

A Scabies Epidemic in a Community Hospital

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ABSTRACT

Between June and September 1993, 34 staff at a community hospital were infested with the scabies mite. The source of the epidemic was believed to be an index inpatient. A multidisciplinary team of staff was organised to plan a treatment program to eradicate the infestation. Six weeks following the selective treatment of staff, patients and the environment with Lindane 1%, the epidemic was eventually brought under control. The early identification of suspect scabies cases can prevent epidemics in health care facilities.

Introduction

Human scabies, caused by the acarine itch mite *Sarcoptes scabiei* variety *hominis* was rarely seen for more than 20 years after World War II. However, it has been on a steady increase since the 1960s. The acquisition of scabies in either the community or health care setting is believed to be more common now, although it is infrequently documented. Degelau (1992) describes the scabies mite as an "international microscopic terrorist".

A person infested with scabies has fewer than 15 adult mites on their skin at any one time. Mites grow to a size of 0.02-0.04 mm and travel up to 2.5 cm per minute. Female mites live for about 2 months, laying 3 eggs a day, which hatch as larvae and mature in 10-14 days. If not removed by hand washing or bathing, female mites may penetrate the skin rapidly (Degelau, 1992). A hypersensitivity develops to the mite, its faeces and eggs, which results in widespread papillary rash and itching. Commonly the mites are found on redundant skin and warm areas such as wrist, finger webs and axilla. The face and scalp are rarely affected. Transmission may be by direct contact from person to person or by fomites eg bed linen.

This paper describes an epidemic of

scabies among staff in a community hospital of 171 beds, comprising a medical ward, surgical ward, obstetric unit, psychogeriatric unit, day surgery, and a restorative unit.

The epidemic

The epidemic occurred between June and September 1993 at a time when there was purported to be a high prevalence of scabies in the community. A total of 34 staff were identified with scabies during this period. Between June 16-July 21 1993, there were 19 cases of skin irritation problems amongst staff. A large number of these cases were reported during the week July 14-21 1993. Although the affected staff worked in both the medical and surgical wards, most cases occurred in the former. Some of these staff reported having skin irritation problems for up to 2-4 weeks. Diagnosis was made by skin scrapings taken by a dermatologist from some of the symptomatic staff.

Prior to the epidemic, Benzol Benzoate 25% had been the routine treatment for sporadic cases of scabies. During the epidemic, however, it became apparent that the scabies mite was resistant to this product. Therefore, Lindane 1% was introduced as the treatment of choice.

A management team was formed comprising the Infection Control Nurse as Team Leader, a Nurse Manager, Pharmacist, Hotel Services Supervisor and the Regional Medical Director as adviser with administrative assistance as required.

The recommendations from the management team were:

- All staff with patient contact to be treated (including the staff's household members).
- Solution to be left on for 24 hours, then showered off.
- At this stage, all bed linen to be changed.
- All inpatients on the medical and surgical wards to be treated.
- All fabric chairs in the affected hospital wards to be left unused for 72 hours.

To put these recommendations into action became a challenge. An explanatory letter was written by the Regional Medical Director to all doctors who attended the hospital explaining the need to treat their patients. Two Visiting Medical Officers refused permission for their asymptomatic patients to be treated. Extra linen supplies were organised and extra Nursing and Hotel Services staff were seconded to the relevant areas.

All inpatients on the Medical and Surgical Wards were treated with Lindane 1% lotion. Those patients whose doctors refused to give permission for them to be treated, were given a letter advising them to attend their own General Practitioner should symptoms appear. At the end of the 24 hour period the patients were showered and their clothes and bed linen changed. Concurrently, all staff including nurses, hotel services staff, physiotherapists, speech therapists, occupational therapists, social worker and ward clerks were issued with Lindane 1% and requested to treat themselves and other members of their household before returning to work. Every attempt was made to contact staff off duty to request they undergo treatment. Those staff showing symptoms of scabies infestation were required not to work in the 24 hour treatment period. The Ward lounge areas were closed and fabric chairs were removed from use for 72 hours. Bedside curtains were changed, mattresses and pillows were changed and aired or thoroughly cleaned with detergent and water. One week later the treatment to patients, staff and the environment was repeated. During the initial treatment period the hospital accepted emergency admissions only.

