



ISSUES ADDRESSED ON VENOUS ULCER IN THESES AND DISSERTATION OF NURSING

ASPECTOS ABORDADOS SOBRE ÚLCERA VENOSA EM TESES E DISSERTAÇÕES DA ENFERMAGEM

ASPECTOS ABORDADOS SOBRE ÚLCERA VENOSA EN TESIS Y DISERTACIONES DE ENFERMERÍA

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ABSTRACT

Objective: to describe the issues addressed on venous ulcer in theses and dissertations in Post-graduate programs in nursing in Brazil. **Method:** an integrative review, held in January 2013 in Theses Database of Capes with the question << What aspects addressed on the UV theses and dissertations of nursing in Brazil? >> In the data base was used the term "venous ulcer" in the subject and no time frame. 80 studies were located and, after applying the selection criteria, the analysis developed with 14 abstracts. **Results:** the following issues were found: Quality of life; Nursing care; Topical Treatment and Unna Boot; Care Quality and Access. **Conclusion:** it was found that nursing plays a key role in caring for people with venous ulcers and that there is a lack of studies that address the history and experience of the person with venous ulcer seeking for care. **Descriptors:** Varicose Ulcer; Nursing; Chronic Disease.

RESUMO

Objetivo: descrever os aspectos abordados sobre úlcera venosa em teses e dissertações defendidas nos programas de pós-graduação em Enfermagem do Brasil. **Método:** revisão integrativa, realizada em janeiro de 2013 no Banco de Teses da Capes com a questão << *Quais os aspectos abordados sobre as UV em teses e dissertações da enfermagem no Brasil?* >> Na coleta de dados utilizou-se a expressão "úlcera venosa" como assunto e sem recorte temporal. 80 estudos foram localizados e, após aplicar os critérios de seleção, a análise desenvolveu-se com 14 resumos. **Resultados:** os seguintes aspectos foram encontrados: Qualidade de vida; Cuidado de enfermagem; Tratamento Tópico e com Bota de Unna; Qualidade da Assistência e Acesso. **Conclusão:** constatou-se que a enfermagem tem papel fundamental no cuidado à pessoa com úlcera venosa e que há uma lacuna sobre estudos que abordem a trajetória e a vivência da pessoa com úlcera venosa em busca de cuidado. **Descritores:** Úlcera Varicosa; Enfermagem; Doença Crônica.

RESUMEN

Objetivo: describir los aspectos abordados sobre úlcera venosa en tesis y disertaciones defendidas en los programas de post-graduación en Enfermería del Brasil. **Método:** revisión integrativa, realizada en enero de 2013 en el Banco de Tesis de Capes con la pregunta << *¿Cuáles son los aspectos abordados sobre las UV en tesis y disertaciones de enfermería en el Brasil?* >> Em la colecta de datos se utilizó la expresión "úlcera venosa" como asunto y sin recorte temporal. 80 estudios fueron localizados y, después de aplicar los criterios de selección, el análisis se desarrollo con 14 resúmenes. **Resultados:** los siguientes aspectos fueron encontrados: Calidade de vida; Cuidado de enfermería; Tratamiento Tópico y con Bota de Unna; Calidad de la Asistencia y Acceso. **Conclusión:** se constató que la enfermería tiene papel fundamental en el cuidado a las personas con úlcera venosa y que hay una laguna sobre estudios que aborden la trayectoria y la vivencia de la persona con úlcera venosa en busca de cuidado. **Descriptores:** Úlcera Varicosa; Enfermería; Enfermedad Crónica.

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INTRODUCTION

A leg ulcer is a syndrome characterized by circumscribed loss or irregular cutaneous tissue and affecting the lower extremities. The cause is related generally to the vascular system arterial or venous.¹

The most common type of leg ulcer that can result from Chronic Venous Insufficiency (CVI) is the Venous Ulcer (VU), which is characterized as a chronic condition that affects the state of health of the people affected. The highest incidence occurs in women over 60 years. VU produces modifications and causes significant impact on quality of life, a time which features long-lasting, increased healing time and frequent recurrences of lesions. It reduces productivity at work, reverberates in ambulation and its treatment has high costs, because it can be lasting and complex because of the chronicity.²⁻⁴

In this sense, the VU represents a challenge for health professionals. There is need for fitness and organization of services for the care of the person with VU, because injuries are accentuated with difficulty in healing and treatment not in accordance with the recommended literature.⁵

