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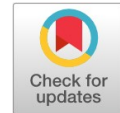


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THE FORMING OF STANDARD OPERATING PROCEDURES FOR NON-PRESCRIPTION DRUGS SERVICE IN APOTEK KELUARGA BEKASI

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Abstract. The identification of problems at Apotek Keluarga shows that there are some problems such as Standard Operating Procedures (SOPs), the volume of sales of nonprescription medications is 99%, there is no distinction in the manual recording of daily sales of cash and non-cash, room layout is not optimal, it does not yet support qualified IT program and the lack of human resources. This activity was conducted by using a continuous quality improvement model of Deming cycle; Plan-Do-Check-Act. Quality team FKM UI and pharmacy technician of Apotek Keluarga worked together to implement this project from October to mid-December 2015. The development of SOP is a quality improvement program that is most possible to be done quickly. SOP is the management information system that gives assurance that activities related to quality have been carried out appropriately according to the procedures that have been planned and approved and one of the indicators used to evaluate the quality of care. SOP made in this activity is related to the SOP service flow and the recording of non-cash sales. The trial results showed a difference between the SOP average of about two minutes between services following the SOP and which do not, and all non-cash transactions are well documented. SOP is considered effective for improving the processing time of service, providing clear guidelines for services measures, and providing a clear path so that the non-cash sales can also be well-documented. However, the team's quality improvement program must continue to be performed at regular intervals, so the Apotek Keluargaare advised to continue to monitor the implementation of the SOP on an ongoing basis and improve on other issues.

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INTRODUCTION

The Health Minister Regulation No. 35 of 2014 states that the pharmacy is a means of pharmacy services conducting a pharmaceutical practice by pharmacists who have standard pharmacy services as a benchmark that is used as a guideline for pharmacy workers in service delivery. The control in the pharmacy service is intended to improve the quality of pharmaceutical services, ensure legal certainty for pharmacy workers and to protect patients and the public from irrational medicine use in the context of patient safety [1].

Pharmaceutical services in pharmacies originally just focus on drug management as commodity into a comprehensive service that aims to improve the quality of life of patients. As a consequence of changes in the orientation, pharmacists are required to improve the knowledge, skills and behaviors in order to carry out direct interaction with patients. Forms of interaction include provision of information, monitoring the use of drugs to match expectations, and documenting well. Pharmacists must understand and be aware of the possible occurrence of medication errors in the process of service. Therefore, in practicing pharmacists must conform existing standards to

avoid these [2].

As one of the existing pharmacies responsible for the provision of pharmacy services to the surrounding community, Apotek Keluarga that has stood since June 2014 still has some weaknesses in the delivery of services to its customers such as there are no SOPs as a guideline to work, the volume of sales of nonprescription medications is 99%, there is no distinctive manual recording of daily sales of cash and non-cash, room layout is not optimal, it does not yet support qualified IT program and the lack of human resources. Since the opening, the management of Apotek Keluarga never made the SOPs and conducted the service based on the experience of the pharmacist and the situation within each customer that led to inconsistency of quality of pharmaceutical services performed in these pharmacies.

In every health care process variations always occur. The difference or variation is natural and will always occur in any process of service of health care, however, through the techniques of approach to the quality improvement, health workers can improve their knowledge and be able to control the variations that occur with the aim that these variations are

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always in control limits. Standards of health care can help reduce the variation by setting input, process and output of the health care system. Standard operating procedures (SOPs) is one form of the standard of service that will be a guide for health care providers, including pharmacists [3].

Objective of the Study

From the background above, the aim of this project is to arrange the SOP for the services in Apotek Keluarga in order to maintain and improve the quality of pharmacy services.

LITERATURE REVIEW

Standards of Pharmaceutical Services in Pharmacies

The state law number 36 year 2009 concerning health states that the practice of pharmacy includes manufacturing, including quality control of pharmaceutical preparations, security, procurement, storage and distribution of medicine, service medicines on doctor's prescriptions, information service medicine and the development of medicine, materials for medicine and traditional medicine should be done by health workers who have the expertise and authority under the law. Based on the authority in legislation, pharmaceutical services have undergone a change which was originally only focused on the management of medicine (drug-oriented) developed into a comprehensive range of services including clinical medicine and pharmacy services which aim to improve the quality of life of patients. Pharmaceutical services at pharmacies include two activities, they are the activities of managing managerial pharmaceutical preparations, medical devices, medical materials and consumable and clinical pharmacy services. These activities must be supported by human resources, facilities and infrastructure [1].

