Advances in pressure ulcer management in Brazil

This article describes the development of pressure ulcer knowledge and management in Brazil. Recent studies have shown that pressure ulcers are a significant problem in Brazil, and several local and international organisations have recognised the important role nurses play in prevention and care. As a result, nursing education and resources have improved and evaluating the risk and occurrence of pressure ulcers has become a method of establishing indicators of quality care in Brazil.

INTRODUCTION

Pressure ulcers in elderly patients and those with chronic diseases have become a serious problem in Brazil, both within hospitals and patients’ homes. Brazil is a large country with huge variations between the different regions and the lack of a national agency makes it very difficult to estimate the total incidence of pressure ulcers. However, in clinical practice the prevalence and incidence of pressure ulcers in Brazil are still high, mainly among more debilitated patients and those who require an extended recovery period such as neurosurgical patients, quadriplegic patients and geriatric patients with hip fractures.

The World Health Organization (WHO) uses the incidence and prevalence of pressure ulcers as an indicator of the quality of patient care services and the use of efficient prevention measures and treatments has become paramount[1], especially since approximately 95% of pressure ulcer cases can be avoided.

The National Pressure Ulcer Advisory Panel (NPUAP) estimates that approximately 60,000 people in the US die annually due to complications generated by pressure ulcers and associated expenses are estimated at between $2,000 and $25,000 per individual per year[2]. In Brazil, studies that estimate the costs of pressure ulcer incidents have yet to be performed, especially in regard to those acquired in hospital environments.

INCIDENCE

In recent years, studies in Brazil have been carried out on adult critical care inpatients in an attempt to estimate the incidence and prevalence of pressure ulcers. The global incidence of pressure ulcers in Brazilian hospitals has been put at 39.8%[3] with the highest rates found in intensive care units. It has been identified that sepsis and length of stay are factors associated with ulcers in bedridden patients[4].

In Brazil, pressure ulcers frequently occur in areas of bony prominence. Approximately 60% develop in the sacral region, compared to 15% in the ischium, greater trochanter and heel regions[5]. These areas are more commonly affected as the patient’s body weight is concentrated on them during any extended recovery period.

WOUND CARE NURSING IN BRAZIL

In Brazil, nurses have been gradually developing a systematic and therapeutic approach to evaluating and implementing wound care treatment and have achieved professional autonomy in the area. Wound care is a specialty within nursing and is recognised by the Brazilian Society of Dermatology Nursing (SOBENDE) as well as by the Brazilian Association of Stomatherapy (SOBEST).

Dermatological nursing

Dermatological nursing has been in constant development through nurses working directly with patients on dressings or preventive areas of medicine, such as education and research.

Stomatherapy

As a specialty, stomatherapy first appeared at the end of the 1950s, yet was only recognised as being exclusive to nurses by the World Council of Enterostomal Therapists (WCET) in 1980. In Brazil, the first stomatherapy nursing
course was held at the Nursing School of the University of São Paulo in 1990. Today, 10 nursing courses, which have received approval or are in the process of approval by SOBEST and WCET, are available.

The role of the nurse
Despite the breadth of their professional responsibilities nurses still face innumerable difficulties when attempting to provide specialist care, such as sourcing new knowledge and establishing prevention procedures.

These difficulties have there origins not only in the history of nursing, but also within nursing education, the round of daily nursing tasks and institutional pressures, for example, specialist nurses are involved in patient care, education and research and each may have a caseload of more than 40 patients.

Early in the development of nurse specialist training in Brazil, attention was focused exclusively on caring for ostomy patients and then on patients with wounds and incontinence. It has taken time for Brazilian nurses to be recognised for their role in the prevention and treatment of pressure ulcers.

RESEARCH
Brazilian researchers have been studying and publishing articles on pressure ulcers since 1997. It is a relatively new theme, although the problem is a historical one.

Initially, research focused on biochemical skin changes in patients with pressure ulcers, especially the effect of changing pH levels. In bedridden patients, for example, the presence of urine and faeces can change the skin’s pH and cause sheat. This altered skin chemistry can also render the skin more susceptible to external forces, which leads to injury and damage, destroying the natural barrier of the epidermis[6,7].

