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REFLECTIVE

Hemodialysis in the context of COVID-19: care, nursing protagonism and quality

Hemodiálise no contexto da Covid-19: os cuidados, o protagonismo da enfermagem e a qualidade

Hemodiálisis en el contexto de COVID-19: cuidado, protagonismo en enfermería y calidad

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ABSTRACT

Objective: To reflect on the need to reorganize satellite dialysis units to ensure the safety of patients and workers, focusing on minimizing the risk of contamination by SARS-CoV-2. **Methods**: Reflection considering the guidelines of international and Brazilian institutions and scientific articles, with a view to possible adaptations to the Brazilian reality. **Results**: The actions suggested and adapted by Dialysis Units from different countries during the pandemic focus on the quality of care and safety of the patient and workers. There was an opportunity to reflect on these actions using the Donabedian Model for quality of care and highlight the nursing team's role in this context. **Final considerations**: The focus on quality and safety related to institutionalized processes and the assessment through indicators can contribute to the management of the outpatient dialysis unit in the context of COVID 19.
Descriptors: Coronavirus Infections; Nursing Care; Renal Dialysis; Renal Replacement Therapy; Patient Safety.

RESUMO

Objetivo: Refletir sobre a necessidade de reorganização das Unidades Satélites de Diálise a fim de garantir a segurança dos pacientes e trabalhadores, centrando-se na minimização de risco de contaminação pelo SARS-CoV-2. **Métodos:** Reflexão considerando as orientações de instituições internacionais e brasileiras e artigos científicos, com vistas a possíveis adequações à realidade brasileira. **Resultados:** As ações sugeridas e adaptadas pelas Unidades de Diálise de diferentes países durante a pandemia têm como essência o foco na qualidade do cuidado e segurança do paciente e trabalhadores. Vislumbrou-se a oportunidade de refletir sobre essas ações utilizando o Modelo de Donabedian para a qualidade do cuidado e de evidenciar o protagonismo da equipe de enfermagem nesse contexto. **Considerações finais:** Acredita-se que o foco na qualidade e segurança relacionadas aos processos institucionalizados e a avaliação por meio dos indicadores possa contribuir para o gerenciamento da unidade de diálise ambulatorial no contexto da COVID19.
Descritores: Infecções por Coronavírus; Cuidados de Enfermagem; Diálise Renal; Terapia de Substituição Renal; Segurança do Paciente.

RESUMEN

Objetivo: Reflexionar sobre la necesidad de reorganizar las Unidades Satélite de Diálisis para garantizar la seguridad de los pacientes y trabajadores, enfocándose en minimizar el riesgo de contaminación por SARS-CoV-2. **Métodos**: Reflexión considerando los lineamientos de instituciones y artículos científicos internacionales y brasileños, con miras a posibles ajustes a la realidad brasileña. **Resultados**: Las acciones sugeridas y adaptadas por las Unidades de Diálisis de los diferentes países durante la pandemia están fundamentalmente enfocadas a la calidad de la atención y seguridad del paciente y los trabajadores. Vimos la oportunidad de reflexionar sobre estas acciones utilizando el Modelo Donabedian para la calidad de la atención y resaltar el protagonismo del equipo de enfermería en este contexto. **Consideraciones finales**: Se cree que el enfoque en la calidad y seguridad relacionada con los procesos institucionalizados y la evaluación a través de los indicadores pueden contribuir al manejo de la unidad de diálisis ambulatoria en el contexto de COVID 19.
Descriptores: Infecciones por Coronavirus; Cuidados de Enfermería; Diálisis Renal; Terapia de Reemplazo Renal; Seguridad del Paciente.

