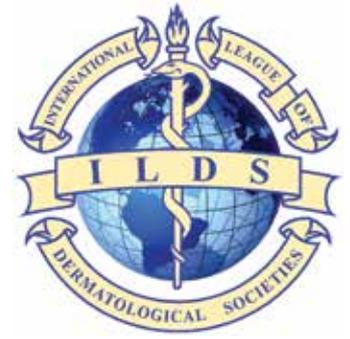


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IACS 5TH GLOBAL MEETING NOVEMBER 2016

The International Foundation for Dermatology were delighted to support the 5th Global meeting of the International Alliance for the Control of Scabies on 13th November 2016 by kind permission of the Task Force for Global Health in Decatur (who hosted the meeting). Reflecting on our mission statement: "a global network committed to the control of human scabies and the promotion of health and wellbeing of all those living in affected communities" we agreed we had achieved significant milestones in this regard since our formation just 5 years ago.

Firstly we published a position paper in PLOS NTD "Towards the global control of human scabies: Introducing the international alliance for the control of scabies IACS" which emphasised the extent of the global burden of scabies and also the significance of the downstream effects a scabies infestation has on a patient in resource poor settings such as causing rheumatic heart disease or glomerulonephritis with lasting health implications. As our annual meetings run alongside the American Society of Tropical Medicine and Hygiene we have increased our influence amongst this influential health community by running symposia within the main ASTMH meetings: In 2012: "Burden and control of scabies", in 2015: "Integration of skin disease in monitoring and control of NTDs" and in 2016 "An Integrated Approach to Tropical Dermatology".

Our website www.controlscabies.org has 10,000 visits each year by >5000 unique visitors. As well as a members section it houses updated research repository, and call to collaborate. We now have 125 members from 31 countries. David Hendrickx and Daniel Engelman are to be congratulated for leading on this.

The diagnostic criteria group is generating a set of pragmatic diagnostic criteria which will be suitable for a range of settings with the aim of producing consistency in future research projects to facilitate useful comparison. Having published a systematic review of diagnostic criteria used in therapeutic trials (in press) they are now using a Delphi Panel of experts to develop consensus. We hope these will be ready for early 2017.



We were delighted to see scabies added to the WHO list of Neglected Tropical Diseases in 2013 after hard work and advocacy. However, following a rethink in the WHO NTD office scabies slipped off again. However the conclusion from the 2016 IACS meeting is that we are ready to re-submit with a powerful evidence based dossier to the WHO STAG (Strategic and technical advisory group for neglected tropical diseases) The closing date for this is January 2017 with a decision to be made in April 2017.

Following a huge outbreak of scabies in Ethiopia IACS was able to mobilize technical support to assist the Ethiopian Ministry of Health in 2016 in organising a mass drug administration programme. Dr Wendemagegn Enbiale, Dean of Bahir Dar Medical School and a dermatologist, represented the Ethiopian Federal

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Experience from the front line: Expert Panel facilitated by Dr John Kaldor:
Left to right: Dr Wendemagegn Enbiale (Ethiopia), Dr Mike Kama (Fiji), Pamela (WHO), Updendo Mwingira (Tanzania)

Ministry of Health to feedback to IACS 2016 on this intervention and the challenges managing possibly the largest reported outbreak of scabies in the world.

In summary over the past 5 years or so we have made a significant and relevant links which have increased our global impact for scabies but also for dermatology. We have built partnerships within the NTD community with those groups such as yaws, trachoma, lymphatic filariasis, podoconiosis, strongyloides and soil transmitted helminths. These represent in part conditions that affect the skin and also conditions that are treated with ivermectin. IACS has contributed to the COR-NTD (coalition for operational research for NTDs), liaised with individual country ministries of health, made contact with WHO NTD offices both regional and in Geneva and are also in discussion with not for profit pharma regarding the development of more effective medication.

