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SCIENTIFIC PRODUCTION ABOUT GANGRENE FOURNIER AND THE NURSING CARE: INTEGRATIVE REVIEW

PRODUÇÃO CIENTÍFICA SOBRE GANGRENA DE FOURNIER E OS CUIDADOS DE ENFERMAGEM: REVISÃO INTEGRATIVA

PRODUCCIÓN CIENTÍFICA ACERCA DE LA GANGRENA DE FOURNIER Y LOS CUIDADOS DE ENFERMERÍA: EXAMEN INTEGRADOR

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ABSTRACT

Objective: to describe the characteristics of scientific production in health about the Gangrene Fournier with emphasis on nursing care. **Method:** an integrative review with search in databases BDENF and LILACS, in the virtual library SCIELO and CAPES. We analyzed articles published during the period from 2000 to 2014. **Results:** the sample was composed of three studies and two published in Brazil and one in Mexico. **Conclusion:** an early diagnosis, appropriate treatment and nursing care with precise interventions ensure a better prognosis and for this reason the nursing team should have full knowledge of the disease, periodic monitoring of preference with nurse stomatherapist for the correct monitoring of the clinical evolution of the disease and specialized care to the client with loss of skin integrity. **Descriptors:** Gangrene Fournier; Wounds and Injuries; Nursing Care.

RESUMO

Objetivo: descrever as características da produção científica em saúde sobre a gangrena de Fournier com ênfase nos cuidados de enfermagem. **Método:** revisão integrativa com busca nas bases de dados BDENF e LILACS, na biblioteca virtual SCIELO e no Portal de Periódicos da CAPES. Foram analisados artigos publicados no período de 2000 a 2014. **Resultados:** a amostra foi composta por três estudos sendo que dois publicados no Brasil e um no México. **Conclusão:** o diagnóstico precoce, o tratamento adequado e a assistência de enfermagem com intervenções precisas garantem um melhor prognóstico e para isso a equipe de enfermagem deverá ter pleno conhecimento da doença, o acompanhamento periódico de preferência com enfermeiro estomaterapeuta para o correto acompanhamento da evolução clínica da doença e atendimento especializado ao cliente com perda da integridade cutânea. **Descritores:** Gangrena de Fournier; Ferimentos e Lesões; Cuidados de Enfermagem.

RESUMEN

Objetivo: describir las características de la producción científica en salud en la Gangrena de Fournier, con énfasis en los cuidados de enfermería. **Método:** una revisión integradora con la búsqueda en bases de datos BDENF y LILACS, en la biblioteca virtual SciELO y CAPES Diario Portal. Se analizaron los artículos publicados entre 2000 y 2014. **Resultados:** la muestra consistió en tres estudios que se publicaron que dos en Brasil y uno en México. **Conclusión:** el diagnóstico temprano, el tratamiento adecuado y el cuidado de enfermería con intervenciones precisas garantizan un mejor pronóstico y que el personal de enfermería debe tener pleno conocimiento de la enfermedad, el control periódico de preferencia con especialista en estomas a los cambios de seguimiento correctos enfermedad clínica y atención al cliente especializado, con pérdida de la integridad de la piel. **Descriptor:** La Gangrena de Fournier; Heridas y Traumatismos; Los Cuidados de Enfermería.

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INTRODUCTION

Fournier gangrene is one of polymicrobial necrotizing fasciitis involving the perineal and / or external genitalia with abdominal wall to synergism. The management of urgent treatment involves debridement, which usually needs to be repeated, besides monitoring the possibility of complications that can lead to the total scrotalectomy and less commonly the penectomy and colostomy.¹

First reported in 1764 by Baurienne and reported in the literature with a rich synonymy was called Fournier's gangrene after the French urologist Jean Alfred Fournier, who described in detail in two papers published in 1863 and 1864.² It is characterized by a endarteritis obliterans, followed by ischemia and thrombosis subcutaneous vessels resulting in necrosis of skin and adjacent subcutaneous tissue, even before evidence of erythema and blistering crackling.³

Fournier described above the three fundamental aspects: abrupt onset in healthy young men, quick progression and no causative specific agent. Despite the immediate surgical treatment mortality remains high, reaching in some studies 30% to 50%, increasing to 80% in diabetics and elderly.⁴

