Scientific production on quality of life in patients with renal undergoing hemodialysis

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Veröffentlichungsversion / Published Version
Zeitschriftenartikel / journal article

Empfohlene Zitierung / Suggested Citation:

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**ABSTRACT**

Objective: To analyze the scientific production on quality of life of patients with renal failure undergoing hemodialysis. Method: This is an integrative literature review conducted on the banks of LILACS and MEDLINE databases. Were selected studies published between 2011 to 2013 and analyzed 24 articles. Results: The results indicated that the quality of life of hemodialysis patients is related to factors, physical, psychosocial, mental, social and presence and support of family. Conclusion: The development of studies involving the quality of life of individuals may assist healthcare professionals in the instrumentalization of a healthcare practice that really contemplate the multidimensionality of care to patients with renal failure undergoing hemodialysis. Descriptors: Renal failure, Hemodialysis, Quality of life, Treatment.

**RESUMO**

Objetivo: Analisar a produção científica sobre a qualidade de vida de pacientes com insuficiência renal, submetidos à hemodiálise. Método: Trata-se de uma revisão integrativa da literatura realizada nos bancos de dados LILACS e MEDLINE. Foram selecionados estudos publicados no período de 2011 a 2013 e analisados 24 artigos. Resultado: Os resultados indicaram que a qualidade de vida dos pacientes submetidos à hemodiálise está relacionada a fatores, físicos, psicosociais, mentais, sociais e a presença e apoio da família. Conclusão: O desenvolvimento de estudos que envolvam a qualidade de vida do indivíduo pode auxiliar os profissionais da saúde na instrumentalização de uma prática assistencial que realmente contemple a multidimensionalidade do cuidado a pacientes com insuficiência renal submetidos à hemodiálise. Descriptors: Insuficiência renal, Hemodiálise, Qualidade de vida, Tratamento.

**RESUMEN**

Objetivo: Analizar la producción científica sobre la calidad de vida de los pacientes con insuficiencia renal sometidos a hemodiálisis. Método: Se trata de una revisión integradora de la literatura realizada en los bancos de datos LILACS y MEDLINE. Fueron seleccionados estudios publicados entre los años 2011 a 2013 y analizados 24 artículos. Resultados: Los resultados indicaron que la calidad de vida de los pacientes en hemodiálisis se relaciona con factores, físicos, psicosociales, mentales, sociales y la presencia y apoyo de familia. Conclusión: El desarrollo estudios que envuelven la calidad de vida del individuo puede ayudar a los profesionales de la salud en la instrumentalización de una práctica asistencial que realmente contemple la multidimensionalidad de la atención a los pacientes con insuficiencia renal sometidos a hemodiálisis. Descriptors: Insuficiencia renal, Hemodiálisis, Calidad de vida, Tratamiento.
Renal failure is a condition in which the kidneys lose their ability to perform its basic functions. Kidney failure can be acute (ARF) when occurs sudden and rapid loss of kidney function or chronic (CRF), when this loss is slowly, progressive and irreversible. The kidneys are responsible for regulating the balance of water and often constitute the major route of elimination of water from the body. When the amount of water consumed is small or the water lost increases, as during physical exercise, kidneys conserve water by producing a lower volume of urine, which is hypertonic with respect to plasma. When water intake is large, a high volume of hyposmotic urine is produced. In a normal individual, urine osmolality can vary from 50 to 1,200 mOsm / kg H2O approximately corresponding urine volume and may vary, approximately, 18 L / day to as little as 0.5 liters / day.¹

ARF is characterized by a sudden decrease in renal function, resulting in the inability of the kidneys to perform their basic functions of excretion and maintenance of hydroelectrolytic homeostasis. Despite advances in the understanding of the pathophysiological ARF, still has a high degree of mortality.²

The CRF is a complex syndrome caused by the loss of renal excretory capacity, usually installed in a slow and progressive manner. As a result there will be a rise in plasma or serum concentrations of all catabolites derived primarily from protein metabolism, characterized by increased urea and creatinine. Among the causes of CRF are: primary renal diseases, systemic diseases, hereditary diseases and congenital malformations. Treatment should be focused on the restoration of low-protein diet, use of antihypertensive drugs, treatment of acidosis,

