

Empirical Articles

Coping Strategies Adopted by Patients With Chronic Kidney Disease in Preparation for Transplant

Marina Kohlsdorf*^a

[a] Psychology Department, Centro Universitário UniCeub, Brasília, Brazil.

Abstract

Aim: This paper aimed to analyze the coping strategies adopted by patients in preparation to kidney transplant, as well as associations between coping and socio-demographic data.

Method: A total of 76 patients took part in this descriptive, exploratory study. While waiting for the first medical consultation regarding kidney transplantation, participants answered the Brazilian version of the Ways of Coping Scale.

Results: The main coping strategies adopted corresponded first to religiosity, then problem focused coping and seeking for social support. There were statistically significant associations between coping categories and gender, marital status, monthly income, children's ages, and time in dialysis.

Conclusion: This study highlights the main coping strategies adopted by patients in preparation to kidney transplant, and it also reveals associations between some socio-demographic data and coping. These results may promote further psychosocial interventions, which may help to improve preparation to kidney transplants, promoting better adaptation and treatment adherence as well as fewer psychological burdens.

Keywords: kidney transplant, coping, Ways of Coping Scale - Brazilian Version

Psychology, Community & Health, 2015, Vol. 4(1), 27–38, doi:10.5964/pch.v4i1.103

Received: 2014-03-14. Accepted: 2014-10-09. Published (VoR): 2015-03-31.

Handling Editor: Marta Marques, UIPES – Psychology & Health Research Unit, ISPA – Instituto Universitário, Lisbon, Portugal

*Corresponding author at: Faculdade de Ciências da Educação e Saúde – FACES – Centro Universitário UniCeub, SEPN 707/907, Asa Norte, Brasília, DF, Brazil ZIP CODE 70790-075. E-mail: marinak@unb.br



This is an open access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/3.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Introduction

Chronic kidney disease (CKD) has been recently highlighted as one of the main chronic worries in public health care, since treatment advances promote a higher living expectancy and as a consequence the increase of chronic conditions. In the 40's, the first haemodialysis were developed to deal with CKD, and there are several treatments currently available such as dialysis and kidney transplant, which can improve quality of life and manage symptoms, but do not cure the disease (Machado & Car, 2003; Martins & Cesarino, 2005).

When dealing with such treatment, the patient starts to depend on an essential process in order to survive; however, she or he also has to deal with painful procedures, new vital expectancies, demands and limitations in functional capacity (Lima & Gualda, 2001; Machado & Car, 2003). The main difficulties lived by patients with CKD include social segregation, loss of employment or study activity, partial inability to move in some cases, maintenance of

surgical fistula, limited physical and sexual activity, loss of autonomy, changes in self-image and self-esteem, and changes in family and social routine (Almeida, 2003; Duarte, Miyazaki, Ciconelli, & Sesso, 2003; Lima & Gualda, 2001; Machado & Car, 2003; Martins & Cesarino, 2005; Trentini, Corradi, Araldi, & Tigrinho, 2004). Besides that, feeding restrictions (such as liquid ingestion) and dialysis side effects, constitute demands that may expose the patient to distress, guilt, anxiety, future uncertainty and loss regarding quality of life (Almeida, 2003; Duarte et al., 2003; Lima & Gualda, 2001; Machado & Car, 2003; Martins & Cesarino, 2005; Trentini et al., 2004).

Considering the intense difficulties lived by these patients, the kidney transplant is possibly the best kind of treatment available nowadays, since it offers a better quality of life, rehabilitation possibilities, fewer restrictions regarding feeding, routine and common activities, better functional capacity and general health condition, and better social integration (Almeida, 2003; Cunha et al., 2007; Garcia, 2006; Lima & Gualda, 2001; Machado & Car, 2003; Ravagnani, Domingos, & Miyazaki, 2007).

The process of transplant preparation usually takes a long time and requires several examinations to the surgery, besides clinical, medical, and psychological evaluation regarding the receiver and living donors when eligible (Cunha et al., 2007; Trentini et al., 2004). Literature concerning the psychosocial impact of transplant preparation for receivers focuses on mental health, especially depression symptoms, and quality of life. However, research still presents contradictory results regarding these issues, and more studies are needed in order to understand how patients are affected by this process (Almeida, 2003; Duarte et al., 2003; Martins & Cesarino, 2005; Zimmermann, Carvalho, & Mari, 2004).

