

Organ Donation and Transplantation: Contributions of Professionals on Interprofessional Work in Programs

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ABSTRACT

Objective: This study aimed to identify the contributions for improvement in the interprofessional working relationship pointed out by professionals involved in organ and tissue procurement and transplantation programs. **Method:** exploratory study with a quantitative approach conducted over a period of 21 months, with the participation of health professionals invited to complete an online questionnaire on the Google form platform. After collection, the quantitative data were organized and analyzed descriptively, and the qualitative data were categorized and submitted to content analysis. **Results:** 130 health professionals participated in the study, 84% were female, of which 64% said they were white, between 41-59 years old, and 31% had worked for more than 15 years in the programs. The categories identified were: working conditions; appreciation of non-medical professionals; psychological support to professionals and funding for training of professionals pointed out as improvements in the work relationship in the programs. **Conclusion:** the study identified that working conditions and greater valorization of the interprofessional team allied to offering psychological support to professionals are necessary and important strategies, and may bring impacts on the satisfaction of professionals, on mental health, in addition to improvements in work processes, impacting transplantation rates.

Descriptors: Working Conditions; Health Strategies; Transplants.

Doação e Transplantes de Órgãos: Contribuições dos Profissionais sobre o Trabalho Interprofissional nos Programas

RESUMO

Objetivo: Com este estudo, objetivou-se identificar as contribuições de melhoria na relação de trabalho interprofissional apontadas por profissionais envolvidos nos programas de procura e de transplantação de órgãos e tecidos. **Método:** estudo exploratório com abordagem quanti-qualitativo realizado no período de 21 meses, com a participação de profissionais da área da saúde convidados a preencher um questionário online da plataforma de formulários do Google. Após a coleta, organizaram-se os dados quantitativos, analisando-os de maneira descritiva e, em categorias, os dados qualitativos, submetendo-os à análise de conteúdo. **Resultados:** participaram do estudo 130 profissionais de saúde, sendo 84% do gênero feminino, dos quais 64% se declararam de cor de pele branca; de faixa etária entre 41-59 anos, sendo que (31%) trabalhavam há mais de quinze anos nos programas. As categorias identificadas foram: condições de trabalho; valorização dos profissionais não médicos; suporte psicológico e financiamento para capacitação dos profissionais apontadas como melhorias na relação de trabalho nos programas. **Conclusão:** o estudo possibilitou identificar que na relação de trabalho as condições laborais e maior valorização da equipe interprofissional aliadas ao oferecimento de suporte psicológico aos profissionais são estratégias necessárias, podendo trazer impactos na satisfação dos profissionais, na saúde mental, além de melhorias nos processos de trabalho, impactando as taxas de transplantes.

Descritores: Condições de Trabalho; Estratégias de Saúde; Transplantes.

INTRODUCTION

Advances in medicine have brought new technological health perspectives to guarantee the quality of life for patients with health problems who depend on organ transplants to maintain their lives.¹

Brazil has the world's largest organ, tissue and cell transplant program, guaranteed to the entire population through the Unified Health System. (Sistema Único de Saúde-SUS). SUS finances 96% of transplants² in the country; however, despite the large volume of transplant procedures performed in recent years, the number of people on the waiting list for an organ is still significant, which denotes a great challenge worldwide, due to the low number of donations per million population, a situation aggravated by the covid-19 pandemic.

At the Instituto Português do Sangue e da Transplantação (Portuguese Institute of Blood and Transplantation), the donation is presumed. In 2020, the country ranked third in the world for organ donation from deceased donors, behind Spain and Croatia, with 33.4 donors per million inhabitants. In 2019, it stagnated at 33.8 donors due to the pandemic, with a 60% drop in donations and a 68% drop in transplants.^{3,4}

The work in organ/tissue procurement and transplant programs is complex and is carried out by different teams. When capturing organs/tissues², the process documented in the medical records consists of identifying the potential donor, performing various clinical and laboratory tests to define the diagnosis of brain death, notifying the transplant center, interviewing the family to consent to the donation (except in countries such as Portugal, where no the interview takes place because consent is presumed); support to the donor's family, maintenance of the potential donor and, if the donation consents, elaboration of the logistics for the removal of the organs, activating the transplantation team until the donor's body is returned to the family.

