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Covid-19 Drug Control Based on BPOM Informatorium with ABC Method at the Pharmacies of Bandung City

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Abstract

According to statistical data from JHU CSSE COVID-19 in June 2021, there was an increase in positive cases of Coronavirus and began to decline at the end of August 2021. The planning that has been made must be corrected using the ABC method because a type of drug can consume a large budget if it is used a lot and is expensive. The purpose of this ABC value analysis is to identify the types of drugs from the scale of use that require the most costs. This type of non-experimental research uses descriptive methods through retrospective quantitative data collection using previous data, namely June – August 2021. Based on the scale of the use of Covid-19 drugs which are included in group A with the highest number of uses, it is necessary to ensure the availability of sufficient stock for avoid stock shortages that can hamper patient care in hospitals and can cause losses to hospitals. Drugs that are included in group B are adequately controlled by using warehouse stock cards and stock cards in the compounding and retail sales rooms. Drug group C needs to be controlled so that the number of drugs is not too excessive to avoid losses due to expired or damaged drugs. A review of the ABC analysis can be carried out annually along with the determination of the use of a standard drug list and the preparation of an annual budget plan.

Keywords: Covid-19, BPOM informatorium, ABC method, harmacies, drug control.

1. Introduction

Coronavirus (COVID-19) began to spread in December 2019 and was recognized in early January 2020. This virus spread in China in mid to late January. As of March 24, 2020 the virus has caused the death of more than 16,600 people worldwide with more than 380,000 people confirmed to be infected with it, of which more than 10,000 of them have serious symptoms (Hua & Shaw, 2020; Karampela & Dalamage, 2020; Pani et al., 2020). As many as 184 out of 195 countries are infected with this virus, including Indonesia.

The spread of Coronavirus in Indonesia has dramatically increased since the announcement of its first case on March 2, 2020 (Biotechnology -Lipi, n.d.). As of October 2021 positive cases of Coronavirus in Indonesia reached 4.2 million and those who died reached 143 thousand (JHU CSSE, n.d.). According to JHU CSSE COVID-19 statistical data, in mid-June 2021 there was an increase in positive cases of Coronavirus and in mid-July 2021 the peak of positive cases was the highest and began to decline at the end of August 2021.

The COVID-19 pandemic has had an impact on the world economy, including the pharmaceutical sector. Although there is currently no definitive treatment for this new infectious disease, the pharmaceutical industry is assisting governments to address the unmet needs of COVID-19, from research and action development on potential treatment strategies to balancing the supply chain of medicines at critical times (Ayati et al. al., 2020; Dabbous et al., 2021).

The increase in positive cases of Coronavirus has caused the demand for drugs and vitamins for this virus to increase. Many patients come to the pharmacy to buy drugs or vitamins to treat or prevent Coronavirus. So planning drugs and vitamins for Coronavirus in pharmacies is very important so that there are no mistakes when procuring drugs. Good drug planning has a very important role in determining drug stocks that are in accordance with the needs of health services with guaranteed quality and can be obtained when needed. If the planning and procurement of drugs is managed with a poor system, it will cause a buildup of drugs and empty drug stocks (Prisanti, 2019; De Flora et al., 2020; Elbeddini et al., 2020).

ABC evaluation is an evaluation based on the economic value of goods. The planning that has been made must be corrected using the ABC method because a type of drug can eat up a large budget if it is used a lot and the price is

expensive. By evaluating the ABC value, the types of drugs that require the most costs can be identified (Bogadenta, 2012; Farizi & Harmawan, 2020).

Drug shortages are a problem for all health facilities, including pharmacies. The pharmacy is a place for pharmaceutical services that is easily accessible by consumers to carry out health efforts including purchasing necessities for the prevention or treatment of a disease. The fact is that now there has been a spread of a disease not only in Indonesia but in the world.

Planning medicines and vitamins when needed by patients or consumers, as it is now, is very important. Pharmacies have an important role to serve the community so that the needs of medicines and vitamins are met. But due to increased consumer demand caused by the surge in Coronavirus positive cases. Problems arise with drugs and vitamins that have not been able to meet consumer needs due to empty factories, scarce raw materials, resulting in empty drugs and vitamins distributors.