Evaluation of Quality of Service of Pharmaceutical

The evaluation of quality of service of pharmaceutical in pharmacy is carried out to ensure the managerial quality and the quality of clinical pharmacy service. In the managerial quality we use 4 quality evaluation methods, they are audit, review, survey and observation. Besides, we can evaluate the managerial quality from the indicators that used to evaluate the services such as zero defect for medication errors, the implementation of standard operating procedure (SOP), service time in doctors's prescription is between 15-30 minutes and the output condition's of the patients i.e. whether they recover from sick, improvement in health condition, prevention of diseases or hamper the progression of the disease [1].

Health Service Quality

[4] states that quality is fitness for the use defined by customers. Quality is doing the thing right, right away. And [4] itself stated that the quality of health services will be perceived by its customers if its delivery is felt to exceed expectations of service users. Assessment of service users addressed to service delivery, quality of service or the way of these services delivered to service users. National Academies Institute of Medicine (IOM) in [5] provides a definition of the quality of health care as the "degree to which health services for individuals and populations increase the probability of desired health outcomes and are consistent with current professional knowledge. Demings in [3] states that it is possible to save as much as 30% of an organization's operational expenses to solve the quality problems such as errors, complaints should be avoided, negligence, inefficient system, unskilled employee, and other problems. Kottler in [6] states that the quality of performance service is dependent on the ability of service providers who consistently fulfill the consumers's needs. It means that the good quality performance isn't based on the provider's perception but from the customers.

Standard Operating Procedure (SOP)

In the health care process, variations will occur in the implementation of activities from time to time which will produce the outputs that vary as well. Walter Shewhart was the first to distinguish two types of variation; special-cause of variation and common-cause of variation. Common-cause variation is an inherent part of every process. It is random and is due to regular, natural or ordinary causes. Special-cause variation is due to irregular or unnatural causes that are not inherent in a process. When special causes are present, a process will be "out of control" or unstable [7].

One of efforts to reduce process variation is to standardize. Standardization process includes the preparation, implementation, monitoring, control, and evaluation and revision of standards. We usually call standardization in the health care process with standard operating procedure (SOP) [8].

The existence of standards in health care will bring in benefit such as reducing process variation, as a requirement of the profession, and the basis for measuring quality. Enactment standards will also ensure the safety of patients and healthcare providers and officers. The reduction of variation in service will improve the consistency of health care, reduce patient morbidity and mortality, improve efficiency in service delivery, and easier for officers in the service [8].

National Standardization Committee in [9] says SOP is a standard provision on which technical specifications are made to obtain the maximum benefit and is approved by hand the parties with respect to these standards and in setting standards also considering the element of safety, health, technology, etc.

In addition, according to the ISO/IEC, the standard is defined as a document, which was formed according to a consensus/agreement and approved by the competent authority, which provides rules, guidelines or characteristics for activities/results, aimed at achieving optimum levels in a given context.

Quality Improvement

[8] explains that the quality improvement and performance of health services in Indonesia has started since 1986 with the implementation of quality control in hospitals and health centers as well as on other health services. This improvement continued with the introduction of total quality management in 1994, and performance management in 1996. There are two things that need to be monitored in a quality improvement effort, they are customer satisfaction and the health service standard.

According to [7], quality improvement begins by identifying an opportunity for improvement. This may come from listening to the voice of customer, for example, by conducting needs assesments, by collecting survey results, by observation or by listening to costumer complaints. The key to identifying an appropriate opportunity for improvements is to do so from the customer's view rather than from your own.