The IACS steering committee is deeply grateful for the financial support from ILDS/IFD to run the meetings which I hope you agree has led to significant output. We have identified a colleague to work on fundraising and advocacy but until this aspect takes off and IACS becomes self sufficient the steering committee would be most grateful for this continued support of about \$10 000 to help take the next steps in global advocacy.

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MISUSE OF TOPICAL STEROIDS IN SCABIES

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During the last meeting of IACS in Atlanta, we reported a relatively recent problem that we face commonly in Mexico due to the indiscriminate use of topical steroids in scabies.

Scabies is a very frequent disease of worldwide distribution and with an increasing prevalence. We have noticed that self medication is not only a problem related to the usual complications as contact dermatitis or impetigo; nowadays we are noticing an alarming number of cases of Cushing syndrome caused by usage of topical Betamethasone, either alone or combined with clotrimazole and gentamicin (Fig 1). Clinical signs of steroid related disease (Figs 2,3) can be as mild as discrete telangiectasia, acneiform eruptions, hirsutism or as severe as morbid obesity and immunosuppression developing crusted scabies or recurrent pulmonary infections.

KEY WORDS

Scabies, topical corticosteroids, Cushing syndrome, hirsutism, Betamethasone, self medication, Mexico, health education



Fig 1: A potent corticosteroid preparation which is available over the counter in Mexico (photo: author).

There are other countries reporting similar problems in which medications are sold without a prescription. This is not exclusive to dermatology, but is seen as well in other medical areas in which the



Fig 2: Cushing syndrome induced by potent topical steroids. Note the numerous scabies burrows (photo; author).

complications of indiscriminate use of steroids are not uncommon, especially the use of steroid eye drops and inhaled steroids.

This is especially a cause of concern in paediatric patients which are the most affected with clinical signs of Cushing syndrome, not only for the abovementioned side effects, but also to possible consequences such as a diminished development in stature or even endocrine implications, becoming potentially a more severe health problem in the future.

Once the appropriate diagnosis of scabies and specific treatment is established, relapse is not uncommon as the number of family members that share the same house or that are in frequent contact is wide, and often they refuse to have the treatment whenever they are not fully symptomatic. This complicates even more the treatment as it drives patients to consider that treatment was not effective enough and they avoid a further consultation, considering it a useless expense for their health problem.

- Three predisposing factors contribute to this current health issue;
- Ignorance of future complications
 - Poverty that favours self medication and
 - Temporary relief of symptoms associated to high potency steroids.

It is worth mentioning that parents are frequently unaware of the diagnosis of Cushing syndrome, regarding the increased weight of their child as a "healthy appearance". Much is still to be done in education for general physicians, pharmacies and general population warning about the potential risks related to misuse of corticosteroids, as well as restriction in the laws for sale of high potency steroids without prescription. Therefore programmes like Community dermatology Mexico and Teledermatology help us to promote knowledge to health personnel in remote areas about the most frequent dermatoses, becoming able to identify common skin diseases like scabies, reducing the risk of erroneous treatments; as well as reaching more health centres in order to create awareness and improving medical attention at communities where self medication and lack of resources is higher.

