EXPLORING OF MEDICINE E-PURCHASING PROCUREMENT AT PHARMACY IN 2019

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ABSTRACT:
Medicine management through E-purchasing consists of the planning, procurement, distribution, and use stages. The results of the observation found that there was no gradual evaluation of the planning and procurement of drugs. The research objective was to determine the procurement of e-purchasing medicine at Mita Farma Pharmacy in 2019 and compare it with standard values. Qualitative descriptive research method with in-depth interviews and document review. The results were at the selection stage: 100% conformity of medicine items with Fornas; procurement stage: percentage of medicine allocation and procurement 46.8%; frequency of medicine procurement for each item per year 80%; no order letter is lacking / wrong invoice; the payment that has been agreed upon is delayed 22 times; planning accuracy 118%; distribution stage: 95% accuracy of stock cards; TOR 8.9 times; the medicine expired 1.4%; dead stock 3.4%; the level of medicine availability 11.35; stage of use: the number of medicinal items per prescription sheet is 3.04; prescription generic medicine 91.24%; medicine that can be delivered 98.72%; all medicine are labeled complete; The average time to prepare non-concocted medicine was 7.5 minutes and 17 minutes.

INTRODUCTION
Medicine procurement is a crucial point in the medicine management cycle whose goal is to ensure that the medicine provided are of a quality that conforms to predetermined standards, the number of medicine that come as
ordered, and the smallest possible expenses incurred. The method used in purchasing medicine is e-purchasing, a method of purchasing medicine, and a continuation of the e-cataloguesytem (Ministry of Health RI, 2014). The e-catalogue using an electronic base contained in it is a variety of information about medicine lists, types of drugs, medicine prices, specifications of various tender winners who provide medicine intending to make medicine purchase easy by using one application (Cox, 2005).

This method of procuring medicine through e-purchasing is a new procurement system in Indonesia that previously still used manual procurement. It is hoped that with the presence of this e-catalogue system it can minimize the occurrence of irregularities in medicine procurement, the process of selecting medicinal products needed by the government will be easier and more focused, ensuring generic medicine stocks are available, making the procurement process in the public sector efficient, reducing the time required conduct procurement, making the procurement process shorter and eliminating the complicated administrative process of shorter procurement (Ministry of Health RI, 2016). Since the end of 2018, Mita Farma Pharmacy for the first time as a private companion pharmacy in the Badung Regency area of Bali was given access by the Ministry of Health to be able to use e-purchasing through e-catalogues. Several obstacles were found in implementing it to achieve perfect results in medicine procurement.

Obstacles encountered include, among others, that it has been seen that it takes longer than ordering the medicine until the medicine arrives at the pharmacy because before the regional distributor makes an invoice, the order must be informed and approved by the central distributor rather than ordering via manual which incidentally calls the regional distributor directly and if the medicine stock is available then the medicine will be delivered directly to the pharmacy; the occurrence of a stock vacuum in the e-catalogue application which causes manual ordering of medicine by looking for other distributors besides the tender winner who has been shown in the application with the pharmacy must make a price adjustment with the distributor and if it is not approved by the distributor, the pharmacy must pay for the medicine at the same price. more expensive with the application, and orders that take a long time to respond or not at all responded to by the central distributor so they have to do a direct search to ensure the reasons for not being responded to which take time and there are several items of medicine that are included in the National Fornas but have not been published in the e-catalogue application.

According to a survey conducted by the bank, which found various problems in the implementation of e-purchasing, including the system is not well integrated, the processes and documents are not uniform and problems related to technology. According to Secretary-General Binfar, the problems encountered in implementing the e-catalogue are that many medicines have not been published in the e-catalogue application, some medications do not have a distributor that can guarantee their availability, the medicine purchasing system is not easy, the delivery time is longer and the medicine arrives. Late, inadequate network connections, and many officers who have not received
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special training (Ministry of Health RI, 2014). In the evaluation of the implementation of e-purchasing medicine at the Health Office of Central Java Regency, it was stated that there were 23.9% of realized medicine that were not following the plan, which means that in the implementation of e-purchasing there were still obstacles including the Pharmaceutical Industry as a medical provider unable to meet the needs of the demand should have a major impact on reducing medicine availability by 64% and reducing medical costs to be inefficient (Kusmini et al., 2016; Nyandra et al., 2018).

