Introduction

Wound management has developed into a powerful science, based on research evidence and clinician experience. Wound management is a highly complex process of tissue degradation, regeneration and repair.

More than 45 years ago, Winter\(^1\) opened the door to wound healing science with his theory that wounds heal faster in a moist environment. This led to other studies and more research into available new methods and technologies to aid in optimum healing. The “holy grail” of wound management and treatment doesn’t lie in the next generation dressing, rather it rests in the knowledge, skill and understanding of the clinician of the complex phases of wound healing, and in his or her ability to correctly assess the patient holistically and comprehensively, while acknowledging intrinsic and extrinsic factors that can influence wound healing. Finally, it rests in the clinician’s understanding of the functions of the dressings and treatment modalities, and where and how to apply these.

According to the nursing scope of practice R2598, Nursing Act 1974 section J,\(^2\) the registered nurse is responsible for: “…the facilitation of the healing of wounds and fractures, the protection of the skin and the maintenance of sensory functions in a patient”. However, the registered nurse should also practise under prescription from a medical doctor as described in Section B “the execution of a programme of treatment or medication prescribed by a registered person…”\(^3\).

The medical practitioner’s wound care prescription should be followed and correctly implemented. The registered nurse is accountable and responsible for the implementation of those actions.

It is interesting to note that very little, or in some cases, no wound management training, is provided to medical professionals during their formal tertiary studies towards the MBChB/MB BCh degree. Wound treatment options are mainly taught or discussed at the “bedside” during clinical rounds with the teaching professor.

It was necessary to establish how much time is being spent at university level on wound management, and whether the newly qualified medical doctor is equipped and confident enough to be able to correctly assess and prescribe wound care treatment to a patient with a chronic wound. Therefore, it was necessary to explore if there are currently shortcomings in the curriculum of the medical student pertaining to evidence-based advanced wound care treatment education.

Sackett et al\(^4\) placed considerable emphasis on the importance of combining the clinician’s expertise with the best available external evidence and the patient’s preference: “Without clinical expertise,
practice risks becoming tyrannised by evidence. Even excellent external evidence may be inappropriate for an individual patient. Without current best evidence, clinical practice rapidly will be out of date, to the detriment of patients’ therapy. This combination is called evidence-informed medicine.

Accordingly, the nursing personnel need to be issued with the correct wound treatment prescription from the medical practitioner in order to be able to execute the care in the correct manner to deliver quality and continuity of care to the patients.

Method

After consulting with incumbent professors from the three medical schools on the current curriculum of the medical students, permission was obtained to conduct interviews with medical practitioners at their institutions.

A literature review was carried out after the data was collected, to ensure that the identified literature would not influence the researcher and create a potential for bias.

A retrospective quantitative study by Patel and Granick was found via Pubmed. Wound education: American medical students are inadequately trained in wound care. They concluded that the data in their study show that there is very little directed education on wound care topics in American medical schools, and “...considering the immense economic and social impact of wounds in our society, more attention should be paid to the education of our physician trainees on this important topic”.

After obtaining approval for the selective proposal from the University of Toronto, a qualitative research study was conducted, commencing in March 2011 and concluding in November 2011.

A total of 30 respondents (n = 30) were either interviewed or completed the provided questionnaire. A questionnaire was compiled with eight questions. Responses to these questions were obtained via a formal, structured interview, or by obtaining responses from completed questionnaires.

The questions were set up to assess the current needs assessment that pertains to wound management. Three of the eight questions specifically focused on the treatment options of presented case studies.

Personal interviews were held with 9 medical practitioners and 21 questionnaires were collected. The respondents were 2 professors, 2 specialists, 8 registrars, 3 general practitioners, 12 medical interns and 3 community service doctors.

The questionnaires were neither posted nor e-mailed to respondents, but were physically handed to them to ensure a higher percentage of responses and to increase the validity of the instrument used.

Appointments were made with small groups of medical practitioners at different medical schools during the data collection period, and attendees were asked to complete the questionnaires within a set time of 15 minutes. They had to hand the completed questionnaire to the researcher immediately thereafter.