Another relevant aspect that should be studied refers to coping with stressors during the transplant preparation. Coping is defined as behavioural and cognitive efforts in constant adaptation, with the goal of managing, tolerating or avoiding specific demands that are evaluated as a threat (Folkman, Lazarus, Dunkel-Schetter, DeLonguis, & Gruen, 1986; Lazarus & Folkman, 1984). The main coping strategies that could be highlighted refer to: (a) problem focused coping (behaviours that try to manage the stressor, such as seeking for information); (b) emotional focused coping (strategies characterized by emotional responses, such as anger and guilt); (c) seeking social support (talking to others and getting emotional support); and (d) religious coping (strategies focused on religious practices), although other classifications regarding coping strategies may be possible (Seidl, Tróccoli, & Zannon, 2001).

The literature presents recent studies regarding coping strategies in patients undergoing dialysis. Overall, problem focused coping, seeking for social support and religiosity, are the most adopted strategies, and emotion focused coping is barely referred by patients (Bertolin, Pace, Kusumota, & Ribeiro, 2008; Contreras, Esguerra, Espinosa, & Gómez, 2007; Harwood, Wilson, Locking-Cusolito, Sontrop, & Spittal, 2009; Lima & Gualda, 2001). However, there is a lack of studies focusing specifically on the coping process during the kidney transplant preparation, which may promote efficient psychosocial interventions and contribute to a better adaptation during and after the surgery.

Moreover, considering that coping strategies strongly depend on the context, as stated by Lazarus and Folkman (1984), it is relevant to understand how the patients, who are preparing for a kidney transplant, deal with this particular condition, since it may be expected that their coping strategies might be different from those used by patients undergoing dialysis. The kidney transplant represents another treatment mode, with specific demands, challenges and characteristics that are very different from those lived by patients in dialysis (Almeida, 2003; Cunha et al., 2007; Garcia, 2006; Lima & Gualda, 2001; Machado & Car, 2003; Ravagnani et al., 2007).

Only few studies show the coping strategies usually adopted by patients preparing to kidney transplant in general: religiosity, problem focused coping and seeking for social support, are the main coping strategies (Burker, Evon, Marroquin Losielle, Finkel, & Mill, 2005; Domingos, Lipp, & Miyazaki, 2012; Jurado et al., 2011; Taylor et al., 2008; Telles-Correia, Mega, Barbosa, Barroso, & Monteiro, 2008; Toimamueang et al., 2003). Only studies by Myaskovsky et al. (2005) and Ravagnani et al. (2007) showed emotional focused coping and seeking for social support as the main strategies adopted. These studies did not explore associations between coping strategies and patients' characteristics, which could also be relevant to subsidize psychosocial interventions that may promote a better preparation to transplant. It is relevant to stand that emotion focused coping strategies during preparation to transplant have been associated with depression symptoms, poor adherence to medical recommendations and self-care, poor quality of life, anxiety, and self-blaming (Burker et al., 2005; Jurado et al., 2011; López-Navas et al., 2010; Myaskovsky et al., 2005; Taylor et al., 2008; Telles-Correia et al., 2008).

Therefore, this descriptive/exploratory and quantitative study aimed at analyzing coping strategies adopted by patients when starting the preparation to kidney transplant, as well as to examine associations between these coping strategies and social-demographic data and, as a secondary goal, compare them to coping during dialysis as revealed by the literature.

Method

Participants

In this study, 76 patients waiting for kidney transplant participated, between 21 and 70 years ($M = 42.6$ years; $SD = 12.38$). The participants' characteristics chosen for this study are already part of the screening form adopted in the health service where this research took place. Time in dialysis ranged from zero months to 11 years ($M = 2.5$ years; $SD = 2.58$), and 67 participants were not working at the time. Patients who were working referred occupations such as seamstress, secretary, autonomous service, and salesman/saleswoman. The inclusion criteria were: CKD diagnose, over 18 years old, and without psychiatric disorders. Patients could be either in cadaveric transplant list or have a living donor for transplantation. Table 1 presents other characteristics of the participants.

