



## Evaluation of the Use Off Label Drugs At the Obstetrics and Gynecology Polyclinic at Bandung Private General Hospital

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### Abstract

Off label drugs are drugs outside the indications listed on the label or outside the approval by the authorized institution. This research is a non-experimental type of research that is presented in a quantitative descriptive manner with retrospective data collection. The research sample is the same as the population (total sampling), namely all prescriptions containing off label drugs from an obstetrics and gynecology polyclinic at a private public hospital in Bandung district from May to August 2021. The purpose of the study was to evaluate the use of off label drugs in the indication category based on age, domicile, the type and use of off label drugs. The data obtained from this study were 154 drug users. off label, based on the age range of adolescents 27 (18%), adults 111 (72%), middle 16 (10%), while based on domicile most of the patients came from Baleendah sub-district 37 (24%). The types of drugs used were Mefenamic Acid 38%, Dexamethasone 3%, Metformin 12%, Misoprostol 23%, Nifedipine 8% and Ondansetron 16%. Patients using off label drugs are more common in adults with the drug used is mefenamic acid.

**Keywords:** Off label drugs, obstetrics and gynecology, age range, domicile.

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### 1. Introduction

Off label drugs are drugs outside the indications listed on the label or outside the approval of the authorized institution. The authorized agency in Indonesia is the BPOM, while in America it is the FDA (Food and Drug Administration) (Rusli, 2018). A total of 512 out of 656 obstetricians/gynecologists (78%) in Switzerland used misoprostol for labor induction (Krause et al., 2011).

Errors in providing drug information to patients with a diagnosis of Polycystic Ovarian Syndrome (PCOS) who were given metformin, the information provided was according to indications, namely drugs for diabetes mellitus while metformin in this therapy was indicated as an off label drug (RSU Bina Sehat Bandung, 2020).

The above description encourages researchers to conduct research on evaluating the use of off- label drugs in obstetrics and gynecology polyclinic with the aim of being able to provide information about the types and uses of off-label drugs in obstetrics and gynecology polyclinics, especially health workers such as midwives, nurses, pharmacists in hospitals so that there are no errors in providing information to patients and patients can get clear information and detail on all prescriptions and drugs received because it is the patient's right.

### 2. Method

#### 2.1. Types of research

This research is a type of non-experimental research which is described in a quantitative descriptive manner with retrospective data collection.

#### 2.2. Instrument

The main instruments of this study were off-label drug prescriptions and data on patient visitors to the obstetrics and gynecology polyclinic, while the additional instruments were research tables on types of off-label drugs and patient data including name, age, domicile and patient diagnosis.

### 2.3. Data analysis

The data obtained from the research instrument table is made in Microsoft Excel, the sum formula is used to determine the total value of each aspect. Researchers obtain the final value in the form of a percentage, with the formula:

$$\% = \frac{n}{t} \times 100\% \quad (1)$$

$n$  = number of off label drugs,

$t$  = total number of samples

### 2.4. Population

The population in this study were all prescriptions containing off-label drugs from the obstetrics and gynecology polyclinic in a private public hospital in Bandung district from May to August 2021.

### 2.5. Sample

The sampling technique was carried out by total sampling, where the sample was equal to the total population of the study, namely 154 prescription samples.

### 2.6. Object of research

The object of this study was an evaluation of the use of off-label drugs in the obstetrics and gynecology polyclinic in a private public hospital in Bandung district.

## 3. Results

Age range of obstetric patients and the content of off-label drug users

Age range	Total	Percentage (%)
Children (6-11)	0	0
Youth (12-24)	26	17
Adult (25-44)	113	73
Mid (45-54)	15	10
Elderly (55-74)	0	0
Old Elderly (75-90)	0	0
<b>Total</b>	<b>154</b>	<b>100</b>

### 3.1. Domicile of obstetrics and obstetric polyclinic patients who use off-label drugs

**Table 2: Coverage of obstetrics and gynecology polyclinic patients**

District Name	Total	Percentage (%)
Arjasari	14	9
Baleendah	40	26
Bojongsoang	14	9
Cangkuang	4	3
Ciparay	6	4
Cimaung	14	9
Cisewu	4	2
Dayeuhkolot	14	9
Katapang	3	2
Pameungpeuk	26	17
Banjaran	15	10
<b>Total</b>	<b>154</b>	<b>100</b>

### 3.2. Types of off label drugs in obstetrics and gynecology polyclinics

**Table 3:** Number of types of off label drugs

Drugs	Total	Percentage (%)
Mefenamic acid	58	38
Dexametason	5	3
Metformin	19	12
Misoprostol	35	23
Nifedipin	12	8
Ondansetron	25	16
Total	154	100

## 4. Discussion

Based on the age range, the most users of off-label drugs were adult patients aged 25-44 years, as many as 113 (73%), this could be due to several factors, one of which is the productive age of a woman. As many as 90% of women of childbearing age have good knowledge of the danger signs of pregnancy. When a pregnant woman knows the risk of harm to her pregnancy, the pregnant woman will immediately consult a specialist in obstetrics and gynecology. In the second position there is a group of adolescents with an age range of 12 -24 years as many as 26 (17%), this is related to the puberty of a woman which is characterized by menstruation and a risky pregnancy. It is said that 75% of adolescents experience complaints of PUA (Abnormal Uterine Bleeding) or excessive menstrual bleeding known as heavy menstrual bleeding and heavy and prolonged menstrual bleeding (heavy and prolonged menstrual bleeding) (Deligeorglou, 2013).

