

Introduction

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Perhaps more than any other organ of the body, the skin is multidimensional; in the totality of human experience the skin is key. It is a physical presence and Chapter 2 of this book considers in some depth the biology of the skin. But the skin goes way beyond this. It has emotional and psychological importance, it can affect whether we are discriminated against, or not, it is a sexual organ, it is a work of art (and a canvass for works of art), it is used to determine social acceptability, it is a tool to market everything from the obvious (make-up) to the less obvious (sanitary towels) and we use and abuse it in the pursuit of youth and beauty.

This introductory chapter to 'Principles of Skin Care: A Guide for Nurses and Other Health Care Professionals' is a light hearted look at the skin and what it means to us as humans. It is however, a significant chapter. To be able to care for patients who have dysfunctional skin, it is key to understand what is meant by skin health. Whilst much of the rest of this book is dedicated to describing what happens when the skin is no longer healthy, there is a recurrent theme of using nursing skills to promote skin health and prevent disease.

Thus, this chapter looks to answer the questions about what is skin and what is the human

experience of skin, through a cultural lens. The multifaceted concept of skin health is introduced and will be revisited as a key topic throughout the book. Finally a summary of the contents of the book will be given.

What is skin?

The basic definition of skin both in a medical and English dictionary describes it as the external layer of the body. But this description is really wholly inadequate. It infers that the skin is an inert envelope that contains the bones, muscles, organs and blood that allow us to exist. Whilst the skin is our external covering that holds us together, it is far from inert. To express it creatively, the skin is a combination of a lunar landscape, a zoological and botanical haven in which there is the potential for an immunological party. Expressed more traditionally, the surface of the skin is a rough, undulating environment with skin cells desquamating all the time. It is covered with bacteria and fungus that live in harmony with us and protect us from invading pathogens. In a normal state the immune system within the skin is quiet and relatively inactive, but if the skin is

challenged in any way, a range of immunological cascades are set in motion. In some conditions such as psoriasis these immunological changes are not within a normal range and cause severe inflammation and hyperproliferation of skin cells.

Defining the skin as our external surface is also limited because it does not include our internal skin surfaces such as the mouth or the vagina. And of course the scope of the term dermatology goes beyond what is traditionally described as skin to an interest in both hair and nails, commonly thought of as skin appendages which are constructed of the same basic building blocks as skin itself.

Understanding of the science of skin is constantly expanding. Of key importance in improving understanding of skin and how it functions, is research. Important areas of biological scientific research include how the immune system within the skin functions and how genetic make-up influences the expression of skin disease and

how humans respond to treatment. But to truly understand ‘What is skin’ we must gain insights that go beyond comprehending physical function. Research can also help to uncover some of the psychological and social impacts of experiencing skin disease. For example what affects how people cope with a chronic condition and how quality of life might be affected?

What is skin for the lay person? The way the skin looks plays an important role and the aesthetics of the skin are considered shortly, but the skin has also influenced our language in all sorts of colourful ways. Skin can probably win the prize for the organ most used in common parlance and slang! Table 1.1 gives some examples. This reflects the cultural and symbolic importance of skin as an integral part of our language.

Table 1.1 The use of the skin concept in common parlance.

Saying	Meaning
By the skin of one’s teeth	By a narrow margin
Get under someone’s skin	To irritate or provoke someone
No skin off someone’s nose	No disadvantage to someone
Skin and bone	Very thin
Skin-up	Roll a joint
Skin deep	Superficial
Skin-flick	A film of adult nature involving nudity
Skinful	A large amount to drink
Skin game	A swindling game or trick
Skin and blister	Sister (Cockney rhyming slang)
Have a thick skin	To be unbothered by things
Save ones skin	To avoid harm especially escaping death

Skin health

Introduction

Simply put, healthy skin is skin that is not diseased. However, this might be thought of as a somewhat limited interpretation of the concept. An alternative view is that healthy skin is skin which fulfils all its physical, psychological and social functions. This view incorporates a wider conception of skin health which goes beyond the physical and embraces psychological, social and quality of life issues. This book aims to embrace this wider concept of skin health and to emphasise how nursing skills can be used to meet all those patient needs. This section will specifically look at areas relating to skin health which do not ‘belong’ in any other part of this book, but none-the-less warrant attention.

