

*Compression Bandaging in
Venous Leg Ulcer Care:
Community Nurses'
Perspectives on Enablers and
Constraints*

Merilyn Annells

Janine O'Neill

Charne Flowers

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Address for Correspondence:

**La Trobe University Postgraduate Clinical School of Community Nursing
RDNS Helen Macpherson Smith Institute of Community Health
31 Alma Rd
St Kilda
Victoria 3182
Telephone: (03) 9536 5371
Email: m.annells@latrobe.edu.au**

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Executive Summary

This is a report of a descriptive and exploratory qualitative study that inquired about the reasons for use or non-use of compression bandaging, a best practice component of leg ulcer management, by district nurses delivering care to community-dwelling people. The study builds upon a prior, small qualitative study undertaken in the United Kingdom (UK) regarding compression bandaging in district nursing practice (Field, 2004), but is more extensive with a larger sample. The site for the research was a metropolitan and suburban area of an Australian city. The study was conducted over four months in the second half of 2005. Funding was provided by the Angior Family Foundation as a component of a major project with the overall aim of improving venous leg ulcer care for community-dwelling persons receiving nursing care.

The study, in the context of district nursing, specifically sought to:

- Describe and explore specific issues identified by district nurses as problematic regarding the selection and application of compression bandaging therapy for leg ulcers.
- Identify barriers regarding the application of compression bandaging therapy for leg ulcers.
- Identify enablers regarding the application of compression bandaging therapy for leg ulcers.

Data were collected via twelve semi-structured, individual interviews of district nurses and also via a focus group of ten district nurses to check developing interpretations and to extend questioning about pertinent issues. Constant comparative data analysis was used involving open coding, then categorisation and conceptualisation for conceptual ordering. Eight major categories were constructed, as listed to follow and then as explained in summary to follow.

1. Knowing about compression
2. Is it venous?
3. Compression bandaging is chosen
4. A willing client
5. A non-willing client
6. Strategies to convince
7. An alternative is chosen
8. Associated care

In order for compression bandaging to be selected for nursing care treatment of a venous leg ulcer, firstly the nurse needs to be aware that it is best practice. This is an enabler. The nurses were all aware of compression bandaging as best practice with multiple origins listed for this knowledge.

An enabler for using compression bandaging is having the right diagnosis; that is, being sure that the ulcer is venous in aetiology. A correct diagnosis is pursued through various strategies and sometimes potential constraints need to be overcome like varying assessment data, problems gaining a Doppler reading, and discrepancies in diagnosis.

The actual selection of compression bandaging for the treatment of a venous leg ulcer may initially be decided prior to admission of the client into district nursing care. However, if a district nurse is the professional making this recommendation to the client, being confident about making the recommendation is an enabling factor. If the decision is made to recommend compression bandaging (not always so), then the selection of what specific form of compression bandaging to apply is influenced by a variety of factors including the cost of products. Even when recommending use of compression bandaging, nurses may have anxiety about whether they can do the bandaging correctly.

A prime enabler of the use of compression bandaging is having a client willing to agree to the commencement of this treatment, which basically arises from acceptance of education about the

condition and how healing is promoted by compression. Having trust in the nurse to know what is needed is a further enabler. To be willing to persevere with the treatment until healing of the ulcer occurred is helped by the client being very motivated for healing to occur, despite factors such as discomfort being experienced from the compression bandaging. In addition, being willing is encouraged if improvement of the wound is discernible to the client early in the treatment process.

If a client is unwilling to either commence or continue with compression bandaging treatment for a venous leg ulcer, this is a major constraint. The reasons for deciding not to commence the treatment may include mixed messages about optimal treatment from various health care professionals, previous negative experiences of compression bandaging, possibly a disbelief about efficacy or sometimes not even wanting healing to occur. A constraint of some relevance is that not all health care professionals know or understand that compression bandaging is best practice for treating venous leg ulcers. The experience of personally unacceptable side effects of compression bandaging can cause non-willingness to continue with that treatment, including pain or discomfort, the bandages being too hot, skin problems, mobility and safety problems, hygiene problems, factors leading to social isolation, loss of independence and proneness to bandage being externally soiled. Additional reasons for non-willingness can include having dementia or the cost of the bandaging system. Sometimes it appears to the nurse that a client may be unwilling and the treatment is not being sustained in the nurse's absence, but this is a suspected rather than a definitely known factor.

To facilitate willingness to commence or continue compression bandaging treatment, nurses reported using various strategies that ranged from general convincing actions (e.g. thorough education, trial periods, involvement of relatives or their doctor), nurse scheduling (e.g. follow-up visits or ensuring continuity of care), wound focussed care (e.g. wound tracings, increasing compression over time, use of padding and tapes or removing just a layer of bandaging), plus either pragmatic suggestions (e.g. analgesia for pain) or exceptional actions such as jocular rewards.

The nurses in this study explained why the selection of an alternative type of compression than compression bandaging may be selected or why an alternative treatment mode is used. Apart from the issues that can make a client unwilling to use compression bandaging, an infected wound can be a constraint, although the rationale for this could not be provided. In addition, issues pertaining to nurses were cited, especially a nurse's fear and level of motivation. Alternative choice options were listed.

Associated care was also reported as provided to clients to supplement and enhance compression bandaging. Mostly this care was advice and directions provided to clients. Leg elevation, exercise and nutrition were commonly advised, but also mentioned re advice were pain management, skin care, a co-morbidities focus, and use of compression stockings for prophylaxis post healing of the ulcer.

Nineteen recommendations arise from this study as stratified into four groupings:

Broad Recommendations

Recommendation 1: That national guidelines are established for the care of venous leg ulcers and the use of compression bandaging, and that these be disseminated across health sectors.

Recommendation 2: That guidelines for the care of venous leg ulcers include strategies to convince a client to be willing to use compression bandaging.

Recommendation 3: That development of, and general access to, an effective education package about basic and advanced knowledge of venous leg ulcer management be facilitated.

Recommendation 4: That education for venous leg ulcer management needs to include specific training on the use of Doppler ultrasound and their interpretation, compression bandage selection, practical bandaging skills development, and use of compression bandaging when treating infected leg ulcers - whilst also using case studies and photos to facilitate learning.

Recommendation 5: That venous leg ulcer management education needs to include a component on how to educate a client about compression bandaging and that suitable educational resources be available to assist the clinician with this action.

Recommendation 6: That best practice dressings and bandages be free of charge to people with leg ulcers who have limited ability to pay for wound care products.

Recommendation 7: That a level of formal support be provided for people with no informal carer to assist management of sustained compression bandaging.

Recommendations for Service Delivery Organisations

Recommendation 8: That there be a specialist wound care consultant available to clinicians.

Recommendation 9: That the required process of applying compression bandaging does not create undue strain or fatigue for the clinician.

Recommendation 10: That venous leg ulcer management is facilitated through availability of sufficient time allocation for care delivery and also through continuity of care.

Recommendations for Clinicians

Recommendation 11: That clinicians be aware of the reasons why clients may be unwilling to continue using compression bandaging so that those issues can be addressed.

Recommendation 12: That clinicians have a repertoire of strategies to convince clients to be willing to commence and continue compression bandaging.

Recommendation 13: That clinicians focus on additional care for the client that supports the healing power of compression bandaging.

Recommendation 14: That appropriate strategies be used for clients who do not necessarily want healing of the venous ulcer or who like to be defined by the presence of the ulcer.

Recommendations for Research

Recommendation 15: That research is conducted seeking more acceptable forms of compression bandaging or alternate evidence based best practice for venous leg ulcers.

Recommendation 16: That research is conducted seeking to understand, from the client's perspective, what are the client issues in regard to willingness or non-willingness to use compression bandaging treatment of a venous leg ulcer.

Recommendation 17: That research is conducted to identify, describe and explore a comprehensive list of strategies that can be used to convince clients to be willing to commence and to continue compression bandaging.

Recommendation 18: That research is conducted to test the efficacy of strategies that can be used to convince clients to be willing to commence and to continue compression bandaging.

Recommendation 19: That research is conducted to test the efficacy of items of associated care that can be used to support healing of the venous leg ulcer being treated with compression bandaging.

Therefore, variables relevant to answering the research question have been identified, described and explored. Understandings were 'grounded' in the experiences, observations and clinical judgement opinions of experienced clinicians, as articulated through interview. The results add new understandings and knowledge to address the research problem, building upon similar research in another context (Field 2004). Therefore, the research has accomplished its aim through illuminating a plethora of barriers and enablers to compression bandaging. Nineteen recommendations have been forthcoming, including those that have application to practice, education, management, policy formation and further research.

This chapter introduces a report of a descriptive and exploratory qualitative study that inquired about the reasons for use or non-use of compression bandaging, a best practice component of leg ulcer management, by district nurses delivering care to community-dwelling people when employed by a community nursing organisation. The site for the research was a metropolitan and suburban area of an Australian city. The research was conducted over four months in the second half of 2005. Funding for the study was provided by the Angior Family Foundation, a philanthropic trust, and was a component of a major study funded by the Angior Family Foundation with the overall aim of improving venous leg ulcer care for community-dwelling persons receiving nursing care.

This study builds upon a prior, small qualitative study undertaken in the United Kingdom (UK) regarding compression bandaging in district nursing practice (Field, 2004), but is more extensive with a larger sample. Like the research of Field (2004), this study was qualitative in design and similarly of interest were the barriers and enablers experienced by district nurses in the use of compression bandaging. However, this more extensive study collected data through twelve semi-structured, individual interviews of district nurses and also via a focus group of ten district nurses to check the developing interpretations and to extend questioning about issues of apparent pertinence. Field's (2004) study collected data through interview of only six nurses.

Following this introductory chapter, the report sequentially presents the methods used, the results forthcoming, then a discussion of the results including recommendations and implications with some concluding statements. Presented in this first chapter are the research problem, research question, aim and objectives, significance, background including a review of pertinent literature, issues of rigour, ethics approval, research team composition, and also a list of potential benefits.

Research Problem

Leg ulcers are costly to both individuals and communities. Individuals experience pain, suffering, restricted mobility and sometimes social isolation. Prolonged care requirements for leg ulcers increase the burden on the health dollar and upon the services required from health care professionals. The most prevalent of leg ulcers are venous leg ulcers.

Venous leg ulcers are common wounds treated by district nurses. Compression bandaging is considered best practice for the treatment of venous leg ulcers with considerable evidence gathered that this treatment aids healing of venous leg ulcers in an effective and timely manner compared to other possible treatments, although various dressing materials may be applied to the ulcer under the compression bandage with varying degrees of added effectiveness. It is anecdotally known that not always are compression bandages used by district nurses when treating venous leg ulcers, yet little is known as to why they do or don't select compression bandaging for that purpose.

Research Question

Why do or why don't district nurses use compression bandaging as a component of the management of venous leg ulcers?

Research Aim

To describe and explore the reasons for use or non-use by district nurses of compression bandaging, a best practice component of leg ulcer management.

Objectives

In the context of district nursing, to:

1. Describe and explore specific issues identified by district nurses as problematic regarding the selection and application of compression bandaging therapy for leg ulcers.
2. Identify barriers regarding the application of compression bandaging therapy for leg ulcers.
3. Identify enablers regarding the application of compression bandaging therapy for leg ulcers.

Significance

District nurses, as a sub-specialty of community nursing, are aware of the need for evidence based practice. This study sought to illuminate what is reality within a community nursing organisation in Australia in regard to nurses choosing to use or not use compression bandaging for venous leg ulcers, which is considered the treatment of choice for venous leg ulcers (with some exceptions) according to current evidence and as stipulated within guidelines. The understanding gained by this study will assist planning by district nursing organisations to improve the rate of appropriate compression bandage use for venous leg ulcers through the provision of appropriate resources, support and education, as required.

The research built, through a more extensive approach, upon a small previous study (Field, 2004) conducted in the UK. In addition, the research provides information relevant particularly to the Australian context, although also being informative for other contexts globally.

Background & Literature Review

The management of venous leg ulcer treatment (and treatment for some mixed venous/arterial leg ulcers) using the best practice of compression bandaging techniques has long been considered part of the expertise of district/community nurses (Bryans & McIntosh, 2000; Field, 2004; Wipke-Tevis, 2004). Research suggests that it is community nurses who provide care for 69% of leg ulcer episodes in Australia (Hoskins et al, 1997).

Leg ulcer treatment involves a comprehensive lower limb assessment by a health professional trained in leg ulcer management and includes a visual inspection, vascular investigations such as Ankle Brachial Index (ABI), wound assessment, local wound management and management of the underlying aetiology (Royal College of Nursing [RCN] Institute, 1998). If venous disease is identified, management of the leg ulcer with compression therapy is ideally required, this being the best supportive treatment known through scientific evidence to date.

A recent Cochrane review considered 22 research trials evaluating the use of appropriate compression bandages as a treatment for leg ulcers (Callum et al., 2005). Although many of these research studies have used small samples and do not report the method of bandage application and experience of nursing staff, there is evidence that: compression bandaging accelerates ulcer healing compared to no compression; multi layered systems were more effective than single layer; high compression is more effective; but differences in the types of high compression bandaging could not be established and nor could the cost effectiveness of different types of treatment.

In the United Kingdom, the National Health Service Centre for Reviews and Dissemination released a bulletin on compression therapy for leg ulcers (NHS Centre for Reviews and Dissemination, 1997). Significant recommendations regarding the most effective treatment of venous leg ulcers included high compression therapy using multi-layered or short stretch bandages, Unna's boot and compression stockings. The bulletin stressed the need for accurate Doppler ultrasound assessment and correct

interpretation of the ABI, plus community nurse skill in bandaging techniques (NHS Centre for Reviewers and Dissemination, 1997).

However, it would appear that amongst district/community nurses there may be a measure of uncertainty and caution or perhaps reluctance to apply compression bandage techniques on a number of clients (Field, 2004). This British qualitative study suggested that diagnostic caution on the part of the district nurse and a measure of non-compliance from clients led to many clients not receiving compression bandaging therapy (Field, 2004). It was identified that underlying this caution is nurses' often vacillating attitude towards the application or not of compression bandages despite the international guidelines being established by the UK's Royal College of Nursing (RCN) Institute (1998) and New Zealand Guidelines Group (1999).

Having appropriate guidelines for treating venous leg ulcers, including the best practice element of using compression bandages, will not necessarily be enacted to the maximum benefit of clients in a district nursing milieu unless district nurses are following guidelines. As anecdotally known, and as the study undertaken by Field (2004) reports, not all district nurses do apply guidelines. It is observed and reported that the client is not always accurately diagnosed as to type of leg ulcer, not all district nurses are using Doppler ultrasound, and even when these two aspects are appropriately accomplished, not all district nurses select to use compression bandages when such are appropriate (Hoskins et al, 1997). This has been borne out by several key studies in Australia: an audit of all clients receiving leg ulcer care at Silver Chain Nursing Association in Western Australia (Carville et al., 2004), and a recent audit conducted at Royal District Nursing Service in Melbourne (Kapp & Nunn, 2005).

An issue of significance for district nurses is that their level of skill in applying compression bandages is dependent on the number of times they have applied such bandages. The UK-sited study by Flanagan et al (2000) that implemented leg ulcer guidelines, discussed the differences amongst practice nurses' clinical backgrounds, knowledge and skills and interest in leg ulcer management, all of which affect the care given to clients with leg ulcers. This study highlighted the low level of training and practice amongst nurses participating in the study. Of interest is that the training for leg ulcer management was primarily given by pharmaceutical representatives, that there was a low level of interest in leg ulcer management, low levels of supervised practice and that a proper holistic assessment of clients took a large amount of time to complete.

Particular to Doppler assessment, a recent study explored the training, competency and barriers to using Doppler ultrasound among community nurses (French 2005). This study determined significant variation in practice associated with the amount of experience and training in Doppler use. Some difficulties in undertaking a Doppler assessment were also identified including the ease of ensuring the patient maintains a resting position as well as difficulty of locating pulses and use of the correct cuff size. Another UK study suggests that people with diabetes, those with extensive ankle ulceration and obesity or clients with gross oedema, coupled with nurse inexperience, result in great difficulty for nurses in using Doppler ultrasound to assess arterial supply (Bianchi et al., 2000).

When education in the treatment of leg ulcers and adopted guidelines in the care of leg ulcers have been implemented, more frequent use of compression bandaging has been noted and improved healing rates in the period post intervention were observed (Harrison et al., 2005). The availability of guidelines and education would appear to be important factors in ensuring correct assessment and use of compression bandaging in instances where compression therapy is appropriate.

