医薬品相互作用研究
一　般　論　文
42(1) 23-31 (2018)

Examining the Relation between Occupational Awareness and Official Positions of Hospital Pharmacists

Ogushi KOHEI*[1, 2], Koinuma MASAYOSHI[2, 3], Momo KENJI[2, 3], Takagi AKIKO[3], and Nakamura HITOSHI[2, 3]

[1]IMS group Yokohama Shintoshi Neurosurgical Hospital
[2]Graduate School of Pharmacy, Teikyo Heisei University
[3]Faculty of Pharmaceutical Sciences, Teikyo Heisei University

(Received September 5, 2017; Revised November 13, 2017; Accepted December 12, 2017)

Fewer studies have focused on the work environment of hospital pharmacists[9,10]. Furthermore, reports on leaving work or the reasons for leaving are limited to surveys on the hiring trends in medical care and welfare professions[11]. Until now, there have been no reported studies conducted on hospital pharmacists. In this study, the relation between hospital pharmacists' occupational awareness and their official positions such as having general positions or management roles were examined.

A questionnaire survey about job satisfaction was mailed to 491 hospital pharmacists who were randomly selected from the regular members (2,594) listed in the November 2015 Kanagawa Prefecture Hospital Pharmacist Association Register.

The most frequent reason given for quitting for all of the positions was low salary, which was followed by marriage and raising children for those in general positions, family circumstances for those in leadership roles, and career advancement for those in management. The higher the position, the more the respondents cited not understanding research activities as a reason for quitting, whereas those in more general positions cited reasons related to marriage and raising children. Significant relations were acknowledged for both these factors.

The results of this study show that the possible potential reasons given for quitting in the future differed and depended on people's official positions.

Key Words: hospital pharmacists; occupational awareness; management

Introduction

As medical care becomes more sophisticated and specialized, the roles of hospital pharmacists as medical care professionals have become greater and their jobs more diverse. On April 30, 2010, the head of the Ministry of Health, Labour and Welfare's Health Policy Bureau released the study: "On the promotion of medical teams through the cooperation and coordination of medical staff"[1]. Furthermore, supplementary duties of ward pharmacists were established when the payment system for medical services in April 2012 was revised. Consequently, hospital pharmacists, as members of medical teams, are being asked to contribute to the improvement and safety of medical care. According to a survey conducted in 2014, the number of pharmacists working in medical institutions increased by 2,162 people over the number in 2012[2]. Nevertheless, 44.8% of facilities have not yet calculated the supplementary duties of ward pharmacists due to the large burden of duties outside the ward[3]. Accordingly, while it is true that the number of ward pharmacists has increased, the number of personnel remains limited; their duties have increased and now cover a wide spectrum. Now, pharmacists' work involves writing prescriptions for general in-patients and out-patients; ward duties including the ICU; preparing sterile high calorie infusions and injection fluids, including anti-cancer drugs; and participating in rounds

[1] IMS group Yokohama Shintoshi Neurosurgical Hospital; 433, Edacho, Aoba-ku, Yokohama-shi, Kanagawa, 225-0013, Japan:
[2] Graduate School of Pharmacy, Teikyo Heisei University; 4-21-2, Nakano, Nakano-ku, Tokyo, 164-8530, Japan: and
[3] Faculty of Pharmaceutical Sciences, Teikyo Heisei University; 4-21-2, Nakano, Nakano-ku, Tokyo, 164-8530, Japan.
連絡著者：小串興平　E-mail: ogushi.kohei@gmail.com　TEL：045-911-2011　FAX：045-911-4517

that involve tasks such as managing nutrition and handling infection control measures and medical care safety as part of the team.

