (high). The study results also showed that pharmacist students had a tendency to have higher expectations in the dimensions of management of drugs and other pharmaceutical supplies compared to clinical practice services dimension. In conclusion, intern students have high expectations of all aspect of their internship programme.

Keywords: internship, expectations, pharmacist interns, pharmacist professional program.

1. Introduction

Pharmacist internship program (PIP) intended to prepare pharmacist students to be able to practice professionally by providing practical experience that can improve clinical skills and personal development of students'[1-3]. Pharmacist internship program at Udayana University is an educational core curriculum of pharmacist professional study program that provides experience to students to be able to practice pharmaceutical services in hospital, community or industrial setting with supervision of the preceptor. This program aims is to equip pharmacist candidates to have knowledge, insight, skills and practical experience to do pharmacy work so it that can improve the comprehension of pharmacist candidates about the role, function, position and responsibilities of the pharmacist in their professional work. Pharmacist internship in Udayana University implemented for 6 months in four practice areas namely community pharmacy, hospital pharmacy, industry, drug and food regulatory board and community health centers. Learning objectives have been compiled based on Udayana University pharmacist internship practice guidelines books and socialized to students before the internship program begins. To improve the program quality, a thorough evaluation is needed. One of them is to assess the intern's point of view about apprenticeship activities. The purposes of this study are to measures the expectations of intern's students to internship program they undertake in pharmacist professional education.

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2. Methodology

2.1. Study design

A preliminary study with descriptive research design was conducted in this study using a survey as the methods of data collection. There is 74 total population of internship student from the 2017-2018 academic year, and 66 students' willing to participate in research. The research was carried out based on the assignment letter of research agreement number: 2013/UN14.2.8.II/LT/2018.

2.2. Research instrument

The research instrument is a closed-ended questionnaire with the learning objectives statement items developed from Udayana University pharmacist internship practice guidelines books[4-7]. The total of questionnaire statement items for each apprenticeship place and each statement dimension can be seen in the table 1. The questionnaire assessment uses a Likert scale. Likert-type scales are frequently used in medical education and medical education research[8]. The scores move along a scale of 4 (strongly agree), 3 (agree), 2 (disagree), to 1 (strongly disagree). We don't use neutral option because based on research results when this middle option is offered, it is far more likely to be chosen[9]. Questionnaire validation has been done using the logical (face) validity method[10,11].

2.3. Data collection and analysis

Data collection was conducted for 6 months from March until August 2018. Interns are given an explanation about the activities to be followed during the internship process based on the learning objectives which has been specified. Then they are given a research questionnaire that must be filled before attending the internships in each practices area. Descriptive statistics were used to describe the demographic data and calculated the mean score of each learning objectives dimension. We create 5 ranking use statistics calculation. The Likert mean score for each dimension then classified based on the intervals shown in Table 2 to determine the student expectation level.

Table 1. Questionnaire statement distribution.

Internship area	Total statements	Statements distribution of learning objectives dimension
Hospital pharmacy	26	• 3 statements for organizational structure, management, administration, and quality standards in hospitals • 5 statements regarding the management of pharmaceutical supplies in hospitals • 9 statements about clinical pharmacy services • 4 statements for hospital pharmaceutical supplies production activities • 5 statement about sterilization and hospital waste product processing LO
Community pharmacy	13	• 6 statements about pharmacy management, administration and quality standards of community pharmacies • 2 statements for drug and other pharmaceutical supplies management cycle • 5 statements for clinical pharmacy service at community pharmacy
Industry	33	• 3 statements for organizational structure and production characteristics • 5 statements regarding to human resources and facility services • 3 statements about research and development • 2 statements about production planning and inventory control • 5 statements of warehousing • 2 statements of purchasing • 5 statements of quality control and quality assurance • 3 statements of production • 5 statement for technology and engineering
Drug and food regulatory board and community health centre (government sector)	19	• 4 statements about organizational structure, flow of management cycle and distribution of drugs in the public health

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		office • 4 statements for organizational structure, drug and other pharmaceutical supplies management cycle and pharmaceutical services at community health centers • 10 statements of organizational structure and scope of pharmacy assignment at drug and food regulatory board

Table 2. Classification of internship students' expectation

Interval range	Classification
1.0 – 1.6	Very low
>1.6 – 2.2	Low
>2.2 – 2.8	Intermediate
>2.8 – 3.4	High
>3.4 – 4.0	Very high

3. Results

3.1. Demographic data of respondent

Characteristics data of research respondent can be seen at table 3. From total 66 respondent, 53 respondents (80.30%) completed community pharmacy questionnaire, 47 respondents (71.21%) completed hospital pharmacy questionnaire, 47 respondents (71.21%) completed industry questionnaire and 60 respondents (90.91%) completed drug and food regulatory board and community health centre questionnaire.

The majority intern student respondents were female (72.73%) and previously took pharmacy undergraduate program at Udayana University. The average time needed to take the pharmacy undergraduate program was 8 semesters (68.18%) and followed by 1 semester of theoretical course (93.93%) at pharmacist study program before the students can take an internship program.

3.2. Interns expectations

Results of interns' expectation of their internship program can be seen at table 4. All respondents have a high expectation in all learning objectives aspect of internship program. The score of drug and pharmaceutical supplies management slightly higher than the other aspects on hospital and community pharmacy internship, while the clinical tasks not an experience that is most expected to be obtained during an internship. In industrial sector, students give high expectation in organizational structure and production characteristics (3.27). In government sector, interns seen giving a lower score of the learning objectives at assignment at drug and food regulatory board (2.99).