There are client derived reasons that result in compression therapy not being used in circumstances where it is appropriate. Of significance for district nurses is the ability of the visiting district nurse to understand client attitudes and response to receiving compression bandaging therapy to ensure their compliance. Moffat's UK study (2000) outlines that too little attention applied to the psychosocial aspects of compression bandaging therapy can lead to client non-compliance. Indeed, improperly applied bandages can significantly increase pain levels and even correct application can cause an initial increase in pain when the compression bandages are first applied. However, the clients pain is significantly reduced with effective bandaging techniques as oedema is reduced and veins are supported, although mechanisms for this are not fully understood (Moffat, 2000). Moffat (2000) emphasises that compression bandaging

actually improves the client's quality of life through timely healing of the wound as many clients with a venous leg ulcer are often anxious and depressed because of symptoms and associated problems.

Other studies have reported barriers to using compression bandaging including: pain (Dereure et al., 2005; Edwards, 2003), skin irritation (Edwards, 2003), difficulty applying compression (Dereure et al., 2005), bandages being unaesthetic (Dereure et al., 2005; Edwards, 2003), the bulkiness of bandages having implications for foot wear (Edwards, 2003), and impact of bandages on mobility and social isolation (Edwards, 2003). Some clients have reported their belief that compression therapy would worsen their ulcer (Dereure et al., 2005).

Trust was identified as 'paramount for enhancing patients' participation in care' (Edwards, 2003, p.S15). Other authors found that 'participants spoke positively of conversations where they were given information about their illness, the purpose of the bandages, and how pain and pain-relieving medications ought to be handled' (Ebbeskog & Emami, 2005 p.1227). Trust is a significant factor in the nurse/patient relationship and poor communication was found by this study to often be associated with clients questioning the competence of the nurse.

If knowledge equates to confidence in compression therapy for the individual with a leg ulcer, a low level of knowledge among clients, identified in research, might suggest that clients are questioning the rationale behind the need for these often painful and imposing bandages. In a recent Australian study (Donaldson, 2006), 80% of clients did not understand the causes of their leg ulcer nor how to help their wound heal. The ease of understanding of written information when it is provided has also been seen as limited (Edwards, 2003). This low level of understanding by a client might contribute to poor acceptance of compression bandaging and represent an educational barrier for nurses to overcome.

Initiatives have targeted stigmas that some associate with leg ulcers. Hoskins (2005) described a community based 'leg club' initiative in the UK to reduce the level of stigmatisation and isolation felt by clients suffering from leg ulcers. This clinic provided an environment for staff development, continuity of care, further research and ultimately led to a coordinated approach to the delivery of care that decreased non-compliance rates. Also, as a result there was evidence of higher healing rates and a significant drop in leg ulcer recurrence from the average in the UK of 67% (from prior research) to 4% per annum.

Therefore, although a review of pertinent literature has identified some barriers to the use of compression bandaging, the research conducted is not extensive regarding this focus. Additionally, the experience of nurses in the Australian context is lacking. Due to the explained research problem and considerable anecdotal evidence, with the increased ageing of the Australian population and a parallel increase in venous leg ulceration care need, there is an urgent need to understand the clinical reality; what is happening in this regard and why? Unless the factors and issues constraining the use of compression bandaging for district nursing clients are known and understood, this unsatisfactory situation cannot be adequately addressed for quality outcomes - in particular for efficient and comfortable healing of venous leg ulcers for people living in the community who receive district/community nursing care.

Context Clarification:

At the time of doing the study, the Australian Wound Management Association (AWMA) was in the process of developing national clinical practice guidelines for venous leg ulcer management and the selection of compression bandaging as best practice, so these were not yet available. When commencing the study, the community nursing organisation which was the site for the study, did not have specific guidelines for the management of venous leg ulcers and the application of compression bandaging, but these were being implemented during the course of the study and were in use at the time of the focus group section of the research, with supporting education having been provided.

Rigour

To ensure trustworthiness (rigour), the study processes were guided by evaluation criteria. These included:

1. **Credibility** – A study is enhanced when faithful descriptions or interpretations of human experiences are readily recognised by others who either share (or have shared) similar experiences or can recognise such experiences when confronted with written descriptions of them.
2. **Transferability** – Fittingness of the study and the ability of findings to have meaningfulness and applicability to contexts outside the research setting when viewed by others in terms of their experience.
3. **Dependability** – The study and its finding/s are made explicit and are auditable (that is, another researcher will clearly be able to follow the decision trail of the researchers).
4. **Confirmability** – Achieved when auditability, credibility and transferability are established.

Ethics & Other Approval

The study met all ethical requirements as specified by the National Health & Medical Research Council of Australia regarding research on human subjects. Approval for this study was sought and obtained from the Research Ethics Committee of La Trobe University Faculty of Health Sciences Human Ethics Committee and also the Research Ethics Committee of the community nursing organisation in which the study was conducted. In addition, approval was gained from the pertinent principal officer of the community nursing organisation for the conduct of the study within that organisation. The study did not commence until ethics approval was gained from both committees.

Research Team

The Research Team comprised:

- **Professor Marilyn Annells** (Research Team Leader)
- **Janine O'Neill** (Research Officer)
- **Charne Flowers** (Research Team Member)

Potential Benefits

To participants:

Participants may have derived benefit from sharing their experience with the researcher and having their opinions sought. Their future community nursing practice may have been enhanced by understandings gained through the study. The participants may also have benefited from knowing they have contributed to a research study which aims to improve understanding of this intervention regarding leg ulcer care.

To community nursing:

This study has the potential to inform community nursing practice and education of community nurses so that constraints to the use of compression bandaging are minimalised and enablers maximised. The study results could also inform and justify future research priorities regarding community nursing practice.

To community nursing clients:

This study will fill a gap in knowledge and understanding about why or why not the gold standard best practice of compression bandaging is or is not applied in practice by district nurses. This will inform context specific leg ulcer care, the content of courses in care of the condition and direct further research.

Conclusion

This report of a study that was focused on reasons for the use or non-use by community nurses of compression bandaging for the treatment of venous leg ulcers, has been introduced in regard to key elements of the study. There has been an emphasis on explaining and justifying the need for the study. The next chapter details the method applied for the study.

This study can be categorised as exploratory-descriptive qualitative research that utilised some research process elements detailed in grounded theory method (Strauss & Corbin, 1998), principally constant comparative data analysis. Data were collected by interviews in two discrete and chronologically sequenced phases: *Phase 1*, semi-structured individual interviews; *Phase 2*, a focus group interview. The study was conducted over four months in the second half of 2005.

Sample

Two groups of participants were sampled from a population of district nurses (registered nurses) employed as district nurses within a large community nursing organisation in the metropolitan and suburban area of an Australian city. Wound care is a major service delivery focus for that organisation. The organisation has a number of centres at which groups of district nurses are placed as a base for service to the surrounding geographical area (district). The nurses mostly visit clients in their homes, using motor vehicles for transport

The sample encompassed:

For Phase 1 - Twelve district nurses (for individual, semi-structured interviews)

For Phase 2 – Ten district nurses (for a focus group)

Participant Recruitment

The criteria for participant selection were:

Inclusion Criteria:

1. A registered nurse;
2. Employed as a district nurse by the community nursing organisation that was the site of the study;
3. Providing general clinical nursing care to clients of the organisation;
4. 'Grade 2' employment level (*Rationale* - this level of district nurse provided most of the direct care to clients of the organisation).

Exclusion Criterion:

1. Not routinely or occasionally providing district nursing care to people with leg ulcers (*Rationale* - compression bandaging of venous leg ulcers was the focus of the study).

According to privacy legislation, following ethics approval from relevant ethics committees (discussed in Chapter 1) and with the approval of the community nursing organisation agreeing to be a site for the study, the Human Resources Department of that organisation generated a list of district nurses (registered nurses) employed by the organisation and the sub-site of that organisation in which each of the nurses was situated. No personal details such as home addresses were sought. This list was randomly ordered using a random number function in Microsoft Excel XP software to ensure one nurse was not privileged over another. The aiming of this was not for generalisability of results, but rather just a pragmatic strategy for recruitment.

For Phase 1

The first 12 listed (after random ordering) registered nurses were sent an Invitation to Participate information letter that was a Plain English Statement (see Appendix A) and also a copy of the Consent Form (see Appendix B) in an envelope through the internal mail system of the community nursing organisation. The nurses who received the invitation needed to consider the request to be individually interviewed and were directed to return a slip of paper within one week that indicated if they did or did not routinely or occasionally provide district nursing care to people with leg ulcers and if they were interested or not in being interviewed depending on a further clarifying discussion with the researcher who would conduct the interview and their signing of the consent form prior to interview. Line managers

were notified as appropriate. They were able to phone the Research Team Leader for more information in order to make their decision if necessary (some did this) and/or discuss the study with the ethics committees' spokespersons. If they did not reply within one week, they were re-sent the request. After this process, as not enough sample was gained, then further listed nurses (in order on the randomised list) were invited with the same process applied, until a sample of twelve nurses was achieved for this phase.

For Phase 2

Second phase participants were needed for a focus group interview that required 8-10 participants. The focus group was planned to be conducted to follow the individual interviews and analysis of those interviews. Therefore, toward the completion of data collection and analysis for Phase 1, ten of the randomly listed registered nurses not invited to be participants in Phase 1 of the study (and who were next in order on the list) were sent an Invitation to Participate information letter that was a Plain English Statement (see Appendix C) and a copy of the Consent Form (Appendix D) in an envelope through the internal mail system of the community nursing organisation. They needed to consider the request to participate in a focus group and to return a slip of paper within one week that indicated if they did or did not routinely or occasionally provide district nursing care to people with leg ulcers, and if they were interested or not in being interviewed depending on a further clarifying discussion with the researcher who would conduct the focus group and their signing of the consent form prior to interview. They were able to phone the Research Team Leader for more information in order to make their decision if necessary (as some did) and/or discuss the study with the ethics committees' spokespersons. If they did not reply within one week, they were re-sent the request. Similar to Phase 1, as not enough sample was gained, then further listed nurses (in order on the randomly generated list) were invited with the same process applied, until a sample of ten nurses was achieved for this phase.

Ethical Aspects

At recruitment, potential participants were informed that if they chose to not participate, their employment by the community nursing organisation would not be altered or compromised in any way. Not only did the information letters detail fully the participants' ethical rights (including confidentiality and maintenance of anonymity in reporting), but these were reiterated prior to the signing of the Consent Form as witnessed by the Research Officer before commencing the interview or focus group. Also, prior to the signing of the Consent Form, each participant had the purpose of the study fully explained and an opportunity for questions provided. It was stressed that the nurse could withdraw from the study at any time up to four weeks after data that they had provided had been collected by contacting the researchers and signing a withdrawal of data form (See Appendix E) copy of the Consent Form in a sealed envelope was provided to each participant via the internal mail system of the community nursing organisation within a week of being interviewed individually or within the focus group.

Demographics

The mean age of participants was 41.9 years with the range 25-55 years. Regarding the duration of experience as a nurse, the mean was 19.8 years with the range 1.5-35 years. However the duration of experience specifically as a community (district) nurse was 5.1 years, with the range 1-15 years. Although only 5% of the sample was male (female 95%), this is representative of the usual proportion of males who are community nurses in Australia. Table 1 lists the type of basic qualification nursing education of participants – hospital based or university based.

Nursing Training	Number	Percent
Hospital	16	73
University	6	27
Total	22	100

Table 1. Basic nurse education of participants.

Data Collection

For this study, individual semi-structured interview and focus group interview data were collected in two discrete and chronologically sequenced phases. All interviews were recorded to digital voice files and transcribed verbatim. An experienced transcribing typist was employed to transcribe the files. In order to ensure anonymity, neither the participants' names nor addresses were recorded or attached to the recording; a non-identifying code was used for each participant. The transcribing typist signed a confidentiality agreement (see unsigned form, Appendix F).

Codes for the participants were kept separate from names, addresses or any other identifying information, including the Consent Forms. Data, as transcripts in electronic form, were stored on a password secured computer file and also entered into NVivo (<http://www.qsrinternational.com/>), which was password secured, to enable management of data during analysis. Hard copies of transcripts were locked within a filing cabinet at the LTU Postgraduate Clinical School of Community Nursing.

Phase 1

The individual interviews were conversational, semi-structured, scheduled interviews at a date and time suitable to the participant in a private location at her/his work site, or other agreed location. Appointments for the interviews were organised by the Research Officer. Reminder telephone calls were also made prior to the scheduled appointment for the interview. All interviews were conducted by the Research Officer

Based upon that used by Field (2004) in the prior UK study, an interview schedule guided the interviews (see Appendix G for the first version); however, the schedule was modified because of the different context that is the Australian health care system. The schedule was not prescriptive and other questions were asked with relevant tangents explored, as seemed appropriate during interview. Also, the schedule was altered as sequential interviews were conducted and constant comparative data analysis occurred – questions were added or deleted according to developing understandings that needed exploration. Therefore, results from early interviews influenced data collection in later interviews.

Interviews ranged from 20 to 44 minutes in duration and all were conducted in work-time as had been negotiated with the community nursing organisation, which was financially reimbursed for the lost work-time of participants.

Phase 2

The focus group was also a semi-structured interview, with the list of interview questions being primarily focussed upon the findings generated by Phase 1 of the study. The intentions were to check and expand if possible, plus supplement the understandings acquired through Phase 1 regarding the experience, opinion and observation of these district nurses concerning the research focus. The intention was to gain further insight that could assist answering the research question as can be productively generated through a group of relevant participants discussing issues with each other, compared to the discussion with a researcher as occurred previously in the individual interviews. The focus group interview was held at a central point for the participating nurses, who travelled from their work-sites, and was conducted by the Research Team Leader with assistance from the Research Officer. This focus group was an hour in duration and conducted in work-time as was negotiated with the community nursing organisation, which was financially reimbursed for the lost work-time of the participants.

Data Analysis

The analysis was collaborative between the research team, with the initial interpretations conducted by the Research Officer and then compared with the independent analyses of the other two members of the Research Team. Variations in interpretation were discussed by the Research Team and consensus reached through ample discussion and democratic decision making. Analysis sought to describe and explore issues and solutions as per interpretation leading to description and conceptual ordering (Strauss & Corbin, 1998, Guba & Lincoln, 1989), which is appropriate for variable identification with interpreted

associated understandings. The third level of qualitative research data analysis, constructing an explanatory schema (Strauss & Corbin, 1998) was not pursued.

NVivo, a software package for qualitative research, was used to manage data analysis, as this facilitated analysis, memo writing, modelling, and report writing.

Phase 1

Commencing after interview one, constant comparative data analysis (systematic, sequential and segmented analysis of one or two interviews before the next interviews were conducted – with alternating data collection and data analysis) occurred, with this ‘iterative’ process involving open coding, then categorisation and conceptualisation, with attention to the properties of categories.

Phase 2

Data were interpreted through open coding, and integrated with the categorisation and conceptualisation results of Phase 1.

Conclusion

Following careful and ethical participant recruitment using theoretical sampling, two phases were conducted that generated useful qualitative data. Phase 1 used individual interviews and Phase 2 consisted of a focus group interview. All interviews were semi-structured with an evolving list of guiding interview questions. NVivo managed data were analysed for description and conceptual ordering, with analyses integrated. The following chapter reports these results.

Interpretation of the interview and focus group data resulted in conceptualisation of eight major categories regarding the research question about why do or why don't district nurses use compression bandaging for venous leg ulcer management. These categories are:

1. Knowing about compression
2. Is it venous?
3. Compression bandaging is chosen
4. A willing client
5. A non-willing client
6. Strategies to convince
7. An alternative is chosen
8. Associated care

These results, as categories, are sequentially presented to follow. Each of the eight categories is firstly presented as a table listing the sub categories pertaining to that category. To follow each table, the subcategories and any relevant properties thereof are explained and illuminated by supporting verbatim quotes from relevant data.

Knowing about compression

Category	Subcategories
Knowing about compression	<ul style="list-style-type: none"> • Whole new focus • Internal education • External education • Learning about bandaging • Reinforcement of knowledge

Table 2. Subcategories of the category: Knowing about compression.

Knowing about compression requires understanding the principles and theory of compression and bandaging, reasons for using different types of compression, and the practical skill of competent application. There are many sources of this information, such as formal courses, pharmaceutical representatives, reference material, internet resources, clinical teaching and on-the-job experience. All nurses described a mixture of formal and informal education that was either internal or external to the employing organisation, and felt that they had good clinical support for the development of this knowledge. Reinforcement of this knowledge occurred through practical experience of the technique and observing results.

Whole new focus

Nurses who were interviewed had come into district nursing with varying levels of knowledge and skills. Many commented that the management of leg ulcers and the use of compression bandaging was something with which they were very unfamiliar when they commenced district nursing. Consequentially, for many of the nurses their education with this focus began when they started district nursing.

