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Skin health, skin care and dermatology nursing worldwide: evolution of a clinical research programme

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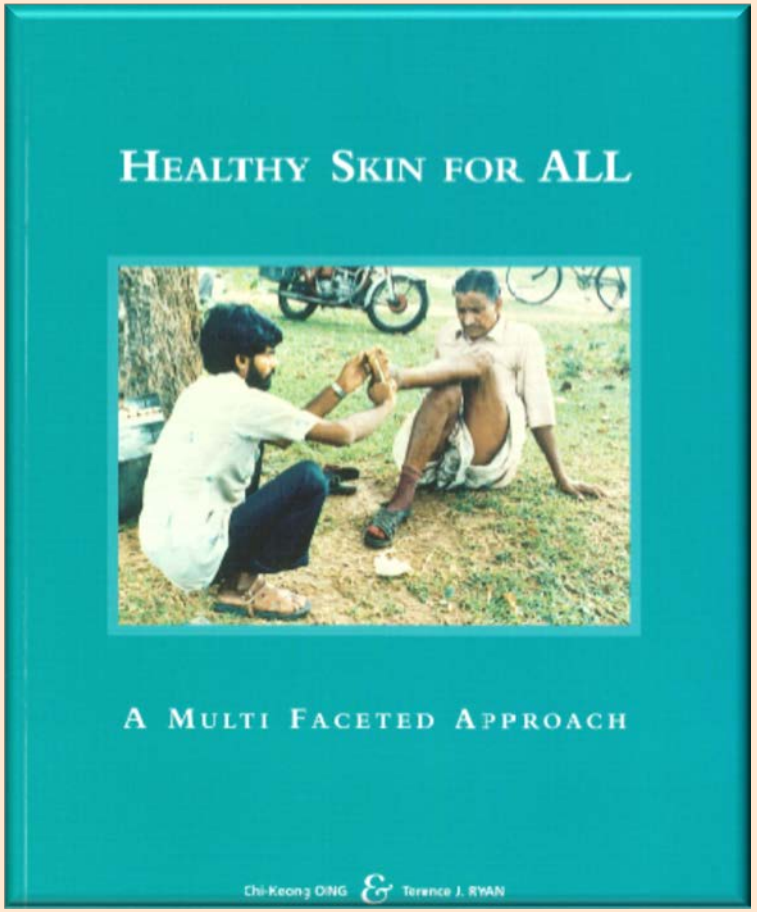
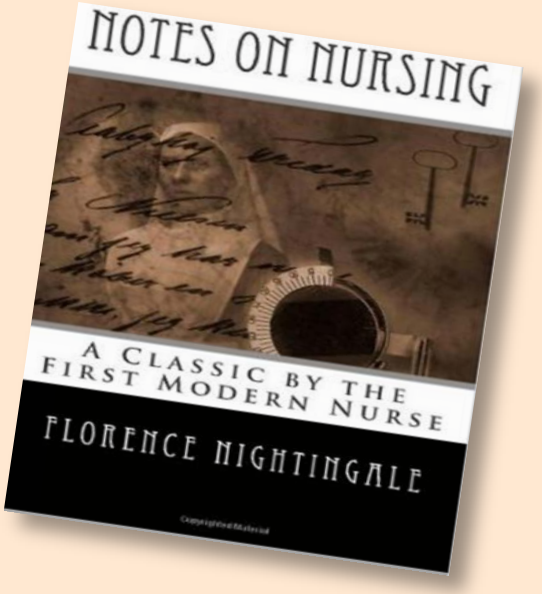
Context: the significance of skin health, skin care and skin disease worldwide



Historical continuity of nursing interest concerning

care of the skin



Bathing patients

Supporting skin barrier function

Empirical evidence of systemic disease

Skin health, skin care and dermatological nursing

- Key distinction between dermatological nursing and universal skin care and skin health
- Skin care interventions are extensive and ubiquitous across clinical fields
- But an undeveloped field for nursing related research and development

Dermatological need-scope for nursing intervention

Scale

Primary care: dermatology- **one of the commonest reasons to consult**. 13m (20%+) present; 6% referred in UK

- 54% UK population experience a skin condition in a 12-month period: most (69%) require self-care
- Specialists most commonly see people with chronic dermatoses (35-40%): e.g. eczema, psoriasis

Schofield et al (2009)

- Similarly -extensive community based in needs in many other countries

Care of the skin has universal nursing significance

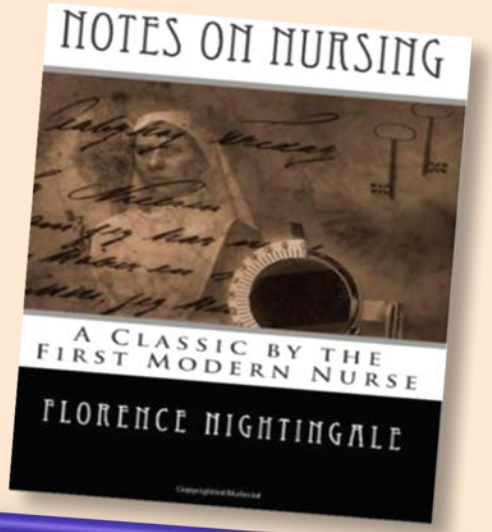
Extensive hygiene practices in care settings (often clinical **routines**)

