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# Transplant Patients' Isolation and Social Distancing Because of COVID-19: Analysis of the Resilient Capacities of the Transplant in the Management of the Coronavirus Emergency

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## ABSTRACT

**Background.** One of the peculiar aspects of the transplant patient's life is that, in the post-surgery phase, the patient lives in an "isolation" condition, having to pay particular attention to the living environment and preferring a limited social life given that the immunosuppressive treatment entails immunodepression in the patient. With coronavirus disease 2019 (COVID)-19, as in a post-surgery situation, social isolation is being implemented.

**Materials and Methods.** The study started on March 17, 2020, and ended on April 24, 2020. Consulting/phone interviews were made. The phone questionnaire, submitted to 71 patients, consisted of a set of 15 questions that investigated structure and psychological resistance. Eight patients have been monitored exclusively for the psychological aspect through a more articulate supporting path.

**Results.** In essence, from the overall analysis of the data derived from the study of the positioning of patients based on the stage of renal function, the bands related to the development of psychopathological aspects, and the use of positive personal resources, it emerges that patients in stage V kidney failure are in the first bracket as regards the development of psychopathological aspects (absence of these experiences) and in the third bracket as regards the good use of positive resources to deal with isolation. Therefore, it can be deduced that, although with data that can be expanded, a serious or medium-serious situation from an organic point of view in this socio-health emergency situation is well addressed by the transplanted patient.

**Conclusion.** Transplant patients have faced the measure of social distancing adequately and in adherence to the treatment thanks to the phone assistance of all the medical-surgical and psychological team.

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**B**ACKGROUND. Transplantation, demonstrated by different studies, can represent a traumatic moment in a patient's life that, if not adequately understood and supported by the medical-psychological team, the family, and social environment, may affect the physical balance and quality of life of the patient. One of the peculiar aspects of the transplant patient's life is that, in the post-surgery phase, the patient lives in an "isolation" condition, having to pay particular attention to living environment and personal care and hygiene while preferring a limited social life given that

the immunosuppressive treatment entails immunodepression. With coronavirus disease 2019 (COVID)-19, as in a post-surgery situation, social isolation is being implemented.

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**Table 1. Demographic and Clinical Features**

Sex	Average Age of Patients	Time Post-transplantation	Donor Source
71 total	56 years	8 years	65 deceased donors
20 men			6 living donors
51 women			

Therefore, with a view to support the patients, the Regional Center for Kidney Transplants (Regione Abruzzo Regione Molise) immediately activated—as soon as the closure of the clinics was ordered with consequent suspensions of examinations—additional crisis hotlines of constant support to its patients.

The study started on March 17, 2020, in response to the declared pandemic and COVID-19 emergency, and ended on April 24, 2020. The 2 inspiring assumptions of the study have been 1. the transplant patient's isolation and the social isolation, as a restrictive measure for COVID-19, could have similarities of behavior and management by the public service; and 2. the transplant patient already has experience with restrictive measures related to the care of physical health and so could positively react to social distancing. The purpose of the Transplant Center has been to continue to ensure clinical-medical assistance and psychological support to transplant patients and patients on the waiting list, and to monitor the psycho-physical trend through data collection obtained by phone inquiries.

**MATERIAL AND METHODS**

Seventy-nine consulting/phone clinical and psychology interviews were made. Eight patients, transplanted or on a waiting list, were monitored for the psychological aspect through a more articulate supporting path. It is also reported that 1 of these 8 patients, who had received a kidney transplant, tested positive for COVID-19 and was followed up during hospitalization through psychological telephone support. Additional data of a more detailed clinical nature are being studied and correlated with other cases followed by this center. The phone questionnaire, submitted to 71 patients (51 men and 20 women), consisted of a set of 15 questions that investigated structure and psychological resistance. Questions explored, in essence, how the person has reacted to the temporary emergency situation, whether through the reactive development of psychopathological aspects (12 questions divided into 4 areas: mood/anxiety, body rhythm, thinking function, and deviance) or whether through the ability to draw from personal resources in a

positive prospective for the moment and for the future (3 questions: positive resources area).

**RESULTS**

Thus far, 79 patients have been monitored (Table 1). For details related to the positioning of patients according to the stages of progression of kidney disease according to the Clinical Practice Guideline for the Evaluation and Management of Chronic Kidney Disease [1], refer to Table 2. According to the stage of progression of kidney disease, it was found that 7.04% of patients were in stage I, 32.04% in stage II, 21.10% in stage III A, 18.31% in stage III B, 18.31% in stage IV, and 2.82% in stage V. Further allocations related to sex are shown in Table 2.