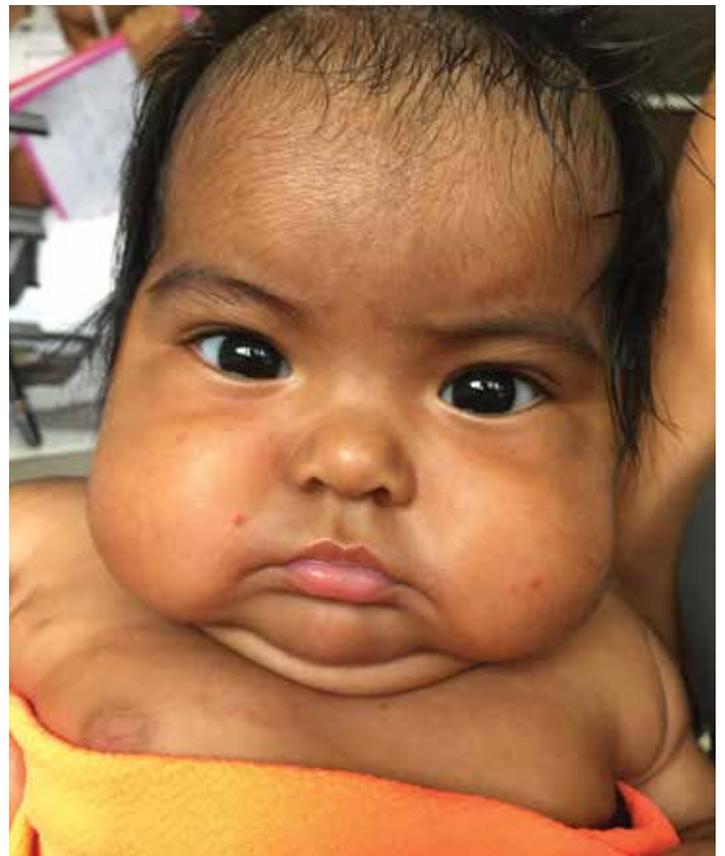


Fig 3: Hirsutism due to potent topical corticosteroids (photo; author).

Dermatological Drones; a technology of the future

Terence Ryan, Oxford UK

Rwanda is becoming a leader in the use of Unmanned Aerial Vehicles (drones) for the delivery of blood and vaccines. Aerial delivery is especially valuable during the rainy season when roads become impassable. Clearly this is a technology which will be widely and increasingly used during the next decade. One can envisage it playing a part for the delivery of antivenom following snake bites. The Economist reports fixed wing drones, costing only \$3000 dollars to manufacture, which are able to deliver 10 Kg of essential medicines or laboratory samples from garages costing less than using a petrol station. They will have to be well regulated and licences should be difficult to obtain. Use by terrorists must be prevented.

The Economist July 2nd 2016

Support and treatment of xeroderma pigmentosum (XP) patients in Sub-Saharan Africa

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Abstract

People with a genetic disorder leading to extreme UV-sensitivity face difficulties when living in equatorial Africa, with sunlight year round. The Regional Dermatology Training Center (RDTC) in Tanzania, is widely known for their "Persons with Albinism (PWA)-care program". There is however a relative high prevalence of a lesser known genetic disease, xeroderma pigmentosum (XP) that differs in origin of sun vulnerability. These patients lack the possibility to repair sun damage and might need even stricter sun protective regulations, which requests the need for a tailor made program for them.

List of abbreviations:

- BCC:** basal cell carcinoma
- NMSC:** non melanoma skin cancer
- PWA:** persons with albinism
- SCC:** squamous cell carcinoma
- XP:** xeroderma pigmentosum

Introduction

Although in most tropical countries it is rather sunny throughout the day, the incidence of Non Melanoma Skin Cancers (NMSCs) is rare due to the natural protective qualities of the dark skin to UV induced DNA damage. There are however two genetic impaired populations in Tanzania, who have an increased risk of developing multiple skin cancers, often from young onwards. These are persons with albinism (PWA) and xeroderma pigmentosum (XP).¹⁻⁶ The PWA lack a normal functioning biosynthesis of melanin. Next to actinic skin damage they usually suffer from eye problems (photophobia and nystagmus) and social exclusion and stigmatizing because of their white skin.⁷⁻¹⁰ In the photocarcinogenesis, melanin is not the only protective factor, as becomes clear in Xeroderma Pigmentosum (XP).^{4,11} XP patients are born dark skinned, but have a genetic mutation that leads to problems in DNA repair mechanism and consequent development of multiple skin cancers.¹² Both risk-groups need careful guidance to increase the awareness of the harmful effects of UV radiation.