INTRODUCTION

COVID-19 (*Coronavirus Disease* 2019), caused by SARS-CoV-2 (*Severe Acute Respiratory Syndrome Coronavirus* 2), has brought the world to a halt in response to the need to implement pandemic containment measures. Despite the preventive measures instituted by the authorities on behalf of public health - whether individual, such as the use of homemade/professional masks, hand hygiene with soap and water or 70% alcohol solution, respiratory etiquette, social distancing, or collective, such as staying at home and keeping non-essential services closed or in remote activity[1] - health institutions also needed to review their processes in order to ensure barrier measures to minimize the risk of virus transmission.

The disease caused by the new coronavirus has higher mortality in the older population and those with comorbidities such as diabetes mellitus (DM), hypertension (HBP), and cardiovascular diseases (CVD)[2].

In this context, we can add patients with chronic kidney disease (CKD) stage 5 who depend on renal replacement therapy (RRT) to maintain life. They are also part of the risk group for COVID-19 because they are generally elderly, have associated diseases such as DM, HBP, and CVD, and are more likely to develop systemic infectious diseases due to immunodeficiency caused by CKD than the general population [3-4].

In Brazil, Dialysis Services have protocols for good operating practices established by specific legislation and annually evaluated by the Health Surveillance Agency. However, due to COVID-19, those services needed to create new strategies to ensure the safety of all, both professionals and patients.

Hemodialysis (HD) is one of the modalities of RRT (renal replacement therapy). Patients in the outpatient HD regime need to attend at least three times a week to Dialysis Unit to undergo the procedure. Therefore, social isolation is not a real possibility for these individuals. Most of them are exposed to the greatest risk of contamination because they use public transportation or use shared transport with several patients and companions.

These Units have great difficulty in maintaining the 2-meter distance guidelines - which effectively decreases the risk of virus contamination - because it is not possible to do this in the HD rooms since up to 50 patients are submitted to the procedure at the same time, and there is no way to reduce the number of patients per dialysis shift. The beginning of the activities in these units usually takes place at 6 am and finishes at 9 pm. In many locations, there is the risk of urban violence, associated with the fact that there is no public transportation available during the early morning hours, which does not favor the increase in hemodialysis shifts as an alternative to reduce the number of HD patients per shift. Another barrier is the limited number of health professionals available to work at alternative times, especially those from the nursing field, which are more numerous and work in direct patient care.

Unfortunately, due to the impossibility of testing most HD patients for diagnostic confirmation, there is a great challenge in performing adequate control to contain the transmission that occurs on a large scale among these patients, care professionals, support professionals, and family members.

OBJECTIVE

To reflect on the need to reorganize the Satellite Dialysis Units to guarantee the safety of patients and workers, focusing on minimizing the risk of contamination by SARS-CoV-2.

METHODS

The present article is a reflection that takes into consideration the guidelines of the Centers for Disease Control and Prevention (CDC)[5], the guidelines adopted by the Agência Nacional de Vigilância Sanitária (National Health Surveillance Agency) (ANVISA) [6] and by the Sociedade Brasileira de Nefrologia (Brazilian Society of Nephrology) (SBN)[7]. It considers scientific articles published in journals indexed in the Embase® database that investigate recommendations in other countries for the organization of these services. With this, there were possible prospected adaptations to the Brazilian reality.

The descriptors used were "hemodialysis" and "COVID-19", and seven articles were selected to[8-14] support the discussion, focusing on the need to adjust the international guidelines to the reality of the Brazilian Dialysis Units.

DISCUSSION

After reading the selected works, it is clear that all the actions suggested and carried out by the Dialysis Units from different countries during the pandemic have, as their essence, the focus on quality and patient and professional safety. Therefore, there is an excellent opportunity to reflect on these actions using the Donabedian Model for quality of care.

According to this model, quality evaluation is based on three components: STRUCTURE, PROCESS, and OUTCOMES[15]. Donabedian described that the STRUCTURE is constituted by the most stable characteristics, which are fundamental for the care process, namely: physical structure, human resources, material and financial resources, information systems, technical-administrative standards, management support, and organizational conditions. The PROCESS, on the other hand, is related to both the care provided according to technical and scientific protocols and the use of resources quantitatively and qualitatively. Finally, the OUTCOMES is the component that expresses the care provided and does so through indicators, outcomes, the patients, and their family satisfaction, and the professional.

