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ORIGINALES

Quality of life in patients with kidney disease with different treatments in a second level of attention hospital in Nuevo León

Calidad de vida en pacientes nefrópatas con distintos tratamientos en un hospital de segundo nivel de atención en Nuevo León

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ABSTRACT:

Introduction: The chronic kidney disease it is an illness with severe consequences for who suffers it. The dialysis, main renal substitute treatment, in its different modalities, invades the quality of life of the patient and his family.
Objective: To determine if significant differences of quality of life exist among the patients that receive dialysis or hemodialysis in a hospital of second level of attention in Nuevo León.
Method: A quantitative focus study, with a qualitative section. It was a trasversal, prospective, and comparative design. Of a total of 634 patients in kidney substitute treatment, a probabilistic sampling of 241 was obtained. Through a random selection, the patients were interviewed with instrument validated for quality of life and the 20 subject with more time of treatment were interviewed by means of qualitative method.
Results: The peritoneal dialysis allows a better quality of life that the hemodialysis in aspects like a smaller limitation in the feeding, bigger work capacity at home, freedom to travel, less nervous tension, a better sexual life and a better physical aspect.
Conclusions: To work the different areas that conform the quality of life, could contribute considerably to elevate their levels. The current focus of the nephrology is only centered in the physical dimension, but we can conclude that there are other factors that conform and they influence about the life and the health.

Key words: Chronic kidney disease, quality of life, peritoneal dialysis, hemodialysis.

RESUMEN:

Introducción: La nsuficiencia renal crónica (IRC) es una enfermedad con severas consecuencias para quien la padece. La diálisis, principal tratamiento sustitutivo renal, en sus distintas modalidades, invade la calidad de vida del paciente y su familia.
Objetivo: Determinar si existen diferencias significativas de calidad de vida entre los pacientes que reciben diálisis o hemodiálisis en un hospital de segundo nivel de atención en Nuevo León.
Método: Estudio de enfoque cuantitativo, con un apartado cualitativo. Diseño trasversal, prospectivo, comparativo. De un total de 634 pacientes en tratamiento sustitutivo renal, se obtuvo una muestra

probabilística de 241. Mediante selección aleatoria se aplicó un instrumento validado para calidad de vida y se entrevistó a los 20 sujetos con mayor tiempo de tratamiento.
Resultados: La diálisis peritoneal permite una mejor calidad de vida que la hemodiálisis en aspectos de una menor limitación en la alimentación, mayor capacidad de trabajo en casa, libertad para viajar, menos tensión nerviosa, una mejor vida sexual y un mejor aspecto físico.
Conclusiones: Trabajar las distintas áreas que conforman la calidad de vida, podría contribuir considerablemente a elevar sus niveles. El enfoque actual de la nefrología se centra únicamente en la dimensión física, pero podemos concluir que hay otros factores que conforman e influyen sobre la vida y la salud.

Palabras clave: Enfermedad renal crónica, calidad de vida, diálisis peritoneal, hemodiálisis.

INTRODUCTION

As Giessing and collaborators they affirm, the renal chronicle illness (ERC) it is a serious problem of public health and it can be defined as the structural and/or functional alteration of the kidneys of more than three months of duration. [(1)] TO people that suffer this illness they are known in the clinical environment as nephrotic patient.

The ERC arises of diverse chronic-degenerative or congenital affectations, and if it is not attended, it drives regrettably to the death. It is considered a catastrophic illness due to the growing number of cases, the high investment costs that it implies, the late detection and the high rates of morbidity and mortality that it generates. [(2)]

When the ERC reaches advanced stages, it is necessary to appeal to substitute medical treatments of the function of the kidneys. Today we have three main treatment options that are: the renal transplant (TR), the peritoneal dialysis (DP) and the hemodialysis (HD).[(3)] Nevertheless, due to the drop readiness of organs for donation, the treatments par excellence more used they are the DP and the HD.