The process of the transplant team, on the other hand, requires specific care preparation, which involves systematic follow-up during the pre-transplantation period – and, if an organ is available, calling the recipient patient from the waiting list –, clinical examinations and compatibility laboratory tests until the transplanted organ is received, thus promoting the restoration of the functions of a diseased organ or tissue.²

All these processes require technical competence and professional commitment to work based on the protocols defined in the legislation of the National Transplant System,² ensuring that all established clinical and ethical aspects are followed for the care of recipient patients during the pre-and post-transplant period, ensuring that a set of actions – from guidance on the use of medications, food, patient self-care, social rights, psychological support, and, above all, support from the caring family – is fulfilled and beneficial to the recipients.^{2,5}

As these are social and interpersonal relationships between team professionals, it is necessary to consider certain particularities that may occur, making it essential to observe the problems identified in these work processes. Jawoniyi *et al.*⁶ believe that well-trained professionals reflect on improving rates because they demonstrate an organized and solid system in the organ transplant program.

When following transplantation programs in which they observed the working relationship between nurses and physicians^{7,8}, the researchers highlighted the need for a greater understanding of this interprofessional relationship. Mercado-Martínez *et al.*^{7,8} were unanimous in the conception that other professionals, such as social workers, physiotherapists and nutritionists, among others, could point out other contributions to improve transplantation programs.

Given the above, this investigation aimed to identify the contributions of improvement in the interprofessional working relationship pointed out by professionals involved in the centers' programs for procuring and transplanting organs and tissues.

METHOD

The present is an exploratory study, with a quantitative and qualitative approach, carried out from March 2021 to December 2022, with two fields of study: in Brazil, the Faculty of Medical Sciences of the State University of Campinas – Unicamp –, in the state of São Paulo, Brazil; and the Department of Public Sciences and Public Policy at the University Institute of Lisbon – ISCTE-IUL –, Lisbon, Portugal.

The investigation is based on methodological triangulation⁹: “The use of multiple methods reflects an attempt to ensure an in-depth understanding of the phenomenon in question”, being a safe path for the research validation. It is the alternative to undertake multiple methodological practices, perspectives and observers in the same research, which guarantees rigor, richness and complexity to the work, in this case, consists of obtaining data capable of providing a more solid analysis of the programs.

As a methodological procedure for data collection, doctors, nurses, dentists, social workers, psychologists, biologists, physiotherapists, nutritionists and other professionals were invited to participate in the research, having as inclusion

criteria the work, for more than six months, in programs involving the search for organs and tissues; eye banks, centers and transplantation hospitals.

Then, the link to the Google Forms platform was sent to complete the semi-structured questionnaire, lasting about twenty minutes, containing social characteristics: gender, age group, ethnic-racial statement, professional training, type of programs looking for organs or transplantation, working time, and a qualitative question related to the dynamics of interprofessional work.

During the study period, 165 professionals accessed the online questionnaire, of which 35 refused to participate, being excluded from the study, totaling a sample of 130 participants who signed the “Term of Free and Informed Consent” for the research.

Quantitative data were organized in an Excel spreadsheet to be analyzed by descriptive frequency, while in the qualitative data, the pre-analysis was carried out, the exploration of the testimonies of the participants; and, after fluctuating readings¹⁰, the four categorical variables were defined, submitting them to content analysis.¹¹To guarantee the anonymity of the participants, the letter (P) of the participant was used followed by a cardinal number (P1, P2, P3 and subsequent).

The research followed all ethical precepts following Resolution n° 466/2012 of the National Health Council, which regulates the ethical guidelines for the development of research involving human beings in the national scenario, being approved by the Unicamp Research Ethics Committees, under number CAAE 40797620.3.0000.5404, and the Centro Hospitalar Universitário de Lisboa (Portugal), according to Process 1.179/2021.

