

Changes in occupational performance of individuals with chronic kidney disease undergoing peritoneal dialysis

Alterações no desempenho ocupacional de pessoas com doença renal crônica em diálise peritoneal

Alteraciones en el desempeño ocupacional de personas con enfermedad renal crónica en diálisis peritoneal

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This study aims to evaluate the occupational performance of patients diagnosed with CKD that were undergoing Peritoneal Dialysis. This is a quantitative research with an observational and cross-sectional design. Canadian Occupational Performance Measure was applied in 12 patients, and the data collection was performed from June to August 2016. The dimensions of occupational performance such as working, traveling, eating, and house tasks suffered a significant change after the start of the Peritoneal Dialysis treatment. All areas/dimensions observed presented changes and affected the occupations performed. It is necessary to evaluate and accompany the patients and their occupational activities so that better interventions during their care can be carried out.

Descriptors: Renal insufficiency chronic; Peritoneal dialysis; Occupational therapy.

Este estudo tem como objetivo avaliar o desempenho ocupacional de pacientes diagnosticados com doença renal crônica e que realizavam Diálise Peritoneal. Trata-se de uma pesquisa quantitativa, do tipo observacional e transversal, em que foi aplicada a Medida Canadense de Desempenho Ocupacional em 12 pacientes, realizada de junho a agosto de 2016. As áreas do desempenho ocupacional como trabalhar, viajar, alimentar-se e realizar tarefas domésticas sofreram alterações significativas após o início da Diálise Peritoneal. Todas as áreas observadas apresentaram alteração e afetaram as ocupações desempenhadas. Verificou-se a necessidade de avaliação e acompanhamento de pacientes e suas atividades ocupacionais para que intervenções ao longo do tratamento sejam viabilizadas.

Descritores: Insuficiência renal crônica; Diálise peritoneal; Terapia ocupacional.

Este estudio tiene como objetivo evaluar el desempeño ocupacional de pacientes diagnosticados con ERC y que realizaban Diálisis Peritoneal. Se trata de una investigación cuantitativa, del tipo observacional y transversal, en que fue aplicada la Medida Canadiense de Desempeño Ocupacional en 12 pacientes, realizada de junio a agosto de 2016. Las áreas de desempeño ocupacional como trabajar, viajar, alimentarse y realizar tareas domésticas sufrieron alteraciones significativas después del inicio de la Diálisis Peritoneal. Todas las áreas observadas presentaron alteración y afectaron a las ocupaciones desempeñadas. Se verifica la necesidad de evaluación y acompañamiento de pacientes y sus actividades ocupacionales para que intervenciones a lo largo del tratamiento sean viabilizadas.

Descriptores: Insuficiencia renal crónica; Diálisis peritoneal; Terapia ocupacional.

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INTRODUCTION

The kidneys are very important in regulating the internal body physiology and also have multiple functions, such as excretion of metabolism waste, production of hormones and the control of the balance of electrolytes, of the acid-basic metabolism, and the arterial pressure¹.

The loss of kidney function can bring serious consequences to the health of the individual, such as renal insufficiency (RI), which can vary from acute RI to a terminal chronic RI, being this last category characterized by a loss of renal function greater than 85%^{2,3}.

Among the main causes of kidney disease are the diabetic nephropathy, high blood pressure, autoimmune diseases, genetic diseases and infectious processes⁴. Chronic kidney disease (CKD) has a long and insidious development, which may result in a loss of renal function. Thus, an early diagnosis is essential, as well as identifying the factors that show that the prognosis is worsening, which are directly related to the a more rapid deterioration of renal function¹.

In these cases, the treatment for replacing the kidney function, either by dialysis or kidney transplantation, become necessary^{2,3}. Peritoneal Dialysis (PD) is an effective method of dialysis that uses the peritoneum as a semipermeable membrane for the filtration of many uremic toxins. A proper PD keeps the patient asymptomatic due to a partial replacement of the function performed by a healthy kidney, that is, the removal of accumulated solutes in the blood, such as urea, creatinine, potassium, phosphorus and water, and transporting them to the infused dialysate in the peritoneal cavity^{5,6}.

The chronic kidney disease may cause significant changes in the daily life of the patients, leading them to seek ways to adapt to this new life condition⁷. The chronic kidney condition and the dialysis treatment can lead the individual to social isolation, the impossibility of locomotion, a decrease in physical activity, loss of autonomy, changes in body image, and to an ambiguous feeling of

fear of living and fear of dying^{8,9}. The limitation and/or inability in carrying out activities may compromise the participation in daily occupational actions¹⁰.