“I’d never come across particularly leg ulcers or even client wounds of any sort before: that wasn’t my background. It was a whole new area for me.” (Interview A)

“Well, you just didn’t know very much about it at all. But, I think a lot of people that come to District probably don’t know very much about wound care before they get here, anyway...” (Interview H)

Internal education

Participants described a wide variety of education and support within the employing organisation. Many had attended formal education in leg ulcer management delivered by the organisation's education unit.

“And I've attended the Institute study days and varying workshops they've had on venous ulcers and ulcer managements.” (Interview I)

“I have done another course with the Institute as well which was a three-day course, just wound management as well.” (Interview D)

The nurses had also received a variety of education at their suburban based centres. Within the focus group, some participants had also participated in a newly initiated intensive program about leg ulcers and wound management, this program consisting of two workshops (each three hours in duration).

“... little clinical sessions... the lady that does the compression stockings would come out or... the Wound Care Consultant would do those little sessions.” (Interview A)

“Well, you see, we're just undergoing extensive training on wounds at the moment at the centre, right, which is what you go..., I think, I believe it's being set up across the whole organisation. So everyone in our centre is going through those two days or two afternoons of training with the same training...” (Focus Group)

Clinical Nurse Consultants (CNCs) in wound management were another source of information and training through one-on-one teaching of less experienced nurses. All interviewees highly valued this side-by-side education, some considering this to be the very best form of education and skill facilitation.

“So she pretty much taught me what I know. Pretty fantastic. She, in regards to compression therapy, she did a lot with our centre at that time. We had exams and things like that, and practical exams with her, so that she knew that everyone here at the centre was up and running with it. So she came out with us and also did an in-service at the centre, so that's just sort of what I know, that's how I've learnt.” (Interview D)

“The Wound Consultant Nurse - if we have a patient that we feel she needs to see, we refer to her, and then she usually comes out with us. So, during the time we spend at the patient's home, she'll be showing us things... during that time. A lot of what I've learned is from the Wound Consultant Nurse.” (Interview H)

“Yeah, I think that's always good, because you're right there with the client and I think it's very practical. You remember it well, rather than in the classroom.” (Interview J)

Resource folders at work-sites in the employing organisation were also considered useful:

I mean, we've got a whole resource folder here. And they've collated quite a bit of information on different types of ulcers and so forth and wound management, so that's a good resource for us.” (Interview F)

External education

The nurses used many other sources outside the employing organisation for information about leg ulcer management, including internet searches, doing specific wound care courses and joining professional organisations focused on wound care that have seminars plus written resources:

“Going on, doing internet searches and looking at wound products yourself.” (Interview F)

“I did the wound course.... and that was for fifteen weeks, and we were assessed, we just sort of had two oral assessments and we had a written exam, and it was a terrific course.” (Interview B)

“I also joined the Wound Foundation. I go to twilight seminars, and I just went to their conference, and I subscribe to their magazine.”(Interview B)

Learning about bandaging

When it came to the actual technique of applying compression bandages, the nurses had usually been instructed by a Wound Consultant, once again in a one-on-one situation.

“... the Wound Consultant coming out and like, demonstrating putting on the underpadding and making sure that the compression bandage is not going to dig in too much into their leg.” (Interview H)

“Initially she taught me in the centre, I had to bandage her. And she bandaged me. And then we actually went to a client. I think I spent half a day with her.” (Interview C)

Reinforcement of knowledge

Although participants had initially learnt in various ways that compression bandaging is best practice for venous leg ulcers, this had mostly been reinforced through practical experience and knowledge gained by working as district nurses.

“Seeing it, I guess. You know, like being taught it, but also seeing the results when you’re not using compression, then using compression and seeing the healing happen.” (Interview J)

“Because that’s something I found, something when I did the wound course... and working in the clinic, I mean, the thing they talked about was compression, compression, compression. Well, that was the thing that helped...it was the thing all the time.” (Interview B)

Summary

In order for compression bandaging to be selected for nursing care treatment of a venous leg ulcer, firstly the nurse needs to be aware that it is best practice. This is an enabler. The nurses were all aware of compression bandaging as best practice with multiple origins listed for this knowledge.

Is it venous?

Category	Subcategories
Is it venous?	<ul style="list-style-type: none"> • Initial diagnosis • How the diagnosis is made • Problems with Doppler • Discrepancy

Table 3. Subcategories of the category: Is it venous?

Issues relating to the diagnosis of leg ulcers were explored. District nurses are required to make a specific diagnosis of venous leg ulcer with the assistance of Doppler ultrasound measurement before commencing appropriate treatment. A Doppler Ankle Brachial Index (ABI) of 0.8 or above is required prior to the use of compression. This is vital, as the application of compression to clients with impaired blood supply can result in pressure damage. Failure to ensure a definitive diagnosis is a barrier to compression bandaging as it leads to a delay or even indefinite postponement of treatment. Nurses had good insight into the importance of making the right diagnosis.

“You’re not going to heal a wound if you don’t know what’s happening underneath it, you know.” (Interview D)

Initial diagnosis

The nurses stated that a variety of professionals made the initial diagnosis about type of leg ulcer; that is, whether the underlying aetiology was venous, arterial or mixed (signs of both arterial and venous). Sometimes the client was admitted to the service with the diagnosis already made at a hospital by a specialist doctor or a General Practitioner (GP). Possibly the initial assessment nurse or a Wound Consultant within the community nursing organisation might make the diagnosis. Otherwise, the primary district nurse for that client would decide:

“...otherwise it’s just been more of a commonplace now the primary nurses are doing the Dopplers, so we’re actually making the diagnosis.” (Interview I)

There was a range of confidence levels:

“Yes, but I’ll always ask. I’ll always bring the results, to the CNC for a little bit of pass-the-buck.” (Interview K)

“I’d handball to the doctor every time and say, you know, this is what I think, this is the results I’ve got, and I’d be getting him to explore this leg.” (Interview J)

How the diagnosis is made

The nurses tended to describe thorough assessment techniques using a combination of the client’s history, clinical findings and use of Doppler (ABI). Checking the client’s past history and presenting symptoms were common assessment steps described. Many placed great weight on the actual inspection of the leg and ulcer.

“So, you go with their past history, then you’d get the result from the ABI, and then I’d have a look at the leg and then you’d diagnose it from that point once you’ve got all those three things.” (Interview D)

“...but I think when you look at the assessment, you’ve kind of got to look at the wound, you’ve got to look at it first.” (Interview F)

“I mean, when you look at the leg it pretty much tells you what it wants, you know. You’ve just got to look at it and you know, and then, if you’ve got the history behind it, like if you’ve read what their history is and then you look at the leg, you’re down the right track, pretty much.” (Interview D)

Most nurses were confident to undertake the Doppler procedure and felt that the results usually reflected the client’s clinical picture. The ABI was always recorded prior to commencing compression bandaging. If there was a delay in attending the Doppler ABI, due to nurses’ inexperience, it was a barrier to prompt treatment.

“The Doppler results often are a big factor. Yeah, well, it’s one of the main things that I look at.” (Interview H)

“Of course, you do the Doppler, which helps a lot to make your diagnosis.” (Interview E)

“But, you know, for myself, I usually diagnose prior to doing a Doppler so that the Doppler is more of a confirmation.” (Interview F)

“And, it’s a really good way to ascertain, ‘cause you then have to go back and apply the readings you’ve got to what regime you’re going to commence, I think. So it gives you a baseline and it gives you more information to actually treat the client accordingly and correctly.” (Interview F)

However, participants realised that interpreting the results, and making the diagnosis, were not always straight forward.

“Because sometimes if they’ve got calcification of the arteries, with the walls and things, it can actually give you a false sort of reading. So, you’ve got to be careful of that. But it’s when you sort of look at all the other factors as well.”(Interview B)

“... I’m aware that this is a number, it’s not a diagnosis in itself.” (Interview A)

“I guess interpreting the results is still a bit confusing at times.” (Interview H)

Mixed aetiology ulcers were more challenging to diagnose. These ulcers have a combination of venous and arterial causes.

“Some are easier than others. The mixed ulcers are a bit more difficult to diagnose.” (Interview G)

“And sometimes it can be mixed venous arterial, and I think a lot of them actually are, and I think that’s often hard to pinpoint, actually. It’s not often that they’re clear-cut, and they’re sitting there like pictures in the box.” (Interview B)

“Sometimes if they’re mixed I tend to have to come away and really think about it, or I tend to really look at it for a long time and just kind of get a full picture of the leg.” (Interview F)

Problems with Doppler

A number of difficulties whilst performing the Doppler procedure were described. The most common problem was the inability to locate the pulse with the probe, which meant that the ABI could not be calculated. Nurses found this frustrating, as they didn’t know whether it was their technique or the absence of the pulse that was the underlying problem.

“Sometimes you’re just probing around for a while and you just can’t seem to find where it is, and that gets really frustrating. And sometimes their circulation is so poor that it’s just them, it’s not your ability or not, but you don’t know whether it is you or them.” (Interview H)

“Yeah, it can be tricky. It can be time consuming and a bit stressful if you can’t find it, because you worry that you’re not doing it properly or is it really there’s something wrong. And you can be a bit doubtful what’s happening there.” (Interview K)

Other problems that prevented the Doppler being done were: client’s arm too large for the blood pressure (BP) cuff, client unwilling to lie down and rest before the procedure (to stabilize BP), pain occurred in the ulcer when the cuff was inflated, and nurses found it difficult juggling all the equipment whilst keeping the probe steady.

“... there are clients who won’t tolerate an ABI either. You know, if they’ve got a lower leg ulcer and you’ve got to put the cuff around near where the wound is, and they’re complaining of discomfort, well, you can’t continue doing the ABI and therefore you don’t get a result.” (Interview D)

When any of these problems were encountered, nurses referred the issue to the Wound Consultant, who could perform the Doppler, or they referred the client to their GP or specialist doctor for confirmation of their diagnosis. Again, this time delay in making the diagnosis was a barrier to commencing compression therapy, as compression bandaging could not be started if there was suggestion of arterial impairment.

Several nurses commented that the nurses who initially admit and assess the clients don't always have enough time to use the Doppler at the initial visit, which again delays diagnosis and commencement of treatment.

"Often they haven't had time to do a Doppler, so you do that." (Interview B)

"The assessment nurse would do a bit of the assessment, and then leave, depending on what's left, to us. So, we'd probably get the Doppler." (Interview F)

In the focus group, nurses emphasised this point and also stated that they felt nurses may not like doing Dopplers because they were time consuming, or they felt that they were too inexperienced with the technique of using the technology.

"And a lot of nurses don't like to do Dopplers because they're time consuming and they just don't like doing them." (Focus Group)

"...oh, I don't really like Dopplers 'cause I haven't got the experience or knowledge." (Focus Group)

"She could do it, but, she would do the Doppler, but I know just general field staff, there's quite a few of my colleagues who don't like doing them" (Focus Group).

Discrepancy

If there was a discrepancy between the nurse's diagnosis of the ulcer type and that of the referrer, the nurse would tend to contact the referrer:

"Well, usually we contact the referrer, which is usually the local doctor or the surgeon, and we might discuss with them and we might ask for further studies." (Interview C)

"... contacted the local doctor and said, you know, this is the Doppler but we're feeling that the picture's showing that there's some arterial insufficiency. We're really not happy for him to start compression for his ulcer until he has a vascular review or further investigations." (Interview A)

Explored as the study progressed was what the nurses do if there is a discrepancy between their clinical examination and the Doppler reading. The nurses emphatically responded that they would refer the client to someone more experienced for confirmation of the diagnosis.

"So I might refer to, like I said, your Grade 3 or Grade 4's or your CNC to see if they get a different result or whether they need specialist review by a different clinic." (Interview D)

All nurses stated that they sought a second opinion if they were unsure of the diagnosis for any reason. Usually they sought help from a Wound Consultant Nurse or a more experienced nurse who could be easily accessed in the organisation. Some also contacted the client's doctor as well. This second opinion was sought because an accurate diagnosis was known to be vital prior to starting compression therapy.

"Well, the Wound Care Consultant's definitely the person that we all use." (Interview C)

"But, we should go back to the GP's and say, "Look, these are our findings" and get some sort of concurrence from the GP." (Interview I)

Summary

An enabler for using compression bandaging is having the right diagnosis; that is, being sure that the ulcer is venous in aetiology. A correct diagnosis is pursued through various strategies and sometimes potential constraints need to be overcome like varying assessment data, problems gaining a Doppler reading, and discrepancies in diagnosis.

Compression bandaging is chosen

Category	Subcategories
Compression bandaging is chosen	<ul style="list-style-type: none">• Initiator of compression• Nurse's confidence in compression• Selecting a form of compression• Funding• Nurse's anxiety

Table 4. Subcategories of the category: Compression bandaging is chosen.

Once the diagnosis of a venous leg ulcer is established, the next step for a nurse is to select a treatment, although with some clients, this treatment may be stipulated by the client's doctor or other source. As already explained, the nurses were all aware that compression bandaging is considered best practice based on scientific evidence, but if moving ahead to use compression bandaging for the diagnosed venous ulcer (note from later presented results that this choice is not always so), then a number of factors are relevant to that decision.

Initiator of compression

The nurses stated that some clients were admitted to their service with compression already chosen as treatment for a venous leg ulcer, as directed and possibly initiated by the referring source - such as a vascular clinic or specialist, hospital clinic or wound clinic - so this was continued. In contrast, when the decision for compression use was made post-admission to the community nursing organisation, a wide variety of nurses might make the decision depending on their experience and confidence level: assessment nurses, wound consultants, care managers and the primary district nurse. Many of the nurses, if making the decision to apply compression bandaging, tended to check their decision with a more experienced nurse before beginning compression.

"I often find it is initiated by someone else, whether it was the hospital sent a referral and they said that in the referral. or the assessment nurse decided, or the Wound Consultant Nurse ...decides. I actually tend not to initiate compression unless I've discussed it with the Wound Consultant Nurse..." (Interview H)

"I check with other people, yes. I always check, yes. I check with...Yeah, I don't think I would decide on my own. Yeah, I wouldn't decide on my own; not yet, no." (Interview K)

"A combination of people, sometimes it might be the Wound CNC after I've called her to come and review a wound that I don't know what to do with, or sometimes it might be after I've done the Doppler and it's indicated for that type of wound that it needs this type of compression. Sometimes it might be my Care Manager that comes out to see me. Sometimes it might be the recommendation from the, you know, vascular clinic that this client needs, you know, so and so compression or these types of bandages..." (Interview L)

Nurse's confidence in compression

Most participants stated that they were confident in the efficacy of compression based on their education and past experience and always encouraged clients to wear such. This confidence encouraged the nurse to choose to apply compression.

“...the fact that it's true that it doesn't matter what you stick on the dressing, if you can get on an appropriate dressing, if you can put some compression bandaging on then that's the biggest single thing.” (Interview J)

Selecting a form of compression

Once the decision was made by whomever that compression bandaging should be applied to the venous ulcer, a further decision was necessary about what form of compression bandaging to apply. Nurses were asked to what extent they based their choice of compression bandaging on any reference material or guidelines. Most said they asked a wound consultant or another more experienced staff member to assist them with the choice, some referred to resource folders at the centres, or text books, and one nurse had used the new guidelines of the community nursing organisation for use of compression bandaging, as recently developed by the organisation.

“We have a compression folder out there, and that does come in useful. Usually I tend to go to the Grade 4's and say “these are my results, this is what I want to do.” (Interview I)

“Yeah, I think if we did have some structured guidelines, or, yeah, some kind of written material about what to apply when would be good...” (Interview H)

A number of interviewees were not confident in deciding the type of compression bandage to use and had little idea why different bandages were chosen. They relied on more experienced staff to make these choices for them, even though they may have been the primary nurse.

“I go and just apply them, really. I don't fully understand. I understand that they'd be in the certain grading of pressure and what not, but I don't know exactly why that is or what it is.” (Interview E)

“I thought it was probably because they were the most cost effective, or they lasted the longest, perhaps. Or they're just our wound care specialist's one of choice.” (Interview C)

“The thing is, like with the compression bandaging, actually choosing what sort of bandage to put on, sometimes that does seem a bit of a mystery. Like, why would you use Profore® bandaging for someone and then Comprilan® for someone else?” (Interview H)

There were also definite preferences for bandage types according to regions and centres. Nurses didn't seem to question this and used what was in vogue.

