

Workload Analysis in Pharmacy Installation Regional General Hospital X as a Basis for Planning Pharmacy Personnel Needs and Pharmacy Service Quality

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Article Info	ABSTRACT
<p>Keywords: Workload, Need for Pharmaceutical Personnel , Quality Service</p>	<p>Improvement burden Work power pharmacy can impact to quality service pharmacy If No balanced with amount power appropriate pharmacy . Determine amount the power that in accordance with burden Work can done with do analysis burden work in the existing unit complaints . Complaints can originate from power pharmacy and from patient . Complaints is problems that must be overcome Because can influence quality service pharmacy to patients . In the Pharmacy Installation of RSUD X there are a number of complaint from power pharmacy related burden perceived work Enough height and complaints from patient related time Wait drug so that need done analysis burden work in the unit For know description burden impactful work to quality service pharmacy as well as amount power appropriate pharmacy with burden existing work moment this . Research This use method quantitative descriptive with technique data collection through observation all over activity power pharmacy use method work sampling For count amount need power pharmacy as well as use questionnaire satisfaction customer to patient For know description quality service . Result data observation in analysis use Workload Indicators of Staffing Need (WISN) and for results questionnaire analyzed use SERVQUAL method . Workload and quality service connected use linear regression for see influence burden Work to quality service . From the results study show that amount need power pharmacy at RSUD X is 4,684 people and obtained ratio of 1.07 which means that power pharmacy considered overstaffing Because ratio >1. Meanwhile For quality services received from results questionnaire Then analyzed use method SERVQUAL state that there is difference between reality and hope Where patient Still want better service Good from what exists moment This is for know influence burden Work moment This to quality service analyzed use linear regression and its results is 46.3% which means that quality service is affected by load Work by 46.3%.</p>
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INTRODUCTION

According to Law No. 36 of 2014 states that power health own role important For increase quality service maximum health to society and that health as right basic man must realized in form giving various service health to all over society (1). The Ministry of Health is monitoring

quantity , type , quality and distribution of health human resources in accordance with needs. Preparation plan health human resource needs is step strategic needs implemented with the aim of For get amount the right power in skills , experience and competencies required in his duties and can finish task appropriate time (2).

In facing the situation these are the steps strategic must taken , including planning need source Power the right human resources , according to with function and load work in each unit, section and installation pharmacy House Sick (3) . Currently , the quality service is factor determinant main whether something organizations , including House sick , will reach success term length . Quality service health in Indonesia is still become attention Because there is phenomena that show that quality services in this country Still low (4) .

Satisfaction patient is indicator important for quality service and have implications for organization service more efficient in fulfil need patient . Based on definition said , quality good service will give satisfaction to patient as well as satisfaction patient will influence patient For return Again to House Sick the when need (5) .

One of factor affecting quality service health is height burden work (Handayani , et al., 2015). High workload on personnel health or House Sick can cause decline performance . Decline motivation , performance , and satisfaction Work become warning for management organization or House sick . Because of that that , they need review back and plan need source Power human resources (HR) in general more Good (3) .

Based on research conducted by Agan Syahrial , 2011 regarding analysis human resource needs and quality service pharmacy at Amira Hospital Purwakarta that with add appropriate number of human resources burden work , expected quality service pharmacy can repaired (6) .

Service Pharmacy in Hospitals is the part that is not inseparable from system service Hospital health centered on service patients . For pharmacists , especially those who work in Hospitals, changes paradigm in Service Pharmacy from orientation product become orientation patient become something necessity . For reach matter this , competence pharmacist must improved in a way sustainable so that change paradigm This can implemented with good and effective . With Thus , the service pharmacy can walk more efficient and more focus on interests and needs patients , so that give more benefits big for health public in a way overall (7) .

Number of pharmaceutical personnel in the Pharmacy Installation of RSUD X can seen in table I.1 below This (8) .

Table I.1 . Number of Human Resources in the Pharmacy Installation of Regional Hospital X

Type HR	Head IFRS	Pharmacy Outpatient	Pharmacy Inpatient	Pharmacy OK	Pharmaceutical Warehouse	Clinical Pharmacy	Admin	Total
Pharmacist	1	1	5	0	1	5	2	15
TTK	0	4	10	1	3	0	1	20

Average number incoming recipe every the month in 2022 is 1,233 sheets and in 2023 is 1,373 sheet . From the data can concluded that happen improvement amount recipe about

11% each year . Increase amount recipe cause officer overwhelmed , so that often happen service For giving calculated drugs quite long (9) .

