Application of the nursing process to a diabetic patient infected by COVID-19: Experience report

Aplicação do processo de enfermagem a um paciente diabético infectado com COVID-19: Relato de experiência

Aplicación del proceso de enfermería a un paciente diabético infectado con COVID-19: Relato de experiencia

RESUMO

Em dezembro de 2019, após casos registrados em Wuhan, na China, foi descoberto um novo tipo de coronavírus, SARS-CoV-2, causador da doença Coronavírus Disease 2019 (Covid-19). Relatórios Internacionais revelaram uma grande predisposição de pacientes idosos ou com comorbidades existentes a internações em unidades de terapia intensiva devido às complicações. Frente a isso, estudos vêm tentando evidenciar os perfis clínicos mais suscetíveis a desenvolver o curso grave da Covid-19, apontando o Diabetes Mellitus como risco potencial. Diante do exposto, destaca-se o profissional enfermeiro, visto que este, encontra-se em linha frente e de todos os profissionais que realizam o cuidado, a enfermagem é a área que mais tem contato com o paciente. Dessa forma, esse trabalho de cunho acadêmico, tem como objetivo descrever a aplicação do Processo de Enfermagem a um paciente idoso e diabético do tipo 2, infectado com Covid-19 e discutir, de acordo com a literatura, os principais achados. Estudo descritivo, do tipo relato de experiência. Foi realizada uma entrevista virtual por meio do Google Meets, no município de Crateús, no mês de setembro, com paciente alvo, classificado como Grupo de Risco. Sendo questionada sobre o acometimento da doença, sintomatologia, complicações, tratamento e sequelas e aplicado em seguida o Processo de Enfermagem. Paciente D.M.M. 72 anos, diabética tipo 2 compensada, do sexo feminino, infectada com COVID-19 em junho de 2020. Relatou que no início dos sintomas sentiu febre e cefaleia por 2 dias, em seguida, artralgia, sem conseguir deambular, com edema visível em seus membros inferiores (mesmo após melhora dos principais sintomas), diarreia e dispneia. Sentiu melhora do quadro passado um mês, em repouso total. Afirmou não ter anosmia e paladar preservado. Seu quadro foi agravado devido a comprometimento pulmonar, em 50% e saturação em 90%. Realizou tratamento indicado em posto de saúde e evoluiu positivamente. Apesar da boa resposta obtida na paciente, pesquisas afirmam que ainda não existe um tratamento específico, adequado e totalmente confiável. Foi realizado o Processo de enfermagem, com os cuidados pautados nos diagnósticos identificados da paciente, com ênfase na implementação do incentivo ao autocuidado baseado na realidade da paciente. Dessa forma, destaca-se o processo de enfermagem como uma ferramenta indispensável ao cuidado do paciente idoso. Sendo capaz de prever riscos em potencial para complicações futuras do organismo, podendo ser impedidas com a implementação dos cuidados de enfermagem. Com relação a doença Covid-19, o fato de não se saber os reais agravos gerados nos organismos infectados, é algo a ser indagado, e apesar de todo esforço para se alcançar resultados aplicáveis, a comunidade científica aponta muitas incertezas a respeito do prognóstico dessa doença, se mostrando incerto e com desvios do padrão de acometimento.

DESCRITORES: Covid-19. Diabetes. Grupo de Risco. Idoso.