Display, decoration and adornment

The way the skin is displayed (used as an organ of display) is significantly affected by social and cultural influences. Throughout history humans have felt compelled to change their skin in ways that are rarely good for its physical health.

However, adornment, decoration and display have other important sociological implications indicating belonging to group and tribes or conversely to show rebellion and individuality.

Signals given through the skin can indicate a wide range of social norms and values. The obvious ones include religious observance reflected by the amount of skin and hair covered and by what types of garments are worn. Clothing and adornments vitally allow humans to fit into their own social system and indicate a sense of belonging. The social norms in relation to displaying the skin are time dependent. Thus a British woman living in Victorian times might have felt it disgraceful to expose her ankles, whereas in the 21st century this is not generally considered scandalous behaviour! Piercing and tattooing give a wide range of social signals including membership of certain groups. However, once again, in the 21st century these rules too are becoming more blurred and less strictly adhered to with a wide cross section of society choosing to have tattoos and various body piercings.

As with other organs of the body, humans are prone to abuse their skin. Fair skinned people aim for the perfect sun-tan and in the process of getting to this point put themselves at risk of both malignant and non-malignant skin cancers. It is becoming an increasingly common practice for people with darker skins to want to lighten them. This is done through a number of unregulated mechanisms including the use of potent topical steroids, which cause a range of other health problems, as well as the desired skin lightening. Depending on the extent and time frame of steroid use, these effects may also become systemic.

Abuse and discrimination

Whatever the context of skin decoration and skin adornment, it is usually done in order to make a personal statement. However there are instances when skin marking and/or skin alteration is abusive and detrimental to personal health. For example, the tattooing of numbers onto the arms of prisoners in concentration

camps was designed to dehumanise and depersonalise people. Individuals became a number rather than a name. Female genital mutilation is another example of a practice which is abusive. Whilst some people within cultural groups accept the practice as part of becoming a woman, it is widely condemned as an abusive, dangerous and unnecessary practice.

The course of human history is littered with tragedies of discriminatory behaviour brought on by false judgements made because of the colour of the skin. Discriminatory behaviour due to skin colour is now illegal in many parts of the world and the last 20 years have witnessed massively significant events in the quest for racial equality. The ending of apartheid in South Africa and the election of an African American as President of the United States of America are two examples of this. But discriminatory behaviour because of skin colour does still exist. A recent Health Care Commission highlighted that many Trust institutions within the British National Health Service were still not meeting their obligations as equal opportunities employers. It states that although ethnic minority groups make up 16% of the workforce only 10% are in senior management positions and 1% in a chief executive position (Commission for Healthcare Audit and Inspection, 2009).

For one group of people racism, ignorance and misunderstanding because of the colour of their skin, remains life threatening. There are a significant number of people living with albinism in East Africa. Albinism is a genetically inherited condition where the pigment of the skin, hair and eyes is either reduced or missing altogether. Whilst albinism does occur in the Caucasian population, it is more prevalent and more noticeable in black Americans. Some estimates put the number of those with albinism at 1 in 4000 in Tanzania, whilst the figures for the European population is more like 1 in 20,000 (Smith, 2008). Life for an African with albinism is curtailed due to hugely increased risk of skin cancer; however recent urbanisation of the population has led to an increase in murder and mutilation. It is thought that possessing a body part of someone who has albinism acts as

a magic charm, which can lead to instant wealth (Smith, 2008).

Environment

As the skin is in constant contact with its surroundings, the environment is an important consideration when thinking about skin health. The immediate, local environment has a biological impact, thus if it is cold the skin responds with goose bumps, if it is hot it will sweat. A hot dry environment particularly one found in overheated homes can cause the skin to become very dry and itchy, particularly in the elderly. This section will look at the impact that environmental changes at a global level may have on the skin and touch on diseases related to poverty.