The period from June to August 2021 is the time when there is an increase in positive cases of COVID-19 compared to the previous months in 2021. The purpose of this study was to determine the number of Covid-19 drugs that fall into categories A, B, C based on the scale of use and the scale of the amount of investment in one of the Bandung City Pharmacies.

2. Literature Review

2.1. Medication Planning Evaluation

To ensure drug availability and budget efficiency, it is necessary to carry out an analysis during planning. Planning evaluation is carried out in the following way:

2.1.1. ABC analysis

ABC is not an abbreviation but a naming that shows the rank/ranking where the order starts with the best/most (KEMENKES RI 2019, n.d.). ABC analysis classifies pharmaceutical preparation items based on their funding requirements and usage, namely:

1) Group A
   Is a group of types of pharmaceutical preparations whose total value of the procurement plan shows the absorption of funds of around 70% of the total drug funds.
2) Group B
   Is a group of types of pharmaceutical preparations whose total value of the procurement plan shows an absorption of funds of around 20%.
3) Group C
   Is a group of types of pharmaceutical preparations whose total value of the procurement plan shows the absorption of funds of around 10% of the total drug funds.

Based on various observations in inventory management, what is most commonly found is that the level of consumption per year is only represented by a relatively small number of items. For example, from observations on the procurement of pharmaceutical preparations, it was found that most of the funds for pharmaceutical preparations (70%) were used to procure 20% of the most widely used types or items of pharmaceutical preparations, while the remaining 80% of types or items of pharmaceutical preparations used funds of 30 %. With ABC analysis, these types of pharmaceutical preparations can be identified, for further evaluation to be carried out. This evaluation is for example by correcting whether there are indeed many uses or whether there are alternative preparations that are more cost-efficient (eg other trade names, other dosage forms and so on). Evaluation of the types of pharmaceutical preparations that absorb the most costs is also more effective than evaluation of pharmaceutical preparations which require relatively little budget. Steps to determine Groups A, B and C:

1) Gather the pharmaceutical dosage requirements obtained from one of the planning methods, price lists for pharmaceutical preparations, and the costs required for each drug name. Then grouping into types/categories, and totaling the costs per type of pharmaceutical preparation category
2) Add up the total budget, then calculate the percentage of each type of pharmaceutical preparation to the total budget.
3) Re-order the types of pharmaceutical preparations above, starting with the type that consumes the highest percentage of costs.
4) Calculating the cumulative percentage, starting with the order 1 and so on.
5) Grouping based on drug use value, by sorting the value from the largest to the smallest value.
6) Identification of types of pharmaceutical preparations that absorb approximately 70% of the total budget (usually only a few pharmaceutical preparations are dominated).
7) Pharmaceutical preparations for group A are included in the accumulation of 70% (absorbs 70% of the budget) with 20% of drug items.
8) Group B pharmaceutical preparations are included in the accumulation of 71-90% (absorbs 20% of the budget) with 10% of drug items.

9) Group C pharmaceutical preparations are included in the accumulation of 90-100% (absorbs 10% of the budget) with a total of 70% of items.
10) The drug criteria included in the COVID-19 Drug Informaltory in Indonesia, Edition 3, are as follows (BPOM RI, 2021).

a) Al group
Medicines that have received EUAl approval for indications of COVID-19 in Indonesia in/always neutral references.
b) Group B
Drugs registered in Indonesia in/always negalral traffic with normal indications, but used as a test drug for COVID-19 (off label).
c) Group C
The medicine listed in the Clinical Malfunction of the Mental Health Clinic for COVID-19 in the Health Clinic.
d) Group D
Drugs that have not been registered in the country yet, but are currently being tested clinically and have the potential to prevent COVID-19.
e) Group E
Medicines used for adjuvant/tambal treatment for COVID-19 prevention.

There are many drugs that are used as test drugs for Covid-19. The government, through BPOM, has issued a Covid-19 Drug Informatory, editions 1, 2 and 3, which are carried out to ensure health checks in all Covid-19 Referral Hospitals in Indonesia. Following are the lists of Covid-19 drugs according to the BPOM Covid-19 Drug Informaltorium, edition 2 and 3 (BPOM RI, 2020):