All occupation activity is considered as a central aspect of the human experience. There is an innate and spontaneous tendency to explore and dominate the environment, and this capacity is a dimension evaluated by the occupational therapist. An occupation is not done to "pass the time", but requires a purpose, meaning and the involvement of personal and social interests¹¹.

The occupational performance (OP) is the realization of the occupation selected that results from the dynamic transaction between the client (patient), the context, the environment and the activity or occupation, that is, a result between the junction of the factors of the individual, of the environment and the occupation, aiming to develop the ability to elect, organize and carry on, in a satisfactory way, the significant occupations^{12,13}. In this context, when considering patients that undergo Peritoneal Dialysis, how do the occupations and the Occupational Performance present themselves? This study aims to evaluate the occupational performance of patients diagnosed with CKD that performed Peritoneal Dialysis.

METHOD

This is an observational, descriptive and cross-sectional study with a quantitative approach, whose sample was selected by convenience, between June and August 2016, in a reference Nephrology hospital in the State of Pará.

The research was carried out in the Sector of Substitutive Renal Therapy (STRS), of the Fundação Hospital de Clínicas Gaspar Viana, an institution that is a reference in Nephrology in the State of Pará since 2001. Being a regional reference, the hospital receives patients from both the metropolitan region and the countryside of the state. The service has been undergoing an expansion and now is able to better meet the demands.

Twelve patients participated in the

study, all over 18 years of age, with chronic kidney disease, who did their own peritoneal dialysis at home and agreed to participate in the research. For the collection of the data, the Canadian Occupational Performance Measure was used (COPM)¹⁴, which consider the occupational development as a result of: the interaction between the person, environment, occupation, production, and performance components (physical, mental, sociocultural and spiritual). This is an individualized assessment that aims to detect changes in self-perception over time.

It is a standardized instrument of functional assessment that can be useful for clients with different disabilities, independently of specific diagnoses, considered to be an important guide of clinical practice, mainly because it is used to identify areas and problems of occupational performance, to provide a quantification of the priorities of the occupational performance of the client, to evaluate the performance and satisfaction related to the problematic areas, and to measure changes in customer perception about their occupational performance throughout the intervention period¹⁴.

It covers three areas of occupational performance: activities of self-care (personal care, functional mobility, and independence outside home), productive activities (work, paid or not, household management, and school tasks) and leisure activities (peaceful actions, active recreation, and socialization)¹⁴.

The study was approved by the Committees of Research Ethics (CEP) of the Fundação Hospital de Clínicas Gaspar Vianna (FHCGV) and the Federal University of Pará (UFPA), protocols numbers 1.545.955 and 1.445.882, respectively.

RESULTS

In table 1, characterization data is presented, as well as other aspects, especially those regarding professional occupation performances before and after the diagnosis of CKD, and whether hemodialysis was conducted before the PD.

As can be observed, 9 subjects (75%) had a professional activity before the diagnosis of CKD, and only 3 (25%) had no professional activity. After the diagnosis, 11 (91.6%) were unable to maintain their professional activities, a fact highlighted by the participants as a negative quality of the treatment.

It was also found that, for 91.6% they already had gone through hemodialysis before the PD. The majority of participants reported an improvement and more satisfaction with the change of therapy, reporting that hemodialysis is more aggressive, and may cause more changes in the day-to-day lives of individuals.

Table 2 shows the main problem activities in OP. The most recurrent are those related to professional work, followed by travel, lack of physical exercise, practicing sports, and food restrictions, that is, generally, activities that require long periods of absence from home.

Patients, not being able to leave the house due to depending on the PD, face difficulties in maintaining those activities, which, generally, are far from home. The activities and problematic areas mentioned by the patients, reflect the meaning that they give to them, mainly because they have undergone changes in the occupational area. It is not possible for them to do what they did before, so there has been an interference in the execution of these activities.

Table 1. Characterization of patients with chronic kidney disease that undergo peritoneal dialysis. Belém/PA, 2016.

Patients	
Variables	n (%)
Age	54.1
Gender	
Male/Female	07(58.4%)/05(41.6%)
Marital Status	
Single/Married or Stable Union.	05(41.7%)/07(58.3%)
Educational level	
< 8 years/> 8 years	06(50.0%)/06(50.0%)
Performed professional activity before the CKD	
No/ Yes	03(25.0%)/09(75.0%)
Type of professional activity before the CKD	
Formal/Informal/Never worked	04(33.4%)/08(66.6%)/0(0%)
Maintained professional activity after the CKD	
No/Yes	11(91.6%)/01(08.4%)
Performed Hemodialysis before peritoneal Dialysis	
No/Yes	01(08.4%)/11(91.6%)

Age expressed as mean \pm standard deviation. (n^o): evaluation frequency. F(%) frequency in which they were cited during evaluation

Table 2. Problematic activities of Occupational Performance according to the Canadian Occupational Performance Measure cited by people with chronic kidney disease undergoing peritoneal dialysis. Belém/PA, 2016.