“...I don't know the reason, no. Just the common one that people use. I think maybe it lasts longer when you wash it and use it, it may be a reason. No, I'm making this up. I don't know the reason.” (Interview K)

“Because they seem to be the bandage of preference in this centre.” (Interview I)

However, the remaining nurses considered a wide range of factors when deciding on the type of compression bandage. Ulcer aetiology was important, together with the Doppler ABI reading and client issues of comfort, mobility, lifestyle and cost (clients of this community nursing organisation were mostly responsible for all dressing and bandage costs.) Nurses also drew on their own experiences with different

bandages and staff resources available to attend bandage changes. Some nurses selected an easier option for compression that was less taxing on the nurse.

“Well, it’s back to your ABI, really. The ABI will let you know how tight you can go, how many layers you’re going to be able to apply on them. So, it’s just knowing those results.” (Interview D)

“Well, it would definitely be value for money, because the client won’t be happy if they only last a couple of weeks. So, yes. I think. Yeah, generally we’d be trying to get the best value for the client.” (Interview D)

“You know, if you want that low stretch, you know, is it suitable for that type of leg ulcer? Like, is that going to provide you enough compression? Like, you know, I would take all that into account. Yeah, pain issues, how long the ulcer’s actually been there for. What success have you had? Has there been another type of bandage that people have tried and not worked or has worked, maybe two years ago when they had that type of leg ulcer.” (Interview F)

“Mainly because the high stretch needs to be changed every day, and we just haven’t got the resources to go out and change them every day.” (Interview B)

“What do I think? I reckon, overall, I reckon Comprilan® gets avoided - use, the use of it, you try to avoid it, I think, ‘cause it’s a bit more work” (Interview K)

One nurse stated that compression was not used if the client’s ankles were small. Ankle circumference less than 18 cm is a recognised caution in the application of compression.

“Or if their ankles are very small I wouldn’t use compression.” (Interview J)

Funding

In this organisation, a major barrier to selecting whatever is considered by the nurse to be the optimal form of compression bandaging, was the possible high financial cost to clients of that product, as clients are mostly responsible for the cost of their wound dressings, bandages and all other wound consumables. With the majority of clients being pensioners, leg ulcers are a costly illness. Nurses felt this influenced their choice. One single compression bandage costs around \$15. The organisation has established a fund to assist clients with costs, which has been of great assistance to clients and to nurses wanting to commence compression bandaging. However, the nurses were concerned that the funding may not be ongoing and also commented about the increased paperwork involved in requesting the funding.

“Lately we’ve been using Profore® bandaging quite a lot because of the funding that became available through the Fund. So, we did start putting Profore® on a lot of patients after that. Because that was seen as the best method, but it’s expensive, so often our patients can’t afford it.” (Interview H)

“There was a lot of money at one stage, and then it did get tighter, but I think it might have...it might be OK again now, but you just don’t know how available it’s going to be on a continuous basis.” (Interview H)

“So you can only apply for the fund and get the first lot of equipment, and then you have to reapply. So it’s a lot of paperwork and I think, unless you know that the client is willing...” (Interview C)

Nurse’s anxiety

A number of the nurses were anxious about not applying compression bandages correctly due to their inexperience. The more experienced nurses stated that they felt that not all staff could bandage adequately and this could lead to ineffective compression.

“I think I have concerns with the very high pressured bandaging from the perspective of, I don’t get enough experience of it, so I don’t feel confident in what I am doing. If I was doing it all the time, I’m sure I’d be very confident with it...” (Interview J)

“And sometimes I visit and I see bandaging where the overlap varies and it’s not the same, or they’re all loose or they’ve slipped down, or they’ve taken three or four wraps around at the top, a bit tight. You know, then, oh gee, whoever put this on, I’m not sure.” (Interview K)

At the time of this study, the community nursing organisation was part-way through an intensive leg ulcer training program that included bandaging workshops, which should greatly enable and enhance efficient use of compression.

Summary

The actual selection of compression bandaging for the treatment of a venous leg ulcer may initially be decided prior to admission of the client into district nursing care. However, if a district nurse is the one making this recommendation to the client, being confident about making the recommendation is an enabling factor. If the decision is made to use compression bandaging (not always so), then the selection of what specific form of compression bandaging to apply is influenced by a variety of factors including the cost of products. Even when making the decision to recommend compression bandaging, nurses may have anxiety about whether they are doing the bandaging correctly.

A willing client

Category	Subcategories
A willing client	<ul style="list-style-type: none"> • Accepting education • Trust in nurses • Client motivation • Seeing improvement

Table 5. Subcategories of the category: A willing client.

Many nurses in this study mentioned client willingness as a vital factor when it came to compression bandaging as the client needs to agree to commence this treatment and also to be motivated to continue with what can be many months of discomfort or inconvenience to achieve healing of their venous leg ulcers. Without this client co-operation, it is difficult to achieve sustained and adequate compression on an ongoing basis. However, the nurses respected their clients’ decisions and would not apply compression if the client would not consent. Nevertheless, they continued to educate about the benefits of compression bandaging, hoping that later acceptance would occur.

“It’s all about patient choice. If they choose not to, all you can do is give them as much information as you can, and when it comes down to the crunch you’ve really got to support... if you’re going in there as their primary nurse, you’ve really got to be able to support or understand why they don’t want to do what you want them to do. It’s all about choice.” (Interview I)

Accepting education

The nurses felt that willing clients were basically those who accepted the recommendation of the nurse to agree to the use of compression bandaging and that the key aspect of this possibly was quality education based on the assumption that clients who were better educated about their condition were more likely to be willing to agree. Therefore, client education and the acceptance of this could be seen as an enabler of compression bandaging.

“But we do have to have a willing client. And, I think that’s probably the key to it. I mean, some people, it doesn’t matter what you tell them, I don’t know, whether they just don’t believe you or they don’t want to hear you, but they seem to not really want to get better, in my opinion...” (Interview C)

“If they completely refuse you can’t apply it. Like, they have to be willing, and I think you have to arm them with the knowledge in order to be accepting of it. But, in most cases, if you do provide them with the advantages compared to the disadvantages, they’ll take it up every time. Yeah, but they have to be willing.” (Interview F)

“Well, a lot of the time the client won’t, they won’t agree to have it, and the first thing we have to obtain is consent...” (Interview C)

Trust in nurses

It was mentioned that a client tended to be more willing if they had a lot of trust in district nurses to know what the best treatment for the venous leg ulcer is.

“She kept wearing them, and I think she trusted the nurse and she trusted that it was, she knew it was doing good....” (Interview K)

Client motivation

The nurses described some clients who were very motivated to get better and who persevered with the bandaging despite discomfort.

“...there’s one woman who had an ulcer that wasn’t going anywhere, as soon as we put the Comprilan® on, it just went in leaps and bounds, and when she saw that it was getting better and the doctor said, ‘Oh, look, this is good,’ she was happy to wear... and she suffered at night, she even had some pain at night occasionally...” (Interview K)

“And a lot of them just really have a desire. I don’t think a lot of them have a great deal of knowledge about venous ulcers unless they’ve had, you know, a lot of them in the past. But, it’s a strong desire to get better, to get rid of the ulcers and not have them recur.” (Interview I)

Seeing improvement

In the opinion of the nurses, clients were particularly motivated to continue if the initial compression bandaging brought an improvement in the wound.

“But, he’s putting up with it because he can see that it’s helping and he’s willing to.” (Interview E)

Summary

A prime enabler of the use of compression bandaging is having a client willing to agree to the commencement of this treatment, which basically arises from acceptance of education about the condition and how healing is promoted by compression. Having trust in the nurse to know what is needed is a further enabler. To be willing to persevere with the treatment until healing of the ulcer occurred is helped

by the client being very motivated for healing to occur, despite factors such as discomfort being experienced from the compression bandaging. In addition, being willing is encouraged if improvement of the wound is discernible to the client early in the treatment process.

A non-willing client

Category	Subcategories
A non-willing client	<ul style="list-style-type: none"> • Pain and discomfort • Too hot • Skin problems • Hygiene problems • Mobility and safety problems • Social isolation • Loss of independence • Prone to soiled bandages • Cost • Mixed messages received • Negative experience in the past • Disbelief in efficacy • Not actually wanting healing • Dementia • Unknown factor

Table 6. Subcategories of the category: A non-willing client.

The lack of willingness was identified as a major constraint to use of compression bandaging. This lack of willingness might occur when the client:

- was not willing for compression bandaging to commence;
- did agree to commence bandaging, then later insisted that the treatment be modified;
- did agree to commence, but then discontinued the treatment.

There were significant barriers mentioned that could cause this lack of willingness. District nurses in this study described a large number of reasons that clients gave them for not being willing to wear compression bandaging. If the client was unwilling, the nurse tried to reach a compromise that suited the client and yet could achieve some compression for the best outcome possible considering non-willingness to accept compression bandaging.

Pain and discomfort

All nurses commented that pain or discomfort from tightness and/or swelling caused by the bandaging was the major reason clients give for non-acceptance of compression bandaging. When commencing compression, nurses felt that they needed to inform clients that they could remove the bandaging if their pain was severe, as this may be a warning sign of underlying arterial insufficiency. Even when the leg assessment and Doppler ABI indicated the limb was suitable for compression, nurses advised clients to remove their bandages in the event of pain. However, nurses felt that many clients removed the bandaging at the slightest discomfort. So, pain was a major barrier to the use of compression:

“Often people are quite resistant to using it, or they find that it’s very painful, and sometimes you have difficulty getting them to keep it on. They’ll take it off or they’ll refuse to wear it, so that can get frustrating.” (Interview H)

“Because he says they get too tight. He says as the day goes on, his legs will swell and they get too tight and uncomfortable.” (Interview E)

“You get other people who can’t bear the thought of something. I’ve got one lady who’s, oh, she goes into hysterics every time I mention compression bandage. She reckons they’re terrible and they cause pains up here and everything.” (Interview B)

“Well we always tell the clients to remove them if they can’t tolerate it. But, it’s hard to know whether that’s the real reason that they do remove the bandages.” (Interview C)

Too hot

A common complaint by clients to the nurses interviewed was that the bandages would be too hot or felt hot and because of this, clients were less inclined to start compression or they removed their bandages when this became uncomfortable:

“Saying it’s too hot is a common reason.” (Interview H)

“... with padding and bandages; it’s a little bit difficult if they say, ‘Oh, it’s too hot.’ It’s hard to say, ‘Oh, no it’s not.’ Winter it’s a lot easier. I think if we were to do a survey, at winter, you’d probably have a lot more compression bandaging than summer.” (Interview C)

“They’ll still say that. It’s hot, and it’s heavy, and they feel heavy.” (Interview F)

“Often you try something, and then they just take... you get back there and they’ve got it off. You know, you usually go up to them and say, ‘OK, what happened?’ And you talk with them, and they’ll just say, ‘I couldn’t stand this.’ Either it was too painful, or it was too hot...” (Interview J)

Skin problems

Another reason clients give for non-willingness to use compression bandages, as cited by the nurses, was that the bandages caused skin to become itchy and dry. They would then remove the bandages because of this:

“And their skin gets itchy and dry underneath the bandages.” (Interview B)

Hygiene problems

The nurses described restrictions on bathing and showering when wearing a compression bandage as another main reason for non-willingness. Bandages need to remain dry and intact at all times, but the nurses reported that only some clients are able to waterproof their entire leg and manage to shower independently, with other clients needing to rely on carers or family to help, or restrict hygiene efforts to the days when the bandages were changed, which could be as little as once a week. Clients evidently had told the nurses that this was a major deterrent to them wearing compression bandages:

“...you know, they can’t have a shower, it bugs a lot of people, and...mucking around with plastic bags is a pain in the neck, because everything gets wet all the time.” (Interview B)

“They can’t get into the shower and wash freely, that’s a big issue, I guess.” (Interview E)

It’s a big hassle for them, and if they wear, put a plastic on, the water does get on, it becomes a little bit damp and it’s uncomfortable for them. And I think that might be a big issue.” (Interview K)

“Well, if they’ve got a carer, the carer can do whatever needs to be done, it could be bagging it or taking it off.....whatever, the carer can do that. But if they haven’t got anyone there, then they can’t and you know often they won’t be able to bag the leg themselves or, you know, so it’s difficult to wash...” (Interview J)

Mobility and safety problems

The nurses were of the general opinion that another barrier to wearing compression bandaging was the effect it had on footwear. As the bandaging is bulky, clients may not be able to wear normal shoes, which can then limit mobility or increase the risk of falling.

“ ‘I don’t want to wear the compression bandages because, you know, I like to be able to wear my black shoes’, or whatever. And, ‘They’re my favourite shoes’. And well, you think, ‘Well this person’s eighty- five; they’ve had ulcers in the past’. You’ve got to have the patient’s perspective on it and you’ve got to bear that in mind when you deal with them.” (Interview I)

“Client’s mobility too, is that it could cause falls because they’re not going to be able to wear their normal shoes, you’ve got to look at the whole aspect of how they’re going to be able to get up and down stairs because it does reduce their mobility.” (Focus Group)

Social isolation

Additionally, from the observation of the nurses, a client may decide to stay at home when not being able to wear normal shoes, this causing social isolation and allied problems like having inadequate basic supplies due to lack of shopping. Subsequently, the client might dislike this situation and could become intolerant of the cause – compression bandaging.

“Yeah, they have trouble putting on shoes if it’s wrapped around to the toe, just to the toes. And then people have to wear moccasins or a different kind of shoe. Yeah, with the shoes, they have to wear certain types or buy a pair of slippers to fit, and then if they want to go out and they may not want to go out in the street with slippers, so they might stay home bored or they don’t feel as comfortable going out.” (Interview K)

The nurses commonly felt some clients (particularly women) with compression bandaging stayed at home and became isolated because they disliked the appearance of the bandaged leg, also potentially leading to intolerance of compression bandaging.

“You know, ‘I don’t want to go out because I’ve got these ugly bandages on, and I can’t fit into my shoes anymore’.” (Interview I)

“...and she said, ‘Oh, I’m going to a wedding; I don’t think I’ll go because I can’t go like this,’ with the banding on her leg. So, again, it is that kind of thing about how it looks.” (Interview J)

“They don’t like the look of them.” (Interview B)

Loss of independence

According to the nurses, for some clients who had previously been independent, the application of compression bandages required them to have family help or a formal carer, particularly for assistance with showering, as discussed earlier. However, some clients choose not to wear compression bandages so that they can remain independent. Nurses were also reluctant to apply compression if the client wasn’t capable of removing the bandages independently if any problems occurred, for instance with severe pain.

“And if they’ve got people in their family who can help them then that’s fine. The same if they get pain or a tingling or whatever, if they need to go get it off, and if you haven’t got someone who can help you with that, they’re not able to do it, then often you won’t do it.” (Interview J)

“And depending on how independent they are, they could put like a, you know, plastic bag over it. And sometimes they’re not independent enough to do that on their own or they have difficulty doing that.” (Interview L)

Prone to soiled bandages

A few nurses mentioned non-willingness developing for some incontinent clients who initially wore compression bandages. If the incontinence was not well managed, it could lead to soiled bandages that the client would remove because of hygiene, odour, discomfort experienced through the wetness, and to remove visible evidence that they were incontinent:

“Sometimes they’re incontinent and then it gets wet, and that’s the reason why they might take it off.” (Interview H)

“The incontinence is a problem if you’ve got compression on, because the whole thing just gets wet.” (Focus Group)

When bandages were being reused for a client, if this is a necessary requirement (although not the ideal) for instance due to the high cost of replacing compression bandages if soiled or whatever, a nurse told of the problems that could occur when the client is unwilling to launder the bandages in a timely manner:

“So then you’ve got to go into the laundry and find the bandages and sometimes they can’t seem to get into a system of having clean ones to put on when you take the dirty ones off. So, what happens is you end up with a day or a couple of days without them which defeats the purpose.” (Interview C)

The soiling of the bandage may be caused by multiple reasons, not only by incontinence.

Dementia

Some nurses opined that varying degrees of dementia in clients could cause non-willingness to continue with compression bandaging. For instance, these clients were inclined to remove the bandages if they had any discomfort, could forget the nurse’s instructions or rationale for the treatment, or be less able to rationalise why it is vital to continue with the treatment.

“...the hardest thing is that a lot of the patients do have dementia at different levels, and, you know, quite often we will sort of maybe go on a good day and they’ll let us put them on, and then they might have a bad night or a bad day the next day and they’ll take everything off. And when you come back, ‘cause there’s an interval in between, they’re all, they’ve got the oedema and no bandages on. And I have had instances where I couldn’t even find the bandages; I don’t know what they did with them. They’ve removed them altogether. They didn’t want them back on.” (Interview C)

“I do think the dementia plays a bit of a part in it as well, ‘cause they’ll listen and agree, and then, you know, they’ll forget that plan.” (Interview C)

Cost

As mentioned earlier, most clients of this community nursing organisation are responsible for dressing and bandage costs. Nurses in the study felt that the cost to clients was another major barrier to the use of compression bandaging. Many clients were pensioners and unable to pay for the initial and/or ongoing costs of this treatment, resulting in either compression not being used at all, less than ideal compression being used, bandages being replaced less often than required, and often the prolongment of the need for treatment.