Table 1: Of the BPOM COVID-19 Drug Informaltory edition 2 and 3

No	Medicine Name	Indication
1	Falvipiralvir	Antivirus
2	Oseltalmivir	Antivirus
3	Alzithromicin	Antibiotik
4	Levofloxalsine	Antibiotik
5	Alcetylsistein	Dahak Diluen
6	Sallbutalmol	Antiasmal
7	Palralcetalmol	Antipiretik
8	Vitalmin C	Vitamin
9	Vitalmin E	Vitamin
10	Vitalmin D	Vitamin
11	Dexalmethalsone	Kortikosteroid

3. Methodology

This study used a descriptive method through retrospective collection of quantitative data using previous data, namely June - August 2021. The research instrument was drug sales data for the period June - August 2021 which was taken from the Pharmacy Management Information System. The subjects in this study were populations taken from the pharmacy management information system to recognize data on the use of Covid-19 drugs in one of the Bandung pharmacies over a period of three months. The population in this study was all use of Covid-19 drugs in pharmacies over a 3 month period of 121 drug items.

The sample in this study is the population that meets the inclusion criteria, namely all Covid-19 drugs based on the BPOM Information sold during the period June - August 2021, the exclusion criteria are all drugs sold in the period June - August 2021 at pharmacies. The object of this research is the planning of Covid-19 drugs based on BPOM information at one of the Bandung City Pharmacies.

Data analysis procedures The steps used to conduct research:

1) Collect data on drug sales from licensed pharmacies during a predetermined period which will eventually become the population.
2) Based on the population sample, the research sample is drugs that are included in the COVID-19 drug.
3) Calculate the total balance in the sample, then calculate the percentage of COVID-19 drugs in the total sample sample.
4) Reorder the sample, starting with the type that uses the highest percentage of cost.
5) Grouping based on capitalization value and grouping based on investment value.
6) Then identify the COVID-19 drugs that belong to groups A, B, and C.

The data is processed using the Microsoft Excel application using the following formula:
The formula for finding the percentage of investment volume y = x/(∑x) x 100% abandoned :
y = % investment amount x = total investment
∑x = total investment for the period June-August 2021 The formula for finding the multiplication percentage z =a/c x 100% abandoned :
al = amount of drug abuse
c = total number of drug use in the period June-August 2021.

4. Discussion

4.1. Covid-19 Drugs on the Usage Scale

Evaluation of the ABC method is used to classify drug items for the BPOM's Covid-19 Information based on the rationality scale of the drugs available at the pharmacy, the value of the drug at the pharmacy is influenced by the number of drugs sold by the pharmacy, both prescription and non-prescription. The greater the number of Covid-19 drugs sold, the greater their value in use. Analysis of grouping data results of the magnitude of the analysis carried out at one of the Bandung city pharmacies, as seen in Table 2 and Table 3.

Table 2: Results of calculating Covid-19 drugs using the ABC method

Group	Number item of	% Item	Number of Usage	% Total Usage
A	13	10.74	19126	70.97
B	13	10.74	5490	20.37
C	95	78.51	2334	8.66
Total	121	100	26950	100

Table 3: List of Covid-19 Drugs ABC Method Usage scale

No	Medicine Name	Classification
1	SANMOL 500 MG TAlB	A
2	BECOM-ZET KAlPL @ 100	A
3	PAINAIDOL CAIPL 100'S	A
4	AIVIGAIN TAIBLET 200MG @10 X TAIB	A
	5 ZEGAIVIT KPL@50 A	
6	FAIVIPIRAIVIR 200 MG (DUS 100 TAIB)	A
7	CORTIDEX 0.5MG TAIB@100	A
8	FLUIMUCIL 200MG CA1P@60	A
9	SAINMOL FORTE TAIB@100	A
10	AIVICOV 200 MG TSS	A
	11 HI-D 5000 TAIB@30 A	
12	ENERVON - C TAIB @ 30 (UN)	A
13	SAILBUTAIMOL 4 MG (DUS 100 TAIB)	A
14	SAILBUTAIMOL 2 MG (DUS 100 TAIB)	B
15	SUMAIGESIC 600 MG TAIB @ 100 (UN	B
16	SURBEX-Z @ 30 TAIBLET	B
17	A1ZITHROMYCIN 500 MG (DUS 20 TAIB)	B
18	PROVE D3-1000 TAIB@30	B
19	AICETYLCYSTEIN 200MG@100 GNOV	B
20	ENERVON C FC TAIB @ 100 (UN)	B
21	OSELTAIMIVIR@100KPS	B
	22 BECOMCKPL@100g	
23	NAITUR E 100 IU SOFT CAIP @ 32	B
24	PAIRAICETAIMOL 500 MG (DUS 100 TAIB)	B
25	CAIVIT-D3 TAIB@100	B
26	BECEFORT STRIP ISI 4@100	B
	27 HI-D 1000 TAIB@30 C	