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hyperkalemia, anemia, renal osteodystrophy, dialysis or transplantation.³

The dialytic methods are currently available peritoneal dialysis, hemodialysis, hemodiafiltration and hemofiltration. These processes can be arteriovenous and venovenosos, and run intermittently or continuously. Hemodialysis is the most widely used extracorporeal method for specialized treatment of medical and nursing staff. Pathway is required for circulatory access can be arteriovenous and venovenous. The most used venovenous access in our environment is usually achieved by staining of double-lumen catheter in the internal jugular or subclavian vein. The blood flow of the patient by blood pump is controlled to obtain a constant value of 250-350 ml / min. The movement of solutes is bidirectional, there solute moving from the blood to the dialysate, as urea and potassium and other solutes, such as calcium and bicarbonate dialysate that moves into the blood. Most of the solute transport occurs by diffusion, and removal of fluid by ultrafiltration due to the hydraulic pressure gradient. It appears, therefore, that hemodialysis is much more efficient for correction of uremia and withdrawal volume than peritoneal dialysis.⁴

Therefore, through the dialysis are removed from the blood substances which, when in excess, bring harm to the body, such as urea, potassium, sodium and water. The dialysis is taken in a machine, through a dialyzer (or capillary filter). The dialyzer is a set of pipes called ‘lines’, through which the blood passes an artificial extracorporeal filtration process. During filtration, blood is withdrawn from the body and returns to it through access lines of the veins and arteries simulate circuits. The dialyzer is reusable and after each hemodialysis session is performed chemical sterilization of this material.⁵

Formerly hemodialysis had intended just to avoid death by hypervolemia or hyperkalemia. Nowadays, in addition to reversing the uremic
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Symptoms, this treatment seeks, over the long term, reduced complications, reduced risk of mortality, improving quality of life and social reintegration of the individual.

The CRF patients on hemodialysis have many physical, nutritional and social limitations and suffer a painful and distressing treatment of major risk during hemodialysis sessions, impacting their quality of life.

In this sense this study aims to analyze the scientific literature on the quality of life of patients with renal failure who are undergoing hemodialysis.

**METHODOLOGY**

This is a study of integrative review of literature operationalized from the following steps: identification of the topic and selection of research question; establishment of criteria for inclusion and exclusion; identification of pre-screened and selected studies; categorization of the selected studies; analysis and interpretation of results, presentation of review / synthesis of knowledge.

The question that guided this study was: which is the scientific production on the quality of life of patients with renal failure undergoing hemodialysis?

To achieve the proposed objectives, a survey was conducted in the electronic databases: Latin American and Caribbean Literature on Health Sciences (LILACS) and International Literature on Health Sciences (MEDLINE). We chose these fonts because they are known databases, the wide distribution and easy access. Was used as descriptors for the survey of scientific production: renal failure, hemodialysis, quality of life and treatment.

For the selection of the sample was established the following inclusion criteria: online articles available fully that addressed the issues hemodialysis, renal failure and quality of life, and articles published in Portuguese, English and Spanish in the period 2011-2013. Exclusion criteria was chosen: research in pediatric services; studies in editorial formats, case studies, epidemiological studies, dissertations, theses and comments.

In the first search with descriptors 85 articles in LILACS and 1,147 were found in MEDLINE. After applying the inclusion criteria and full reading of the studies were selected for this study sample 24 articles.

**RESULTS AND DISCUSSION**

In the integrative review, were analyzed 24 articles that met the inclusion criteria previously established. Below in Frame 2, an overview of the reviewed articles will present itself.

Among the articles included in the integrative review, in relation to the year of publication 16 articles were published in 2011 and eight in 2012, no article was published in 2013. Regarding the type of journal in which the articles review were published included in the, three were published in journals of general nursing, three journals in perioperative nursing, both in medical journals and six were published in journals of other health areas. Of the 24 articles analyzed, 10 were published in Portuguese and 13 in English and 01 in Spanish.
Scientific production on quality of life in patients... descriptive studies, one prospective study, a literature review, a multicenter, observational study a correlational study and a transeccional observational study as seen in Frame 3.