The opportunity is taken to integrate the data relating to the psychological aspects detected through the telephone interview by providing indications about the number of patients who gave qualitatively positive or not positive answers. Therefore, the 3 ranges of answers provided by patients with regard to their quality are reported in the “Development of Psychopathological Aspects” section of Table 3, where it is noted that band 1, which reports the number of patients who have not developed symptoms related to psychopathology, is definitely represented. We note the placement of 67 patients out of 71 in band 1, this means that 94% of patients do not feel unwell or situations that could change in a psychopathological sense. Further indications on the nature of the responses, divided by investigation areas, are reported in the analysis within the article.

In the “Use of Positive Resources” section of Table 3 the third and second bands, most represented, show the number of patients who skillfully and easily accessed positive personal resources to deal with the situation of isolation. Band 1 shows the number of patients who have difficulty using resources, and band 2 and progressively 3 shows patients who manage to use the positive aspects of themselves to face the difficulties associated with social isolation. It should be noted that 34 patients out of 71 frequently use positive personal tools; 29 patients out of 71 use them regularly and easily, not encountering difficulties in finding positive energy to face the problems of the moment; and 8 patients show limitations in dealing with problems. Further indications on the nature of the responses, divided by investigation areas, are reported in the analysis within the article.

**Table 2. Stage of Kidney Function (KDIGO 2012)**

	I	II	III A	IIIB	IV	V
Total	5	23	15	13	13	2
Men	4	16	12	10	9	0
Women	1	7	3	3	4	2
%	7.04%	32.40%	21.10%	18.31%	18.31%	2.82%
% Men on stage	80%	69.60%	86.70%	77%	77%	—
% Men on total	5.63%	22.50%	18.30%	14.08%	12.70%	—
% Women on stage	20%	30.40%	24.30%	23%	23%	100%
% Women on total	1.04%	9.86%	2.82%	4.22%	5.60%	2.82%

Abbreviation: KDIGO, Kidney Disease Improving Global Outcomes.

**Table 3. Number of Patients Divided by Response Bands in the 2 Investigation Areas**

Development of Psychopathological Aspects			
Band 1	50 men	17 women	67 total
Band 2	1 men	3 women	4 total
Band 3	0	0	0
Use of Positive Resources			
Band 1	5 men	3 women	8 total
Band 2	29 men	5 women	34 total
Band 3	17 men	12 women	29 total

For this reason, it can be argued that, in substance, the adjustment to isolation measures has represented, for transplant patients, a significant life experience able to structure a more positive and purposeful attitude toward the COVID-19 emergency situation, as shown in Table 4. In this regard, 54% of the answers in the area “positive resources” corroborate the capacity of being able to draw from personal positive aspects, such as self-confidence, faith in the future, and planning capacity. Twenty-five percent of answers converge to the use of “occasional” personal resources while 21% shows “never or rarely” with respect to confidence and future planning.

These last 2 sets of answers, in the same way, spark interest of study and further information since, in the future, we might verify if the patients who have less personal capacity of adjustment and processing of traumatic events will be both those who, as shown in the literature, might be less compliant with treatments and those who needed and keep on needing to follow processes of psychological support because of a structural fragility of the personality.

In order to create a correspondence between Table 2 and Table 3, the summary data are shown in Table 5. From the overall analysis of the data derived from the study of the positioning of patients based on the stage of renal function and the bands related to the development of psychopathological aspects and the use of positive personal resources, it emerges that stage V kidney failure patients are in the first bracket as regards the development of psychopathological aspects (absence of these experiences) and in the third bracket as regards the good use of positive resources to deal with isolation. The analysis of the intersection of the data concerning the 23 patients in stage II with kidney function “mildly decreased,” the most represented stage in this study, shows that they are not in a situation of psychological malaise (22 in band 1, 1 in band 2); 8 out of 23 patients draw significantly on their positive personal resources, 13 patients did so frequently but in an inconsistent and lasting way, and 1 patient did so in a limited way. Therefore, it can be deduced that, although with a datum that can be expanded, a serious or medium-serious situation from an organic point of view in this socio-health emergency situation is well addressed by transplant patients. By crossing lines and columns, it is possible to identify the psychological condition, with respect to the development of the psychopathological aspects and use of personal resources, in the progression of

kidney disease. Although it is a small sample, the available data seem to support our initial hypotheses in which we understood how isolation of the transplanted person and social isolation, as a restrictive measure for COVID-19, could have similarities in behavior and management by the public service and that, therefore, the transplanted patient, with experience of restrictive measures related to the care of physical health, could respond positively to social distancing.