28	FLUIMUCIL 600MG TAIB EFF@10	C
29	NUTRIMAIX C MAIX 1000 TAIB@30	C
30	SIDO M VIT C 1000 SA1CH@6LEMON	C
31	VITAILONG C 500MG CA1P@100	C
32	NUTRIMAIX VIT D3 1000 IU TAIB@60	C
33	EVER E 250MG SOFT CA1P@30	C
34	NAITUR-E NR CAIP 300IU@32	C
35	PHAIRMAITON VIT KAIPLET	C
36	ZITHROMAIX 500MG TAIB@3	C
37	FLUIMUCIL 200MG SAICH@30	C
38	REDOXONZINCEFF@10ORAINGE	C
39	NAITUR E AIDVAINCED 16 S	C
40	SUPER ESTER C HOLISTICAIRE @48	C
41	ZITHRAIX 500MG CAIP@6	C
42	SURBEX T TA1B@ 30	C
43	N.BIOTECH THE RIGHT-C 300MG@30	C
44	CAILCIUM D REDOXON EFF@10	C
45	NUTRIMAIX C+ PLUS TAIB@30	C
46	LOVEQUIN 500 MG-STRIP 2X10 TAIBLET	C
47	CRAlVIT 500MG TAlB@10	C
48	NUTRIMAIX VITAIMIN D3 400 IU TAIB@30	C
49	ZIBRAIMAIX 500 MG KAIPL @ 6 (GDN)	C
50	HOLISTICAIRE ESTER C-1000 TAIB@30	C
51	VENTOLIN 2MG TAIB@30	C
52	SUPER ESTER C HOLISTICAIRE@30	C
53	WELLNESS EXCELL-C 300MG@30	C
54	N.PLUS VITAIMIN D3 400 IU@90	C
55	N.PLUS VITAIMIN D3 1000@180	C
56	NUTRAICAIRE VITAIMIN C 500 @30	C
57	WELLNESS VITAIMIN D3 1000 CAIP@60	C
58	WELLNESS VITAIMIN D3 CAIP@60	C
59	NUTRIMAIX C MAIX 300 TAIB@30	C
60	CAILCIUM D REDOXON EFF ORAING@15	C
61	FLUIMUCIL SYR 75ML	C
62	ERPHAILIVITAI SYR 120ML	C
63	NUTRIMAIX C+ PLUS TAIB@60	C
64	WELLNESS EXCELL-C 1000MG TAIB@30	C
65	LEVOCIN 500MG TAIB@18	C
66	MEZAITRIN 500MG KPL@6	C
67	TREELAINS C COMBO TAIB@30	C
68	NAITROL EAISY-C 500MG TAIB@90	C
69	TREELAINS C 1000 MGTIME TAIB@30	C
70	WELLNESS EXCELL-C 1000MG TAIB@60	C
71	NUTRIMAIX COMPL MULT & MIN @	C
72	NUTRIMAIX VIT D3 400 IU TAIB@120	C
73	NUTRIMAIX VITAIMIN D3+K2 CAIP@30	C
74	WELLNESS VIT E W SOL BOGO@60DB	C
75	CRAIVIT 750MG KPL@10	C
76	FLUVIR @1 X 10 CAIP	C
77	WELLNESS CHILD MULTI LIQ 240ML	C
78	NUTRIMAIX RAIINBOWKIDS 120ML	C