Environmental changes

It is difficult to prove categorically that any long-term, global environmental changes have a direct impact on skin health. There are many confounding factors to consider, and it is therefore virtually impossible to make a direct link between degradation of the environment and changes in skin health. For example, there is no doubt that our earth has less ozone protection than it did, which means that we are less well protected from UV radiation than in previous centuries (Earth Observatory, 2009). How much the increase in skin cancers can be attributed to this and how much can be attributed to behaviour change (e.g. more exposure to UV radiation due to increased number of holidays in sunny climates) is difficult to say. However the Earth Observatory report quotes the United Nations Environment programme as saying that a sustained decrease of 1% in the ozone layer will ultimately lead to a 2–3% increase in skin cancer.

For atopic eczema, there would appear to be an upward trend over the last 30–40 years with an increasing prevalence of the disease (Williams, 1997). This trend seems to affect urban populations more than rural (Sherriff *et al.*, 2002). This may be attributable to the hygiene hypothesis (see Box 1.1), but this theory is not agreed upon by all practitioners.

Box 1.1 Hygiene hypothesis

This theory was first proposed in 1989 by a public health physician. He suggested that the rising levels of hay fever and other atopic conditions may be attributed to better living conditions. The fact that young children were exposed to fewer infections due to increased household cleanliness and decreased family size, meant they were more susceptible to developing atopic diseases including eczema. The theory behind this is an immunological one; by challenging a child's immune system with infective processes it is less likely to 'produce' atopic symptoms (Strachan, 2000). This is explored further in Chapter 9.

Diseases of poverty

Skin diseases of poverty are usually related to infective processes or infestations. Poor living environments, lack of access to clean water and hot climatic conditions all lead to increased likelihood of infections or infestations of the skin. Specific examples include scabies, which in resource poor countries, where people live in very close proximity to one another, affect significant proportions of the population, especially children. Fungal and bacterial infections are more likely when there is lack of clean washing water, when wounds cannot be properly dressed and when people may be immunocompromised through poor diet or HIV infection. Vector borne diseases for example those carried by a mosquito, are more common in tropical areas where disease carrying mosquitoes thrive. An example of such a disease is lymphatic filariasis (described in Box 1.2) which can cause lymphoedema, hydrocoele and significant skin changes. It is important because of the scale of the problem (1.3 billion people around the world are at risk of contracting the disease and 120 million are infected) and because of the serious impact that it has on quality of life and economic stability (Global Alliance for the Elimination of Lymphatic Filariasis, 2004).

Box 1.2 Lymphatic filariasis

Lymphatic filariasis is a mosquito borne disease in which parasites known as filarial worms damage the lymphatic system. Small microfilariae are transmitted from mosquitoes to humans when the insect takes a blood meal. The microscopic parasites grow into worms which can reach 10 cm in length. These live in 'nests' in the lymphatic system causing significant damage. As a result lymphatic function is affected causing swelling and compromised skin function which, over time, can lead to elephantiasis. As a result of these huge limbs and grotesque skin changes, many people experience significant morbidity and disability. Working can become difficult or impossible. Undertaking activities of daily living is a challenge. Many people are ostracised from their communities and feel socially unacceptable. The good news, however, is that the disease can be eliminated through distribution of anti-parasitic drugs. This alongside a programme of managing the morbidity caused by lymphoedema and skin changes is a global health programme. For more details see www.filariasis.org.

Cosmetic

If we accept that skin is healthy only if the individual is content with the way their skin looks, feels and functions, cosmetic and aesthetic considerations become part of skin health.

Currently in the UK cosmetic dermatology remains a relatively small proportion of a dermatologist's work and most of what is done is as part of private practice. However in other countries, for example the United States of America, office-based dermatologists provide extensive cosmetic services with nurses providing significant support and education to patients and technical assistance to their medical colleagues. For many the march towards dermatologists doing more cosmetic

work is an inevitable part of the modern age. If we accept the fact that skin health includes the psychological well-being which comes as part of feeling good about oneself, this shift may seem acceptable. However, in a national health service with limited resources, providing cosmetic care within that system is generally considered inappropriate. Indeed when dermatologists' skills are at a premium in order to manage chronic skin disease and skin cancer, it may be considered immoral to use those skills for non-dermatological disease procedures.

