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Diagnostic Study on The Importance of Standardizing a Nursing Care Plan in Patients with Alcoholic Liver Cirrhosis

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Abstract

Liver cirrhosis has been considered the end stage of a disease that invariably leads to death, unless a liver transplant is performed. Approximately 40 - 60% of cases worldwide are due to alcohol abuse. Objective: To carry out a diagnostic study on the importance of standardizing a nursing care plan in patients with liver cirrhosis in the Internal Medicine service of the Riobamba Teaching Hospital. Methodology: the research had a qualitative-quantitative approach, descriptive and explanatory level, not experimental, cross-sectional. A questionnaire was used to collect data for nursing professionals. Result: The nursing professional always performs the prior assessment in 38%. 75% of nursing professionals agree that the application of the ECP can contribute to improving patient care. Conclusions Nursing care planning is useful since it allows providing patient care by promoting various skills in the nursing staff and thus contribute to improving the quality of life of patients.

Keywords: *Nursing Care, Alcoholic liver cirrhosis, Nursing care.*

1. Introduction

The terminology cirrhosis was proposed by Laennec about 180 years ago. It comes from the Greek word¨κίρρωση¨ in Latin (scirro) which translates to both "grayish yellow" and "hard" and gives as a reference the coloration and consistency that the liver acquires in this process. In the past, cirrhosis was considered an irreversible process, but about 10 years ago the concept of cirrhosis has gone from being a static pathology to a dynamic process. It is currently known that, when the primary agent of aggression that has produced cirrhosis is eliminated, fibrosis can be remitted; This can be observed in patients with alcoholic liver disease making alcohol abstinence plans; patients with cirrhosis of

autoimmune etiology treated with immunosuppressants and chronic hepatitis C with stage cirrhosis with sustained virological response to antiviral treatment. (5)

Clinically, cirrhosis has been considered to be the final stage of a disease that invariably leads to death, unless a liver transplant is performed. Currently, this perception has been questioned, because one-year mortality in cirrhosis varies widely, from 1% to 57%, depending on the appearance of clinical complications of the disease. In addition, fibrosis, even in the cirrhotic state, responds with specific therapy if available, such as antiviral treatment for chronic hepatitis B or C.

Liver cirrhosis is the third leading cause of death worldwide that is attributable to alcohol consumption. More than 80% of chronic alcohol users develop steatosis and between 20% and 40% have other complications such as fibrosis, alcoholic hepatitis and cirrhosis; However, not all individuals with chronic alcohol use develop cirrhosis, in part due to each individual's genetic component. The degree of activity of enzymes that metabolize alcohol is influenced by polymorphisms present in the genes that code for these enzymes, and corresponds to one of the determining factors for the development of end-stage liver disease in response to alcohol consumption.(5)

Chronic alcohol consumption is the cause of 3.3 million deaths worldwide, which corresponds to 5.9% of the annual total, being 7.6% in men and 4.0% in women; It is also one of the risk factors with the highest morbidity and mortality in general disease. Additionally, it is attributed 5.1% of the global burden and disability. (6)

There is evidence of the causal relationship between alcohol consumption and at least 200 diseases such as gastritis, pancreatitis, cardiovascular disease, liver cirrhosis, hepatocellular carcinoma, gastric cancer, among others; The pathologies associated with chronic alcohol consumption are determined by the volume consumed, the drinking pattern and the quality of the alcohol ingested. Alcohol metabolism is a complex process involving absorption, distribution and elimination; In the liver, more than 90% of the alcohol in the body is metabolized. (7)

In our country the number of reported cases and annual incidence rate of alcoholism according to regions in the Sierra corresponds to 2309 cases that represents 37.78%, in the Coast 819 cases that corresponds to 12.19%, in the Amazon 258 cases that corresponds to 38.92% and in the Insular region 6 cases that corresponds to 26.46%. And according to provinces in 2017 in Chimborazo of 137 cases that represents 30.89% (4).

Liver cirrhosis

Cirrhosis is the degeneration of liver cells, which have suffered irreversible damage and have been replaced by scar tissue as a terminal consequence of liver disease or long-term alcoholism. Considering that cirrhosis is an incurable disease, it can be preventable if some measures are taken into account that can reduce risk factors (8).

Ofaccording to the World OrganizationofHealth (WHO), chronic hepatic impairment orcirrhosishepatic, defines it as a diffuse process characterized by fibrosis and conversionofnormal architecture in an abnormal nodular structure as a consequenceofa large numberofinflammatory conditions (9).

