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CLÍNICA

Safety automated peritoneal dialysis-DPA in children by primary caregivers home

Seguridad de la diálisis peritoneal automatizada-DPA en niños por cuidadores primarios en casa

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Palabras clave: Seguridad; Diálisis Peritoneal; Cuidado de Enfermería; Visita domiciliaria.

ABSTRACT

Introduction: Chronic renal failure in children is considered high-cost disease, causing great emotional impact, family and society on the child and the primary caregiver. Most of the processes of care in this group of patients are complex, requiring renal replacement therapy.

Objective: Evaluate the Safety of DPA children at home, through training for nursing primary caregivers.

Material and Mhetods: Cross-sectional study using convenience sampling included 12 primary caregivers of children in DPA urban and rural area of Valle del Cauca department belonging to the Renal Unit of Cali-Colombia, was assessed through home visits: socio-demographic profile, environmental conditions, treatment adherence, and risk factors in two time periods.

Results: We evaluated 12 children between 5-18 years, 60% with 10-15 years, at ambient conditions, 83% lived in houses completed, 17% in construction, 50% belonged to socioeconomic status 2. In relation to the educational level of the caregiver, 58% attended elementary, 58.3% had a caregiver to mother, father 8.3% and 25% the same patient.

Conclusion: Children with APD are vulnerable to multiple risk factors, being strategies necessary for evaluation. The interdisciplinary team and especially addressed nurse care guidelines for DPA, becoming an effective way to minimize risks and complications triggers to develop skills to guide DPA security at home.

RESUMEN

Introducción. La Insuficiencia Renal Crónica en pediatría es considerada como enfermedad de alto costo, generando gran impacto emocional, familiar y social en el niño y el cuidador primario. La mayoría de los procesos de atención en este grupo de pacientes son complejos, requiriendo terapias de remplazo renal (TRR)

Objetivo. Evaluar la Seguridad de la DPA a niños en casa, a través del entrenamiento a cuidadores primarios por enfermería.

Material y Métodos. Estudio descriptivo transversal, utilizando muestreo por conveniencia, incluyó 12 cuidadores primarios de niños en DPA de zona urbana y rural del departamento del Valle del Cauca que pertenecían a una Unidad Renal de Cali-Colombia, se evaluó por medio de visita domiciliaria: perfil socio demográfico, condiciones ambientales, adherencia al tratamiento y factores de riesgo en dos periodos de tiempo.

Resultados. Se evaluaron 12 niños entre 5 a 18 años, el 60% con 10 a 15 años; en condiciones ambientales, el 83% habitaban en casas terminadas, 17% en construcción; 50% pertenecían al estrato socioeconómico 2. En relación al nivel educativo del cuidador, el 58% cursaban primaria, 58.3% tenían como cuidador a la madre, 8.3% padre y 25% el mismo paciente.

Conclusión. Los niños con DPA son vulnerables a múltiples factores de riesgo, siendo necesario estrategias para su evaluación. El equipo interdisciplinario y en especial el profesional de enfermería direccionan lineamientos al cuidado de la DPA, convirtiéndose en una forma efectiva para minimizar riesgos desencadenantes de complicaciones y poder desarrollar destrezas que orienten la seguridad de la DPA en casa

INTRODUCTION

Currently one of the major public health problems in the world, therefore the impact on quality of life of patients and their family environment and economy of the health system, is the growth of populations with chronic diseases for which high-tech treatments are required and prolonged generating an increase in survival. Withi this group of diseases is the IRC[(1)]

In children and adolescents with CKD 55% of cases are due to congenital abnormalities of the urinary tree , where the processes of care are more complex due to the clinical condition , which affects a progressive deterioration of renal function, leading Dpone of the TRR[(2)]

The limited epidemiological data on incidence and prevalence of CKD in children, one can recognize that the data collected are based on terminal stages, with very few reports of IRC in early stages, in which patients are asymptomatic. It is considered that the number of patients in primary stage, which is fifty times more cases with IRC Terminal[(3)]

Although studies vary depending on the country, for example Italkid group [(3)] report an incidence of 1.12 and a prevalence of 74. 7 million in people under 18 in Spain incidence of 8.7 and a prevalence of 71.1 per million population of the pediatric population in the U.S. is estimated incidence in children 1-3 per million population in the prevalence of chronic renal disease is less advanced stages, which could be 3 or 4 times greater than the TRR[(2,3)]

