

A PATTERN OF HOSPITAL ADMISSIONS IN A SKIN WARD IN SINGAPORE

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SYNOPSIS

In a study of 645 hospital admissions for skin disease, the most common admission were for dermatitis (33%), psoriasis (14.3%), drug eruption (12.9%) and skin infection (8.5%). Other less common hospital admissions were for collagen diseases (2.8%) and bullous diseases (3.5%). Most of those admitted belonged to the older age group (40% were older than 59 years old). The female: male ratio was 1:1.5, the mean duration of hospitalization was 9 days for both sexes. There were about equal hospital admissions in each month throughout the year. Some measures to reduce hospital admissions were discussed. This includes early recognition and treatment of skin diseases, health education against self medication and establishment of Day-Care Centre for treatment of psoriasis.

INTRODUCTION

Patients with mild medical conditions are usually treated in out-patient clinics whereas those with more severe conditions require hospitalization for more intensive treatment. Hospitalization is economically and socially dislocating for patients. Outpatient medical care is always more convenient and preferred by most patients. It is less disrupting to work, and social/family responsibilities. Reduction in hospital admissions and duration of hospitalization will reduce the burden of national medical resources. The purpose of this study is to evaluate the pattern of hospital admissions of skin patients in Singapore. Such information helps update the pattern of skin disease requiring hospitalization. Measures can then be undertaken to identify way to reduce hospital admissions.

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MATERIALS AND METHODS

A retrospective study of 645 admissions into the "C" class skin wards of Communicable Disease Centre of Tan Tock Seng Hospital between Jan 1985 to Dec 1985 were included in the study. The age, sex, race, diagnosis and duration of admissions were recorded and analysed.

RESULTS

Table 1 shows the frequency distribution of hospital admissions of the more common skin diseases and their mean duration of hospitalization. Dermatitis was the commonest skin disorder seen. In 49% (105/213) the cause of dermatitis could not be ascertained. In the remaining, 47% (51/108) were endogenous dermatitis, 31% (34/108) were contact

dermatitis and 21% (23/108) were photodermatitis. 56% (31/55) of skin infections were for Herpes virus (simplex and zoster) infection, 34% (19/55) for pyogenic infection and 9% (5/55) for scabies.

Fig 1 shows frequency distribution of hospital admissions of the 645 skin patients according to age group and race. The 59 years and above age group had the highest number of hospital admissions. The mean age was 45.5 years (range 1 – 93 years). The sex ratio female: male was 1: 1.5.

Table 2 shows the frequency distribution of duration of hospitalization of skin patients according to sex. There was no sex difference in relation to duration of hospitalization. The mean duration of hospitalization for male and female were the same (9 days, range 1 to 86 days).

Fig 2 shows the frequency distribution of hospital admission according to months of the year.

TABLE 1: FREQUENCY OF ADMISSIONS OF SOME DERMATOLOGICAL ADMISSIONS ACCORDING TO DIAGNOSIS, AGE, DURATION OF HOSPITALIZATION AND SEX
TOTAL ADMISSION = 645

diagnosis	mean age in (range) years	mean dur of hosp (range) in days	female	male	total
dermatitis	42.7 (1-93)	7.61 (1-63)	60	153	213 (33.0%)
psoriasis	45.5 (18-74)	13.8 (1-42)	28	64	92 (14.3%)
drug eruption	39.5 (2-86)	6.3 (1-45)	58	25	83 (12.9%)
skin infection	44.2 (1-79)	10.3 (1-50)	29	26	55 (8.5%)
collagen vasc. disease	38.7 (14-79)	9.3 (1-24)	16	2	18 (2.8%)
bullous pemphigoid	68.3 (40-80)	14.2 (1-40)	8	10	18 (2.8%)
pemphigus	49.0 (23-79)	18.0 (1-29)	6	5	11 (1.7%)
urticaria	32.1 (19-57)	6.3 (4-12)	5	6	11 (1.7%)
leg ulcers	58.8 (20-82)	19.3 (4-55)	3	8	11 (1.7%)
others	—	—	42	91	133 (20.6%)
Total	45.5 (1-93)	9.5 (1-86)	255	390	645