ABSTRACT

In December 2019, after cases recorded in Wuhan, China, a new type of coronavirus was discovered, SARS-CoV-2, which causes the disease Coronavirus Disease 2019 (Covid-19). International reports have revealed a high predisposition of elderly patients or patients with existing comorbidities to admission to intensive care units due to complications. In view of this, studies have been trying to highlight the clinical profiles most susceptible to developing the severe course of Covid-19, pointing out Diabetes Mellitus as a potential risk. In view of the above, the professional nurse stands out, since he is in the front line and of all the professionals who perform the care, nursing is the area that has the most contact with the patient. Thus, this academic work aims to describe the application of the Nursing Process to an elderly and type 2 diabetic patient infected with Covid-19 and to discuss, according to the literature, the main findings. Descriptive study, of the experience report type. A virtual interview was carried out through Google Meets, in the municipality of Crateús, in September, with a target patient, classified as a Risk Group. Being questioned about the involvement of the disease, symptoms, complications, treatment and sequelae and then applied the Nursing Process. Patient D.M.M. 72 years old, female compensated type 2 diabetic, infected with COVID-19 in June 2020. She reported that at the beginning of symptoms she felt fever and headache for 2 days, then arthralgia, unable to walk, with visible edema in her lower limbs (even after improvement of the main symptoms), diarrhea and dyspnea. She felt an improvement in her condition after a month, on complete rest. She claimed not to have anosmia and preserved palate. Her condition was worsened due to pulmonary involvement, in 50% and saturation in 90%. She underwent indicated treatment at a health center and evolved positively. Despite the good response obtained in the patient, research says that there is still no specific, adequate and totally

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reliable treatment. The Nursing Process was carried out, with care based on the patient's identified diagnoses, with an emphasis on implementing self-care incentives based on the patient's reality. Thus, the nursing process stands out as an indispensable tool for the care of the elderly patient. Being able to predict potential risks for future complications of the body, which can be prevented with the implementation of nursing care. Regarding the Covid-19 disease, the fact of not knowing the real harms generated in the infected organisms is something to be asked, and despite every effort to achieve applicable results, the scientific community points out many uncertainties regarding the prognosis of this disease. disease, being uncertain and with deviations from the pattern of involvement.
DESCRIPTORS: Covid-19. Diabetes. Group of risk. Elderly.

RESUMEN

En diciembre de 2019, luego de casos registrados en Wuhan, China, se descubrió un nuevo tipo de coronavirus, el SARS-CoV-2, que causa la enfermedad Enfermedad por Coronavirus 2019 (Covid-19). Reportes internacionales han revelado una alta predisposición de pacientes de edad avanzada o con comorbilidades existentes al ingreso en unidades de cuidados intensivos por complicaciones. Ante esto, los estudios han venido tratando de resaltar los perfiles clínicos más susceptibles de desarrollar el curso severo de la Covid-19, señalando a la Diabetes Mellitus como un riesgo potencial. Ante lo anterior, se destaca el profesional enfermero, ya que está en primera línea y de todos los profesionales que realizan los cuidados, enfermería es el área que más contacto tiene con el paciente. Así, este trabajo académico tiene como objetivo describir la aplicación del Proceso de Enfermería a un paciente anciano y diabético tipo 2 infectado con Covid-19 y discutir, de acuerdo con la literatura, los principales hallazgos. Estudio descriptivo, del tipo informe de experiencia. Se realizó una entrevista virtual a través de Google Meets, en el municipio de Crateús, en septiembre, con un paciente objetivo, clasificado como Grupo de Riesgo. Siendo interrogados sobre la afectación de la enfermedad, síntomas, complicaciones, tratamiento y secuelas para luego aplicar el Proceso de Enfermería. Paciente D.M.M. Mujer de 72 años, diabética tipo 2 compensada, contagiada de COVID-19 en junio de 2020. Refirió que al inicio de los síntomas sintió fiebre y dolor de cabeza durante 2 días, luego artralgia, imposibilidad de caminar, con visible edema en miembros inferiores (incluso después de la mejoría de los síntomas principales), diarrea y disnea. Sintió una mejoría en su condición después de un mes, en reposo absoluto. Afirmó no tener anosmia y paladar conservado. Su estado empeoró por afectación pulmonar, en un 50% y saturación en un 90%. Hizo el tratamiento indicado en un centro de salud y evolucionó positivamente. A pesar de la buena respuesta obtenida en el paciente, las investigaciones dicen que aún no existe un tratamiento específico, adecuado y totalmente confiable. Se realizó el Proceso de Enfermería, con cuidados basados en los diagnósticos identificados del paciente, con énfasis en implementar incentivos de autocuidado basados en la realidad del paciente. Así, el proceso de enfermería se destaca como una herramienta indispensable para el cuidado del anciano. Ser capaz de predecir los riesgos potenciales de futuras complicaciones del cuerpo, que pueden prevenirse con la implementación de los cuidados de enfermería. En cuanto a la enfermedad del Covid-19, el hecho de desconocer los daños reales que genera en los organismos infectados es algo que debe preguntarse, y a pesar de todos los esfuerzos por lograr resultados aplicables, la comunidad científica señala muchas incertidumbres en cuanto al pronóstico de esta enfermedad. , siendo incierto y con desviaciones del patrón de afectación.
DESCRIPTORES: Covid-19. Diabetes. Grupo de riesgo. Anciano.