Attention then turned to the impact of the topical application of essential fatty acids in an attempt to improve the hydration and elasticity of the skin, as well as to prevent it from rupturing in undernourished individuals. In spite of being widely accepted in Brazil, the use of essential fatty acids for wound healing remains controversial as their action is not fully understood. One systematic literature review on research from 1970 to 2006 examined the scientific evidence for essential fatty acids in the treatment of wounds. This descriptive literature study included 11 articles and showed level II and III evidence for essential fatty acids to be used in burns and mediastinitis, among other situations, although most of the studies still referred to the use of essential fatty acids in animals[8,9]. The development of the Norton scale (a risk assessment scale for prediction of pressure sore development among elderly patients[10]) also meant that physical examinations performed by nurses became a requirement in nursing schools throughout Brazil.

Nurses’ role in pressure ulcer treatment
Various research has investigated nurses’ role in pressure ulcer care. One study evaluated the use of preventative nursing practices in a Brazilian hospital, such as nurses’ use of the Braden Scale[6,10], which assesses the risk of pressure ulcers through factors such as mobility, pressure relief, nutrition, moisture management, friction and shear, as well as the correct use of skin care products. The study found that adherence to these methods needed improvement[11].

Other studies used awareness tests to reveal that, in general, Brazilian students[11,12,13] and nurses[14] had relatively little knowledge of pressure ulcer prevention and treatment. However, educational programmes and the internet proved key in raising student awareness, although access to the internet depends on the region of the country nurses live in, how far they live from state capitals, and their age, with younger nurses more likely to have online access. Computer software on pressure ulcers was also developed to increase nurses’ knowledge.

More recently, patients and family members became the focus for nurses in Brazil and the adherence to effective patient care resulted in a concern for the prevention and treatment of pressure ulcers[15], which has now become recognised as an indicator of quality care in Brazil. Studies focusing on pressure ulcers were carried out using electronic databases from large Brazilian hospitals[16,17].

Thus, faced with the need to use tools specially designed to evaluate the risk of pressure ulcer development such as the Braden Scale, researchers translated these tools into Portuguese, submitted them to cross-cultural adaptation and validated their use by Brazilian nurses in clinical practice.

References
7. Leal PS. Úlceras por pressão: avaliação pela Escala de Braden em pacientes institucionalizados. Thesis. 2005; Universidade UNIVAP-São José dos Campos, São Paulo, Brazil.
Currently, prospective cohort studies aimed at estimating incidence and prevalence and establishing risk factors\(^{[6,18-22]}\) are being implemented, predominantly using the Braden scale in physical examinations of the skin.

The predictive validity of pressure ulcer risk evaluation instruments was also investigated\(^{[22,24]}\) and the Braden scale was found to have the best performance (sensitivity and specificity)\(^{[24]}\) in elderly long-term care facility residents in Brazil.

### TREATMENT

In Brazil, emphasis on the prevention and treatment of pressure ulcers has become stronger with the development of an accreditation programme. Criteria used to evaluate nursing services that participate in the programme include:

- The number of patients with pressure ulcers
- The evaluation of the results from nursing procedures
- The inspection of nursing routines through nursing logs in patient medical records.

Preventing barriers to the healing process achieves better results in the treatment of pressure ulcers. Barriers include intrinsic and extrinsic factors responsible for reducing the skin’s tolerance to pressure. The extrinsic factors include exposure to skin friction, shear and moisture. Intrinsic factors include any physiological aspect, such as malnutrition, aging and low arterial pressure, that adversely affect the integrity of the skin’s structure and diminishes the ability of the soft tissues to absorb and distribute mechanical loads and thus tolerate pressure\(^{[21]}\). Removing these obstacles may also accelerate healing or improve the efficacy of other therapeutic measures.

### Wound bed preparation

When preparing a patient’s wound bed, the main factors to be considered include:

- **Bacterial balance**
- **Management of necrotic tissue**
- **Management of exudate**
- **Correction of the cellular dysfunction**
- **Biochemical balance**.