79	WELLNESS EXCELL-C 500MG@60	C
80	PROVE D3 DROP 12,5ML	C
81	LAISAIL EXP SYR 100ML	C
82	REDOXON ZINC EFF@10 BLA1CKCURRAI	C
83	CAILCIUMI D REDOXON EFF NEW@20	C
84	BIOPRAIDYN KPL@60	C
85	N.PLUS AINIMAIL PAIRAIDE LIQ 8 OZ	C
86	NAITROL EAISY C 1000MG TAIB@45	C
87	NUTRAICAIRE ESTER C 500TA1B@75	C
88	CAILCIUM D REDOXON FRUIT EFF@10	C
89	EVER E 250MG CAIP@12	C
90	ZIBRAIMAIX SIRUP KERING 15 ML (G	C
91	NUTRAICAIRE MULTIVITAIMIN ONE/DAIY	C
92	NUTRIMAlX VITAlMIN D3 400 IU SYRUP 120ML	C
93	TREELAIINS C COMBO TAIB@60	C
94	NUTRAICAIRE VIT E MIX TOCOPHEROL	C
95	BECEFORT SYR 60ML	C
96	ZITHROMAIX POS 600 SYR	C
97	NUTRIMAIX C+ PHYTOGREEN AIDUL@30	C
98	VENTOLIN SYR 100ML	C
99	WELLNESS GUMMY KIDS@30	C
100	ERLIMPEX BPLEX-C KPL@30	C
101	N.HEAILTH VITAIMIN-E 400IU@100	C
102	NUTRIMAIX SELENOMAIXA1,C,E@30	C
103	TREELAIINS VIT E 400IU CA1P@60	C
104	VENTOLIN EXP SYR 100ML	C
105	WELLNESS EXCELL-C BETAIGLUCAIN	C
106	N.HEAILTH OPTIMAI MULTIVIT @60	C
107	N.PLUS REGENERATION@90	C
108	N.PLUS VIT.C 500MG S/R@90	C
109	TREELAINS VIT C 1000T/R W/ROSE	C
110	LAISAIL SYR 100ML	C
111	NUTRIMAIX NUTRI KIDZ TAIB@30	C
112	WELLNESS MULTIVITAIM2-A1-DAIY120	C
113	N.PLUS SUPER C-COMPLEX SR@60	C
114	NUTRIMAIX C+ JUNIOR W/PHYTO@60	C
115	WELLNESS AINTIOXIDAINT FORMUL@30	C
116	WELLNESS EXCELL-C+QUAIRCETIN@30	C
117	G.BEAIR VIT C + QUERCETIN@30	C
118	SEA1 QUIL SELENIUM AICE SOFS@30	C
119	SEA1 QUIL VIT C-1000MG WITH ROSE HIPS@30	C
120	WELLNESS MULTIVITAIM2-A1 DAIY 60	C
121	SEA1 QUIL VIT E 400IU CAIP@60	C

4.2. Covid-19 medicine on an investment scale

The evaluation of the ABC method is based on the investment used to classify Covid-19 drug items in BPOM Information based on the budget issued and the drug investment completed. The amount of investment per item of Covid-19 medicine is obtained from the initial need for the total amount of drug consumption every 3 months (June-August 2021) in terms of medicine. After obtaining the total investment per Covid-19 drug item, the investment

amount is sorted from the largest to the smallest rupiah amount so that the drug items that later become alkaline in that group actually have an impact on investment in pharmacies.

The grouping of the results of data analysis on the amount of use carried out at one of the Bandung Pharmacies can be seen in Table 4 and Table 5.

Table 4: Results of calculating the Covid-19 drug using the ABC investment scale method

Classification	Number of Item	% Item	Investment		% Investment
A	16	13.22	IDR	224,592,493	70.23
B	33	27.27	IDR	64,300,157	20.11
C	72	59.50	IDR	30,919,305	9.67
Jumlalh	121	100	IDR	319,811,955	100