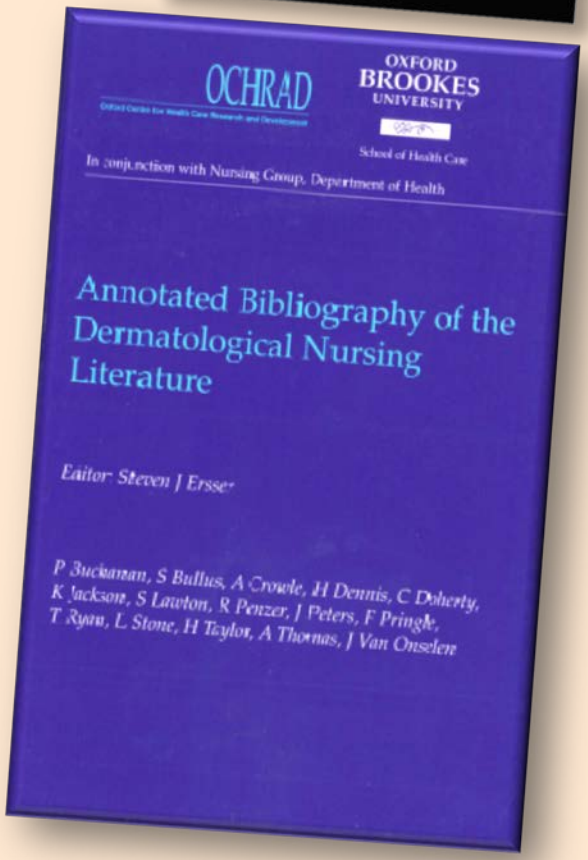
Protection and thermoregulation

Significance:

Psychological
Socio-cultural
Health economic

Historical continuity of nursing interest concerning **care of the skin** yet **evidence-base remains under-developed**





- Stimulus: 20 years ago undertook a commissioned review of the dermatological nursing literature for Department of Health (England) revealed need for a nursing focused research programme in this clinical field
- Few research studies, including those supporting self-management

Ersser et al (1998)

Impact: skin conditions may have a significant **psychological** and **quality of life** impact

- Comparing health-related quality of life (HRQL) in psoriasis with 10 major chronic conditions
- Psoriasis patients reported reduction in physical and mental functioning comparable to those seen in cancer, heart disease, diabetes and depression

Rapp, Feldman *et al* (1999) Psoriasis causes as much disability as other major medical diseases *Journal of the American Academy of Dermatology* 41:401-7

Impact: skin disease is a leading cause of **premature death** worldwide

DALY = disability adjusted life years

Table 1. DALY ranks when considering skin conditions collectively

Cause	Global DALYs	DALY rank
Ischemic heart disease	129,800,000	1
Lower respiratory infections	115,200,000	2
Cerebrovascular disease	102,200,000	3
Diarrheal diseases	89,523,909	4
Malaria	82,688,806	5
HIV/AIDS	81,549,177	6
Low back pain	80,666,896	7
Preterm birth complications	76,979,669	8
Chronic obstructive pulmonary disease	76,778,819	9
Road injury	75,487,102	10
Major depressive disorder	63,239,334	11
Neonatal encephalopathy (birth asphyxia and birth trauma)	50,162,510	12
Tuberculosis	49,399,351	13
Diabetes mellitus	46,857,136	14
Iron-deficiency anemia	45,349,897	15
Sepsis and other infectious disorders of the newborn baby	44,236,488	16
Congenital anomalies	38,890,019	17
Skin conditions	36,921,995	18
Self-harm	36,654,590	19
Falls	35,405,935	20

18th →

Hay *et al* (2013) The Global Burden of Skin Disease *Journal of Investigative Dermatology*

Impact: skin conditions are the **4th leading cause of disability** (non-fatal disease burden) worldwide

YLD = years lost due to disability

Table 2. YLD ranks when considering skin conditions collectively

Cause	Global YLDs	YLD rank
Low back pain	80,666,896	1
Major depressive disorder	63,239,334	2
Iron-deficiency anemia	42,505,250	3
Skin conditions	33,717,725	4
Neck pain	32,650,797	5
Chronic obstructive pulmonary disease	29,420,262	6
Other musculoskeletal disorders	28,247,230	7
Anxiety disorders	26,847,326	8
Migraine	22,362,507	9
Diabetes mellitus	20,791,397	10
Falls	19,479,581	11
Osteoarthritis	17,148,545	12
Drug use disorders	16,434,052	13
Other hearing loss	15,824,531	14
Asthma	13,843,163	15
Alcohol use disorders	13,838,157	16
Road injury	13,489,949	17
Schizophrenia	12,975,089	18
Bipolar affective disorder	12,878,832	19
Dysthymia	11,091,105	20

Prof R. Hay *et al* (2013) The Global Burden of Skin Disease *Journal of Investigative Dermatology*

Understanding impact through **the life-world** of those with chronic skin disease: eg: a life lived with **psoriasis**

Global impacts: many skin diseases are **hidden public health concerns** on a global scale- yet **opportunities** for nursing

'500 million Indians get pill to wipe out killer bug' The Times 15.2.14

A man treated for elephantiasis (lymphatic filariasis): a neglected tropical disease (NTD) of scale – affecting 120 million people globally

Skin disease creates global public health challenges

- Chronic illness versus infections/ infestations
- Key public health issues
  - skin cancer
  - lymphatic filariasis (NTD)
  - scabies
  - chronic wounds
- Nursing opportunities to:
  - prevent and alleviate the above
  - minimise socio-economic impact
  - alleviate impact on vulnerable groups

