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Mapping of Community Pharmacy Practices in Medan City Indonesia

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A B S T R A C T

Pharmaceutical practice standards are benchmarks used, especially pharmacists in carrying out pharmaceutical services. But this pharmaceutical practice has not been carried out by community pharmacy pharmacists. Pharmaceutical services are very dependent on the application of established practice standards. Therefore, revitalization efforts need to be made to meet the criteria of pharmaceutical practice in accordance with the applicable standards. This study aims to ensure that community pharmacy practice in Medan city and coaching efforts to restore pharmaceutical practices are in accordance with predetermined standards. This is a cross sectional descriptive research, using quistionnaires in Juni – September 2020. The research sample 105 pharmacist in community pharmacy taken by cluster random sampling. The results showed that the community pharmacy practice has not been running according to standards. The percentage of pharmacies with accreditation A was 67.6%, accredited B 21.0%, accredited C was 9.5%, and not accredited was 1.9%.While the percentage of very good category of pharmaceutical practice was only 20%, good category was 48%, just 21%, 9% less, and sub-standard criteria of 2%.Several factors play a role in determining the value of accreditation and pharmaceutical practice criteria after being statistically tested, namely the presence or absence of other jobs from pharmacists, pharmacy status, pharmacist's presence, and year of graduation from the pharmacist, with a significance <0.05.Based on the explanation can be concluded that the practice community pharmacy in the city of Medan has not met the established pharmaceutical standards.

Keywords: Pharmaceutical service standards, Accreditation, Pharmaceutical service criteria

INTRODUCTION

Indonesia through the collaboration between the Indonesian Ministry of Health and the professional organization of the Indonesian Pharmacists Association (IAI), initiated the preparation of a Standard for Pharmaceutical Services in Pharmacies, which among other things aims to provide practical guidelines for pharmacists in carrying out their profession, and to protect the public from unprofessional pharmaceutical services[1].

Pharmaceutical Service Standards at Pharmacy include Resource Management, Services, and Service Quality Evaluation.In fact, the problem of community pharmacy practice in Indonesia cannot be resolved just by issuing various regulations. Research on the profile of pharmacy services in pharmacies after 5 years of determined

Pharmacy Service Standards, concluded that pharmacy services in pharmacies were still carried out in previous years. Hard drugs are still managed as an economic commodity that seems to be without risk to the user, they are sold without a doctor's prescription and are used by anyone[2].

In carrying out the practice of pharmacy, professionalism from a pharmacist is needed. Without the presence of a pharmacist, pharmaceutical services cannot run well. Previous research on the presence of pharmacists in 68 pharmacies in the city of Medan showed that 52.9% were absent every day, 26.5% attended every day at certain hours, and 20.6% attended every pharmacy opening hours3. Another study conducted several years later on the presence of pharmacists in 52 pharmacies in Medan city showed that

40.4% attended once a month, 15.4% attended once a week, 13.5% attended 2 to 4 times a week, 21.1% attend every day at certain hours, and 9.6% attend every pharmacy opening hours4. So in this study will be re-evaluated about the application of pharmaceutical standards in Medan city pharmacy and the factors that influence it. This study will determine the accreditation of pharmaceutical activities in pharmacies and service criteria at pharmacies through an assessment of five aspects of pharmaceutical standards using a questionnaire to pharmacists.

METHODS

Research Preparation

This research was conducted in the form of non-experimental, cross-sectional descriptive. Respondents in this study were pharmacists who have experience as community pharmacists in the city of Medan, whose participation is voluntary, without a name identity. Researchers sent questionnaires via google form to respondents via email and whatsapp. The questionnaire and rubric were adopted from previous research based on 5 standard aspects consisting of 40 elements.After the data is inputted into the model for determining the practice category, 4 types of pharmaceutical practice accreditation will be generated, namely, A accreditation, B accreditation, C accreditation, and not accredited, as well as 7 types of community pharmacy practice criteria categories, namely, very good, good, enough, less, substandard, inappropriate, and very improper[5].

Research Samples

The sample in this study were pharmacists who were actively practicing at the pharmacy. The minimum number of respondents required is calculated using the Slovin formula calculation method6 with an error limit of 10%, and a confidence level of 90%.

$$n = N / (1 + Ne2)$$

Determination of Pharmaceuticals Practice Acreditation

Pharmaceutical practice accreditation was determined based on the value of the total cumulative points obtained when filling in 40 elements from 5 aspects, namely aspects of professionalism, managerial aspects, aspects of dispensing, aspects of pharmaceutical care, and aspects of public health services. Each tested element is given a maximum value of 4 and the lowest value of 0. The points obtained are processed using Microsoft Excel and mapped to obtain the accreditation criteria of each respondent. The accreditation criteria are A, points $\geq$ 130; B, points $\geq$ 110 to < 130; C, points $\geq$ 80 to < 110; and unacridden, points < 80.