Questions were kept to a minimum to ensure that all the questions were completed and that the interview would not be longer than 15 minutes, while providing sufficient information to allow for robust conclusions to be reached.

In order to analyse the collected data, the information was examined several times to identify common threads to the responses, so as to facilitate grouping of responses. The data were then captured in a Microsoft Excel spreadsheet. In some cases, the data could not be obtained as some of the respondents didn’t write clearly or provided no response. The data were scrutinised until all useable data were retrieved. The data were then sorted according to the respondents’ assigned number-and-question allocation. Codes were developed for the data. The connections between the different coding allocations were then summarised: “In qualitative studies, coding means identifying themes within your interview notes, documents or field observations that relate to the research questions in your study”.

Results

Question 1: What are your challenges regarding wound management in your practice/facility/institution?

Five main themes were identified, n = 30:

- Lack of resources.
- Uncertainty of what to use and when.
- Patient factors, e.g. sepsis.
- Lack of nursing care and follow-up.
- Team work (lack of specialised wound care team).

Forty-four per cent of respondents replied that their biggest challenge with regard to wound management in their practice was lack of knowledge of which products to use for a specific indication. Twenty-three per cent stated that the lack of resources accounted for the biggest challenge in managing wounds correctly. Fifteen per cent of respondents said that poor continuity of nursing care and a failure to follow instructions posed a challenge, while 13% felt that the challenges that they faced related to patient factors of sepsis and complications. Five per cent of the respondents stated that they lacked team work, or that there was no specialised wound care team in their institution.

Statements from respondents included the following:

“Little information is known. We get a lot on causes on wounds, but don’t know how to manage effectively.”

“A lot of us, especially junior doctors, have no wound care management background and would benefit a lot from practical teachings.”

“You actually don’t know what you are doing treating wounds.”

Question 2: Are there structured, formal policies regarding wound management best practices or wound treatment modalities per specific type of wound in your practice/institution? (Figure 1)

Twenty-eight responses were received.

An overwhelming 75% of participants stated that there were no formal policies on wound management best practices in their practice or institution. All of the medical interns replied “No” or “Not sure” to this question.

One of the professors stated: “No. A lot rely on bedside training and it is dependent on the prof’s (sic) opinion during that ward round, as to what treatment is suggested”.
The inadequacy of wound management training for medical professionals

Question 3: How much time is being spent during your medical studies on formal wound management training? Is it “bedside training”? Does this include product knowledge?

The first part of the question was answered by 88% of respondents who said that “none”, “very little”, or “minimal”, time was being spent on formal wound management training during medical studies.

A medical intern verified that: “Very little time is spent on wound management. Virtually nothing is taught about the products and what to use when”.

The question was asked whether most of the training is carried out at the “bedside” and whether this includes product teaching (Figure 3).

Fifty-five per cent of respondents replied that most of the training was conducted during ward rounds at the “bedside” and that knowledge was gained through experience in their practice (17%).

A sample response was: “Not much time was allocated to formal wound management training. Training is purely ‘bedside’ training’ or ‘training on the job’. We are currently learning the names of products as we go along”.

28% of medical practitioners felt that neither “bedside” nor formal training was given to wound management.

Question 4: Do you think the knowledge gathered during practical work is adequate, or is there still uncertainty regarding what the best wound care treatment for this specific patient would be?

Seventy-seven per cent of the medical practitioners were uncertain about what the best wound care treatment for a specific patient would be.

Noteworthy responses include:

“I believe there is still a lot of uncertainty as we usually get teaching around that particular patient at that moment.”

“Practical work is not adequate. We still need to know more about wound care, the types of dressings especially.”

“I feel there’s still some uncertainty as to the best wound care. I think we would benefit from presentations in this regard. It would really help us.”

A specialist responded: “Formal academic training will always have a place, but in service, training of a junior along a senior experienced wound care specialist, is probably the most valuable training available!”

A reply from a professor in the interview was: “Adequate. Shouldn’t make it too complicated. One should stick to the basics of wound healing: debridement, blood supply, inflammation, malignancy and oedema”.

Questions 5, 6 and 7 were used to assess what treatment options the medical practitioners currently prescribed for a specific patient case.