Developing a nursing research programme: some illustrations of existing work

1. Studies examining unmet or poorly met **skin-health related need** – especially self-management ability to improve wellbeing, amenable to nursing intervention

2. Studies developing and evaluating responsive (mainly) **nursing interventions** and **models of service delivery** (based on research evidence and theory) to meet such needs and improve wellbeing

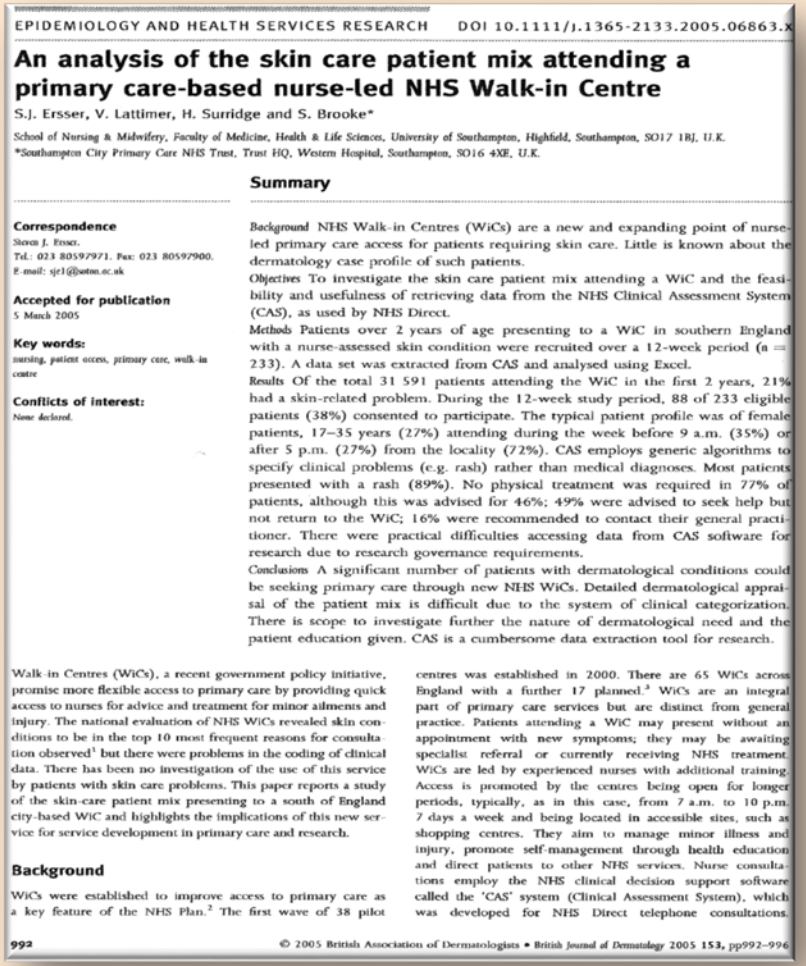
3. Studies developing robust **patient-orientated measures** to enhance intervention evaluation (both clinical and research)

Identifying needs: skin care patients make up a **major proportion** of the NHS patient mix

GP (family practitioner) consultations: 1 in 6 patients (Schofield et al 2009)

NHS walk-in centres: nurse-led primary care and open access- a case analysis:

- skin/ wound issues- most common reason for child presentation and second most common reason for adults
- the need for self-management support



EPIDEMIOLOGY AND HEALTH SERVICES RESEARCH DOI 10.1111/j.1365-2133.2005.06863.x

An analysis of the skin care patient mix attending a primary care-based nurse-led NHS Walk-in Centre

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nursing, patient access, primary care, walk-in centre

Conflicts of interest:
None declared.

Summary

Background NHS Walk-in Centres (WiCs) are a new and expanding point of nurse-led primary care access for patients requiring skin care. Little is known about the dermatology case profile of such patients.
Objectives To investigate the skin care patient mix attending a WiC and the feasibility and usefulness of retrieving data from the NHS Clinical Assessment System (CAS), as used by NHS Direct.
Methods Patients over 2 years of age presenting to a WiC in southern England with a nurse-assessed skin condition were recruited over a 12-week period ($n = 233$). A data set was extracted from CAS and analysed using Excel.
Results Of the total 31 591 patients attending the WiC in the first 2 years, 21% had a skin-related problem. During the 12-week study period, 88 of 233 eligible patients (38%) consented to participate. The typical patient profile was of female patients, 17–35 years (27%) attending during the week before 9 a.m. (35%) or after 5 p.m. (27%) from the locality (72%). CAS employs generic algorithms to specify clinical problems (e.g. rash) rather than medical diagnoses. Most patients presented with a rash (89%). No physical treatment was required in 77% of patients, although this was advised for 46%; 49% were advised to seek help but not return to the WiC; 16% were recommended to contact their general practitioner. There were practical difficulties accessing data from CAS software for research due to research governance requirements.
Conclusions A significant number of patients with dermatological conditions could be seeking primary care through new NHS WiCs. Detailed dermatological appraisal of the patient mix is difficult due to the system of clinical categorization. There is scope to investigate further the nature of dermatological need and the patient education given. CAS is a cumbersome data extraction tool for research.

Walk-in Centres (WiCs), a recent government policy initiative, promise more flexible access to primary care by providing quick access to nurses for advice and treatment for minor ailments and injury. The national evaluation of NHS WiCs revealed skin conditions to be in the top 10 most frequent reasons for consultation observed[1] but there were problems in the coding of clinical data. There has been no investigation of the use of this service by patients with skin care problems. This paper reports a study of the skin-care patient mix presenting to a south of England city-based WiC and highlights the implications of this new service for service development in primary care and research.