In this context, the STRUCTURE is easily represented by the actions proposed in the selected articles; they are similar and involve physical, human, material, communication, education, patients, and family resources. These actions have the ultimate goal of decreasing the risk of transmission of SARS-CoV-2.

The main actions described in the articles are: 1) adaptation of waiting rooms; 2) use of external areas; 3) isolation measures of suspected/confirmed cases, with guidance for cohort establishment; 4) 2-meter distancing; 5) need to keep stock of all supplies and materials needed in the pandemic; 6) orientation for professionals, patients and family members verbally, written in documents, booklets and visual aid through posters about the disease, the use of PPE, hand sanitizing, the use of

masks, respiratory etiquette, touch the face, the conduct to be adopted in case of onset of symptoms or situation in which he/she becomes a contact person, about how the patient should be transported to the unit; (7) provision of means of communication to offer updated information about the disease and to receive information about the onset of symptoms; 8) training of nursing professionals for triage of patients and collaborators; 9) awareness of all about reducing the circulation within the unit, and holding only virtual meetings; 10) definition of care protocols for asymptomatic patients, suspected/confirmed patients and contact patients or professionals; 11) implementation of appropriate routines for cleaning and disinfection of equipment, surfaces and critical areas during the pandemic.

Adopting these actions as a reference, the guidelines listed by the CDC, ANVISA, and SBN, associated with the practical experience during the pandemic, it was possible to propose strategies focused on quality of care for patient and professional's safety.

As an innovative proposal, we present the components STRUCTURE and PROCESS according to the Donabedian Model, whose organization took into consideration the dimensions of Management, Assistance, and Support.

The Management dimension (Figure 1) lists the sectors that need to support the Assistance and Support activities, namely: General Management, Human Resources, Information Technology, Communication, Occupational Medicine, Engineering/Infrastructure, Quality and Patient Safety Center, and Waste Management.

In the Assistance dimension (Figure 2) are the professionals directly related to care, which integrate the Nursing Staff, the Medical Staff, and the Multidisciplinary Team.

In the Support dimension (Figure 3), the professionals who are part of the Administration, General Services and Transportation are listed, since they participate in patient-related activities (receptionists, professionals who clean the care areas, and drivers).

For the OUTCOMES component, it is proposed a list of indicators that must be tracked, which refer to the percentage of caregivers trained; patients who received orientation on COVID-19; suspected patients; confirmed patients; patients who underwent HD in isolation; mortality in patients with COVID-19; patients cured; professionals on leave due to COVID-19; and the notifications.

Undeniably, the patient in HD has a higher risk of being infected by SARS CoV-2 and should receive guidance, support, and comprehensive care while the pandemic lasts. It is a priority that patients are under continuous attention, and nursing, as a professional category acting directly and in a more significant number in the assistance to HD patients, must actively participate in organizing the work process.

Nurses are references in care, establish individual bonds, trust relationships, guide, listen and educate patients and family members. The nursing technicians provide direct care to the patients and are present before, during, and after the HD session. These professionals provide care, detect intercurrences, know the behavior regarding treatment adherence, weight gain in the dialysis interval, response to the dialysis prescription, and are available full time during HD.

Figure 1 – Management Dimension

Therefore, a proposal is presented for the activities related to the Nursing Team (Figure 4), with the temporal organization concerning the flow of the patient in the moments: before hemodialysis,

during transportation, on arrival at the Unit, during and after hemodialysis. With the same logic, a timeline was structured for the patient (Figure 5), who should be involved along with family members in their own care and have the empowerment to assess whether the conditions of the service provided by the teams are following recommendations.