With this, it is necessary to ensure the presence of nurses, as well as their responsibility for servicing the person with VU within the multi-professional team.⁵ In addition, the look of nurses in integral care perspective, may provide a practical childcare assistance and respect for people who suffer for having a chronic wound, which compromises the body image.⁶

The nurse has a fundamental role in order to contribute to the quality of life of people with UV, performing the necessary guidelines in the care of the injury; building a plan of care to reduce the healing time and the risk of infections, in addition to minimize costs.⁷

n the careful, it is considered the evaluation of the general state of the individual, physical examination, treatment and choice of coverage to be used.⁷ Also it is essential to meet the socio demographic conditions, clinical, and health in people with VU, since they interfere with the care, as well as the continuity of the proposed treatment.⁸

Based on these considerations, the guiding question of this research was: what are the points raised about the VU in theses and dissertations of nursing in Brazil? Based on this questioning the objective describes the points raised about Venous Ulcer in theses and

dissertations defended in post-graduate programs in nursing of Brazil.

METHOD

It is an integrative review, which is suitable to describe and discuss the development or the "State of the art" of a given subject under theoretical or contextual point of view.⁹

In data collection, a survey was conducted in the Theses of the Coordination of Improvement of high education people (CAPES) in January 2013. The strategy used was the expression "Venous Ulcer" as subject, with the option "all words" and without quoting a timeframe. In all, were located 80 studies, including 19 theses, 57 dissertations and four academic dissertations.

It was used as a criterion of inclusion works that addressed to VU as single-issue; be developed by research nurses and have summary available online and free of charge. As exclusion criteria, it had thesis or dissertation with incomplete summary and study in animals.

It was proceeded to read the titles and abstracts of theses and dissertations for selection. Thus, were qualitatively analyzed 14 studies, summaries of which two theses, dissertations, 11 academic masters and being a professional masters. The information obtained in this study were extracted from abstracts available on the Theses of the CAPES.

Then, for the description of these productions, has drawn up a summary table, with the following information: type (thesis or dissertation); year of publication; institution of origin; region; scenery and study subjects; methodological approach (qualitative/quantitative, qualitative or quantitative); objective and outcomes.

Data analysis occurred through the grouping of some common themes in theses and dissertations.

RESULTS

Variables		
Theses	Doctorate	2
	Dissertation	
Dissertation	Academic Master	11
	Vocational Master	1
University	Federal University of Rio Grande do Norte	6
	Federal University of Ceará	2
	State University of Ceará	1
	University of São Paulo	2
	University of São Paulo/ Ribeirão Preto	2
	Federal University Fluminense	1
Methodology Approach	Quantitative	12
	Qualitative	1
	Qualitative and Quantitative	1

Figure 1. Description of Brazilian Theses and Dissertations, defended by nurses, about Venous Ulcer, CAPES, 2013

For the year, 2001, 2002, 2005, 2006 and 2010, had a production per year, in 2007 two, in 2011 three and in 2009 four.

As for the region of Brazil, it was identified the concentration of production in the Northeast and Southeast. In the Northeast, it is highlighted the Federal University of Rio Grande do Norte with six productions, which had a single teacher as guidance.

In relation to the themes addressed in the thesis and dissertations on Venous Ulcer, were found the following aspects: quality of life¹⁰⁻¹; Nursing care^{12-3,1}; Topical treatment¹⁴⁻⁵ and with Unna boot^{16,4}; Quality of care^{17,2, 18-9} and access.³

It was identified that the quality of life (QOL) of people with VU is damaged with the chronicity of the lesion time.¹⁰ After the emergence of the ulcer, occur changes in QOL in relation to leisure, social interaction, physical appearance, the locomotion, labor and domestic activities, discrimination and financial constraint.¹⁰

About nursing care, it was found that, in general, are the nurses that initiate and accompany the wound care, because it is they who have specific responsibility with people with risks of skin lesion.¹²

The nursing Results Classification can be an important tool to assess the health status regarding aspects of skin and circulation in people with VU. It was found that the presence of heart disease influences the result tissue integrity, as well as the systemic arterial hypertension interferes negatively on tissue perfusion.¹²⁻³

Nurses need to have knowledge and ways to make decisions in their managerial activities, based on scientific evidence, in addition to considering the cost and effectiveness of treatment. Thus, the knowledge of this information can support

their arguments regarding the need for expenditures against the various types of products.⁴