Background

WiCs were established to improve access to primary care as a key feature of the NHS Plan.[2] The first wave of 38 pilot centres was established in 2000. There are 65 WiCs across England with a further 17 planned.[3] WiCs are an integral part of primary care services but are distinct from general practice. Patients attending a WiC may present without an appointment with new symptoms; they may be awaiting specialist referral or currently receiving NHS treatment. WiCs are led by experienced nurses with additional training. Access is promoted by the centres being open for longer periods, typically, as in this case, from 7 a.m. to 10 p.m. 7 days a week and being located in accessible sites, such as shopping centres. They aim to manage minor illness and injury, promote self-management through health education and direct patients to other NHS services. Nurse consultations employ the NHS clinical decision support software called the 'CAS' system (Clinical Assessment System), which was developed for NHS Direct telephone consultations.

Ersser & Lattimer et al (2005) An analysis of the skin-care patient mix attending a primary care-based nurse-led NHS Walk-in Centre. *British Journal of Dermatology* 153, 992-6.

Developing interventions to enable nurses to support the wellbeing of people living with chronic dermatoses

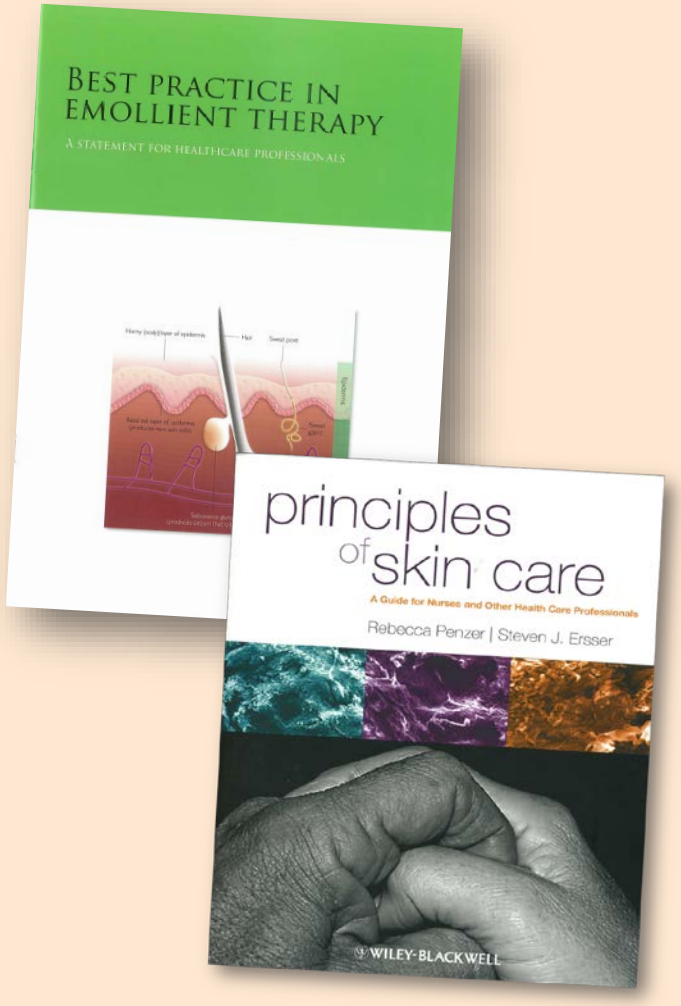
Interventions- building on existing evidence: developing structured education for eczema management

a Cochrane systematic review

What is the effectiveness of psychological and educational interventions for children with atopic eczema? – identified the importance of nurse-led interventions

Ersser, Cowdell, Latter. Gardiner, Flohr, Thompson et al A. Psychological and educational interventions for atopic eczema in children. Cochrane Database of Library of Systematic Reviews, 2014, Issue 1. Article Number CD004054

Applying evidence to improve intervention: developing evidence-based guidelines

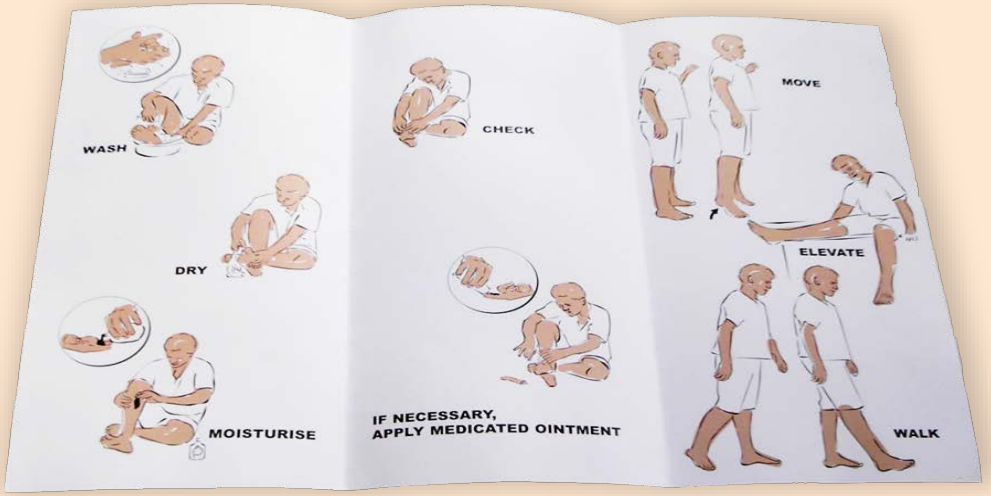


National and international guideline development to support key nurse-led skin care interventions

