

EVALUATION OF DRUG MANAGEMENT AND SERVICE QUALITY OF SEVERAL PUBLIC PRIMARY HEALTH CARE PHARMACIES IN BANDUNG

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ABSTRACT

In national health coverage era, public primary health care pharmacy must be supported by good drug management and service quality. These include human resources, pharmaceutical inventory management, and pharmacy service quality. This paper empirically evaluates the drug management that consists of planning, procurement, storage, distribution, and documentation aspects; and also how patients perceived pharmacy service quality. The research used observational descriptive design through triangulation method (observation, interview and checklist) for drug management evaluation in two primary public HCs and a self-completion Likert-scale SERVQUAL questionnaire was developed using a convenience sampling technique, given to 794 patients from three Primary public HCs that received medicine from pharmacy. This survey included five service quality dimensions; tangibility, reliability, responsiveness, assurance and empathy. The drug management in two primary public HCs had been categorized as having excellent management with the mean score 88.89% and 89.58% of all aspects and gap analysis showed mean gap score for five service quality dimensions of -0.98; -0.83 for responsiveness, -0.91 for reliability, -0.81 for assurance, -1.47 for empathy, -0.89 for tangibility, showing that patient expectation was still not met. Satisfaction level for pharmacy service was 79.53 % which is categorized as excellent. This paper provides useful information to primary public health care provider that the pharmacy unit is not providing service quality level expected by patients and needs improvement in many variables.

Keywords: Drug Management, Service Quality, Pharmacy, Public Primary Health Care, Evaluation

EVALUASI PENGELOLAAN OBAT DAN KUALITAS PELAYANAN KEFARMASIAN DI BEBERAPA PUSKESMAS DI KOTA BANDUNG

ABSTRAK

Di era Jaminan Kesehatan Nasional (JKN), unit farmasi di fasilitas kesehatan tingkat pertama milik pemerintah dalam hal ini Puskesmas, harus didukung oleh pengelolaan obat dengan kualitas pelayanan yang baik. Hal ini meliputi sumber daya manusia (SDM), manajemen persediaan obat dan kualitas pelayanan farmasi. Penelitian ini mengevaluasi pengelolaan obat yang terdiri dari aspek perencanaan, pengadaan, penyimpanan, penyaluran, dan pencatatan serta mengevaluasi kualitas pelayanan farmasi di Puskesmas. Penelitian ini menggunakan desain observasional deskriptif melalui metode triangulasi untuk mengevaluasi pengelolaan obat dua Puskesmas (observasi, wawancara dan *checklist*) dan kuesioner SERVQUAL dengan skala Likert untuk mengevaluasi kualitas pelayanan yang diberikan kepada 794 pasien yang memperoleh obat di tiga Puskesmas secara *convenience sampling* berkaitan dengan lima dimensi kualitas: bukti langsung, kehandalan, daya tanggap, jaminan, dan empati. Pengelolaan obat di dua Puskesmas dikategorikan sangat baik dengan nilai rata-rata seluruh aspek 88,89% dan 89,58%. Hasil analisis celah menunjukkan nilai celah rata-rata seluruh dimensi kualitas -0,98; daya tanggap -0,83, kehandalan -0,91, jaminan -0,81, empati -1,47, bukti langsung -0,89, mengindikasikan bahwa harapan pasien belum terpenuhi. Tingkat kepuasan pasien terhadap kualitas pelayanan farmasi 79,53 % dan dikategorikan sangat baik. Penelitian ini memberikan informasi yang berguna bagi Puskesmas bahwa unit farmasi terkait belum dapat memberikan taraf kualitas pelayanan yang diharapkan oleh pasien dan memerlukan perbaikan dalam berbagai aspek.