RESULTS

Table 1 presents the social characteristics of the participants.

Table 1. Characteristics of participants, professional training, programs and working time.

Variable	N	Percentage
Gender		
Female	109	84
Male	21	16
Age range		
41-59 years	60	46
30-40 years	42	32
18-29 years	18	14
>60 years	10	8
Declared skin color		
White	83	64
Brown	26	21
Black	16	12
Indigenous	3	2
Yellow	2	1
Professional qualification		
Nursing	50	38
Social work	29	22
Medicine	24	18
Physiotherapy	10	9
Pharmaceutical	6	5
Psychology	4	3
Nutrition	3	2
Biologist/Biomedical	3	2
Odontology	1	1
Programs		
Search for Organs and Tissues	55	42
Transplantation Programs	75	58
Time of Work		
>15 years	40	31
>3 years - 6 years	30	23
>6 months - 3 years	23	19
>6 years - 9 years	15	11
>10 years - 15 years	22	16

Source: Elaborated by the authors, 2022.

The categorical variables pointed out by the participants are presented below in Table 2:

Table 2. Categorical variables related to work in organ/tissue procurement and transplant programs.

Categorical variables related to work in the Programs	N	(%)
a) Working conditions	57	43
b) Valuing non-medical professionals	32	25
c) Psychological support to professionals	25	19
d) Funding for professional training	16	13
Total	130	100

Source: Elaborated by the authors, 2022.

In category a) working conditions, the following testimonies portray the participants' desire for these improvements in organ capture and transplant programs:

(...) Improve the team's working conditions and salary and offer a continuing education program (P.32).

(...) It would be very good if we could have a safe hospital structure for professionals (P.69).

(...) Increase in the number of professionals involved in the program, adequate remuneration for the multidisciplinary team, and public competition for intra-hospital organ and tissue donation committee members for transplants (CIHDOTT) (P.29).

(...) In the world we are living in, it is difficult to carry out transplants due to the need for more ICUs and professionals (P.120).

Regarding category b) valuing non-medical professionals, the discomfort of the participants was evident, as shown in the statements below:

(...) The first strategy is to value the work of nursing, as it is practically 80% of the workforce in health. This category, valued in the post-pandemic with a decent workload, makes the difference (P.55).

(...) Include pre and postoperative nutrition for these patients, during hospitalization and after in the outpatient clinic (P.40).

(...) The social worker can add his knowledge to other professionals, enabling the health care of the transplanted patient and his family beyond the disease. With efficient communication, it is possible to have a humanized and effective service based on the questions raised by the family and the interprofessional discussion (P.15).

(...) Create a job and salary progression system within the donation and transplant programs (P.26).

(...) It is necessary to guarantee equity among professionals with respect and transparency. I believe that every professional should be treated similarly (P.78).

(...) Respecting and valuing all professional categories participating in the donation and transplant process (P.63).

(...) Bonus professionals at the end of the process, for example, nursing, social work, etc. (P.115).

In category c) psychological support for professionals, study participants pointed out support as an incentive to care for the mental health of those involved in the programs:

(...) In this pandemic moment, they made us think a lot about some actions, particularly valuing life (P.100).

(...) Increase dissemination and awareness about the importance of being donors, mainly greater support for professionals (P.32).

(...) Psychological embracement of families and professionals involved in the process (P.33).

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DISCUSSION

In this study, which aimed to point out the contributions of improvement in the interprofessional working relationship in organ and tissue procurement and transplantation programs, it was observed in the characterization of the participants that 109 (84%) declared themselves to be female. In the ethnic-racial self-declaration, 83 (64%) said they were white and sixty (46%) were aged between 41 and 59.

Of the participants with greater participation in the study, fifty (38%) had training in the nursing area. Regarding the programs, 55 (42%) worked in organ/tissue procurement, while 75 (58%) worked in transplantation programs. A total of forty (31%) respondents in this group have worked for more than fifteen years in the programs. It is noticed that women prevail in occupying the socio-occupational spaces related to the population's health care.