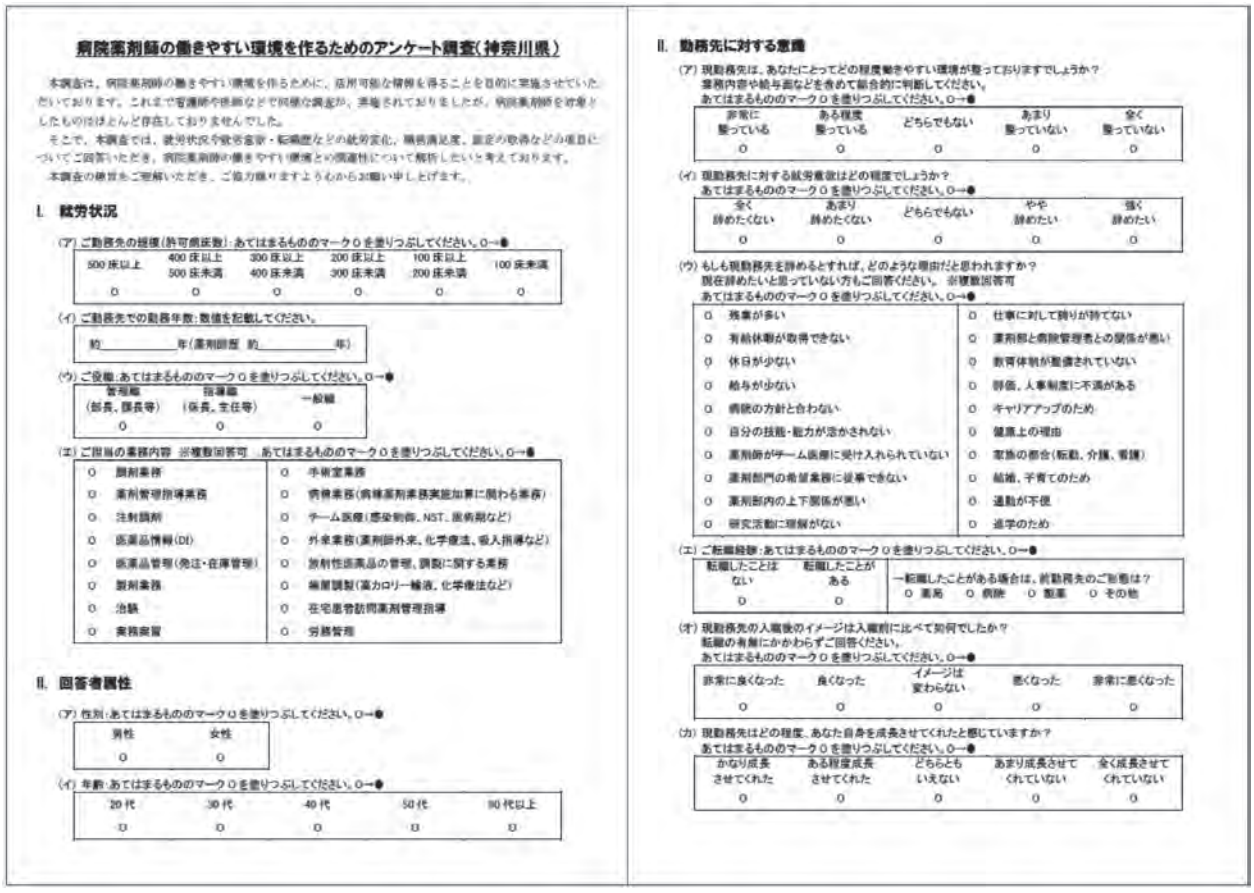
Previous studies have examined the job satisfaction of hospital staff members[4, 5] and the occupational awareness of staff such as nurses and doctors[6-9]. These studies have reported a positive correlation between the satisfaction of patients and that of personnel such as physicians and nurses[10]. However, fewer studies have focused on the work environment of hospital pharmacists[11, 12]. Furthermore, reports on leaving work or the reasons for leaving are limited to surveys on the hiring trends in medical care and welfare professions[13]. Until now, there have been no reported studies conducted on hospital pharmacists.

Increasing job satisfaction improves patient satisfaction and is significant in improving the effectiveness of management. Thus, it is important to improve the work environment through studies related to people's occupational awareness and their reasons for discontinuing work. It appears as though people's occupational awareness and the factors for their dissatisfaction differ depending on their roles or positions. In this study, the relation between hospital pharmacists' occupational awareness and their official positions such as having general positions or management roles were examined.

Methods

1. Target group of the questionnaire survey and survey methods

A questionnaire survey regarding job satisfaction (Figure 1) was mailed to 491 hospital pharmacists who were randomly selected from the regular members (2,594) listed in the November 2015 Kanagawa Prefecture Hospital Pharmacist Association Register. These questionnaires were mailed together with return envelopes to the pharmacists' individual addresses for them to return them. The questionnaires were answered voluntarily and collected anonymously. The survey was conducted from the beginning to the end of February 2017.



病院薬剤師の働きやすい環境を作るためのアンケート調査（神奈川県）

本調査は、病院薬剤師の働きやすい環境を作るために、活用可能な情報を得ることを目的に実施させていただいております。これまで管理職や医師などで同様の調査が、実施されておりましたが、病院薬剤師を対象としたものはほとんど存在しておりませんでした。
そこで、本調査では、就労状況や勤務意欲・転職歴などの就労変化、職務満足度、主観の取得などの項目についてご回答いただき、病院薬剤師の働きやすい環境との関連性について解析したいと考えております。
本調査の趣旨をご理解いただき、ご協力賜りますようお願い申し上げます。

I. 就労状況

(ア) ご勤務先の規模（許可病床数）：あてはまるもののマークひを塗りつぶしてください。○→●

500床以上	400床以上 500床未満	300床以上 400床未満	200床以上 300床未満	100床以上 200床未満	100床未満
○	○	○	○	○	○

(イ) ご勤務先での勤務年数：数値を記載してください。

約＿＿＿＿年（薬剤師歴 約＿＿＿＿年）

(ウ) ご役職：あてはまるもののマークひを塗りつぶしてください。○→●

管理職（部長、課長等）	指導職（係長、主任等）	一般職
○	○	○

(エ) ご担当の業務内容 ※複数回答可　あてはまるもののマークひを塗りつぶしてください。○→●

○ 調剤業務	○ 手術室業務
○ 薬剤管理指導業務	○ 病棟業務（病棟薬剤業務実施加算に関わる業務）
○ 注射調剤	○ チーム医療（感染制御、NST、医病期など）
○ 医薬品情報（DI）	○ 外来業務（薬剤師外来、化学療法、吸入指導など）
○ 医薬品管理（発注・在庫管理）	○ 放射性医薬品の管理、調製に関する業務
○ 製剤業務	○ 無菌調製（高カロリー輸液、化学療法など）
○ 治験	○ 在宅患者訪問薬剤管理指導
○ 実務実習	○ 労務管理

