

## Original Research Article

### The Prescribing of Calamine Lotion in Alkharj

#### ABSTRACT

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

**Methodology:** This retrospective study included the electronic prescriptions of outpatients in a public hospital in Al-kharj and aimed to describe the prescribing pattern of calamine lotion. The collected data included the personal data of the patients, the number of calamine lotion prescriptions in different months, the duration of calamine lotion, the level of prescribers, and the prescribing' departments.

**Results:** Most of the patients who used calamine lotion were male patients (62.12%) and most of them were less than 10 years old (72.73%). Most of the patients used calamine for 7 days (63.64%) and about 15.15% of them used it for 5 days. All of the prescribers were residents (100.00%). Most of the calamine prescriptions were prescribed by emergency department (98.48%).

**Conclusion:** Calamine lotion prescribing was uncommon in the outpatient setting in Al-kharj. More studies are needed to explore the frequency of prescribing of calamine lotion in other setting, and to explore the frequency of prescribing other alternative agents.

**Keywords:** calamine, outpatient, prescribing, zinc oxide

## **INTRODUCTION**

Calamine lotion is an over-the-counter (OTC) medication that that could be bought without a prescription [1]. It is a mixture of zinc oxide and other components [2]. Zinc oxide and ferric oxide give calamine lotion its medicinal properties [3].

Calamine is used to relieve the itching, pain, and discomfort of minor skin irritations. Additionally, it dries oozing and weeping caused by poison oak, poison ivy, and poison sumac [4]. Calamine is recommended for external use only [4].

Calamine lotion has few side effects when people use it safely but it can cause skin irritation or dry skin [5]. Calamine is not suitable for patients who are allergic to any of the active or inactive ingredients, for patients who experience side effects while using it, for patients who have an upcoming X-ray because the lotion can affect the results, and it is not suitable for patients who are under the age of 6 months [5].

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

## **METHODOLOGY**

This retrospective study included the electronic prescriptions of outpatients in a public hospital in Al-kharj and aimed to describe the prescribing pattern of calamine lotion. This study was approved by the hospital independent ethics committee.

The inclusion criteria included the outpatient prescriptions that contained calamine lotion. The exclusion criteria included all of the prescriptions that were prescribed by other departments in addition to the outpatient prescriptions that didn't include calamine lotion.

The collected data included the personal data of the patients, the number of calamine lotion prescriptions in different months, the duration of calamine lotion, the level of prescribers, and the prescribing' departments.

The results were represented in each table as a number in the first column and in the second column the percentages were calculated for all of these numbers by multiplying the numeric value of each ratio by 100.

## RESULTS and DISCUSSION

During the study period from 1<sup>st</sup> of January/2018 to 30<sup>th</sup> of June/2018, the outpatient pharmacy dispensed calamine lotion to 66 patients. Most of these patients were male patients (62.12%) and most of them were less than 10 years old (72.73%). Table 1 shows the personal data of the patients who received calamine lotion.

**Table 1.** The personal data of the patients (N=66).

Variable	Category	Number	Percentage
Gender	Male	41	62.12
	Female	25	37.88
Age	Less than 10	48	72.73
	10-19	4	6.06
	20-29	5	7.58
	30-39	6	9.09
	40-49	1	1.51
	50-59	1	1.51
	60-69	1	1.51
Nationality	Saudi	54	81.82
	Non- Saudi	12	18.18

Table 2 shows the number of calamine lotion prescriptions in different months. Most of the prescriptions were in April (31.82%) and March (19.70%).

**Table 2.** The number of calamine lotion prescriptions in different months.

Month	Number	Percentage
Jan	7	10.61

Feb	9	13.63
March	13	19.70
April	21	31.82
May	9	13.63
June	7	10.61

Table 3 shows the duration of calamine lotion use. Most of the patients used calamine for 7 days (63.64%) and about 15.15% of them used it for 5 days.

**Table 3.** The duration of calamine lotion.

Duration	Number	Percentage
14 Days	1	1.51
7 Days	42	63.64
5 Days	10	15.15
4 Days	3	4.55
3 Days	5	7.57
2 Days	5	7.57

Table 4 shows the level of prescribers who prescribed calamine. All of the prescribers were residents (100.00%).

**Table 4.** The level of prescribers.

Prescribers Level	Number	Percentage
Specialist	0	0.00
Resident	66	100.00
Consultant	0	0.00

Table 5 shows the departments that prescribed calamine. Most of the calamine prescriptions were prescribed by emergency department (98.48%).

