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CLÍNICA

Self-care capability of patientes in peritoneal dialysis: a pilot study in Bogota

Capacidad de autocuidado de los pacientes en diálisis peritoneal: un estudio piloto en Bogotá

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Keywords: self-care activities; peritoneal dialysis; Dorothea Orem; chronic renal failure.

Palabras clave: actividades de autocuidado; diálisis peritoneal; Dorotea Orem; insuficiencia renal crónica.

ABSTRACT

Objective: To measure the self-care capability and its relation with the socio-demographic and clinical characteristics in a group of patients from the peritoneal dialysis program according to their self-care capability.

Methodology: A prospective-descriptive cross-sectional study was performed. Three data collection instruments were applied: A socio-demographic and clinical characteristics form, the Morisky-Green test and the Appraisal of Self-care Agency Scale (ASA) were used with 87 patients, male and female alike. They were all over 18 years old and they were going through a peritoneal dialysis treatment having been over a month in the program. A descriptive analysis was done which included absolute and relative frequencies, central tendency and dispersion measures for the Morisky-Green test and for the socio-demographic and clinical tendencies. A multiple correspondence analysis was also done, using as the illustrative variable the self-care capability and as the control differences the socio-demographic and clinical variables.

Results: 60% of subjects reported sufficient self-care capability and the remaining 40% reported an insufficient self-care capability. In addition, the self-care activities that the subjects perform the most were defined.

RESUMEN

Objetivo: Medir la capacidad de autocuidado y su relación con las características sociodemográficas y clínicas en un grupo de pacientes del programa de diálisis peritoneal de acuerdo con su capacidad de autocuidado.

Métodos: Estudio descriptivo prospectivo de corte transversal. Se aplicaron tres instrumentos de recolección de datos: formulario de características sociodemográficas y clínicas, test de Morisky-Green y la escala Appraisal of Self-care Agency Scale (ASA) a 87 pacientes, hombres y mujeres, mayores de 18 años en tratamiento de diálisis peritoneal, con un mes o más de permanencia en el programa. Se realizó un análisis descriptivo que incluyó frecuencias absolutas y relativas, medidas de tendencia central y de dispersión para: el test de Morisky-Green, las variables sociodemográficas y clínicas, Se hizo análisis de correspondencias múltiples, tomando como variable ilustrativa la capacidad de autocuidado, y como activas: las variables sociodemográficas y clínicas.

Resultados: El 60% de los sujetos reportaron suficiente capacidad de autocuidado y el 40% deficiente capacidad de autocuidado, además se determinaron las actividades de cuidado de sí mismo, que los sujetos de estudio realizan con mayor frecuencia.

INTRODUCTION

"Self-care is a behavior that exists in concrete situations of life, directed by persons to themselves, others or the environment, in order to regulate the factors that affect their own development and functioning in the benefit of their lives, health or well-being." [1]

Caring for oneself is very important when referring to patients with Chronic Kidney Disease (CKD), which has been considered in the Colombian General Social Security in Health System (SGSSS) as a high cost disease for it generates a high economic impact and it causes a harmful effect to the patients' and their family's wellbeing, including job related repercussions. It is estimated that in the last few years its handling has incurred in about 2% of the nationwide health expenses and 4% of the health-related social security expenses. According to data from the Social Protection Ministry, in the high cost account for the year 2011, 640,492 people were reported as affected by this disease, with a mortality rate of 10.63% in 100,000 affiliated [2].

Taking into account the magnitude of this problem, self-care activities are important because of the influence they exert in controlling the main risk factors that can originate complications in the patient who is in peritoneal dialysis. If patients acquire timely, adequate and individualized education, which in turn integrates physical, emotional and social aspects, it is expected that they make themselves responsible for caring for their own health.