RDTC

The Regional Dermatology Training Center (RDTC) in Moshi, Tanzania, plays a major role in the dermato-oncological care for persons at risk. They serve regular community outreach programs, perform (surgical) interventions and supply sunscreens free of charge.^{1,13} So far PWA and XP are included in the same "PWA care program", since they both suffer from sun induced skin malignancies. It can however be discussed if you do both groups fully right because of their different etiology of skin cancer and different comorbidities.

Xeroderma Pigmentosum

Xeroderma Pigmentosum literally means dry, pigmented skin that describes their classical first presentation (fig. 1).¹¹ Although

KEY WORDS

DNA damage, skin cancer, support, treatment, sub-Saharan Africa



Fig 1: Clinical features are a dry scaly skin with mottled pigmentation (photo © RDTC, Tanzania)

they are born without immediate clinical abnormalities, soon multiple lentiginos start developing on a dry, fine scaly skin. It is a recessive autosomal inherited skin disease in which patients lack the possibility to repair (mainly UV-induced) DNA damage. For this reason, there is an extreme sensitivity to (sun)light exposure which, in the case of insufficient protection, results in the development of multiple skin cancers (fig. 2).^{6,11,14} XP patients have a nearly 10.000 times increased risk of getting NMSCs (basal cell carcinomas -BCCs- and squamous cell carcinomas -SCCs) and 2000 times of getting



Fig 2: extensive sun damage and multiple tumours in a young child (photo © RDTC, Tanzania)

melanomas. These develop mainly in sun exposed areas (scalp and face) but are also widely seen on the tip of the tongue (fig.3).¹⁵ Their life expectancy is greatly reduced because of the risk of metastasis.

Comorbidities

Next to the NMSCs these patients can develop eye problems and neurological complications.¹⁶⁻¹⁸ Eye problems mainly result from peri-ocular cicatrization and direct conjunctival degeneration (e.g. carcinoma, pterygium and pinguecula) (fig.4) Neurological abnormalities, like ataxia, dysarthria and tetraplegia are sometimes seen and are probably caused by the inability to repair oxidative stress. Histological examination of the brain shows non-inflammatory neuronal cell damage.¹²

Subtypes

Within XP eight subtypes, so called complementation groups are described. Seven of them (XP-A till XP-G) have a gene defect in the Nucleotide Excision Repair (NER) pathway, while one, the XP-variant (XP-V), consists of a DNA polymerase (POLH)-mutation. NER repairs DNA in a couple of steps including detection of the damaged DNA, unwinding DNA strands, snip out the abnormal section and replace it for the proper nucleotides. Depending on the mutation, somewhere in this process a dysfunction exists, leading to impaired DNA repair. There are however differences in phenotypical expression between and within complementation groups depending on the genes involved and the preventive measures taken by the patient. XP-variants have difficulties in the replication of damaged DNA.^{5,11,19}

Prevalence

Worldwide XP is rare. In Europe and USA the prevalence is estimated

to be 2.3 per million inhabitants. North Africa and the Middle East are known for high prevalence and in East Africa (Tanzania) numbers are not exactly known but must be high given the many patients that are seen at the RDTC.²⁰

Support and Treatment

Although there is no cure for XP, increased awareness and crucially early diagnosis, followed by rigorous protection from daylight and careful patient management, can dramatically improve the quality of life and life expectancy of affected individuals.¹¹ In the present "PWA programme", PWA and XP patients are visited during a 6 monthly outreach in their home places. It might however for XP patients be better to organise regular (e.g. 4 monthly) gatherings at the RDTC office following a "camp" like program that is used in South Africa for example. In these evening/night camps information sessions can take place, XP patients can share experiences with affected peers and a multidisciplinary medical team of dermatologists, ophthalmologists, neurologists, (psychologists) and specialized XP-nurses take care of the patients.