According to the Latin American record of pediatric renal transplant during periods that took place 2004-2008 American Association of Pediatric Nephrology (ALANEPE) included 1,458 patients, with an average of 291 per year, 55 % males in the age average age was 11.7 ± 4.3 , 11% under age 5 , reporting that in Latin

America, the incidence of end stage renal disease (ESRD) is 8 per million inhabitants, where pediatric patients represent 5 % of the 8,000 kidney transplants performed in Latin America in 2006 . This indicates that at present the incidence of ESRD in Latin America is 2.4 to 15.8 cases per million population under 15 years compared with 2.8 cases Colombia[4]

These reports have been made with the population under 15 years of age, which underestimates the data because a significant proportion of patients with ESRD to enter between 15 to 19 years of age, accounting for approximately 50 % of the group between 5 -19 of age[2] .

Peritoneal dialysis

Treatment of IRC includes a specific therapy based on the diagnosis, prevention, treatment of complications of CKD, preparation for renal replacement therapy and renal function replacement (dialysis or transplantation).

In pediatric patients, the PD is the most common modality for the treatment of advanced-stage renal disease

Safety and quality in health care

For the same vulnerability that exposed the child, covering a panorama that complex is shown from the point of view of quality and safety that you need the dialysis process for whom the technology, availability of inputs required, the proper aseptic technique can become a barrier to achieving treatment success at home, Decree 1011 of 2006 of the Ministry of Social Protection of Colombia , provides clinical safety as an integral part of the quality and defined as the set of structural elements, processes tools and methodologies based on scientifically proven evidence that minimize the risk of an adverse event in the process of health care or to mitigate its consequences[5,6,7] .

The quality of health care is defined as the provision of health services to individual users and groups in an accessible and equitable, through optimal professional level, taking into account the balance between benefits, risks and costs, with the purpose of attracting the adherence and satisfaction of the user. The Mandatory System Quality Assurance involves nursing professionals across the humanistic processes where this is genuinely concerned about the people who rely on their care, especially those who experience a situation of illness and suffering.

Nursing and caregiver

Studies of nursing intervention programs to patients with chronic propose that education and patient assessment in its environment, enables detection of changes related to systemic and implementation of interventions apropiadas.9 education children and teens about managing the IRC and continuous evaluation of the results of these are also essential for the care provided by the nursing professionals can be effective[10,11]

Considering the above, the role exerted nursing as an educational reference for the child, the caregiver and family, to develop the best strategies to increase the quality of care in ambulatory DP is crucial , not only for the educational component

but also because it empowers the caregiver listens and works with him to adjust actions to facilitate the DP.

Therefore, home care involves elements that are priorities for maintaining the quality of life of children and deserves strict compliance with the instructions supplied by the nursing professional to the family, where the primary caregiver becomes the primary network support, this should receive training in order to develop skills to prevent and identify symptoms and thus be able to report the presence of possible infections like peritonitis, which is one of the most severe complications in peritoneal dialysis what to do and who to call in case of an emergency, besides the evaluation of each intervention on the primary caregiver demonstrates the quality of care provided, taking into account the appreciation of these primary caregiver[8,12].

Transcultural care, caritas process and multidisciplinary work

To develop quality care, nurses must consider a fundamental part interaction with the patient, family and community, holistic view of the patient and high affective content for the patient, so it requires to have a humanist spirit, grand opening to patient needs, willingness to work in teams, and creative ability to convey experiences and knowledge of both the patient and the family and the health team, respecting their own cultural conceptions of care.

The way both caregiver and child develop their care processes contains a series of important meanings that give meaning to their experience of life and health to act against the daily care. And it is in this aspect where nursing professionals helps the caregiver to make decisions and acquire skills and knowledge related to the care and therapeutic techniques that support, guide and promote long as you keep in mind, as mentioned Leininger: "Discover why cultures have different models of care and different ways , because he is feeling good and sick nursing a vital issue" [13]

Based on the above, the work of Professional Nursing, focuses on relationships transpersonal care, linking well, the theory of care Jean Watson, who says that nursing is an art, when the nurse experiences and understand each other's feelings it is capable of detecting and feel these feelings, in turn, is able to express and this is evident in the commitment of the caregiver to the patient[14].

In this sense, the impact of comprehensive and multidisciplinary work of health professionals nefropediatría programs is crucial to the achievement of therapeutic goals, where doctors, nurses, psychologists, nutritionists and social workers. This is where the nurse becomes the articulator point of intervention besides who does actively seeking children to compliance issues. It is known that a multidisciplinary team in children and adolescents with CKD can delay the progression of renal dysfunction to a remarkable degree[15,16].