II. 回答者属性

(ア) 性別：あてはまるもののマークひを塗りつぶしてください。○→●

男性	女性
○	○

(イ) 年齢：あてはまるもののマークひを塗りつぶしてください。○→●

20代	30代	40代	50代	60代以上
○	○	○	○	○

II. 勤務先に対する意識

(ア) 現勤務先は、あなたにとってどの程度働きやすい環境が整っておりますでしょうか？
業務内容や給与面などを含めて総合的に判断してください。
あてはまるもののマークひを塗りつぶしてください。○→●

非常に整っている	ある程度整っている	どちらでもない	あまり整っていない	全く整っていない
○	○	○	○	○

(イ) 現勤務先に対する就労意欲はどの程度でしょうか？
あてはまるもののマークひを塗りつぶしてください。○→●

全く辞めたくない	あまり辞めたくない	どちらでもない	やや辞めたい	強く辞めたい
○	○	○	○	○

(ウ) もしも現勤務先を辞めるとすれば、どのような理由だと思われますか？
現在辞めたいと思っていない方もご回答ください。 ※複数回答可
あてはまるもののマークひを塗りつぶしてください。○→●

○ 残業が多い	○ 仕事に対して誇りが持てない
○ 有給休暇が取得できない	○ 薬剤部と病院管理者との関係が悪い
○ 休日が少ない	○ 教育体制が整備されていない
○ 給与が少ない	○ 評価、人事制度に不満がある
○ 病院の方針と合わない	○ キャリアアップのため
○ 自分の技能・能力が活かされない	○ 健康上の理由
○ 薬剤師がチーム医療に受け入れられていない	○ 家族の都合（転勤、介護、看護）
○ 薬剤部門の希望業務に従事できない	○ 結婚、子育てのため
○ 薬剤部内の上下関係が悪い	○ 通勤が不便
○ 研究活動に理解がない	○ 進学のため

(エ) ご転職経験：あてはまるもののマークひを塗りつぶしてください。○→●

転職したことはない	転職したことがある
○	○

一転職したことがある場合は、前勤務先のご形態は？
○ 薬局　○ 病院　○ 製薬　○ その他

(オ) 現勤務先の入職後のイメージは入職前に比べて如何でしたか？
転職の有無にかかわらずご回答ください。
あてはまるもののマークひを塗りつぶしてください。○→●

非常に良くなった	良くなった	イメージは変わらない	悪くなった	非常に悪くなった
○	○	○	○	○

(カ) 現勤務先はどの程度、あなた自身を成長させてくれたと感じていますか？
あてはまるもののマークひを塗りつぶしてください。○→●

かなり成長させてくれた	ある程度成長させてくれた	どちらともいえない	あまり成長させてくれていない	全く成長させてくれていない
○	○	○	○	○

Fig.1 A questionnaire survey

2. Survey details

1) Basic attributes

The target group was asked to provide information on the following basic attributes: sex, age (five levels), size of the facility where they worked currently (six levels), employment history at their current facility, experience as a pharmacist, official positions (three levels), and their current duties; multiple answers were allowed.

2) Occupational awareness

The occupational awareness about the current workplace was scored on a five-point scale (5= high, 1= low) considering the following factors: ease of working, intention to continue working, change in the image of the workplace after starting work, and feelings of growth. In addition, the target group was asked for potential reasons they could give if they decided to quit their jobs in the future regardless of whether they actually had any intention to quit; multiple answers were allowed for this question. Furthermore, they were also asked whether they had a history of job transfers.

3) Methods of analysis

A cross-table was created to examine the relation between the target group's official job post and the possible potential reasons for quitting their jobs in the future. Thereafter, an exact Cochran-Armitage trend test was employed to look at the relation in the order of the official positions, and Fisher's exact test was performed to analyze if there was any differences between official positions. In addition, the Steel-Dwass test was used to compare the three groups with regard to the relation between work transfers, occupational awareness about the current employer, and official work positions. For the statistical processing conducted in this study, the statistical analysis software JMP®13.0 (SAS Institute) was used.

4) Ethical considerations

When the questionnaire was mailed, the target group was given a written explanation of the purpose of the study, its methods, and was informed that answering the questionnaire was voluntary. If the respondents returned the questionnaire, they were considered to have consented to participate in the study. This study was conducted after receiving approval of the Ethics Review Committee of Teikyo Heisei University (approval number 28-069).

Results

Responses were received from 230 members of the target group comprising 491 people; the response rate was46.8%. The backgrounds of the respondents are depicted in Table 1.

Of the respondents, 42.6% were males (98 people) and 57.4% were females (132 people). A breakdown of age groups reveals that most of the respondents—36.1%—were in their 30s, 28.3% were in their 40s, and 24.3% were in their 20s.

Most of the pharmacists held general positions (57.4%) while 29.1% were in leadership roles and 13.5% were in management positions. The number of years of experience as a pharmacist for those in general positions was 8.4 ± 7.2 years on an average; respondents in their 20s comprised 42.4% of these responses. The number of years of experience as a pharmacist for those in leadership positions was 16.7 ± 7.4 years on an average; respondents in their 30s made up the largest age group in this category. Those in management had 24.0 ± 7.8 years of experience on an average; respondents in their 40s formed the largest age group in this category. The most common task of the people in leadership roles and general positions was the responsibility of filling prescriptions and of people in management positions was labor management.