Knowledge about how to care for oneself and the abilities to do so augment the capability of the patients and their families to evaluate their state of health and to determine the need to seek professional attention, as concluded by Sánchez in a study performed with patients with ischemic cardiopathy when writes, "*The educational support supplied by the nursing staff influences the patients positively in their self-care capability"* [3] because it allows them to be aware, attend to the diseases' effects and meet the medical and diagnostic prescriptions, as well specific rehabilitation measures.

It is necessary to remember that the care necessity perception is unique to each individual, as are their actions and the manner in which each one performs them in order to take care of themselves, as they are determined by habits and customs, that is, by social conditions [4, 5, 6], a relevant aspect to the person with CKD who must modify his or her life to adapt to the disease. Because of the above, the purpose of this pilot study was to measure the self-care capability and its relation with socio-demographic and clinical characteristics in a group of patients of the peritoneal dialysis program in two health services provider institutions in Bogotá, Colombia.

The results obtained are useful to guide health professionals in the design of specific care and education plans which allow people in peritoneal dialysis to compensate the self-care deficit. Additionally, it is expected that they influence the quality of life of the patients and their non-professional caretakers with the reduction of preventable complications. Furthermore, they will benefit in an indirect way the countries' economies, with the reduction of costs generated by complications avoidable with self-care activities.

MATERIALS AND METHODS

This is a prospective-descriptive cross-section study in which interviews were performed to 87 patients both men and women all older than 18 years old, in peritoneal dialysis treatment ordered by a nephrologist, with a permanence of month or more in the peritoneal dialysis program in two renal units in Bogotá, Colombia, during the March-September period of 2011. People with previous alterations, or alterations acquired during treatment, which prevented them from taking care of themselves, and patients who refused to participate in the study were excluded. Non-probabilistic sampling was used for convenience.

With a prior informed consent and with a warranty of anonymity, nurses who were in their last semester of Urological and Nephrological Nursing applied three instruments:

- A questionnaire to measure the patients' sociodemographic characteristics and clinical variables.

- The Morisky-Green test, to determine adherence to treatment.

- The Appraisal of Self-care Agency Scale (ASA) proposed by Isemberg in 1983, [7] translated to Spanish as "Escala de Valoración de Agencia de Autocuidado (ASA)", which is a 24 item instrument, Likert type scale, modified for Colombia by Edilma de Reales with the author's authorization and validated by Manrique and Velandia for the population of Bogota [8]. Scoring is as follows: 1 corresponds to never, 2 to almost never, 3 to almost always, and 4 to always. Therefore, the subject with the maximum self-care capability will have a score of 96, and the subject with the minimum capability will have 24. Data were analyzed using absolute and relative frequencies, and central tendency and dispersion measures for the sociodemographic and clinical variables, according to their nature. The classification of the self-care capability was done based on what was written by Rivera and Díaz, who proposed two categories according to sections generated by mean as follows:

  - If the total value for each person is equal or higher than the mean, it is classified as having enough self-care capability.

  - If the total value for each person is inferior to the mean, it is classified as having a deficient self-care capability. [9]

Multiple correspondence analysis was done, taking as illustrative variable the self-care capability, and as active the clinical and sociodemographic variables [10]. In order to determine the items requiring more attention at the time of planning education

programs or developing care plans, a profile graph was built, which allowed for their easy location. Stata 12® and Spad 7.3® were used for the statistical analysis.

ETHICAL ASPECTS

This study is descriptive, therefore, the life and integrity of the subjects is not under risk in accordance with Article 11 of the Resolution 8430 of 1993, by the Colombian Health Ministry [(11)]. The project was approved by the Research Committee of the Fundación Universitaria de Ciencias de la Salud. Once the informed consent forms were signed by each of the subjects of the study, information was collected by students in their semester of the Nephrological and Urological Nursing specialization, who immediately after obtaining the data wrote with each person their care plan focused in compensating for the deficit in self-care capability.