Although these components are interrelated, the relative importance of each may vary from lesion to lesion. Any wound will require an evaluation and the use of specific dressings.

### Topical treatments

In Brazil, the amount and quality of products available on the market for the topical treatment of lesions can be confusing. Some nurses opt for conventional treatments, such as oils, ointments or creams containing essential fatty acids, propolis, sugar or honey. Antimicrobial creams such as silver sulfadiazine and antibiotic ointments containing for example, neomycin and nitrofurazone are also used.

### Dressings

The selection of wound dressing is determined by certain factors, including the nature and location of the wound, the material available and the treatment costs. This also depends on:

- **The structure and composition of the dressing material**
- **The evaluation of the lesion (which may require the absorption of exudate)**
- **The control of unpleasant odour and harmful microorganisms**
- **The relief of pain and the promotion of autolytic debridement**.

Any dressing must provide a moist environment to facilitate the production of granulation tissue and promote the epithelialisation process.

Available dressings come in various forms including those that:

- are constructed from absorbent materials
- incorporate lotions
- combat microorganisms
- control odour.

Absorbent dressings include:

- **Calcium alginites, such as Kaltostat® (ConvaTec), Seasorb® (Smith & Nephew), Sorbsan® (Unomedical)**
- **Hydrofibre, such as Aquacel® (Convatec)**
- **Foams, such as Tielle® (Systagenix), Allevyn® (Smith & Nephew)**
- **Absorbent compresses, such as Metalline® (Activa Healthcare) Melolin® (Smith & Nephew)**

Dressings that incorporate lotions include polyurethane membranes (such as Opsite® (Smith & Nephew)), hydrocolloids (Tegasorb®...
An aging population and increasing incidence of chronic disease means that pressure ulcers (PUs) are also a significant concern in Canada. The country’s immense demographic diversity (including the Aboriginal population of Inuit, First Nations [Indians] and Métis), however, presents unique challenges in monitoring the full extent of the issue. While a 2004 survey estimated the average national prevalence of PUs at 26.2% across all healthcare settings in Canada, significant disparities exist in the way PUs are measured, managed and funded in each of the 10 provinces and three territories.

Like their Brazilian counterparts, Canadian nurses often take the lead in PU management. Collaboration between nurses, physiotherapists, occupational therapists, physicians, dietitians and pharmacists decrease the incidence and improve healing rates of PUs. Efforts to address the escalating economic burden of PUs, while maintaining high-quality patient-centred care include the development of clinical guidelines and awareness programmes. Each of these recommends an interdisciplinary team approach, focusing on prevention and using validated assessment tools to identify risks and determine appropriate interventions.

One factor driving these initiatives is the increasing organisational requirement for staff to report and explain the presence of PUs. Heated debate on this subject is fueled largely by recent policy changes in the US, where PU development is increasingly linked to staff accountability and funding decisions. While associated practice improvements have undoubtedly reduced prevalence rates, concerns have been raised about negative consequences for the small percentage of patients whose underlying conditions mean an ulcer is inevitable, even with the best possible care. In these situations, the requirement to provide clearly documented evidence is further emphasised. Although health litigation and quality-related reimbursement have traditionally been less prevalent ‘north of the border’, PUs are now considered a quality measure in a significant number of Canadian long-term care facilities and clinicians here are following these deliberations closely.

Canadian best practice PU recommendations are intended for use across all care settings, yet uptake across the country varies considerably. At a recent wound workshop in northern Canada, I was reminded of the difficulties faced by some clinicians trying to follow existing guidelines. The event was held at a large urban hospital that serves a vast area of sparsely populated and geographically isolated communities. More than half of the residents are Aboriginal people and the population’s incidence of chronic disease is growing at an alarming rate. During a discussion about what makes an ideal wound team, participants described how they may be the only clinician for many square kilometres. Connections with other disciplines are often only available electronically. While there is evidence to suggest that telewound programmes are significantly improving outcomes in remote regions, best practice takes on a whole new meaning for these clinicians as they struggle to find resourceful ways to prevent and treat pressure ulcers and other chronic wounds.

**References**