The DP is a treatment that purifies the organism by means of the infusion for graveness of a liquid in the abdominal cavity through a special catheter previously installed. The dialysis liquid is composed by a hydroelectrolytic solution similar to the plasm and an osmotic agent whose purpose is to eliminate waste solutes and it water accumulated in the body. It uses a dual system of bags or a cycler machine that takes advantage to the peritoneum (a membrane that recovers the abdominal cavity and to the hollow organs) as a means of exchange of water and particles between the blood and the dialysis liquid.[(3),(4)] This procedure has to be carried out daily, the 365 days of the year and it can be carried out in the patient's home or in any other place that has the necessary conditions of cleaning and hygiene.[(4)]

On the other hand, the HD is carried out by means of a machine that extracts and it filters the patient's blood through a vascular access to eliminate the products of waste of the organism. The patient unavoidably should attend some clinical unit at least three times per week and to remain there from three to four hours for session. The treatment should accompany of a strict nutritious diet, to control the levels of electrolytes in the blood as well as restrictions in the consumption of liquids and taking of medications.[(5)]
These conditioning situations are typical of the substitute treatments of the kidneys that joined to the signs and symptoms of the ERC, they make the patients to be affected in their daily well-being.

In the literature described for Acne-Higgins and collaborators, they highlight the concept of quality of life related with the health (CVRS) as a fundamental aspect in the integral attention of the patients with chronic illnesses, since their indicators have shown a narrow relationship with the indexes of people's morbidity and mortality.[6]

The CVRS is the own evaluation that the person makes regarding her health and operation level in the realization of the daily activities, that which includes, among other, the physical, psychological, social function, the general perception of the health, the mobility and the emotional well-being.[6-8]

At the moment, the most complete, exact and specific form of measuring the CVRS in patient with kidney illness, is through eight concrete dimensions: the physical function, limitations for physical problems of health, limitations for emotional problems of health, the social function, psychological well-being, pain / vitality / fatigue, global perception of the health, and the characteristic of the health in general. This is achieved by means of the application of a denominated test Kidney Disease and Quality of Life Short Form (KDQOL-SF), which was developed by a group of work professional sponsored by the University of Arizona in United States, in answer to the necessity of psychometric instruments to evaluate the CVRS, specifically in people with kidney problems.[9,10]

This instrument is validated in the western context and adapted to the Spanish language of the Latin American environment. With a reliability above 0.70 in the cronbach scale, according to that reported in different studies.[11-13]

Given the importance of the CVRS in populations of patient with ERC, they exist studies that have measured their levels and association among indicators as the attachment to the treatment, the anxiety, the depression and even the mortality. Otero-González and collaborators, they demonstrated that the survival in renal patient it is dependent of the age and the coexistence of diabetes mellitus. Likewise, they had bigger index of survival people whose first treatment option is the DP, above those who begin with HD.[14] Other studies have measured the CVRS so alone in populations with a single renal substitute treatment. Costa and their team of collaborators concluded that the patients in HD possess a regular CVRS , however, they don't offer any comparison point with other treatment alternatives like the DP.[15] This way, the necessity arose of carrying out a comparative study of the CVRS among those patients that receive DP and HD, trying to respond to the question: Do significant differences of quality of life exist in the renal patients that receive DP and do those who receive HD?

METHODS

It was a study of mixed focus. No experimental design. Descriptive, comparative. The population (N=634) it was composed by the patients with ERC affiliated to the programs of DP and HD of a hospital of second level of attention of the Mexican Institute of the Public Health (IMSS) in San Nicolás of the Garza, Nuevo León, Mexico. A probabilistic sample (n=239) was obtained with the help of the statistical software Epidat version 4.1. The reference parameters for the calculation of the sample were finite population of 634, level of trust of 95% and interval of trust of 5. The selection was simple random, excluding to patient without validity like insureds or those that were hospitalized by complications. The incomplete surveys were eliminated or who decided to move away their informed consent.

The test KDQOL-SF was applied. It is a specific instrument that evaluates the quality of life, in the subjected patients to some dialysis program. It contains 36 articles in Likert scale, divided in 8 dimensions:

1. The physical function (10 questions)
2. Limitations for physical problems of health (4 questions)
3. Limitations for emotional problems of health (3 questions)
4. The social function (2 questions)
5. Psychological well-being (5 questions)
6. Pain (2 questions), vitality / fatigue (4 questions)
7. Global perception of the health (5 questions)
8. In the last question of the KDQOL-SF the patients have to evaluate their health in general in a scale of 0-10 where 0 are equal to "worse possible health (so bad or worse that to be dead) and 10 are equal to "the best possible health."