RESULTS

Sociodemographic Characteristics of the study population

In the revision of institutional records 94 patients were found to meet the inclusion criteria, four of which did not attend their control, and three who did not wish to participate, thus, the instruments were applied to 87 patients: 42 from Renal Unit 1 and 45 from Renal Unit 2.

The mean age of the study subjects was 54.7 (SD: 14.4), 51.7% of the population was male and 48 participants were married; Socioeconomic strata 2 and 3 were predominant. Most of the participants had completed elementary school, 24 of them were unemployed and 24 had informal employment (Table I).

Table I. Sociodemographic Characteristics of the Study Population Clinical

	n (87)	(%)
Marital status		
Single	13	14.94
Married	48	55.17
widower	10	11.49
cohabitation	12	13.79
Separate	4	4.6
Level socioeconomic		
Stratum 1	12	13.79
Stratum 2	40	45.98
Stratum 3	32	36.78
Stratum 4	3	3.45
Educacional level		
No education	2	2.3
Primary	37	42.53
Baccalaureate	34	39.08

Téchnical	4	4.6
Academic	10	11.49
Occupation		
Employee	10	11.49
Unemployed	24	27.59
Pensioner	18	20.69
Self-employed	11	12.64
Various occupations	24	27.59

Source: Researchers, 2011.

Clinical Characteristics of the Study Population

The median time of permanence in dialysis was of 36 months and the family antecedent reported with highest frequency was hypertension. According to the etiology of CKD, most were considered of diabetic origin. The data reported that 57% of the people exercise, 62% are committed in their pharmacological treatment, and 78% follow the indicated diet. (Table II).

Table II. Clinical Characteristics of the Study Population.

	n(87)	(%)
Perception of health status		
Bad	4	4.6
Regulate	35	40.2
Good	47	54.0
Very good	1	1.2
Family History		
None	18	20.69
Diabetes	20	22.99
Hypertension	32	36.78
Diabetes + Hypertension	17	19.54
Personal history		
None	4	4.65
Diabetes	9	10.47
Diabetes + Hipertension	24	27.91
Hypertension	43	50
Hypertension + dyslipidemia	4	4.65
Hypertension + Coronary syndrome	1	1.16
Coronary syndrome	1	1.16
Etiology of the IRC		
Diabetes	31	35.63
Diabetes + Vascular	1	1.15

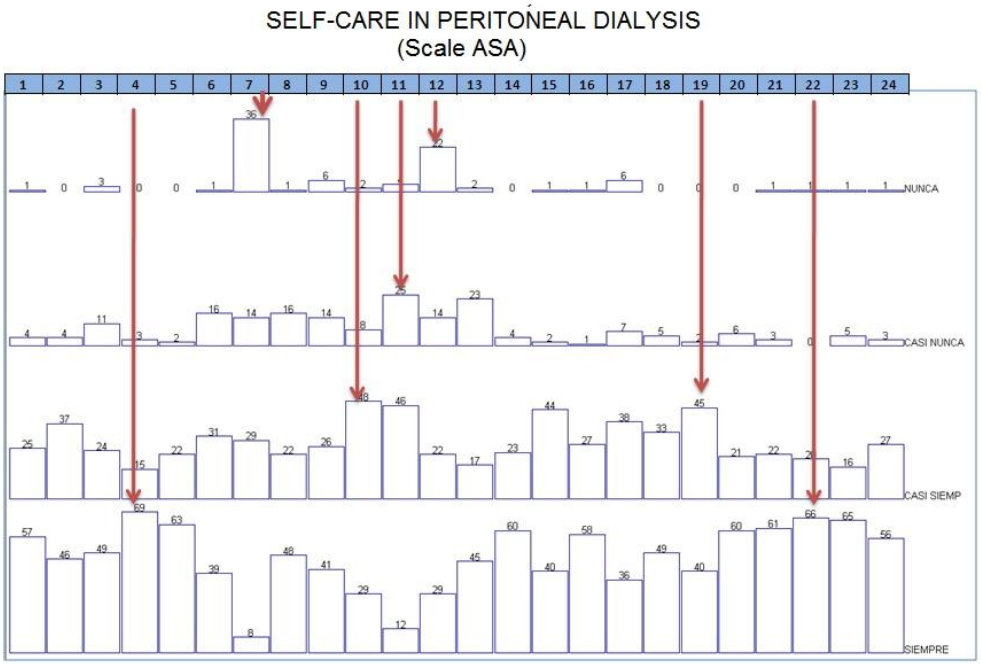
Glomerular	19	21.84
Glomerular + Cystic	1	1.15
Vascular	19	21.84
Cystic	1	1.15
Other	15	17.24
Exercise	50	57.47
Adequate diet	68	78.16
Adherence to drug treatment	54	62.07
Time of dialysis (months) median (RIQ†)	36	(18-60)