Ersser, Maguire, Nicol, Penzer, Peters (2012) Best Practice in Emollient Therapy; A Statement for Health Care Professionals 3rd Edition. *Dermatological Nursing (supplement) 11(4) s1-s19*

Types of interventions to supporting effective **self-management**

1. Strategies to improve self-management
2. Behaviourally and biologically based interventions for primary and secondary prevention:
   - Reducing vulnerability of skin barrier function
   - Supporting health behaviour



Eg: Culturally specific skin care education material for Lymphatic Filariasis morbidity control in Tanzania by International Skin Care Nursing Group –ISNG (Ersser & Penzer) in support of the *World Health Organisation Lymphatic Filariasis Morbidity Control Programme*)

Ersser, S. J., Kaur, V., Kelly, P., Langoen, A., et al (2011). The contribution of the nursing service worldwide and its capacity to benefit within the dermatology field.
***International Journal of Dermatology*, 50 (5), pp. 582-589**

Building interventions: application of **theory** e.g.

Self-efficacy construct
An individual's belief in their capacity to successfully execute a health related behaviour

+

Social learning theory
People learn by observing others

→

More likely to engage in behaviours when they **believe** they are capable of carrying them out successfully

Using the self-efficacy construct to develop **nursing empowerment** strategies

Personal accomplishment (achievement)

Vicarious experience (modelling)

Verbal persuasion (reinforcement)

Regulate emotional behaviour (stress management)

The Eczema Education Programme (EEP): one of largest in Europe -a service innovation evaluation study

Project Goal: educate parents of children with eczema to **manage their child's condition more effectively** and thereby improve the child and family quality of life and evaluate the model of intervention

NHS Guy's and St Thomas'

GUY'S & ST THOMAS' CHARITY

Eczema Education Programme (EEP)

Service access

Quality of life impact

Parental self-efficacy / empowerment

Service user and trainer learning

Jackson, Ersser et al (2013) The Eczema Education Programme: intervention, development and model feasibility *J. European. Academy of Derm & Vener*. 28(7): 949–956

EEP evaluative summary:

- Overall **parental satisfaction** very high
- Parental **self-efficacy** increased
- **Quality of life** and **disease severity** significantly improved
- Service impact data analysis- indications that **primary care demand** may be reduced
- Preliminary **exploratory study** to inform design of a multi-centred primary care randomised controlled trial

Ersser, Farasat, Jackson K et al. (2013) A service evaluation of the Eczema Education programme: an analysis of child, parent, and service impact outcomes.
***Brit. J. Dermatology* 169(3):629-36.**

Psoriasis self-management study: the need for **intervention development** work

How do psoriatic patients **self-manage** – what is their knowledge, skills and limitations?

How do we develop an effective **nurse-led educational intervention** to improve self-management?

Phase 1
Qualitative
Exploratory focus groups

Phase 2
Quantitative
A pilot trial evaluating
- quality of life
- disease severity
- self-efficacy impact

Ersser, Cowdell et al (2010). Self-management experiences in adults with mild-moderate psoriasis: an exploratory study and implications for improved support. *British J. of Dermatology*, 163 (5) pp. 1044-49

Improving psoriasis **self-management** through intervention feasibility testing

- Intermittent and erratic usage of topical therapy
- Low expectations of interventions and services

→

- Indications of how to support self-manage more effectively
- Built a feasible, promising group intervention supported by multimedia and social learning

Ersser, Cowdell et al (2011). Development and Feasibility Testing of an Education Intervention to Improve Self-Management Practice in Patients with Mild-Moderate Psoriasis. *Journal of European Academy of Dermatology.and Vener.* 26 (6):738–45

Developing person-centred measures applied to dermatology

Developing measures I: a tool to assess and promote self-management: **PeDeSI: Person-Centred Dermatology Self-Care Index**

- **Systematic assessment of self-management ability** re topical therapy
- Improve measurement *and* concordance with treatment