In relation to the topical treatment of VU in Brazil, there are a variety of conduits and doubts about the best treatments.¹⁵ As products used for topical treatment of VU, were identified in the studies: metronidazole jelly¹³; collagenase, silver sulfadiazine, essential fatty acids and hydrogel.¹⁴

The person with VU requires tracking and monitoring, with topical therapy involving use of products and recommendations based on studies with scientific evidence.³ There are reduced construction of guidelines to guide the topical treatment of VU, despite advances in national and international research.¹⁵

Among the issues described in the literature for the VU treatment, the associated use of coverage with compression therapy is often cited as conducive to of wounds vascular healing. The use of compression therapy with bandages or stockings, increases the rate of healing and the discontinuity of using this method, after healing, can favor the recurrence of the ulcer.¹⁵

By studying the Unna manipulated, there was a reduction of injuries in all patients, being this treatment more cost-effective in people with shorter treatment time and injury.¹⁶ In research carried out in outpatient Surgical Clinic of the University Hospital Onofre Lopes in Natal-Rio Grande do Norte, predominated the compression therapy with Unna.¹⁷ However in other situations, it was found reduced the use of compression therapy¹⁰ or the same realities of health service in which the compression therapy is not priority¹⁸ and not yet used in therapeutic conduct of USF.¹⁹

With regard to assistance, the beginning of treatment was up to four months after the emergence of the ulcer and the basic attention to health services the most sought.¹⁰ Previously it was done treatment at home¹⁶ and this is still being used in the impossibility to carry out the bandages on Basic Health Unit (BHU) or outpatient, with nursing staff. On weekends or holidays people with VU make the treatment at home.¹⁶⁻⁷

However, the exchange of bandages at home usually is performed improperly, with incorrect cleaning technique, as well as use and incorrect associations of products and substances. In this situation, it was identified the small participation of the Family Health Strategy (FHS) both in the evaluation, as in the realization of the curative and choices of products and substances.¹⁹

SUS was the health care system in which predominated the developed studies¹⁷, among them, the ambulatory service¹⁸ and the ESF.¹⁹

In SUS, while people with VU refer to as good quality of care, also demonstrated inadequate knowledge about their rights to health, but showed interest in acquiring more information. In this way, the basic rights to the constitutionally guaranteed entry into the SUS need be disclosed so as to make them known to the population, with possibilities of implementation and guarantee greater resolution in the treatment of the injury.¹⁷

Further, to identify what assistance to people with VU were inadequate in 90.5% in ESF¹⁹ and in 80% of cases, on an outpatient basis.¹⁸ To sum up, the assistance grows with long periods of treatment without resolution, being unsystematic, fragmented, without diagnosis, planning, evaluation and continuous evolution. So, this situation can interfere directly in the maintenance of the chronicity of VU.¹⁹

In addition, the assistance does not complete the integrality; the monitoring is conducted primarily by the doctor and the nurses, even though the other team health professionals are present in the service and the lack of standardization in performing laboratory tests.¹⁸

There is a lack of continuity in treatment of person with VU in basic services and of high complexity, without proper transfer and continuity of care. The network presents disjointed attention between different levels, which points to the need for investments, among them the adoption of a protocol of attention the person with VU.³

Against this, it is important the composition and deployment of the Protocol

of assistance to people with VU. Between relevant aspects to be covered by the Protocol are: assessment of the patient and the injury, registration and documentation, care with the wound and the perilesional skin, indication of coverage, use of antibiotics and pain treatment, Surgical treatment of CVI, medicine treatment, improving venous return and relapse prevention, referral of patients, professional training and reference and counter-reference.²

DISCUSSION

The results show that the studies with quantitative methodology predominate. When comparing the numbers of productions, it was noted that a researcher was responsible for a large part of the research. This reveals an attempt at scientific and technological expansion of a research group from the northeastern region of the country, which may contribute to some extent to the expansion of research in nursing at this location.