“So, that’s a big problem with a lot of the products, I think, is cost. A lot of these people are on pensions and they save up for their tablets.” (Interview B)

“Cost is a really big one; a huge one for the clients.” (Interview J)

“A lot of times when you say how much they cost and they need at least two, one to wash and one to wear, people become a bit reluctant to go and buy them. Yes, that’s cost. And there’s some consumables, too, if they have to have that Soffban® or something underneath it.” (Interview K)

“Or the cost, if they just say, ‘Look, I’m not going to pay for this anymore, it’s too expensive.’ ” (Interview J)

“And another thing I’ve found is that some people are not willing to replenish them. They were happy enough to buy them initially, but they sort of thought they were going to last forever and they haven’t and they’re a little bit disappointed about that.” (Interview C)

“Quite hard when you’ve had to order bandages and you order a set of four, the new bandaging system at the moment, and when it comes to thirty dollars and they’re all pensioners.” (Focus Group)

The organisation’s fund to assist clients with these costs was of great benefit in enabling the use of compression - when clients were in receipt of this assistance.

Mixed messages received

Several nurses expressed frustration that their recommendation to clients for use of compression bandaging for a venous leg ulcer was sometimes in contrast to other forms of treatment experienced by clients when hospitalised, or in contrast to treatments recommended by other health care professionals. Underpinning this frustration was a discerned lack of awareness amongst some in the wider medical community about compression therapy as best practice for venous leg ulcers.

Mixed messages from health professionals can be a considerable barrier to the use of compression bandaging as clients become confused and don’t know who to believe, leading at times to non-acceptance of compression bandaging.

“Very rarely would I go to the GP, ‘cause even them themselves tell you that they’re not that confident in leg ulcer care... You’ll see the client the first day and they’re like, ‘oh, my GP didn’t really know what to do, so they referred you onto... ” (Interview D)

“... they’ve been going to the doctor for, I don’t know, six months sometimes...a local doctor, yes. And then we come in and say that we want to put these bandages on, and, you know, they’re not always convinced that we know what we’re talking about.” (Interview C)

“See, now I find it frustrating that the hospitals don’t concentrate on compression. You’ll get clients, say, come out with a straight Tubigrip® whereas really it should be a shaped one, or, do you know, like, they don’t seem to have that same understanding that we have...” (Focus Group)

“So that was a very tricky situation because we felt that if we didn’t bandage her she would never get better. But, the specialist said, ‘No, we couldn’t apply compression.’ ” (Interview C)

“One lady was treated by the organisation only when her naturopath gave her permission, and...she had very obvious venous ulcers....but her naturopath told her that she didn’t have venous disease, so she didn’t need bandaging.” (Interview A)

Negative experience in the past

Some nurses commented that clients declined, or were very reluctant about, using compression if previously they had a negative experience with that type of treatment. Nurses then had an uphill battle to convince them of the benefits, and were not always able to do so.

“And also a lot of the times it’s just they’ve had, they may have had like leg ulcers in the past, and they may not have been treated appropriately in the past, and then they have gone straight

onto compression, where that was the right or wrong compression, and then you'll get this client who will refuse any sort of compression because of the past history. So, it's getting past their anxiety and their emotional factors as well." (Interview D)

"I guess, the clients that have experienced pain in the past are more reluctant not to use the compression bandaging." (Interview L)

Disbelief in efficacy

It was reported that some clients, particularly those with long term ulcers who had tried many types of treatments (though not necessarily compression bandaging) simply told their nurse that they didn't think the bandaging would work and decided not to agree to compression bandaging:

"Well some of them just don't believe it's going to work." (Interview C)

"If they're people that have ulcers for a long time and nothing has seemed to help, they seem to get this really helpless kind of attitude that nothing will help and they're not going to put up with the discomfort of wearing compression bandages or something when it probably won't help anyway."(Interview H)

Not actually wanting healing

Some of the nurses felt that there was an occasional client who enjoyed (wanted) the social contact with their nurses to the extent that they declined to wear compression bandaging as it can't speed up the healing process and lead to faster discharge, hence removing the social contact with the nurse.

"The fact that you know it would heal twice as quick if I put them in a bandage, it doesn't work... 'But it's healing now, and I do like your visits, love.'" (Interview I)

"I had one lady who actually, we'd healed her wounds, and she said, 'Do you know, I'm going to fall downstairs again so you can carry on coming.'" (Focus Group)

One nurse reported that some clients refused compression bandaging because they seemed to be perhaps either proud to have leg ulcers or resigned to the fact that they should have such:

"It's almost a badge of pride with some people that their mother had ulcers and their mother's mother had ulcers, so they've got their ulcers and their children will probably have ulcers. So – there's nothing that you are going to do girlie, to get them better." (Focus Group)

Unknown factor

Many of the nurses described situations when it was not actually known if the client had become unwilling or not, but non-willingness was a reasonable assessment. Usually the scenario was that the bandages were off when the nurse arrived for a scheduled visit, and the nurse didn't know if the bandages had been off for hours or days. As the nurse was not in a position to know the client's behaviour regarding the bandages, and not wanting to offend the client, ascertaining potential reasons for non-willingness (if present) was not pursued.

"Or you'll come and they're like, 'Oh, we knew you were coming today and the bandages are off,' and you can't verify how long they've been off for." (Interview L)

"Sometimes it comes off as soon as you've left. I've had one lady who I see and I believe that she took it off straight away 'cause she didn't like it."(Focus Group)

"I've had people that... I've had clients that take them off, I think, as soon as you walk out the door." (Interview B)

Summary

If a client is unwilling to either commence or continue with compression bandaging treatment for a venous leg ulcer, this is a major constraint. The reasons for deciding not to commence the treatment may include mixed messages about optimal treatment from various health care professionals, previous negative experiences of compression bandaging, possibly a disbelief about efficacy or sometimes not even wanting healing to occur. The experience of personally unacceptable side effects of compression bandaging can cause non-willingness to continue with that treatment, including the experience of pain or discomfort, the bandages being too hot, skin problems, mobility and safety problems, hygiene problems, factors leading to social isolation, loss of independence and proneness to the bandage being externally soiled. Additional reasons for non-willingness can include having dementia or the cost of the bandaging system. Sometimes it appears to the nurse that a client may be unwilling and the treatment is not being sustained in the nurse's absence, but this is a suspected rather than a definitely known factor.

Strategies to convince

Category	Subcategory
Strategies to convince	<ul style="list-style-type: none">• Client education• 'Try it and see'• Phone or visit next day• Continuity of nurse• Client control• Get the family involved• Get the doctor involved• Start low and work up• Remove a layer if painful• Serial wound tracings• Use of padding and tape• Encourage analgesia• Jocular reward

Table 7. Subcategories of the category: Strategies to convince.

The nurses interviewed for this study had a wealth of strategies that they regularly used to encourage their clients to be willing to commence and to continue compression bandaging.

Client education

Of high importance was client education about the causes of venous leg ulcers and why compression bandaging works for healing the ulcer. This may need to be repeated during the course of treatment to reinforce the importance of continuing. Clients were also educated initially about what to expect when compression bandaging was started and about actions they could take if a problem arose (e.g. discomfort with the bandaging). Education needed to be at a level understandable by clients, but different levels of comprehension are possible.

“You really do need to sit down and talk with them about the reasons why you want to do this, and the benefits that will be derived from doing it, and that they may have a period of discomfort, but it shouldn't be major for a short while until, you know, we get the oedema down. And, yeah that we could, actually, we cannot heal what's the problem, the ulcer, without getting rid of the oedema. They just really need to be informed.” (Focus Group)

“Probably the main thing is just to maybe explain it to them in a way they can understand, that it maybe gives them the idea that it will help.” (Interview C)

“I think the best strategy that I’ve come across is just to explain the reasons why. Like, if they’re competent enough to, you know, absorb all that information.” (Interview L)

“Convincing, reassuring that it’s helpful to them, because something that is a bit tight on their legs or uncomfortable, they might think is not helpful.” (Interview G)

‘Try it and see’

It was suggested that when attempting to convince a client to be willing to wear compression bandages, emphasis be given to the client giving this a trial to see if it worked (or showed discernible improvement) rather than asking for a full commitment.

“ ‘Hey, let’s try it for a week... and if we get some improvement in a week, maybe you might be happy to use it’ ” (Interview I)

“Well, other than just saying, ‘Look, you know, try to persevere with it, you know, say for a week or something, and then we’ll see how you’re going.’ ” (Interview J)

Phone or visit next day

For clients who were apprehensive about compression bandaging, nurses described another strategy to convince them to commence. They would visit or phone the following day to assess the compression and the client’s tolerance, and then could educate further or make any changes that could be necessary.

“ ‘What about if we schedule a visit, an extra visit, so I’ll put it on today and I’ll come back and see you tomorrow and see how you found it?’ Those sorts, so you can often make sort of short term adjustments.” (Interview A)

“There’s sometimes I’ve called and said, ‘How’s it going?’ and, you know, ‘Is it painful?’ blah, blah, blah. I’ve done that before.” (Interview L)

“And you can always schedule another visit the next day just to make sure that it is OK and they haven’t had a problem.” (Focus Group)

Continuity of nurse

Many nurses mentioned the enabling importance of the client building up a good rapport with the same nurse, and of that nurse then being able to initiate compression bandaging followed by consistently visiting and attending the bandaging – that is, through continuity of care by a nurse.

“...because you can get a relationship going with the patient, you might be able to get them into the compression bandages. You know, slowly, slowly does it.” (Interview I)

“I think if they trust or they know someone, where they know the nurse well, they may just try something new or different. Even if they’re not really sure about it, they might give it a try.” (Interview K)

“So, I’ve had positive outcomes with, you know, being consistently with, you know, with the same client. And even clients, you know, appreciate having the same, you know, nurse for most of the time. And I think it does, usually, you know, I can’t say always, but most of the time the wound kind of progresses a little bit further.” (Interview L)

“And also, if they are a bit concerned, I think, if it’s, you know, something that they’re worried about or they don’t find comfortable, then it is good to have the same person.” (Interview J)

Client control

The nurses also felt that clients were more likely to be willing to start and to continue with compression bandaging if they were involved in their own care in whatever way possible, encouraging the feeling of personal control.

“...they’ve got to do things for themselves that puts them in, you know, that gives them a bit of, not independence, but a bit of autonomy for themselves, I think. Like, you know, that arms them with a bit of...so they can have some control over their treatment.” (Interview F)

“...explain it to them, let them feel the bandage, explain to them where you’re going, let them get involved in putting the bandaging on if they can.” (Interview I)

Get the family involved

The nurses mentioned that involvement of the client’s family can be of great assistance in encouraging clients to be willing to have compression bandaging treatment.

“Often you’ve family who they’ll listen to. Probably you could speak to the family and explain, you know, the diagnosis and the whole process of compression bandaging.” (Interview I)

“And also getting family members as well to help encourage to... wear the bandaging, and prompt them to do that. Like, prompt them to leave them on and assist them when showering or, you know things like that.” (Interview L)

Get the doctor involved

Another strategy explained as used to convince the client to commence or continue compression bandaging was having the client’s doctor (usually their GP) confirm to the client that it was necessary.

“...sometimes it makes the patient a bit happier to go along with what’s happening. You know, the doctor say, ‘Yes’. And there’s no come-back if the doctor says, ‘Well, yes you have a venous ulcer and this is the only way that the nurses can cure it’. Well, often that sort of goes in to bat for you, especially with your non-compliant patients.” (Interview I)

Start low and work up

The nurses realised that clients can find compression bandaging difficult for many reasons, so one strategy sometimes used was commencing to apply compression at a lower than therapeutic level, and then increased compression level according to the client’s tolerance and wishes. This was also a useful likely strategy if the nurses were worried about the possibility of underlying arterial problems.

“So, it’s emotionally if they are not ready for it, then you take them on that, you know, the layer system slowly. Even though they can afford to go straight onto the four layers, it’s working with them in the next couple of weeks to get in tighter and tighter and knowing in themselves that they actually can tolerate it.” (Interview D)

“...even though I’m confident that it’s a venous ulcer because of the way it looks and where it’s located and all those other factors, I will still tread carefully and start with mild compression and work my way up.” (Interview D)

Remove a layer if painful

Another strategy described was offering to clients the option of removing a layer of their compression bandaging if they experienced pain or discomfort.

“The thing is, you’ll warn them when you first put it on, and you give them those warnings that it’s going to be uncomfortable, but if it’s still, you know, really painful, just take off the first layer and leave the rest of them on. If that’s still painful, take off the next layer. It’s not negative; it’s trial and error with each person. And you can warn them that that might be the possibility. But at least you’ve given it a go.” (Interview D)

Serial wound tracings

Some nurses mentioned the use of serial wound tracings to show a client how compression bandaging had decreased the size of the ulcer, and to motivate continuation of the treatment. A tracing was done prior to commencement of the treatment and then at regular intervals.

“And doing a wound tracing before compression, then after compression, they can see it getting smaller and smaller and smaller. It’s a very positive thing for the clients to have.” (Focus Group)

“And then, you know, do a tracing or something, something that, you know, showed them if there’s an improvement.” (Interview J)

Use of padding and tape

As many clients complain of discomfort or pain associated with compression bandaging, some nurses commented on the importance of making sure the client’s leg was as comfortable as possible through use of adequate padding under the bandages. Some nurses also described taping the outer bandage, not only to hold the bandage securely but also to make it more difficult for the client to remove.

“...when you put it on make sure it’s comfortable. We usually put the Samafrotte® or the padding underneath, and we usually put quite a bit of tape on the actual bandaging as well, to try and keep it all in place.” (Interview C)

“And taped it up so it’s quite difficult to take off.” (Interview L)

Encourage analgesia

One nurse mentioned recommending the use of analgesia in conjunction with compression bandaging to minimise pain; therefore, increasing willingness for the treatment to continue.

“So you may have to say, you know, ‘Take some pain relief when you get up in the morning,’ or at night depending on when their pain is worse.” (Focus Group)

Offer a reward

A nurse commented that she actually offered one client a reward (that she personally provided) if he kept the compression bandaging in place, and that this strategy was successful:

“I offered a guy a can of beer. And he said, ‘Oh, alright.’ ‘But you don’t get it till next week, Just keep it on a week - I reckon it’s going to have finished, and I’ll get you a can of beer.’ And, you know, look, he was in his nineties, but he took the bit of humour with it too and it was, so I went and carried through and got him the can of beer.” (Focus Group)

Summary

To facilitate willingness to commence or continue compression bandaging treatment, nurses reported using various strategies that ranged from general encouraging actions (e.g. thorough education, trial periods, involvement of relatives or their doctor), nurse scheduling (e.g. follow-up visits or ensuring continuity of care), wound focussed care (e.g. wound tracings, increasing compression over time, use of padding and tapes or removing just a layer of bandaging), plus either pragmatic suggestions (e.g. analgesia for pain) or exceptional actions such as jocular rewards.

An alternative is chosen

Category	Subcategory
An alternative is chosen	<ul style="list-style-type: none">• Client's issues• Infection• Nurse's fear• Nurse's motivation• Alternative choices

Table 8. Subcategories of the category: An alternative is chosen.

Whilst three or four layer compression bandaging systems are the accepted best practice treatment for venous leg ulcers, many nurses in this study described the choice of an alternative type of compression or an alternative treatment mode. In this category, the reasons that nurses reported for selecting an alternative are listed as subcategories (client issues and those pertaining to nurses) plus the alternative choice options grouped as a subcategory.

Client's issues

As detailed previously, it was reported that clients had many reasons for not being willing to wear compression bandages, and district nurses then needed to use an alternative that was acceptable to the client. Client pain or discomfort was the main reason nurses said they modified the compression.

"I think if the client experiences pain there has to be reduction." (Focus Group)

"...because the client chooses to have something lighter on or more comfortable or thinner so they can wear shoes and sometimes I choose to change the compression for the lifestyle choice of the client. And this doesn't always work." (Interview G)

"...so I think it's more that trial and error way of approach. You sort of try for the best compression you can, and then you see what they can afford or what they can tolerate." (Interview J)

...but you sometimes have to compromise that for reasons of the client, reasons that the client gives." (Interview A)

Infection

A number of nurses cited the discernible presence of wound infection in the client's ulcer as a reason to modify the application of compression, but could not provide a rationale for why they did this.