Besides the mentioned instrument, an interview structured was carried out to value the opinion of the patients in a humanist way. It was 10 questions to explore the quality of life in a deeper way and from the reality and the person's experience. The first eight questions correspond with each one of the dimensions of the quality of life of the quantitative instrument. The ninth question is about the factors of importance for the person that more they are related with its quality of life and the last question is on which of the two treatments in question is the best and why.

In accordance with the qualitative methodology, people were interviewed from a careful and detailed way, beginning an atmosphere of trust where the interviewee could be expressed freely without prejudices neither penalizations. The interviewer took note of all and each one of the obtained answers, as well as the important details that expresses outstanding data. For this section, it was chosen the 20 patients with more antiquity in the renal substitute programs and that they have studied along their illness with both study treatments. During the qualitative analytic process, emphasis was made in the construction or inductive generation of categories that allow to classify the picked up data of agreement with basic content units.

The statistical analysis consisted on measures of central tendency for the demographic data. To check comparison hypothesis the test student t it was used, verifying the normality of the sample with the test Kolmogorov-Sirmov. Likewise, looking for to establish correlations among the different variables the coefficient of Pearson was used. For all the statistical tests the software SPSS version 20 was used and it was considered an acceptable significance of 0.05 or smaller.

RESULTS

In total 241 patients participated, of which 52% was men and the rest (48%) women. The population's half age was 51.7 ± 13.9 years. The most predominant civil state was married (70%), followed by the bachelors (22%) and widowers 8%. With regard to the occupation, 40% was retired and/or pensioners, while another similar part (40%) they were devoted to the works of the home. The rest figured as unemployed.

The time average of years in treatment was of 4.5 ± 4. The type of current treatment turned out to be 55% DP and 45% HD. 30% of the participants affirmed to have experienced with both treatments in some different moment inside the stage of its

illness. With the population's last fragment it was with the one that one worked the selection for the qualitative section, which is explained later on.
91% of those interviewed said to have somebody that offers him support in its treatment, being the caretaker in most of the cases the spouse (79%), followed by the children (21%). Approximately 84% of those interviewed presented concomitant illnesses, being the most frequent the diabetes mellitus and the arterial hypertension.

General health. The participants defined their general health in the following way:

In general, you would say that your health is:	Frequency
Excellent	10.80%
Very good	4.70%
Good	44.50%
Passable	29.00%
Bad	11.00%

It was not difference between the general health and the type of current treatment (t=-1.768, p>0.05). Neither there was difference between men and women with regard to the general health (t=0.524, p>0.05). It was not association between the general health and the time of treatment (r=0.108, p>0.05).

Physical limitation

Does your state of current health limit you to make activities?	Moderate Activities	To go up stairways
Yes it limits me a lot	39%	55%
Yes it limits me a little	44%	28%
It doesn't limit me at all	17%	17%
Total	100%	100%

They were not differences between the physical limitation and the treatment type (t=0.204, p>0.05) neither neither between men and women (t=-0.355, p>0.05). The physical limitation was not related with the time of treatment (r=0.8, p>0.05).

Limitation in the work

Have you had problems in the work because of your health?	Yes	Not
You have achieved less than what you had liked	84%	16%
You have had limitations as for the type of work	87%	13%

The limitation results in the work didn't vary according to the treatment type (t=-0.170, p>0.05). Likewise neither men neither women obtained different results in this dimension of quality of life (t=-0.539, p>0.05). There was not correlation between the time of treatment and the limitation in the work (r=0.01, p>0.05).