METHODOLOGY

This is a descriptive cross-sectional study, all children and adolescents who were currently active in the DPA program at home, the renal unit RTS Versailles, a total of 12 were included. The target population was obtained using a convenience sample of 12 CP children aged 5-18 years in urban and rural areas of the department of Valle del Cauca. For data collection a previously validated

instrument, "Format for Nursing Home Visit -DPA". This format has several aspects for assessing the safety of dialysis process, which is carried out at home by the caregiver, was applied through home visits by the Professional Nursing. In the first application of the instrument, July 15, 2011 was attended by 12 children, the second application on February 14, 2012, it had 4 since the remaining 8 had been transplanted. The instrument was applied in urban and rural areas of the Department of Valle del Cauca, Colombia.

Patient's age, level of education, type of housing, socioeconomic status, type of caregiver, caregiver education level, home DPA procedure (defined seven stages: input preparation, assembly cassette study the following variables were collected, priming the cassette, free bags, free to the patient, the patient off and disconnect the cassette), recognizing signs of infection. Data were entered into a template in Excel ® and processed in the SPSS ® Software Version 17.0 through tests and univariate descriptive statistics and bivariate analysis of variables using parametric tests (Student's t) and nonparametric (Mann-Whitney U). A $p < 0.05$ was considered statistically significant.

Participation in the research was not mandatory, so informed consent and assent, in which voluntary participation in the project and had the right to withdraw the sitter when you decided to be informed in writing is presented. The study was approved for development by the Human Ethics Committee of the Faculty of Health, Universidad del Valle, on June 13, 2011.

RESULTS

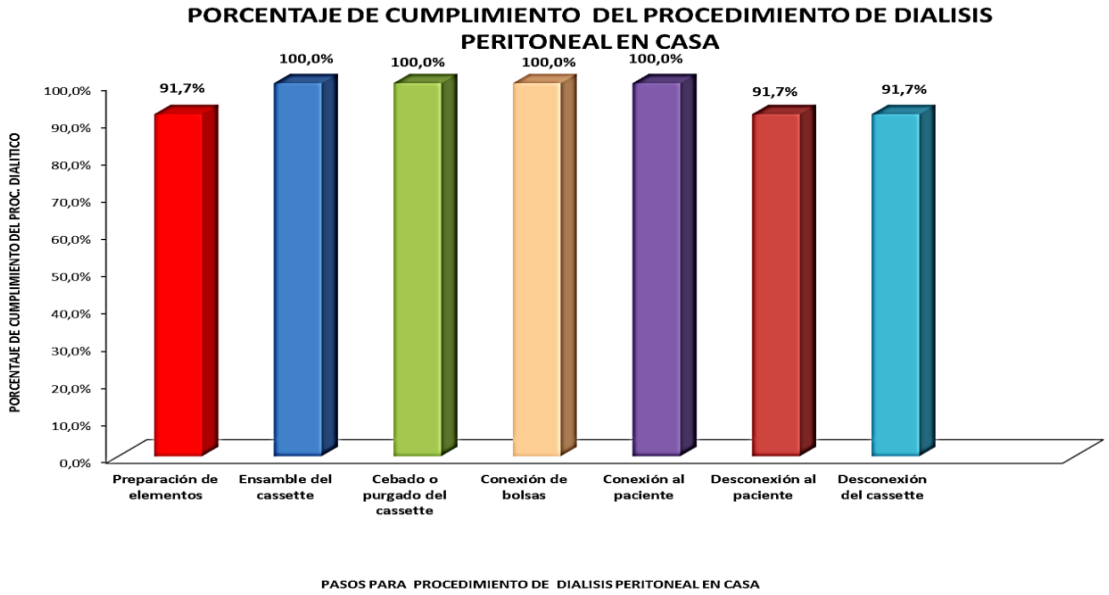
When checking environmental conditions, cultural and economic partner, in which DPA is developed in house found that 60 % of children / adolescents are among 10-15 years old , 25% between 5 and 10 years old and remaining at ages between 15 and 18 people. Regarding housing conditions was demonstrated that 83 % live in finished house and 17% in construction, residing in the rural and urban area of the city of Cali and the Valle del Cauca Department. With respect to socioeconomic status found that 33 % of the sample belongs to stratum 1, 50% 2 and the remaining stratum 3 17%. Regarding the educational level of the primary caregiver 58% finished primary, 25% secondary and 17 % have technical studies. In assessing the nature of the primary caregiver was found that 58.3% of cases was the mother of the patient who performed the DPA, 25% were performed by the same patient, by 8.3% mom and 8.3% other relative.