Determination of Pharmaceuticals Practice Criteria

The criteria for pharmaceutical practice are determined based on the average points obtained when filling out 40 elements from 5 aspects, namely professionalism, managerial, dispensing, pharmaceutical care, and public health services. Data inputted into the model for determining the category of practice will result in 7 types of categories, namely, very good, good, adequate, lacking, substandard, not feasible, and very inappropriate7. The criteria for pharmaceutical practice are in accordance with the category, namely very good, points $\geq$ 3.75; good, points $\geq$ 3.25 to <3.75; sufficient, points $\geq$ 2.75 to <3.25; less, points $\geq$ 2 to <2.75; substandard, points $\geq$ 1.5 to <2; not feasible, points $\geq$ 1 to <1.5; and very unworthy, points <1.

Data Analysis

Data were processed using the Microsoft Excel 2013 program and analyzed using the Statistical Package for Social Sciences (SPSS 22) program. The mean and standard deviation for each standard element are calculated and presented in tables and diagrams. The effect of respondent characteristics on their opinion about standard practice was analyzed using the Mann-Whitney U test and Kruskal Wallis test[8], with a significance level of 0.05 and 0.1[9].

RESULTS

Responden Characteristic

The sample according to the inclusion character is 105. This has exceeded the minimum sample size determined using the Slovin formula, namely 83.3. The long time needed in the sample search is due to the few and the length of time the respondents responded well in filling out the questionnaire. The characteristics of the respondents can be seen in Table 1.

Table: 1 Respondent characteristic

Gender	*Amount*	*Percentage (%)*
Male	19	18.1
Female	86	81.9
Status University	*Amount*	*Percentage (%)*
USU	92	87.6
Non USU	13	12.4
Other Work	*Amount*	*Percentage (%)*
Work elsewhere	61	53.3%
Does not work	44	46.7%
Pharmacy Status	*Amount*	*Percentage (%)*
BUMN	12	13%
Private componies	8	11%
Other	80	76%
Frequency of Attendance	*Amount*	*Percentage (%)*
1 time a month	13	13%
1 time a weak	16	15%
2-4 time a weak	25	24%
Every day at certain hours	16	15%
As long as the pharmacy is open	35	33%

Community Pharmacy Business Profile in Medan City

The pharmacy is a business, where in order to survive serving patients, it is very dependent on product sales[10]. Pharmacy business performance data includes the ability of pharmacies to provide monthly rewards to pharmacists and pharmacy turnover per day. Distribution of monthly benefits and turnover of pharmacies per day can be seen in Table 2.

Table: 2 Distribution of pharmacy business profiles in Medan City

Turnover	Amount	Percentage (%)
< Rp. 5.000.000	54	51.4%
> Rp. 5.000.000	51	48.6%
Pharmacist salary	**Amount**	**Percentage (%)**
< Rp.2.000.000	46	43,8%
> Rp2.000.000 s/d Rp. 3.000.000	24	22,9%
> Rp. 3.000.000 s/d Rp. 5.000.000	19	18,1%
> Rp. 5.000.000	16	15,2%
Owner	**Amount**	**Percentage (%)**
Pharmacist	19	18.1%
Non Phamacist	86	81.9%

Mapping of Community Pharmacy Practice in Medan City

Mapping of community pharmacy practice in Medan is determined based on community pharmacy practice standards with cumulative point categories for pharmacy accreditation and the value of each element for service standard categories. The assessed service standard aspect consists of 40 standard elements, or the average points of each of the 5 standard aspects, namely the professionalism aspect consisting of 12 standard elements, the managerial aspect 12 standard elements, the dispensing aspect consisting of 6 standard elements, the pharmaceutical care aspect consisting of 8 standard elements, and aspects of pharmaceutical service activities consist of 8 standard elements. The average pharmacy accreditation in Medan can be seen in Table 3.

Table: 3 The average pharmacy accreditation in Medan City

Accreditation	Percentage (%)
A	67.6%
B	21.0%
C	9.50%
Not Accreditation	1.90%

Description: The accreditation criteria are A, points $\geq$ 130; B, points $\geq$ 110 to <130; C, points $\geq$ 80 to <110; and Not Accreditation, points <80.

The elements of standard practice are not only useful in determining the accreditation of respondents. This element is also used to determine criteria for community pharmacy practice. Based on the values in the standard elements, it can be analyzed whether the practice criteria are in accordance with the maximum value of each aspect. The aspects tested are professional aspects, managerial aspects, dispensing aspects, aspects of pharmaceutical care, and aspects of public health services. The distribution of community pharmacy practice criteria average can be seen in Figure 1.
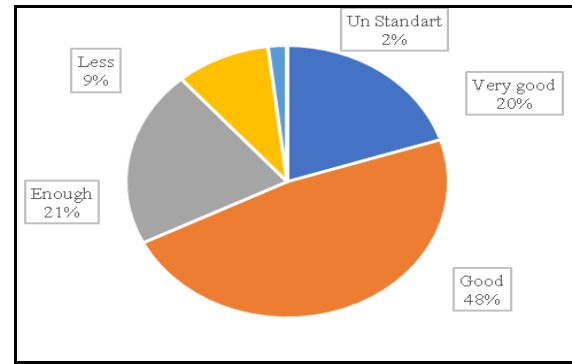

Figure: 1 Distribution of community pharmacy practice criteria in Medan city

Relationship Level of Compliance with Community Pharmacy Practice Standards with Respondent Characteristics

Respondent criteria can affect compliance with community pharmacy practice standards. The effect of response criteria on community pharmacy practice standards will be statistically tested using the Mann Whitney or Kruskal Wallis test of the SPSS 22 program. The results of statistical tests on the effect of respondent characteristics on community pharmacy practice can be seen in Table 4.