Frame 3 - Characteristics of studies according to the type of study and objectives (2011-2013)

Source: LILACS and MEDLINE 2011 at 2013

On the instruments used to evaluate the quality of life of patients with renal insufficient undergoing hemodialysis, it is noteworthy that 18 studies used a scale and most of these, ten studies used the Kidney Disease and Quality of Life - Short Form (SF-KDQOL ) and the Short Form - 36 (SF-36) to collect the data. The instrument is considered the most complete and current to assess quality of life.
Veirea ODC, Moura SRB, Pinheiro JP et al. life in renal disease and hemodialysis, he has items of generic aspects and includes specific topics related to kidney disease.

The studies analyzed showed that several aspects influence in maintaining the quality of life of patients with renal failure undergoing hemodialysis. Here we outline the socio-demographic studies have shown that patients with a higher level of education have better physical performance than other with mid-level. Regarding the average scores on assessment of mental patients, Asian men and outperformed those without individual monthly income had lower values than those with some income.

Regarding perceptions of the CRF patients about changes in their everyday life, from the treatment of hemodialysis, it is evident that the initial feelings were of anger and denial, but these have changed to the extent that patients were being strengthened to coping with the disease. The main difficulties reported were the restriction of food and water habits, incapacity or limitation of physical, occupational and leisure activities. It was also found that the support of family members and health professionals can help to overcome these limitations and adapting to the new lifestyle.

Patients not awaiting transplantation evolved more frequently to die within 12 months. It was verified, therefore, that patients on dialysis who do not awaiting transplantation are at risk of experiencing poor quality of life, especially as regards the limitation due to emotional and physical aspects. It is recommended psychological support and physical rehabilitation for this group of patients.

The quality of life of patients is negatively affected by factors such as the dimensions of professional role, vitality, physical function, emotional function, general health and overloading of kidney disease on patients' lives; associated difficulties and challenges caused by kidney disease and its treatment. The high scores found

Scientific production on quality of life in patients... for the dimensions of patient satisfaction regarding the support received by family and friends, sex life, cognitive function, pain, sleep, social support, list of symptoms, effects of kidney disease, encouragement by dialysis staff, physical functioning , emotional well-being, social functioning and quality of social interaction, have dimensions that had high levels of scores and contributed positively to the assessment of quality of life.

The studies analyzed showed that despite the limitations that hemodialysis treatment entails, there are more important factors that motivate and encourage these patients to cope with this phase of your life, such as the will to live and stay healthy.

The habits and customs of the people also influence their quality of life. According to the study analyzed, few patients with renal insufficiency consume alcoholic beverages, just over half practice exercise and about 12.5% smoke. The results of these studies are of great value in assessing the quality of life of these patients by helping professionals, researchers and students in order to stimulate reflections and instigate further investigations about the lives of patients with CRF.

In elderly patients with renal failure undergoing hemodialysis, studies show that the main component affected was the physical condition of the patients. In contrast, the contact and support from family and friends influence positively the social condition.

Increasing age, female gender and number of hospital admissions are associated directly to decreased physical condition. The presence of self-reported chronic diseases was the factor that was significantly associated with worse quality of life in all components evaluated, showing the importance of knowing the profile morbidity in elderly patients undergoing dialysis therapy to decrease the effect of these conditions on quality of life for seniors.
The treatment time was also a negative influence on mental component of quality of life, suggesting a worsening of those aspects of the beginning of dialysis, which can be retrieved later.¹²

The perception of pain has greater importance for patients off treatment of hemodialysis than on hemodialysis, since they can be related both to the severity of disease as an adaptive response to treatment. It is important to find the cause of pain before treating it. Pain should be treated especially when they are out of hemodialysis, to improve the survival of these patients.¹³ Early adoption of palliative care is essential to improving the quality of life and, consequently, to increase the survival of patients with chronic renal failure.¹⁴

Malnutrition is a common clinical problem in patients undergoing hemodialysis. The use of megestrol acetate may help reverse the loss of appetite in dialysis patients, but does not reduce inflammation and improve the quality of life, and require continuous monitoring because of the high incidence of side effects.¹⁵ However, one study showed no direct association between malnutrition and quality of life of these patients.¹⁶