Workload can also known to be one of them with do observation direct to power ongoing pharmacy doing activities start from beginning until end activity every day . Later can known description burden work in the work unit studied and the amount appropriate needs For burden Work the (10) .

According to Himyatul, et al. , 2021 availability source Power enough human skilled , length of work , workload work and knowledge employee affect the length of time wait . One of them factor affecting time Wait in service home remedies Sick is amount power pharmacy that is not in accordance with amount incoming recipe to pharmacy (13).

From the statement of Public Relations of RSUD X after done survey satisfaction customer that there are still patient complaints regarding dissatisfaction regarding waiting times for drug services (WTO).

Waiting time there is something beyond from the time that has been set in Regulation of the Minister of Health No. 129 of 2008 concerning Standard Service Pharmacy in Hospitals where set time Wait service drug For recipe concoction for 60 minutes and Non- mixed for 30 minutes (11) .

Waiting time drug be one of minimum service standards home pharmacy sick . Good service time relate with satisfaction customer so that House Sick must control time service For reach satisfaction patient (12) .

Based on Chart Error Drug Services at the Pharmacy Installation of RSUD X that in 2022 there were two incidents *medication error* . *Medication error* that occurred in the installation pharmacy is one of the the cause is power pharmacy that is experiencing excess burden Work result in fatigue . Excess burden Work because of a lack of human resources , it is source of stress for officers (14) . Such conditions can bother concentration officer so that error can happen .

Research conducted by Yosefien Ch. Donsu et al (2016) concluded that one of factor reason *Medication errors* in the dispensing and administration phase include ratio between burden work and human resources do not balanced (15) .

According to Neni Probosiwi , et al (2018) (17) medication errors cause risk mortality and can increase cost treatment that causes loss for patient public and home Sick . According to Nurul Yulaika, et al (2018) (16) . Disadvantages power will result in burden overwork and decline quality service marked with No achievement indicator Standard Minimum Service (SPM) and increasing number *medication errors* .

Through load analysis Work Through this customer satisfaction survey, researchers can identify potential improvements in the management of pharmaceutical personnel in outpatient pharmacies. The results of this analysis will serve as the basis for developing recommendations and strategic steps to increase the efficiency and effectiveness of pharmaceutical services, thereby providing better benefits to patients and improving the quality of services at RSUD X, which will of course impact the economic benefits that will be generated. obtained later.

RESEARCH METHODS

Research Methods Used is study quantitative descriptive . The results obtained is For know description burden work at the Outpatient Pharmacy of RSUD X which will used as base planning need power pharmacy based on WISN method . Quality service pharmacy measured with use satisfaction survey method customer to patient or his family use questionnaire . Questionnaire results Then analyzed use method *SERVQUAL* For see the gap between reality and hope patient to service Pharmacy at the Outpatient Pharmacy of RSUD X. Workload and quality service in analysis use linear regression for see influence significant burden Work to quality service . (41)

RESULTS AND DISCUSSION

Analysis of Workload and Human Resource Needs in the Outpatient Pharmacy of RSUD X Descriptive Analysis

Characteristics of Pharmaceutical Personnel in the Outpatient Pharmacy of RSUD X

Table V.1. Characteristics of Pharmaceutical Personnel in the Outpatient Pharmacy of RSUD X.