Liver cirrhosis has several etiologies that finally lead to the same process that is liver fibrosis that leads to alteration of function. The damage can be faster or slower, for example, alcohol and viral hepatitis produce earlier damage. Progressive degeneration of hepatocytes and their necrosis occurs and a fibrotic extracellular scar material is formed to replace the parenchyma with regeneration nodules. Cirrhosis can be caused by several causes. The most common are excessive alcohol consumption and hepatitis C. Obesity is also a common causative factor. Many people with cirrhosis have several causative factors among them we have:Heavy alcohol consumption for years can cause chronic injury to the liver. There is no direct cause-and-effect relationship (that is, there are people who consume large amounts of alcohol without suffering from cirrhosis or other liver pathologies), but risk consumption guidelines have been established: 2-3 alcohol consumption per day for women and 3-4/day for men are associated with an increased risk of liver damage and cirrhosis. The liver is the main target organ of ethanol damage, because most of its metabolism occurs here. Excessive

alcohol consumption causes three types of chronic liver diseases: steatosis (fatty liver, steatohepatitis, fibrosis and cirrhosis)The increase in fat in the liver can end up causing lesions and cirrhosis in the liver. It is an increasingly common liver disease and is associated with obesity, diabetes and the consumption of certain drugs. Autoimmune Hepatitis: Inflammation of the liver caused by an immune system attack on liver cells. It is thought that it may be due to genetic factors. It is a variant of hepatitis much more common in women (70% of cases). Other factors: Diseases that damage or destroy the bile ducts, such as primary biliary cirrhosis or primary sclerosing cholangitis: Reflux of bile into the liver can destroy tissue and cause cirrhosis. Hereditary diseases such as cystic fibrosis or galactosemia interfere with the production, processing and storage of enzymes, proteins, metals and other substances. Other causes of cirrhosis can also be reactions to medications, prolonged exposure to toxic compounds, parasitic infections, and repeated heart failure with liver congestion.

CLASSIFICATION:
This disease is classified into three types:

- ✓ **Porta-de-Laennec cirrhosis:** Also called alcoholic or nutritional, it is the most common type of cirrhosis and is usually caused by alcoholism. 60 gr for men and 4 gr for women daily for 8-10 years.
- ✓ **Post-Necrotic Cirrhosis:** In which wide bands of scar tissue appear as a late result of viral hepatitis.
- ✓ **Biliary cirrhosis:** It causes the progressive destruction of the bile ducts; bile can return to the liver and damage liver cells. This damage can lead to liver failure. Primary biliary cholangitis, formerly called primary biliary cirrhosis, is a chronic disease in which the bile ducts of the liver are slowly destroyed (15).

In people with cirrhosis there are two stages:
An initial one (compensated cirrhosis) and an advanced one (decompensated cirrhosis). People with compensated cirrhosis are those who do not have jaundice, ascites (fluid in the abdomen), encephalopathy, or gastrointestinal bleeding. (16)

Symptoms vary according to the severity of liver damage. In the early stages, patients may be asymptomatic. Progressively, the patient encounters asthenia (weakness or general fatigue), no appetite, may have digestive discomfort and lose weight and muscle mass. When the disease is in an advanced stage, certain symptoms appear, such as: (17)

Jaundice: Yellowing of the skin from the liver's inability to remove bilirubin from the blood

Skin changes: Vascular dilations (dilated superficial blood vessels) are usually located in the cheeks, trunk and arms. In addition you can see redness of the palms of the hands and pulpejos of the fingers and nails are shown in a more whitish tone.

Salt and water retention: This causes fluid accumulation in the lower extremities (edema) and abdomen (ascites).

Ease of bleeding: When the liver does not adequately comply with the synthesis of coagulation factors, bleeding from the gums, nose and the appearance of bruises with soft blows are frequent.

Gynecomastia: Impaired liver functions also change the balance of sex hormones. As in the case of increased estrogen causes the appearance of breasts and loss of body hair in male patients.

Changes in behavior and level of consciousness: The liver removes substances toxic to the brain from the blood. If the liver fails, these substances produce brain poisoning manifested by nocturnal insomnia, daytime sleepiness, changes in behavior and mood and disorientation and progressive decrease in the level of consciousness, which can reach coma. This complication is serious and requires hospital admission.