**Table 5.** The prescribing' departments.

Department	Number	Percentage
Emergency	65	98.48
Dermatology	1	1.52
Total	66	100

Calamine lotion prescribing was uncommon in the outpatient pharmacy of a public hospital in Al-kharj. The low rate of its prescribing could be due to the availability of several over-the-counter medicines for itching such as creams and lotions that contain camphor, menthol, phenol, pramoxine, diphenhydramine, or benzocaine can bring relief. In addition to that some cases require the use of corticosteroid medications [6].

Most of the patients were less than 10 years. This is rational because younger patients usually developed itching problems more than adult. For example, heat rash is more common in infants than adults because they cannot control their temperature [7] and chickenpox also is mainly affects children [8], eczema is more common in babies because their skin barrier is more fragile than an adult's [9]. Additionally, generalized rashes over the whole body that are caused by viruses are more common in babies and young children than in adults [10].

All of the prescribers who write calamine prescriptions were residents and this result is also rational because calamine in OTC medications and is generally safe. Mak et al stated that calamine lotion is a safe topical agent for the relief of itch and minor skin irritation [11]. Gupta et al reported that calamine lotion contains zinc oxide or zinc carbonate and has an excellent safety profile [12].

Most of the prescriptions were prescribed in April (31.82%) and March (19.70%) and this is rational because allergies and related disorders are common in spring season [13].

Most of the calamine prescriptions were prescribed by emergency department because most patients with allergy, rashes, inflammations that needs calamine lotion prescription usually presents first at the emergency department/OPD and will proceed to other units. The main limitation in the study was that there was no diagnosis in the electronic records of the outpatient setting.

## **CONCLUSION**

Calamine lotion prescribing was uncommon in the outpatient setting in Al-kharj. More studies are needed to explore the frequency of prescribing of calamine lotion in other setting, and to explore the frequency of prescribing other alternative agents.

## **COMPETING INTERESTS DISCLAIMER:**

Authors have declared that no competing interests exist. The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

## ACKNOWLEDGEMENT

This Publication was supported by the Deanship of Scientific Research at Prince Sattam bin Abdulaziz University.

## REFERENCES

1. Healthline. Uses for Calamine Lotion and How to Apply. Access 06 November 2021. Available: <https://www.healthline.com/health/calamine-lotion-uses#poisonous-plants>.
2. Medicinenet. calamine and zinc oxide. Access 06 November 2021. Available: [https://www.medicinenet.com/calamine\\_lotion-topical/article.htm](https://www.medicinenet.com/calamine_lotion-topical/article.htm).
3. Medicalnewstoday. Calamine lotion uses for sunburn, acne, and more. Access 06 November 2021. Available: <https://www.medicalnewstoday.com/articles/calamine-lotion-uses#what-is-it>.
4. Mayoclinic. Calamine (Topical Route). Access 06 November 2021. Available: <https://www.mayoclinic.org/drugs-supplements/calamine-topical-route/description/drg-20062463>.
5. Medicalnewstoday. Calamine lotion uses for sunburn, acne, and more. Access 06 November 2021. Available: <https://www.medicalnewstoday.com/articles/calamine-lotion-uses#side-effects>.
6. Medicinenet. How to Stop Itching (Pruritus). Access 06 November 2021. Available: <https://www.medicinenet.com/itch/article.htm>.
7. NHS. Heat rash (prickly heat). Access 06 November 2021. Available: <https://www.nhs.uk/conditions/heat-rash-prickly-heat/>.
8. Mayoclinic. Chickenpox. Access 06 November 2021. Available: <https://www.mayoclinic.org/diseases-conditions/chickenpox/symptoms-causes/syc-20351282>
9. LLU. Pediatrician breaks down infant eczema and how best to combat it. Access 06 November 2021. Available: <https://news.llu.edu/health-wellness/pediatrician-breaks-down-infant-eczema-and-how-best-combat-it>
10. Healthlinkbc. Rash, Age 11 and Younger. Access 06 November 2021. Available: <https://www.healthlinkbc.ca/health-topics/rsh10>
11. Mak MF, Li W, Mahadev A. Calamine lotion to reduce skin irritation in children with cast immobilisation. *J Orthop Surg*. 2013;21(2):221-5.
12. Gupta M, Mahajan VK, Mehta KS, Chauhan PS. Zinc therapy in dermatology: a review. *Dermatol Res Pract*. 2014;2014:709152.
13. Accuweather. Spring allergies: Itchy skin causes and treatments. Access 06 November 2021. Available: <https://www.accuweather.com/en/health-wellness/spring-allergies-itchy-skin-causes-and-treatments/706195>.