In Table 2, the relation between the possible potential reasons for quitting in the future and the official position held is shown. The most frequent reason given for quitting for all of the positions was low salary, which was followed by marriage and raising children for those in general positions, family circumstances for those in leadership roles, and career advancement for those in management. Results revealed that the most frequent answer given by males was a low salary for general positions and management

Table1 Background of the Respondents in the Questionnaire Survey

	Overall	General positions	Leadership roles	Management
	230	132（57.4）	67（29.1）	31（13.5）
Classification of sex（People；%）				
Male	98（42.6）	41（31.1）	31（46.3）	26（83.9）
Female	132（57.4）	91（68.9）	36（53.7）	5（16.1）
The generation（People；%）				
20s	56（24.4）	56（42.4）	0（0.0）	0（0.0）
30s	83（36.1）	47（35.6）	33（49.3）	3（9.7）
40s	65（28.3）	25（18.9）	25（37.3）	15（48.4）
50s	22（9.6）	3（2.3）	8（11.9）	11（35.5）
60s or older	4（1.7）	1（0.8）	1（1.5）	2（6.5）
Years of experience in the pharmaceutical industry（Mean±SD）	12.9 ±9.3	8.4 ±7.2	16.7 ±7.4	24.0 ±7.8
Number of years working at current facility（Mean±SD）	8.1 ±7.7	5.0 ±4.5	12.4 ±8.8	11.6 ±9.8
Employment history for different jobs（People；%）				
never had a job transfer	138（60.0）	85（64.4）	41（61.2）	12（38.7）
had job transfers	92（40.0）	47（35.6）	26（38.8）	19（61.3）
Description of their current duties（People；%）				
Filling prescriptions	190（82.6）	111（84.1）	56（83.6）	23（74.2）
Providing injections	171（74.4）	100（75.8）	52（77.6）	19（61.3）
Pharmacy management and leadership tasks	157（68.3）	97（73.5）	47（70.2）	13（41.9）
Hospital ward duties (tasks related to carrying out additional ward duties)	124（53.9）	84（63.6）	32（47.8）	8（25.8）
Medical team (such as infection control and NST)	97（42.2）	56（37.9）	35（52.2）	12（38.7）
Sterilization	97（42.2）	59（44.7）	31（46.3）	7（22.6）
Clinical training	96（41.7）	47（35.6）	33（49.3）	16（51.6）
Information about medical supplies	95（41.3）	41（31.1）	30（44.8）	24（77.4）
Managing medical supplies (ordering and managing current stock)	88（38.3）	45（34.1）	30（44.8）	13（41.9）
Formulation of pharmaceuticals	67（29.1）	36（27.3）	23（34.3）	8（25.8）
Outpatient duties (such as outpatient pharmacist handling chemotherapy)	64（27.8）	35（26.5）	21（31.3）	8（25.8）
Labor management	40（17.4）	1（0.8）	14（20.9）	25（80.7）
Clinical trials	25（10.9）	5（3.8）	10（14.9）	10（32.3）
Operating room tasks	13（5.7）	5（3.8）	4（6.0）	4（12.9）
Managing and manufacturing radioactive medical supplies	7（3.0）	2（1.5）	4（6.0）	1（3.2）
Managing and providing leadership for pharmaceutical home visits to patients	0（0.0）	0（0.0）	0（0.0）	0（0.0）

Table2 Potential reasons for quitting in the future and their relation to the post held

Results of having the respondents provide answers under the assumption that they had resigned from their current employer.
Even in cases where respondents do not intend to quit their jobs, they provide reasons imagined by them for doing so.

	General positions	Leadership roles	Management	Exact Cochran-Armitage trend test	Fisher's exact test	Correspondence table
The number of people（People）	132	67	31	p-value（Prob＞|Z|）	Two-sided p-value	
Potential reasons for quitting in the future（People；%）						
Low salary	69（52.3）	27（40.3）	12（38.7）	0.0817 ※※	0.1777	
Due to marriage or raising children	37（28.0）	14（20.9）	2（6.5）	0.0118 ※	0.0246 ※	Fig.2-1
Family circumstances	25（18.9）	21（31.3）	6（19.4）	0.4438	0.1323	
Carrer advancement	34（25.8）	15（22.4）	11（35.5）	0.5319	0.3889	
No understanding of the research activities	6（4.6）	4（6.0）	5（16.1）	0.0421 ※	0.0720 ※※	Fig.2-2
Weak relationship with the hospital manager	13（9.9）	3（4.5）	6（19.4）	0.4372	0.0737 ※※	Fig.2-3
Health reasons	19（14.4）	18（26.9）	4（12.9）	0.4745	0.0867 ※※	Fig.2-4
Poor hierarchical relationships	26（19.7）	14（20.9）	0（0.0）	0.0521 ※※	0.0074 ※	Fig.2-5
Dissatisfaction with assessments or personnel system	31（23.5）	14（20.9）	13（41.9）	0.1393	0.0768 ※※	Fig.2-6
Much overtime work	28（21.2）	17（25.4）	5（16.1）	0.8262	0.6014	
Cannot acquire paid leave	31（23.5）	17（25.4）	10（32.3）	0.3992	0.5884	
Few holidays	30（22.7）	15（22.4）	3（9.7）	0.2151	0.2789	
Do not match the policy of the hospital	12（9.1）	6（9.0）	7（22.6）	0.1039	0.1087	
One's skill, ability is not made use of	19（14.4）	9（13.4）	7（22.6）	0.4447	0.4606	
Do not accepted for medical team	11（8.3）	3（4.5）	2（6.5）	0.5921	0.5740	
Cannot engage in hope duties	14（10.6）	4（6.0）	2（6.5）	0.3351	0.5722	
Cannot have a pride	17（12.9）	6（9.0）	4（12.9）	0.7796	0.7685	
The education system is not maintained	27（20.5）	9（13.4）	6（19.4）	0.5581	0.4964	
Commuting is inconvenient	15（11.4）	2（17.9）	4（12.9）	0.5036	0.4259	
For entrance into a school of higher grade	0（0.0）	2（17.9）	1（3.2）	0.0827 ※※	0.1067	