Table 1

Participants' Characteristics

Characteristic	Frequency	Percentages
Gender		
Male	44	58%
Female	32	42%
Schooling		
None until 4th grade	19	25%
Junior High	18	23%
High School	31	41%
College	08	11%
Marital status		
Married or living together	51	67%
Single, divorced or widowed	25	33%

Characteristic	Frequency	Percentages
Primary diagnosis		
Hypertension	32	42%
Kidney infections	04	05%
Other kidney conditions	08	11%
Diabetes	08	11%
Other diagnosis	08	11%
Do not know diagnosis	16	21%
Monthly income		
Higher class	15	20%
Medium class	33	43%
Lower class	28	37%
Children		
No children	08	11%
One to three children	52	68%
More than four children	16	21%
Children's age (n = 68)		
Until 12 years	18	26%
Teenagers	08	12%
Adults	29	43%
Kids and teenagers	13	19%
Kind of transplant		
Living donor	32	42%
Cadaveric donor	44	58%

Instruments and Measures

This research employed: (a) a socio-demographic questionnaire, and (b) Ways of Coping Scale - Brazilian Version. The socio-demographic questionnaire was used in order to collect information regarding patients' gender, age, schooling, marital status, diagnosis, monthly income, type of transplant, and children's amount and ages.

The Ways of Coping Scale - Brazilian Version evaluates the cognitive and behavioural coping strategies adopted when facing a specific stressor. It was translated and validated to Portuguese by [Gimenes and Queiroz \(1997\)](#), and its current version was developed by [Seidl et al. \(2001\)](#) in a statistical structure factors study. This scale presents instructions in the first page, and it is composed by 45 items answered in a Likert-type scale: 1 = *I never do that*; 2 = *I do that a little*; 3 = *I do that sometimes*; 4 = *I do that a lot*; and 5 = *I always do that*. This instrument has been widely used in health related context ([Arruda, 2002](#); [Kohlsdorf, 2008](#); [Seidl et al., 2001](#); [Seidl, Rossi, Viana, Meneses, & Meireles, 2005](#)), and provides four coping factors or categories described below. The final scores correspond to the average obtained in each factor, and, in the end, there is an optional question: "Have you been doing anything else to cope with this specific problem?".

The first coping category refers to problem focused coping (Cronbach's alpha = 0.84), strategies related to directly managing the stressor. Examples of coping strategies in this category include "I look for information regarding this problem", and also "I have a plan to deal with this issue and I have been following my plan". The second coping category includes emotion focused coping (Cronbach's alpha = 0.81), behaviours related to decrease emotional responses generated by the health problem, including denial, anger, and guilt. Examples of these

strategies include "I feel guilty about this condition", and "I discuss with family or friends when I feel angry about it".

The third category refers to religiosity (Cronbach's alpha = 0.74), strategies that focus on religious practices. Examples of items include "I pray" and "I wait for a miracle to happen". The fourth category is related to social support (Cronbach's alpha = 0.70), which includes seeking for sympathy and support from family, friends, and health care staff. Examples of such strategies include "I talk to someone in order to receive good advice" and also "I do not try to keep my feelings to myself, I share them with others".

Procedure

This study was first submitted to Ethics Committee in Brasilia's University Hospital, where it took place, and the research was approved by protocol number 144/09. On their first medical visit to talk about kidney transplant, while waiting for the consultation in the ambulatory room, patients who met the inclusion criteria were approached and asked to participate in the study.

The researcher provided an explanation regarding the main objective of the research, assured the voluntary participation and ensured ethical procedures such as confidential answers. The participant would then sign an Informed Consent Form, and begin to answer the Ways of Coping Scale - Brazilian Version and the socio-demographic questionnaire in a separate room, with only the presence of the researcher. None of the patients refused to participate in the research.

The questionnaire application lasted between five and 20 minutes, and only 15 patients preferred to answer the Ways of Coping Scale alone, without any help from the researcher. Data was analyzed with the non-parametric tests: Mann-Whitney's *t* test, Spearman's correlation and Kruskal-Wallis test, since Shapiro-Wilk's normality tests violated the normality. The Statistical Package for Social Sciences (SPSS) version 13.0 was used. The Ways of Coping Scale also presents an open question at the end of the items, which was analyzed in a quantitative way, highlighting other coping strategies adopted by participants according to the four main categories stated in the instrument.

Results

Considering the four main coping categories provided by the Ways of Coping Scale - Brazilian Version, the participants reported using religiosity more often ($M = 4.12$; $SD = 0.65$, range 1.29 to 5.00 points). The second most referred coping strategy was related to problem focused coping ($M = 4.05$; $SD = 0.53$, range 2.44 to 4.94 points), followed by seeking for social support ($M = 3.31$; $SD = 0.95$, range 1.00 to 5.00 points). Emotion focused coping was reported by patients as the less adopted coping strategy ($M = 2.10$; $SD = 0.58$, range 1.00 to 3.73 points). [Table 2](#) shows associations between coping strategies, gender, marital status, and type of transplant.