Thus, the infectious process located in the perineal region and adjacencies with pain, fever, inflammation and evolving to necrosis is a dramatic picture even for health professionals where the aggravation of injuries causes occur entry normal flora of the skin spreading aerobic and anaerobic bacteria and may contribute to reducing the concentration of oxygen in the tissues and tissue ischemia, metabolism is impaired, causing further spread of facultative microorganisms that benefit from the energy sources of cells, forming gases (hydrogen and nitrogen) responsible for sputtering, as demonstrated in the first 48 to 72 hours after infection.⁵

A variety of microorganisms have been found in secretion cultures of injured and necrotic tissues, with mixed flora in most cases, in which we can find bacteria Gram negative (*Escherichia coli*, *Proteus mirabilis*, *Klebsiella*, *Pseudomonas*, *Bacteroides*, *Acinetobacter* sp), Gram positive (*Staphylococci*, *Streptococci*, *Enterococci*, *Clostridium*) and fungi.⁶

Contemporary series data indicate that the Fournier syndrome tends to affect patients between the 2nd and 6th decades of life, with predisposing comorbidities, commotion anorectal abscess, diabetes, alcoholism,

cirrhosis, malnutrition, obesity, peripheral vascular disease, anorectal surgery, vasectomy perineal trauma urethral stricture, advanced colorectal cancer, hematological malignancies, radiotherapy, Human Immunodeficiency Virus (HIV), appendicitis, acute diverticulitis, perforated duodenal ulcer and inflammatory bowel disease.⁷

It is essential that the treatment to be conducted individually and with the use of broad-spectrum antibiotic therapy, and aggressive debridement, intensive care, strict care of the injured and multidisciplinary approach in order to prioritize an effective treatment for these patients.⁸ Because of low incidence, there is a therapeutic diversity and lack of defined parameters to characterize associated factors and anatomical extent of the infection, which has generated many divergences.⁹

Nursing has an important role in the recovery of the patient throughout the treatment, especially as regards the monitoring of the signs and symptoms of infection as well as the achievement of dressings, because require strict care aseptic technique. In addition, the Systematization of Nursing Assistance (SAE) which organizes and runs the nursing process is the way in which nurses seek ways to engage and educate their staff, in order to ensure a care that promotes an individual nursing care and comprehensive, based on scientific knowledge.⁹ Interim, is undergoing a process of transformation of the practices and this has occurred in the face of changing times in education and in modern society, which now requires these professional skills that are beyond technical rationality.¹⁰

Thus, emerge the following guiding questions: << What is the profile of the scientific production in health on the gangrene of Fournier with emphasis on nursing care? >> << The relevance of this study is the perspective that may emerge and stimulate reflections about which interest? >> Is the theme signaling for production and scientific dissemination, supporting other researches and enhancing the consensus about the care and treatment strategies? >> In this context, it has the following objectives:

- To describe the characteristics of scientific production in health on the gangrene of Fournier with emphasis on nursing care.

METHOD

This is an integrative review,¹¹⁻² drawn from the guiding question <<What is the profile of the scientific production in health about the gangrene of Fournier with emphasis

Cruz RAO, Andrade LL de, Arruda AJCG de.

Scientific production about Gangrene Fournier...

on nursing care?>> The inclusion criteria were adopted: studies that had a central research axis gangrene of Fournier and nursing, who had the full articles available for free and those published between 2000 and 2014 studies were excluded if they had duplicity in the same or another database, using the LILACS reference and those who did not address the issue as a central axis. The time frame was given by taking into account the increase of the Graduate offerings, the number of periodicals and consequently the increase in publications in journals in the last decade.

Data collection was carried out in July 2015, by consulting the following electronic databases: Nursing Database (BDENF) and Latin American and Caribbean Health Sciences (LILACS), the Virtual Library Scientific Electronic Library Online (SCIELO) and CAPES

Journal Portal. The term used to search selected from the Descriptors in Health Sciences (DeCS) was "Fournier Gangrene" and "nursing care" combined by the Boolean operator "AND". The time interval was from 2000 to 2014. After reading the titles and abstracts was the application of the inclusion and exclusion criteria proceeding with the reading of selected articles in full. The next step in order to organize the information was built a spreadsheet using Microsoft Office Excel 2010 software with the variables: title, database, journal, type of study, authors, year of publication and country.

The studies were analyzed and the interpretation from the classification of levels of evidence according to adaptation of the proposal by Hood¹³, which are established 10 hierarchical levels.