※p-value＜0.05
※※p-value＜0.1

positions, whereas the most frequent answer by females was a low salary for general positions and leadership positions. However, males in leadership positions most frequently answered family circumstances as their reason for quitting, while females in management positions most frequently gave getting paid time off and working at their desired job as their reasons. The higher the position, the more the respondents cited not understanding research activities as a reason for quitting, whereas those in more general positions cited reasons related to marriage and raising children. Significant relations were acknowledged for both these factors. Figure 2 shows the possible potential reasons for quitting in the future, by using graphs. The graphs were classified into the following six shapes: the graph falling to the right reflects the reasons of those in more general positions, namely, raising children and marriage (Figure 2-1); the graph rising to the right reflects the reasons of those in management positions, namely, no understanding of research activities (Figure 2-2); the valley-shaped graph depicts the reasons of a few of those in leadership roles, namely, poor relations with hospital management(Figure 2-3); the peak-shaped graph depicts the reasons of many in leadership positions who cited health concerns (Figure 2-4); the descending management graph depicts poor hierarchal relations where management did not choose this reason (Figure 2-5); and the ascending management graph depicted dissatisfaction with assessments or the personnel system (Figure 2-6).

In addition, the three groups with regards to the relation between their occupational awareness concerning their current employers and official work positions according to whether they had had a job transfer were compared. There was a significant difference observed for the change in the image of the workplace after starting work between those in management and general positions who had never had a job transfer ($p < 0.05$); the respondents in management positions responded that their image of the workplace had improved after starting work (Figure 3-3). There was also a significant difference observed for a sense of growth between those in general positions and those in leadership positions who had had job transfers in the past ($p < 0.05$); people in leadership positions felt a strong personal growth (Figure 3-4).

Discussion

The results of this study show that the possible potential reasons given for quitting in the future differed and depended on people's official positions. This suggests that managing a pharmacy department requires policies that are adapted to official job positions. It appears that the reason behind those in general positions citing marriage and raising children as potential reasons for quitting was that 74.7% of those in general positions were females in their 20s and 30s. The reason for the peak-shaped graph of health concerns was that pharmacists in leadership positions place central roles in business conducted in the institutions and also have many other tasks. Therefore, they seem to be mentally and physically exhausted. To prevent people from quitting for these reasons, it is essential to consider health management including managing mental health, utilizing a stress check system, and creating an employee-friendly work environment for everyone; this was based on the results of the data analysis for all of the groups[14].Moreover, studies on nurses who leave their jobs[15, 16] place importance on considering human relationships within the organization and the number of years of clinical experience. However, the descending management graph, which depicted poor hierarchal relations as a reason, suggests that those in management are unaware of the dissatisfaction of their subordinates. Therefore, it appears that people in management positions need to adopt a stance where they sincerely face their subordinates by consulting with them. The items that indicated the evaluation and human resource system as a reason for dissatisfaction had an ascending management graph. Based on the fact that 22.6% of the managers chose not to match the hospital policy, it seems possible that