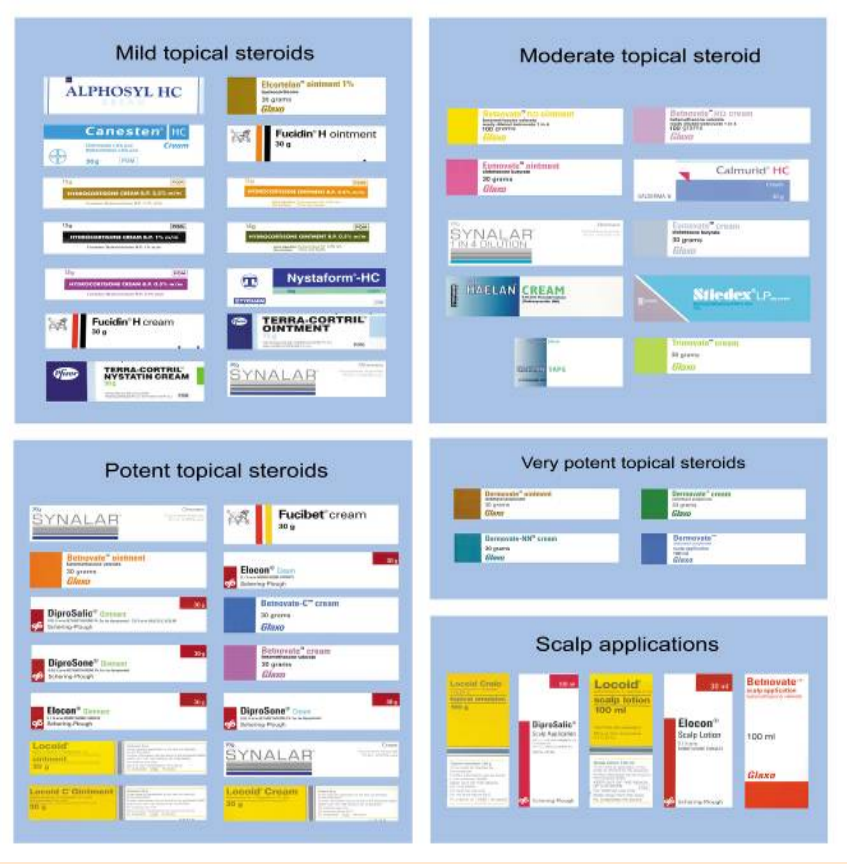
- Focus: *adults* with long-term skin conditions
- Developing tool translations

Skin Care Campaign

Pierre Fabre

Cowdell & Ersser (2012) The Development, Validity, Reliability and Field Testing of the Personal Centred Dermatology Self-Care Index. *Archives of Dermatology (JAMA Dermatology)* 62 (597), pp 192-193

Developing measure II: *Parental* Self-Efficacy with Eczema Care Index (PASECI)-identifying support needs



Domains: likert scale questionnaire

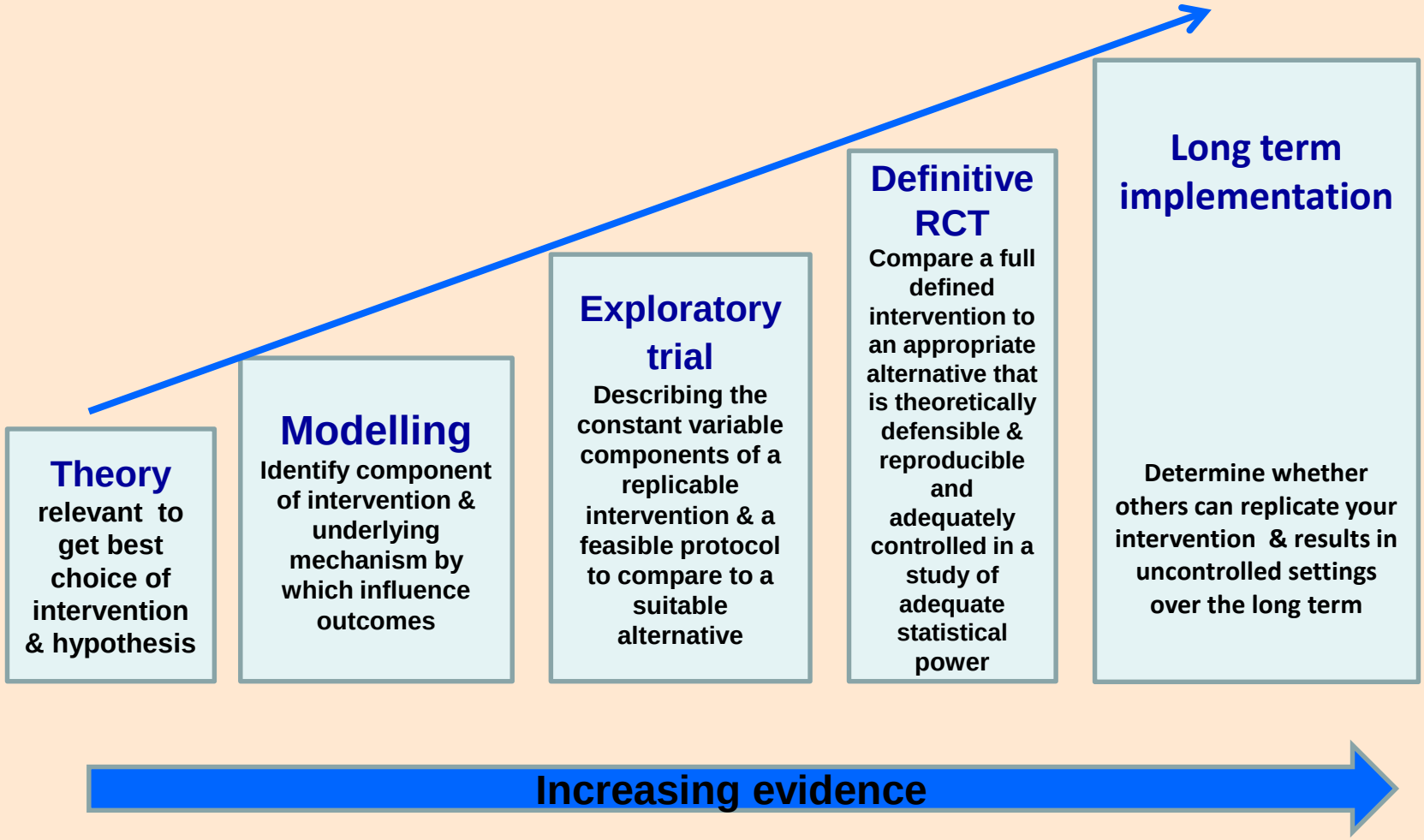
1. **Managing medication** sub-scale:
2. **Managing eczema** symptoms sub-scale
3. **Communicating** with health care professionals

- Tested through the EEP study Further development taking place – exploring correlations and translations

Ersser. SJ, Farasat. H, Jackson.K, et al (2015) Parental self-efficacy and the management of childhood atopic eczema: development and testing of a new clinical outcome measure. *British J.Dermatology* 173, pp1479–1485.