Kata kunci: Pengelolaan Obat, Kualitas Pelayanan, Unit Farmasi, Puskesmas, Evaluasi

Introduction

The issue of health care quality management has been considerable important under the pressure to implement Health National Coverage. Based on PMK (*Peraturan Menteri Kesehatan*) No. 75 tahun 2014, primary public health care (HC; locally called 'Puskesmas') is a health care facility that hold public individual health service and has priority on promotive and preventive efforts to reach the highest public health degree in certain area. The ability to identify, measure, and monitor health service quality is critical to the sustainability of public HC, as well as other public organizations (Djuna *et al.* 2013). Several aspects that must be evaluated in pharmacy service in primary public HC are human resources, drug management, clinical pharmacy service and service quality for patients (Depkes RI 2006). Drug management inefficiency will cause negative impact to operational cost, meanwhile the drug availability is daily demands of health service so efficient management is essential for primary public HC overall. Drug availability (completeness, number and quality) also will enhance public health care service quality. Qualified primary public HC shows health service perfection level and also patient assessment towards organization management based established pharmaceutical service standard in Indonesia (Riyadi 2015, Ihsan *et al.* 2014). Perceived quality measurement is an indicator to assess health service quality that is important for quality improvement and health care's strategic planning so government can better allocate financial resources to improve health service system in those areas which impact on patient satisfaction.

This research was undertaken to assess the drug management and quality of service provided by pharmacy unit in primary public HCs. This would enable the health care to identify which aspect to focus on and find effective ways of closing gaps. The questions we would answer in our study were: (1) How much the level of the drug management compliant toward the standard operational procedure was, (2) How patients expected and perceived pharmacy service quality

in primary public HC, and (3) How much the level of patient satisfaction towards the pharmacy service quality was.

Methods

Method Description

This research used *observational descriptive design* through triangulation in drug management evaluation and survey method to collect and gathering secondary data of the drug management objectively in two primary public HC and primary data of the pharmacy service quality to 794 patients who received medicine in three primary public HC from March until April 2016. Observation was conducted by seeing directly the drug management activity from five aspects using archives/documents e.g. *Rencana Kebutuhan Obat* (RKO), *Laporan Pemakaian dan Lembar Permintaan Obat* (LPLPO), stock cards, drug using records, drug requesting and receiving book, SOP, supported by interview with the pharmacy assistant involved in drug management activity. The activity included planning, procurement, reception, storage, and distribution as described in Table 1.

The service quality was measured by perceptions of the quality of service received relative to prior expectations. This service gap, defined as the difference between expectations and perceptions, is the basis of most recent service quality research (Parasuraman *et al.* 1988, Groonros *et al.* 1984). To determine the service quality of a system, the gap must first be measured. The SERVQUAL instrument was designed to measure the gap between expectations and perceptions. The instrument was a 24-item Likert-scale survey which compares patient expectations and perceptions based on five dimensions of service quality (Muninjaya 2011): tangibles, reliability, responsiveness, assurance, and empathy as shown in Table 2.

The questionnaire's reliability (using Cronbach's alpha) and validity was tested to 56 respondents to assure the instrument was a good tool to collect the reliable, valid and accurate data. The survey data and service quality level was analyzed

quantitatively with the use of statistical tools (descriptive and inferential) using IBM SPSS software. The secondary data in the form of checklist consisted of standard operational

procedures (SOPs) of every drug management aspects/activity supported by direct observation and interview with the pharmacy assistant as described in Table 1.

Table 1. Variable and Operational Definition.

Variable	Sub-variable/ dimension	Operational Definition	Indicator
Drug Management	1. Planning	Selection, estimation of types and quantity of drug items based on the usage/need in certain time.	Every aspect complied to SOPs
	2. Procurement	Proposing the procurement based on planning to Dinas Kesehatan Kota/Kabupaten	
	3. Receipt	Checking the rightness of drug received with procurement from its type and quantity	
	4. Storing	Checking storage requirements for safety and maintained quality	
	5. Distribution	Supplying drugs to the sub-unit of public primary HC	

Table 2. SERVQUAL dimensions.

Dimension	Definition
Reliability	Delivering the promised performance dependably and accurately
Tangibles	Appearance of the organization's facilities, employees, equipment, and communication materials
Responsiveness	Willingness of the organization to provide prompt service and help customers
Assurance	Ability of an organization's employees to inspire trust and confidence in the
Empathy	organization through their knowledge and courtesy Personalized attention given to a customer

Samples

Three primary public HC examined in this research were those that only serve outpatient care had carried out National Health Coverage program and served patients of *Badan Penyelenggara Jaminan Sosial (BPJS) Kesehatan*. The service quality study was focused on BPJS outpatients who visited the primary public HC and received medicine from the pharmacy unit (inclusion criteria). Questionnaires were not

administered to those who did not received medicine (exclusion criteria).