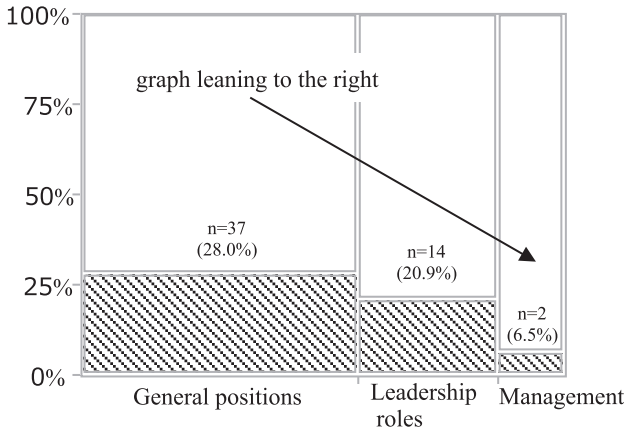


Fig.2-1　Due to marriage or raising children

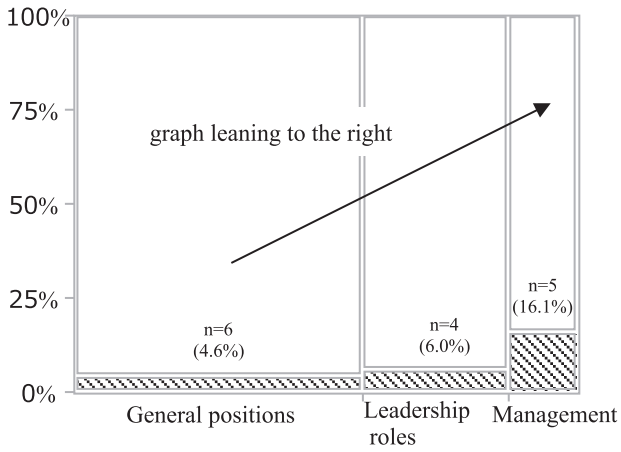


Fig. 2-2　No understanding of the research activities

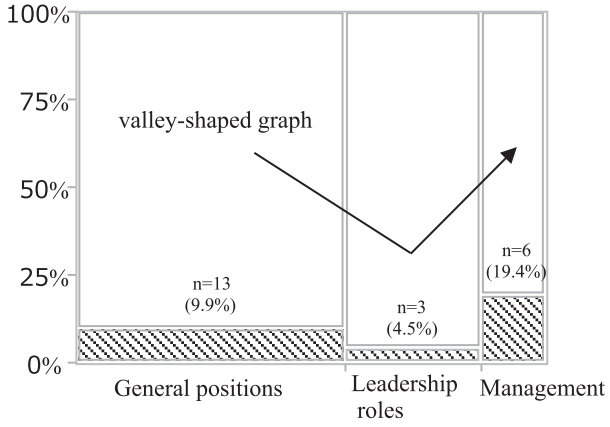


Fig. 2-3　Weak relationship with the hospital manager

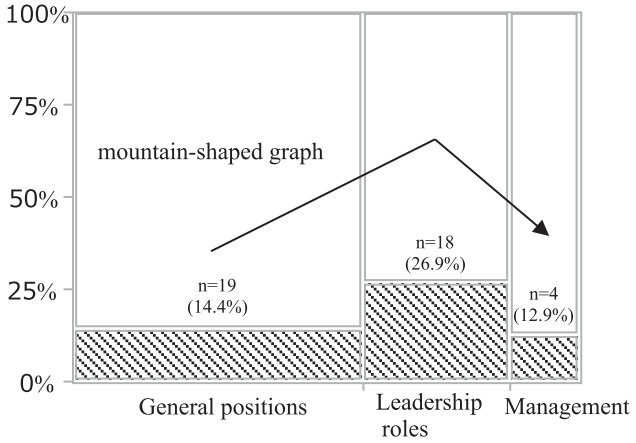


Fig. 2-4　Health reasons

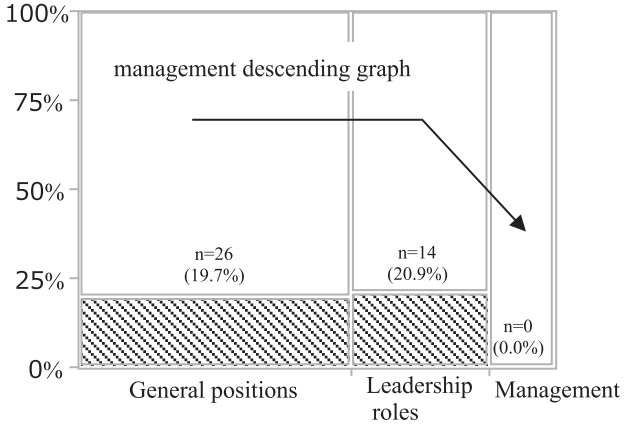


Fig. 2-5　Poor hierarchical relationships

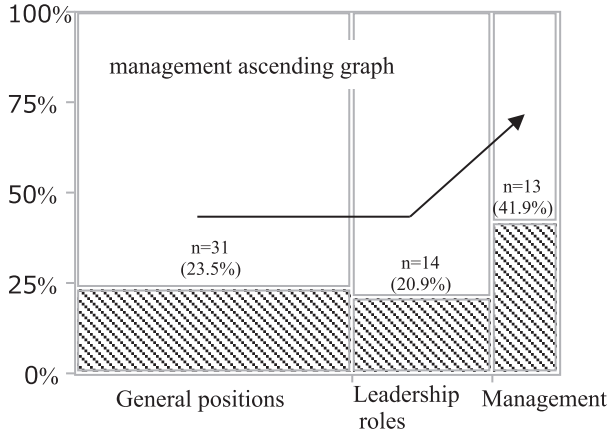


Fig. 2-6　Dissatisfaction with assessments or personnel system

Fig.2 Sorting the potential reasons for quitting in the future according to the shape of the graph

Table 2 shows the reasons why the Fisher exact test had p-values of <0.05 and <0.1. As the purpose was to look for trends for each job post, there are no significant differences included, but the p-values <0.1 are included.

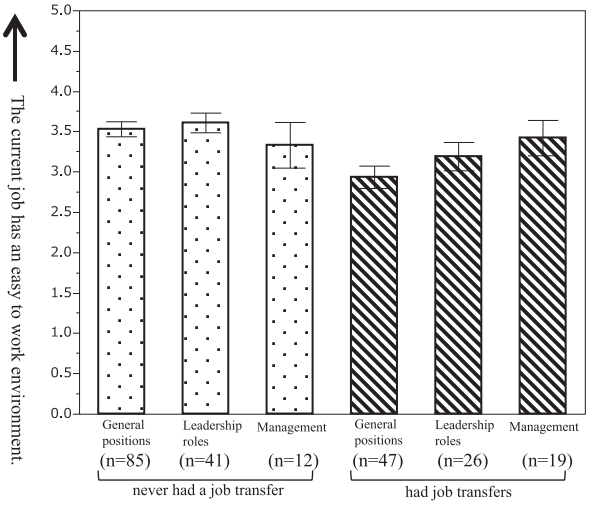


Fig.3-1　Does the current workplace have an easy to work environment?