Table 2

Comparisons of the Medians in Coping Strategies Between Gender, Marital Status, and Type of Transplant

Coping strategy	Gender		Marital status		Type of transplant	
	Male	Female	Married, living together	Single, widowed, divorced	Living donor	Cadaveric donor
Problem focused coping	4.14*	3.94*	4.10	3.96	4.04	4.06
Emotion focused coping	2.09	2.10	2.07	2.16	2.07	2.12
Religiosity	3.97*	4.32*	4.12	4.11	4.12	4.11
Seek for social support	3.49	3.06	3.45*	3.02*	3.27	3.33

* $p < .05$. Mann-Whitney comparison test (Shapiro-Wilk's test $< .05$).

Table 2 shows statistically significant associations between coping, gender, and marital status. Male participants reported higher scores in problem-focused coping, and lower scores related to religiosity. Besides, single, widowed or divorced participants indicated less seeking for social support as a coping strategy, when compared to married or living together with partner patients. The type of transplant was not associated to differences in coping strategies reported by the participants. Table 3 presents associations between coping strategies, schooling, monthly income, and children's ages.

Table 3

Comparisons of the Medians in Coping Strategies Between Schooling, Monthly Income, and Children's Ages

Coping strategy	Schooling				Monthly income			Children's ages		
	None to 4th grade	Junior high school	High school	College	Higher class	Medium class	Lower class	Until 12 years	12-18 years	Adults
Problem focused coping	4.03	4.21	3.92	4.28	4.13	4.06	3.99	4.08	3.83	4.10
Emotion focused coping	2.23	2.05	2.04	2.12	1.98	2.04	2.23	2.06	1.84	2.15
Religiosity	4.12	4.24	4.08	4.02	3.75 ^{**a}	4.05 ^{**a}	4.40 ^{**a}	4.05 ^{*b}	3.55 ^{*b}	4.21 ^{*b}
Seek for social support	2.82	3.48	3.47	3.40	3.56	3.33	3.14	3.48	3.30	3.18

^aStatistically significant difference between lower class and the other two classes (Tukey HSD multiple comparison test).

^bStatistically significant difference between adults and the other two classes (Tukey HSD multiple comparison test).

* $p < .05$. ** $p < .01$. Kruskal-Wallis comparison test (Shapiro-Wilk's test < 0.05).

Table 3 indicates that patient's schooling was not associated to coping strategies in a statistically significant way. Monthly income, however, was associated to religiosity: the lower the monthly income, the higher religiosity coping score. The same coping strategy was also related to patient's children's age: participants with adult sons or daughters indicated higher rates of religiosity coping. Table 4 presents associations between coping, participant's age, time in dialysis, and number of children.

Table 4

Correlations Regarding Coping, Participant's Age, Time in Dialysis, and Number of Children

Coping strategy	Participant's age	Time in dialysis	Number of children
Problem focused coping	.04	.16	.18
Emotion focused coping	.04	.21	-.02
Religiosity	-.07	.30*	.05
Seek for social support	-.05	.09	-.04

* $p = .009$. Spearman correlation test (Shapiro-Wilk's test $< .05$).

Table 4 shows that participant's age and number of children were not statistically related to coping strategies. Time in dialysis was positively, moderately and statistically significantly associated with religious coping, indicating that religious coping tended to be more adopted among those who had been in dialysis for a longer period. Table 5 presents the analysis of the open question stated at the end of the Ways of Coping Scale - Brazilian Version.

Table 5

Analysis of the Open Question Presented at the Ways of Coping Scale - Brazilian Version ("Have You Been Doing Anything Else to Cope With This Specific Problem?")