Primary data sources will be used to answer research questions through the administering of questionnaires. Secondary sources like observation, checklist and interview (triangulation) will be accessed from some available documents RKO, LPLPO, stock cards, drug using records, drug requesting and receiving book, SOPs) and actual practices of every SOPs'

work instruction that can be applied in order to have a better understanding the drug management construct and how the SERVQUAL model can be used to measure service quality.

The questionnaire contained 21 pairs of statements (after validity test) representing the five dimensions of service quality; tangibles, reliability, responsiveness, assurance, and empathy (Parasuraman *et al.* 1988). The questions were presented in a five-point Likert scale with “Strongly disagree = 1, Disagree = 2, Undecided = 3, Agree = 4, and Strongly agree = 5” (Nasution 2002). The survey was administered during eight week from March until April 2016. The section pertaining to patients’ expectations of service quality was given to the patient on registration of request for service and was returned prior to examination or treatment. The section relating to perceptions of service quality provided was given to the patient after the service was delivered. In total, 794 completed surveys were returned from the verbal and written questionnaires administered. The number of sample was established using Slovin formula.

Research Design

Research design involved literature study, operational variable and definition establishment, primary public HC criteria establishment, respondent criteria establishment, defining number of population and sample, questionnaire testing, data collecting, data analysis, making conclusion, research procedures and time and place of research.

We approached the respondents to find out their perceptions of service quality in health service experiences based on the dimensions of the SERVQUAL model to assess how the respondents perceived service quality in primary public HC in a quantitative way and thereby make conclusions by evaluating their gap score means.

Result and Discussion

The findings on drug management activity and pharmacy service quality in public primary HC were analyzed. Checking the reliability and

validity of the modified SERVQUAL model made up of five dimensions, Cronbach’s alpha was computed for each dimension and validity test was carried out. The first part of the data analysis was to check the internal reliability of results in order to determine the results credibility from the study.

The internal consistency of the modified SERVQUAL items was assessed by computing the total reliability scale. The Cronbach’s alpha ranges between 0 and 1 (denoting no internal reliability to perfect internal reliability). The total reliability scale for the study was 0.875, indicating an overall reliability of the tool. This reliability value in the study was substantial as an indication that the items of the five dimensions of SERVQUAL model were accepted for analysis (Table 3). In case Cronbach’s alpha for a dimension increases when an item is deleted it shows that item is not genuine in that dimension. Looking at the reliability coefficients of all five dimensions, some dimensions have coefficients slightly below 0.7, as a result that some items under each dimension seemed too similar. Other dimensions showed coefficients higher than 0.7, meaning these dimensions consisting of various items showed a true measure of service quality.

The data of drug management compliance to Standard Operational Procedure was analyzed quantitatively and qualitatively as described in Table 5 (The percentage range of qualitative criteria can be seen in Table 4). All aspects of drug management compliance in two primary public HCs were categorized as excellent, except in storage aspect of HC.1 (66.67%) and distribution aspect of HC.2 (75%). These exceptions were categorized as good. Average drug management compliance to SOP in two HCs was categorized as excellent (88.89% in HC.1 and 89.58% in HC.2). Results could be different in many HCs because each of them adopted their SOPs from different references, for example from *Pedoman Pelayanan Kefarmasian di Puskesmas* (Depkes RI 2006) in HC.1 and Guideline arranged by Sie Farmasi Dinas Kesehatan Kota in HC.2. But all standard procedures of drug management in primary public HCs generally referred to *Standar Pelayanan*

Kefarmasian di Puskesmas as established in Permenkes No. 30 tahun 2014.

Data analysis for service quality consisted of preliminary analysis and main analysis. Preliminary analysis involved descriptive data that summarized the demographic characteristics of the respondents.