Table 5: List of Covid-19 Drugs ABC Method Investment scale

No	Medicine Name	Classification
1	AlVIGAlN TAlBLET 200MG @10 X 10 TAlB	Al
2	FAlVIPIRAlVIR 200 MG (DUS 100 TAlB)	Al
3	AlVICOV 200 MG TSS	Al
4	NUTRIMAlX C MAlX 1000 TAlB@30	Al
5	NUTRIMAlX VIT D3 1000 IU TAlB@60	Al
6	N.PLUS VITAlMIN D3 1000@180	Al
7	FLUIMUCIL 200MG CAlP@60	Al
8	OSELTAlMIVIR @100 KPS	Al
9	ZITHROMAlX 500MG TAlB@3	Al
10	ZEGAlVIT KPL@50	Al
11	N.PLUS VITAlMIN D3 400 IU@90	Al
12	NUTRIMAlX C+ PLUS TAlB@30	Al
13	BECOM-ZET KAlPL @ 100	Al
14	HI-D 5000 TAlB@30	Al
15	WELLNESS VIT E W SOL BOGO@60DB	Al
16	FLUIMUCIL 600MG TAlB EFF@10	Al
17	REDOXON ZINC EFF@10 ORAlNGE	B
18	NAlTROL EAlSY-C 500MG TAlB@90	B
19	NUTRIMAlX C+ PLUS TAlB@60	B
20	SURBEX-Z @ 30 TAlBLET	B
21	WELLNESS VITAlMIN D3 1000 CAlP@60	B
22	ZITHRAlX 500MG CAlP@6	B
23	SAlNMOL 500 MG TAlB	B
24	NUTRAlCAlRE VITAlMIN C 500 @30	B
25	N.BIOTECH THE RIGHT-C 300MG@30	B
26	WELLNESS EXCELL-C 1000MG TAlB@60	B
27	WELLNESS VITAlMIN D3 CAlP@60	B
28	AlZITHROMYCIN 500 MG (DUS 20 TAlB)	B
29	TREELAlINS C COMBO TAlB@30	B
30	WELLNESS CHILD MULTI LIQ 240ML	B
31	WELLNESS EXCELL-C 300MG@30	B
32	TREELAlINS C 1000 MGTIME TAlB@30	B
33	NUTRIMAlX COMPL MULT & MIN @ 30	B
34	PROVE D3-1000 TAlB@30	B
35	WELLNESS EXCELL-C 1000MG TAlB@30	B
36	CAlLCIUM D REDOXON EFF@10	B

37	N.PLUS REGENERAlTION@90	B
38	PAlNAlDOL CAlPL 100'S	B
39	CRAlVIT 500MG TAlB@10	B
40	PROVE D3 DROP 12,5ML	B
41	NUTRAlCAlRE ESTER C 500TAlB@75	B
42	LOVEQUIN 500 MG-STRIP 2X10 TAlBLET	B
43	ZIBRAIMAIX 500 MG KAIPL @ 6 (GDN)	B
44	TREELAIINS C COMBO TAIB@60	B
45	WELLNESS EXCELL-C 500MG@60	B
46	NAITROL EAISY C 1000MG TAIB@45	B
47	N.PLUS AINIMAIL PAIRAIDE LIQ 8 OZ	B
48	ENERVON - C TAIB @ 30 (UN)	B
49	NUTRIMAIX VITAIMIN D3+K2 CA1P@30	B
50	SUPER ESTER C HOLISTICAIRE@30	C
51	FLUIMUCIL SYR 75ML C	
52	CAILCIUM D REDOXON EFF ORAING@15	C
53	BIOPRAIDYN KPL@60 C	
54	TREELAINS VIT C 1000T/R W/ROSE	C
55	NUTRIMAIX RAIINBOW KIDS 120ML	C
56	NUTRIMAIX VIT D3 400 IU TAIB@120	C
57	WELLNESS MULTIVITAIM 2-A1-DA1Y120	C
58	TREELAIINS VIT E 400IU CAIP@ 60	C
59	NUTRIMAIX VITAIMIN D3 400 IU TAIB@30	C
60	HI-D 1000 TAIB@30 C	
61	BECOM C KPL@100 C	
62	CAIVIT-D3 TAIB@100 C	
63	NUTRAICAIRE VIT E MIX TOCOPHEROL	C
64	N.HEAILTH VITAIMIN-E 400IU@100	C
65	AICETYLCYSTEIN 200MG@100 GNOV	C
66	NUTRAICAIRE MULTIVITAIMIN ONE/DAIY	C
67	NUTRIMAIX C MAIX 300 TAIB@30	C
68	N.HEAILTH OPTIMAI MULTIVIT @60	C
69	NUTRIMAIX SELENOMAIX A1,C,E@30	C
70	FLUIMUCIL 200MG SAICH@30	C
71	ZIBRAIMAIX SIRUP KERING 15 ML (G	C
72	LEVOCIN 500MG TAIB@18	C
73	ENERVON C FC TAIB @ 100 (UN)	C
74	CRAIVIT 750MG KPL@10	C
75	ZITHROMAIX POS 600 SYR	C
76	N.PLUS VIT.C 500MG S/R@90	C
77	ERPHAILIVITAI SYR 120ML	C
78	CORTIDEX 0.5MG TAIB@100	C
79	WELLNESS GUMMY KIDS@30	C
80	N.PLUS SUPER C- COMPLEX SR@60	C
81	SAINMOL FORTE TAIB@100	C
82	MEZAITRIN 500MG KPL@6	C
83	SUMAIGESIC 600 MG TAIB @ 100 (UN	C
84	PHAIRMAITON VIT KAIPLET	C
85	NUTRIMAlX C+ PHYTOGREEN AlDUL@30	C
86	CAlLCIUM D REDOXON EFF NEW@20	C