Deming's Cycle

Deming is best known as a pioneer of the quality management approach and for introducing statistical process control techniques for manufacturing to the Japanese, who used them with great success. He believed that a key source of production quality lies in having clearly defined, repeatable processes. As an effort to maintain the sustainable quality of health services, we need a continuous quality improvement. The method was developed by Edwards Deming in order to link the operation's process with the customer needs and focus all the parts resources

of a company (research, design, operation, and marketing) in an integrated and synergistic way to meet customer needs. Deming Cycle is a model of continuous improvement consisting of four main components in a sequence that plan (conduct consumer research and use in the service planning), do (conduct the service), check (check whether the service has been run according to plan) and act (implement the service with new standard that confirms).

METHODOLOGY

This research was conducted as part of the quality improvement program in Apotek Keluarga by the quality team of Public Health Faculty University Indonesia that together with the staff of Apotek Keluargausung implemented the method of Deming Cycle through the approach of Plan-Do-Check-Act (PDCA) during mid October December 2015.

In "Planning stage" we conducted the situation analysis of Apotek Keluarga, collecting data about achievements that had been done and the incongruity that had happened along the way. Hopefully by collecting data and identification of the problem we can gain some alternative solutions. The activities that we conducted are collecting data, observation in pharmacy services and in-depth interviews with staff to find problems and get some possible solutions that can be taken for dealing with the problem.

In "Do stage" we did the trial of the solution that had been chosen and planned.

In "Check stage" we measured and evaluated the trial result to give the corrective action plan for the obstacle that we found.

In "Act stage" based on the results of the check stage, we can implement the corrective action plan to be a new standard in the improvement of quality process.

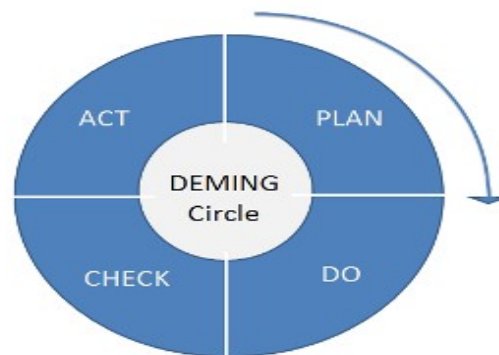


Fig. 1. The behavior intention of informants

DATA ANALYSIS

From the observations that we made, it was shown that some problems that Apotek Keluarga had are:

- The location is right around the corner and a little further into that is not directly visible to consumers who need the service.
- The drugs' displays are too wide so it seemed the room is too empty.
- The sales volume of OTC drugs is much greater than sales of prescription drugs so it is considered the function of the pharmacy not having optimal space.
- There is no fixed schedule doctor while the room is available.
- IT Program is very simple that does not meet the requirements for reports and analysis.
- There was no sufficient record for the expired drugs.
- The daily sales report for the non cash sales using EDC mechine was incomplete. The EDC machine was not connected to the IT program.

- The error in data input purchasing new goods often hap-pened because each staff has different way to input the data.
- There are no SOP books as the guideline to work.

In October 2015 a meeting was held between the quality teams and the staff in Apotek Keluarga. Through brainstorming and SWOT analysis we identified the expectations of stakeholders, they are:

- a. Having SOPs
- b. Increasing the prescription drugs' sales volume
- c. Improving the layout
- d. Improving the IT program
- e. Recruitment of the new staff

To identify the customer satisfaction we ran a survey using questionnaires for 1 week to 30 respondents chosen randomly, using Likert scale 1-3 (unsatisfied, neutral, satisfied). The percentage level of customer satisfaction based on dimen-sion is shown in table below:

TABLE 1
THE CUSTOMER SATISFACTION OF APOTEK KELUARGA BASED ON DIMENSION

No	Dimension	Satisfaction Average	Dissatisfaction Average
1	The appearence of Apotek Keluarga	43.33%	29.33%
2	Hospitality	67.78%	20%
3	Drug information service	56.67%	23.33%
4	The availability of drugs	56,67%	23.33%
5	The rapidity of service	63.33%	23.33%

We collected the data of sales volume for the last 6 months and we can see that Apotek Keluarga sold more non-prescription drugs (OTC) than the prescription drugs. Based on

the [11], delivering the OTC drugs is not appropriate with the function of pharmacy, but the drug store.