Pregnancy in women who marry at an early age has a higher risk of death due to complications during pregnancy and childbirth than adult women, one of which is preeclampsia. Based on the results of the study, 58 respondents (32.4%) experienced preeclampsia in pregnant women at risk and 25 respondents (14%) were pregnant women who were not at risk (Fitriani et al., 2021).

The third position is occupied by middle age, namely 45 -54 years as many as 15 (10%), the same is a factor when people come to the obstetrics and gynecology polyclinic, namely menstrual disorders or PUA (Abnormal Uterine Bleeding) and pregnancies that are at risk. At the age of 45-54 years, the incidence of PUA (Abnormal Uterine Bleeding) increases as a result of approaching menopause. In the study at Abdul Wahab Sjahranie Hospital Samarinda for the 2015-2016 period, the highest frequency of PUA (Uterus Uterine Bleeding) was 41-50 years of age with 89 cases (53.94%) and the frequency at least at the age of > 60 years, namely 3 cases (1.82%) (Bacon, 2017).

Patients over 35 years of age have risky pregnancies, one of which is abortion. 42% of abortions occurred in the age group over 35 years, followed by the age group 30-34 years and between 25-29 years (Oliveira, 2020).

Characteristics of obstetric polyclinic patients and content users of off label drugs based on domicile showed the highest rate in Baleendah sub-district with 40 prescriptions with a percentage of 26%. Distance is a major factor for individual considerations in choosing a health care institution or hospital (Tang, 2013).

Recipe sheets containing off-label drugs came from obstetrics and gynecology polyclinic patients, the most types of off-label drugs used were mefenamic acid as many as 58 recipes with a percentage of 38%, this was due to several factors, one of which was factor in the incidence of PUA (Abnormal Uterine Bleeding) which occurs a lot in patients at the polyclinic specializing in obstetrics and gynecology. In patients with a diagnosis of PUA (Abnormal Uterine Bleeding), doctors choose mefenamic acid as a pain medication here because apart from being used as a pain medication, mefenamic acid can also help reduce bleeding that occurs in the uterus. In one study it was concluded that mefenamic acid can reduce irregular uterine bleeding in the short term but not in the long term (Tantiwattanakul and Taneepanichskul 2004).

The second off label drug that is often used is misoprostol with 35 prescriptions (23%). A total of 512 out of 656 obstetricians/gynecologists (78%) in Switzerland used misoprostol for labor induction term (Tantiwattanakul and Taneepanichskul 2004). In a study it was concluded that in the progress of labor giving misoprostol to women giving birth with indications of PROM (Premature Rupture of the Membranes) is more effective compared with intravenous oxytocin administration (Wing, 2004).

The third most common drug is ondansetron with a total of 25 prescriptions or 16%, the label explains the use of ondansetron as a treatment for nausea and vomiting due to chemotherapy and radiotherapy and surgery, while in obstetric polyclinic patients and the content of ondansetron is used as a medicine for nausea and vomiting in pregnant women, known as Hyperemesis Gravidarum (HG). The fourth position is metformin with 19 prescriptions (12%), known as an antidiabetic drug but by obstetricians and the content of metformin used off label as a therapy for Polycystic Ovarian Syndrome (PCOS). The use of metformin with a diagnosis of PCOS has shown an increase in

insulin sensitivity accompanied by a decrease in insulin and androgen levels, and metformin is now an established treatment for people with PCOS (Kjøtrød, 2011).

The fifth position is nifedipine with 12 prescriptions with a percentage of 8%. Nifedipine is known as an antihypertensive drug, but in pregnancy apart from being an antihypertensive nifedipine can prevent or treat the occurrence of preeclampsia or Partus Prematurus Imminens (PPI) as well as a tocolytic agent in pregnancy. The success rate of nifedipine therapy as a tocolytic in Partus Prematurus Imminens (PPI) patients at Sanglah Central General Hospital Denpasar in 2014-2016 was 47.05% (Oktavia, 2017).

The sixth type of off-label drug is dexamethasone injection with 5 prescriptions (3%). Dexamethasone is known as a corticosteroid drug, in pregnancy problems dexamethasone is used as a ripening agent for the fetal lungs. A study provides recommendations for the administration of corticosteroids to accelerate lung maturation and reduce infant morbidity and mortality in patients with premature rupture of membranes (PROM) (Indra Gunawan, 2021).

## 5. Conclusion

The number of obstetrics and gynecology polyclinic patients who used off-label drugs was 154 patients with patient characteristics seen by age range dominated by adult patients with an age range of 25-44 years as many as 113 patients with a percentage of 73%, while based on the domicile sub-district the obstetrics polyclinic and obstetrics, the most patients were in the Baleendah sub-district with a total of 40 patients with a percentage of 26%. The most used off-label drug is mefenamic acid. Percentage of each type of off-label drug used in the obstetrics polyclinic and the ingredients include mefenamic acid 38%, dexamethasone 3%, metformin 12%, misoprostol 23%, nifedipine 8% and ondansetron 16%.

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