When the bivariate analyzes and crossing variables, it was found that the recognition rate of bleeding Vs Caregiver education level, those with primary education have a recognition rate of 43%, with 67 % secondary level and technical level 100%. When SES Vs Recognition cloudy liquid, which corresponds to one of the signs of infection, crossed was observed in stratum 1 was a recognition of 75%, the layer 2 of 100% and stratum 3 from 0%. Finally to evaluate the seven points DPA process , we found that in the preparation of the elements, the patient off and unplugging the cassette had a compliance rate of 91.7 % , and the rest of the points assessed a fulfillment was obtained 100% (see Figure 1).

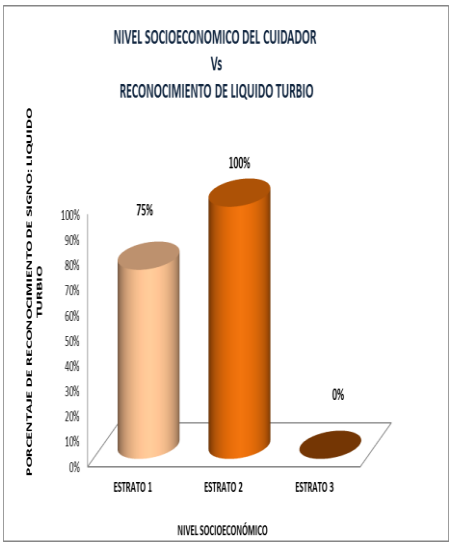
At the second home visit to assess adherence to the indications for peritoneal dialysis at home taught by the Caregiver Nursing, socioeconomic status variables

Vs Percentage recognition of signs of infection were related and that the stratum 1 evidenced , 2 and 3 had a rate of 100 %.

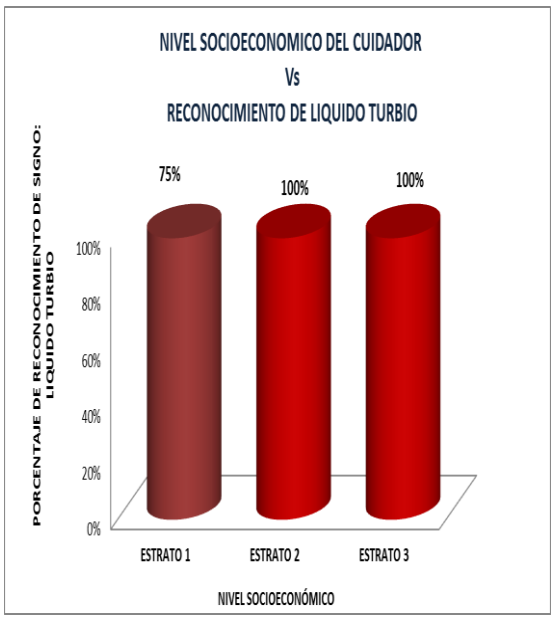
Graph 1.



Graph 2. Findings of the first tour. Socioeconomic status recognition vs cloudy liquid.



Graph 3. Second visit. SES Vs recognition cloudy liquid



DISCUSSION

In this study we have addressed the issue of security in our region DPA from the extramural care is done from a renal unit serving pediatric reference population. As suggested by the experience, and some previous studies, [15,16] observed that the share of primary caregivers, the orientation of the multidisciplinary team, particularly the Nurse Practitioner who is doing the extramural care is important to optimize adherence to treatment, recognition of risk factors and the successful implementation of the DPA at home. This research could confirm the above by applying the format home view, with which we explore in a clear and simple the more specific aspects of the DPA process at home, just as facilitates communication with family health team, bringing them closer to the recommendations and education, this was achieved based on the training and assessment is done for two weeks prior to the CP in the DPA renal unit. This relates evidenced by the group of Mexico [15] relative to patients and caregivers are trained to perform the technique 2-3 weeks after starting therapy and training DP usually takes between 1 and 2 weeks. Consequently, multidisciplinary work as mentioned Guido Filler and Steven Lipshultz[16], becomes an effective and efficient strategy to slow the progression of renal dysfunction.

