

## Comparison between 25% benzyl benzoate, 5% permethrin and 10% crotamiton in the treatment of scabies in Gaza

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**Objective:** To compare the efficacy of three different treatment modalities for scabies.

**Methodology:** This prospective study was carried out at Dermatology clinic at Jordanian Military Field Hospital, Gaza, Palestine from August 2012 to October 2012. A total of 120 patients were included in the study. Scabies was diagnosed by clinical examination with three of the following criteria: burrows identification, presence of excoriated papules at the classical sites, and nocturnal itching and was confirmed by direct light microscopic examination. Patients were divided into three groups with 40 patients in each. The first group received 5% permethrin cream, the second received 25% benzyl benzoate and the third group

received 10% crotamiton lotion. To assess cure rate, we followed all patients up to one and two weeks after completing their treatment. Absence of itching along with no new lesions appearing and disappearing of the old lesions was considered a cure.

**Result:** The group who received 5% permethrin cream showed the highest cure rate, while those who received 10% crotamiton lotion showed the lowest cure rate.

**Conclusion:** Permethrin cream rinse was the best treatment for scabies. (Rawal Med J 2013;38: 125-126).

**Key words:** Permethrin, crotamiton, scabies, benzyl benzoate.

### INTRODUCTION

Scabies is a common parasitic skin disease, especially in developing countries. If untreated it may progress to impetigo, boil formation, and enlarged lymph nodes.<sup>1,2</sup> The most important factors to determine the epidemiology of scabies include malnutrition, poverty, low hygiene and crowding.<sup>3</sup> Human scabies is caused by the female itch mite *Sarcoptes scabiei* var *Hominis*.<sup>2</sup> Prevalence is higher in children and in sexually active adults.<sup>4</sup> Several antiscabietics including a variety of topical and oral drugs have been used in past decade.<sup>5,6</sup> The aim of our study was to compare the efficacy of three topical therapies for treatment of scabies.

### METHODOLOGY

This prospective study was carried out at the Dermatology Clinic at the Jordanian Military Field Hospital, Gaza, Palestine from August 2012 to October 2012. A total of 120 patients were included in the study. Age ranged from 3 months to 67 years. Male to female ratio was 1:1.4. Scabies was diagnosed by clinical examination with three of the

following criteria: burrows, excoriated papules, nocturnal itching and positive family history and was confirmed by direct light microscopic examination.

Patients were divided into three equal groups with 40 in each group: The first group received 5% permethrin cream, single application for 8-12 hours and then was washed. The second group received 25% benzyl benzoate two days regimen and the third group received 10% crotamiton lotion, two applications for 48 hours. Any positive family member was also treated. Figure 2 illustrate one of our patients with typical lesions involving fingers webs. To assess cure rate, we followed these patients for to one and two weeks after completing treatment. Absence of itching, along with no new lesions appearing and resolving of the old lesions was considered a cure.

### RESULTS

The group who received 5% permethrin cream showed the highest cure rate of 87.5% at one week and 95% at two weeks followed by 25% benzyl

benzoate with cure rate of 77.5% at one week and 87.5% at two weeks, while those who received 10% crotamiton lotion showed the lowest cure rate of 65% at one week and 72.5% at two weeks (Table 1).

**Table 1. Cure rates.**

Follow up Cure rate	Permethrin	Benzyl Benzoate	Crotamiton
1 week	35 (87.50%)	31 (77.00%)	26 (65.00%)
2 weeks	38 (95.00%)	35 (87.50)	29 (72.50%)

## DISCUSSION

Gaza strip is considered to be one of the highest population density areas in the world, where around 1.7 million people live in an area of 360 square kilometers.<sup>6</sup> Thus, a lot of parasitic infestations are common. We used above mentioned topical drugs because they are the only available drugs for scabies treatment in Gaza.

Topical permethrin was very effective, however, retreatment is recommended after a week if symptoms persist. It works by interference with the sodium transport in the parasite and as a consequence depolarization of neuromembranes occur leading to respiratory paralysis.<sup>7</sup> It is safe for children as young as 1 month of age and can be applied to pregnant women category B.<sup>7</sup> In our study, it showed 87.5% cure rate at one week and 95% cure rate at two weeks. This was nearly the same as reports by others which was 83.4% cure rate at one week.<sup>5</sup>

Crotamiton, an antipruritic and anti infective agent,<sup>8</sup> showed the least cure rate in our study as 72.5% at 2 weeks which explains its weak action on *Sarcoptes scabiei* or due resistant patients which require another modality of treatment. Benzyl benzoate is a scabicide but local irritation is an important side effect.<sup>7</sup> It showed a cure rate of 87% at two weeks. New topical Ivermectin for scabies is used besides oral Ivermectin which can be used in resistant cases.<sup>9-11</sup> This can be used in undeveloped areas where scabies is still a wide spread problem.<sup>12</sup>

## CONCLUSION

5 % permethrin cream rinse was the best treatment for scabies in our study followed by benzyl benzoate and crotamiton.

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