Coping strategy	f	Examples
Problem focused coping	12	<ul style="list-style-type: none"> • "I follow the dietary recommendations, the medication" • "I seek for more information related to the disease and kidney transplant" • "I use alternative medicine"
Emotion focused coping	16	<ul style="list-style-type: none"> • "I do not like to talk about the problem, so I hide myself from others, give excuses about physical appearance and consultations" • "I feel guilty about what happened, so I try not to think about it" • "I go out, try to distract myself, go dancing, fishing"
Religiosity	11	<ul style="list-style-type: none"> • "I pray a lot, I talk to Jesus Christ, asking for a miracle" • "I go to the church, I believe and trust in God"
Seek for social support	4	<ul style="list-style-type: none"> • "I talk to my friends and family" • "I seek for my wife's support"

Since it was an optional question, participants could answer more than one example, as well as not giving any answers - therefore there were 43 statements in this section. There were 16 examples of emotion focused coping, which included distraction and self-blaming. Problem-focused coping was also referred in this section, with 12 examples that included adherence to treatment, seeking for information regarding kidney transplant, and using alternative medicine. Religiosity was also reported in this open question with 11 examples, emphasizing praying and confidence in a miracle. Seeking for social support was indicated in four statements, highlighting friends and family as the main source of support.

Discussion

The present study analyzed coping strategies adopted by patients in preparation to kidney transplant, as well as associations between these strategies and social-demographic data. The results showed that religiosity, problem-focused coping and seeking for social support were the main categories referred by participants, data consistent

to other studies presented in literature (Bertolin et al., 2008; Burker et al., 2005; Contreras et al., 2007; Domingos et al., 2012; Harwood et al., 2009; Jurado et al., 2011; Lima & Gualda, 2001; Taylor et al., 2008; Telles-Correia et al., 2008; Toimamueang et al., 2003), but in disagreement to studies by Myaskovsky et al. (2005) and Ravagnani et al. (2007). The research hereby presented, also stated relevant details related to emotion focused coping stated in open questions. Therefore, more research is needed in order to clarify coping strategies adopted by patients in preparation to kidney transplant. Moreover, changes that may occur between dealing with dialysis and coping with a transplant must also be focused on.

Regarding the main coping strategies adopted by participants in the present study, it is worth mentioning that this preference for religiosity and problem focused coping, may be related to the nature of CDK treatment, since it demands specific actions from the patient in order to avoid symptoms and health deterioration. This may explain the use of problem focused coping, related to the attendance to medical consultations and haemodialysis, dietary limitations, adherence to medical regimen, and activity restrictions. On the other hand, although these behaviours surely help maintaining health, they may not be sufficient to assure the patient's well-being and surviving, leaving the need for religious coping as a way to deal with such uncontrollability. In addition, religion is a strong cultural trait in Brazil, which may also explain the preference for religious coping.

Besides, results also presented relevant associations between coping strategies and patient's personal characteristics. Patient's gender was related to the use of problem focused coping and religiosity: male patients reported higher problem focused coping and less religiosity when compared to female participants. Marital status was associated to seeking for social support, since single, widowed or divorced patients reported less use of this specific strategy. This result seems legit since social support from spouses may play a relevant role when adapting to kidney transplant preparation, highlighting this coping strategy. The data emphasizes the importance of knowing and enlarging, whenever possible, the patient's social network, since it may be a relevant moderator to coping strategies and treatment adaptation. Furthermore, these results may be relevant to design tailored interventions that may help patients in specific situations regarding their gender and marital status/presence of social support to deal with the stress related to kidney transplant preparation, which includes several examinations and evaluations that may be overload demanding (Cunha et al., 2007; Trentini et al., 2004).

It is noteworthy that the type of transplant (living donor or cadaveric donor) was not associated with coping strategies. A living donor transplant represents a specific condition, different from cadaveric transplants, in which (a) the time waiting for the surgery is already known and the patient may prepare him or herself according to this schedule; (b) the patient spends less time awaiting for the transplant; and (c) it includes a living related donor, which implies worrying about the donor's health and well-being after the transplant. Therefore, hypothetically, the living donor condition might interfere with coping, for example increasing emotion-focused strategies or religious beliefs. For that reason, the type of transplant and its relation to coping strategies should be further explored and deepen in future studies.

The results from the present study also showed that there was no association between schooling and coping strategies. However, religiosity was associated with monthly income and children's ages, specifying patients in less privileged classes and parents of adult children as participants that focus more on religious coping. Although other studies about coping in the same health community that joined this research but in different health contexts, commonly show similar associations between religiosity and monthly income, they do not show relation regarding coping and children's age (e.g. Faria & Seidl, 2006; Kohlsdorf, 2008). Then it is possible that the association

between coping and children's age found in the present study was spurious. It might be hypothesized that the number of children and their ages would be a relevant moderator to coping and treatment adaptation, since the demands of caring and parental behaviours change according to number and age of children. However, there was no evidence in this study regarding children's characteristics as direct moderators or factors related to coping, and this data endorses the need of further studies regarding transplant preparation and family status. Also, religiosity was correlated to time in dialysis; this result is specially relevant since it shows that awaiting for a kidney transplant, while undergoing haemodialysis, may possibly be a stressor that influences the coping strategies adopted, perhaps creating a condition of uncontrollability that leads patients to lean on external locus of control, here assumed as religiosity.