Nursing when addressing the subject of venous ulcers, seeks to broaden, deepen the field and strengthen as a profession to the person with care venous injury. To plan the care and opt for strategies that bring results to the healing process of VU, it is important that nurses prepare an intervention proposal in which the person is considered in the treatment.⁸

The existence of a chronic wound brings changes to the life of the person with the injury and his family. To live with the wound, the people involved may have loss of self-esteem, pain, sleep quality, unfitness for work and embarrassment to relate socially. Facing these issues, turns the practice of integral care to the person with chronic wound which makes it possible to identify the emotional issues, the impairment of body image and physical order disabling for some everyday activities.⁶

To this end, it is important that the actions of nursing deem the feelings and ways of combating the disease through horizontal relationships, dialogical and respectful to learn from each other.²⁰

In care, the aim is to promote the quality of life of the person with Venous Ulcer. The techniques developed and products available to treat venous ulcers, fits an analysis to define which provides better quality of life for the person with Venous Ulcer. When using coverage, a product to cover and treat the wound, in venous injuries, the nurse needs to know the technologies and sources available on the market, as well as test them and pay

attention to the specifics of each type or stage of the lesions.²¹

Among the treatments used in VU at the present time, it was identified as topical products that facilitate healing the calcium alginate, hydrocolloid and Hydrogel.²² The use of Ultrasound also increases the healing, although it should be better studied. The therapeutic ultrasound consists of the electrical stimulation by waves in the bed and on the edges of the lesion.²³⁻⁴ Compressive treatment, has as its main action promoting venous return, thus, important to healing of VU. Among them, we highlight the boot of Unna²⁵, four-layer elastic compression²⁶, elastic compression of 3 layers²⁷, multi-layer compression.²⁸

In this sense, there is a need to increase knowledge about the topics and compressive products used by healthcare professionals in treating venous injuries, as well as the importance of preparing students at graduation for clinical evaluation. It is suggested to include the general examination of the person cared for and their socio-cultural context, as well as the specific examination of the lesion.

In addition to intensify the permanent education of the nursing staff with focus on standardization of treatment, it needs to be tackled using current technologies and available for the treatment of people with VU. To do so, it is needed to seek strategies for that assistance to be qualified, as well as, the users has access to the service and to appropriate treatments during the professional service.

For a good evolution of the lesions, it is suggested to use strategies that accelerate the healing process with the association of techniques in clinical practice that are applied in isolation. This was found when checking the effects of decongestive physical therapy (DPT), which combines the techniques of manual lymph drainage, compressive bandage, and elevation of the lower limbs, miolinfocinetics exercises and skin care. People subjected to DPT presented significant reduction of swelling and pain, in addition to improvement in the healing process.²⁹

In this way, it points out the importance of multidisciplinary team of health care to the person with Venous Ulcer. In addition, it should be noted that the interaction between professionals, patients and families promotes adherence to treatment as well as the changes in behavior and the conduct of the health team.²⁹

Due to the chronicity of the lesions, the presence of a person with VU is often in the hallways and rooms of curatives, in routine of the health services. Daily changes of curatives, with little resolution, generally influence negatively on quality of life of these people.⁸

With all these problems in professional assistance, it is wondered what are the paths traversed by people with VU to solve their health problems? How the care held at home context can be influenced by the practice of health services? In addition, how the popular practices can influence for non-achievement of professional care?

How the nursing as a profession care prepares to address issues pertaining to learn social context built by the person who comes to his professional service? At what point the nursing approaches and know the person cared for to focus the activities of health education to have autonomy in care?

On these questions, it is highlighted the relevance of the studies on the history and experience of the person with Venous Ulcer in search of care and treatments. For that, there is the contribution of expanded perspective that binds the patient's perception of the actual context analysis in enrolling their practices of care.

CONCLUSION

From the analysis of the findings it is indicated a predominance of quantitative research, that address, mainly, treatment, quality of care and quality of life of the person with Venous Ulcer. With respect to the care, the focus was given to questions of systematization of nursing care, through instruments and protocols. It was also emphasized, in the studies, the importance of knowledge based on scientific evidence.

It highlights that there are some therapies that can be associated with good result in healing of the injury and prevention of recurrences. It was noted the lack of focus to professional training or continuing education for the care of people with venous ulcer, as well as about the trajectory of life and experience of the person with VU in search of care.

In this sense, it is noted that nursing has a fundamental role in the care of the person with VU. Studies are suggested to deepen that thematic and dealing with the socio-cultural context of those involved in the care process, since in this review it was found the gap about the person's experience with VU in search of care.