Prevention

Prevention aims at taking measures to minimize sun exposure and screening for and treatment of (pre)malignancies by a dermatologist. XP patients should reduce sun exposure to a minimum with outdoor activities ideally taking place from dusk to dawn.¹¹ Windows in class- and living rooms should be covered by UV protective foil. Personal protection can be achieved by wearing a wide brimmed hat, use of sunglasses, an UV visor and the application of sunprotection cream (SPF 50). Suncream (Kilimanjaro suncare®) is produced at RDTC and freely distributed. Special trained nurses have to inform patients about the need of these measures. They can show how to apply the cream and check if sunprotective measures are used correctly.

Immediate treatment of pre-malignancies will reduce the risk of progression into invasive carcinoma. Different modalities can be used like: cryotherapy, photodynamic therapy (PDT) and curettage + coagulation. The use of tumourprotective oral retinoids (acitretin and isotretinoin) have been shown beneficial in some cases.²¹ Obviously one should be aware of the adverse effects of these medicines, in young patients especially skeletal abnormalities and inhibition of the growth due to premature epiphyseal closure.

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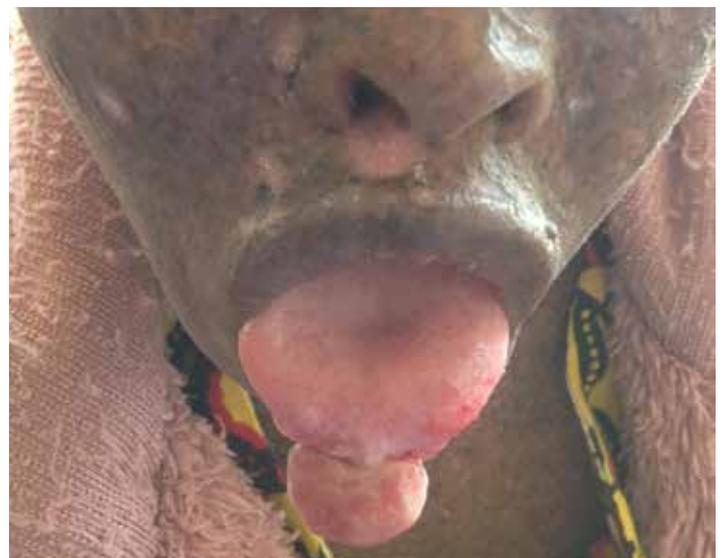


Fig 3: squamous cell carcinoma on the tip of the tongue (photo © RDTC, Tanzania)

Support and treatment of xeroderma pigmentosum (XP) patients in Sub-Saharan Africa *continued*



Fig 4: Cicatricial peri-ocular skin changes with loss of eyebrows and eyelashes combined with a vascularised and fibrosed conjunctiva in a four years old patient. (photo © RDTC, Tanzania)

Studies have proven the use of topical ointments as a field directed therapy, like 5-fluorouracil and imiquimod.²²⁻²⁴ It is an interesting option for larger dysplastic skin areas.

Larger tumours are preferably removed by excision. A dermatology interested pathologist is another requisite to examine the margins of the excised tumour for total removal. Radiation therapy seems not a first line treatment and only reserved for inoperable tumours although it has been described as an effective modality without major side effects.¹⁶

Prognosis

Usually XP patients die soon from metastasis of their tumours. Next to that their quality of life is greatly reduced because of all the above described measures they have to take. Stigmatization and eye problems leads to further social exclusion with less chances of physical and educational development. Even with good care, the painful treatments that they have to undergo and the following painful wound dressings from a young age have high impact on their wellbeing.