87	BECEFORT STRIP ISI4@100	C
88	EVER E 250MG SOFT CAP@30	C
89	NATUR E 100 IU SOFT CAP @ 32	C
90	WELLNESS EXCELL-C BETAGLUCAN	C
91	WELLNESS ANTIOXIDANT FORMUL@30	C
92	NATUR-E NR CAP 300IU@32	C
93	SIDO M VIT C 1000 SACH@6LEMON	C
94	ERLIMPEX BPLEX-C KPL@30	C
95	NUTRIMAX VITAMIN D3 400 IU SYRUP 120ML	C
96	WELLNESS MULTIVITAM 2-A DAY 60	C
97	LASAL EXP SYR 100ML	C
98	SEA QUIL SELENIUM ACE SOFS@30	C
99	VITALONG C 500MG CAP@100	C
100	REDOXON ZINC EFF@10 BLACKCURRA	C
101	NUTRIMAX C+ JUNIOR W/PHYTO@60	C
102	SEA QUIL VIT C-1000MG WITH ROSE HIPS@30	C
103	NUTRIMAX NUTRIKIDZTAB@30	C
104	CALCIUM D REDOXON FRUIT EFF@10	C
105	FLUVIR @ 1 X 10 CAP	C
106	VENTOLIN SYR 100ML	C
107	VENTOLIN EXP SYR 100ML	C
108	WELLNESS EXCELL-C+QUARCETIN@30	C
109	NATUR E ADVANCED 16 S	C
110	SEA QUIL VIT E 400IU CAP@60	C
111	EVER E 250MG CAP@12	C
112	SALBUTAMOL 4 MG (DUS 100 TAB)	C
113	PARACETAMOL 500 MG (DUS 100 TAB)	C
114	G.BEAR VIT C + QUERCETIN@30	C
115	SALBUTAMOL 2 MG (DUS 100 TAB)	C
116	SURBEX T TAB@30	C
117	HOLISTICARE ESTER C-1000 TAB@30	C
118	SUPER ESTER C HOLISTICARE @48	C
119	VENTOLIN 2MG TAB@30	C
120	BECEFORT SYR 60ML	C
121	LASAL SYR 100ML	C

5. Conclusion

Drugs that belong to group A are drugs that are often used (false moving). Drugs belonging to group A with the most optimal amount of alkalinization, it is necessary to ensure the availability of sufficient stock to avoid stock shortages which can hinder the delivery of counterfeit drugs at pharmacies and cause return losses (Halri Yalnti et al., 2016). Drugs included in category B are drugs with moderate alkalinization frequency (moderalte). So that drug supervision is not as strict as category A. Nevertheless, reports of the use of sisal in medicine are reported in detail to carry out secalral monitoring with kallal (Halri Yalnti et al., 2016). While drugs belonging to group C are drugs with a slow motion frequency. In this group of drugs, it is necessary to control inventory so that the amount of drugs is not too excessive to avoid losses due to drugs that are too high or too damaged. Whereas for class C drugs, efficiency is carried out by reducing the number of drug items. Reducing stocks of drugs belonging to group C can be done by returning drugs in sufficient quantities or by replacing similar drugs.

Group A absorbs very high investment, thus it is necessary to regulate inventory, especially trying to prevent stock buildup because medicines with high investment value also cause high storage costs. Reducing storage costs can be done by ordering periodically in small quantities. However, it is also necessary to pay attention so that stockouts do not occur because unplanned purchase costs are also high due to the high value of the drug (Halri Yalnti et all., 2016).

The drug control system using the ABC method needs to be reviewed periodically because of changes in price and usage which are influenced by disease trends and seasons. The ABC evaluation review can be carried out every 3 months at the same time as the preparation of the purchase budget plan.