Pharmaceutical Workforce	Gender	Age (Years)	Education	Length of service (Years)	Information
1	Woman	49	Pharmacist	15	Pharmacy Coordinator
2	Woman	43	Bachelor of Pharmacy	19	Executor
3	Woman	40	Bachelor of Pharmacy	12	Executor
4	Woman	38	Bachelor of Pharmacy	11	Executor
5	Woman	44	D3 Pharmacy	4	Executor

Informant Characteristics

Table V.2. Informant Characteristics

Informant	Gender	Age (Years)	Education	Position	Length of service (Years)
1	Woman	56	S2	Deputy Director of Medical Support, Training and Research and Development	30
2	Woman	47	S2	Head of Medical Support Division	26
3	Woman	48	S2	Head of Personnel Sub-Division	10
4	Woman	47	S2	Head of Pharmaceutical Installation	15

Pharmaceutical Workforce Activity Categories

Table V.3. Pharmaceutical staff activities at the Outpatient Pharmacy of RSUD X

No.	Direct Productive Activities	t (minutes)	%
1	Receiving/verifying prescriptions and assigning queue numbers	160	6.27
2	Calculate drug prices and accept general prescription payments	70	2.75
3	Prescription Confirmation	20	0.78
4	Preparation of non-compound drugs	350	13.73
5	Preparation of compounded drugs	300	11.76
6	Label writing and packaging	240	9.41
7	Checking medication before dispensing	80	3.14
8	Drug and PIO delivery	160	6.27
	Sub-Total	1380	54.11
	Indirect Productive Activities	t (minutes)	%
1	Prepare the tools and materials to be used	50	1.96
2	Checking drug stock at the pharmacy	30	1.18
3	Make a drug request to the Hospital Pharmacy Warehouse	30	1.18
4	Tidy up and store the medicines sent from GF, recorded on the stock card	60	2.35
5	Outpatient Prescription Entry	160	6.27
6	Scan BPJS Prescription	132	5.17
7	Record the number of daily BPJS and General prescriptions in the book and archive the prescriptions	30	1.18
8	General prescription payment recap	15	0.59
	Sub-Total	507	19.88
	Non-Productive Activities	t (minutes)	%
1	Initial work preparation	50	1.96
2	Private call	50	1.96
3	Chatting	60	2.35
4	Eat	100	3.92
5	Drink	50	1.96
6	Pray	60	2.35
7	Exit the room	150	5.88
8	Toilet	50	1.96
9	Various	93	3.66
	Sub-Total	663	26.00
	TOTAL	2550	100

Quantitative Analysis

The use of quantitative analysis aims to estimate the number of workers needed. The steps are as follows:

a. Setting Available Work Hours

1) Working days

The number of working days in one year according to the provisions in force at the Outpatient Pharmacy of RSUD X is 5 working days and in one year from July 2022 to June 2023 there are 52 weeks so the number of working days in one year is 260 working days, value (A).

2) Annual leave

Annual leave is granted to employees who work for at least one year continuously and are entitled to annual leave, the length of which is 12 working days, grade (B).

3) education and training

There are no definite provisions regarding the length of time to participate in Education and Training, so in the calculation it is considered Zero, grade (C).

4) National holiday

National Holidays and Joint Leave in the period July 2022 to June 2023 are 27 days, value (D)

5) Absenteeism from Work

The absence of pharmaceutical staff at the Outpatient Pharmacy of RSUD X due to illness, permission or without notification averaged 11 working days, value (E)

6) Working time

Working Time is calculated as 8 hours 30 minutes or 510 minutes / day, value (F).

$$\begin{aligned} \text{Available Working Time} &= \{A - (B + C + D + E)\} \times F \\ &= \{(260 - (12 + 0 + 27 + 11))\} \times 8.5 \\ &= 1785 \text{ hours/year} \times 60 \text{ minutes} \\ &= 107100 \text{ minutes/year} \end{aligned}$$

The results of the calculations show that the available working hours at the Outpatient Pharmacy of RSUD X for one year are 1785 hours/year or 107100 minutes/year.

b. Establishing Work Units and HR Categories

Table V.4. Work Units and HR Categories of Outpatient Pharmacy Regional Hospital X.