An e-purchasing system that purchases goods through an E-catalogue by placing orders manually against the pharmaceutical industry which lists the e-catalogue. The advantages of e-catalogue procurement are that it makes the procurement process faster and easier, besides that providers do not have to come again to the procurement service unit office to see announcements, register to become providers, and participate in manual tenders but have used the auction process electronically at applications on the website (Maulidie et al., 2018). The constraints found in ordering medicine through the e-catalogue system are a large number of administrative procedures prepared to procure medicine so that it takes a relatively long time even though the need for medicine is urgent to support the health service process and the lack of commitment from distributors to make deliveries. Medicine even though the invoice has been printed, but the goods are not delivered directly (Rahmah, 2018; Suryasa et al. 2019).

Evaluation of e-purchasing medicine at Mental Hospital in 2017-2018 has external problems, namely medicine vacancies and lead time, and internal problems including limited medicine procurement officials and pharmaceutical technical personnel, which causes coordination to be unclear due to the absence of an organizational structure for medicine procurement and poor budget. Efficient and caused by a failed e-purchasing process (Saputra et al., 2019; Widana et al., 2020). Based on a glance at the background and a preliminary study of the medicine procurement system employing e-purchasing based on the new e-catalogue, this research is interesting to do to analyze how to procure e-purchasing of medicine at Mita Farma Pharmacy in 2019.

RESEARCH METHODS
This research used a descriptive qualitative case study approach. Information was extracted by in-depth interviews based on the positions held, including the facility owner, pharmacist/commitment maker, procurement officer, pharmacist assistant, finance, and assistant pharmacist. The results of interviews with various sources obtained are expected to provide comprehensive information regarding the procurement of e-purchasing at pharmacies. The sample used in this study used purposive sampling technique, wherein this study obtained nine respondents who were interviewed virtually using zoom meeting media due to the COVID-19 pandemic. Furthermore, the data analysis was carried out using the Miles and Huberman analysis model continuously so that the data obtained became saturated.
## RESULTS AND DISCUSSION

Evaluation indicators related to medicine procurement at Mita Farma Pharmacy in 2019 are:

**Table 1. Medicine Evaluation Indicators**

<table>
<thead>
<tr>
<th>Method</th>
<th>Indicator</th>
<th>Purpose</th>
<th>Result</th>
<th>Normative Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning</td>
<td>Suitability of medicine items available with Fornas</td>
<td>To know the level</td>
<td>100%</td>
<td>100% (Ministry of Health RI, 2016)</td>
</tr>
<tr>
<td>Procurement</td>
<td>use of the national formulary</td>
<td>46,8%</td>
<td>30 – 40%</td>
<td>(Department of health RI, 2008)</td>
</tr>
<tr>
<td>Procurement</td>
<td>To find out how many times the medicine is ordered</td>
<td>80%</td>
<td>100%</td>
<td>(Department of health RI, 2008)</td>
</tr>
<tr>
<td>Procurement</td>
<td>in a year</td>
<td>0</td>
<td>0 – 25 times</td>
<td>(Department of health RI, 2008)</td>
</tr>
<tr>
<td>Less frequency</td>
<td>To find out how many times</td>
<td>118%</td>
<td>100% – 120%</td>
<td>(Department of health RI, 2008)</td>
</tr>
<tr>
<td>Distribution</td>
<td>complete order letter / contract</td>
<td>invoice error occurred</td>
<td>95%</td>
<td>100% ((Department of health RI, 2008)</td>
</tr>
<tr>
<td></td>
<td>contracted</td>
<td>To know the quality</td>
<td>8,9 times</td>
<td>8-12 times</td>
</tr>
<tr>
<td></td>
<td>payment at the pharmacy</td>
<td>1,4%</td>
<td>≤ 0,2 %</td>
<td>(Department of health RI, 2008)</td>
</tr>
<tr>
<td></td>
<td>To find out the accuracy</td>
<td>3,4%</td>
<td>0%</td>
<td>(Department of health RI, 2008)</td>
</tr>
<tr>
<td></td>
<td>agreed upon planning</td>
<td>11,35</td>
<td>12-18 months (Department of health RI, 2008)</td>
<td></td>
</tr>
<tr>
<td>Use</td>
<td>Percentage of number of medicinal items held</td>
<td>This is to determine the accuracy of the warehouse clerk</td>
<td>3,04</td>
<td>1,8-2.2 Indonesia (WHO, 2013)</td>
</tr>
<tr>
<td></td>
<td>with that</td>
<td>To find out the capital turnover in one year of</td>
<td>91,24%</td>
<td>82-94% Indonesia 59% (WHO, 2013)</td>
</tr>
</tbody>
</table>
### Planning