Source: Researches, 2011.

Self-Care Capability in the Study Population

Multiple correspondence analysis was done, taking as illustrative variable the self-care capability, and as active the sociodemographic and clinical variables. The mean result in the ASA scale was of 76.4 points (SD: 5.5). Taking this data as cutoff point in accordance with Rivera and Díaz (9), 60% of the subjects reported having enough self-care capability and 40% were shown to have a deficient capability. The per-item analysis showed that 36 people answered they “never” can find better ways of caring for their health than those they now have. The “almost never” assessment was chosen by 25 people when answering item 11: “I think about exercising and resting a little during the day, but I don’t get to do it” (Figure 1).

Figure 1. Profile of the self-care capability according to ASA Scale of the Study Population



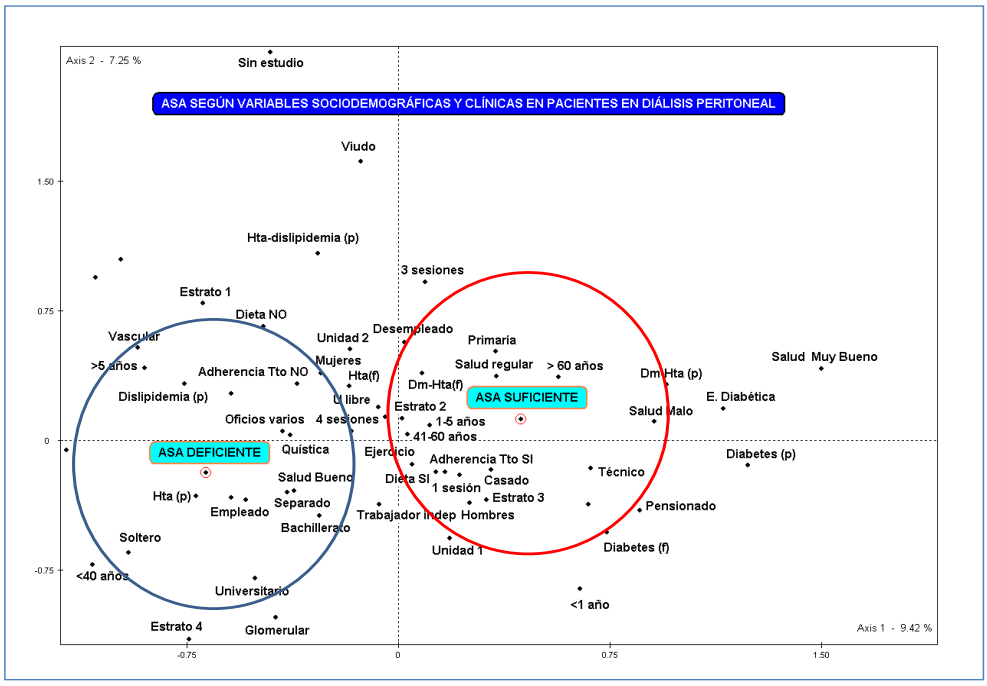
Source: Researchers, 2011

The answer “almost always” was chosen by 48 people in the item “when there are situations that affect me I handle them in a manner that allows me to maintain my way of being”, and 69 people manifested they “always” can do whatever necessary to maintain clean the environment where they live (Figure 1).