It is essential to highlight the consensus in the literature^{12,13} that working conditions are always a concern in studies, taking into account working hours, environment, insufficient number of human resources, care for the team, infrastructure of socio-occupational spaces in institutions and materials in services to meet the demand of programs. Sometimes, there is a lack of essential personal protective equipment (PPE) for professionals.

Backes *et al.*¹³ also pointed out that nursing teams are the most affected in terms of working conditions, as they are long hours, leading to dissatisfaction on the part of the team, as pointed out in previous studies.¹⁴

Another factor can be added in Brazil: the lack of minimum wage in the nursing category. This aspect often leads professionals to exercise their function in more than one different socio-occupational space to guarantee their means of subsistence.

The category "work", according to the changes in the process of productive restructuring of the morphology of the world of work, has undergone transformations in an accelerated way since the 1970s of the 21st century as a result of the structural crisis of capital.¹⁵

It is worth remembering that this crisis is aggravated by a proliferation of managerial policies of flexibility and precariousness of workers' contract conditions, and the health area suffers this impact from the reduction of human resources, aggravated by the non-replacement of vacancies after the retirement of professionals, mainly in public institutions.

The results of the present study indicated apprehension on the part of professionals about the unhealthiness of workplaces due to the pandemic, which needs to be considered since its facts may have resulted in the removal of professionals from their work activities. In addition, the pandemic has impacted transplantation rates, as some studies point out.¹⁶

A specific logistics starts with capturing and extracting the donated organ, which involves compatibility tests and, simultaneously, calling the recipient, in addition to other actions up to the transplant surgery. As previously mentioned, the work processes in the programs often take place over long hours; the professionals dedicate themselves to preparing the recipient until the transplant procedures are carried out.

In a national survey in the United States, evidence of burnout was found in 40% of transplant surgeons, while in Europe, there was evidence of emotional exhaustion in 17.6%. Thus, it is essential to emphasize that such factors can aggravate professionals' mental health, impacting programs.¹⁶

The covid-19 pandemic has affected the entire transplant system due to a 16% decrease in transplant procedures worldwide¹⁷. In addition, it also affected professionals due to changes in routine and unsanitary working conditions in the hospital environment and in all areas where fundraising and transplantation programs take place.

As can be seen in the testimonies, there was an expectation from the professionals that the management of the two programs would pay more attention to valuing the non-medical team. Medical hegemony is an indisputable fact throughout the health area. In this regard, Fernandes *et al.*¹⁸ emphasize that appreciating the entire interprofessional team motivates and impacts improvements in program rates.

Multiprofessional work is decisive for fundraising and transplant programs to be successful. In this way, there must be a broad appreciation of the professionals dedicated to this function.^{16,19}

Related studies considered that the low sensitivity of program managers concerning the subject of the survey causes dissatisfaction and demotivation of the team working in the area and the process since a particular privilege is notorious only for a specific professional category, disregarding that, for the effectiveness of the results and indices, all those involved perform necessary functions.²⁰

Many professionals who work on the intra-hospital organ and tissue donation commission for transplants are not reimbursed for this function and perform other tasks in the hospital in parallel, which ends up causing demotivation, dissatisfaction and a feeling of lack of recognition for professionals, in addition to a work overload. (Evaldt, 2022, p.4).²⁰

Exposure to death and suffering²¹ is a career characteristic in the health area. However, it was verified the increased levels of emotional exhaustion²² in nurses.

Emotional exhaustion is a state of excessive emotional stress accompanied by total energy depletion. While occupational stress can also be influenced by workers' characteristics, such as witnessing the death of patients, caring for very dependent or confused patients, and staff shortages in terms of the relationship between the number of patients and nurses (Sacadura-Leite et al., 2019, p.70).²²

Another factor to be observed is the emergence of problems such as burnout syndrome, depression and stress in health professionals. These symptoms could be related to the time spent working in the hospital to perform a transplant surgery.²³ In this way, psychological support for professionals has been widely identified as necessary:

Among health professionals, especially those who have a direct relationship with patients, emotional exhaustion, as a result of tasks, is notorious, triggering overloads, such as feelings of anguish, stress, and depressive syndromes, among other problems, often associated with physical disorders (Silva et al., 2017, p.35).²³

The literature subsidizes our results by pointing out that “*The emotional problems resulting from workloads are expressed in the worker's body through the occurrence of work-related diseases*”.²²⁻²⁴

Physical and psychological wear and tear on the professional team can occur with some frequency when there is exposure to uncontrollable situations, such as dealing with the death of patients daily and communicating bad news to the patient's families.