"If there's any sign of infection I don't use compression. I don't know whether I've actually thought about why." (Interview J)

"...the reason I wouldn't, would be if there's an infection, then wouldn't be putting it on. We wait 'til that clears up." (Interview D)

Nurse's Fear

The first apparent nurse issue of relevance is, as reported, that several fears were constraining on the use of compression bandaging. Nurses tended to be cautious with the application of compression if there was any doubt as to the underlying aetiology of the leg ulcer. Even when the client's Doppler ABI fell within the accepted treatment range for venous leg ulcers, if in any doubt, they tended to use an alternative, perhaps whilst seeking a second opinion.

“You get your readings but you’re not really 100% sure, and you want to have someone to back you up ‘cause you don’t want to go ahead putting compression on someone who’s, you know, an arterial or a mixed ulcer.” (Interview I)

“If it’s a mixed wound you might put a lighter compression on because of the arterial factor involved.” (Interview H)

“The only concern I would have is about making the wrong decision and putting it on in the wrong case when the person does have arterial problems and, you know, causing them harm from that.” (Interview E)

Nurses also reported fear based on concern about whether that had adequate skill to correctly apply the compression. As a result of this they may select an easier to apply or lighter compression alternative.

“I’m worried about putting it on too tightly in case I’m marking the skin.” (Interview H)

Not only was the fear prompted by consequences to the client but also to themselves:

“Just that fear of going to jail or having my pants sued off me because I made a mistake.” (Interview I)

Nurse’s motivation

The second apparent nurse issue of relevance is, as reported by a couple of nurses, that their own motivation to use compression therapy varied.

Discouragement could be experienced when wounds failed to improve, or if a client declined compression.

“If you go and assess that they need Comprilan® you put Comprilan® on weekly, and you see that wound decreasing, so it’s job satisfaction, you know.” (Focus Group)

“You start to feel a bit helpless yourself in what you’re doing, so a lot of good ideas that you might have had, then you stop having them because you don’t think anything’s going to help this particular client. So, just keeping that motivation up to do the best that we can. It can be a bit hard sometimes when you’re actually out there.” (Interview H).

“They don’t continue. For some reason, I don’t know, and I get really disappointed. And, ‘Oh, gee, now what am I going to say?’ And they really say, in the way they describe it, you can tell it’s really important to them, and I think, ‘How am I going to change this person’s view on this?’ And I actually almost give up straight away. Really, it’s bad, isn’t it? Not straight away, but I feel like, you know, I give up on them. I try, you know, I just let the person not wear them for a while and then try again later, in a week or two.” (Interview K)

A few nurses who were interviewed commented that motivation could sometimes lapse because compression bandaging was hard work and was potentially taxing on the nurse. They thought this was due either because the visit may need to be longer than usual (perhaps putting pressure on a crowded schedule for the day), or that when compression bandaging, nurses were often bending over and for a sustained time in sometimes less than ideal conditions, causing physical stress and discomfort..

“Cause invariably you’re always kneeling, usually, or sitting and it’s very hard to put them on when you’re... And you’ve always got to lean over. Or on the bed, we’ve got one lady, we do her dressings on the bed, and her bed’s low...” (Focus Group)

“It’s a hard job, especially when, you know, you have to squat down and you have to wrap the leg and... Yeah, I think they’re best sat in a higher chair, so you don’t have to squat down so low,

and if they had some... somewhere to rest the foot. Usually you have to rest their foot on your knee, sometimes, or on another chair, to begin wrapping.” (Interview K)

“If you have someone with Comprilan® bandage, I mean, that visit should be made longer than if you want to have a Tubigrip®. Especially if it’s bilateral, it takes forever.” (Focus Group)

Alternative choices

There were two main types of alternative compression that the participants used – shaped Tubigrip®; and straight Tubigrip® in layers. Both are well below therapeutic compression level for venous leg ulcers. Tubigrip® was seen as easier for the client to remove if there was any discomfort, it was cheaper, and was requested by clients as it was more comfortable. The method of using layers of straight Tubigrip® was geographical area specific and instigated by a wound clinic at a large teaching hospital in that area. Another alternative was the modification of the preferred bandaging technique (spiral instead of figure of eight).

The nurses felt they had to compromise effective compression for reasons the clients gave, but considered some compression was better than none. They realised that wound healing was likely to be subsequently slower than if optimal compression bandaging was used.

“I’m using Tubigrips®, shaped Tubigrips®, because one of our clients can’t tolerate the compression.” (Interview G)

“Yeah, the three layers, yeah, of the straight Tubigrip®. Or just some shaped. But they’re not really enough compression, I know they don’t really do anything.” (Interview K)

“Even speaking to the Wound CNCs about it,... it’s better to have something than nothing at all.” (Interview L)

“...but if it’s a venous ulcer often the alternatives, although they might work in the long run, they probably do end up being more expensive and time-consuming for the patient and the nurse. And the results do take longer to achieve if they actually are achieved.” (Interview I)

“...they could have compression, but if they really don’t want it, and it’s healing with just, you know, your shaped Tubigrip®, then I’ll say, well let’s keep with this. Why put them through all that expense when they’re healing anyway?” (Focus Group)

Summary

The nurses in this study explained why the selection of an alternative type of compression than compression bandaging may be selected or why an alternative treatment mode used. Apart from the issues that can make a client unwilling to use compression bandaging, an infected wound can be a constraint, although the rationale for this could not be provided. In addition, issues pertaining to nurses were cited, especially a nurse’s fear and level of motivation. Alternative choice options were listed.

Associated care

Category	Sub category
Associated care	<ul style="list-style-type: none"> • Leg elevation and exercise • Nutrition • Pain management • Co-morbidities • Skin care • Compression stockings

Table 9. Subcategories of the category: Associated care.

Many nurses spoke about the associated care given to clients to supplement and enhance compression bandaging. Mostly this care was advice and directions provided to clients, and amongst these matters, some areas such as leg elevation, exercise and nutrition, were well covered; however several other matters were only spoken about by one or two participant nurses.

Leg elevation and exercise

The nurses realised that elevating the leg with the ulcer, and exercising that leg, were important factors to assist healing, but they were also aware that a client's lifestyle and/or co-morbidities meant that the client could not always follow their advice. This resulted in advice regarding leg elevation and exercise being delivered judiciously.

“So, you actually look at the patient whole, even though they're just a hole in their leg, essentially, you've got to look at the whole patient and factor in what they can do and can't do. No point in telling an elderly ninety-five year old emphysemic that he's got to mobilise.” (Interview I)

“Oh, walking, I talk about exercise. Walking, you know, not to sit with the leg hanging down dependent, have it up because if you don't have it up all the time... Make sure you walk and exercise.” (Interview K)

“...you know, we're always telling them to put their feet up. Lay on the bed after lunch” (Interview J)

“...and there's no point in saying to a patient, you know, with venous ulcers you need to lay down. You know, or a little old lady who lives on her own, you need to keep your feet up all day, if you can. ‘Oh, but, I can't get up because I've got a continence problem, I've got to get up to go to the toilet every fifteen minutes and I've got to cook my lunch and I've got to feed the cat because the cat wants to be fed ten times a day and who's going to do my washing and I've got to get up to change the TV station and then go and see if the mail is there.’ ” (Interview I)

Nutrition

Many nurses stated that they discussed a client's diet and offered advice, or arranged delivered meals, to assist with wound healing.

“Then you look at their nutrition as well, what their diet is like, if they're eating and drinking adequately to provide nutrients to the healing wound.” (Interview G)

“So, I just try to find out how their diet is. You know, I mention things like vitamin C, I don't know how true it is, and zinc and all that; I mention things like that.” (Interview K)

“And meals on wheels might just be a boost while they’re unable to walk about because of their leg ulcers, they can have that in the short term.” (Focus Group)

Pain management

Only two nurses in the study mentioned pain and subsequent management, although this was a major issue for clients who were not willing to have or to continue having compression bandaging.

“And we discussed diet, we discussed exercise, we discussed pain management.” (Interview F)

Co-morbidities

The management of co-morbidities was discussed by one nurse:

“Possibly, you know, get involved with the G.P. with their diabetes therapy.” (Interview I)

Skin care

Again, only one nurse described client education in this area.

“...their surrounding skin and making sure that, you know, that that’s all, you know, it’s not dry or anything like that.” (Interview L)

Compression stockings

A number of nurses reported informing clients of the need to have ongoing compression with the use of compression stockings after their ulcers were healed. However, some clients didn’t see the point of wearing stockings when their ulcer was healed. Some were unable to apply and remove the stockings independently, and even if a carer was available to help, it was not always easy to implement.

“I think your really enthusiastic ones would continue wearing them, but I reckon the majority wouldn’t. Wouldn’t bother.” (Interview J)

“We put them into compression stockings, which is always another battle in itself, because nurses just really can’t go in and put compression stockings on every day. So if patients can’t put their own stockings on that presents a real problem. And if the council hasn’t got the resources or won’t help, sometimes that does stop with us. Sometimes you can get family in, but it’s really very hard to get someone to be able to put off and on their own stockings, because of their, you know, other diseases they’ve got.” (Interview I)

“That they just cannot get the stockings on and off themselves unless they’ve got a relative, a husband or son or daughter who can do it for them, it just really, I mean, you can’t use them. I mean some people who probably should be having them don’t...Because it’s just too difficult. And, again, we can’t go in twice a day to put them on and take them off, we haven’t got the staffing to do that. Sometimes you can get carers who do that, council carers and people who do that.” (Interview B)

Summary

Associated care was also reported as provided to clients to supplement and enhance compression bandaging. Mostly this care was advice and directions provided to clients. Leg elevation, exercise and nutrition were commonly advised, but also mentioned regarding advice were pain management, skin care, a co-morbidities focus, and use of compression stockings for prophylaxis post healing of the ulcer.

Conclusion

This chapter has detailed the eight major categories that were constructed as results of this study, these being:

1. Knowing about compression
2. Is it venous?
3. Compression bandaging is chosen
4. A willing client
5. A non-willing client
6. Strategies to convince
7. An alternative is chosen
8. Associated care

Each of these categories has been sequentially presented in regard to subcategories and, when relevant, in regard to properties of those subcategories. Some quotes from data have been added to illuminate subcategories - and to provide elements of a decision trail regarding categorisation and conceptualisation leading to the conceptual ordering presented.

The following chapter discusses these results and offers recommendations arising from the study.

This, the final chapter of the report, provides a general discussion of the key results from the study under several key headings arising from the results, and with further discussion of results within presentation of the rationale for nineteen suggested recommendations arising from the results of the study.

General Discussion

As this study was prompted to a large degree by Field's (2004) study of district nurses' use or non-use of compression bandaging in the UK, general discussion is structured around comparing and contrasting key results gained in that UK-sited research with major results from this Australian-sited study .

Compression bandaging not always used

A major finding of the Field (2004) research was that amongst district/community nurses there may be a measure of uncertainty and caution or perhaps reluctance to apply compression bandage techniques on a number of clients. That finding is congruent with the results of this study. It is noted that others have also identified this matter, such as the study conducted by Hoskins et al. (1997), and from an audit of all clients receiving leg ulcer care at Silver Chain Nursing Association in Western Australia (Carville et al., 2004), and also from a recent similar audit conducted at Royal District Nursing Service in Melbourne (Kapp & Nunn, 2005).

Diagnostic caution

Field's (2004) study suggested that diagnostic caution on the part of the district nurse was a factor in non-use, as was also a result of this study as the nurses interviewed were all cognisant of the potential for damage to the client if the diagnosis of a venous leg ulcer was not certain. Some nurses also considered the possibility of legal recourse against them if that damage occurred. When in doubt about 'Is it venous?' seeking a second opinion was a common event reported.

Client willingness

The results from this study emphasise the significance of client willingness. In order for compression bandaging to be applied and to be sustained satisfactorily until ulcer healing is accomplished, the client has to be willing for this compression bandaging to be used. Having 'a willing client' is fundamental. The nurses interviewed clearly identified that a major barrier is having 'an unwilling client' and an enabler is having 'a willing client'. This is some-what similar to the finding of Field (2004) who identified that a measure of 'non-compliance' from clients led to some clients not receiving compression bandaging therapy. However, it is a much stronger variable within this Australian study.

The nurses reported using a number of strategies to try and convince clients to be willing to use compression bandaging. Similarly, Field (2004, p.S15) noted that the nurses she interviewed reported using certain actions for gaining 'client compliance' such as starting with reduced compression or by adapting bandaging so that a shoe could be worn; however, only a few strategies were identified, unlike the longer list resulting from this study.

Clinical Guidelines

In this study, it was ascertained that all the nurses interviewed were aware that compression bandaging is the best practice treatment for venous leg ulcers. This awareness and knowledge arose variously. The nurses also reported different levels of expertise in regard to selecting and applying compression bandaging, with a number stating that clear guidelines would be useful. In Australia, unlike in the UK and NZ, there are at present no national guidelines for venous leg ulcer care (or for compression bandaging). The community nursing organisation employing the nurse participants in this study began to

implement guidelines of relevance during the course of the study (with associated education) and participants who had access to the guidelines reported that this enhanced their knowledge level and skills regarding compression bandaging. Other researchers, such as Harris et al. (2005), have reported that when guidelines in the care of leg ulcers are available and have been implemented, more frequent use of compression bandaging has been noted and improved healing rates observed.

In relevance to this matter, Field (2004) found that having appropriate guidelines for treating venous leg ulcers, including the best practice element of using compression bandages, will not necessarily be enacted. Some of the sample in that study did follow guidelines precisely. For those that did not, Field's (2004) interpretation was that the nurses were working at the level of expert practitioners where clinical judgement was deemed to be also important, not just application of evidence or adherence to guidelines. However, conflict and fear were also potentially part of this situation with uncertainty or worry about diagnosis and the potential to cause harm through application of compression bandaging leading to application of reduced compression, and other actions. That latter finding is also evident (but to a lesser amount) in the results of this study where some nurses at possible advanced generalist district nurse level approached venous leg ulcer treatment situations with flexibility. Fear and worry of harm causation was a common factor overall.

Summary

Field's (2004, P.S15) qualitative study suggested that why some nurses appear not to be following best practice use of compression bandaging for venous leg ulcer care was:

The result of a combination of fear of causing compression damage through a misdiagnosis, and the effort to practice as an expert practitioner and offer individualized treatment choices.

In comparison, the results of this more extensive qualitative study places much more emphasis on whether the nurse has a client willing or not willing to use compression bandaging, either for commencement of the treatment or for sustained use of the treatment. Many client issues of relevance have been identified, described and explored, as well as reported strategies applied to try and convince the client to be willing. Caution and concern about knowing for sure that the ulcer 'is venous' was similarly evident to Field's (2004) results, but less emphasis was found on the effort to practice as an expert practitioner. Other tangential elements such as providing associated care were also identified, described and explored.

To follow is further discussion linked to the proffering of nineteen recommendations that have been stratified into:

- Broad Recommendations (likely to be enacted by wound associations or enabled by government bodies) – 7 recommendations;
- Recommendations for Service Delivery Organisations – 3 recommendations;
- Recommendations for Clinicians (especially district nurses) – 4 recommendations;
- Recommendations for Research – 5 recommendations.

Broad Recommendations

Recommendation 1: That national guidelines are established for the care of venous leg ulcers and the use of compression bandaging, and that these are disseminated across health sectors.

Rationale

Nurses in this research identified that the availability of venous leg ulcer guidelines would assist and did assist (when rolled-out with the organisation part way through this research) the management of venous leg ulcers. The availability of national guidelines for the care of venous leg ulcers would offer an

evidence based resource for specialist wound management clinicians as well as generalist providers, thereby promoting best practice and consistent practice. When guidelines in the care of leg ulcers have been implemented, more frequent use of compression bandaging has been noted and improved healing rates in the period post intervention observed (Harrison et al., 2005).

This research identified the lack of a shared understanding and endorsement of compression bandaging in venous leg ulcer management among health professionals as a barrier to the use of compression bandaging. Whilst the nurses interviewed were convinced of the efficacy of compression bandaging, they encountered other health professionals who offered differing recommendations for treatment of venous leg ulcers, causing confusion and reduced willingness by the client to participate in compression bandaging therapy.

Guidelines which are applicable across all sectors of the health system could facilitate a shared understanding about, and endorsement of, compression bandaging for venous leg ulcer treatment, thereby minimising the chance of clients receiving mixed messages about what is optimal treatment for venous leg ulcers.