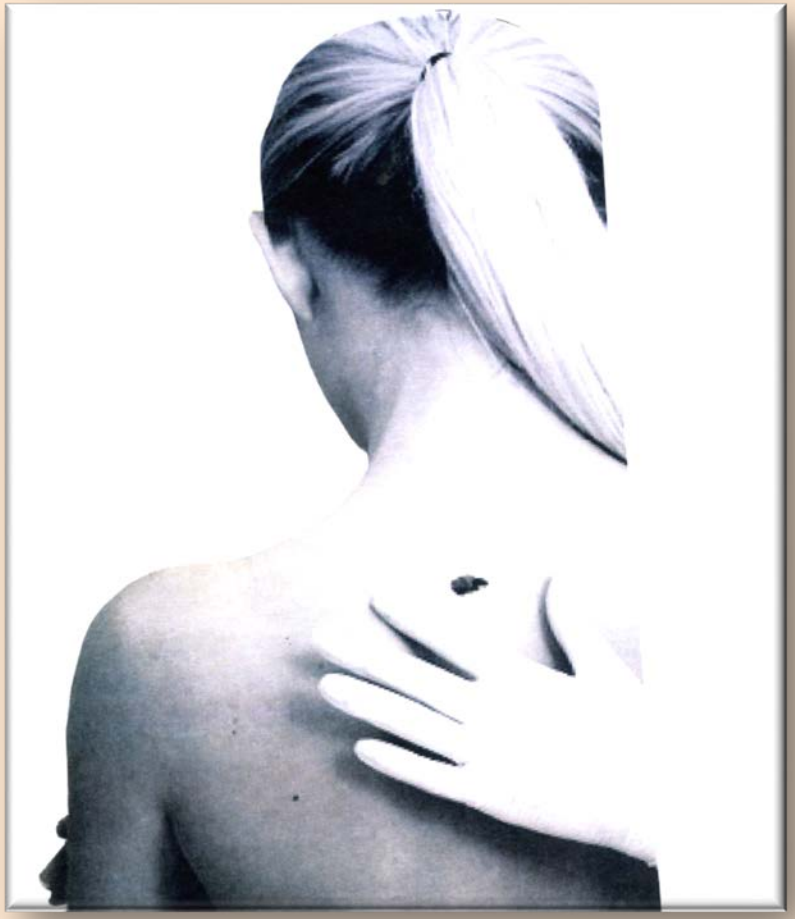
Complex intervention development and evaluation in nursing through research programmes

Framework for trials of Complex Interventions: phases: Medical Research Council UK –MRC (2008)



Eg 1: Programme: complex intervention development: on early detection of Skin Cancer via effective skin self-examination (SSE)

- **Workstreams include** 1) CI development 2) feasibility study and then 3) an effectiveness RCT
- **Development:** building on our systematic review and meta-analysis of interventions on early detection of skin cancer
- **Target group:** community based delivery- to those > 40 years targeting some high-risk vulnerable sub –groups-older men and those with a skin cancer history
- **Intervention:** Supported by internet based 'app' development including images, video demonstration to enhance self-examination (vicarious learning) and MOLES Index to tailor education to relevant behavioural change theory
- **Primary outcome**: seeking to increase the rate of urgent referrals for skin cancer to dermatology and improve disease stage/ prognosis



Ersser (2016) The early detection of skin cancer -the challenge (Guest Editorial) ***Dermatological Nursing*** **15(4):6**

Eg 2: Programme: to examine the relationship between skin care practices, skin vulnerability using skin barrier function (SBF) as proxy measures and pressure ulceration risk

- **Skin status domain and specifically the moisture risk sub–domain** -a key factor in pressure ulcer (PU) risk (Coleman et al 2013)- distinction between skin moisture and incontinence related.
- Meta-analytic evidence suggests vulnerable skin caused by **incontinence acquired dermatitis** raising PU risk (Beeckman et al 2014)
- We wish to explore link to **skin barrier science**
- **Hypothesis to be tested:** the relationship between skin care practices, skin vulnerability, as reflected in skin barrier function (SBF) status, and pressure ulceration risk
- **Worksteams:** exploring routine skin care practices; developing an evidence-based skincare intervention supporting SBF, then trial evaluation against usual care to appraise impact on PU risk

Ersser, S.J., Getliffe, K., Voegeli, D., Regan, S. (2005) A critical review of the inter-relationship between skin vulnerability and urinary incontinence and related nursing intervention. ***International. J. of Nursing Studies*** **42, 823-35.**

Developmental work on skin barrier function measurement in clinical settings

- Intervention development on regular skin care and that to support specific needs -informed by current **exploratory work in the UK and in Africa**

- Currently exploring **feasibility of skin barrier function measurement in the clinical setting using wireless probes,** (trans-epidermal water loss and skin hydration) in acute primary and secondary care settings
- Informing a programme of work to test the foregoing hypothesis