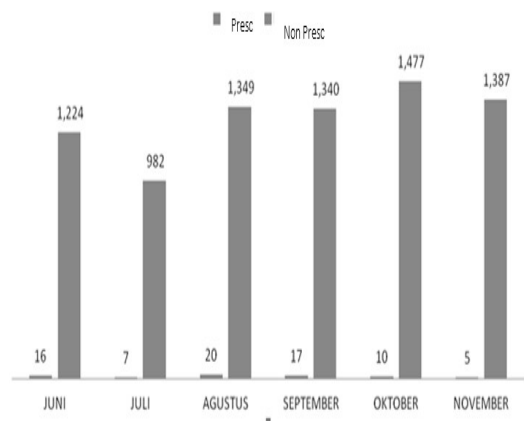


Fig. 2. Sales volume of Apotek Keluarga

Team observed the time of service process for the non-prescription drugs to 30 random customers, and we got the longest time of 450 seconds (7 minutes 30 seconds) and the shortest was 30 seconds. We observed that the wide variation for time service depends on the customer needs. And we also observed that the service pattern is not identical for each cus-

tomers, some patients who already knew what medication they need will directly mention the name of the drugs, but for those who didn't know what drugs they need will ask for help from the staff for choosing their medication related to their sickness.

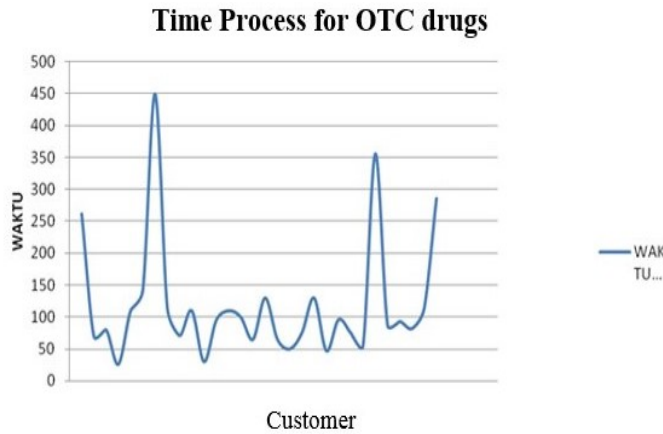


Fig. 3. Time process for OTC drugs

In order to find the root cause of the problem in Apotek Keluarga we concluded all the problems that we found

in a fish bone diagram shown below:

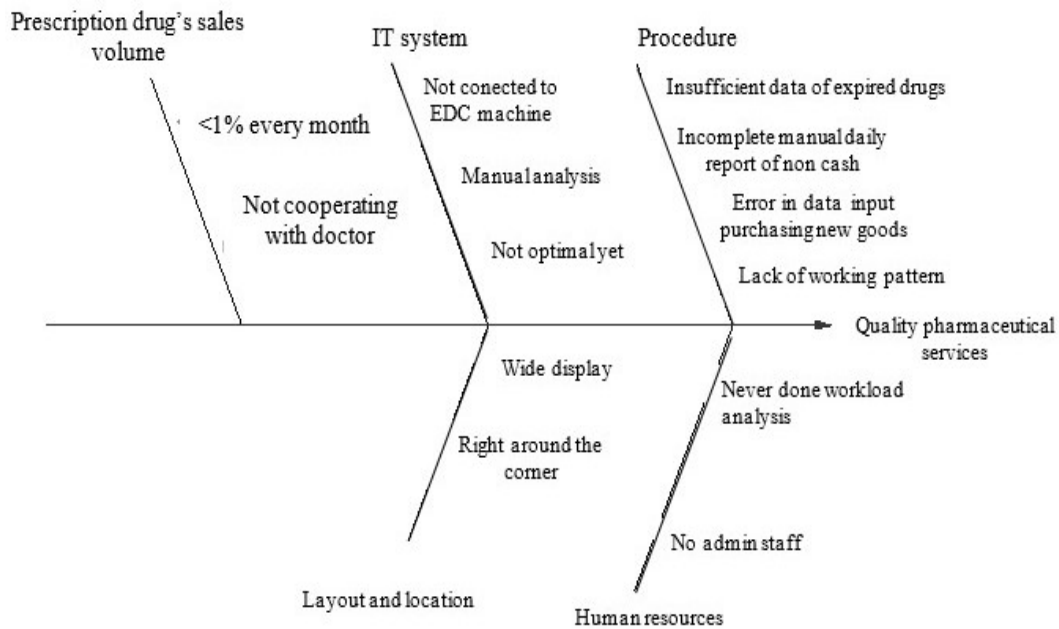


Fig. 4. Fishbone diagram of quality pharmaceutical services in Apotek Keluarga

From data that we collected above we tried to focus on improvement opportunity based on the problem that we found. We found the priority through Pareto Diagram from the