Discussion

The patient believed to be the index case was admitted one week prior to symptoms appearing in the first staff members. This epidemic showed a typical pattern of initial, secondary and tertiary stages. Figure 1 shows the initial cases occurring in late June with the

majority of cases in late July. The majority of staff affected were nursing staff.

The first staff members affected showed symptoms of a non-typical scabies rash commencing on the lower limbs. Some of these staff members treated themselves with Benzol Benzoate, without reduction of the rash or relief from the symptoms. This evidence suggested that Benzol Benzoate was ineffective, so Lindane 1% became the prescribed treatment. Negotiation with the hospital administration resulted in Lindane being supplied free of charge to the employees and their household members. It was important to supply sufficient lotion for all household members to ensure appropriate treatment compliance.

As the adult scabies mites may survive off the skin for 34 hours under normal room conditions and the nymphs a little longer, the ward lounge areas and fabric office chairs were put out of service for 72 hours (Degelau, 1992, Thomas, 1987). (This period of time was convenient to the work practices of the ward areas.)

The treatment regimen was repeated after seven days in order to kill any surviving mites or nymphs. Only the patients treated initially where treated the second time. Those patients admitted to the hospital during the seven day treatment period

were informed of the problem and requested to report any symptoms.

Some nosocomial spread of scabies was believed to occur in patients who, although unaffected during their hospital stay, developed symptoms after discharge. These cases were reported back to the hospital via the local doctors' surgeries. It was concluded that this infestation was caused by scabies mites which were resistant to Benzol Benzoate.

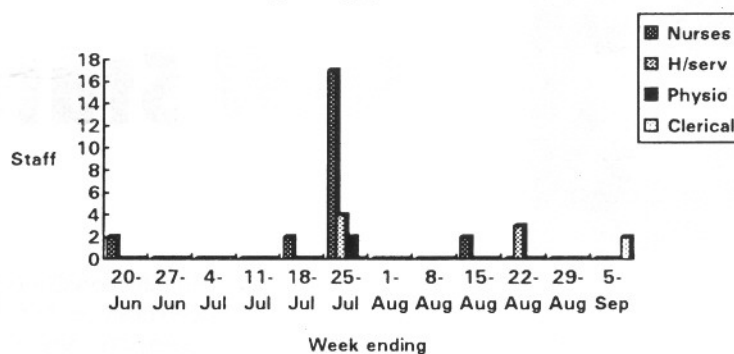
This epidemic was treated aggressively in order to completely eradicate the mite from the hospital environment. Reportedly, a WA rural hospital had experienced a low level infestation of scabies among staff and patients for seven years. The scabies management team wanted to avoid a similar situation

Conclusion

Epidemics such as this place extreme importance on effective communication between hospital staff. Planning,

Staff with skin irritation problems

n = 34



formulating and implementing recommendations and cooperation between all disciplines was the key to eradication of this epidemic. The potential risk for further scabies epidemics continues as patients requiring scabies treatment are frequently admitted. All staff who remember this epidemic are thankful that to date there has not been a recurrence.

References

1. Degelau J. Scabies in a long term care setting. *Inf Cont and Hosp Epidem* 1992; 7:421-425.
2. Thomas M C, Hoff G. An outbreak of scabies among employees in a hospital associated laundry. *Inf Cont J* 1987; 10: 427-429.

FIGURE 1

Staff	20 June	27 June	4 July	11 July	18 July	25 July	1 August	8 August	15 August	22 August	29 August	5 Sept
Nur	2				2	17			2			
H/se						4				3		
Phys						2						
Cler												2

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