It can be a challenge to determine when a skin problem is 'purely cosmetic' and when it is a dermatological disease requiring treatment. For example, removal of a skin tag (which is harmless to physical health) may be seen as a cosmetic procedure and therefore not a treatment to be carried out as part of a national (public) health service. However, if the skin tag is exactly in a position which catches on a bra-strap and causes pain and discomfort each day, a case may be made for its removal. Likewise a skin tag on the neck may cause acute embarrassment and psychological damage for an individual and thus seeing its removal as part of a treatment process, is a relevant approach. The first example may seem more clear cut, but that is because priorities in health care are usually given to problems that give physical rather than emotional pain. It is easy to see that the line between cosmesis and treatment is blurred and often fraught with controversy.

The beauty industry focuses on the attributes of young looking skin and works hard to persuade a youth oriented world that those attributes are positive and desirable. These messages are so effective that individuals will go to considerable lengths to achieve younger looking skin. Table 1.2 gives some examples of beauty treatments with their intended outcomes, methods of working and possible side effects. In general youth enhancing treatments aim to reduce signs of ageing by smoothing and/or filling wrinkles and improving texture and colouring. Any nurses interested in working in the field of aesthetics would do well to read the latest Royal College of Nursing Guidance (2008) (Royal College of Nursing, 2008).

Table 1.2 Examples of cosmetic procedures.

Type of treatment	How it works	Outcome	Possible side effects
Botulinum toxin	The toxin botulinum is produced by the bacteria <i>Clostridium botulinum</i> . A purified formulation of the toxin (tradename Botox) can be injected into facial muscles and cause paralysis by preventing the release of acetylcholine from motor nerve endings. It also controls sweating by blocking sympathetic nerve fibres.	It is used particularly on the face to reduce frown lines and crows feet. The muscle paralysis means that the skin looks smoother. The effect will last for several weeks and individuals may opt to have treatments every 3–6 months.	Bruising at the injection site; Eyelid droop if the botulinum toxin tracks down into the eyelid muscle. Headache.
Exfoliation	Physically removing the outermost layer of dead keratinocytes using a rough substance, either a cleanser or a rough cloth/sponge. This is a mild non-invasive treatment, easily carried out at home.	The skin will appear 'brighter' and smoother.	Soreness and discomfort especially for people who have very sensitive skin.
Fillers	A filler smoothes out the skin surface, usually by the injection of a substance into the skin. Substances such as collagen and hyaluronic acid are injectable and need to be redone to maintain effect as they are absorbed into the body over time.	The skin will appear smoother. It can be used to reduce facial lines and can also be used on depressed acne scars	Numbness; Allergic reactions; Bleeding and bruising.
Laser resurfacing	There are different methods of laser resurfacing. Non-ablative methods have fewer unwanted side effects and treat only the dermis without affecting the epidermis. Ablative methods are more effective but associated with more risk and a longer recovery time	The skin is rejuvenated with fewer wrinkles, lines and blemishes. It may also be helpful in removing scars.	Few side effects are associated with non-ablative methods. Ablative methods are likely to lead to erythema, swelling, soreness and potential for infection.
Microdermabrasion	A type of exfoliation using a variety of techniques including 'crystal' and 'diamond' microdermabrasion. Often carried out in spas but increasingly marketed to the home environment.	As with exfoliation. Often a series of treatments will be recommended.	As with exfoliation above.