REFERENCES

1. Silva FAA. Hipertensão Arterial Sistêmica em Pacientes com Úlcera Venosa: investigação como subsídio ao cuidado clínico de Enfermagem em Estomaterapia [Dissertação]. Fortaleza (CE): Cuidados Clínicos em Saúde, Universidade Estadual do Ceará; 2009.
2. Vieira D. Assistência aos portadores de úlceras venosas: proposta de um protocolo [Dissertação]. Natal (RN): Programa de Pós-Graduação em Enfermagem, Universidade Federal do Rio Grande do Norte; 2010.
3. Zuffi FB. A atenção dispensada aos usuários com úlcera venosa: percepção dos usuários cadastrados nas equipes de saúde da família [Dissertação]. São Paulo (SP):Escola de Enfermagem, Universidade de São Paulo; 2009.
4. Baptista CMC. Levantamento do custo direto do procedimento com bota de Unna em pacientes com úlcera venosa [Dissertação]. São Paulo (SP):Escola de Enfermagem, Universidade de São Paulo; 2002.
5. Sant'Ana SMSC, Bachion MM, Santos QR, Nunes CAB, Malaquias SG, Oliveira BGRB. Úlceras venosas: caracterização clínica e tratamento em usuários atendidos em rede ambulatorial. Rev bras enferm[Internet]. 2012 Ago [cited 2013 May 04];65(4):637-44. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0034-71672012000400013&lng=pt
6. Waidman MAP, Pagliarini MA, Rocha SC, Correa JL, Brischiliari A, Marcon SS. O cotidiano do indivíduo com ferida crônica e sua saúde mental. Texto contexto-enferm [Internet]. 2011 Dec [cited 2012 Mar 26];20(4):691-9. Available from: <http://www.scielo.br/pdf/tce/v20n4/07.pdf>
7. Carmo SS, Castro CD, Rios VS, Sarquis MGA. Atualidades na assistência de enfermagem a portadores de úlcera venosa. Rev eletrônica enferm [Internet]. 2007 [cited 2013 Mar 26];09(02):506-17. Available from: <http://www.fen.ufg.br/revista/v9/n2/v9n2a17.htm>
8. Angélico RC P, Oliveira AKA, Silva DDN, Vasconcelos QLDQ, Costa I KF, Torres GV. Socio-demographic profile, clinical and health of people with venous ulcers treated at a university hospital. J Nurs UFPE on line [Internet]. 2012 Jan [cited 2013 Mar 26];6(1):62-8. Available from: http://www.ufpe.br/revistaenfermagem/index.php/revista/article/view/2100/pdf_759 doi: 10.5205/reuol.2052-14823-1-LE.0601201209 ISSN: 1981-8963
9. Rother ET. Revisão sistemática X Revisão narrativa. Acta Paul Enferm. 2007;20(2):vi.
10. Nobrega WG. Qualidade de vida dos portadores de úlceras venosas atendidos no ambulatório de um hospital universitário em Natal [Dissertação]. Natal (RN): Programa de Pós-Graduação em Enfermagem, Universidade Federal do Rio Grande do Norte; 2009.
11. Yamada BFA. Qualidade de vida de pessoas com úlceras venosas crônicas [Dissertação]. São Paulo (SP): Escola de Enfermagem, Universidade de São Paulo; 2001.
12. Sampaio FAA. Construção e investigação da validade de definições conceituais e operacionais do resultado de enfermagem integridade tissular: um estudo com portadores de úlcera venosa [Tese]. Fortaleza (CE): Programa de Pós-Graduação em Enfermagem, Universidade Federal do Ceará; 2011.
13. Sampaio FAA. Caracterização do estado de saúde referente à integridade tissular e perfusão tissular em pacientes com úlceras venosas segundo a NOC [Dissertação]. Fortaleza (CE): Programa de Pós-Graduação em Enfermagem, Universidade Federal do Ceará; 2007.
14. Andrade MR. O processo adaptativo de pacientes com úlceras venosas ao tratamento com hidrogel: um estudo de caso [Dissertação]. Niterói (RJ): Mestrado Profissionalizante em Enfermagem Assistencia, Universidade Federal Fluminense; 2011.
15. Borges EL. Tratamento tópico de úlcera venosa: proposta de uma diretriz baseada em evidências [Tese]. Ribeirão Preto (SP): Escola de Enfermagem de Ribeirão Preto, Universidade de São Paulo; 2005.
16. Macedo EAB. Custo-Efetividade da terapia compressiva no processo de cicatrização de úlceras venosas [Dissertação]. Natal (RN): Programa de Pós-Graduação em Enfermagem, Universidade Federal do Rio Grande do Norte; 2009.
17. Angélico RCP. Qualidade da assistência e o conhecimento sobre o direito a saúde das pessoas com úlcera venosa crônica [dissertação]. Natal (RN): Programa de Pós-Graduação em Enfermagem, Universidade Federal do Rio Grande do Norte; 2011.
18. Deodato, OON. Avaliação da qualidade da assistência aos portadores de úlceras venosas atendidos no ambulatório de um hospital universitário em Natal/RN [dissertação]. Natal (RN): Centro de Ciências da Saúde, Universidade Federal do Rio Grande do Norte; 2007.