Table: 4 The p value is the result of the statistical analysis of the respondents' characteristics of community pharmacy practice

Statistic test			
Mann Whitney Test		**Kruskall Wallis Test**	
Characteristic	**P Value**	**Characterisistic**	**P Value**
Gender	0.14	Pharmacist salary	0.14
Other Job	0.00*		
Turnover	0.13		
Owner	0.12	Graduation year	0.03*
Attendance of pharmacist	0.02*		
Pharmacy status	0.01*		
University status	0.27		

Description: *There is an effect of respondent characteristics on community pharmacy practice, p <0.05

DISCUSSION

The total number of respondents sampled in this study were 105 pharmacists. This achieved the target that had been made based on the calculation of the research sample using the Slovin formula, which was 83.3 samples. Referring to Table 1 that women became respondents who filled out more questionnaires than men with the respective percentages of 81.9% and 18.1%. The pharmacist as a respondent turned out to also have other jobs such as civil servants and noncivil servants with a percentage of 13.3% and 40.0% respectively, although some respondents focused on working at the pharmacy with a percentage of 46.7%. The respondens mostly graduates from Universitas Sumatera Utara with a percentage of 87.6%. Its normally because this survey was conducted in Medan city, Province of North Sumatera.

Pharmacists who work as Responsible Pharmacists at the pharmacy who are respondents receive monthly salaries with varying amounts. 43.8% of pharmacists still receive rewards <Rp. 2,000,000, -. This is of course very sad if a review of the Medan City Minimum Wage (UMK) in 2020

is Rp. 3,222,556[10]. Then 22.9% of respondents still received a wage of Rp. 2,000,000 to Rp. 3,000,000, 18.1% of respondents received Rp. 3,000,000 to Rp. 5,000,000 and rewards > Rp. 5,000,000 at 15.2%, considered to be in accordance with the pharmacist's wages compiled by Pharmacist Organization.

Referring to Table 3, the accreditation category is divided into 4. The first category is accreditation A with the percentage of pharmacies that fall into this category of 67.6%. The second category was accredited B by 21.0%, pharmacies with category C accreditation were 9.5%, and pharmacies not accredited by 1.9%. Pharmacy accreditation is obtained from the cumulative total points of each respondent after filling out a questionnaire consisting of 40 elements, where each element has a maximum value of 4 and the smallest value of 0.

These points are also used to define other parameters. Referring to Figure 1, criteria for community pharmacy practice in Medan city from 105 pharmacies still vary. As much as 48% of the criteria for community pharmacy practice have been going well, of course this criterion must be improved to be very good. While the criteria are very good alone by 20%. Furthermore, the criteria for enough is 21%, 9% in the poor category, and pharmacies with substandard criteria are 2%. The criteria for pharmaceutical practice depend on the average points of the standard aspects tested, namely professionalism, managerial, dispensing, pharmaceutical care, and public health services. Managerial aspect is the smallest aspect of the average score. Managerial aspect is an aspect that has an important role in the pharmacy organization. This aspect is related to the activities of ordering, receiving, storing, managing, and destroying pharmaceutical preparations. Even the arrangement of remuneration for pharmacists is also part of the managerial aspect[11].

Based on statistical analysis carried out on several factors with the criteria of pharmaceutical practice, it is obtained category gender, pharmacy ownership, university origin, pharmacy turnover, the amount of reward does not affect community pharmacy practice when tested with statistics, where the significance value of each category above is 0.14; 0.12; 0.27; 0.13; and 0.14 where the value is > 0.05. While other categories tested such as the presence or absence of other jobs, the presence of pharmacists, year of graduation of pharmacists, and pharmacy status were stated to statistically affect community pharmacy practice with significance value of 0.0 respectively; 0.02; 0.03; and 0.01 where the value is < 0.05. In this statistical test, two methods were used namely the Mann Whitney and Kruskal

Wallis tests. The parameters of the amount of pharmacist pay per month and year of graduation of pharmacists are parameters tested using the Kruskal Wallis test, while the presence or absence of other jobs, pharmacy status, gender, pharmacist attendance, turnover, from university were tested using the Mann Whitney test[12].

CONCLUSION

The accreditation of pharmacies in the city of Medan is not in accordance with the standard regulations for pharmaceutical practice in pharmacies because there are still pharmacies that are not accredited and so are the criteria for pharmaceutical practice. Many factors are involved in determining these parameters, one of which is the presence of a pharmacist.

ACKNOWLEDGEMENTS

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