Emotional role

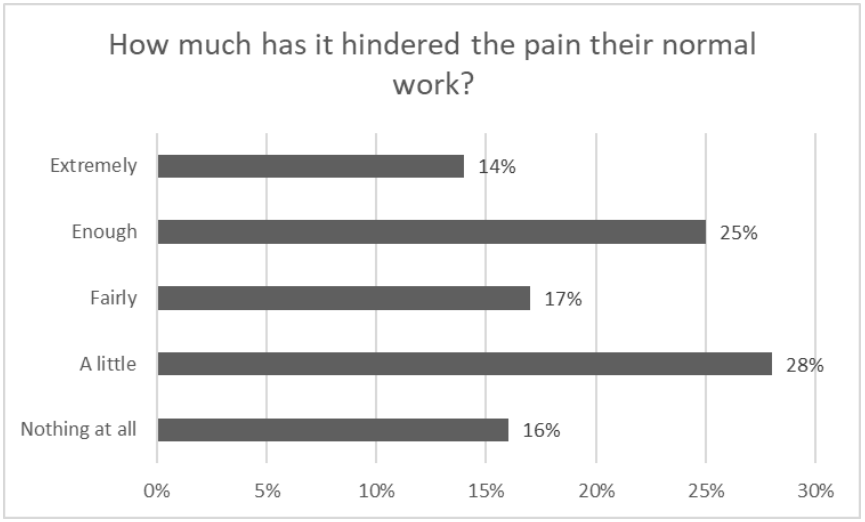
Have you had problems because of some emotional problem?	Yes	Not
You have achieved less than what you had liked	80%	20%
You have made the work or other activities with smaller care than the usual	59%	41%

Differences were not presented as for the emotional role and the type of the patient's treatment (t=-0.641, p>0.05). Neither the men of the women differed in this dimension (t=0.863, p>0.05). A positive correlation existed between the time of treatment and the emotional role, which indicates that at more time of treatment bigger emotional stability (r=0.453, p <0.05).

Pain

The analysis of frequencies with regard to the dimension of the pain in the quality of life is shown in the following figure:

Graph 1: Opinion of the renal patient on their difficulties in the derived work of the pain.



Source: Instrument KDQL-SF 36. Applied in 2017.

The patients in HD presented more pain than the patients in DP (t=-2.199, p <0.05). Men and women didn't present differences as for the pain (t=-0.349, p>0.05). Association didn't exist between the pain and the time of treatment (r=0.392, p>0.05).

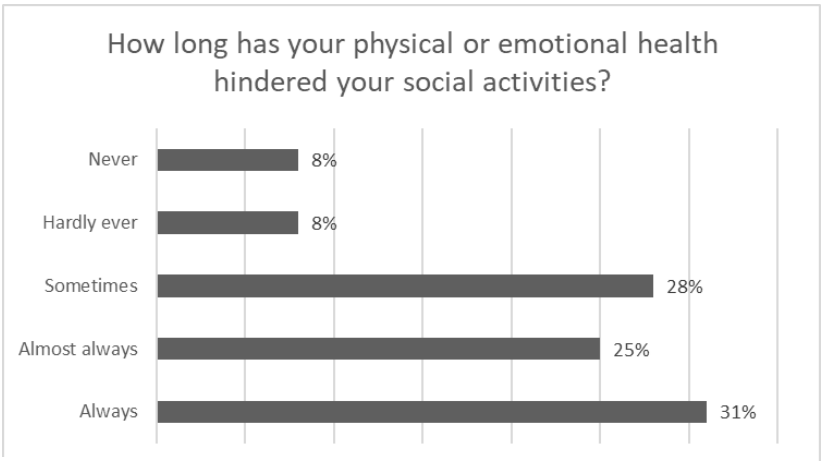
Mental health

	You have felt calm	You have had a lot of energy	You have felt discouraged and sad
Always	14%	5%	19%
Almost always	25%	11%	14%
Many times	8%	5%	8%
Sometimes	36%	39%	42%
Hardly ever	6%	23%	11%
Never	11%	17%	6%

The most outstanding thing was that the patients in DP manifested to feel with more energy that the patients in HD (t=-2.151, p <0.05). Men and women didn't vary in mental health. Neither you could determine relationship between the time of treatment and the mental health of the participants.

Social function

Graph 2: Opinion of the renal patients on their health and their activities.