It is noted that the Australian Wound Management Association (AWMA) is currently focused on developing venous leg ulcer clinical practice guidelines that have potential to educate and influence Australian-sited practitioners across the health sectors, especially if disseminated across hospitals, community health organisations and private practitioners. The researchers encourage AWMA's initiative in this regard (<http://www.awma.com.au/newsEvents.cfm?mode=fullDetails&newsArticleID=79>) and will ensure that this report will be forwarded to AWMA for encouragement of that initiative.

Recommendation 2: That guidelines for the care of venous leg ulcers include strategies to convince a client to be willing to use compression bandaging.

Rationale

The results of this study indicated that a nurse's belief in the effectiveness of compression bandaging does not necessarily equate to the use of compression bandaging among clients. Guidelines could prime clinicians to educate clients regarding the use of compression bandaging if optimal use of this treatment, and healing, is to be achieved. Most especially, strategies to convince the use and maintenance of compression bandaging systems needs to be included for clinicians to consider using when aiming for client willingness regarding compression bandaging application.

Recommendation 3: That development of, and general access to, an effective education package about basic and advanced knowledge of venous leg ulcer management be facilitated.

Rationale

The nurses clearly identified that education they have received regarding the need and function of compression bandaging was a major enabler of using compression bandaging. However, while they all presented an acceptable level of understanding of the assessment and treatment aspects of managing a venous leg ulcer, the availability of intensive and practical education (when rolled-out within the employing organisation part way through this research) was noted as improving participants' compression bandaging expertise. To supplement the use of clear guidelines, when education in the treatment of leg ulcers has also been facilitated, more frequent use of compression bandaging and improved healing rates have been evident (Harrison et al., 2005).

Regarding generalist clinicians, the ready availability of a quality education package about basic and advanced knowledge of venous leg ulcer management would be potentially very useful for optimal client outcomes both in metropolitan and rural areas. This education is essential when considering a client's trust in this generalist clinician is also an enabler of compression bandaging.

According to the results of this study, trust should also be optimised as a strategy for overcoming barriers when treating a client who has had a prior negative experience with compression bandaging. Trust has

been identified elsewhere as 'paramount for enhancing patients' participation in care' (Edwards, 2003, p.15) regarding leg ulcer treatment. Ebbeskog & Emami (2005, p.1227) found that trust is a significant factor in the nurse/patient relationship for successful use of compression bandaging.

The need for thorough basic education of the generalist clinician is also driven by the imperative to avoid the reported delays in applying compression bandaging when feeling the need through lack of knowledge to seek advice from others about the accuracy of diagnosis and selection of type of compression bandaging system.

Some nurses in the study were looking for advanced knowledge and skills beyond that acquired through basic courses readily available at present. The need to have specialised experience in venous leg ulcer management to sustain knowledge has been suggested in prior research (Harrison et al., 2005) and may support the need for clinical specialists who would attend to a high yield of clients requiring specialty-based care. The availability of specialist wound clinicians and their mentorship was a further reported enabler to undertake compression bandaging.

Recommendation 4: That education for venous leg ulcer management needs to include specific training on the use of Doppler ultrasound and their interpretation, compression bandage selection, practical bandaging skills development, and use of compression bandaging when treating infected leg ulcers - whilst also using case studies and photos to facilitate learning.

Rationale

Knowledge and understanding of the treatment of venous leg ulcers among the participants in this study was considered to be acceptable. Other research has identified low levels of knowledge (Flanagan, 2000; French, 2005). It may well be a function of the recruitment strategy (self-selection based on accepting or not the invitation to participate) that study participants tended to be those with more confidence in their capacity to manage venous leg ulcers as well as more passionate about venous leg ulcer care. Nonetheless, this group of nurses either self-identified particular components of venous leg ulcer management which could be challenging, or by way of discussion mentioned areas needing some clarification. Effective training methods based on their experiences of such were also identified and explored.

The use of Doppler ultrasound assessment was reported as an area which could be frustrating, especially when trying to locate a pulse, take an accurate reading, and interpret the Doppler result. A lack of confidence in the Doppler reading could lead to a delay in the application of appropriate compression bandaging therapy, with consequences for patient outcomes. Therefore, the education of clinicians needs to address the use and interpretation of Doppler ultrasound assessments.

For some of the nurses, product selection appeared to be driven by habit or preferences in the work-place. Further education could aim for the selection of compression systems to have a greater evidence-based foundation. Additionally, in the experience of the nurses, education that enhanced practical bandaging skill was especially useful and required by many nurses. This is congruent with a study by Dereure et al. (2005) where difficulty applying compression was identified as a constraint to compression bandaging use. The use of compression bandaging on an infected wound (a mentioned constraint) would also benefit from presentation and explanation of best practice treatment guidelines in this regard.

The nurses encouraged use of one-on-one training but emphasised the importance of a practical, contextualised and visual approach to education. In particular, education that used case studies and photos was reported to have great impact.

Recommendation 5: That venous leg ulcer management education needs to include a component on how to educate a client about compression bandaging and that suitable educational resources be available to assist the clinician with this action.

Rationale

In recent Australian research (Donaldson, 2006), 80% of clients did not understand the causes of their leg ulcer or how to help their wound heal. Therefore, it is logical that the nurse participants in this study referred to the education of clients as the principal enabler of compression bandaging through encouraging the client to be willing for that treatment to be applied for a venous leg ulcer. For instance, it was reported that informed clients and motivated clients were able to bear discomfort from the bandages because they understood why compression bandaging was helping the ulcer to heal. Clinicians need to know how this education can optimally be achieved.

In addition, educational resources (perhaps even an education package) are required to support clear and effective education of clients.

Recommendation 6: That best practice dressings and bandages be free of charge to people with leg ulcers who have limited ability to pay for wound care products.

Rationale

Cost was, according to the reported observation of the nurses, a major barrier to the use of compression bandaging. In Victoria, individuals pay for all their wound products unless they are eligible for a program such as Department of Veterans' Affairs funded community nursing. In particular, compression bandaging represents a significant cost to clients particularly as it is an older and mostly pensioner demographic that is impacted upon the greatest by leg ulcers. The cost of compression bandaging often results in clients choosing not to use compression bandaging at all or using cheaper systems which do not offer the clinically advised level of compression. The result is longer healing times, greater demand on the resources of health care providers, as well as longer periods of discomfort and inconvenience for the client.

While some funding avenues were available for clinicians in this research, the paperwork and concern about the longevity of the funding was a stressor for clinicians. The need to eliminate the cost of bandaging as a barrier to the use of compression bandaging is a priority. The provision of free compression bandaging may be of cost benefit to the Victorian community. It is noted that the Victorian Wound Project (<http://www.health.vic.gov.au/hacc/projects/woundmanagement.htm>) is currently looking at funding issues in Victoria.

Recommendation 7: That a level of formal support be provided for people with no informal carer to assist management of sustained compression bandaging.

Rationale

According to the nurses, a barrier to the use of compression bandaging for some clients is the need to have someone available (an informal carer or formal carer) to remove or apply compression layers, assist with showering, for laundering of bandages, and for general assistance in some situations. Without help from a carer, anxiety can exist about possibly needing to remove the bandages if pain is experienced, particularly when compression bandaging therapy is first commenced.

Nurses also expressed reluctance to apply compression bandaging when help would not be readily available to remove the bandages if pain was experienced by the client.

Ensuring the availability of a professional carer or health aide if an informal carer is not present to assist the client would eliminate a barrier to compression bandaging, although recognising the potential financial constraints concerning the considerable costs intrinsic to this recommendation.

Recommendations for Service Delivery Organisations

Recommendation 8: That there be a specialist wound care consultant available to clinicians.

Rationale

Participants in this research relied heavily upon access to a wound care specialist from whom they could gain a second opinion about diagnosis of the type of leg ulcer (is it venous?) and in determining the care plan for the ulcer management. Also, the availability of these specialists to assist with relevant education training and to provide mentorship was an enabler of comprehensive venous leg ulcer assessment and treatment.

Recommendation 9: That the required process of applying compression bandaging does not create undue strain or fatigue for the clinician.

Rationale

Some nurses identified that applying compression bandaging could be physically taxing and a considerable problem exacerbated by the less than ideal settings frequently encountered in home care. Not only is it unacceptable for occupational health and safety reasons to have a process that might result in physical harm or discomfort for the clinician, but the taxing nature of applying compression bandaging was a reported barrier to clinician willingness using this treatment.

Within organisations, a review of the process used, and exploration of aids or methods which would reduce the physical strain of applying compression bandaging might not only decrease risk to the clinician, but also improve client outcomes from resultant increased motivation by clinicians to use compression bandaging.

Recommendation 10: That venous leg ulcer management is facilitated through availability of sufficient time allocation for care delivery and also through continuity of care.

Rationale

Compression bandaging was also mentioned as being time-taxing for clinicians. To conduct assessment, in particular a Doppler ultrasound assessment, and to apply compression bandages consumes a large proportion of time. When clinicians are attempting to see as many clients a day as possible in a shift, such long visits are reported as a disincentive to using a complete compression bandaging system. Organisations need to ensure there is adequate time allocation for compression therapy as an enabler of compression bandaging. A false economy could result if time is not so allocated as delays in starting or of not sustaining compression results in longer healing times

Similarly, providing continuity of care from a primary nurse was reported as an enabler of compression bandaging. Firstly, this is because rapport between a client and a nurse builds trust which in turn builds confidence in the clinician's recommendations, and secondly means that a nurse is providing consistent education and strategies to convince willingness for compression bandaging use over a sustained period. Medson (2005) found in an Australian study of community-dwelling people with venous leg ulcers that the lack of continuity of district nursing care (having different nurses do the care) was a burden on clients and a challenge to coping with treatment.

Recommendations for Clinicians

Recommendation 11: That clinicians be aware of the reasons why clients may be unwilling to continue using compression bandaging so that those issues can be addressed.

Rationale

The research has identified and described a number of client issues that can render a client unwilling to sustain compression bandaging for venous leg ulcer management. If these issues can be prophylactically addressed, willingness may be gained for sustained application of the compression.

For instance, nurses reported that pain was frequently mentioned by clients receiving compression bandaging, yet application to pain management was not frequently mentioned. This does not mean that pain management is not occurring as part of clinical care; however, it would appear important to emphasise pain management as a means of eliminating a barrier to compression bandaging. Pain management can include pharmacological interventions and non-pharmacological interventions such as additional padding, leg elevation, and walking plus exercise where possible. Effective pain management would supposedly increase client willingness to use compression bandaging.

Also as an example, some clients do reject compression bandaging due to skin problems including itching and dryness. A proactive approach by clinicians to the maintenance of the skin could be a simple strategy for sustaining compression bandaging.

Other studies have reported barriers to using compression bandaging including: pain (Dereure et al., 2005; Edwards, 2003), skin irritation (Edwards, 2003), bandages being unaesthetic (Dereure et al., 2005, Edwards, 2003), the bulkiness of bandages having implications for foot wear (Edwards, 2003), and impact of bandages on mobility and social isolation (Edwards, 2003). All of these factors and more were reported as results from this study

Recommendation 12: That clinicians have a repertoire of strategies to convince clients to be willing to commence and continue compression bandaging.

Rationale

A major finding of this study is that having a willing client is a key enabler to using compression bandaging for venous leg ulcer care. The research has identified and described a number of client issues that can render a client unwilling. If these issues can be successfully addressed, willingness may be gained.

For instance, appropriate and thorough education of the client about what is a venous leg ulcer, the causative reasons and why compression bandaging not only is effective but the most effective treatment, can do much to promote willingness of the client. Another example from a number of useful strategies identified by this study is that of increasing the level of compression slowly over time.

Recommendation 13: That clinicians focus on additional care for the client that supports the healing power of compression bandaging.

Rationale

A category of factors found to be relevant to facilitating compression bandaging is that of using additional care, although in some ways these interventions could be considered necessary standard care. These interventions include factors such as leg elevation and exercises, plus attention given to adequate nutrition. Encouraging the client to be in the very best condition possible for the venous leg ulcer to heal should be a major element of clinical care.

This focus includes ensuring optimal management of co-morbidities. In this study, addressing co-morbidities like incontinence and dementia were identified as barriers to the use of compression bandaging. Clients with incontinence may have to deal with externally soiled bandages that need to be removed and replaced. Clients with poorly managed dementia were identified as forgetting instructions, removing bandages and misplacing bandages. Both conditions may result in reduced time for which compression therapy is being applied, reducing effectiveness of treatment and heightened cost for the

client. Efforts to wisely manage co-morbidities will remove or at least minimise these as barriers to compression bandaging.

Recommendation 14: That appropriate strategies be used for clients who do not necessarily want healing of the venous ulcer or who like to be defined by the presence of the ulcer.

Rationale

There should be appropriate management of individuals who do not want healing of the venous ulcer because the visits of and contact with a nurse reduces social isolation. Similarly, encouraging people to have another source of identity than that provided by being a person with a venous leg ulcer may also be necessary. For instance, referral to mental health services, local government initiatives, or socialisation programs could be pursued in these circumstances.

Recommendations for Research

Recommendation 15: That research is conducted seeking more acceptable forms of compression bandaging or alternate evidence based best practice for venous leg ulcers.

Rationale

To date, the evidence is that compression bandaging is best practice treatment for venous leg ulcer healing (Callum et al., 2005). Adequate, sustained compression is the key factor. However, the results of this study indicate that numerous constraints exist for the successful application initially and in a sustained manner of compression bandaging for leg ulcers, including the vital necessity of having a willing client. So, although the evidence for efficacy has been achieved through research, application of the evidence can be thwarted by many barriers, mostly client related, but some nurse related. Optimal education of nurses and clients, and support of a client could mitigate some of these barriers, but probably not all.

Therefore, a way of overcoming some barriers is to produce an effective compression therapy system that eliminates those barriers, such as client issues like excessive cost, discomfort, being too hot, disruption of independence, hygiene management difficulty, and not being able to wear normal shoes – plus nurse related barriers like the lengthy and complex bandaging procedure required.

A case can also be made for researching alternate gold standard treatment that is not compression related, which would readily agreed to by clients because of minimal impact on quality of life and cost constraints.

Recommendation 16: That research is conducted seeking to understand, from the client's perspective, what are the client issues in regard to willingness or non-willingness to use compression bandaging treatment of a venous leg ulcer.

Rationale

Whilst this study and that of Field (2004) add knowledge about the nurse's reasons for using or not using compression bandaging, including the study participants' opinions about client issues, there has yet *to* detailed investigation of client issues from the perspective of clients. As this study has identified that possible client issues are a vast list, and that the willingness or not of the client to use compression bandaging is a key factor for this best practice treatment to be applied or not, clarification is required about the scope and depth of client issues.

A recent Australian study (Medson 2005) has sought, at a pilot study level through collective case study design, some evidence from the client's perspective about the impact of having a venous leg ulcer when receiving community nursing care. The results include loss of independence, a range of psychological effects, negative social impact, the dislike of changed routine, monetary burden, the need for support,

physical ramifications (including discomfort and pain), an increased need to be responsible, trauma on the affect, and the tiring effort needed to sustain the client-nurse relationship. Some of these client issues have been also identified by this study, but not all, which suggests that a fuller and clearer picture is required.

Recommendation 17: That research is conducted to identify, describe and explore a comprehensive list of strategies that can be used to convince clients to be willing to commence and to continue compression bandaging.

Rationale

A number of strategies used by nurses for this purpose have been identified, described and somewhat explored by this study. However, the research participants were from just one population in one context (e.g. geographical area and type of nursing) and were not necessarily representative of that population, nor able to provide a full list of strategies used beneficially to convince client willingness regarding compression bandaging therapy. Further research with a focus on effective strategies for this purpose is required.

Recommendation 18: That research is conducted to test the efficacy of strategies that can be used to convince clients to be willing to commence and to continue compression bandaging.

Rationale

When there is a research-generated list of strategies used in various contexts to encourage clients to be willing to commence and to continue compression bandaging, the efficacy of strategies need to be tested for evidence to direct best practice that can be applied by clinicians in conjunction with clinical judgment skills. Improved patient outcomes should result.

Recommendation 19: That research is conducted to test the efficacy of items of associated care that can be used to support healing of the venous leg ulcer being treated with compression bandaging.

Rationale

Many nurses spoke about the associated care given to clients to supplement and enhance compression bandaging. Mostly this care was advice and directions provided to clients, and amongst these matters, some areas such as leg elevation, exercise and nutrition were evidently most used; however attention to co-morbidities was also evident. How useful and effective are these items of associated care? Research of efficacy would provide useful and applicable evidence for the consideration of, and possible application by clinicians.