The results showed that the percentage of medicine items based on Fornas was following the Ministry of Health standard, namely 100% which was used as a guideline for the provision of medicine for BPJS patients. Planning activities for various types of medicine are the initial activities of the medicine management stage in a pharmacy. The purpose of medicine planning is to produce medicine items and the suitability of their quantities, increase the rationality of medicine use, make efficient use of drugs, and minimize the occurrence of empty medicine (Rahmah, 2018). From the results of the interview, this was caused by the pharmacist every year sending RKO (Medicine Needs Design) which was sent to the district health office and forwarded to the Ministry of Health as well as the accuracy and awareness of procurement officials to use medicine included in the National Forces. Similar research was also conducted by (Pratiwi et al., 2019) where the medicine planning activities at the health center in Rohan Regency were 100%.

### Procurement

#### Percentage of medicine procurement fund allocation

The research data shows that the budget requirement plan that will be prepared to procure medicine is 46.8% of the total pharmacy funds excluding operational costs. So it can be said that this percentage value is appropriate when compared with the predetermined standard value, it proves that the required funds used to place orders for medicine procurement at MitaFarma Pharmacy have met the standards. Based on the results of interviews in the financial section of the proposed budget plan proposed by the pharmacist and the procurement department and on the knowledge and direct review of the owner of the pharmacy facility. The results of the percentage allocation of

<table>
<thead>
<tr>
<th>Inventory planned</th>
<th>To find out the number of losses at the Pharmacy</th>
<th>98.72%</th>
<th>76-100% (Department of health RI, 2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy of the medicine quantity data on the stock card</td>
<td>To find out a medicinal item for 3 months unused</td>
<td>100%</td>
<td>100% ((Department of health RI, 2008)</td>
</tr>
<tr>
<td>TOR (Turn Over Ratio)</td>
<td>To determine the adequacy range of the drug</td>
<td>17 minutes concoction 7.5 minutes non-concoction</td>
<td>( \leq 60 ) minutes of concoction ( \leq 30 ) minutes non-concoction (Department of health RI, 2008)</td>
</tr>
</tbody>
</table>
funds for medicine procurement obtained by researchers are better than research amounting to 10.98% and it can be said that the result cannot be categorized as effective (Oktaviani et al., 2018).

**Percentage of fund capital to total funds required**

To improve the quality of service to patients at pharmacies, sufficient funds are needed to meet medicine procurement needs (Mahdiyani et al., 2018). Data shows that the percentage of funds provided by facility owners for medicine procurement is 80% not according to standards (100%). Similar research conducted by (Ismaya et al., 2020) amounted to 80.80%. The planning and procurement must be appropriate so as not to have a negative impact on patient trust and loss in terms of funds. From the results of interviews with the finance department that the source of pharmacy funds only comes from the owner's funds and BPJS claims, where the lack of funds for pharmacy bills is caused by delays in disbursement of claims by BPJS, which obstructs medicine availability at the pharmacy.