## DISCUSSION

Psychological background related to situations of isolation has been studied. Studies demonstrate that there are numerous factors of stress that contribute to making the social distancing time harder, as demonstrated in the studies of Blendon et al [2], Cava et al [3], Hawryluck [4], and Jeong et al [5], which, in particular, notes how the quarantine could bring out feelings of anger and anxiety and consequently jeopardize the mental health of the patient. In favor of such studies, the research led by Beller and Wagner [6] can be mentioned in relation to the loneliness, social isolation, synergic interaction, and the connection with mortality. Phobic or obsessive feelings have also been analyzed in the study of Reynolds et al [7], which, after the end of the SARS emergency, structured avoidance behaviors: 54% of the people who were put in isolation avoided those who coughed or sneezed, 26% stayed away from closed or crowded places, and 21% avoided public spaces. In contrast, from the analysis of our data, it emerged that answers to the questions of the area “mood/anxiety” were concern the absence of symptoms attributable to anxiety experiences, depression, irritability, and depressed mood for a percentage of 89.13%; answers to the questions of “body rhythm” denied difficulties related to the rhythm of the body (eg, psychosomatic episode, sleep/wakefulness), for a percentage of 72.77%; answers to the question of “thinking function” were, for 83%, related to the absence of the difficulties connected to the thinking function (focus); answers to the questions of “deviance” were, for 98.59%, inherent in the denial of engaging deviant behaviors (eg, failed compliance, use of alcohol, non-correct medicines taking). The interesting datum is that 54% of the answers in “positive resources” were related to the productive capacity of drawing from concrete personal skills to face this emergency situation. Moreover, 6 patients, transplanted or on a waiting list, used phone communication for initial psychological support; 2 patients, 1 transplanted and 1 on a waiting list, were monitored on a weekly basis for all of phase 1 with more articulate psychological phone support. The organ

**Table 4. Diversified Answers by Area of Investigation**

Answers Area "Development of Psychopathological Aspects"		Answers of "Use of Positive Resources"	
Never or rarely	88%	Never or rarely	21%
Often or always	6%	Often or always	54%
Occasionally	6%	Occasionally	25%

**Table 5. Data Analysis in Tables 2 and 3**

Stage of Kidney Function	No. Patients	Development of Psychopathological Aspects			Use of Positive Resources		
		Band 1	Band 2	Band 3	Band 1	Band 2	Band 3
I: Normal to high	5	4	1	0	0	4	1
II: Mildly decreased	23	22	1	0	1	13	9
IIIA: Mildly to moderate decreased	15	15	0	0	5	8	2
IIIB: Moderately to severely decreased	13	13	0	0	1	4	8
IV: Severely decreased	13	11	2	0	1	5	7
V: Kidney failure	2	2	0	0	0	0	2

transplant, on the other hand, represented for patients a life situation that demands the activation of extraordinary energies, both mental and physical, and can act as an intense stressor stimulus, especially in the presence of a structure of a fragile personality, to which the organism responds with a neurotransmitter and endocrine-metabolic modifications, also determining the increase of attention and reactivity to stimuli [8–11]. As shown in different studies [12,13], responsive backgrounds to the transplant can materialize in mental disorders (eg, post-traumatic stress disorder, adaption disorder, psychosomatic disorder). In light of the results of international research that shows the improvement of physical functions and general quality of post-transplant life [14–19], the disappearance of sleep disturbances and appetite disorders, and the enhancement of cognitive functions [20], our goal has been to verify how the transplant patient, who has already experienced existential discontinuity [21], meaning a sudden interruption of the patient's self and everyday life, has also already experienced isolation and potential traumatic times related to the loneliness-isolation and, therefore, in this time of emergency could react in a more positive and consistent manner.

Hence, the transplantation, as well as social distancing, upset the stance of the person, causing a discontinuity of the sense of existence [22] that engages the subject to manage a new reorganization of one's self and life habits.

Phone interviews reveal, in all respects, that transplanted recipients seem to respond to restrictive measure of social distancing in an adequate way without the development of discomfort/psychopathological aspects.

Such data, considering the similarity of a life situation of a transplant patient who has to apply social distancing based on the studies of Brooks et al [23] that prove how public health has a double role of compliance monitoring and support to people in quarantine and the sector studies related to the effectiveness of post-transplant assistance by the medical team [24–26], better corroborate the job done by this medical team toward 24/7 assistance through phone communications for the management of either medical-surgical and psychological aspects.

## CONCLUSION

Transplant patients, thanks to support pre- and post-transplant and throughout the process of treatment

management in the phase 1 of the COVID-19 emergency, have faced the measure of social distancing, enforced by the government, adequately and in adherence with the treatment, thanks to the phone assistance of all the medical-surgical and psychological team. In the future, it could be useful to monitor the same sample of subjects at the end of phase 1 to verify the change of the attitude that draws from the capacity to tap into personal resources and potential psycho-pathological disorders that could get involved in the phase of new adjustment. At last, a further object of study could be the verification of the hypothesis that the patients who were not compliant before the COVID-19 emergency may have permanently revealed aspects of lack of confidence and non-adherence by not following medical indications or adopting an oppositional attitude.

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