4. Discussion

Education is a key element in every successful professional practice in the community. The results of good education will provide values and norms on how professional practices should be carried out[1]. The internship program designed to provide knowledge and skills for pharmacist candidates to be able to work according to their profession[12]. Pharmacist internship in Udayana University is the last semester credit unit taken in professional education program. Pharmacist education starts with undergraduate pharmacy education for 4 years (8 semesters). Then continued with pharmacist professional education program for 1 year (2 semesters). In the second semester of pharmacist professional education, students will undergo internships that implemented in several places.

Table 3. Characteristics of respondent

Characteristics	Total	Percentage (%)
Sex		
Male	18	27.27
Female	48	72.73
Pharmacy undergraduate program		
at Udayana University	63	95.45
not at Udayana University	3	4.55
Total semester taking at pharmacy undergraduate program		
Less than 8 semesters	12	18.18
Eight semesters	45	68.18
Nine semesters	0	0
Ten semesters	8	12.12
More than 10 semesters	1	1.52
Total semester in theoretical courses at pharmacist study program before taking an internship		
One semester	62	93.93
Two semesters	3	4.55
Three semesters	0	0
More than 3 semesters	1	1.52
Place of hospital pharmacy internship		
Municipal government hospital	33	50
District government hospital	33	50
Place of community pharmacy internship		
Chain pharmacy	58	87.88
Independent pharmacy	8	12.12
Place of industry internship		
Traditional drug formulation industry	40	60.61

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Cosmetics industry	26	39.39
Drug and food regulatory board and community health centre internship place		
Municipal region	22	33.33
District region	44	66.67

Internship program allows students to experience real practice in community, hospital, and in industrial pharmacy settings[13]. In addition, pharmacist internship students in Udayana University also get the implementation of pharmacy work in the of government sectors which includes internship in drug and food regulatory board and in community health centre or often referred as Puskesmas. The results of this study show that internship students have high expectations of all learning objectives dimensions that they will get during the internship program. Similar results were also reported in other studies where pharmacy students have higher expectations of their internship experience[3,12].

Table 4. Expectation of pharmacist student about their internship program

Internship area	Learning objectives	Score (expectation level)
Hospital pharmacy	• Organizational structure, management, administration, and quality standards in hospitals	3.17
	• Management of pharmaceutical supplies in hospitals	3.23
	• Clinical pharmacy services	3.07
	• Hospital pharmaceutical supplies production activities	3.01
	• Sterilization and hospital waste product processing LO	3.11
Mean score for hospital pharmacy		3.12 (high)
Community pharmacy	• Pharmacy management, administration and quality standards of community pharmacies	3.03
	• Drug and other pharmaceutical supplies management cycle	3.17
	• Clinical pharmacy service at community pharmacy	3.15
Mean score for community pharmacy		3.12 (high)
Industry	• Organizational structure and production characteristics	3.27
	• Human resources and facility services	3.05
	• Research and development	3.14
	• Production planning and inventory control	3.14
	• Warehousing	3.17
	• Purchasing	3.04
	• Quality control and quality assurance	3.06
	• Production	3.18
	• Technology and engineering	2.85
Mean score for industry		3.10 (high)
Drug and food regulatory board and community health centre	• Organizational structure, flow of management cycle and distribution of drugs in the public health office	3.15
	• Organizational structure, drug and other pharmaceutical supplies management cycle and pharmaceutical services at community health centers	3.15
	• Organizational structure and scope of pharmacy assignment at drug and food regulatory board	2.99
Mean score for drug and food regulatory board and community health centre		3.10 (high)

According to the result in hospital and community pharmacy, students tend to have higher expectation to obtain knowledge and skills in managing drugs and other pharmaceutical supplies. This can be caused to the fact that the clinical pharmacy development in Indonesia is still relatively new. The pharmacotherapy subjects as a basis for skill pharmacists to provide patient care was only included in the pharmaceutical education curriculum in 2008. And in 2014, the government then development of professional practice standards in all the various pharmacist practice settings, including health centres and hospitals[14]. It is still need to advocate change and expanded role of Indonesian pharmacist and pharmacist candidates that mainly focused only on manufacturing and supply of medications to patient focused pharmaceutical care.

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Internship activities in the government sectors are carried out because the public health office in Indonesia is an inseparable part of the process of pharmaceutical services to the community through community health centers (Puskesmas) that are under the auspices of the public health office, and the role of drug and food regulatory board in control and supervision function. The lower score of students' expectations for internship activities at drug and food regulatory board can be caused by the shortest internship time in that place compared to the other place.

Industrial internship is one great opportunity to assess student ability in industrial setting. Working experience in pharmaceutical company will help student to have better understanding about the pharmaceutical industry, learn the process of drug discovery and development, and build strong network in the pharmaceutical field[15]. This is the cornerstone for making industry as one of internship area for the pharmacist student. The students' response about pharmacy internship shows the most varied results compared to others' internship area. Interns give the highest expectation score on organizational structure and production characteristics and lowest score to technology and engineering. This can be a suggestion that pharmacist students' interest in industrial area is more in the managerial dimension as well. Lecturer can provide an explanation about the role of pharmacist in the industry as in discovering process, evaluating and manufacturing medications[16].

Limitation of this study: this is just an observational study that only describes students' expectation of the internship program that they will undertake. It would be better if the results can be compared with the experience that the student gained during internship. So it can be seen whether the learning objectives can be fully achieved.

5. Conclusion

In summary, our results show that students have high expectations for their internship program. Further research about students' expectation can be done more comprehensively by also measuring students' perception or experiences about internship their program. So that it can asses the learning outcome as well.

Acknowledgement

This project was financed by prime program study grants from the Udayana University through Faculty of Mathematics and Basic Science. Special thanks to the intern students', preceptors and lecturer who participated in the study.

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