Malnutrition: The liver plays an important role in the absorption and use of the nutrients we ingest, which is why in advanced stages, cirrhotic patients are malnourished, lose muscle mass and strength

Liver cirrhosis is a silent disease, most patients remain asymptomatic until there is development of the decompensated phase. Cirrhosis is often first detected through a blood test or routine checkup. To help confirm the diagnosis, a combination of laboratory and imaging tests is usually done.

When liver pathology is identified or suspected, a complete liver profile consisting of blood count with platelet count, prothrombin time, transaminases, bilirubins, alkaline phosphatase, gammaglutamyl transferase (GGT), and albumin should be performed.

Transaminases: the alteration of glutamic oxaloacetic transaminase (OGT) and glutamic-pyruvic transaminase (TGP) indicate hepatocellular damage and in cirrhosis they are usually elevated, although they can also be within normal values. The TGO/TGP ratio greater than 1 is a strong predictor of cirrhosis except in alcoholic liver disease, in advanced stages the ratio can be reversed (18).

Alkaline phosphatase and gammaglutamyl transferase (GGT): Being cholestasis enzymes, they have little diagnostic value. Its elevation suggests primary biliary cholangitis or primary sclerosing cholangitis when obstructive pathologies of the bile duct have been ruled out. When GGT is elevated in isolation it suggests active enolism or enzyme induction by certain drugs. (18)

Bilirubins: the values are usually normal in the compensated but when the disease progresses they rise gradually so it is considered an essential 16 parameter to evaluate liver function in the ChildPugh classification (18).

Albumin: It is produced exclusively by the liver therefore it is a marker indicating dysfunction of hepatic synthesis (18).

Prothrombin time: The liver synthesizes several coagulation factors that intervene in the extrinsic pathway of coagulation, when the prothrombin time is prolonged reflects alteration of hepatic synthesis (18).

Serum sodium: hyponatremia is a common finding in cirrhotic patients with ascites, due to retention of sodium and water by the kidney, it is considered a finding of poor prognosis (18).

Blood biometrics: - Anemia: caused by several factors such as folic acid deficiency, alcohol toxicity, chronic blood loss and / or hypersplenism (18).

Thrombocytopenia: with a count of less than 150000 platelets per mm3 is a result of sequestration in portal hypertension with hypersplenism, it is a sensitive and specific finding for diagnosis of portal hypertension (18).

Leukopenia: It is caused by portal hypertension with hypersplenism (18).

It is important to remember that the values of the hepatogram can also be altered in pathologies other than the liver. For example, bilirubin in cases of hemolysis, transaminases in thyroid, muscular and cardiac diseases, alkaline phosphatase in bone pathologies (18).

Diagnostic Imaging

Abdominal Doppler ultrasound: It is the diagnostic method of choice because it is low cost, non-invasive and easily accessible. It has a sensitivity of 91.1% and specificity of 93.5% for the diagnosis of liver cirrhosis. It allows to assess the macroscopic appearance of the liver, the blood flow of the portal vein and hepatic veins even allows to detect ascites and with the help of the Doppler to discover signs of portal hypertension. The finding of nodularity, caudate lobe hypertrophy, increased echogenicity and parenchymal atrophy are ultrasound signs of cirrhosis (18).

Hepatic elastography: It is an imaging method that allows to measure the hardness and rigidity of a tissue according to the speed of propagation of sound waves, through this technique you can estimate the degree of fibrosis in its different stages with a correlation with the biopsy of 83%. In stages F2 and F3, the sensitivity is 84.7% and 78.3%, with a specificity of 92% and 81% respectively. And in stage F4 (advanced fibrosis) it reaches a sensitivity of 91.2%, with a specificity of 80% (19).

Tomography and magnetic resonance imaging. They are imaging studies of little utility for the detection of fibrosis in the initial phase, in advanced stages of the disease it allows to detect

morphological changes such as nodularity, atrophy, hypertrophy of the caudate lobe, ascites and varicose veins. They are not methods of choice due to their high cost and high radiation exposure in the case of tomography. Its current usefulness lies in the diagnosis of hepatocellular carcinoma (19).

Liver biopsy. It is the gold standard for diagnosis of cirrhosis, its sensitivity and specificity range from 80 to 100 percent. However, it is an invasive technique with high cost and risk of complications among which are pain, mild to massive bleeding, peritonitis, sepsis and / or perforation of nearby organs reaching an approximate mortality of 1 per 10,000 procedures. It should only be reserved for cases in which clinical, laboratory and radiological findings have not led to a diagnosis, when the etiology could not be determined and the result obtained will change the management of the patient. It can be performed percutaneously, laparoscopicly, surgically or transjugularly (20).