Evidence Level (NE)	-	Study Type
10	-	Greater Evidence: Systematic Review with meta-analysis of randomized clinical trials;
9	-	Systematic Reviews with Meta-Analysis;
8	-	Randomized Clinical Trials;
7	-	Clinical Practice Guides;
6	-	Cohort Studies and Case-Control;
5	-	Observational Studies (transverse or longitudinal);
4	-	Clinical and Series of Cases;
3	-	Laboratory Clinical Research;
2	-	Specialists' Opinions;
1	-	Less Evidence: Non-systematic literature reviews;

Figure 1. Classification of the evidence levels according to the adaptation proposed by Hood¹³.

The authors cited in this study were properly referenced, respecting and identifying the sources of research, observing ethical rigor and intellectual property of scientific texts that were analyzed in relation to the use of content and citation of parts of works consulted.

RESULTS AND DISCUSSION

The initial sample of BDENF basis was two abstracts, both in duplicate, 53 in LILACS based 7 duplicate, 29 in Virtual Library SCIELO with 9 duplicate studies and 116 in the CAPES portal. Therefore, the final sample had a quantity of 46 studies in LILACS, 20 in SCIELO 17 in Portal Capes and none in BDENF.

To maintain a reliable sample was chosen to keep the LILACS database reference that added the largest number of productions, to make it possible to avoid the problem of the same study duplicity in the same or another database.

The period of analysis, between 2000 and 2014, it was observed that in 2010, there was the publication of 15 studies (17.9%), followed by the year of 2012 with 10 (12%), 2007 and 2008 with 9 studies (10.8%).

Regarding the type of study it is observed that most are composed of original articles with a total of 37 (44%), with great expression of those with retrospective methodological approach which explores data from a past time¹⁴ followed by case studies with 23 titles (27.3%), experience reports with 10 productions (12%) and review articles in 9 (10.7%), but only one study has been published in the form of protocol (1.2%) and two as Article update (2.4%).

The surgical area showed 41 (48.8%) studies as Figure 1 followed by Urology 17 (21.4%), pediatrics and coloproctology with 5 (6%) each nursing 3 (4.8 %) and finally Gynecology and Primary Health Care (PHC) with 2 (2.4%) studies each.

Nursing addressed the perception in 1 study and the use of technology in the other as detailed analysis in Table 1. There were two articles published in national journals and 1 in Spanish. Concerning the formation of the principal authors was one doctor and other nurses.

Title	Database/Virtual Library	Journal	Type of Study/Evidence Level	Authors	Year	Country
Fournier's syndrome: the perception of the carrier	Scielo	USP Nursing Journal	Qualitative study of retrospective type /5	Cavalini F, Moriya TM, Pelá NTR.	2002	Brazil
The applicability of the hydrofiber with silver in injury caused by Fournier Syndrome: case studies	Lilacs	Nursing	Case Studies/4	Magela SG, Arbage CC.	2008	Brazil
The process of nursing care to patients with Fournier gangrene	Scielo	University Nursing	Case Studies/4	Mondragón-Gómez S, Jiménez-Utrillab J.	2013	Mexico

Figure 1. Production in Nursing. João Pessoa, 2015.

The areas of Geriatrics, Infectious Diseases, Rheumatology, Gastroenterology, Dermatology, Microbiology and Radiology presented only one study each (8.2%).

Spain provided a greater number of publications (30%) 25 studies followed by Brazil with 19 publications (23%), or 53% of publications have focused on these two countries and the remaining other 12 (47%).

There was a predominance of Spanish with a percentage of 72.6% and a total of 62 studies, followed by the Portuguese with 19.1% and 16 studies. In English there were published 6 articles (7.1%), and 3 of those in Brazilian journals, and only 1 in Italian (1.2%).

It's worth noting that at least the summaries of the studies was necessarily found in English, that because it is the universal language promotes the dissemination of knowledge and access to the material for a greater number of people.

It notes a scientific production still scarce, coupled with the absence of publications in two years, reflecting the need to sensitize researchers to approach the subject which may favor better management in the treatment and healing, as the disease progresses it is fast and has high morbidity and mortality rate.¹⁵ In LILACS database, it was found the largest number of articles reflecting the greater number of productions with authors and periodicals located in Latin America.