The impact on family relationships of health professionals as a result of problems in the work environment was observed²⁵, and prior monitoring of professionals is proposed as a preventive way to avoid further damage to mental health.

Concerning people management, the results highlight the importance of continuously monitoring the work context to provide a healthy and pleasant environment for its professionals, aiming to mitigate work-family conflict. This observation is essential, as the results of previous research demonstrate the negative impacts of this conflict both on people's lives and in the work context. (Andrade et al., 2020, p.469).²⁵

The results reinforce those already published,²⁶ noting that during the pandemic, there was an increase in stress levels and emotional tension in health professionals. Ripp *et al.*²⁶ suggest a task force to minimize this situation. In the present study, virtual support groups were conducted by trained mental health personnel, professionals who offered individual and group counseling sessions.

Health education and constant improvement in transplant programs are reinforced in the literature²⁷⁻²⁸, as they result in the quality of services provided to the population. These results already consolidate the yearning and commitment of the interprofessional teams of the programs, pointing out suggestions for improvement in the work process.

Educational actions must be based on the real needs of each team in each institution. Therefore, the engagement of the health team is essential, as well as the managers' commitment to put them into effect. (Senna et al., 2020, p.9).²⁹

Professional commitment to the cause of public health is fundamental, as fundraising, donation and transplants use high health technology and human and material resources in institutions to provide quality care to the population. The committed and motivated professional contributes to the quality of care and the production of knowledge, thus promoting the population's equal access to procedures and saving lives that depend exclusively on an organ and/or tissue.

The contributions pointed out by the research participants make it possible for the managers of the fundraising, donation and organ and tissue transplant programs to rethink ways of improving working conditions, welcoming other non-medical professionals and offering opportunities for more significant investment in training in this field.

FINAL CONSIDERATIONS

The study identified that working conditions and the greater appreciation of the interprofessional team and providing psychological support to professionals are necessary and vital strategies in labor relations. The results confirm that these strategies can impact the satisfaction and mental health of professionals and promote improvements in work processes, impacting transplantation rates.

Because of the results found, from a perspective of the new morphology of work – in which socio-occupational health spaces are currently experienced –, there is a need for more significant investment in the qualification and training of the teams of the fundraising and transplantation programs, in which they could be adopted, as a priority, by management, to meet the realities of health institutions.

AUTHOR'S CONTRIBUTION

Substantive scientific and intellectual contributions to the study: Fernandes MEN, Boin IFSF, Ferreira JML; **Conception and design:** Fernandes MEN, Ferreira JML, Espírito Santo MILA, Boin IFSF; **Data analysis and interpretation:** Fernandes MEN, Ferreira JML, Espírito Santo MILA, Boin IFSF; **Writing:** Fernandes MEN, Ferreira JML, Espírito Santo MILA, Boin IFSF; **Critical review:** Boin IFSF, Fernandes MEN, Ferreira JML; **Final approval:** F Fernandes MEN, Ferreira JML, Boin IFSF.

DATA AVAILABILITY STATEMENT

All dataset were generated or analyzed in the current study.

CONFLITS OF INTEREST

Nothing to declare.