Open questions presented specific examples from coping strategies adopted by participants in the present study. It should be noted that some examples reported by patients are not included in the Ways of Coping Scale - Brazilian Version (such as distraction, crying and use of alternative medicine); therefore, this optional question could help understanding individual conditions lived by each patient. This last section of the Questionnaire may also help health care professionals to focus on specific individual demands that may represent an additional psychological burden, regarding for example self-blaming. It should be highlighted that answers from this open question showed a higher frequency related to emotion focused coping, in a virtually opposition to the results presented by the quantitative scale. This data must be seen as relevant, suggesting that maybe the Ways of Coping Scale - Brazilian Version leaves out important coping strategies that are relevant for the participants. On the other hand, a careful examination of the questionnaire shows that its items are broad, in order to be used in several contexts (e.g., "I accept sympathy and understanding from people"), and the answers in open question were very specific (e.g., "I do not like to talk about the problem, so I hide from others"), helping to better detail the real behaviours related to the broader strategies presented in the scale. Once more, further studies are needed in order to clarify the best way of understanding coping strategies regarding the health context.

The present study showed associations between patient's social-demographic characteristics and coping strategies. As already stated, the results are relevant to subsidize psychosocial interventions that may help patients to deal with the transplantation process, also endorsing a better post-surgery adaptation, since literature highlights associations between coping and mental health (Burker et al., 2005; Jurado et al., 2011; López-Navas et al., 2010; Myaskovsky et al., 2005; Taylor et al., 2008; Telles-Correia et al., 2008).

Some examples concerning suggestions for psychosocial interventions may be discussed. Understanding that religion plays a lead role when dealing with kidney transplant highlights the need of specific interventions that may analyze the function of this strategy as a buffer to depression or anxiety, as a way to deal with the fear regarding the success and/or the uncontrollability of surgery or also as an obstacle to treatment adherence, since patients may trust their health to divine providence and decrease their personal efforts to get better. Moreover, the association between time in dialysis and religious coping is also a relevant subsidize to interventions, since the positive, although moderated, and significant correlation between these two variables might suggest that the more a patient stays in dialysis, more important is the role of religion as a coping strategy.

Another example related to the association found between genders and coping suggests analyzing if male patients tendency to adopt problem-focused strategies are related to biased gender roles and not really to individual characteristics. Psychosocial interventions, which allow male patients to talk about their worries and emotional difficulties, for instance, in therapeutic male groups, might be very helpful in the preparation to kidney transplant.

Finally, search for social support endorsed by single/divorced/widowed patients also highlights the relevance of the role played by the health care system. The health staff must work as a source for social support regarding patients who have a fragile social network. The relationship with the health care team is crucial to a better adaptation post-surgery and to a satisfactory treatment adherence. Furthermore, enlarging the social and family support, whenever possible, should be a goal when preparing someone to kidney transplant, especially if this patient has a fragile social network.

Limitations of This Study

The present study has some limitations that must be addressed. First, although the number of participants is sufficient to perform statistical analysis regarding this specific population, it would be relevant to study a higher number of patients, in order to provide more consistency and validity in data obtained. However, all patients that met the inclusion criteria were asked to join the research, indicating the difficulty to achieve a larger sample.

Second, there is other socio-demographic data that may be analyzed in association to coping strategies, which were not integrated in the present paper. The characteristics chosen for the present study, as previously stated in Method section, were related to the screening form already used in our health care service. Examples of other patient's socio-demographic characteristics could include place of origin, race, anxiety and depression indicators, for example. Unfortunately, it was not viable to include these variables in the present study due to the little available time to interview the participants. Psychological indicators such as anxiety and depression would require a proper evaluation, which was not possible to carry on while the patients waited for the medical consultation. Besides that, place of origin was not included in this research since all participants came from the same state, since the hospital receives people from a specific geographic region. Race was also not included in this research because the majority of patients received in the hospital would be characterized in the same ethnicity and, therefore, no differences or groups would be compared.