Work unit	Work Sub Unit	HR Category
Pharmaceutical Installation	Outpatient Pharmacy	Pharmacists and Pharmaceutical Technical Personnel.

c. Developing Workload Standards

Table V.5. Standard Workload of Outpatient Pharmacy at X Regional Hospital

No	Work Unit/Main Activities	Average time (minutes)	Available Working Time (minutes)	Workload Standards (minute) (4:3)
1	Receiving/Verifying Prescriptions and assigning prescription queue numbers	2	107100	53550
2	Calculate drug prices for General prescriptions and receive general prescription payments	5	107100	21420
3	Prescription confirmation	2	107100	53550
4	Preparation of Non-Compounded Drugs	5	107100	21420
5	Preparation of compounded drugs	30	107100	3570
6	Label Writing and Packaging	3	107100	35700
7	Checking medication before delivery.	1	107100	107300
8	Drug and PIO Delivery	2	107100	53550
9	Prepare the tools and materials to be used	50	107100	2142
10	Checking the pharmacy's drug stock	30	107100	3570
11	Make a drug request to the Pharmacy warehouse	15	107100	7140
12	Arrange and store medicines on shelves, written on stock cards	30	107100	3570
13	Outpatient Prescription Entry	2	107100	53550
14	Scan BPJS Prescription	2	107100	53550
15	Record the number of BPJS General prescriptions in the led and archive the prescriptions	30	107100	3570
16	General prescription payment re	15	107100	7140

d. Developing Allowance Standards

Table V.6. Allowance standards

Activity	Average time (minutes/year)	Available Working Hours	Allowance Standard
Routine Meeting	2880	107100	0.027
Outpatient Pharmacy RKO	1440	107100	0.013
Stocktaking	7200	107100	0.067
Processing drug usage data	1440	107100	0.013

Creating a BPJS claim value report	1440	107100	0.013
Seminar	1440	107100	0.013
Total			0.146

e. Calculating pharmaceutical staff requirements

The data needed to calculate the number of pharmaceutical personnel needed is:

1) The data obtained are:

available working hours = 107100

Workload standards = Table V.5

Standard allowance = 0.146

2) Quantity of main activities during a period of one year at the Outpatient Pharmacy of Haji X Regional Hospital.

Table V.7. Quantity of main activities of the Outpatient Pharmacy at X Regional Hospital

No	Main activities	Quantity			
		A	B	C	D
1	Receiving/Verifying Prescriptions and assigning prescription queue numbers	80	-	-	21120
2	Calculate drug prices for common prescriptions and receive payment	14	-	-	3696
3	Prescription confirmation	10	-	-	2640
4	Preparation of non-compound drugs	70	-	-	18480
5	Preparation of compounded drugs	10	-	-	2640
6	Label writing and packaging	80	-	-	21120
7	Checking medication before dispensing	80			21120
8	Drug and PIO delivery	80	-	-	21120
9	Prepare the tools and materials to be used	1	-	-	264
10	Checking Pharmacy Drug Stock	1	-	-	264
11	Make a drug request to the Pharmacy Warehouse	1	-	-	264
12	Arrange and store medicines, enter them in the stock card	1	-	-	264
13	Outpatient Prescription Entry	80	-	-	21120
14	Scan BPJS Prescription	66	-	-	17424
17	Record the number of BPJS and General prescriptions in the ledger and archive the prescriptions	1	-	-	264
18	Summarize general prescription payments	1	-	-	264

Information :

A. Quantity of daily main activities

B. Quantity of weekly main activities

C. Quantity of monthly main activities

D. Total quantity of main activities in one year

Outpatient pharmacy activity data, standard workload data, and standard allowance data are data sources for calculating HR needs at the Outpatient Pharmacy of RSUD X with the following formula:

$$\text{Human Resources Needs} = \frac{\text{Quantity of main activities}}{\text{Workload Standards}} + \text{Allowance Standard}$$

The results of the calculation of HR needs at the Outpatient Pharmacy of RSUD X using the formula can be seen in table V.8 below:

Table V.8. Pharmacy Personnel Requirements for Outpatient Pharmacy at X Regional Hospital

Work Category	Unit/HR	Main activities.	KG	SBK	KT
Outpatient Pharmacy (Pharmacist, TTK)		Receiving/Verifying Prescriptions and providing prescription queues	21120	53550	0.394
		Calculate drug prices for common prescriptions and receive payment	3696	21420	0.172
		Prescription Confirmation	2640	53550	0.049
		Preparation of non-compound drugs	18480	21420	0.863
		Preparation of compounded drugs	2640	3570	0.739
		Label writing and packaging	21120	35700	0.592
		Checking drug stock before delivery	21120	107300	0.197
		Drug and PIO delivery	21120	53550	0.394
		Prepare the tools and materials to be used	264	2142	0.123
		Checking drug stock at the pharmacy	264	3570	0.074
		Make a drug request to the Pharmacy Warehouse	264	7140	0.037
		Arrange and store medicines, enter them on the stock card	264	3570	0.074
		Outpatient prescription entry	21120	53550	0.394
		Scan BPJS prescription	17424	53550	0.325
		Record the number of prescriptions and general and archive the prescriptions.	264	3570	0.074
		Summarize general prescription payments	264	7140	0.037
		Amount SK			