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Skin and wound care and effective water use in resource-poor countries

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Abstract

It is estimated that three billion people living in rural areas of 127 resource-poor countries do not have access to the most basic skin care consisting of washing with soapy water and drying¹. Diseases caused by poor personal hygiene and skin or eye contact with contaminated water include trachoma, scabies, flea, lice and tick-borne diseases. Keeping skin clean and intact is therefore crucial. When skin breaches occur through insect bites, trauma, disease or dry cracked skin optimal treatment is required to prevent inflammation, infection, wound deterioration and delayed wound healing. This article highlights key issues faced by those in rural areas of resource poor countries in keeping skin clean and healthy and treating any wounds that may occur. The article focuses on Uganda and Ethiopia, the countries where the first author has worked as a nurse and researcher.

Introduction

Skin performs many vital functions including forming a barrier to physical agents and preventing loss of body fluid thus avoiding dehydration and death in a terrestrial environment. It also helps protect the body against potential pathogenic organisms.

To maintain its functions effectively the skin needs to be kept clean, excessive surface dirt and grease removed and the build-up of micro-organisms on its surface prevented. The stratum corneum (SC) relies on a delicate water balance which when altered even slightly may result in a compromised skin barrier function (SBF)². Dry skin loses elasticity, becoming vulnerable to cracking, and fissures in areas such as the foot can increase the risk of entry of soil and pathogens causing infections, and disease. Water, as well as helping to clean skin, also hydrates the SC. Clinical trial evidence



Fig1: The inside of a typical hut in rural Ethiopia.

KEY WORDS

wound care, skin cleansing, skin barrier, water purity, resource poor areas, podocniosis



Fig 2. Children collecting water from a standpipe in Ethiopia.

suggest that hydration is augmented with the application of an emollient³. Soap is often necessary for washing because it acts as an emulsifier removing oil (sebum), other lipids and organic debris – such as soil which water alone cannot remove.

Cleaning the skin with water

Being poor in a hot dusty environment, living in cramped poor quality housing with inadequate nutrition and no piped water is not conducive to healthy skin. In the hut pictured in Figure 1 seven people lived together with their animals. There was no piped water. It had to be collected several times a day from many kilometres away in 25 litre yellow plastic containers each weighing 25 kilos when full.

Globally, water from unprotected dug wells, rivers, lakes and ponds is used by 884 million people. Most of these are the rural inhabitants of sub-Saharan Africa⁴. However, a protected well does not necessarily mean it is free from all pathogens⁵. More than a quarter of the population (mainly women (64%)) in several sub-Saharan countries take longer than 30 minutes to make one water collection⁴.

Collecting water several times a day from a distant source is hard, time consuming work. Water from ponds or lakes is often easier to access but may well be grossly polluted by animal and human waste and/or by chemicals and heavy metals. When used for cleaning, contaminated water can result in skin infections.

Continued overleaf...



Fig 3: Ethiopian children collecting water and washing from a pond.

Data indicates that 42% of healthcare facilities in Africa do not have access to safe water⁶. A rural hospital in Uganda where the first author worked drew water from an underground source which, when analysed had 'too many bacteria to count but no coliform bacteria'. Relatives, who provided the food, drink, clean bed linen and washing water for the patients obtained their water from a pump in the hospital grounds.

The United Nations Millennium Development Target⁷. C aimed 'to halve by 2015 the proportion of people without sustainable access to safe drinking water and basic sanitation.' The drinking water target has not been achieved, and 663 million people still use unimproved drinking water sources; nearly half of these live in sub-Saharan Africa⁷.

In rural areas scarce water is primarily used for drinking and cooking. Interviews with⁶ Assistant Medical Officers in Tanzania on the public's washing practices reported the relative priorities for



Fig 4: Relatives drawing water in a Ugandan Hospital.

water were drinking, cooking and washing, respectively. Among the Maasai people it was: drinking by cattle, drinking by humans then washing⁸. Therefore, there is a major tension between the use of water for the drinking and survival needs over skin cleansing to either maintain a healthy skin or help manage deterioration of the skin barrier, if diseased.