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REFERENCES

1. Cionatto RM, Pinheiro AAG. Transplante de órgãos humanos no Brasil: a temática não pode ser declarada morta. *Rev Dir e Garantias Fundamentais*. 2017;18(3):177-214. <https://doi.org/10.18759/rdgf.v18i3.1130>
2. Ministério da Saúde. Sistema Nacional de Transplantes. Ministério da Saúde [Internet]; 2022. [acesso em 10 Dez 2022]. Disponível em: <https://www.gov.br/saude/pt-br/composicao/saes/snt>
3. Salgado C. Houve menos transplantes em 2018, mas número de doentes em espera também diminuiu. Público [Internet]; 2019. [acesso em 10 Out 2022]. Disponível em: <https://www.publico.pt/2019/03/25/sociedade/noticia/menos-transplantes-2018-numero-doentes-espera-tambem-diminuiu-1866718>
4. Sociedade Portuguesa de Transplantação (SPT). Primeiro trimestre de 2020 com mais transplantes apesar de quebra em março. Observador [Internet]. [acesso em 12 Jan 2023]. Disponível em: <https://observador.pt/2020/05/04/primeiro-trimestre-de-2020-com-mais-transplantes-apesar-de-quebra-em-marco/>
5. Scherer MDA, Pires DEP, Jean R. A construção da interdisciplinaridade no trabalho da Equipe de Saúde da Família. *Ciência & Saúde Coletiva*. 2013;18(11):3203-12. <https://doi.org/10.1590/S1413-81232013001100011>
6. Jawoniyi O, Gormley K, McGleenan E, Noble HR. Organ donation and transplantation: Awareness and roles of healthcare professionals – A systematic literature review. *J Clin Nurs*. 2018;27(5-6):e726-38. <https://doi.org/10.1111/jocn.14154>
7. Mercado-Martínez FJ, Díaz-Medina BA, Hernández-Ibarra E. Achievements and Barriers in the Organ Donation Process: A Critical Analysis of Donation Coordinators' Discourse. *Prog Transplantat*. 2013;23(3):258-64. <https://doi.org/10.7182/pit2013410>
8. Mercado-Martínez FJ, Padilla-Altamira C, Díaz-Medina BA, Sánchez-Pimienta C. Views of health care personnel on organ donation and transplantation: A literature review. *Texto Contexto – Enferm*. 2015;24(2):574-83. <https://doi.org/10.1590/0104-07072015003842014>
9. Fíguro R. A triangulação metodológica em pesquisas sobre a Comunicação no mundo do trabalho. *Revista Fronteiras – Estudos Midiáticos*. 2014;16(2):124-31. <https://doi.org/10.4013/fem.2014.162.06>