Number of Human Resources Needed	4,684
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Table V.8 shows that the human resource requirement for the Pharmacy Installation in Outpatient Pharmacies is 4,684. This means that the human resource requirement in outpatient pharmacies has a ratio of 1.07, which means that the pharmaceutical staff in outpatient pharmacies is overstaffed.

**Analysis of the Quality of Pharmaceutical Services at RSUD X.
 Questionnaire Preparation**

Table V.11. Summary of Patient Reality Questionnaire Results

Item	Number of Answers					Total
	Strongly agree (5)	Agree (4)	Doubtful (3)	Don't agree (2)	Strongly Disagree (1)	
Item 1	147	130	28	0	0	305
Item 2	148	149	8	0	0	305
Item 3	138	159	8	0	0	305
Item 4	168	135	2	0	0	305
Item 5	123	141	40	1	0	305
Item 6	79	147	49	30	0	305
Item 7	33	106	132	34	0	305
Item 8	179	113	12	1	0	305
Item 9	218	74	12	1	0	305
Item 10	107	128	61	9	0	305
Item 11	109	172	24	0	0	305
Item 12	127	171	7	0	0	305
Item 13	54	181	60	10	0	305
Item 14	104	176	24	1	0	305
Item 15	123	180	2	0	0	305
Item 16	71	123	87	24	0	305
Item 17	37	28	87	153	0	305
Item 18	117	184	2	2	0	305
Item 19	102	156	47	0	0	305
Item 20	110	194	1	0	0	305
Item 21	159	146	0	0	0	305
Item 22	129	176	0	0	0	305
Item 23	154	151	0	0	0	305
Item 24	138	166	1	0	0	305
Item 25	144	161	0	0	0	305
Item 26	162	143	0	0	0	305
Item 27	166	138	1	0	0	305
Item 28	149	147	8	1	0	305
Item 29	147	149	9	0	0	305

In table V.11 it can be seen that concluded that patient declare satisfied with services provided by the Outpatient Pharmacy of RSUD X.

Table V.12. Summary of Patient Expectation Questionnaire Results

Item	Number of Answers					Total
	Strongly agree (5)	Agree (4)	Doubtful (3)	Don't agree (2)	Strongly Disagree (1)	
Item 1	260	45	0	0	0	305
Item 2	270	31	4	0	0	305
Item 3	229	72	4	0	0	305
Item 4	246	55	4	0	0	305
Item 5	228	73	4	0	0	305
Item 6	244	57	4	0	0	305
Item 7	204	79	22	0	0	305
Item 8	256	45	4	0	0	305
Item 9	250	51	4	0	0	305
Item 10	251	50	4	0	0	305
Item 11	252	49	4	0	0	305
Item 12	266	39	0	0	0	305
Item 13	273	30	2	0	0	305
Item 14	222	83	0	0	0	305
Item 15	236	69	0	0	0	305
Item 16	218	40	25	22	0	305
Item 17	143	11	134	17	0	305
Item 18	247	57	1	0	0	305
Item 19	221	62	22	0	0	305
Item 20	228	66	1	0	0	305
Item 21	228	77	0	0	0	305
Item 22	257	48	0	0	0	305
Item 23	268	37	0	0	0	305
Item 24	243	62	0	0	0	305
Item 25	237	68	0	0	0	305
Item 26	237	68	0	0	0	305
Item 27	247	58	0	0	0	305
Item 28	237	68	0	0	0	305
Item 29	248	57	0	0	0	305

In Table V.12, it can be concluded that patients have higher expectations of pharmaceutical services at the Outpatient Pharmacy of RSUD X.