Conclusion

Limitations

There are several limitations to this study. Firstly, the results cannot be claimed to be generalisable as only one context of care was investigated in one geographical area of Australia (in one community nursing organisation) and random sampling from that population was not used. For generalisability to be achieved, further research is required that possibly uses the variables identified in this study (and perhaps other studies of a similar type and focus in varying contexts) to survey a random sample from a wide population of community (or district) nurses.

A second limitation is that 'theoretical sampling' was not used but a convenience sample of registered nurses who were mostly primary district nurses at a similar level of responsibility. As such, participants involved in pertinent incidents and situations for relevant exploration that could be identified through the concomitant constant comparative data analysis, could not be sought and interviewed.

Thirdly, the sample was somewhat self-selecting as they were the invitees who agreed to participate. Therefore, it is possible that they were more comfortable about, or committed to using compression bandaging than the nurses who did not accept the invitation to participate. This is an unknown factor. If so, though, then the gaining of a realistic 'picture' of what are the enablers and barriers to using compression bandaging may have been constrained

Strengths

However, as a qualitative study, through focussed and considered interviewing of individuals and a group, variables relevant to answering the research question were identified, described and explored. Through a systematic process of data collection and constant comparative data analysis, the understandings were 'grounded' in the experiences, observations and clinical judgement opinions of experienced clinicians, as articulated through interview. Data were rich. Emerging interpretive insights were checked for rejection, modification or extension through focussed data collection and subsequent analyses. The Research Team reached consensus about conceptual ordering. A decision trail exists. The results add new understandings and knowledge to address the research problem, building upon similar research in another context (Field 2004).

Therefore, the research has accomplished its aim. This research has identified a plethora of barriers and enablers to compression bandaging. Nineteen recommendations have been forthcoming, including those that have application to practice, education, management, policy formation and further research. With compression bandaging therapy offering significant benefits for the individual, the organisation and the community through improved health, quality of life and cost saving, research such as this reported study that offers credible knowledge to optimise the use of compression bandaging, is imperative.

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**INVITATION TO PARTICIPATE IN A RESEARCH STUDY – INDIVIDUAL INTERVIEWS:
*Compression Bandaging: Understanding the reality in district nursing***

(PLAIN LANGUAGE STATEMENT)

Title of research project: *Compression Bandaging: Understanding the reality in district nursing*

Names of researchers:

Professor Marilyn Annells, Professor of Community Nursing, La Trobe University; Charne Flowers, Researcher, Research Unit, RDNS Helen Macpherson Smith Institute of Community Health; (insert name of research officer to be appointed).

What is the study about?

The aim of the study is to identify, describe and explore the reasons for use or non-use of compression bandaging by district nurses for the treatment of leg ulcers. This research is an RDNS project, part of a larger project focussing on leg ulcer research that has been funded by Angior Family Foundation.

What would be required of you as part of this project?

You have been randomly selected to be invited to participate in this study. If you routinely or occasionally provide district nursing care to people with leg ulcers and are willing to participate in this study, you will be one of twelve district nurses to be individually interviewed for about one hour or less by the research officer (insert name of research officer to be appointed). This will be in private within your work place and will be conducted in work time, with your RDNS Centre reimbursed for time release required for the interview. At the interview, you will be asked to talk generally about your experiences of providing leg ulcer care for clients with a particular focus on reasons for use or non-use at times of compression bandages. What you say will be confidential. The interview will be audio taped and later typed confidentially into a transcript.

What happens with the information you give during the interview?

The information you share during the interview will be analysed and this analysis will be written into a report - the results may also be published as an article in a nursing journal and shared with other nurses at conferences and similar.

How are your best interests and privacy maintained?

- You have been provided with study information and a copy of a consent form - you will be asked to provide written consent by signing the consent form just before the interview starts.
- You will not have to answer a question in the interview if you prefer not to do so.
- You will be able to withdraw from the study at any time up to two weeks after the interview by telephoning Prof Marilyn Annells on (03 95365371) or you can withdraw from the study during interview if you want to. A withdrawal from the study form will need to be completed.
- Written selected parts of your interview may be presented in the report or subsequent publications; however, your name and other identifying information will not be used in any reports or publications - so you will not be identifiable (your anonymity is protected).
- The researchers named above are the only persons with access to interview tapes and transcriptions. Once the study report is complete, tapes and transcriptions will be stored according to La Trobe University protocol and the National Health and Medical Research Council who set standards for this process.
- If you choose to not participate in this study, your employment by RDNS will not consequently be altered or compromised in any way.

Why might you consider participating in this study?

Leg ulcers are common wounds treated by district nurses, yet little is known as to why district nurses select or don't select to use compression bandaging for venous leg ulcers in particular. One small study has been conducted in the UK about this focus but this project is needed to build onto that study and to

provide Australian-context information. This understanding is required to assist district nursing organisations such as RDNS to better provide resources, support and any required education for you and other district nurses. This study values what you would like to share about this practice experience, which will ultimately contribute to providing improved nursing care in the community for this condition. If participating, a full copy of the report of this study will be provided to you when the study is completed.

If you have any questions about this project, please contact:

Prof Marilyn Annells (Principal Researcher)
Address: C/- RDNS Head Office, 31 Alma Rd, St Kilda, Victoria, 3182.
Email: m.annells@latrobe.edu.au
Phone: (03) 9536 5371

If you have any concerns or complaints about the conduct of this research project that the researcher has not been able to answer to your satisfaction, please contact:

Mr Mark Smith, Chairperson, RDNS Research Ethics Committee
RDNS Helen Macpherson Smith Institute of Community Health,
31 Alma Road, St. Kilda, Victoria, 3182
Phone: (03) 9536 5382, Fax (03) 9536 5300
and/or

The Ethics Liaison Officer, Human Ethics Committee, La Trobe University, Victoria, 3086, (ph: 03 9479 1443, e-mail: humanethics@latrobe.edu.au).

Please fill in the attached form indicating whether you will or will not participate in this study and return via internal mail in the attached addressed envelope as soon as is possible – within one week (Due: .../.../...)

Thank you for considering this request.

..... (Prof. Marilyn Annells)

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Compression Bandaging – Understanding the reality in district nursing

I routinely or occasionally provide district nursing care to people with leg ulcers - **YES NO**

I am interested in being interviewed for this study and would like to discuss the scheduling of an appropriate date, time and place to discuss this research further and then if willing to sign a consent form, to be interviewed.

NAME

RDNS Centre

CONTACT TELEPHONE NUMBER

I am declining the invitation to be interviewed for this study.

NAME

RDNS Centre

INVITATION TO PARTICIPATE IN A RESEARCH STUDY – FOCUS GROUPS:
Compression Bandaging: Understanding the reality in district nursing

(PLAIN LANGUAGE STATEMENT)

Title of research project: *Compression Bandaging – Understanding the reality in district nursing*

Names of researchers:

Professor Marilyn Annells, Professor of Community Nursing, La Trobe University; *Charne Flowers*, Researcher, Research Unit, RDNS Helen Macpherson Smith Institute of Community Health; (insert name of research officer to be appointed).

What is the study about?

The aim of the study is to identify, describe and explore the reasons for use or non-use of compression bandaging by district nurses for the treatment of leg ulcers. This research is an RDNS project, part of a larger project focussing on leg ulcer research that has been funded by Angior Family Foundation.

What would be required of you as part of this project?

You have been randomly selected to be invited to participate in this study. If you routinely or occasionally provide district nursing care to people with leg ulcers and are willing to participate in this study, you will be part of a focus group of district nurses (8-10 participants) to be interviewed by Marilyn for about one hour or a little more. Another member of the research team will co-facilitate the focus group. This focus group interview will be in private at RDNS Head Office and will be conducted in work time, with your RDNS Centre reimbursed for time release required for the interview and travel to and fro the focus group interview. At the interview, you will be asked to talk generally about your experiences of providing leg ulcer care for clients with a particular focus on reasons for use or non-use at times of compression bandages. What you say will be confidential. The focus group interview will be audio taped and later typed confidentially into a transcript.

It is anticipated that the focus group interview will be held on ...(date)..... at(time)..... in ...(room)... at RDNS Head Office, 31 Alma Rd, St Kilda.

What happens with the information you give during the interview?

The information you share during the focus group interview will be analysed and this analysis will be written into a report - the results may also be published as an article in a nursing journal and shared with other nurses at conferences and similar.

How are your best interests and privacy maintained?

- You have been provided with study information and a copy of a consent form - you will be asked to provide written consent by signing the consent form just before the focus group interview starts.
- You will not have to answer a question in the focus group interview if you prefer not to do so.
- Written selected parts of your participation in the focus group interview may be presented in the report or subsequent publications; however, your name and other identifying information will not be used in any reports or publications - so you will not be identifiable (your anonymity is protected).
- The researchers named above are the only persons with access to interview tapes and transcriptions. Once the study report is complete, tapes and transcriptions will be stored according to La Trobe University protocol and the National Health and Medical Research Council who set standards for this process.
- If you choose to not participate in this study, your employment by RDNS will not consequently be altered or compromised in any way.

Why might you consider participating in this study?

Leg ulcers are common wounds treated by district nurses, yet little is known as to why district nurses select or don't select to use compression bandaging for venous leg ulcers in particular. One small study has been conducted in the UK about this focus but this project is needed to build onto that study and to provide Australian-context information. This understanding is required to assist district nursing organisations such as RDNS to better provide resources, support and any required education for you and other district nurses. This study values what you would like to share about this practice experience, which will ultimately contribute to providing improved nursing care in the community for this condition. If participating, a full copy of the report of this study will be provided to you when the study is completed.

If you have any questions about this project, please contact:

Prof Marilyn Annells (Principal Researcher)

Address: C/- RDNS Head Office, 31 Alma Rd, St Kilda, Victoria, 3182.

Email: m.annells@latrobe.edu.au

Phone: (03) 9536 5371

If you have any concerns or complaints about the conduct of this research project that the researcher has not been able to answer to your satisfaction, please contact:

Mr Mark Smith, Chairperson, RDNS Research Ethics Committee

RDNS Helen Macpherson Smith Institute of Community Health,

31 Alma Road, St. Kilda, Victoria, 3182

Phone: (03) 9536 5382, Fax (03) 9536 5300

and/or

The Ethics Liaison Officer, Human Ethics Committee, La Trobe University, Victoria, 3086, (ph: 03 9479 1443, e-mail: humanethics@latrobe.edu.au).

Please fill in the attached form indicating whether you will or will not participate in this study and return via internal mail in the attached addressed envelope as soon as is possible – within one week (Due: .../.../...)

Thank you for considering this request.

..... (Prof. Marilyn Annells)

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Compression Bandaging – Understanding the reality in district nursing

I routinely or occasionally provide district nursing care to people with leg ulcers **YES NO**

I am interested in participating within a focus group interview for this study dependent upon discussion about this study immediately prior to commencement of the focus group and then if willing to sign a consent form to participate.

NAME

RDNS Centre

CONTACT TELEPHONE NUMBER.....

I am declining the invitation to participate in this study.

NAME

RDNS Centre

INFORMED CONSENT FORM FOR INDIVIDUAL INTERVIEW

Name of study: *Compression Bandaging: Understanding the reality in district nursing*

Researchers: *Professor Marilyn Annells, Professor of Community Nursing, La Trobe University; Charne Flowers, Researcher, Research Unit, RDNS Helen Macpherson Smith Institute of Community Health; (insert name of research officer to be appointed).*

Participant's Details (in block letters, please):

Name:

Address:

.....

I hereby consent to participate in the above research project.

- The details of this research project have been explained to me verbally, and
- I have received a copy of the Plain Language Statement, and
- Any questions I have asked in regard to this project have been answered to my satisfaction.

I agree to participate in this research project by being interviewed and understand that I may decline to answer any question during the interview and may withdraw during the interview or up to 2 weeks following the interview without my employment by RDNS being affected in any way. If I withdraw from the project, I can request that any data previously collected will be destroyed.

I agree that research data provided by me may be used in a report, presented at conferences or published in journals on the condition that neither my name nor any other identifying information is used. I understand that any information I provide will be treated with the strictest confidence.

Participant's Name:

Participant's Signature:

Date: / /

Researcher/Witness:

Name

Signature

Date: / /

INFORMED CONSENT FORM FOR INTERVIEW WITHIN A FOCUS GROUP

Name of study: *Compression Bandaging: Understanding the reality in district nursing*

Researchers: *Professor Marilyn Annells, Professor of Community Nursing, La Trobe University; Charne Flowers, Researcher, Research Unit, RDNS Helen Macpherson Smith Institute of Community Health; (insert name of research officer to be appointed).*

Participant's Details (in block letters, please):

Name:

Address:.....

.....

I hereby consent to participate in the above research project.

- The details of this research project have been explained to me verbally, and
- I have received a copy of the Plain Language Statement, and
- Any questions I have asked in regard to this project have been answered to my satisfaction.

I agree to participate in this research project by being interviewed within a focus group and understand that I may decline to answer any question during the focus group interview.

I agree that research data provided by me may be used in a report, presented at conferences or published in journals on the condition that neither my name nor any other identifying information is used. I understand that any information I provide will be treated with the strictest confidence.

Participant's Name:

Participant's Signature:

Date: / /

Researcher/Witness:

Name

Signature

Date: / /



WITHDRAWAL OF CONSENT FOR USE OF DATA FORM

(This form is to be used by participants who wish to withdraw consent for the use of unprocessed research data).

Name of study: *Compression Bandaging: Understanding the reality in district nursing*

Researchers: *Professor Marilyn Annells, Professor of Community Nursing, La Trobe University; Charne Flowers, Researcher, Research Unit, RDNS Helen Macpherson Smith Institute of Community Health; (insert name of research officer to be appointed).*

I,(the participant), wish to WITHDRAW my consent to the use of data arising from my participation. Data arising from my participation must NOT be used in this research project as described in the Plain Language Statement and Consent Form. I understand that data arising from my participation will be destroyed provided this request is received within two weeks of the completion of my participation in this project. I understand that this notification will be retained together with my consent form as evidence of the withdrawal of my consent to use the data I have provided specifically for this research project.

Participant's Name:

Participant's Signature:

Date: / /



**DECLARATION OF CONFIDENTIALITY
BY TRANSCRIBERS OF TAPED DATA FORM**

Name of study: *Compression Bandaging: Understanding the reality in district nursing*

Researchers: *Professor Marilyn Annells, Professor of Community Nursing, La Trobe University; Charne Flowers, Researcher, Research Unit, RDNS Helen Macpherson Smith Institute of Community Health; (insert name of research officer to be appointed).*

Transcriber (please print details below)

I (full name)
of (address)
.....

acknowledge that all information transcribed by me for the research project named above will be treated by me with the strictest confidence.

Further, I will ensure that all tapes while in my possession will be treated with the same level of confidentiality as the transcribed material and, together with the data, will be stored separately and securely, as stated in the research project application.

All material relating to the above project will, while in my possession, be accessible to the researcher(s) only.

Signature:

Date: / /

Witnessed by:

Name (Researcher)

Signature:

Date: / /

APPENDIX G

INITIAL INTERVIEW GUIDELINES

Compression Bandaging: Understanding the reality in district nursing

The length of time working in district nursing will be recorded for each participant. The following questions will guide the interview. As the interview is semi structured, additional questions based on answers may be asked and relevant tangents explored. Questions are derived in part from those used by Field (2004).

Training/Education (about leg ulcer management)

- What courses or formal training have you attended? What were your experiences of this training? How did or how did it not meet your needs?
- What informal training have you had? What were your experiences of this training? How did or how did it not meet your needs?
- Which was most helpful to you and why? What further education or training would you like to have?
- In your opinion, what would be the ideal training/education?

Assessment

- How do you assess patients with leg ulcers? What factors do you take into consideration most?
- Who usually makes the diagnosis of a leg ulcer?
- If you need to make a diagnosis of a leg ulcer, how do you do it? How do you feel about this? Why do you say that?
- If you are in doubt about the diagnosis, who do you turn to for advice? How helpful is this usually?
- What do you think are the most important factors in the diagnosis of a leg ulcer?

Doppler

- How do you feel about undertaking Dopplers? Why do you say that?
- Are you comfortable usually about the results? Do you think that the results usually reflect your diagnosis?
- What happens if there is a discrepancy between the clinical examination and the Doppler test?

Treatment

- What treatments do you offer to clients with venous leg ulceration?
- Why is that and how do you know to do so?
- What factors influence your choice of treatment?
- Which bandages do you use the most often? Why is that?
- Tell me about your experiences of compression bandaging? (explore tendency to be flexible)
- How have you learnt specifically about compression bandaging?
- What encourages you to select and apply compression bandaging?
- What constrains you from selecting and applying compression bandaging?

Extra

- What else can you think of about this topic that I have not asked you about but which might be useful to know?