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INTRODUCTION

Coronaviruses are a family of viruses, capable of generating mild and even lethal respiratory infections, previously known to attack the upper respiratory system and rarely the lower. Its first detection in humans was in 1937, however, only in 1965, it was determined to be coronavirus; thanks to its microscopic profile similar to a crown (BRASIL, 2020). In December 2019, after cases recorded in Wuhan, China, a new type of coronavirus was discovered, called SARS-CoV-2, which causes the disease Coronavirus Disease 2019 (COVID-19). With the spread of COVID-19 to all continents, in a short period of time it has become a pandemic. In April 2020 there were already more than 2.5 million infected worldwide. Currently, the scena-

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rio is one of uncertainties and challenges, little is known about the disease and its long-term consequences (DANTAS et al., 2020).

The clinical picture of Covid-19 varies from mild symptoms, such as fever, cough, fatigue and asymptomatic pneumonia, to more serious situations, such as acute respiratory distress syndrome, septic shock and organ failure, which can lead to death (SILVA et al. , 2020). A report from the United States revealed that 78% of 457 admissions to intensive care units were in patients who were elderly or had existing comorbidities such as chronic lung disease, cardiovascular disease and diabetes mellitus (DM). In view of this, studies have been trying to highlight the clinical profiles most susceptible to developing the severe course of Covid-19, pointing to DM as a potential risk (IDF, 2020). DM is a chronic non-communicable disease, marked by glucose metabolism disorder, being one of the most growing health challenges. In Brazil, the number of people living with diabetes is high. Thus, the greater risk that this group has for general infections, resulting from multiple disturbances of innate immunity, justifies the need for deeper studies on this subject (SILVA et al., 2020).

Given the above, it is necessary to provide specialized multidisciplinary clinical care for these patients, in view of the nuances in the clinical picture they present. Thus, the professional nurse stands out, since he is in the front line and of all the professionals who perform the care, nursing is the area that has the most contact with the patient. In this sense, the Nursing Care Systematization (NCS) is an important ally of nurses, being fundamental in clinical care practice and essential for the work process of the entire nursing team. One of the ways used to systematize nursing care in health services is the Nursing Process, a method consisting of: historical collection; nursing diagnoses; elaboration of the assistance plan; implementation of the care plan and process evaluation (DANTAS et al, 2020). Thus, this academic work aims to describe the application of the Nursing Process to an elderly and type 2 diabetic patient infected with Covid-19 and to discuss, according to the literature, the main findings.

METHOD

Descriptive study, of the experience report type. A virtual interview was carried out through Google Meets, in September, in the city of Crateús, with a target patient, selected according to their classification characteristics in the so-called Risk Groups. Disease involvement, symptoms, complications, treatment and sequelae were asked, according to the Nursing Process, which takes place in five stages: Data collection/Anamnesis (patient's clinical history and physical examination); Nursing Diagnoses according to the most used international protocols for taxonomy of imbalances in the human body; Planning; Implementation and Evaluation. In these phases, plans/goals are developed to be implemented through interventions, and finally, progress is assessed and reflected on what has not been achieved. To carry out this study, the patient was initially informed about the Free and Informed Consent Term and the purpose of the interview, with her express authorization of data for academic purposes. The main findings were correlated with the available and current literature from the Scielo database on the pathology of Covid-19 and its drugs for treatment.