Source: Instrument KDQL-SF 36. Applied in 2017.

There was not difference in the social function with regard to the treatment type (t=0.167, p>0.05). Neither difference existed between the sex and the social function (t=-0.734, p>0.05). The levels of social function were not associated to the time of treatment (r=0.149, p>0.05).

Perspective of the renal illness

My kidney illness:	Completely certain	Quite certain	I don't know	Quite false	Completely false
It interferes too much in my life	39%	36%	14%	3%	8%
It occupies me too much time	39%	31%	11%	8%	11%
It makes me to be frustrated	30%	42%	11%	6%	11%
It makes me feel a load for my family	31%	33%	14%	6%	16%

The patients in HD manifested that their illness occupies them more time than the patients in DP (t=2.393, p <0.05). Likewise, the patients in HD said to feel a load for its family in more measure that the patients in DP (t=4.293, p <0.01). On the other hand, there was not association between the time of treatment and the perspective of the renal illness.

Nuisances

The frequency of nuisances was presented in the following way:

Symptoms	Nothing	A little	To regulate	Much	Very much
Muscular pain	15%	25%	9%	28%	23%
Pain in the chest	44%	11%	25%	17%	3%
Cramps	25%	31%	22%	19%	3%
Itch in the skin	19%	31%	28%	19%	3%
Dryness in the skin	17%	20%	27%	33%	3%
Lack of air	31%	34%	11%	19%	6%
Faintings or sickness	42%	16%	28%	14%	0%
Lack of appetite	28%	20%	12%	31%	9%
Exhaustion	11%	14%	28%	25%	22%
Numbness of hands and feet	23%	16%	19%	28%	14%
Nauseas or nuisances in the stomach	31%	17%	17%	23%	12%
Problems with the fistula	62%	8%	3%	15%	12%
Problems with the catheter	74%	0%	12%	9%	5%

The presence of nuisances was presented equally in both groups. There were not differences of nuisances between men and women. In the same way, association was not presented between the time of treatment and the nuisances.

Effects of the renal illness

The effects of the renal illness were distributed in the following way:

How so much your illness bothers you as for:	Nothing	A little	To regulate	Much	Very much
Limitation of liquids	25%	25%	20%	16%	14%
Limitations of the diet	6%	31%	16%	36%	11%
Capacity to work at home	16%	11%	25%	34%	14%
Capacity to travel	27%	6%	16%	40%	11%
To depend on third	31%	14%	16%	28%	11%
Nervous tension or concerns	22%	14%	17%	33%	14%
Life sexual	52%	0%	17%	20%	11%
Aspect physical	22%	8%	22%	29%	19%

The patients in HD manifested to feel more limited in the diet than the patients in DP ($t=-3.587$, $p<0.05$). In the same way, the fellows in HD felt more limited in their capacity to work at home that those in DP ($t=-2.060$, $p<0.05$).

The capacity to travel was more affected in the patients in HD that the patients in DP ($t=-3.331$, $p<0.05$). Likewise the participants that had HD were said more dependent of third than those in DP ($t=-3.853$, $p<0.01$).

The participants in DP presented smaller nervous tension and concerns that those that were in HD (t=-3-530, $p<0.01$).

he sexual life of people in HD was more affected than people significantly in DP ($t=-2.733$, $p<0.05$).

Finally, the physical aspect was significantly better for people in DP in comparison with people in HD (t=-2.277, p <0.05).

They were not difference in both sexes as for the effects of the renal illness, neither neither relationship existed some among this dimension and the time that the fellows take in treatment.

Qualitative part

The treatment for which the population leaned was the DP. Only 3 of the patients interviewees said that the treatment didn't have influence on CVRS, the rest chose the DP like better treatment justifying this fact with answers like: 'it is more practical', 'less aggressive', 'I can make it myself', 'I prefer my house to the hospital', 'I know that the hemodialysis is more dangerous', 'if he/she could, it would ask to return to the dialysis (peritoneal) '.