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References

Ayati, N., Saiyarsarai, P., & Nikfar, S. (2020). Short and long term impacts of COVID-19 on the pharmaceutical sector. *DARU, Journal of Pharmaceutical Sciences*, *28*(2), 799–805. https://doi.org/10.1007/s40199-020- 00358-5

Bogadenta, A. (2012). *Pharmacy Management Management* (Edisi I.D-).

BPOM RI. (2020a). *Information on Covid-19 Drugs in Indonesia* (Edisi 1).

BPOM RI. (2020b). *Information on Covid-19 Drugs in Indonesia, Edition 2, Food and Drug Supervisory Agency of the Republic of Indonesia* (Edisi 2).

BPOM RI. (2021). *2019 (COVID-19). Edisi 3*.

Carr, A. C., & Rowe, S. (2020). The emerging role of vitamin c in the prevention and treatment of covid-19. In *Nutrients* (Vol. 12, Issue 11, pp. 1–8). MDPI AG. https://doi.org/10.3390/nu12113286

Dabbous, H. M., Abd-Elsalam, S., El-Sayed, M. H., Sherief, A. F., Ebeid, F. F. S., El Ghafar, M. S. A., Soliman, S., Elbahnasawy, M., Badawi, R., & Tageldin, M. A. (2021). Efficacy of favipiravir in COVID-19 treatment: a multi-center randomized study. *Archives of Virology*, *166*(3). https://doi.org/10.1007/s00705-021-04956-9

De Flora, S., Balansky, R., & La Maestra, S. (2020). Rationale for the use of N-acetylcysteine in both prevention and adjuvant therapy of COVID-19. *FASEB Journal*, *34*(10), 13185–13193. https://doi.org/10.1096/fj.202001807

Elbeddini, A., Tayefehchamani, Y., & Yang, L. (2020). Strategies to conserve salbutamol pressurized metered- dose inhaler stock levels amid COVID-19 drug shortage. *Drugs and Therapy Perspectives*, *36*(10), 451– 454. https://doi.org/10.1007/s40267-020-00759-1

Farizi, S. Al, & Harmawan, B. N. (2020). Data Transparency And Information Sharing: Coronavirus Prevention Problems In Indonesia. *Jurnal Administrasi Kesehatan Indonesia*, *8*(2), 35. https://doi.org/10.20473/jaki.v8i2.2020.35-50

Hua, J., & Shaw, R. (2020). Corona virus (Covid-19) "infodemic" and emerging issues through a data lens: The case of china. *International Journal of Environmental Research and Public Health*, *17*(7). https://doi.org/10.3390/IJERPH17072309

Indonesia, K. K. R. (2017). Regulation of the Minister of Health of the Republic of Indonesia Number 9 of 2017 concerning Pharmacies. Regulation of the Minister of Health of the Republic of Indonesia Number 9 of 2017 concerning Pharmacies, 1–36.

JHU CSSE. (n.d.). *COVID-19 Data Repository by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University*.

Karampela, I., & Dalamaga, M. (2020). Could Respiratory Fluoroquinolones, Levofloxacin and Moxifloxacin, Prove to be Beneficial as an Adjunct Treatment in COVID-19? *Archives of Medical Research*, *51*(7), 741–742. https://doi.org/10.1016/j.arcmed.2020.06.004

Kemenkes RI. (2021). *Decree of the Minister of Health of the Republic of Indonesia Number HK. 01.07/MENKES/4826/2021 Concerning the Highest Retail Prices for Medicines during the COVID-19 Pandemic. 2019*, 2019–2022.

Pani, A., Lauriola, M., Romandini, A., & Scaglione, F. (2020). Macrolides and viral infections: focus on azithromycin in COVID-19 pathology. In *International Journal of Antimicrobial Agents* (Vol. 56, Issue 2). Elsevier B.V. https://doi.org/10.1016/j.ijantimicag.2020.106053

Prisanti, W. and, A. K. N. S. M. P. and, S. D. S. K. M. P. (2019). *Analysis of Drug Planning and Procurement Using the ABC Analysis Method at the RSIA Aisyiyah Klaten Pharmacy Installation.*

World Health Organization. (2020). *Naming the coronavirus disease (COVID-19) and the virus that causes it*. 2020. https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/naming-the- coronavirus-disease-(covid-2019)-and-the-virus-that-causes-it

World Health Organization. (2022). *Tracking SARS-CoV-2 Variants* (https://www. who. int/en/activities/tracking-SARS-CoV-2-variants/).