Finally, more studies are needed in order to clarify other socio-demographic data that may be related to coping, as well as other psychological features that may moderate adaptation to the kidney transplant preparation, as endorsed by the literature (Almeida, 2003; Duarte et al., 2003; Martins & Cesarino, 2005; Zimmermann et al., 2004).

Funding

The author has no funding to report.

Competing Interests

The author has declared that no competing interests exist.

Acknowledgments

The author has no support to report.

References

Almeida, A. M. (2003). Revisão: A importância da saúde mental na qualidade de vida e sobrevida do portador de insuficiência renal crônica. *Jornal Brasileiro de Nefrologia*, 25(4), 209-214.

- Arruda, P. M. (2002). *Exigências para adesão ao tratamento pediátrico de Febre Reumática e Diabetes Mellitus Tipo 1 e estratégias de enfrentamento do cuidador*. (Unpublished master's thesis, Universidade de Brasília, Brasília, Brazil).
- Bertolin, D. C., Pace, A. E., Kusumota, L., & Ribeiro, C. H. M. (2008). Ways for people on hemodialysis to deal with stressors: A literature review. *Acta Paulista de Enfermagem*, 21(n.spe), 179-186. doi:10.1590/S0103-21002008000500008
- Burker, E. J., Evon, D. M., Marroquin Losielle, M., Finkel, J. B., & Mill, M. R. (2005). Coping predicts depression and disability in heart transplant candidates. *Journal of Psychosomatic Research*, 59, 215-222. doi:10.1016/j.jpsychores.2005.06.055
- Contreras, F., Esguerra, G. A., Espinosa, J. C., & Gómez, V. (2007). Estilos de afrontamiento y calidad de vida en pacientes con insuficiencia renal crónica (IRC) en tratamiento de hemodiálisis. *Acta Colombiana de Psicología*, 10(2), 169-179.
- Cunha, C. B., Leon, A. C. P., Schramm, J. M. A., Carvalho, M. S., Souza Junior, P. R. B., & Chain, R. (2007). Tempo até o transplante e sobrevida em pacientes com insuficiência renal crônica no Estado do Rio de Janeiro, Brasil, 1998-2002. *Cadernos de Saude Publica*, 23(4), 805-813. doi:10.1590/S0102-311X2007000400008
- Domingos, N. A. M., Lipp, M. E. N., & Miyazaki, M. C. O. S. (2012). Stress, ansiedade, depressão e estratégias de enfrentamento em candidatos a transplante de fígado: Intervenção psicológica. *Revista de Motivación y Emoción*, 1, 40-46.
- Duarte, P. S., Miyazaki, M. C. O. S., Ciconelli, R. M., & Sesso, R. (2003). Tradução e adaptação cultural do Instrumento de Avaliação de Qualidade de Vida para Pacientes Renais Crônicos (KDQOL – SFTM). *Revista da Associação Médica Brasileira*, 49(4), 375-381. doi:10.1590/S0104-42302003000400027
- Faria, J. B., & Seidl, E. M. F. (2006). Religiosidade, enfrentamento e bem-estar subjetivo em pessoas vivendo com hiv/aids. *Psicologia em Estudo*, 11(1), 155-164.
- Folkman, S., Lazarus, R. S., Dunkel-Schetter, C., DeLonguis, A., & Gruen, R. J. (1986). Dynamics of a stressful encounter: Cognitive appraisal, coping, and encounter outcomes. *Journal of Personality and Social Psychology*, 50(5), 992-1003. doi:10.1037/0022-3514.50.5.992
- Garcia, V. D. (2006). A política de transplantes no Brasil. *Revista da AMRIGS*, 50(4), 313-320.
- Gimenes, M. G. G., & Queiroz, B. (1997). As diferentes fases do enfrentamento durante o primeiro ano após a mastectomia. In M. G. G. Gimenes & M. H. Fávero (Eds.), *A mulher e o câncer* (pp. 171-195). Campinas, Brazil: Editorial Psy.
- Harwood, L., Wilson, B., Locking-Cusolito, H., Sontrop, J., & Spittal, J. (2009). Stressors and coping in individuals with chronic kidney disease. *Nephrology Nursing Journal*, 36(3), 265-276.
- Jurado, R., Morales, I., Taboada, D., Denia, F., Mingote, J. C., Jiménez, M. A., . . . Rubio, G. (2011). Coping strategies and quality of life among liver transplantation candidates. *Psicothema*, 23(1), 74-79.
- Kohlsdorf, M. (2008). *Análise das estratégias de enfrentamento adotadas por pais de crianças e adolescentes em tratamento de leucemias* (Unpublished master's thesis, Universidade de Brasília, Brasília, Brazil).
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York, NY: Springer.
- Lima, A. F. C., & Gualda, D. M. R. (2001). História oral de vida: Buscando o significado da hemodiálise para o paciente renal crônico. *Revista da Escola de Enfermagem da USP*, 35(3), 235-241. doi:10.1590/S0080-62342001000300006

