Dermatology, an interdisciplinary approach between community and hospital care

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Summary

Skin lesions are extremely common, with 54% of the UK population being affected by skin disease annually. As such, dermatological conditions can be brought to light following admission to hospital for different underlying conditions, with 57% of the dermatological diagnoses made on the hospital wards, unrelated to previous patient history or reasons for admission. The role of the dermatologist is therefore comprehensive and inherently important in the hospital. General practitioners play an integral role in managing skin conditions in the community, with up to 24% of consultations relating to skin disease, referring patients to dermatology mainly for the management of more complex conditions, and diagnosis of certain skin lesions. It is therefore essential to further analyse these roles and to better understand the extent of inpatient and outpatient activity to better plan the provision of dermatological services whether in the community, or in the hospital.

The skin is an interdisciplinary organ, with mucocutaneous manifestations forming an important marker for a wide array of diseases. Skin lesions are extremely common, with over 4000 different types identified, with 54% of the UK population being affected by skin disease annually.[1,2] Therefore, dermatological conditions can be brought to light following admission to hospital for different underlying conditions, with 57% of the dermatological diagnoses made on the hospital wards, unrelated to previous patient history or reasons for admission.[3] Based on this, it appears the role of the dermatologist is extensive and inherently important in the hospital, and the extent of this role should be analysed within an inpatient and outpatient setting.

Methodology

We searched MEDLINE, COCHRANE LIBRARY and EMBASE databases for studies (in English) from their conception until November 2012 using the following key words: GP, General Practice, Dermatology, Inpatient, Outpatient, Interdisciplinary, Community, Hospital, United Kingdom, UK, Training, Patient care. There were no date restrictions. We have included studies of Dermatology care provision in the community and hospital setting and provided an up-to-date summary and best available evidence in the field.

Findings

Dermatology is predominantly an outpatient-based specialty,[4] and in the UK, referrals are mostly made via general practitioners (GPs).[5–7] GPs are the first port of contact for patients, with 24% of GP consultations relating to skin conditions.[8] Skin conditions form the third most common reason for presentation to the GP, after respiratory and nervous system related

conditions.[8] A recent study looking at Weekly Returns Service data, analysing consultations by clinical practices, estimated approximately 12.9 million consultations with skin conditions in 2006 across England and Wales, with skin infections forming the most common category of presentations.[8] There is, however, a clear distinction between conditions presenting to General Practice, as opposed to those in dermatology units, with referrals from primary care being mostly for the diagnosis of skin lesions (50% of referrals) and for the assessment of more complicated and chronic cases.[8]

The role of GPs with special interest in dermatology was created in order to increase service capacity to deal with the rising demand for specialist advice, to improve the accessibility and convenience, to reduce waiting list times and ultimately leading to consultants being able to focus on the most complex conditions.[9] Evidence suggests equivalent health outcomes for patients with non-urgent skin problems randomly allocated to a GP with special interest service when compared to usual outpatient care, and patients reported to be seen more quickly, with greater accessibility.[10]

There are also a significant number of referrals outside of General Practice, mainly by paediatrics, neurology and psychiatry, most commonly due to infections, dermatitis and drug reactions.[5,11]

Inpatient care by dermatologists is widespread and of significance. During hospital admission, the patient is confined to bed with exposure to antiseptics, sweating, dressing occlusion and monitoring with catheters, resulting in eczematous dermatitis.[12] Skin infections are relatively common in an outpatient setting,[12] but are even more prevalent in inpatients, potentially because of the use of immunosuppression, and skin infections are a common reason for patient admission.[13] Finally, the prevalence of drug reactions can be explained by the large quantity of drugs received by patients during admission, especially analgesics, NSAIDs and neuroleptics, which frequently trigger drug reactions.[13]

The literature suggests that the vast majority of dermatological conditions[5,13] can be resolved with a single admission, suggesting the majority of admitted cases involve common conditions with a clear diagnosis and consequent therapeutic regime. Kirsner *et al.*[14] have described a significant decline in the number of hospitalized dermatology patients at academic medical centres in the US, with 79% reduction in inpatient activity, consistent with the literature.[15] According to this study, the average number of admissions for skin disease has decreased. A potential reason cited for this was the implementation of diagnosis-related groups, which implement a prospective payment system, resulting in a reduction of length of stay, often requiring different end points for hospitalization in comparison to the past. For example, whilst previously a complete course of antibiotics was administered in hospital, part of the course is currently completed at the patients' home. Moreover, for conditions such as psoriasis, the hospital end points have altered, no longer requiring complete clearance of disease for discharge to occur.[14]

Currently, the majority of programmes rely on a rotating attending dermatologist, who is responsible for the care of hospitalized patients with skin conditions. However, the number of admissions has decreased significantly, with a greater proportion of care provided by non-dermatologists. In fact, there has been a two-fold increase (from 15.5% to 32.4%) in the number of non-dermatology physicians taking responsibility for inpatients with the dermatologist acting as a consultant. Although the extent of impact on the quality of patient care is unclear,[14] one study claims that the impact can be significant, with a report of up to 61% misdiagnosis and a potential consequent change of management.[16] However, data from a larger cohort in the UK would enable a more meaningful analysis.

Whilst the types of conditions requiring admission have remained relatively constant from 1982, the frequencies of admission have changed.[14] Conditions such as psoriasis have shown a decreased admission, potentially due to more effective outpatient treatments[14] with less intensive topical therapy plus UV light, in an inpatient setting being replaced by biological therapies, e.g. infliximab and etanercept, with lower admission times.[17,18]

Moreover, with the advent of effective and more cosmetically acceptable creams and phototherapy, the patterns of inpatient care are undergoing changes. Additionally, the introduction of oral

immunosuppressive agents has broadened the scope of outpatient therapy.[19]

Conversely, there has been an increase in the percentage of malignancy and bullous diseases, possibly due to advanced inpatient therapies and/or a longer life span.[14] It is interesting to note that the decrease in inpatient activity is unlikely to be due to a lack of attending physicians. In fact, the average number of residents in training and full-time clinical faculty has increased.[14]

Whilst the number of patients admitted to dermatology services is decreasing, the value of dermatologists within the hospital setting remains important, given that many of the diagnoses are of specific cutaneous diseases, and as such dermatologists are often in the best position to evaluate and treat the condition that inpatients acquire.[5]

GPs also play a crucial role in diagnosis, treatment and management of patients with dermatological conditions, with a vast array of conditions ranging from acute to more chronic conditions, and subsequent referrals for more complex conditions.

With the current decline in inpatient provision of Dermatology care, it is essential to ensure an evidence-based approach to healthcare provision, ensuring the best outcomes for patients. Given the high prevalence of skin conditions, which can coincide with other diseases, dermatologists play an integral role, diagnosing and treating inpatients and outpatients. It is therefore necessary to ensure adequate dermatology presence within the hospital for the diagnosis and management of complex conditions, requiring thorough analysis of local requirements to ensure quality of care is not compromised, and inpatient facilities provided as appropriate for population needs. An effective collaborative effort is essential to ensure the best outcome for patients involving GPs, with the management of skin conditions forming an important part of their work, with GPs with special interest in dermatology acting as an important adjunct to care, enabling safe and accessible management, in particular for non-emergency conditions. To enable adaptation to the trends in reduced inpatient care, it is important to ensure adequate training and facilities for GPs, to maintain high-quality service provision.

Thus, it is apparent that treatment and management of dermatological conditions will play an integral part of clinical practice from community to hospital care, with an emphasis on an integrated interdisciplinary approach, with further analysis of specific population requirements necessary to tailor this appropriately.

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