Problematic activities	n ^o	F(%)
Working	09	20.0%
Travel	05	11.2%
Restriction of food	04	8.9%
Decrease in the practice of exercises/sports	04	8.9%
Depending on other people	03	6.6%
Bath in a river	02	4.5%
Acquire health problems	02	4.5%
Practicing of sexual activity	02	4.5%
Take a walk (in the city, the home of relatives and friends)	02	4.5%
Driving	01	2.2%
Accomplish the role of mother/father	01	2.2%
Bathe	01	2.2%
To distance oneself from the family	01	2.2%
Decrease in the social participation	01	2.2%
Using material of dialysis	01	2.2%
Use of body image	01	2.2%
Smoking	01	2.2%
Study	01	2.2%
Sew	01	2.2%
Take care of a husband	01	2.2%
Drink beer	01	2.2%

(n^o): number of times that the problems were cited during the evaluation. F(%) frequency in which the issues were cited during the evaluation.

In table 3, we can observe that the occupational performance and satisfaction with occupational are diminished:

Table 3. Evaluation of performance and satisfaction with occupational according to the Canadian Occupational Performance Measure reported by people with chronic kidney disease that undergo Peritoneal Dialysis in Belém/PA, 2016.

Variables	n = 12
Occupational performance	2.40±1.07
Occupational satisfaction	3.38±1.32

Data are expressed as mean ± standard deviation.

The main areas and problems of occupational performance of these individuals are in table 4. The areas of self-care, personal care, and independence outside home, showed the greatest number of

problems. As to the productivity, professional work was the most commonly mentioned, followed by domestic chores, and in the area of leisure, active recreation was cited by almost all interviewees.

Table 4. Problematic areas of Occupational Performance pointed out by people who undergo Peritoneal Dialysis, according to the Canadian Occupational Performance Measure. Belém/PA, 2016.

Problematic areas	n ^o	F(%)
Self-care		
Personal care	09	16.1%
Functional mobility	02	03.5%
Independence outside from home	06	10.7%
Productivity		
Work	10	17.9%
Household chores	06	10.7%
Play/school	-	-
Leisure		
Peaceful recreation	06	10.7%
Active recreation	11	19.7%
Socialization	06	10.7%

(n): number of times that the Areas of Occupational Performance were cited during evaluation. F (%) frequency in which the Areas of Occupational Performance were cited during evaluation.

Table 5 shows, within each area of performance assessed by the COPM, what were the specific areas that presented themselves as problems for the patients, this information revealed important contributions

to this research, since it was able to indicate how much the change in occupational performance in some areas can affect the daily lives of the individuals that undergo peritoneal dialysis.

Table 5. Occupational performance, by area of occupation, of persons who undergo Peritoneal Dialysis according to the Canadian Occupational Performance Measure. Belém/PA-2016.

	<i>n</i> ^o	<i>F</i> (%)
Self-care		
Personal care		
<i>Clothing</i>	02	2.5%
<i>Eating</i>	07	8.8%
<i>Bathe</i>	02	2.5%
<i>Beauty/esthetics</i>	01	1.3%
Functional mobility		
<i>Walking</i>	02	2.5%
Independence outside from home		
<i>Shopping</i>	03	4.0%
<i>Transport</i>	05	6.3%
<i>Go to the supermarket</i>	01	1.3%
<i>Finance</i>	03	4.0%
Productivity		
Work		
<i>Working</i>	10	12.6%
Household chores		
<i>Washing clothes</i>	01	1.3%
<i>Cooking</i>	04	5.0%
<i>Clean the house</i>	05	6.3%
<i>Wash the car</i>	01	1.3%
Play/school	-	-
Leisure		
Peaceful recreation		
<i>Embroidery</i>	01	01.3%
<i>Studies</i>	01	01.3%
<i>Crafts</i>	01	01.3%
<i>Read the newspaper</i>	01	01.3%
<i>Do cross word</i>	01	01.3%
<i>Watch TV</i>	02	02.5%
Active recreation		
<i>Travel</i>	09	11.0%
<i>Play football</i>	02	02.5%
<i>River bath</i>	01	01.3%
<i>Sports</i>	02	02.5%
<i>Tours</i>	03	04.0%
Socialization		
<i>Receive visits</i>	01	01.3%
<i>Visit friends/relatives</i>	05	06.3%
<i>Go to parties</i>	02	02.5%

(n): number of times that the Areas of Occupational Performance were cited during evaluation. *F*(%) frequency in which the Areas of Occupational Performance were cited during evaluation.