Service Quality Calculation

The servqual score is obtained by calculating using the formula:

$$\text{SERVQUAL Score} = \text{Actual Score} - \text{Expected Score.}$$

Table V.13. SERVQUAL Analysis Results

Dimensions	Item	Fact		Hope		Gap
		Score Value	Real Value	Score Value	Expected Value	
Reliability (Reliability)	Item 1	1339	4.39	1480	4.85	-0.46
	Item 2	1360	4.46	1486	4.87	-0.41
	Item 3	1350	4.43	1445	4.74	-0.31
	Item 4	1386	4.54	1462	4.79	-0.25
	Item 5	1301	4.27	1444	4.73	-0.46
	Item 6	1190	3.90	1460	4.79	-0.89
	Item 7	1053	3.45	1402	4.60	-1.15
	Item 8	1385	4.54	1472	4.83	-0.29

Dimensions	Item	Fact		Hope		Gap
		Score Value	Real Value	Score Value	Expected Value	
Responsiveness (Responsiveness)	Item 9	1424	4.67	1466	4.81	-0.14
	Item 10	1248	4.09	1467	4.81	-0.72
	Item 11	1305	4.28	1468	4.81	-0.53
	Item 12	1340	4.39	1486	4.87	-0.48
	Item 13	1194	3.91	1491	4.89	-0.98
	Item 14	1298	4.26	1442	4.73	-0.47
Empathy	Item 15	1341	4.40	1456	4.77	-0.37
	Item 16	1156	3.79	1369	4.49	-0.7
	Item 17	9386	30.77	1195	3.92	26.85
	Item 18	1331	4.36	1466	4.81	-0.45
	Item 19	1275	4.18	1419	4.65	-0.47
	Item 20	1509	4.95	1407	4.61	0.34
Assurance	Item 21	1379	4.52	1448	4.75	-0.23
	Item 22	1349	4.42	1477	4.84	-0.42
	Item 23	1374	4.50	1488	4.88	-0.38
	Item 24	1357	4.45	1463	4.80	-0.35
	Item 25	1364	4.47	1457	4.78	-0.31
Facility Physique (tangible)	Item 26	1382	4.53	1457	4.78	-0.25
	Item 27	1385	4.54	1467	4.81	-0.27
	Item 28	1359	4.46	1457	4.78	-0.32
	Item 29	1358	4.45	1468	4.81	-0.36

Table V.13 shows the results of a customer satisfaction survey of patients who purchased medication at the Outpatient Pharmacy, covering both the patient's reality and expectations. Most of the results were negative, indicating that patients were still dissatisfied with the service provided by the Outpatient Pharmacy at RSUD X and desired better service.

Analysis of the Effect of Workload on the Quality of Pharmaceutical Services using Linear Regression.

Linear Regression Test Results

Table V.14. Linear Regression Test Results

Model	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
1 (Constant)	15623,393	9869,610		-,583	,212
Workload	6,226	3,868	,681	1,610	,206

a. Dependent Variable: Service Quality

Based on the results of the linear regression test above, the significance result was 0.206, which is more than the value of 0.05, which means there is no significant influence between workload and service quality.

Results of the Determination Coefficient Test

Table V.15. Results of the Determination Coefficient Test

Model Summary					
Model	R	R Square	Adjusted R Square	Standard Error of the Estimate	
1	,681 ^a	,463	,285	15,853	

a. Predictors: (Constant), Work_Load

Based on the results of the coefficient of determination (R-square) test on the workload variable, which was 0.463, this indicates that the variable capability in this study influences the service quality variable by 46.3%. The remainder is influenced by other variables not examined .

CONCLUSION

Based on direct observations of pharmaceutical activities at the Outpatient Pharmacy of RSUD X, a Workload Standard can be established based on these observations. The number of human resources needed based on the established workload standard is 4,684 people, which means the pharmaceutical staff requirement ratio is 1.07 (A ratio >1 is considered to indicate overstaffing of the pharmaceutical staff). Based on the results of a patient satisfaction survey using a questionnaire and analyzed using the SERVQUAL method, a picture of service quality was obtained that patients still want better pharmaceutical services than those currently available. Based on the results of the analysis of the influence of workload on service quality using linear regression, the result obtained was 46.3%, which means that workload influences service quality by 46.3%.

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