customer satisfaction survey and Delbeq scoring of stake holder expectations that we had noticed before.

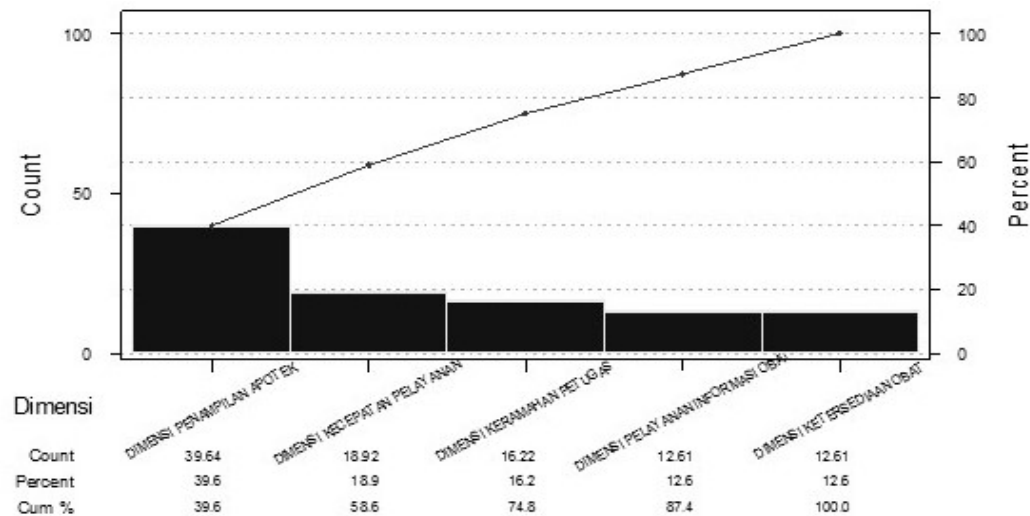


Fig. 5. Pareto chart of customer dissatisfaction survey

From the pareto chart above we found that the 80% of problem in Apotek Keluarga came from the layout, the rapidity of service, the hospitality and drug information service. The rapidity of service and drug information service are connected to the absenteeism of SPO that will be used as a guide to work for all staff in all conditions.

The stake holder expectation was ranked by the staff to find the priority of the problem to be solved in order based on the magnitude, criticalness, cost, team control and ease. The scoring was made by the staff of Apotek Keluarga not by the

quality team because the one who knows all about the condition of Apotek Keluarga are the staff members. Nevertheless by making the scoring together all the staff can understand what the urgent problem was to find the solution in short time and hopefully can create a shared commitment of the staff for quality improvement program of Apotek Keluarga and from Delbeq method we can conclude that the priority problem that will be handled by the quality improvement team in Apotek Keluarga is about the service procedure (SOP).

TABLE 2
DELBEQ METHOD IN DETERMINING THE PRIORITY ISSUE AT APOTEK KELUARGA

NO	Magnitude	Criteria and rating				Scoring	Priority	
		Criticalness	Cost	Team control	Ease			
1	Layout	7	7	6	2	8	30	III
2	Prescription volume	9	8	9	4	8	38	II
3	IT program	6	6	7	2	7	28	IV
4	Service procedure (SOP)	8	9	8	6	9	40	I
5	Additional staff	7	6	6	0	6	25	V

Based on all the data and analysis that we got before the quality improvement program in Apotek Keluarga that was possible to be carried out in short time is making the SOP and flow chart for non-prescription drugs. The team involved all staff in Apotek Keluarga through brain storming to make the efficient SOP and flow chart with minimum budget to be placed in strategic spot so that it is easy to see and to be read by all the staff of Apotek Keluarga.