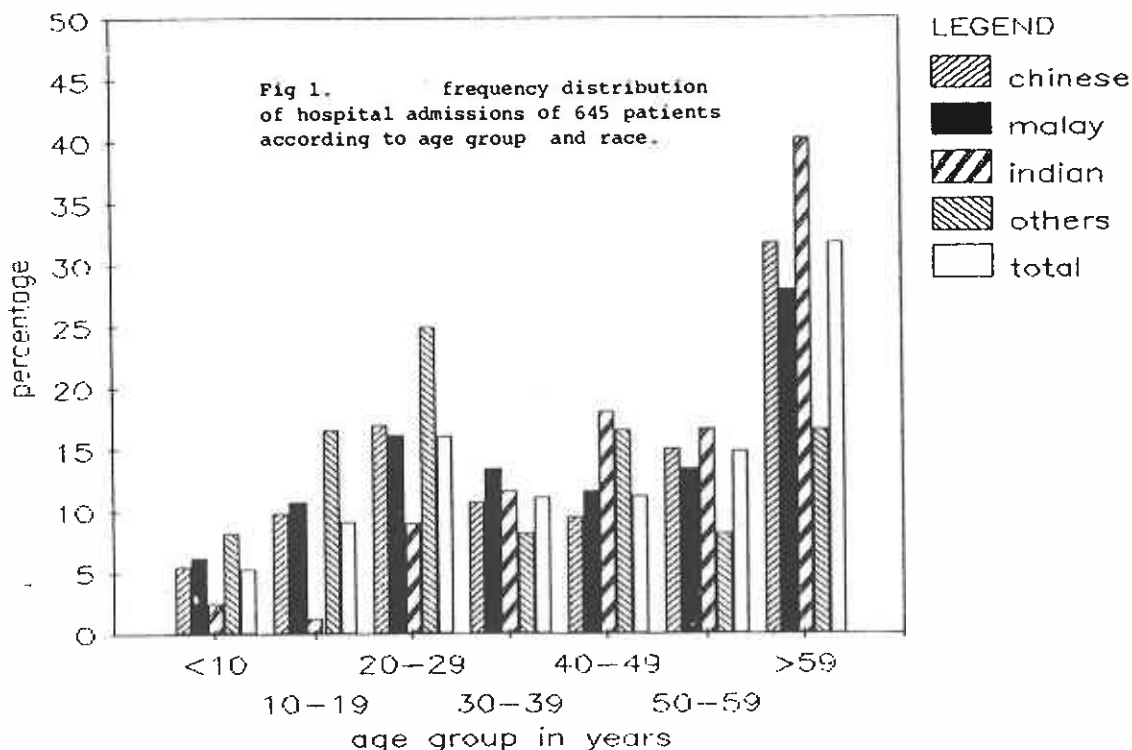
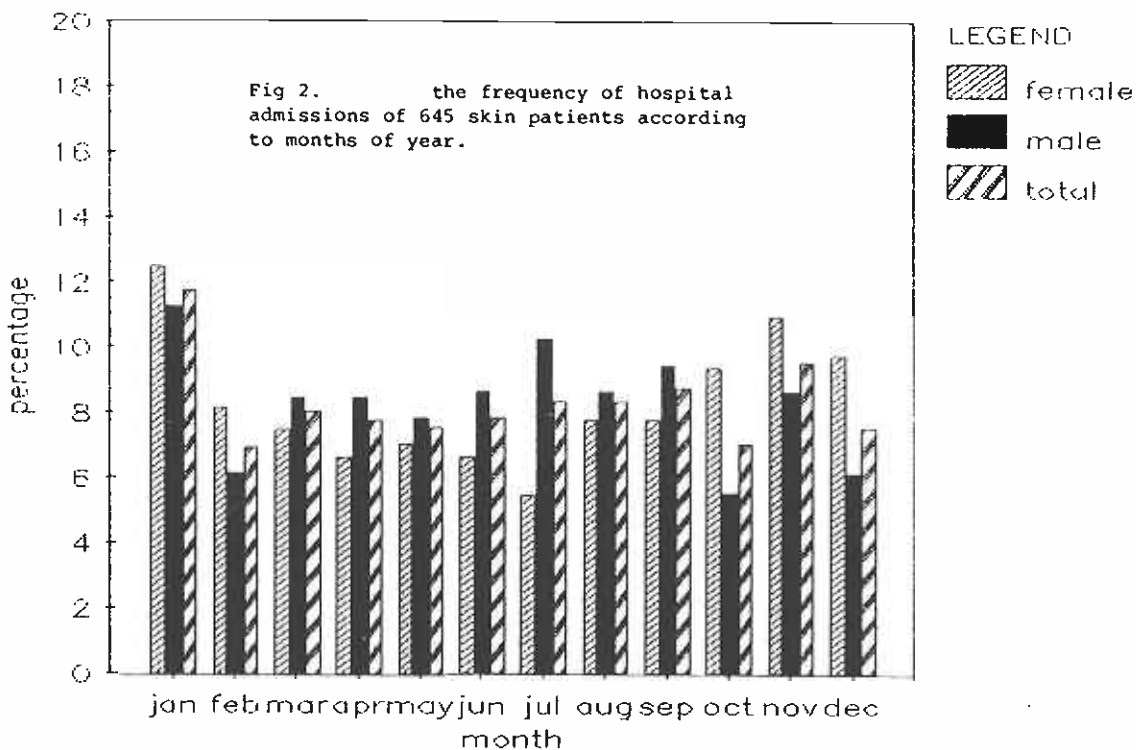