The practice of physical exercise, either aerobic and/or resistance, have incremental effects on functional capacity, muscle function and quality of life of renal disease undergoing hemodialysis. With this we can see that physical training has to be considered a very important therapeutic modality seen improvements in the quality of life of these patients.¹⁷

Patients on hemodialysis have a trend toward better quality of life when treated with physiotherapy, so there need to be inserted in the education of physiotherapists, most comprehensive content in the area of nephrology.¹⁸

A deficiency of vitamin D proved of great importance to patients on dialysis. One can notice a decrease in serum concentrations in patients who undergo this treatment and there is a relation between this concentration with decreasing intensity of physical activity. This demonstrates once again the importance of the exercise in maintaining the quality of life of these patients. But more research is needed to determine whether the Hypovitaminosis D is causally associated with reduced physical activity.¹⁹

Hemodialysis is responsible for a series of changes in the quality of life of patients with renal disease. Among the psychological changes the major is depression. Despite being a consequence of low incidence, one should invest in social and psychological support for these patients.²⁰ CRF depressed patients have a poor quality of life because they suffer with a chronic disease that affects its physical aspects, and to feel mentally limited. With this we realize the importance of mental health-related quality of life of patients with renal disease.²¹,²²

Canadian study with the objective to compare the clinical performance and quality of life in patients on hemodialysis treated at satellite health unit, closer to communities and other central unit, showed that the process of care is different in these units. In satellite unit patients received fewer visits from nephrologists, but proved to have the same clinical quality and performance similar to patients seen in the central unit life, this reinforces the increasing use of satellite units to provide care closer to the patient community.²³ Even if the quality of life to be a very important aspect of management for patients on hemodialysis, the study shows that there are clinically relevant differences between dialysis centers in various domains of quality of life.²⁴

However, a study with the objective of identify an association between distance of residence of the patients and dialysis unit, with the quality of life showed no differences related to the quality of life among the three groups of patients: residents where clinical hemodialysis is installed; residents with a distance of 100 km and residents...
with a distance of over 100km, concluding that the distance is not a predictor of depression and neither interferes with the quality of life of patients.²³

African-American patients on hemodialysis demonstrated that environmental influences of religiosity and social support and genetic factors had a significant impact on their quality of life.²⁶

The quality of life of patients with CRF on hemodialysis has no relationship with the time to live with the disease, nor with sex and age. However, the dimensions of mental health has higher correlation with the dimensions of quality of life.²⁷ Patients on hemodialysis process have low quality of life due to successive situations that compromise the physical and psychological, for personal, family and social repercussions. As their quality of life, the dimensions of the vitality and mental health have higher averages and functional capacity and social aspects have lower averages.²⁸

The hemodialysis is associated with a significant decrease in quality of life compared with patients treated with renal transplantation, this reflects the need for an economic evaluation of renal therapies useful for the adoption of a public policy on patient care chronic kidney disease on hemodialysis.²⁹

The integrative review enabled the construction of a synthesis of scientific knowledge and to identify factors related to the quality of life of patients with renal failure undergoing hemodialysis, and those related to the physical, psychosocial, mental, and other factors, which comprehend chronological age, the presence and support of the family.

It is believed that this research will contribute significantly to the construction of new knowledge, for analyzing the various areas that comprehend the quality of life of individuals may assist healthcare professionals in the instrumentalization of a healthcare practice that really contemplate the multidimensionality of care patients with renal failure undergoing hemodialysis. Furthermore, it is clearly important that more studies regarding this type of evaluation are implemented, providing opportunities to all individuals involved in this process a moment of intense reflection against daily practice of health professionals.

Although there is already a significant accumulation of knowledge regarding factors related to quality of life, it is necessary to conduct further studies both in relation to concepts regarding the construction and validation of specific scales to assess the various factors inherent in the care of patients with renal failure undergoing hemodialysis.

CONCLUSION

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Received on: 04/02/2013
Required for review: no
Approved on: 25/10/2013
Published on: 27/12/2013