Qualitatively speaking, it was found that the CVRS is perceived through eight domains that are: the family support, the good social relationships, the treatment type (DP), the good nutritious control, the good emotional psychic state, having an occupation, reasons of life, and the positive psychological aspects. Factors like the family support, the good psychic state and the willpower are related with a bigger attachment to the dialysis treatment, that which in turn bears to have a good physical state of health.

The lack of a good psychic state influences negatively on the feeding. The patient with negative psychological aspects as the depression or the anger spreads to rebel and to not fulfilling the treatment, as some of the participants they manifested this way it.

DISCUSSION

Contrary to that reported by other authors like Antolín and collaborators, presently study is a very marked difference in which the DP like a treatment that a better CVRS allows above the HD highlights.[16]

On the other hand, in the current literature, the alone comparative studies are based on the mensuration of the survival and not the CVRS,[17] being this last most of the times, the most important thing for people. In opinion of many, of anything it serves to live more years without the quality of appropriate life to enjoy them.

The difference between both treatments seem to be based on the effects of the renal illness. Here the aspects of more relevance for the renal patients are the freedom in the feeding that the DP allows them above the HD, as well as a bigger capacity to travel, a smaller nervous tension and concerns and a sexual life fewer affected.

The feeding is explained in that the DP allows a bigger elimination of electrolytes like the potassium and toxic products. On the other hand, the HD for not being a continuous treatment but rather cut (every third day) it allows bigger accumulation of toxins and waste products in the organism, reason why it should be been strict and not to be exceeded in the feeding neither in the consumption of liquids, for the blood elements that produce uneasiness not rising.

On the other hand, the capacity to travel is more limited in HD because the person is 'tied' to her clinic of attention. Contrary to people in DP who can travel if it takes I get

their material to be assisted in their destination place, having a bigger freedom that according to that manifested by those subject of study, it influences significantly on the CVRS.

The biggest nervous tension that people present in hemodialysis maybe finds answer in that manifested by one of the interviewees in the qualitative section:

'Every time that I go to the hemo room (sic) I depress myself of seeing to my surroundings so much more whetted people that me and I imagine that in little time I will end up the same as them, even in an occasion that I witnessed the death of another patient in a session, I could not sleep that night and the fear of going to the sessions it lasted me as two followed weeks.'

In this sense, the constant contact with the death and with sick in critical state in the hospital atmosphere of HD, it could be an influential factor about the biggest nervous tension and the concerns.

The best quality of sexual life in the patients in DP in the study population, since the nuisances were same for both groups, it could be related with the half age, which was considerably smaller in the patients with this treatment type.

Finally, it is necessary to mention that in the study population, commonly the treatment of first election is the DP, which is practically again the only available offer for the patients entrance, only those that are not capable for some special condition for the DP, begin with HD. This seems to generate the idea that the patients that begin with HD are because their general state of health has deteriorated and they have entered in a more critical phase of the illness. In few words, almost all the revenues to HD are product of an exit of DP, generally due to complications.

This fact could represent a bias of false perception toward the HD that nevertheless is eliminated when having quantitative doubly verified results and qualitatively speaking. Where the detailed opinion of fellows that you/they have experienced both treatment types in flesh and blood seems to be overwhelming when leaning for the DP.

CONCLUSIONS

The patients in HD present bigger pain that the patients in DP. Those that are in DP, affirm that their illness occupies them less time than those that you/they are in HD. The patients in DP feel with more energy than those in HD. At more time in treatment substitute renal, bigger emotional stability.

The DP allows a better CVRS that the HD in the aspects of a smaller limitation in the feeding, bigger work capacity at home, freedom to travel, less nervous tension, a better sexual life and a better physical aspect.

To know the different domains that conform the CVRS, it could contribute considerably to elevate its levels. The focus of current medicine is only centered in the physical dimension, but we can conclude that there are other factors that conform the quality of life and that they influence on the physical aspect. Complete treatments should be looked for that they go beyond the physical aspect and take into account the sick person's holistic focus.

The main proposal is to reply the study in similar populations of different geographical places with the purpose of to contrast results and to be able to arrive to a goal-analysis, besides incorporating the theories of effective types of personality at the present time, to explore if this factor can also be decisive when preferring one or another treatment.

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