TABLE 2: FREQUENCY DISTRIBUTION OF HOSPITAL STAY ACCORDING TO SEX

duration of hospitalization	female		male		total	
	no	%	no	%	no	%
4 days	61	23.9	101	25.9	162	25.1
4 — 7 days	76	29.8	119	30.5	195	30.2
8 — 14 days	74	49.0	85	21.8	159	24.7
15 — 21 days	24	9.4	43	11.0	67	10.4
21 days	20	7.9	42	10.8	62	9.6
Total	255	100	390	100	645	100



DISCUSSION

This is the first study on the pattern of hospital admissions of skin patients in Singapore. The female: male ratio of hospital admissions was 1: 1.5 (the sex ratio of the Singapore population for 1985 was 1: 1). It appears that the males are more likely to be hospitalized for skin disorders. One reason could be that males are physically more active and are more likely to be engaged in outdoor activities. Men are exposed to more hazardous environment agents more often than women. This was cited as a probable reason for the higher prevalence of occupational skin disease in male (female: male = 1: 2.5) in Singapore (1). Another reason could be due to the difference in the susceptibility to skin disease between the sexes.

More than 40% of hospital admissions involved patients over 50 years of age. Degenerative changes of the skin with age may be associated with increase susceptibility to external injury. It is also probable that older patients tend to self medicate more often and therefore are more likely to suffer severe adverse cutaneous reactions from medicament. The frequency distribution of hospital admissions was similar

throughout the 12 months of the year. This may be due to the minimal variation in the climate throughout the year in Singapore.

Dermatitis (33%), psoriasis (14%), drug eruption (12.9%) and skin infection (8.5%) accounted for more than half of the total hospital admissions. Some patients with these skin disorders can be managed as outpatients when they are recognised and treated early. Some are preventable if the public are better educated about the hazards of self medication.

