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## Quality indicator of caring related to the buttonhole technique: an exploratory study

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### ABSTRACT

This is a project of dissertation of the Academic Master's Program in Health Care Sciences of Fluminense Federal University. **General aim:** To discuss the buttonhole technique as an indicator of the quality of health care service offered to patients in hemodialysis therapy in a private clinic setting, which the clientele coming from the Brazilian Unified Health System (SUS, in Portuguese). **Specific aims:** To describe the buttonhole technique offered to the patients under hemodialysis therapy; to identify the results of this practice over the last three years, comparing the outcomes against the rope ladder technique. **Method:** This is an exploratory, documentary and descriptive study, which has adopted a quantitative-qualitative approach, which explores the use of the buttonhole technique, looking for the results directly from the clients. The data was collected between January and April 2014. The results from 64 patients were compared, based on a questionnaire to indicate the quality of the nursing assistance provided. The information was analyzed through the use of inferential statistics.

**Descriptors:** Dialysis; Arteriovenous Fistula; Nursing; Vascular Fistula; Chronic Disease.

## **PROBLEM SITUATION AND ITS SIGNIFICANCE**

Chronic renal disease is known as a public health issue throughout Brazil. It is one which needs to be fully understood in its complexity, in order to contribute to the general biopsychosocial well-being and to the improvement of the quality of life of patients in general<sup>(1)</sup>.

The cannulation of vascular access in hemodialysis in Brazil is traditionally done using the rope ladder technique, in which the puncture sites using sharp needles are alternated to avoid the formation of aneurisms, stenosis and repetitive traumas with regard to the vascular wall. However, after some use of the use of this technique, some alterations are perceived at the arteriovenous fistula. These include aneurisms, scars, hematomas, and areas with thrombi, or with a higher cutaneous sensibility, which may cause pain at the time of cannulation<sup>(2)</sup>. Nowadays, the buttonhole technique can be introduced as an alternative to cannulation.

This practice, initially described by Twardowsky et al. in 1977, was used for patients with short fistulas, severe pain due to alternated punctures and, later, self-punctures in patients in the case of home hemodialysis<sup>(3)</sup>. The buttonhole technique was given this name due to the existence of a constant puncture site. Its use is widely spread and such use has been increasingly encouraged at the present time. Different from the ropeladder, it causes less damage to the endothelium, as it uses needles with blunt edges, introduced through a previously placed tunnel.

The general benefits for the patients in terms of the buttonhole technique are as follows:

- cannulation is less painful, meaning that the patients can eliminate the need for anesthetics;
- the needles are easier to insert, and the patients can even use blind/blunt needles, which

reduces the cut of the tunnel and subsequent dripping/leaking during dialysis<sup>(3)</sup>

It is believed that the individuals submitting to the buttonhole technique will present a decrease in aneurisms, less pain, improved aesthetic aspects, the possibility of self-puncturing, increased life expectancy of the vascular access, and other advantages such as a means of minimizing the complications of definite vascular access, when compared to individuals who submitted to more conventional techniques.

## **AIM**

To discuss the buttonhole technique as an indicator of the quality of nursing care with patients undertaking hemodialysis therapy, who are users of the Brazilian Unified Health System (SUS, in Portuguese). It is necessary to describe the buttonhole technique offered to patients in hemodialysis therapy, identify the results of its use through medical records between 2010 to 2013, and compare the results between the buttonhole and ropeladder techniques.

## **METHOD**

This is an exploratory, documentary and descriptive research, adopting a qualitative-quantitative approach, with included 64 patients with terminal chronic renal failure, with arteriovenous fistula. The patients that were included in the study were ones who used definite vascular access, with an adequate venous flow, low flux fistulas, long or short fluxes, with an indication of the buttonhole technique, and those who were assigned to a regular hemodialysis program at the PURA Clinic, located in the district of Mutondo, in the city of São Gonçalo, Brazil. The exclusion criteria determined that

the users of polytetrafluoroethylene prosthesis, patients with a high flux arteriovenous fistula, low flow venous reflux, and those who declined to participate in this study. As an instrument for data collection, there was a form for reading the medical records which described the following aspects: age, gender, etiology of the chronic renal diseases, and information regarding the use of the technique. A semi-structured questionnaire was used, as well as some interviews with the participants. The information gathered from the interviews were analyzed using the method of content analysis proposed by Laurence Bardin (2011). To analyze the closed questions present in the questionnaire, initially it was intended to use the normality test Shapiro-Wilk. Later, the results were presented in terms of average and standard deviation, as well as relative and absolute frequencies. To verify the eventual differences between the techniques, the Student's t-test will be used for analysis of the independent qualitative variables, and the chi-square test, for the two independent qualitative variables. Data collection was performed between January and April 2014.

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## PROJECT DATA

This study was submitted to the Committee of Ethics in Research of Fluminense Federal University, and approved under protocol #531.721.

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All authors participated in the phases of this publication in one or more of the following steps, in According to the recommendations of the International Committee of Medical Journal Editors (ICMJE, 2013): (a) substantial involvement in the planning or preparation of the manuscript or in the collection, analysis or interpretation of data; (b) preparation of the manuscript or conducting critical revision of intellectual content; (c) approval of the versión submitted of this manuscript. All authors declare for the appropriate purposes that the responsibilities related to all aspects of the manuscript submitted to OBN are yours. They ensure that issues related to the accuracy or integrity of any part of the article were properly investigated and resolved. Therefore, they exempt the OBN of any participation whatsoever in any imbroglios concerning the content under consideration. All authors declare that they have no conflict of interest of financial or personal nature concerning this manuscript which may influence the writing and/or interpretation of the findings. This statement has been digitally signed by all authors as recommended by the ICMJE, whose model is available in [http://www.objnursing.uff.br/normas/DUDE\\_eng\\_13-06-2013.pdf](http://www.objnursing.uff.br/normas/DUDE_eng_13-06-2013.pdf)

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