**Frequency of incomplete order/contract letters**

On direct observation, by checking invoices and order letters there is no error whatsoever, which means that nothing is incomplete 0. Based on interviews conducted with warehouse officers, if after checking the order letter that comes to the pharmacy there is an error then at that time it is also corrected and the invoice the wrong one is immediately returned to the pPBF sender for reprints. The types of errors in order letters and invoices received include the number of goods that are less or less, which do not match the order letter or invoice received. The results obtained were better when compared to the Pharmacy Installation at Mutilan Hospital, which got 35.55% results, disrupting patient medicine services (stock out) because BPJS medicine often came incorrectly. Medicine orders are made through e-procurement using the e-catalogue web, it appears that medicine is available at the central level, however, after being ordered, the medicine are empty in the regional PBF, so they have to be replaced with the medicine of other brands with the same composition, which is more expensive than medicine available in the e-catalogue (Mahdiyani et al., 2018).

**The frequency of procurement of each medicine item per year**

The results show that the average procurement in pharmacies is based on the fact that is 3.5 times or about 4 times a year, namely orders with the e-purchasing system once a month to twice using e-catalogues and the calculation of the economic order quantum (EOQ) is 13.5 times. including the medium category, namely 12-24 time/year but this is not used to order medicine at pharmacies via e-purchasing. The results of interviews with procurement staff indicated that manual medicine procurement was still carried out if the medicine needed were immediate and if e-purchasing was not available or delivery to pharmacies was late. This is in line with (Winda, 2018) if the online procurement of medicine on the web has a problem, for example, electricity is interrupted, application errors and the network is not available. then ordering medicine by the manual method by the Procurement Officials is done without an application.
The frequency with which pharmacies are delayed in payment
The results show that the frequency of delayed payments to PBF by pharmacies is 22 times or still in the standard range of 0-25 times. Based on interviews in the financial section, the length of time for payments is caused by the delay in payment of claims by BPJS to pharmacies which can be one to four months, while the personal funds of the owner of the pharmacy facilities are insufficient to pay all bills. The impact of delayed payments also results in reducing the level of trust of suppliers in pharmacies. If the pharmacy continues to make arrears to PBF, there is a risk that the pharmacy will be sanctioned from not being allowed to order medicine until the arrears are paid off until the pharmacy cannot place orders with credit (must be cash on delivery), so the pharmacy must be able to have emergency funds to handle medicine payments (Winda, 2018).

Percentage of ordered and planned medicine items
The results show that the total suitability of planning with the actual use of medicinal items in the pharmacy is 118% and is still within the standard range so it can be said to be efficient. The results of interviews with pharmacists stated that private assistant pharmacies do have limited orders for medicinal items. The medicine that can be ordered in the e-purchasing application is a special medicine for referral back (PRB) but apart from PRB, the pharmacy also has a cooperation agreement with BPJS in the case of chronic drugs, while in e-purchasing it is not allowed for private pharmacies to access chronic medicine unless registered the medicinal item is the same. According to (Winda, 2018) the obstacle in the procurement of medicine that will be planned is that not all health facilities that serve DRR medicine have access to procurement which results in inconsistencies with planning. The provision of e-purchasing access for private service facilities is still based on recommendations from the Ministry of Health by making (RKO) through e-money for 3 years as one of the requirements. Based on these requirements, the medicine procurement process is carried out regularly at prices that match e-catalogue.

Distribution
The suitability of the data for the number of medicine and stock cards
The results show that 95% of the medicine items have matched after comparing the authenticity of the medicine on the stock card compared to the direct checking of available drugs. It is 100% at the pharmacy, it can be stated that the administration in the warehouse has not been implemented optimally. According to interviews with warehouse officers and pharmacist assistants, the difference between real stock and card stock was not optimal because they still used manual recording and had not used the pharmacy information system which resulted in human errors such as forgetting to take notes when the patient was busy at the pharmacy. In line with research (Oktaviani et al., 2018) at hospitals in NTB that the physical inadequacy of medicine with stock cards is 73% because warehouse administration has not used an information system so that pharmaceutical officers still use the manual recording for stock-taking so it is not optimal. Officers sometimes prefer manual methods so as not to be complicated.
**Turn over Ratio (TOR)**