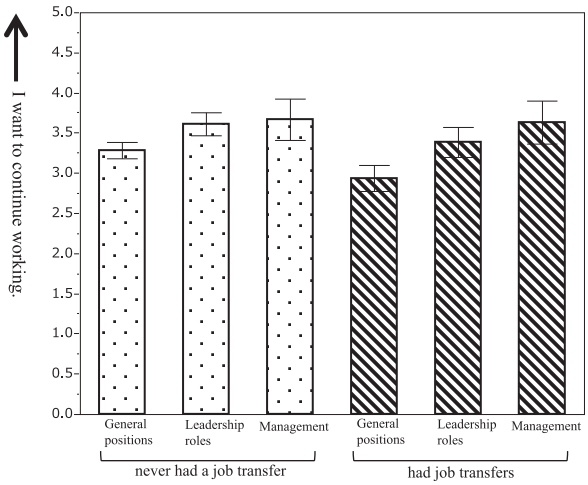


Fig.3-2　At this point in time, do you intend to continue working at this job?

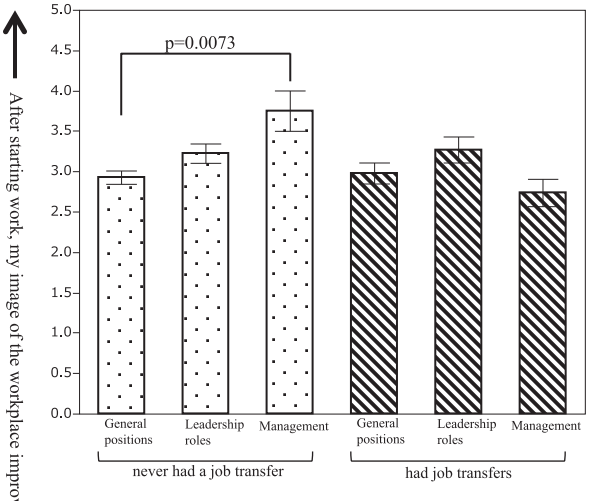


Fig.3-3　How did your image of the workplace change after starting work?

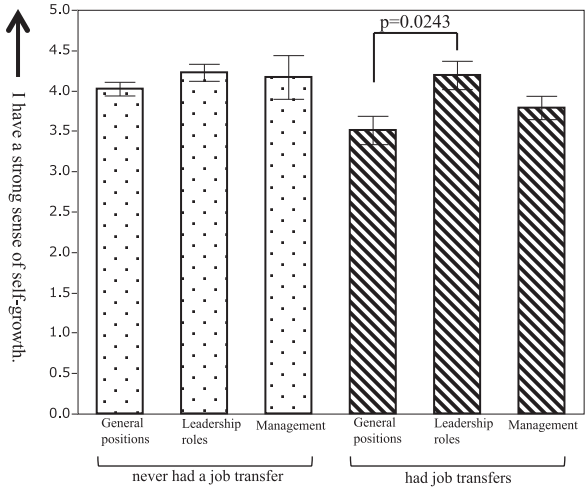


Fig.3-4　Do you feel that you are growing in your current workplace?

Fig.3 Relationship between attachment with current post and occupational awareness about current place of employment (analyzed by groups based on whether or not respondents had transferred jobs)

Results of an analysis based on the relation between occupational awareness and job post (general position, leadership role, management) and the job transfer groups (had transferred jobs or not). The larger numbers on the vertical axis indicate the more positive assessment.

there is dissatisfaction with the hospital management who evaluate people in management positions. Furthermore, the work satisfaction of ward pharmacists is ascertained through a comparison with other people[11], and regarding the dissatisfaction about salaries, which was most often selected, there are currently some facilities where salaries are based on qualifications[3]. However, one potentially useful solution to remedying the dissatisfaction about salaries would be to evaluate certification qualifications.

The analysis conducted on the history of job transfers showed a change in the occupational awareness of the workplace; people in management who had never had a job transfer gave high assessments of the image of the workplace after starting work. It appears that this resulted from their jobs being changed from

on-site duties to labor management and consequently, the improvement in their occupational awareness. Furthermore, people in leadership roles who had had job transfers in the past gave strong positive assessments about feeling personal growth, and they strongly felt a sense of personal growth. Based on studies conducted on the job transfers of hospital pharmacists[17], it could possibly be the case that they obtained a job transfer with the intention of gaining credentials like specializations or certifications. Furthermore, there is a need for leadership that utilizes goal management to provide a sense of achievement for those in general positions[18].

This study is limited to pharmacists belonging to the Kanagawa Prefecture Hospital Pharmacist Association. In addition, the gender ratio of the Kanagawa Prefecture Hospital Pharmacist Association is 40.2% male to 59.8% female. This gender ratio was approximately the same as the gender ratio of the respondents to this questionnaire. In addition, the same trends observed for these pharmacists were observed for those across Japan with regard to the age distribution of people in their 20s and 40s (Table 3). Thus, these results may reflect the opinions of hospital pharmacists across Japan. However, this study was a cross-sectional study and did not consider the timing of job transfers; therefore, the results could be different depending on the timing of a job transfer.