In Colombia the incidence of end stage renal disease ESRD is 2.8 cases per million population in under 15 years, believes it could be increasing in the coming years. Some of these patients are treated at centers where there is an interdisciplinary team trained in childhood and adolescence and the transition to adulthood ends sometimes be traumatic. Fortunately, the existence of equipment Nefropediatría in renal units allows, where possible assistance to children / adolescents within a context of transition preparing for adulthood in these cases is assured the child, primary caretaker and his family in general thanks to the capabilities and extramural multidisciplinary team evaluation monitoring DPA at home. However for many circumstances, such as lack of political programs in pediatric chronic disease to facilitate the transition to young adulthood. In this context, regionalization of care for the child / adolescent and caregiver DPA

requiring comprehensive care and optimization in extramural care is a key strategy to optimize health outcomes in our country, in turn, the creation of trained teams of physicians, nurses , nutritionists and social workers to standardize procedures is a priority, because this strategy multidisciplinary team based IRC evidence has demonstrated the advantages and optimization of results in the evolution of other patients 17.1, side the study highlights that 25 % of carers are children themselves ie they themselves are the connection and disconnection of the machine there are realized the importance of multidisciplinary teams nefropediatría able to guide, monitor and adjust, these and his family in the DPA process. Bromer J [17] supports the socioeconomic factor is one of the elements for non-adherence. However, in the present study this was not the case, since in the first visit, there was difficulty higher socioeconomic level in recognizing some signs of infection. It is impossible to say that this fact is significant because of the type of sample used, it is also a fact that must be found and present to explore in future research.

It should be noted that the work of the caregiver is an experience of commitment, time, and practice fundamental skills in demand care always based on love and care in art is always vital that nursing professionals to experience and understand the feelings other [14] , although the aim of this investigation was to explore feelings of the child / adolescent and family could perceive joy, optimism on the part of children and parent at the time of the evaluation visit and caregivers.

Additionally, under the theory Leininger [13], cultural perspective and its influence is analyzed in the care, where cultures are unique and should be evaluated according to their own values and norms, where transcultural care should be based on observation and in the cone of the cultures. Thus, like the family in conjunction with the nurse in this paper were made, designed strategies to improve the procedure of DPA, for example in the implementation of handmade sink, covering walls with disposables, among others, all based on the need to optimize the care with the same resources they have.

During the present study, the patients had no complications in the TRR, and had no changes of metabolic and infectious deterioration in the clinical course.

Our study has limitations on the type of sampling, however, were the only patients who at the time belonged to the program and were in DPA.

Thus making a subtle integration of the findings in the study, where the home visit becomes a key tool to perceive the environment of children and their primary caregiver, the physical space available to perform the DP and at conjunction with the Professional Nurse to implement strategies to optimize care for the child based on the conception that tending let us know, explain, interpret and predict healthcare processes for strengthening practice are explored believe that home visits be mandatory in chronic disease programs.

CONCLUSIONS

The process of DPA within the framework of this research shows effective work by the nursing professional associated with the multidisciplinary work that is done in Program DP Renal -RTS Versailles Unit, which consists of Physicians, Professional nursing, Psychologists, Nutritionists, Social Workers, which

demonstrates the commitment of the team with pediatric renal patient and primary caregiver, impacting their quality of life.

The format of home visit is a useful tool in assessing skills, conditions and adherence to treatment, because the Professional Nursing allows positively reinforce the acceptance of treatment and to verify that the dialysis process is carried out safely and effectively to verify the ability of the patient / caregiver in performing peritoneal dialysis at home, site conditions, storage of parts and supplies, the level of adherence of the patient and family treatment and risk factors for complications in treatment.

This research opens the door to future lines on different topics such as: use of Information and communication technologies in education and training to families and patients with renal disease, also assess other quality attributes or family-centered care.

Education, supervision, monitoring and continuous monitoring of the family are necessary during renal replacement therapy at home.

Research and multidisciplinary work permit route care processes so that interventions different fields of action, recognizing and implementing strategies that enhance the care of Family and Children.

To evaluate the safety of children on PD in primary caregivers at home becomes a standard element to analyze the quality of care.

It should be noted that with the limited resources these families have an impact on the adequacy of the site is achieved for the DPA, this is demonstrated in the presence of infectious complications.

To extend the results of future studies with larger sample sizes and greater number of home visits is suggested

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