There was a concentration of the largest number of publications from 2007 to 2010, but absent in 2004 and 2014. Despite the increase in the number of masters and doctorates in Brazil this triennium have grown 20.8% this result points to the character yet modest in quantitative terms, controlled experimental and clinical studies of Fournier's gangrene published in Brazil in the last 20 years.¹⁶

The number of original research is the interest and relevance of the topic, as well as case studies and experience reports with the view to disseminate successful results, in view of the perceived deficiency in the literature, regarding the consent of the proper management and effective gangrene of Fournier, noticeable because it is a disease with an overall incidence of 1.6 cases / 100,000 inhabitants per year, with high mortality rate even when performed hemodynamic stabilization and early and radical surgical debridement, and broad-spectrum antibiotics and nursing care.¹⁷

Because it is a disease that the essential part of the treatment consists of surgical debridement, most published studies is in the surgical setting, appropriate to highlight the significant number of articles dealing with behaviors such as the use of skin flaps for the repair of necrotic tissue lost while in urology was common to find among the authors the presence of surgeons. The pediatric area predominated as experience reports and case studies, allowing for better understanding by the small number of studies because it is a common disease in adults aged between 50 and 70 years old.¹⁸

In the publications made in Spain are notable researchers urological area, while in Brazil there was a diversity of studies emerging in other areas such as dermatology, radiology and coloproctology which can be corroborating the understanding of the multiple causes at the origin of gangrene Fournier. The largest number of publications focused on the Spanish language because it is productions in countries that have as their mother language.

Regarding nursing only three studies were found with two published in Brazil and one in Mexico. Nursing is based principally care and as science has long history grounded in the

knowledge of theories and methods, as well as practical action, where to find space in the exercise of his art, scope of their practice.¹⁹

The level of scientific evidence is low and the articles do not address in depth the aspects related to nursing care. There were no studies in the literature had higher levels of evidence regarding the issue, and only one used the Nursing Process.

The essence of effective in the nursing process profession is an instrument that guides the professional nursing care and documentation of professional practice and that the operation shows the contribution of nursing care the health of the population by increasing visibility and professional recognition.²⁰

Clinical and surgical treatment must be speedy and the surgical procedure is essential, also including hyperbaric oxygen therapy and medium chain triglycerides, such as sunflower oil as complementary therapies. As a measure adjuvant is also suitable nutritional support, application of growth hormones that have the potential to promote faster wound healing. It is also indicated the use of papain, which aids in debridement, fight infection and accelerated healing, depending on its concentration.¹⁵

The nursing behavior must be related to wound care, emergence of new areas of necrosis and signs of infection, antibiotic therapy management, monitoring of blood glucose, vital signs and sepsis, pyramidal mattress, changing positions, rich balanced nutrition fiber, care for venous access, balanced range of physical exercises and guidance to the patient and / or family members about the disease, proper care of the wound and the maintenance of physical and psychological health for a good clinical prognosis.²¹

The main diagnoses of nursing according to NANDA International are: impaired tissue integrity, risk of infection (general), acute pain, unstable blood glucose risk, imbalanced nutrition: more than body requirements, constipation, impaired ambulation, impaired comfort, disorder body image, risk of powerlessness, sexual dysfunction.²²

The nurse's role in providing their care can be vital to a good outcome in the treatment of gangrene Fournier. It emphasizes the importance of the nurse know the products available on the market to choose the best coverage, and security and understanding of the healing process and the factors that interfere goal achieved only with the pursuit of scientific and technical qualification.²³

CONCLUSION

From this study it can be seen the lack of articles published in the last 10 years, which is to support the implementation of more clinical and experimental studies of Fournier's gangrene, which despite its severity, still presents itself as a little theme explored in the field of health, especially in nursing; however, patients continue to suffer due to the aggressive nature and rapid evolution of the disease. It becomes mister need new research initiatives that can improve the strategies of prevention and treatment.

Early diagnosis, proper treatment and nursing care with precise interventions guarantee a better prognosis and that the nursing staff should have complete knowledge of the disease, periodic monitoring preferably with stoma nurse for proper monitoring of the clinical course of disease and specialized customer service with loss of skin integrity.

This review, despite the limitations imposed by the criteria of inclusion and exclusion of studies, as well as the low number of productions, revealed the lack of studies on Fournier's gangrene in Brazil in the last decade.

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