RESULTS AND DISCUSSION

D.M.M. 72 years old, compensated type 2 diabetic, female patient, infected with COVID-19 in June 2020. She reported that at the beginning of symptoms she felt fever and headache for 2 days, then joint pain, unable to walk, with visible edema in her lower limbs (even after improvement of the main symptoms), diarrhea and dyspnea. She felt an improvement in her condition after a month, on complete rest. She claimed not to have anosmia and preserved palate. Exam was carried out at the health post to confirm COVID-19 after 10 days of symptoms, negatived, she sought to carry out testing in a private clinic and this pointed out the presence of the coronavirus in her body.

According to D.M.M., the main ailments at the beginning of the disease occurred with the involvement of the gastrointestinal system, due to a recent problem in the gallbladder, and the lung, with the involvement of 50% of the lungs, being confirmed by means of tomography and verification of peripheral oxygen saturation at 90%, which according to the National Institutes of Health (NIH), the classification of the severity of COVID-19 in the patient in question, would be as "Serious Disease", as it presents two of the factors considered alarm (FALAVIGNA et al., 2020). Prophylaxis drug treatment was started in a Basic Health Unit with Azithromycin, Ivermectin, Zinc Sulfate and Dexamethasone, with no indication for hospitalization, followed by home treatment under the care of the infected child.

When performing a CT scan again, the pulmonary involvement regressed to 30%, despite the positive evolution, it was necessary to continue with the dexamethasone treatment for a month, due to persistent dyspnea. The use of this corticoid in critically ill patients on mechanical ventilation is known, with good evolution in the use of the treatment. Despite the good response obtained in the patient, researches state that there is still no specific, adequate and totally reliable treatment, but protocols adopted according to each municipality regarding the adopted follow-up, based on recent studies considered “presumptuous”, but, due to the context of the current situation, it is necessary to evaluate the risk-benefit of the so-called “COVID Kit” (LIMA & VIEIRA, 2020).

In this way, D.M.M. remained isolated in forty, after the proposed period of quarantine, the patient reported that she was still isolated for two months, due to

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the persistence of symptoms and her fear of contaminating someone. She expressed feeling distressed due to being a risk group and knowing that the highest mortality rate occurs in the elderly. Another condition highlighted by her was the worsening of her arthritis, with pain in her knees and edema in her lower limbs, which set in even after the critical period of the disease. Here, its underlying disease stands out, as it is known about the involvement of the lower limbs by diabetes, causing nerve damage, triggering diabetic neuropathy (FERREIRA et al., 2011). The patient also states that, when she does not perform the proper care of diabetes, she feels "numbness in her legs".

Regarding the two pathologies, in the study regarding the clinical manifestations in diabetic patients and with COVID-19, it is clarified about the susceptibility of these people to the new coronavirus, being affirmed about the blood glucose variation, triggered by viral infections, interfering in the recovery of this patient and in his immune response against the disease. It is also stated that in patients with decompensated glycemic levels, the manifestation of Sars-Cov-2 in the body, initially, occurs in a mild manner and with progression to decreased oxygen saturation, resulting in hypoxia and consequent organ failure (SILVA et al, 2020), similar to the case of the current study, but without progressing to fatal complications.

The aforementioned literature also points out that the immunosuppression of patients with diabetes makes them at greater risk for infections, especially decompensated patients. Despite this, they are capable of producing an inflammatory response, but with lymphocyte deficiency (lymphopenia) and greater cellular response, highlighting the participation of neutrophils, related to the inflammatory storm of cytokines. No studies were found on a possible relationship between worsening arthritis and the new coronavirus.