To show that the medicine stock was bought several times and to be resold, the TOR value was used. The results show that the value of the Pharmacy is 8.9 times/year, which means that the value is still said to have met the standard. The higher the TOR value obtained, the more precise the medicine management is and the more pharmacies will benefit from selling medical supplies. Conversely, if the TOR is low, the medicine accumulates because it has not been sold and the profit will be small (Dyahariesti & Yuswantina, 2019). The solution to obtain maximum ITOR results is to improve the circulation system since planning or procurement, increase fast-moving medicine, and reduce slow-moving drugs. The results obtained were better than the ITOR value obtained by IFRS in the non-standard NTB area, namely 4.01 times/year, which means that the supply value is inefficient and can result in medicine being piled up and damaged (Oktaviani et al., 2018).

**Percentage of medicine that is expired**

The results showed that the medicine was expired and damaged 1.4%, which means it was not following the standard. After interviews with medicine procurement officials and pharmacist assistants, the medicine has expired or been damaged due to several medicine items that are 3 months before expiration but have already been opened their packages cannot be returned to pharmaceutical wholesalers (PBF) other than that there is no request from patients for some of these medicine items which causing some medicine to be damaged/expired. The results of expired or damaged medicine obtained were better when compared to the results from hospitals in NTB, namely 2.8% which was due to the lack of accuracy of hospital staff at the time of recording expired medicine and not being careful to pay attention to the records on the previous RKO so that some of the medicine was damaged until expired (Oktaviani et al., 2018).

**Percentage of expired stock**

The results showed that the percentage of expired stock was 3.4% where the value was still below the standard. From the results of the interview with the pharmacist's assistant, it was because the medicine was no longer prescribed. As a result of differences between the existing disease pattern and the amount of medicine needed, there is an expired stock which causes losses to the pharmacy which results in damaged or expired drugs. To minimize the occurrence of expired stock and medicine buildup, procurement planning should be carried out by considering the needs in pharmacies, quantities, similar medicine items, the same prices as those in the e-purchasing application, and the existing budget (Dyahariesti & Yuswantina, 2019).

**The level of medicine availability**

The data shows that the level of medicine availability at the Mita Farma Pharmacy is 11.35 that the standard value of medicine availability is 12-18 months so it can be said that it is not according to the standard. The results of interviews with pharmacists and companion pharmacists indicated that this was due to the changing patterns of prescribing by doctors which resulted in several medicine items piling up. Also, there is the possibility of being
tempted by bonuses or lots of discounts from the principal to the doctor who writes the prescription, and the patient sometimes asks for the type of medicine that is not needed for the therapy because of information from the advertising media. High availability of medicine can cause losses for pharmacies because capital does not rotate smoothly and medicine are damaged and expire due to accumulation. Furthermore, an in-depth evaluation is needed to make more selective planning and procurement to increase the availability of medicine in pharmacies which refer to aspects of medicine that are safe, appropriate, according to indications, and at affordable prices to minimize (Dyahariesti & Yuswantina, 2019).

Use

The number of medicinal items in each prescription
The results show that the medicine item written on each prescription at the MitaFarma Pharmacy is 3.04, which means that there is still a high number of prescriptions and this is still below standard. The results of interviews with pharmacists stated that MitaFarma Pharmacy serves chronic medicine and PRB, which means that most patients have a history of chronic disease and complications of several diseases that cause prescribing medicine to exceed the set standards. Writing the minimum number of medicine items is aimed at avoiding medicine interactions and reducing the impact of unwanted medicine side effects on patients. The same thing was also obtained from the pharmacy installation in the province in NTB which was 3.3, this is because of some patients, especially the elderly, experience some complications (Oktaviani et al., 2018).