Question 5: What is your prescription for a patient with a venous leg ulcer (ankle brachial pressure index > 0.8; Doppler indicates there is no arterial insufficiency)

Question 5 was used to get an idea of what treatment the medical practitioner would prescribe for a venous leg ulcer:

Only 9% of respondents mentioned compression bandages, 16% suggested compression stockings, 16% mentioned some sort of compression, i.e. a “pressure dressing” or compression therapy, 22% prescribed leg elevation and the majority (37%) did not propose compression at all (Figure 3).

Question 6: In your opinion, when should a wound swab be taken? What are your criteria of when to prescribe antibiotics?

The given answers were difficult to categorise as lengthy descriptions were given of when a wound swab should be taken and the criteria for antibiotic prescription. The majority of practitioners stated that a swab should be taken when the patient presented with signs of infection, e.g. pyrexia, before a split thickness skin graft, when the wound was exuding, or when the infection markers were elevated.

One respondent said that every time a wound was exposed, a swab should be taken.
Question 7: A patient presents with an anterior abdominal wall abscess. He is taken to theatre and a surgical incision is made to drain the abscess. The wound is left to heal by secondary intention. One week postoperatively, he has a wound, 4 cm x 1 cm and a cavity of 3 cm. The wound is draining high levels of purulent exudate and the wound bed has 30% slough and 70% granulation tissue. What would your prescription be regarding wound cleansing and treatment?

A popular answer to this question was to use Intrasite® (hydrogel) and Drawtex® (a hydroconductive dressing). Jelonet® (paraffin gauze) and Bactigras® (chlorhexidine-impregnated paraffin gauze dressing) were also recommended. Betadine® irrigation, Edinburgh University solution of lime (Eurol), hydrogen peroxide and saline gauze dressings were suggested too. Two of the respondents mentioned negative pressure and “suction dressings”.

Question 8: What would be your suggestion regarding wound education in future for medical doctors?

Twenty-nine responses were received.

As illustrated in Figure 4, 97% replied that wound management education was very important and that more education was needed. Different suggestions were given, ranging from formal lectures to regular wound care meetings.

Most of the practitioners suggested that these lectures should be given by a wound care specialist so that an unbiased approach to treating wounds with different wound care products is provided to the medical practitioners.

Some medical practitioners suggested that the training on products should be given by wound care company representatives.

There was also a need to set up protocols and guidelines to assist in treatment suggestions.

Discussion

Where specific wound care treatment prescription knowledge was assessed (questions 5, 6 and 7), the researcher could deduce that education is needed on the assessment of chronic wounds, venous leg ulcers, the dynamics of compression therapy, topical antimicrobials, the role of antiseptic solutions in wound care, the correct use of wound swabs and the prescription of antibiotics.

The researcher concluded that the selective outcomes confirmed what many nurses, head of medical faculties and other healthcare providers have verbalised over the years, and that is that more wound care education should be provided to medical practitioners than is currently the case.

Consumers, healthcare providers (nurses and doctors) and medical funders focus on the quality and value of money spent in health care. The dynamic wound care field delivers research, new techniques, advanced dressings and efficient technologies daily. The challenge as wound care specialists and educators is to convert the wound care science into a practical, beneficial modality that can assist healthcare providers in delivering the quality of care that is expected by patients and healthcare funders in a cost-effective way.

The key is in finding the balance between “keeping it simple” and cost-effective and practising evidence-informed medicine, while utilising the treatment option that is best suited to a patient’s condition.

Wound care has evolved at a rapid pace over the last few decades. Many changes have taken place for the general practitioners who have been practicing for the last 30 years. This is why it is so important to strive for continuous professional development and lifelong learning.

Through education, future medical practitioners will be equipped with the scientific knowledge and art of advanced wound care practices to provide the best treatment recommendation and care for patients.

Declaration

No financial support was received. No ethical approval was needed for this selective.

References

2. Regulations relating to the scope of practice of persons who are registered or enrolled under the Nursing Act, 1978 (No R2588 of 30 November 1984).
3. Medical, Dental and Supplementary Health Service Professions Act, 1974 (Act 56 of 1974).