DISCUSSION

The application of the Canadian Occupational Performance Measure (COPM) has revealed the main areas of performance changed by Chronic Kidney Disease and Peritoneal Dialysis.

A low level was found both in performance and in occupational satisfaction in the main activities of people with CKD who undergo PD, confirming that changes in the daily lives of these people are common in several occupational areas¹⁵.

In the comparison between the interviews and the scores obtained through the COPM, most people with CKD who undergo PD said they did not have problems related to the fact they needed a substitutive renal therapy, but when asked about self-perception about the daily tasks, there were problems directly linked to areas of occupational performance.

Of the problems most often cited, changes in eating habits were highlighted, as well as in working and traveling. These

problems relate to the areas of self-care, productivity, and leisure, respectively, which is consistent with another study that also found these occupational problems¹⁶. Generally, the most cited activities are those that demand long periods away from the place where the equipment for the realization of the dialysis is. The participation in the activities and in the daily occupations are influenced by the procedure.

In regard to the eating habits, according to the medical indications, the individual affected by chronic kidney disease needs to follow a strict diet, even when uniqueness of each individual is considered^{17,18}. The special diet may require significant changes in the eating habits and behavioral patterns of the patient. The ingestion of their favorite foods becomes restricted, and they are replaced by other not-so-pleasing ones¹⁹. This relationship of the disease with the eating habits is of great importance for the success of the treatment, because a diet prescribed according to the guidance of the nutritionist, considers the biochemical physiology, clinical symptoms and physical individualities¹⁷.

With the evolution of the CKD, the patients are removed from paid jobs, mainly due to the treatment, trips to the hospital, medical consultations and hospitalizations, and sessions of dialysis that lead to missing a work day, all these factors cause losses of material welfare and dissatisfaction^{20,21}.

In relation to the work, it is considered of extreme importance that the healthcare professionals listen to these issues of the lives of individuals with CKD, as this is another side of the necessities they experience, not only due to financial aspects, but mainly, because of all the issues involved, such as the presence of idleness, the feeling of uselessness and devaluation, as well as the feeling of being a weight/burden to the family^{22,23}.

In a study with patients with chronic kidney disease which had "work" as a theme, it was found that for 62.5% of participants, work is understood as a way to reach personal validation and fulfillment in the society where they live; 47.7% indicated that

the work is the main reference of life, and therefore, is what guides the plans that one makes in relation to family, social life, achievements and leisure²². Other meanings were also assigned to work, mainly as a source of financial income to the family, and meeting the basic needs depends on it, besides its social and family utility, improving the physical and mental health and the independence to manage life, expenses, and necessities^{24,25}.

In relation to leisure or entertainment activities, they are considered occupations in which the individual need to spend time and energy. The participation in a game, sport, hobby, crafts, or travel can be considered human occupations²⁶.

Stopping doing trips and leisure activities can bring changes in the occupational performance of the individuals. The impossibility to travel was one of the aspects most frequently mentioned by the participants as a negative point of the peritoneal dialysis. The patient is not forbidden to do walks or trips by medical prescription, however, the participants highlighted the difficulty of transporting the materials needed for the procedure and not having an appropriate environment for doing it.

CONCLUSION

The scores of the COPM showed that, in general, the areas of occupational performance most affected were work and active leisure, and that the level of satisfaction in these areas was very low, because the participants were not able to do the occupations as they wanted.

In general, all the areas observed by the COPM experienced some type of change, being cited at least once, a fact that demonstrates that a Substitutive Renal Therapy brings health benefits, but, on the other hand, affects the occupations performed by the people who undergo Peritoneal Dialysis.

Most patients reported an improvement in their quality of life after the initiation of treatment with Peritoneal Dialysis, especially when compared with

hemodialysis, because they judged the latter as more aggressive treatment to their general state of health. Therefore, the PD is seen as a good treatment option, bringing benefits both for health and for the psychosocial well-being, but has negative repercussions on the daily lives of these individuals.

The research showed the need for other studies regarding occupational demands and the role of Occupational Therapy for these clients. On the other hand, the limitation of this study — the lack of monitoring of this population throughout the process — does not interfere with the relevance of the results obtained, but signals the importance of doing periodic and continuous evaluations.

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CONTRIBUTIONS

Alice da Silva Moraes contributed in the design, collection of data, analysis, interpretation, discussion of results, and writing. **Airle Miranda de Souza, Teresa Christina da Cruz Bezerra de Sena and Luiz Fábio Magno Falcão** participated in the revision of the manuscript. **Victor Augusto Cavaleiro Corrêa** was responsible for the research, orientation, analysis and discussion.

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