After mapping out a trial run, the flow chart and SOP

for non-prescription drugs is ready to be implemented in daily activities of Apotek Keluarga. We did the trial through observation for 6 days in 30 random customers using check sheet and log time process. We observed whether the procedure that is carried out fits in the order stages of SOP, the length of time used and the problem occurred. And the result of the trial run is shown in table below:

TABLE 3
TRIAL RUN OF SOP AND FLOW CHART OF NON-PRESCRIPTION DRUG OF APOTEK KELUARGA

	Not Appropriate SOP	Appropriate SOP
Number of customers	16 (53.33%)	14 (46.67%)
Average time services	200 seconds (3'20")	111 seconds (1'51")
Longest time services	8 minute 47 seconds	3 minutes 33 seconds
Shortest time services	45 seconds	49 seconds

Implementation of SOP nonprescription drugs can provide clear service step stages for pharmacy technician in daily work at Apotek Keluarga and gives result in repair time shorter process with little variation as well as sales and reporting processes more documented. And the problem that we found is the lack of understanding from the staff about the importance of the SOP that led to SOP not being implemented optimally.

DISCUSSION

Pharmacy service process is analyzed and measured to identify the source causing variations in results from customer requirements and service standards. According to Demings method, the process is placed in the PDCA circle so that management can identify and change parts of the pharmacy services that require improvement.

The quality improvement program in Apotek Keluarga is carried out through observation and initial data collection. Based on brainstorming and analysis we decided to do the quality improvement by making the standard operating procedure (SOP) of the non-prescription drugs. Drawing up an SOP in order to implement the quality management system is suitable with the theory of [10] in Guidelines For Good Pharmaceutical Services(CPFB), who agreed that the functions and activities are controlled by the procedure (SOP).

Service time is calculated to evaluate the implementation

of SOP of Non-Prescription Drugs Service. From these data it can be seen that the time of service provided to customers will be faster if it complies with the SPO. Longest service time differences shown between services not appropriate with SPO and appropriate with SPO are also quite significant, which is about 5 minutes.

Although the category of fastest service time can be seen that the services are not appropriate with the SOP faster than appropriate to the SOP, but the time difference is only about 3 seconds. Even the appropriate to SOP might be slower than the non-appropriate ones, but the main goal for the quality improvement by using SOP is already gained by the similar step in service that provides to each customer. Within an improvement of service delivery time, the enactment of SOP in providing services to customers had a positive impact, thus, this intervention can be carried out.

The quality improvement intervention through the development of SOP in Apotek Keluarga using the management cycle "Plan-Do-Check-Act" (PDCA) of Deming's method has been able to improve quality and solve problems. The effectiveness of quality improvement that can be done shows the improvement of quality [7]. The team has made some observations and compared the data as follows:

TABLE 4
TRIAL RUN OF SOP AND FLOW CHART OF NON-PRESCRIPTION DRUG OF APOTEK KELUARGA

No	Annotation	SOP Development	
		Before	After
1	The SOP availability	No	Yes
2	Quality control services	No	Yes
3	Payment calculation errors	3 x a month	0
4	Data input errors goods	4 x a month	0
5	Completeness of recording and reporting	No	Yes

This quality improvement programs are in line with the evaluation research by [12] to the quality of some of the pharmacies where 60% of researched pharmacies already had a SOP and SOP is a standard that is needed as a reference

in pharmaceutical services in pharmacies and used as quality indicators.

CONCLUSION

Quality improvement project at Apotek Keluarga has succeeded in preparing SOP for non-prescription drug services in order to provide basic standards in pharmaceutical care and information management that will be conducted on an ongoing basis to ensure the achievement of optimal quality pharmacy services in accordance with customer expectations as the main stake holder.

The implementation of SOP for non-prescription drugs in most customers within the observation period showed an improvement of service in given time. Obstacles encountered in the implementation of this SOP is to make changes to the pattern of habits that has lasted long enough into the stages appropriate in the SOP that will produce similar services and minimize the possibility that errors will occur.

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