10. Fontanella BJB, Luchesi BM, Saidel MGB, Ricas J, Turato ER, Melo DG. Amostragem em pesquisas qualitativas: proposta de procedimentos para constatar saturação teórica. *Cad. Saúde Pública*. 2011;27(2):389-94. <https://doi.org/10.1590/S0102-311X2011000200020>
11. Bardin L. *Análise de Conteúdo*. Lisboa: Edições 70; 2004.
12. Miranda FMA, Santana LL, Pizzolato AC, Sarquis LMM. Condições de trabalho e o impacto na saúde dos profissionais de enfermagem frente à Covid-19. *Cogitare Enfermagem*. 2020;25:e72702. <https://doi.org/10.5380/ce.v25i0.72702>
13. Backes MTS, Higashi GDC, Damiani PR, Mendes JS, Sampaio LS, Soares GL. Working conditions of Nursing professionals in coping with the Covid-19 pandemic. *Rev Gaúcha Enferm*. 2021;42(spe):e20200339. <https://doi.org/10.1590/1983-1447.2021.20200339>
14. Araujo MN, Massarollo MCKB. Conflitos éticos vivenciados por enfermeiros no processo de doação de órgãos. *Acta Paul Enferm*. 2014;27(3):215-20. <https://doi.org/10.1590/1982-0194201400037>
15. Antunes R, Alves G. As mutações no mundo do trabalho na era da mundialização do capital. *Educ Soc*. 2004;25(87):335-51. <https://doi.org/10.1590/S0101-73302004000200003>
16. Fernando B, Reynolds T, Izzy M, Kirchner VA, Wren B, Spiro M. Mental Health Support in the Transplantation Workforce: What Can We Learn From the COVID-19 Pandemic? *Exp Clin Transplant*. 2021;19(8):763-70. <https://doi.org/10.6002/ect.2020.0458>
17. Aubert O, Yoo D, Zielinski D, Cozzi E, Cardillo M, Dürr M, et al. COVID-19 pandemic and worldwide organ transplantation: a population-based study. *Lancet Public Health*. 2021;6(10):709-19. [https://doi.org/10.1016/S2468-2667\(21\)00200-0](https://doi.org/10.1016/S2468-2667(21)00200-0)
18. Fernandes MEN. Percepção das famílias de doadores de órgãos sobre o processo de doação. Campinas. Tese [Doutorado em Ciências da Cirurgia] – Universidade Estadual de Campinas; 2015.
19. Mendes KDS, Roza BA, Barbosa SFF, Schirmer J, Galvão CM. Transplante de órgãos e tecidos: responsabilidades do enfermeiro. *Texto Contexto – Enferm*. 2012;21(4):945-53. <https://doi.org/10.1590/S0104-07072012000400027>
20. Evaldt CF, Barilli SLS, Treviso P, Specht AM, Rosa FS. Competências do Enfermeiro Membro da Comissão Intra-Hospitalar de Doação de Órgãos e Tecidos Para Transplantes. *Braz Tranpl*. 2022;25(3):e0222. https://doi.org/10.53855/bjt.v25i3.464_pt
21. Arıburnu Ö, Gül Ş, Dinç L. Nurses' Perspectives and Experiences Regarding Organ Transplantation in Turkey: A Qualitative Study. *J Relig Health*. 2022;61(3):1936-50. <https://doi.org/10.1007/s10943-022-01500-0>
22. Sacadura-Leite E, Sousa-Uva A, Ferreira S, Costa PL, Passos AM. Working conditions and high emotional exhaustion among hospital nurses. *Rev Bras Med Trab*. 2019;17(1):69-75. <https://doi.org/10.5327/Z1679443520190339>
23. Silva TN, Tavares CMM, Fonseca PIMN, Sodré ACBM, Souza MMT. Saúde Mental dos profissionais de saúde que trabalham com transplantes de órgãos: revisão integrativa. *Revista Pró-UniverSUS*. 2017;8(2):35-40.
24. Schmoeller R, Trindade LL, Neis MB, Gelbcke FL, Pires DEP. Cargas de trabalho e condições de trabalho da enfermagem: revisão integrativa. *Rev Gaúcha Enferm*. 2011;32(2):368-77. <https://doi.org/10.1590/S1983-14472011000200022>
25. Andrade AL, Moraes TD, Silva PM, Queiroz SS. Conflito trabalho-família em profissionais do contexto hospitalar: análise de preditores. *Revista de Psicologia, Lima*, 2020;38(2):451-78. <https://doi.org/10.18800/psico.202002.004>
26. Ripp J, Peccoraro L, Charney D. Attending to the emotional wellb-eing of the health care workforce in a New York City Health System during the COVID-19 Pandemic. *Academic Medicine*. 2020;95(8):1136-9. <https://doi.org/10.1097/ACM.0000000000003414>
27. Signor E, Silva LAA, Gomes IEM, Ribeiro RV, Kessler M, Weiller TH, et al. Continued health education: challenges for management in public health. *REUFSM*. 2015;5(1):1-11. <https://doi.org/10.5902/2179769214766>
28. Pereira LA, Silva KL, Andrade MFLB, Cardoso ALF. Educação permanente em saúde: uma prática possível. *Rev Enferm UFPE*. 2018;12(5):1469-79. <https://doi.org/10.5205/1981-8963-v12i5a231116p1469-1479-2018>
29. Senna CVA, Martins T, Knihs NS, Magalhães ALP, Paim SMS. Fragilidades e potencialidades vivenciadas pela equipe de saúde no processo de transplante de órgãos: revisão integrativa. *Rev Eletr Enferm*. 2020;22:58317. <https://doi.org/10.5216/ree.v22.58317>