Dermatitis was the commonest condition seen. In about half of the cases with dermatitis, the cause could not be ascertained at the time of hospitalization. In the remaining, 47% were from endogenous dermatitis and 31% from to contact dermatitis. Contact dermatitis was one of the commonest diagnosis. This not infrequently resulted from self medication. Many "over the counter (OTC)" creams and lotions contain skin irritant. They may be harmless when used on normal skin but hazardous to diseased skin. Not infrequently patients with mild endogenous dermatitis developed superimposed contact dermatitis from such medicament. Numerous OTC topical antiseptics such as flavine are widely advertised to be effective against

various skin disorders. Some are potent skin sensitizers. They can cause severe allergic contact dermatitis (2,3). The public should be educated on the danger of such OTC preparations. The sales of such preparations should be controlled.

Many people still believe that skin diseases are due to microbial infection. This has led many of those with skin disease to use medicated soaps, ointments, powders etc. Unfortunately, such preparations often contain phenolic compounds and other antiseptics and antimicrobials which are potential skin irritants. They should only be used on normal skin if at all. They act as irritant on diseased skin. Warnings about possible skin irritancy should be included in inserts of such preparations. The public should be informed that such medicated preparations should not be used on diseased skin. They are indicated only as prophylaxis against infection for those at risk of spreading infections e.g. hospital staff.

Psoriasis was the second commonest condition seen. Psoriasis is a chronic dermatosis of unknown aetiology. It commonly afflicts otherwise healthy young adults. Inpatient treatment is often recommended to allow a more regular supervised treatment. In most instances outpatient treatment in a well organized "Day-Care Centre" would be more convenient for patients with psoriasis. It would also cause less social and work disruption. Hospital admissions for such condition can be reduced if a Day-Care Centre is established. Patients can then have supervised treatment before, in between or after work without having to be hospitalized. A preliminary study indicated that such a treatment centre is feasible and practical (4).

Cutaneous drug eruption was the third commonest reason for hospital admission. The prevalence of drug eruption is directly related to the frequency they are ingested. Self medication is often practiced in Singapore. It probably contributed to the high incidence of cutaneous drug eruption seen. In one study, it was reported that 50% of 1271 people interviewed about self medication in Singapore practices self medication (5). Many also admitted to self medicate with left over prescription given by their doctors for earlier illness. Women were found to be more likely to buy and keep medicine at home. Contrary to common belief, education level is positively associated with self medication. In another study, it was found that 60% of 777 prostitutes interviewed in Singapore admitted to self medicating with oral antibiotics as chemoprophylaxis against venereal disease (6). In this study 23% cited private medical practitioners, 22% from unlicensed Chinese medicinal shops and 9% from drug peddlers as their source of antibiotics. It is obvious that although a controlled

drug, antibiotics are readily prescribed by some medical practitioners and freely available to the public. There is thus an urgent need to educate the "more educated" public about the risk of adverse drug reaction from self medication. There is a need to control the availability of antibiotics to the public. More information on OTC medications and strict control on the availability of such preparations is necessary.

The drugs that commonly provoke cutaneous drug eruptions have been identified (7). Antibiotics such as ampicillin, bactrim and tetracycline accounted for 51.4% of cutaneous drug eruption in Singapore according to one report (7). Analgesics which include aspirin accounted for 7.8%. Many patients with viral infections do not require antibiotics for treatment and medical practitioners should exercise discretion when prescribing antibiotics. The public should also be encouraged to discard all left over prescriptions.

Other dermatological conditions that required hospital admissions were for more complicated skin disorders. Collagen vascular and bullous diseases are generally severe diseases requiring inpatient treatment. It can be seen that 3 common skin disorders viz. dermatitis, psoriasis and cutaneous drug eruption accounted for most of the hospital admissions in the skin ward in Singapore. It is obvious that the number of hospital admissions for these 3 conditions can be reduced if outpatient treatment facilities are improved. An intensive health education on the risk of self medication and strict control on the availability of controlled drugs should reduce the incidence of cutaneous drug eruption. These preventive measures should be considered in the health care plan for the nation. It may be more cost effective for the health care system on the long term.

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