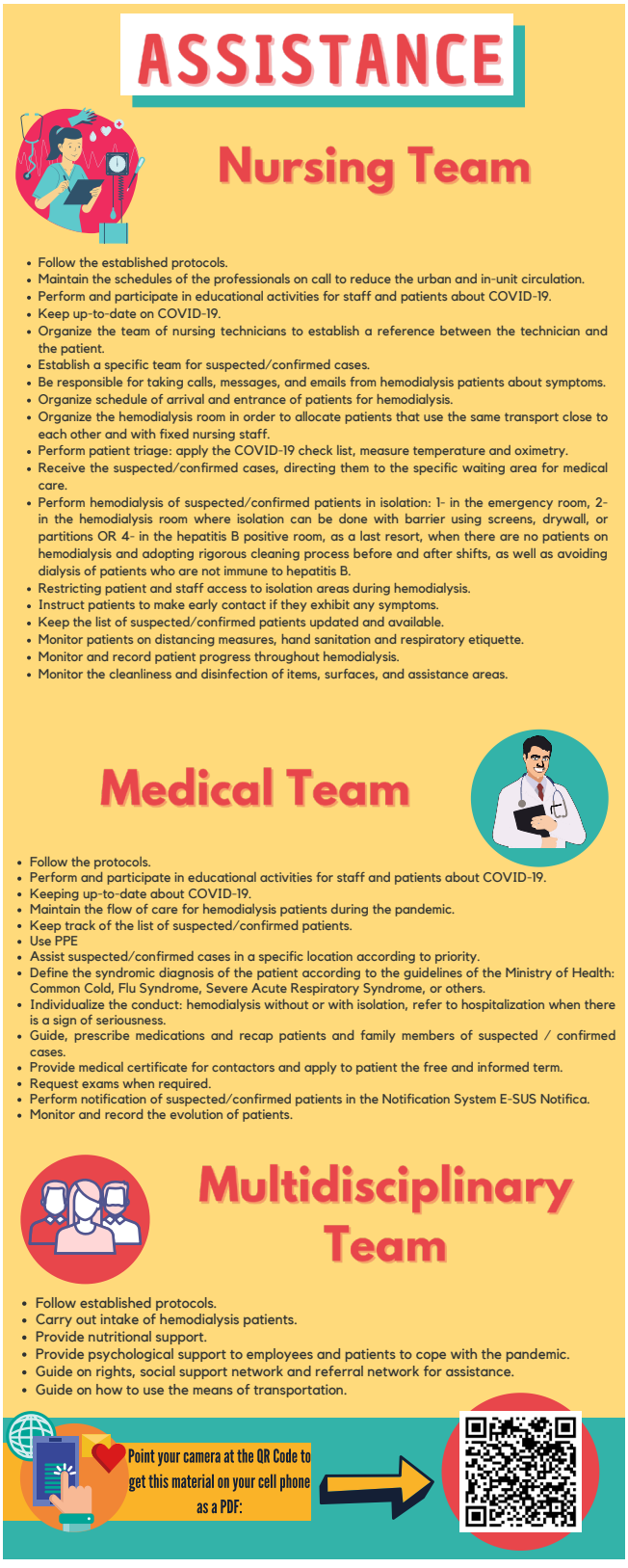

Figure 2 – Assistance Dimension

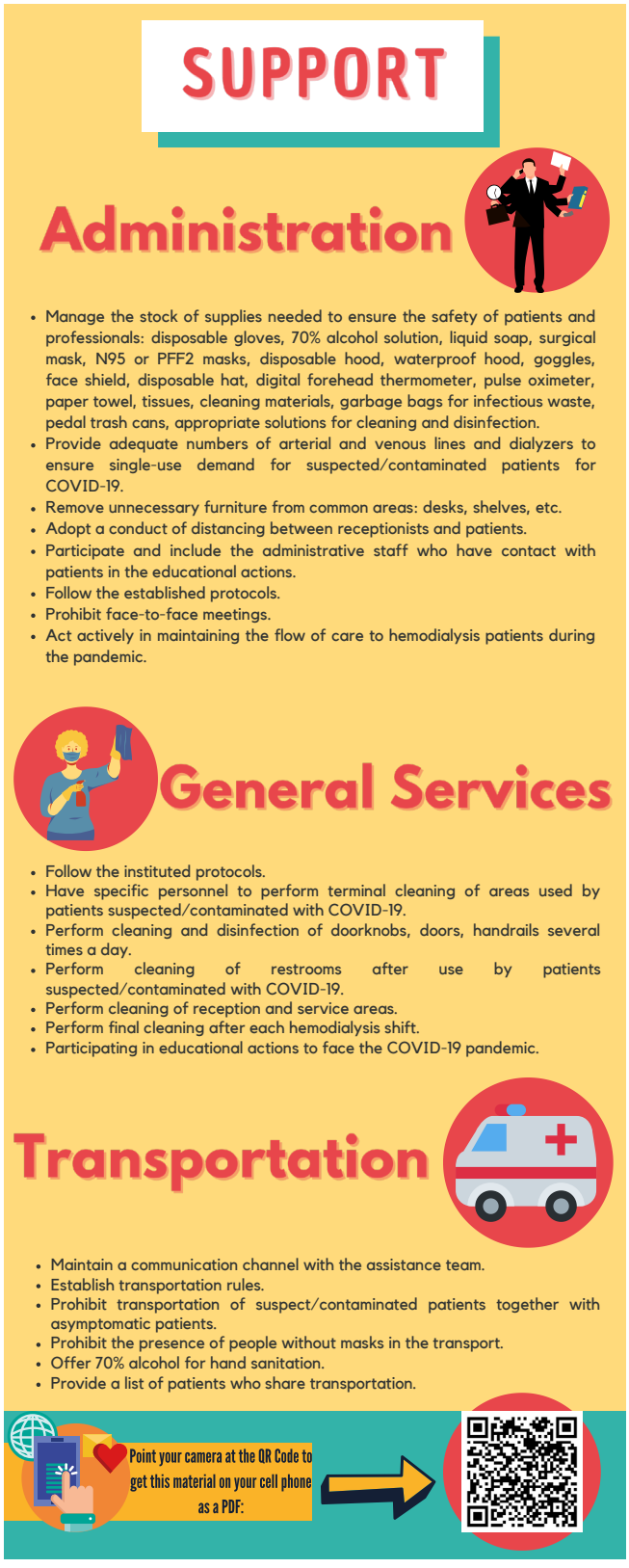

Figure 3 – Support Dimension

Figure 4 – Nursing Timeline

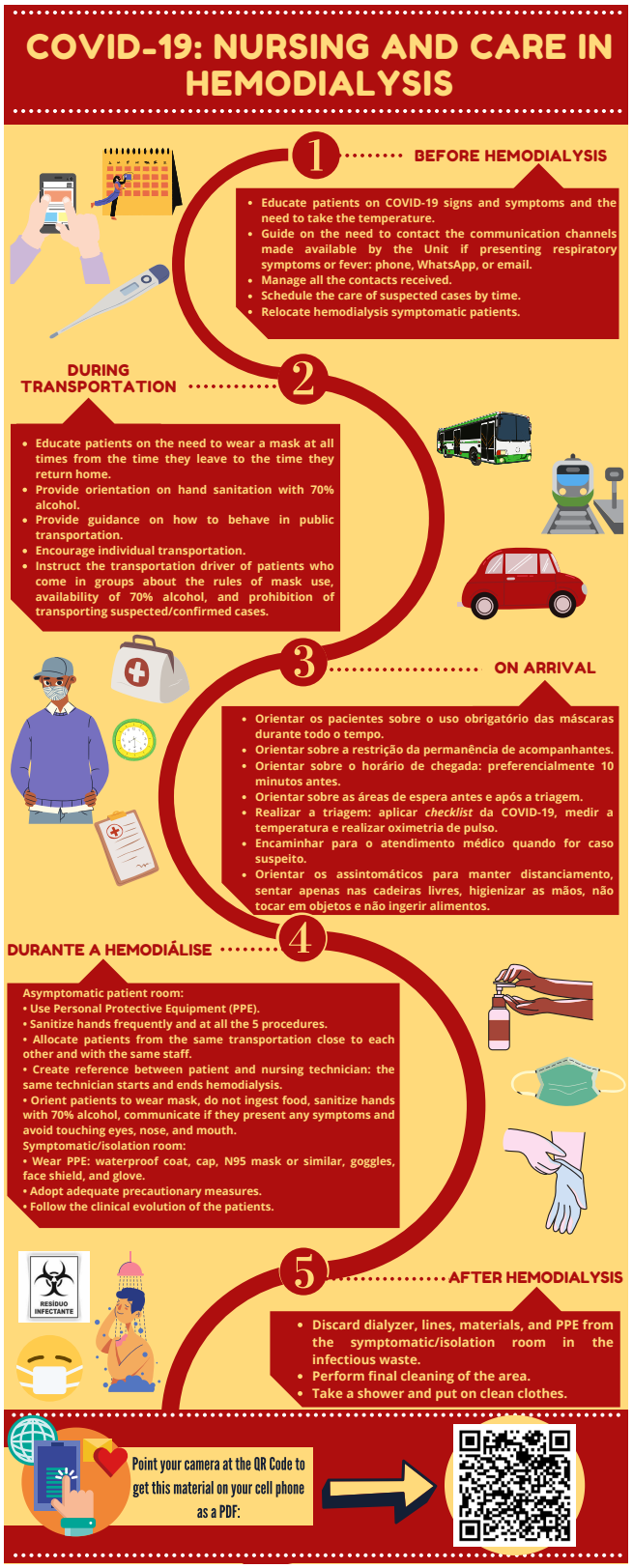

Figure 5 – Patient Timeline

Study limitations

The presented proposal is generalist and may not meet the specificities of the HD outpatient units, but it can be a facilitator. Each unit could use the material at their disposal or adapt it to their reality.

Contributions to the field of Nursing

This article brings a reflective proposal on a current and pressing theme, using innovative and easily accessible technology to support professionals in HD outpatient units. As a premise,

it adopts new attitudes towards the reality of the SARS-CoV-2 virus[1], with infographics flows accessed through QRCode.