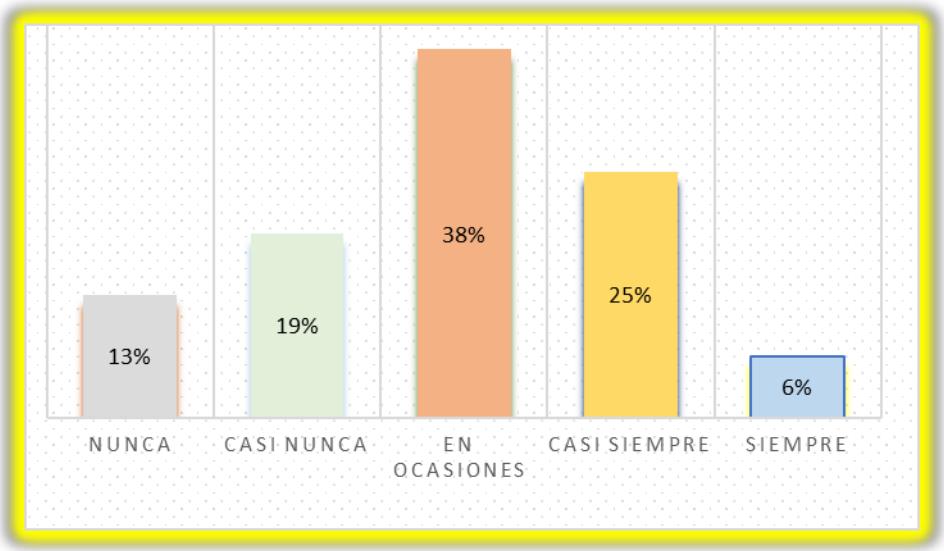
The objective of our study was to conduct a diagnostic study on the importance of standardizing a nursing care plan in patients with liver cirrhosis in the Internal Medicine service of the Riobamba Teaching Hospital.

2. Materials And Methods

The present research has a paradigmatic approach "Quantitative" for the following reasons:Qualitative: It helped to understand the importance of nursing care based on the standardization of care provided to patients with alcoholic liver cirrhosis for the improvement of their quality of life in the Ambato Teaching Provincial Hospital" Quantitative: The observation allowed to obtain data in a scientific way, that were statistically analyzed and discussed to obtain conclusions based on critical thinking from professional nursing practice, A self-developed questionnaire was carried out, addressed to nursing staff with 10 items, For the preparation of this questionnaire, a cautious search for bibliographic citations was carried out in order to compare with other research studies regarding the knowledge and application of the PAE by the nursing staff. The population determined for this research is the nursing staff of the internal medicine area of the Ambato Teaching General Hospital. In addition, it has been identified that because the population is finite it is not necessary to obtain a sample, since the total population was used. The data processing information obtained through surveys and review of bibliographic citations was transcribed to computer programs to process the data and build the respective tables quantitatively in Excel and Word. Presenting itself in graphs for better analysis and interpretation.

3. Results and Discussion

Graph N° 1. Frequency distribution of NANDA NIC NOC taxonomy to patients with alcoholic liver cirrhosis



. **Source**: Survey of nurses of the Riobamba General Teaching Hospital: **Year:** 2021

Interpretation and analysis: Regarding the surveys applied to the 16 nursing professionals corresponding to the sample of this study, 13% never perform nursing care following the NANDA NIC and NOC taxonomy to patients with alcoholic liver cirrhosis; 19% of nurses almost never perform it, 38% of the staff sometimes start it and on the contrary it can be seen that 25% almost always; as well as 6% of nurses who always provide care following the NANDA NIC TAXONOMY and NOC to these patients.

Based on other studies conducted on nursing staff, 75% do not follow the NANDA NIC and NOC taxonomy due to lack of training for application in professional life and 25% have done so at some time (30).

4. Conclusion

Regarding the surveys applied to the 16 nursing professionals corresponding to the sample of this study, only a small group always applies nursing care following the NANDA NIC and NOC taxonomy. Most of the personnel surveyed agree that the permanent application of ECP can contribute to improving the care of patients with alcoholic liver cirrhosis. The standardization of the nursing care process of patients with cirrhosis contributes to improving the quality and warmth of patient care.

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