It is also essential to continue the studies so as to prevent hospital pharmacists from quitting and to help them improve their job satisfaction by creating a work environment where it is easier for them to work. This study explored the factors for dissatisfaction by focusing on official work position, and thus, future research should clarify the factors that are associated with improved job satisfaction and undertake an investigation that could result in improved occupational awareness. Finally, to obtain standardized data about hospital pharmacists, it would be good to revise the questionnaire on the basis of the present results and use this revised survey for a nationwide study.

Conflicts of interest

There are no conflicts of interests to be declared regarding the present study.

Table3 Number and percentage of pharmacists working at the hospital according to age group
Excerpts from the 2014 doctor, dentist, and pharmacist survey

	Japan	Kanagawa	The present survey
Overall（People）	48980	2878	230
20s（People；%）	11895（24.3）	740（25.7）	56（24.3）
30s（People；%）	14758（30.1）	968（33.6）	83（36.1）
40s（People；%）	10005（20.4）	597（20.7）	65（28.3）
50s（People；%）	8427（17.2）	402（14.0）	22（9.6）
60s or older（People；%）	3895（8.0）	171（5.9）	4（1.7）

REFERENCES

1）Ministry of Health, Labour and Welfare: 〈http://www.mhlw.go.jp/shingi/2010/05/dl/s0512-6h.pdf〉, cited 12 July, 2012
2）Ministry of Health, Labour and Welfare: 〈http://www.mhlw.go.jp/toukei/saikin/hw/ishi/14/dl/gaikyo.pdf〉, cited17 December, 2015
3）The Japanese Society of Hospital Pharmacists, General Affairs Department : Activity report of "Current status survey of hospital pharmacy department" in fiscal year 2016. Journal of Japanese Society of Hospital Pharmacists,

Vol.53, No.7, 751-819 (2017).
4）Nakamura E, Shimizu R, Ozaki F: Hospital Staff's Job Satisfaction and the Effecting Factors. Journal of Niigata Seiryo Academic Society, Vol.4, No.3, 83-92(2012).
5）Inoue M: Differense in consciousness of the hospital personnel by the penetrance such as the philosophy of the hospital. The Journal of Japan Society for Health Care Management, Vol.14, No.3, 133-137(2013).
6）Miyazaki S: EMPIRICAL ANALYSIS OF WORK CONSCIOUSNESS IN JAPANESE FEMALE NURSES. Journal of the Japan Society for Healthcare Administration, 147-157(2012).
7）Isse T, Nakamura H, Hachisuka K: Turnover of Full-time Occupational Physicians in Japan in the Period 2002-2008: A Component Model Survey. Journal of Occupational Health, 54(5): 174-183(2012).
8）Sasaki Y, Uchino E, Shizuokaken Rigakuryohoshikai Gakujutsushi, 20, 26-33 (2010).
9）Oshima N, Otsuki K, Sugiyama S, Izawa K, Sakai Y, Aikawa K: Lifestyle Change and Continuation of Employment: Different Viewpoints on This Issue. Journal of the Japanese Physical Therapy Association, Vol.41, No.8, 516-522(2014).
10）Fujimura K:. The Kagawa University Economic Review, Vol.69, No.4, 51-126(1997).
11）Ueki T, Hashiguchi Y, Muramoto M, Takemoto S, Kanazawa Y, Yamazawa R, Asahara T, Mizoguchi G, Kawasaki M, Oda K, Nakashima M, Kido H, Nakashima M: Multicenter Questionnaire Study on Job Satisfaction in Japanese Hospital Pharmacists. Japanese Journal of Pharmaceutical Health Care and Sciences, Vol.42, No.4, 255-264(2016).
12）Inaba R, Hioki A, Kondo Y, Nakamura H, Nakamura M: Study on the Work-related Stress among Hospital Pharmacists. Japanese Journal of Occupational Medicine and Traumatology, Vol.62, No.5, 322-327(2014).
13）Survey on Employment Trends, 2015: 〈http://www.mhlw.go.jp/toukei/itiran/roudou/koyou/doukou/16-2/dl/gaikyou.pdf〉, cited 24 Augest, 2016
14）Yamashita T: Statistical Viewpoints on the Group Analysis of the Stress Check Program. Journal of Occupational Health, 59(2): 63-66 (2017).
15）Okuda R, Hatakeyama K, Fukada M, Awano Y, Sasaki S, Okamoto M: Factors Associated with Nurses' Intentions to Continue Working in A Prefecture. The Journal of the Yonago Medical Association, Vol.65, 137-145(2014).
16）Nohmi K, Mizuno M, Ozawa M: How Factors Relating to Affective Commitment to Organization Vary Depending on the Years of Nursing Experience. Journal of Japan Academy of Nursing Science, Vol.30, No.3, 51-60(2010).
17）Koinuma M, Nakamura H: Exploring the reality of switching jobs among hospital pharmacists and trends amongst those having experienced employment changes. The Journal of Japan Society for Health Care Management, Vol.14, No.1, 14-19(2013).
18）Onda M, Yamakado K: Job satisfaction and its determinants in hospital: An analysis focusing on the relation to management style. The Journal of Japan Society for Health Care Management, Vol.6, No.3, 531-537(2005).