(continued)

Table 1.2 (continued)

Type of treatment	How it works	Outcome	Possible side effects
Peels	Chemicals are applied to the skin surface to remove the top layers of skin, the extent of epidermal removal depends on the strength of the peel.	Smooths the skin surface and also improves skin tone. It may also be helpful in treating mild acne scarring	A mild peel is described as being like sunburn and may cause skin scaling; a more severe peel will lead to blistering, swelling and considerable discomfort and possible skin infection. May lead to scarring.
Retinol	Creams containing retinol or pro-retinol (a form of vitamin A) are thought to increase levels of glycosaminoglycan and procollagen. This leads to greater skin strength and a reduction in the appearance of ageing.	Reduces fine lines and wrinkles.	Skin redness and soreness; increased sensitivity to sun exposure.
Thread face-lift	Threads with small 'teeth' on them are passed through subcutaneous fat just below the skin, with a needle. The threads are then pulled tight and secured with a suture.	Sagging or wrinkled skin is smoothed out, but it will not change the shape of the face. The change is permanent but the skin continues to age so the effect lasts for about 5 years.	Possible bruising; infection is a risk. If not carried out well facial asymmetry may result.

What is in this book

This book is split into two broad sections: 'Fundamental principles of managing the skin' and 'Principles of illness management'. In the first section, some of the core nursing issues that are relevant across the board of dermatological care are addressed. In order to be able to address the health needs of patients with dermatological conditions, the authors feel that it is important to get to grips with these fundamental issues. Thus Chapter 2 provides an in-depth look at the biology of the skin and its appendages. It is difficult to understand, never mind to explain to patients, what is going wrong with their skin without this core knowledge. Whichever field of nursing is being discussed, planning care is a critical nursing activity. Chapter 3 looks at the process of patient assessment, planning care and monitoring interventions. As nursing roles

develop, increasing numbers of practitioners will be independent prescribers and this is also explored in this chapter.

In this introductory chapter there is a focus on the importance of skin health. Chapter 4 takes a generic look at what happens when the skin becomes vulnerable and fails, in other words skin health is compromised. It provides an in-depth examination of the nursing activities needed to prevent skin break down and thus promote skin health.

Emollient therapy remains one of the mainstays of chronic skin disease management. It is important for both preventive care and treatment and as such could perhaps have been placed in either section of this book. However, as a generic topic which is relevant across so many disease areas emollient therapy warranted its own chapter. In Chapter 5, detailed examination is given to how emollients work and how they should be used.

Uniquely this text book has chosen to devote two chapters to topics which are often touched upon in dermatology but rarely given a significant amount of attention. Chapter 6 looks at the psychological and social impacts of skin disease emphasising the nursing role in helping patients with the mental difficulties that skin diseases can impose. Chapter 7 takes some of the themes from Chapter 6 and develops them specifically to consider how nurses can help patients to improve their adherence with treatment. In both chapters, theories are related to practice to enable the practitioner to develop their skills in the most useful way.

The second section will be more familiar to most readers in that it covers the dermatological conditions most commonly seen in practice: Chapter 8 psoriasis, Chapter 9 eczema, Chapter 10 acne, Chapter 11 skin cancer, Chapter 12 infective disorders and Chapter 13 more uncommon skin conditions. In each chapter pathological processes have been considered in some detail and then treatments and nursing interventions. Evidence has been widely used, particularly systematic reviews when they are available. Whilst most of the conditions in Chapter 13 are indeed more uncommon, some of them are not that uncommon but they do not fit into any of the other chapters so they need to appear here!

Before concluding it is important to mention clinical images. Throughout the text the authors have attempted to provide clinical images that help to illustrate disease appearance and distribution. However, we would strongly recommend that you supplement these pictures by looking at websites that provide an excellent array of visual resources (see Box 1.3)

Box 1.3 Websites for dermatology images

www.dermnet.com
 www.dermatlas.org
 www.dermnetnz.org
 www.dermis.net

Conclusion

The authors have aimed to create a book which helps nurses and other health care practitioners to practice in a way that is as evidence-based as possible. We also hope that this book helps to develop practitioners who work with compassion, recognising that patients with skin disease are often affected in many dimensions of their lives. This may be through physical discomfort, psychological pain or social exclusion. Whatever the impact on individual patients, nurses who understand skin disease are well placed to alleviate suffering. This may be through direct intervention to treat a disease condition or through health promotion to improve skin health and prevent skin disease.

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