Characterization of the clinical and sociodemographic with relation to the self-care capability.

The results reported by the ASA scale with relation to the sociodemographic and clinical variables demonstrate that the participants classified in deficient self-care are characterized as people working in informal jobs or are employed but have a secondary school level; They are also separated or with less frequency single, have antecedents of hypertension and dyslipidemia, and manifest not keeping with their pharmacological treatment and consider that their state of health is good. (Figure 2)

Figure 2. Sociodemographic and Clinical Characterization of the Patients in Peritoneal Dialysis in relation to Sufficient or Deficient ASA.



On the other hand, people who classified in the category with sufficient self-care capability are characterized by being older than 41, with a primary or technical educational level, belonging to the strata 2 or 3, are married, report keeping with their pharmacological treatment and established diet, exercise, manifest diabetes and hypertension as family and personal antecedents and perceive their state of health as fair or poor. (Figure 2)

DISCUSSION

The mean age of the study participants was 54.7 (SD: 14.4), a number coherent with the national statistics which report the highest frequency of CKD in patients over 50 years old [(2)]. Of this population51.7% are male, and most of the participants were married, which is to be expected considering their age. In regards to their

socioeconomic level, most participants are found to belong to the socioeconomic strata 2 and 3 [12], which matches what was found in other studies of people in conditions of chronicity, such as Manrique's [8].

At the time of the study, 42.53% of the people had finished their elementary education and 39.08% had secondary education, results coherent with the strata to which most of the population belongs; the highest percentage of the people was distributed among the unemployed and those with informal employment which relates to the role modification which is generated by the condition of a person suffering from CKD as described by Gutiérrez [5], despite what was expressed by Alarcón when stating that among the patients in renal substitution therapy those who retain their jobs the most are those who are in peritoneal dialysis [13].

Regarding the clinical variables, it draws attention that in spite of their condition of people in a chronicity situation with an average of permanence in dialysis of 36 months, 57% of the study subjects perceive their state of health to be good, an aspect that deserves special attention versus the first grief phase, that is, denial; In which as stated by Alarcón, the person creates a fantasy in which realty is not occurring, many times the painful situation is suppressed from the conscience, or the severity of its impact on their lives is denied. Cases have been found where people have ignored their symptoms for several years, which may be the cause of their not following treatment or recommended care [13]

Hypertension was reported by 36.78% of the people as a family antecedent, very closely followed by diabetes, which is in accordance with the literature [2], with personal antecedents and what was reported in the medical history file regarding the etiology of the chronic kidney disease in the study group, which was considered in its majority to be of diabetic, followed by vascular and cystic origins. The data reported that 57% of the patients exercise, 62% adhere to their pharmacological treatment and 78% follow a diet, percentages very close to the self-care capability and to the report completed by Alarcón. These results suggest that the patients with highest comprehension of the dietary restrictions and the reasons for treatment attain a higher adherence to their treatment and increase their capability of caring for themselves[13,14].

In regards to the self-care capability the arithmetic median reported by the ASA scale was of 76.4 points (SD: 5.5). When this result is linked to the findings of the *Morisky-Green* y and the data obtained by Rivera and Díaz, in patients with hypertension, the ability of the ASA scale to measure the self-care actions of persons suffering from a chronic disease is ratified [9]