Washing skin with soap

Water alone, however, is not sufficient for cleansing dirty skin. Soap and drying cloths are also required. There are other cleansing agents but soap is the primary cleanser used in resource poor countries. Soaps clean by acting as an emulsifier allowing oil and water to mix in order that oily substances and dirt can be removed during rinsing. The cheapest soap available in rural Ethiopia has a pH of 10 and is contaminated with silicates (minerals present in soil)⁹. This high pH disrupts the protective acid mantle of skin changing it from one which is slightly acid into one more alkaline and decreasing the fat content. This may lead to an increase in surface micro-organisms, with colonisation and potential infections by pathogenic bacteria.

The findings in the first multi-country review of water, sanitation



Fig 3: Ethiopian children collecting water and washing from a pond.



Figs 6,7: Feet of two podoconiosis patients, one before and one after 3 months of daily washing regimen.

and hygiene services in health-care facilities drew on data from 54 low- and middle-income countries⁶. This report concluded that 38% of countries lack access to even rudimentary levels of water, 19% lack sanitation and 35% do not have water and soap for handwashing. Indeed some hospital wards where the first author has worked in rural Uganda and Ethiopia often had no water available in the hand basins and/or soap or clean, dry towels.

An example of effective skin care practice is the podoconiosis (non-filarial elephantiasis) clinics in Ethiopia where patients are taught to wash their feet and legs daily with soap and water. This, together with a soak in water and application of an emollient such as Vaseline[®] improves their skin condition by preventing further



Fig 8: Neglected foot wound in a Ugandan Hospital.

plantar cracking and the entry of soil and pathogens and reducing leg/foot swelling¹⁰. A randomised control trial on podoconiosis reported highly significant differences in lowered trans-epidermal water loss and increased SC hydration (improved SBF) using less soaking water with added 2% glycerine when compared to the current skin treatment⁹. In many areas, however, dry skin is often left untreated due to lack of knowledge regarding their use or the cost of emollients.

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Cleaning wounds in resource-poor countries

Cost effective and research based wound management is an enormous challenge for those in resource-poor countries. Wound and skin care is often undertaken with very limited resources and without up-to-date evidence-based information available to make clinical decisions. Patients often delay coming to hospital because of distance, loss of work or cost. Many patients in rural areas will seek the help of a local healer in the first instance. Their preparations may be ineffective, possibly harmful and often expensive.

There is commonly a scarcity of wound cleansing agents in many resource-poor countries. Cotton wool swabs are used for cleaning, however, they may leave fibres in wounds providing a focus for infection. Vigorous rubbing to clean a wound is sometimes undertaken but this may remove any new tissue growth, although gentle pressure is recommended to remove excess exudate and debris. For cleaning wounds and removing debris antiseptics such as chlorhexidine gluconate lotion (Savlon), hydrogen peroxide and bleach in various dilutions are commonly used. A Cochrane review concluded that using tap water to cleanse acute wounds in adults did not increase infection rates¹¹. Furthermore, the review concluded that where tap water is of drinkable quality it may be as good as other methods such as sterile water or saline and more cost-effective. Drinkable quality water should therefore be suitable for washing the skin of those with skin disease or with skin breaches or wounds. It is now extensively used in the UK for managing wounds.

There are three main methods of removing pathogens from polluted water and making it of drinkable quality. It may be boiled but in resource poor countries obtaining fuel such as wood is time and time consuming as well as environmentally detrimental. Charcoal has similar environmental effects and is expensive. Secondly, water may be placed in plastic containers in full sunlight (solar water disinfection). These are often 2 litre bottles so obtaining sufficient amounts for skin washing would be challenging. A literature review identified cold or cloudy weather, fear of leaching from the plastic, water turbidity and lack of community acceptance as barriers to use of 19 litre water dispenser containers¹². Dilute household bleach may also be used but access and expense may be a problem.