The demographic profile of the respondents was summarized as follows; age of 26-35 years as much as 24.5 % while females were 78.1 % higher

than males. A majority of the respondents had senior high school educational background as much as 49.3 %. Most respondents were housewives as much as 55.8%.

The main analysis involved the gap score analysis in which descriptive statistics were applied to summarize means of perceptions and expectations of patients (Table 7). We calculated the perception minus expectation scores for each item and dimension in order to identify the service quality gaps.

Table 3. Reliability Coefficient (Cronbach's alphas).

Dimension	Number of items	Cronbach's alpha	Corrected item total correlation	Variable	Validity
Responsiveness	2	0.624	0.396	Resp1	Valid
			0.347	Resp2	Valid
Reliability	5	0.594	0.384	Reli1	Valid
			0.442	Reli2	Valid
			0.403	Reli3	Valid
			0.485	Reli4	Valid
			0.366	Reli5	Valid
Assurance	5	0.698	0.518	Assu1	Valid
			0.615	Assu2	Valid
			0.622	Assu3	Valid
			0.739	Assu4	Valid
			0.612	Assu5	Valid
Empathy	2	0.713	0.669	Empa1	Valid
			0.375	Empa2	Valid
Tangible	7	0.843	0.594	Tang1	Valid
			0.714	Tang2	Valid
			0.698	Tang3	Valid
			0.313	Tang4	Valid
			0.371	Tang5	Valid
			0.621	Tang6	Valid
			0.567	Tang7	Valid
		0.875			

Table 4. Percentage Range of Qualitative Criteria (Arikunto, 2009).

Scale	Criteria
76% - 100%	Excellent
56% - 75%	Good
41% - 55%	Fair
0% - 40%	Poor

Table 5. Drug Management Compliance Percentage in Primary Public HC.

Drug Management Aspect	HC.1 (%)	HC.2 (%)
Planning	100	100
Procurement	100	100
Storage	66.67	83.33
Distribution	88.89	75
Mean	88.89	89.58

Table 6. Profile of respondents.

Characteristics	Percentage (% , n=794)	
Age	<17 years	1.4
	17-25 years	14.6
	26-35 years	24.5
	36-45 years	19.2
	46-55 years	17
	56-65 years	16.9
	>65 years	6.5
Gender	Male	21.9
	Female	78.1
Educational Background	Elementary school	15.7
	junior high school	20.2
	senior high school	49.3
	Diploma	5.5
	Bachelor	9.1
	Master & Doctor	0.3
Occupation	Public employee	3.6
	Private employee	18.4
	Housewives	55.8
	Students	4
	Retired	4
	Others	14.1

The items with the highest expectation scores were that the pharmacy assistant showed empathy when patient complaint or ask about the medicine they received (4.82), welcoming patient with smile and humbleness, rechecking the information on drug labeling, and totally giving solution on problems related with the drug using (4.79). However, these scores were not very different from other items and this implied that patients expect very high from primary public HC.

The items rated highest for actual service perceived were that the employees dispensed and wrote the label with good hand writing (4.05) and were willing to be contacted or asked anytime (4.04). There was no so much difference between the scores of perceptions but are generally lower than expectations. The gap scores were the difference between the perception and expectation scores with a range of values from -1.87 to -0.16 and these gap scores measured

service quality and hence patient satisfaction. The more perceptions were close to expectations, the higher the perceived level of quality. The largest gaps scores were providing pharmacy unit advice/comment box (-1.87) and the pharmacy assistant wearing good and neat appearance including nametag (-0.06). This data was in accordance with Parasuraman et al., (1988) that it was however common for consumer's expectation to exceed the actual service perceived and this signifies that there is always need for improvement (Baroroh 2014, Oktaviani and Baroroh 2015).

The gap score analysis enable us find out how patients perceived service quality in primary public HC and try to identify what dimensions of service quality they are satisfied with. According to Parasuraman *et al.* (1985), the higher or more positive the perception score minuses expectation score, the higher the perceived service quality and thereby leading to a higher level of patient satisfaction. In this regard, the gap scores were calculated based on the difference between the patients' perceptions and expectations of services offered by primary public HC.

