



The Prescribing Pattern of Methyldopa in the Outpatient Setting

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Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

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ABSTRACT

Aim: This study aimed to describe the prescribing pattern of methyldopa in a public hospital in Alkharj.

Methodology: This is a retrospective study that was conducted to know the prescribing pattern of methyldopa. The data were collected from the outpatient electronic prescriptions in a public hospital in Alkharj in 2017 and 2018.

Results: Only 27 patients in the outpatient setting received methyldopa in 2017 and 23 patients in 2018. all of the patients who received methyldopa were females. Most of the prescribers were residents (82.61%) and only 17.39% were consultants. About 82.61 % of the prescriptions were written by obstetrics and gynecology department.

Conclusion: The prescribing of methyldopa is infrequent in the outpatient setting. Although it is generally safe, it may cause numerous side-effects as well as it can interact with other medications, so it is important to monitor its prescribing trends to ensure that it is prescribed appropriately.

Keywords: Antihypertensive; methyldopa; pattern; prescribing.

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1. INTRODUCTION

Hypertension is the most common modifiable risk factor for cardiovascular diseases, stroke and renal failure [1]. Clinical evidence suggests that reducing blood pressure with antihypertensive drugs reduces the risk of end-stage renal diseases, stroke, revascularization procedures, heart failure and heart attack in hypertensive patients [2]. The increasing prevalence of hypertension has been attributed to population growth, exposure to persistent stress, behavioral risk factors (such as sedentary lifestyle) and aging [3]. About 9.4 million deaths occur worldwide every year because of hypertension [3], with it being responsible for around 50% of deaths due to stroke and heart disease [4].

There are numerous pharmacological classes of antihypertensive drugs that are used to manage hypertension including angiotensin-converting enzyme inhibitors, beta-blockers, angiotensin II receptor antagonists, centrally acting agents, diuretics, direct-acting vasodilators, renin inhibitors, calcium channel blockers and alpha-adrenergic receptor blockers [5].

Methyldopa is a centrally acting sympatholytic drug used in hypertension treatment. Since its introduction in 1960, this medication quickly became a leading antihypertensive, but its use has reduced noticeably, replaced by better-tolerated alternatives [6]. It is still in use in several developing countries because of its low cost [6]. Methyldopa is used to treat high blood pressure by relaxing the blood vessels so that blood can flow more easily through the body [7]. This medicine is also useful in pregnancy because it has no teratogenic effects [8]. Common side-effects of it include feeling sleepy, tired, weak as well as headache [9]. FDA reported that sedation may occur during the initial period of therapy or whenever the dose is increased but it is usually transient and that asthenia, headache or weakness may be also noted as early and transient symptoms. FDA also reported that significant adverse effects due to it have been infrequent and this agent usually is well tolerated [10].

There are few studies about the pattern of prescribing methyldopa in our region. Therefore, this study aimed to describe the prescribing pattern of methyldopa in a public hospital in Alkharj.

2. METHODOLOGY

This is a retrospective study that was conducted to know the prescribing pattern of methyldopa. The data were collected from the outpatient electronic prescriptions in a public hospital in Alkharj in 2017 and 2018.

The electronic prescriptions that included methyldopa in 2017 and 2018 were included. The prescriptions before 2017 or after 2018 and the prescriptions that didn't include methyldopa were excluded.

The data were collected after the approval of the study by Institutional Review Board committee with a log number 20-131E. These data include number of patient receiving methyldopa, personal data, the prescribing departments and the level of the prescribers. The data were analyzed using Excel software and represented as percentages and frequencies.

3. RESULTS AND DISCUSSION

Only 27 patients in the outpatient setting received methyldopa in 2017 and 23 patients in 2018. The number of patients who received methyldopa in the 2 years is shown in Table 1.

Table 1. Number of patients who received methyldopa in 2017 and 2018

Year	Number of patients
2017	27
2018	23
Total	50

The data were available for 2018 prescriptions but for the prescriptions that were prescribed in 2017 only the number and dosage form were available. As shown in Table 2, all of the patients who received methyldopa in 2018 were females.

Table 2. Personal data who received methyldopa in 2018

Variable	Category	Number	Percentage
Gender	Male	0	0.00
	Female	23	100.00
Age	20-29	3	13.04
	30-39	14	60.87
	40-49	6	26.09

Table 3 shows the level of the prescribers. Most of the prescribers were residents (82.61%) and only 17.39% were consultants.

Table 3. The level of the prescribers

Level of the prescribers	Number	Percentage
Residents	19	82.61
Consultant	4	17.39
Specialist	0	0.00

Table 4 shows the prescribing departments. About 82.61 % of the prescriptions were written by obstetrics and gynecology department and about 13.04% were prescribed by emergency departments.

Table 4. The prescribing departments

Departments	Number	Percentage
Obstetrics and gynecology	19	82.61
Emergency	3	13.04
Nephrology	1	4.35

The present study showed that the prescribing of methyldopa is infrequent in the outpatient setting. For example, among the 1838 antihypertensive drugs that were prescribed in 2018 only 23 patients received it (1.25%). Similarly, Ahmed et al reported that methyldopa represents only about 1 % of the prescribed antihypertensive drugs in the outpatient setting [11]. Furthermore, Etuk et al. [12] study that was conducted in Nigeria and Veeramani and Muraleedharan study that was conducted India observed low frequency of prescribing methyldopa [13]. Contradictory to our results, Eze and Olowu reported that nifedipine and methyldopa were the most frequently prescribed antihypertensive medications in elderly outpatients [14].

All of the patients who received methyldopa were females and most of the patients who received methyldopa were adult. Additionally, the majority of the prescriptions were written by obstetrics and gynecology department. This results are rational because methyldopa usually used for the treatment of hypertension in pregnancy. Previous studies stated that methyldopa and labetalol are generally considered in guidelines as the preferred agents/first line for hypertension management in pregnancy [15-17]. Shekhar et al reported that the majority of the preeclampsia patients seen in age groups 36-41 (28.6%) and that the main medications prescribed in their study were labetalol and methyldopa [18]. Xie et al [19] stated that the use of antihypertensive drugs in pregnancy is relatively common and that methyldopa was the most frequently used drug [19].

4. CONCLUSION

The prescribing of methyldopa is infrequent in the outpatient setting. Although it is generally safe, it has common side-effects such as feeling sleepy, tired, weak as well as headache in addition to that it can interact with other medications, so it is important to monitor its prescribing trends to ensure that it is prescribed appropriately. In addition to that health care workers should attend awareness programs and workshops to prescribe, dispense and administer it correctly and to counsel hypertension patients about its use.

CONSENT

It's not applicable.

ETHICAL APPROVAL

It's not applicable.

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DISCLAIMER

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COMPETING INTERESTS

Author has declared that no competing interests exist.

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