FINAL CONSIDERATIONS

The reflective proposal of this study aimed to be critical and impartial about the role of each sector and each professional, the importance of all stages of the work processes, and the barriers necessary to minimize the risks of the HD Outpatient Units during the COVID-19 pandemic.

The organizational model presented is feasible, and brings the perspective of comprehensive care, emphasizes the nursing team, and instrumentalizes it to be the protagonist of the main actions, which are: screening of professionals and patients; patient care; connection, monitoring, and disconnection of patients from HD; training of all professionals regarding the use, paramentation, and PPE de-paramentation; hand sanitizing; use of masks; respiratory etiquette; control of the list of essential supplies for use during the pandemic, as well as organization and monitoring of patients in rooms with and without isolation.

We believed that focusing on quality and safety related to institutionalized processes and evaluation through indicators may contribute to the management of COVID-19 in the context of the HD ambulatory.

ERRATUM

Article "Hemodialysis in the context of COVID-19: care, nursing protagonism and quality", with number of DOI: https://doi.org/10.1590/0034-7167-2020-1077, published in the journal Revista Brasileira de Enfermagem, 75(Suppl 1): e20201077, on the front page:

Figures 4 and 5 are in reverse order.

Where did you see:

Figure 4 – Nursing Timeline

Figure 5 – Patient Timeline

See:

Figure 4 – Nursing Timeline

Figure 5 – Patient Timeline

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