Table 7. Summary of means of patient' expectations and perceptions, gap score, and satisfaction level.

Dimension	Variable	Perception	Expectation	Gap Score	Satisfaction Level (%)
Responsiveness	Resp1	4.00	4.73	-0.73	84.49
	Resp2	4.01	4.74	-0.73	84.58
	Mean	4.01	4.74	-0.73	84.53
Reliability	Reli1	3.56	4.72	-1.17	75.29
	Reli2	3.84	4.72	-0.88	81.26
	Reli3	3.87	4.70	-0.84	82.18
	Reli4	4.04	4.74	-0.71	85.10
	Reli5	3.97	4.79	-0.82	82.84
	Mean	3.86	4.73	-0.88	81.33
Assurance	Assu1	4.01	4.75	-0.74	84.44
	Assu2	3.98	4.72	-0.75	84.16
	Assu3	3.99	4.74	-0.75	84.21
	Assu4	4.01	4.73	-0.72	84.72
	Assu5	3.97	4.73	-0.76	83.95
	Mean	3.99	4.73	-0.74	84.34
Empathy	Empa1	2.79	4.66	-1.87	59.85
	Empa2	3.79	4.82	-1.02	78.73
	Mean	3.29	4.74	-1.87	69.29
Tangible	Tang1	3.66	4.72	-1.06	77.55
	Tang2	3.92	4.79	-0.87	81.88
	Tang3	3.99	4.79	-0.81	83.14
	Tang4	4.05	4.76	-0.71	85.08
	Tang5	3.91	4.69	-0.78	83.34
	Tang6	3.98	4.65	-0.66	85.73
	Tang7	3.77	4.65	-0.88	80.98
	Mean	3.90	4.72	-0.82	82.53

In general, it was found that patients' perceptions of service quality offered by primary public HC did not meet their expectations (all gaps scores the dimensions are negative). Dimensions that reported larger mean gaps were empathy (-1.87) and reliability (-0.88) while smaller mean gaps obtained were tangibles (-0.82), assurance (-0.74) and responsiveness (-0.73). These values showed that the perception of performance in primary public HC was less than the expected level of service quality. The difference between patients' expectations and patients' perceptions of the service quality in primary public HC was also examined. We found that the respondents' overall expectation on a scale of 1 to 5 is 4.73. This implied that patients expect a lot from the primary public HC. Generally, the expectations were fairly high since they were all above 4. Patients were therefore very sensitive to how reliable and assuring the pharmacy unit was in providing good and quality products and services.

The service quality level in the public primary HC was obtained from the percentage of perception towards expectations of each dimension, then it could be concluded the level of satisfaction. The highest satisfaction level was responsiveness; acquiring 84.53%, followed by assurance 84.53%, tangibles 82.53% and reliability 81.34% which were categorized as excellent. The dimension of empathy had the lowest satisfaction level of 69.44% which was categorized as good.

The drug management study was limited to the compliance to work instruction points of each SOP, still not yet observed further to specific indicator of efficiency. The service quality study showed that the instrument was relied and constructed to local content of primary public HC pharmacy services, so the proportion of variables available for each dimensions are not the same. These factors might contribute to some result discrepancy such as lower reliability test result in several quality dimension. The absence of supporting documents in HC.3 also resulted in drawback of the study.

Conclusion

The analysis had been carried out in order to find out drug management compliance percentage and

how patients perceived service quality in primary public HC. Average drug management compliance to SOP in public HCs examined was categorized as good and excellent. Results could be different in many HCs because each of them adopted their SOPs from different references. From the gap score analysis it was found that the overall service quality level was excellent as perceived by patients in primary public HC. The overall perceived service quality was good and some was good as expectations exceed perceptions. It meant that patients still desired more than what was offered to them so it was clear that the patients were not absolutely satisfied. Evaluating the perceptions and expectations of patients, it can be seen that responsiveness brings patient satisfaction the most. The study showed that, primary public HC have to improve performance on all the dimensions of service quality. This will enable them maintain high level of competitiveness.

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