According to the profiles obtained based in the ASA scale results, the item which the 36 the patients report "never" doing with the most frequency is "I can seek better ways to care for my health than those I now have", which suggests that there is a group of people suffering from CKD who accept their disease, know that they should perform actions to modify their care actions, but do not do them; which indicates that it is necessary to revise the educational processes developed by the health professionals, taking into account what was stated by Alarcón[13], who maintains that the failures education given by the health professionals about the importance of compliance in taking medications and observing diet have been associated with a lower commitment with the treatment. Additionally, 22 people manifested that they "never" can appeal to their friends when they need help, which can be a result of the life changes that the

peritoneal dialysis patient must undergo, which include changes in their social activities. The answer “almost never” was chosen by 25 people on the item “I think about exercising and rest a bit during the day but I don’t get to do so”, this is an inverse item, which means that these 25 people do exercise and rest during the day, which suggests the necessity to achieve greater efficacy in educational support; 23 study participants manifested they “almost never” can sleep enough as to feel fully rested, which generates the need for the health professionals to teach the patients relaxation strategies as well as techniques to get to sleep with the goal of compensating this deficit.

The answer “almost always” was assigned by 48 people to the item “when there are situations that affect me I handle them in a manner that maintains my manner of being”, answer which coincides with what was stated by Alarcón, who said that given that peritoneal dialysis is a therapeutic activity that patients perform by themselves, it is required that they have a high level of autonomy [13]. Similarly, 46 people answered that they “think about exercising and rest a bit during the day but I don’t get to do so”, it is necessary to remember that this is an inverse item [8] and as such it shows that people who answered it as “almost always” do not exercise and do not rest sufficiently, aspects which allow identifying the necessity to increase the educational support provided by the nursing staff, taking into account what was described by Kutner et al who observed that the level of physical activity of patients in substitute treatments can predict the quality of life level in their lives [15]. The item “I am able to assess how much what I do to stay in good health helps me” was answered as “almost always” by 45 subjects, which suggests they have a high degree of autonomy, which in turn favors the successful performance of peritoneal dialysis.

Sixty-nine people answered as “always” in the item “I can do what is necessary to keep the place where I live clean”, result which suggests the positive effect of the education provided by the health professionals; 66 people answered “always” to item 22: “if I am unable to take care of myself I can seek help”, reaffirming the importance of support networks, and 65 people manifested they can always “make time for me”, results which highlight the importance of educational support, which allows people to identify their needs and the better ways to satisfy them, and are coherent with what was reported by Carballo when inferring that the didactic technique used by the nurse offers good results [16].

The results reported by the ASA scale in relation to the sociodemographic and clinical variables allow for identifying that people with a classification of deficient are characterized by being people who work in informal jobs or are employed, which suggests that educational programs must be of easy comprehension in order to be effective in teaching self-care actions and can develop the ability component described by Orem, whose elements are motivation, knowledge acquisition, ability to order care actions for themselves and the ability to integrate self-care in their family and community lives [17]. Another characteristic of the people with classification of deficient is that they are separated and with less frequency single, which demonstrates the necessity of counting upon support networks that strengthen the desire of taking care of themselves. In this regard, Alarcón poses that perceiving a strong social support network is associated with higher survival rates, apparently mediated by a higher commitment with the treatment that depends in great part on the patient, but has a large influence from the health team, which must determine in each individual what are the barriers to achieve it, and how they can be overcome [13].

Personal antecedents reported with highest frequency were hypertension and dyslipidemia, diseases that require self-care actions for their control. Similarly, this group of participants manifested no adherence to their pharmacological treatment and considered that their state of health was good, which according to Alarcón could have some relation to the denial stage in the grieving process or be an indication of alteration in their health perception [13].

CONCLUSIONS

The people classifying in the ASA as sufficient were characterized for being older than 41, with a primary or technical educational level, belonging to the strata 2 and 3, they also were married, reported adherence to their pharmacological treatment, exercised, maintained their established diet, and perceived their health status as fair or poor, answers that suggest the degree of awareness they had regarding their disease and the importance of caring for themselves. These results were coherent with what was described by Alarcón who states that the patients having a higher comprehension of the dietary restrictions and the reasons for treatment present a higher commitment to the treatment, and also suggests that the educational technique offers good results[16,17].