- López-Navas, A., Ríos, A., Riquelme, A., Martínez-Alarcón, L., Miras, M., Ramírez, P., & Parrilla, P. (2010). Coping styles of patients in the liver transplant waiting list. *Transplantation Proceedings*, *42*, 3149-3152. doi:10.1016/j.transproceed.2010.05.068
- Machado, L. R. C., & Car, M. R. (2003). A dialética da vida cotidiana de doentes com insuficiência renal crônica: Entre o inevitável e o casual. *Revista da Escola de Enfermagem da USP*, *37*(3), 27-35. doi:10.1590/S0080-62342003000300004
- Martins, M. R. I., & Cesarino, C. B. (2005). Qualidade de vida de pessoas com doença renal crônica em tratamento hemodialítico. *Revista Latino-Americana de Enfermagem*, *13*(5), 670-676. doi:10.1590/S0104-11692005000500010
- Myaskovsky, L., Dew, M. A., Switzer, G. E., McNulty, M. L., DiMartini, A. F., & McCurry, K. R. (2005). Quality of life and coping strategies among lung transplant candidates and their family caregivers. *Social Science & Medicine*, *60*, 2321-2332. doi:10.1016/j.socscimed.2004.10.001
- Ravagnani, L. M. B., Domingos, N. A. M., & Miyazaki, M. C. O. S. (2007). Qualidade de vida e estratégias de enfrentamento em pacientes submetidos a transplante renal. *Estudos de Psicologia*, *12*(2), 177-184.
- Seidl, E. M. F., Rossi, W. S., Viana, K. F., Meneses, A. K. F., & Meireles, E. (2005). Crianças e adolescentes vivendo com HIV/Aids e suas famílias: Aspectos psicossociais e enfrentamento. *Psicologia: Teoria e Pesquisa*, *21*(3), 279-288. doi:10.1590/S0102-37722005000300004
- Seidl, E. M. F., Tróccoli, B. T., & Zannon, C. M. L. C. (2001). Análise fatorial de uma medida de estratégias de enfrentamento. *Psicologia: Teoria e Pesquisa*, *17*(3), 225-234. doi:10.1590/S0102-37722001000300004
- Taylor, J. L., Smith, P. J., Babyak, M. A., Barbour, K. A., Hoffman, B. M., Sebring, D. L., . . . Blumenthal, J. A. (2008). Coping and quality of life in patients awaiting lung transplantation. *Journal of Psychosomatic Research*, *65*, 71-79. doi:10.1016/j.jpsychores.2008.04.009
- Telles-Correia, D., Mega, I., Barbosa, A., Barroso, E., & Monteiro, E. (2008). Coping nos doentes transplantados. *Acta Medica Portuguesa*, *21*, 141-148.
- Toimamueang, U., Sirivongs, D., Limumnoilap, S., Paholpak, S., Phanphruk, W., & Chunlertrith, D. (2003). Stress and coping strategies among renal transplant candidates in a Thai medical center. *Transplantation Proceedings*, *35*, 292-293. doi:10.1016/S0041-1345(02)03849-6
- Trentini, M., Corradi, E. M., Araldi, M. A. R., & Tigrinho, F. C. (2004). Qualidade de vida de pessoas dependentes de hemodiálise considerando alguns aspectos físicos, sociais e emocionais. *Texto & Contexto Enfermagem*, *13*(1), 74-82.
- Zimmermann, P. R., Carvalho, J. O., & Mari, J. J. (2004). Impacto da depressão e outros fatores psicossociais no prognóstico de pacientes renais crônicos. *Revista de Psiquiatria do Rio Grande do Sul*, *26*(3), 312-318. doi:10.1590/S0101-81082004000300008