Water purification products such as PUR™ are also effective¹³. This is a flocculant chemical which removes particulate microbes and pollutants from water including heavy metals such as arsenic. It is produced by Procter & Gamble who have been distributing it as a humanitarian aid for several years to provide safe drinking water. Each small 4g sachet, when added to 10 litres of filthy water, thoroughly stirred, and then filtered, produces clear clean water within 30 minutes. The water will retain microbial stability for about a day, although purified water can be maintained longer by storage in a clear plastic container and placing it in direct sunlight. The International Foundation for Dermatology and International Skin Care Nursing Group have signed a Memorandum of Understanding for supporting the use of PUR in skin care projects. PUR™ was used instead of antiseptics on 32 patients in a surgical/trauma ward in rural Uganda to clean many different types of wounds¹⁴. Laboratory facilities for microscopy, culture and sensitivity were not available but there was no discernible rise

in infection rates. Savings on wound antiseptics over a 4 month period of £139 related to £417 per annum which, in a hospital where nurses were paid £45 per month was a considerable saving¹⁴.

Conclusion

Accessing and instigating evidence-based wound and skin care in resource poor countries is difficult for many reasons but mainly there is a lack of easy access to adequate amounts of drinkable quality water. There is a lack of knowledge on the importance of skin care and the financial resources to purchase the items required, although some low cost alternatives such as glycerine are under used. Third there is difficulty accessing health care facilities due to distance or financial issues. Until these issues are resolved, using drinkable quality water for cleaning skin and wounds for the poorest in society will remain an issue.

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AZITHROMYCIN FOR YAWS

A single-dose oral azithromycin versus intramuscular benzathine penicillin for the treatment of yaws – a randomized non inferiority trial in Ghana. C Kwakye-Maclean *et al.* *PLOS Negl Trop Dis* Jan 2017.

Yaws, a non-venereal treponemal disease, chiefly affects the skin, causing ulceration and papillomatous lesions and, in secondary cases, palmoplantar hyperkeratosis or a maculopapular rash. Children are especially affected. Following a global eradication campaign between 1957-1964, there was a 95% reduction in prevalence; however, weakening of surveillance has led to a re-emergence in resource-poor areas and it is now a major public health problem in West and Central Africa, South East Asia and some Pacific islands.

Single-dose intramuscular long-acting penicillin has been the treatment of choice; it is inexpensive, and the organism continues to be sensitive to penicillin. However, there is a risk of anaphylaxis and the treatment is very painful. Azithromycin has proved effective in syphilis and trachoma and has been used in yaws.

The authors compared single-dose oral azithromycin 30mg/kg with single-dose intramuscular benzathine penicillin (1.2 million units in children aged 10-15 and 0.6 million units in children under 10). There was partial or complete resolution of skin lesions after 3 months in 98.2% of the patients who received azithromycin and 96.9% in those treated with penicillin. The rapid plasma reagin titre was reduced fourfold or more in 57.4% of the azithromycin patients versus 49.1% in those who received penicillin.

These results confirm a previous study from Papua New Guinea that oral azithromycin is non-inferior to intramuscular penicillin in treatment of yaws; the drug is inexpensive and well tolerated.

CRL



Papillomatous lesion before and after azithromycin

Risk factors for cutaneous leishmaniasis

Risk factors associated with American cutaneous leishmaniasis in an endemic area of Brazil. A.R.de Araujo *et al.* *Rev Inst Med Trop Sao Paulo* 2016; **58**:86.

This case-control study was conducted in Timbaúba, a rural community in northern Pernambuco, Brazil, which is an endemic area for leishmaniasis. The authors found that male adults working more than an hour's distance from home were especially at risk of cutaneous leishmaniasis (perhaps with greater exposure to sandflies). Other risk factors included the presence of animals near or in the house, living in areas of dense vegetation and lack of water supply, creating the need to collect water from wells or reservoirs, ideal habitats for sandflies. This study confirms previous studies worldwide that link the development of leishmaniasis to a resource poor environment, and the authors recommend the installation of basic sanitation and rearing animals at some distance from the house.

CRL

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