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REFERENCES

1. Marinner A. Raile M. Modelos y Teorías de Enfermería. Elsevier–Mosby. Sexta Edición.2007.271

2. República de Colombia. Ministerio de Protección social. Cuenta de alto costo pacientes con enfermedad renal crónica en diálisis peritoneal. Bogotá, 2011.

3. Sanchez C. Influencia del apoyo educativo de enfermeria en el autocuidado delpaciente con cardiopatía isquémica, Desarrollo científico de enfermería vol. 12 Nº 2, marzo de 2004

4. Organización panamericana de la salud .Organización mundial de la salud, Consejo Directivo 58ª sesión del comité regional, Washington, D.C., EUA, 25-29 de septiembre 2006 .disponible en /es.scribd.com/doc/66197150/Carta-Otawa-Salud.

5. Gutiérrez Vilaplana, Josep Mª et al. Evaluación de la intervención enseñanza: grupo en la consulta de enfermedad renal crónica avanzada. *Rev Soc Esp Enferm Nefrol* [online]. 2007, vol.10, n.4 [citado 2012-06-26], .24-29.

6. López Ortega, J et al. Aproximación a los cuidados informales de enfermos renales crónicos en el complejo hospitalario de Jaén. *Rev Soc Esp Enferm Nefrol* [online]. 2007, vol.10, n.2 [citado 2012-06-26];55-64. Disponible en: <http://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S1139-

7. Evers. G.C. Eisemberg, M.A. Philipsen.H. Senten M. Brouns. M.N.S. Validity Testing of the Dutch translation of the appraisal of the self-care Agency A.S.A. Scale. Int.J.Nurs Stud. 1993. Vol. 30 Nª 4; 331-42.

8. Manrique F, Fernández A, Velandia A. (2009). Análisis factorial de la escala de valoración de la agencia de autocuidado. Aquichan, vol. 9, Nº3, diciembre de 2009; 203-235.

9. Rivera LN, Díaz, LP. Relación entre la capacidad de agencia de autocuidado y los factores de riesgo cardiovascular. Cuad. - Hosp. Clín., jul. 2007, vol.52, Nº.2; 30-38. ISSN 1652-6776

10. Greenacre Michael. La práctica del análisis de correspondencias. Capítulo I. Diagramas de dispersión y mapas. Edición en Español. Fundación BBVA, 2008. http://www.fbbva.es/TLFU/tlfu/esp/publicaciones/libros/fichalibro/index.jsp?codigo=300

11. Normas científicas, técnicas y administrativas para la investigación en salud. Resolución 008430 4 de octubre de 1993

12. DANE. Coordinación de Proyecciones de Población y Estudios Demográficos. Indicadores Demográficos Colombia 2005. Disponible en: www.consultor salud.com/biblioteca/documentos.

13. Alarcón A. Aspectos psicosociales del paciente renal, segunda edición, 2004, Bogotà, Colombia.. 111-116.

14. Bezerra, Karina Viviani y Ferreira Santos, Jair Licio. (2008). El día a día de personas con insuficiencia renal crónica. Sao Paulo: Revista latinoamericana Enfermagen.

15. Kutner NG, Zhang R. MCCLELAN WM, COLE SA ,Phycosocial predictors of no compliance Hemoialysis and peritonealdialysis patients, Nwfphrol Dial Trasnplantation (2002) 17:93-99

16. Carballo MR, Ortega N, Lizárraga EC, Díaz J. Adherencia individual y familiar al tratamiento de diálisis peritoneal ambulatoria continua. Rev Enferm Inst Mex Seguro Social 2008; 16(1): 13-18

17. Achury DM, Sepúlveda G. Rodríguez SM, Validez de apariencia y de contenido de un instrumento para evaluar la capacidad de agencia s de autocuidado en el paciente con hipertensión arterial. Investigación en Enfermería Imagen y Desarrollo, vol 10, nùmero1, enero-junio 2008; 93-111

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