The scope for a global nursing response

Nursing's capacity to benefit in the dermatology field worldwide

International Journal of Dermatology

Community dermatology

The contribution of the nursing service worldwide and its capacity to benefit within the dermatology field

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Abstract

The nursing service is a significant element in the dermatological capacity to respond to skin care and dermatological needs worldwide. Although it is an area of development often neglected by dermatologists, it is one that is undergoing rapid and substantial evolution. This paper outlines the initiatives undertaken by nurses to enhance their contribution, and examines the development of nursing within the dermatology field. It argues for the need to develop a service delivery model in dermatology care that utilizes specialist-nursing expertise to cascade dermatological knowledge and skill through primary care. The paper summarizes the strategic importance of nursing in dermatology care delivery, whether in resource-rich or -poor countries, and its unmet potential in the capacity to benefit and meet skin care and dermatological care needs. The paper specifically focuses on the development work led by the International Skin Care Nursing Group (ISNG) to stimulate and develop the capacity of nursing to respond to these widespread needs through promoting service delivery models that operate interdependently with dermatologist-led care.

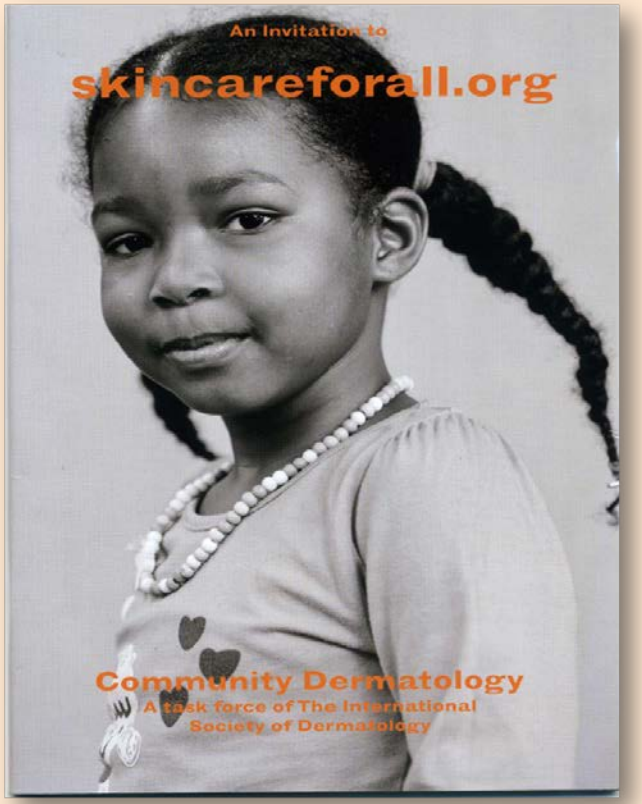
Introduction

It is timely for this paper to build on that published over a decade ago on the nursing contribution to meeting dermatology and skin care needs worldwide,[1] given the International Society of Dermatology's recent initiative to examine the capacity of dermatology professionals to benefit those in need. Finlay and Ryan's early paper[2] highlighted that skin disease is highly prevalent across the world, some of which may result in skin failure that has major social and economic impacts on individuals and communities. However, it is less established that there is a significant and growing contribution of the nursing service to meet the skin care and dermatological needs, and this has seen rapid development over the last decade. The significant lack of dermatologists worldwide, most of who are based in the hospital sector, means that expertise in skin care cannot always be delivered to those who need it. The nursing service represents one of the world's largest and most significant health resources; many skin care and dermatological needs are amenable to nursing intervention and support. This paper briefly outlines initiatives by nurses to do this and examines the development of nursing within the dermatology field. It logically follows that there is a need to adopt a strategic approach that identifies the educational needs of nurses, harnesses the appropriate expertise, shares good practice, and operates in close interprofessional collaboration with dermatologists. In this regard, it highlights the specific work led by the International Skin Care Nursing Group (ISNG) to stimulate and develop the capacity of nursing to respond to these widespread needs through promoting service delivery models that operate interdependently with dermatologist-led care.

Therefore, this paper outlines the strategic importance of nursing in dermatology care delivery, whether in resource-rich or -poor countries, the important part nursing plays and its unmet potential in the capacity to benefit and meet skin care and dermatological care needs. To realize this potential there is a need for the development of interprofessional team working, support for nursing development and education, and identification of service delivery models that effectively integrate and complement

International Journal of Dermatology 2011, 50, 582–589

INTERNATIONAL Skin care Nursing GROUP



Ersser, S. J., Kaur, V., Kelly, P., Langoen, A., Maguire, S., Nicol, N.H., Page, B. and Ward, C., (2011). The contribution of the nursing service worldwide and its capacity to benefit within the dermatology field. *International Journal of Dermatology*, 50 (5), pp. 582-589.

Developing and evaluating interventions promoting wellbeing in resource-poor communities: the case of **skin care** for people living with **neglected tropical disease**

- Examples: former PhD students working in Africa
- Dr.Alex Effah: examining the **support needs** of people with *Buruli ulcer* in Ghana
- Dr.Jill Brooks: RCT to develop an **effective skin care intervention (emolliation)** to enhance skin barrier function (SBF) and quality of life for people with *podoconiosis* in Ethiopia

Brooks J, Ersser SJ, Cowdell F, et al (2017) A Randomised Controlled Trial to evaluate the effect of a new skin care regimen on skin barrier function in those with podoconiosis in Ethiopia. *British. J Dermatology* Apr 4. doi: 10.1111/bjd.15543.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