As a result, care was outlined according to the needs identified through the application of the Nursing Process. After investigating the patient's history, the main potential and real imbalances were identified by nursing diagnoses, then the expected results with the selected interventions were traced, along with the implementation of nursing care. The diagnoses obtained were expressed in table 1, covering domains of health promotion, nutrition, elimination and exchange, activity/rest, life principles, safety/protection and comfort, according to the taxonomy of the North American Association of Nursing Diagnoses (NANDA, 2018-2020). While the diagnoses found in the International Classification for Nursing Practice (ICNP, 2019) were expressed in table 2, focusing on the person's functional imbalance.

According to the diagnoses outlined, it was possible to develop a care plan, focusing on health promotion, guidance and self-care. He was instructed about the importance of rest in viral infections, as drug treatment for viral microorganisms is not yet a reality, the best conduct to adopt is rest, where it allows the organism to concentrate its energy expenditure, to combat these pathological hosts, making use of drugs to relieve symptoms,

Table 1: Nursing diagnosis for elderly diabetic patients with Covid-19.

NANDA Nursing Diagnoses
Domain 1 - Health Promotion
Ineffective protection related to inability to protect against infectious agent evidenced by coughing, chills, and fatigue
Domain 2 - Nutrition
Risk of unstable blood glucose related to inadequate monitoring
Risk of electrolyte imbalance related to the presence of vomiting and diarrhea
Excessive fluid volume related to water retention evidenced by lower limb edema
Domain 3 - Elimination and Exchange
Diarrhea related to infectious process evidenced by abdominal pain
Impaired gas exchange related to pulmonary compromise evidenced by dyspnea and abnormal breathing pattern
Domain 4 - Activity/Rest
Pain-related impaired ambulation
Fatigue related to pathological process evidenced by increased physical symptoms
Ineffective breathing pattern related to pain and fatigue evidenced by dyspnea
Impaired spontaneous ventilation related to respiratory muscle fatigue evidenced by dyspnea
Domain 10 - Life Principles
Risk of disease-related impaired religiosity
Domain 11 - Security and Protection
Hyperthermia related to infectious process evidenced by skin that is warm to the touch
Domain 12 - Comfort
Acute pain related to a harmful biological agent evidenced by reporting pain behavior/ changes in activities
Disease-related social isolation

Source: NANDA, 2018-2020.

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such as analgesics and antipyretics (MACHADO et al., 2004).

The body's recovery in fighting a viral infection occurs through rest, hydration and nutrition. That's why rest, fluid replacement and healthy eating are so important. As the patient in question has type 2 diabetes and is elderly, hydration and nutrition need to be well defined and adequate, given the condition of diarrhea and fever. In this way, the encouragement of the consumption of fresh and cooked foods, light proteins, hypoglycemic carbohydrates and the constant consumption of water was carried out, avoiding hypercaloric drinks. At rest, due to respiratory difficulty, the patient was instructed to elevate the head to 30°, using pillows, keeping bedroom doors and windows open, to improve air flow. Indicated to check blood glucose at least twice a day and regular use of hypoglycemic medication. Guided to walk on the balcony of the house or backyard to improve peripheral circulation of lower limbs.

Table 2: Main nursing diagnoses of elderly diabetic patients with covid-19.

ICNP Nursing Diagnoses
Abdominal pain
Arthritic pain
Chest pain
Presence of dyspnea
Presence of edema in legs
Presence of fever
Dyspnea at rest
Presence of cough
Presence of vomiting and diarrhea

Source: ICNP, 2019.

CONCLUSION

It is possible to highlight the nursing process as an indispensable tool for the care of the elderly patient. Being able to predict potential risks for future complications of the body, which can be prevented with the implementation of nursing care. With regard to Covid-19 disease, further studies are needed on the disease's involvement in elderly and diabetic patients. The patient in question has all the comorbidities considered at risk, although her diabetes is controlled, it demonstrates other factors prone to complications, however hospitalization and invasive measures were not necessary for her "apparent" recovery. The fact that the real harms generated in infected organisms are not known is something to be questioned, and despite all efforts to achieve applicable results, the scientific community points out many uncertainties regarding the prognosis of this disease, showing itself to be uncertain and with deviations from the pattern of involvement.

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