Prescribing medicine with generic medicine content names
From the data, it shows that the medicine content containing the generic name written on the prescription at the Mita Farma Pharmacy is 91.24%, which means that it is in the standard range because the doctor is sufficiently aware and aware to prescribe according to the generic name. Prescribing generic medicine that is in accordance with standard standards means that interprofessional with various peers is well established for the realization of complete service to patients (Oktaviani et al., 2018). The results of interviews with pharmacists and pharmacist assistants stated that sometimes in one prescription there are one or two medicine items with a brand name other than generic, if the medicine brand is the winner of the tender in the e-catalogue then the medicine with that brand can be given, if the winner of the medicine item tender then the medicine to be given are generic drugs.

Percentage of medicine delivered to the patient
The results show that 98.72% of the medicine that can be delivered to patients at Mita Farma Pharmacy is efficient. From the results of interviews with pharmacists and pharmacist assistants, there are some prescriptions written and in the National Fornas but for private companion pharmacies, these medicine items are not included so that the medicine cannot be given at Mita Farma Pharmacy and there are several medicine items whose stock is empty. AtPBF so it can’t be left to the patient. The percentage value of medicine submitted was better than the results from the Muna General Hospital of 97.95% which was caused by the empty medicine in the warehouse and the
medicine prescribed by the doctor had not been received from the warehouse to the pharmacy (Ihsan et al., 2015)

*Percentage of medicine that can be completely labeled*

The results show that the medicine is labeled completely and correctly is 100%, meaning that it is in accordance with the established standards, this indicates that all staff at Mita Farma Pharmacy have labeled the etiquette correctly and the medicine before it reaches the patient's hands, must go through two checks, namely during the preparation stage and pharmacists and accompanying pharmacists check again before handing over the medicine so that it can minimize errors in labeling or information contained on each medicine and ensure that the medicine received by the patient is not wrong or is not confused with other patient medicine and helps patients remember the rules for taking / the rules for using the medicine it receives. The same thing was obtained from research (Oktaviani et al., 2018) which obtained 100% results, which means that pharmacists and staff at the Hospital Pharmacy Installation in NTB have labeled the etiquette correctly and always check before the medicine is delivered to minimize errors.

*The time it takes to serve a recipe*

During the prescription service process, it takes time from the prescription brought by the patient to the medicine delivered to the patient (Ihsan et al., 2015). The results of direct observations in the field show that prescription services are from 08.00-15.00 WITA for 7.5 minutes for non-concocted recipes and 17 minutes for recipes that require a compounding process. Longer preparation time for concoction prescriptions is needed because the medicine must be adjusted in advance to the dosage and dosage that is owned and most patients who use the mixture are toddlers, children, and patients who have difficulty taking the medicine orally. These results are in accordance with the predetermined indicator standards. The faster the prescription service time, the better the pharmaceutical service process.

**CONCLUSION**

The procurement of e-purchasing in 2019 is carried out using planning, procurement, distribution, and usage methods. 100% conformity of medicine items with Fornas; the percentage of medicine allocation and procurement of 46.8%; frequency of medicine procurement per item per year by 80%; no order letter is lacking/wrong invoice; the payment that has been agreed upon is delayed 22 times; planning accuracy 118%; the accuracy of the data on the amount of medicine stock on the stock card is 95%; TOR of 8.9 times; expired medicine by 1.4%; expiredstock by 3.4%; the level of medicine availability 11.35; the number of medicinal items in one prescription is 3.04; prescription with the name of generic medicine content was 91.24%; medicine that can be delivered is 98.72%; All medicine was completely labeled and the average time required to prepare non-concocted medicine was 7.5 minutes and for concoctions 17 minutes. The suggestions that researchers can give to the Mita Farma Pharmacy are to maintain the accuracy of the stock cards so that they consider the procurement for the Diapotek medicine information system software that can facilitate regular checking. Suggestions to reduce the
percentage of expired stock, namely if there is a medicine item whose distribution is not smooth, it should be discussed with the prescribing doctor and to increase the percentage of capital funds, it is expected to prepare an emergency fund to avoid delays in paying pharmacy bills.

REFERENCES

Kabupaten Rokan Hulu Tahun 2018. Jurnal Penelitian Farmasi Indonesia, 8, 1.


Winda, 2018)