19. Nunes JP. Avaliação da assistência à saúde aos portadores de úlceras venosas de membros inferiores atendidos no programa saúde da família do município de Natal/RN [dissertação]. Natal (RN): Centro de Ciências da Saúde, Universidade Federal do Rio Grande do Norte; 2006.
20. Boell JEW, Meirelles BHS, Silva DMGV, Lessmann JC. Arterial hypertension and diabetes mellitus: health care in a basic unit. J Nurs UFPE on line [Internet]. 2012 [cited 2013 Mar 26];6(6):1485-90. Available from: <http://www.revista.ufpe.br/revistaenfermage/m/index.php/revista/article/view/2209>
21. Silva DS, Hahn GV. Cuidados com úlceras venosas: realidade do Brasil e Portugal. Rev Enferm UFSM [Internet]. 2012 [cited 2013 Mar 26];2(2):330-8. Available from: <http://cascavel.ufsm.br/revistas/ojs-2.2.2/index.php/reufsm/article/view/4967>
22. Jiménez CE. Curación avanzada de heridas. Rev Colomb Cir [Internet]. 2008 Sept [cited 2013 Mar 04];23(3):146-55. Available from: http://www.scielo.org.co/scielo.php?script=sci_arttext&pid=S2011-75822008000300004&lng=en.
23. Cullum NA, Al-Kurdi D, Bell-Syer SE. Therapeutic ultrasound for venous leg ulcers. Cochrane Database Syst Rev 2010 June 16;(6):CD001180.
24. Watson JM, Kang'ombe AR, Soares MO, Chuang LH, Digno G, Bland JM et al. Use of weekly, low dose, high frequency ultrasound for hard to heal venous leg ulcers: the VenUS III randomised controlled trial. BMJ. 2011; 342:1-9. d1092.
25. Vicentim AL, Gatti MAN, Weckwerth PH, Carvalho RCO. Etiologia da microbiota presente em úlceras venosas de usuários de bota de unha. Salusvita [Internet]. 2009 [cited 2013 Mar 26];28(1):65-72. Available from: <http://iah.iec.pa.gov.br/iah/fulltext/lilacs/salusvita/2009v28n1/salusvita2009v28n1p65-72.pdf>
26. Wong IK, Andriessen A, Lee DT, Thompson D, Wong LY, Chao DV et al. Randomized controlled trial comparing treatment outcome of two compression bandaging systems and standard care without compression in patients with venous leg ulcers. J Vasc Surg. 2012; 55(5):1376-85.
27. Weller CD, Evans S, Reid CM, Wolfe R, McNeil J. Protocol for a pilot randomised controlled clinical trial to compare the effectiveness of a graduated three layer straight tubular bandaging system when compared to a standard short stretch compression bandaging system in the

- management of people with venous ulceration: 3VSS2008. Trials [Internet]. 2010 [cited 2013 Aug 26];26(1)2:10. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2847559/pdf/1745-6215-11-26.pdf>
28. Vas J, Modesto M, Mendez C, Perea-Milla E, Aguilar I, Carrasco-Lozano JM, et al. Effectiveness of acupuncture, special dressings and simple, low-adherence dressings for healing venous leg ulcers in primary healthcare: study protocol for a cluster-randomized open-labeled trial. BMC Complement Altern Med. 2008 [cited 2013 Mar 26];8(29):[about 5 p.]. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/18547419>
29. Azoubel R, Torres GV, Silva LWS, Gomes FV, Reis LA. Efeitos da terapia física descongestiva na cicatrização de úlceras venosas. Rev Esc Enferm USP [Internet]. 2010 Dec [cited 2013 Mar 26];44(4):1085-92. Available from: <http://www.scielo.br/pdf/reeusp/v44n4/33.pdf>

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