

PREVALENCE OF CHOLELITHIASIS IN THE REGION OF ELBASAN, RISK FACTORS AND THE ROLE OF NURSING CARE

Ilda TAKA¹, Elona HASALLA¹, Albana SULA (KRECI)¹, Elona ZHIVA¹

¹Faculty of Technical Medical Sciences, Aleksandër Xhuvani University of Elbasan
*Corresponding Author: email: ilda.taka@uniel.edu.al

Abstract

Introduction: Cholelithiasis, a common digestive system pathology, has been on the rise globally, particularly in developed countries, due to factors such as obesity and metabolic syndrome. This study aimed to assess the prevalence of cholelithiasis in the Elbasan region, analyze associated risk factors, and evaluate the role of nursing care in patients with this condition.

Objective: This study aimed to determine the prevalence of gallstone disease in the Elbasan region, examine various risk factors, and assess the significance of nursing care in managing patients with cholelithiasis.

Methods: A retrospective study was conducted at "Xhaferr Kongoli" Regional Hospital in Elbasan from January 2020 to December 2022, including all patients diagnosed with cholelithiasis. The analysis focused on demographic data, including age, gender, place of residence, body weight, and comorbidities, to explore their influence on gallstone development.

Results: Among the 172 patients with cholelithiasis, 65 (38%) were male and 107 (62%) were female. The age range varied from 21 to 81 years, with the highest number of cases occurring in 2022 (45%). The study population comprised 93 urban residents and 79 rural residents. Females aged 26-50 represented the most affected group, accounting for 46.5% of cases, while males aged 51-70 constituted 22% of cases. Notably, comorbidities such as hyperlipidemia, obesity, diabetes mellitus, and hypertension emerged as significant risk factors.

Conclusions: The study findings indicate that middle-aged women, higher body weight, urban residence, and comorbidities pose a risk for gallstone formation. The post-pandemic period exhibited the highest number of cases, likely influenced by a sedentary lifestyle. Nurses play a crucial role in prioritizing diagnoses and providing appropriate interventions for patients with cholelithiasis. To ensure optimal care and patient education, it is essential to update nursing knowledge and enhance skills related to cholelithiasis management.

Keywords: cholelithiasis, prevalence, risk factors, nursing role

Introduction

Cholelithiasis, characterized by the presence of gallstones in the gallbladder (Everhart et al., 1999), is a prevalent condition influenced by genetic factors, lifestyle choices, and dietary habits (Di Ciaula et al., 2019). Developed countries exhibit a higher prevalence, with approximately 15% of the United States population affected (Everhart & Ruhl, 2009; Littlefield & Lenahan, 2019; Stinton & Shaffer, 2012), while lower incidence is observed in Asian and African countries (Stinton & Shaffer, 2012). The COVID-19 pandemic has affected various healthcare aspects, including cholelithiasis, with changes in lifestyle, reduced physical activity, and alterations in dietary habits potentially contributing to increased prevalence (Türkmen Sariyildiz, 2022).

In 75-80% of cases, cholelithiasis can present as an asymptomatic condition (Lee et al., 2022). However, over a span of 5 years, symptoms may develop in 10-20% of patients, and within 20 years, symptoms may manifest in 20% of patients (Tanaja et al., 2023). Biliary colic is a characteristic symptom that arises when the cystic duct is obstructed by either a large stone or multiple smaller stones, leading to impaired gallbladder contraction and causing severe pain (Sigmon et.al 2023).

Complications associated with cholelithiasis can be life-threatening, such as acute cholangitis, acute cholecystitis, and biliary pancreatitis (Browning & Horton, 2003).

Accurate nursing diagnosis helps in managing the patient's distressing symptoms. Nursing education plays a vital role in providing proper care for the patient after discharge from the hospital. Nurses can offer information and guidance on appropriate dietary choices, symptom management, medication adherence, and recognizing signs of complications that require immediate medical attention (Ackley, B et.al 2020, Gulanick et.al 2022).

Study Objective

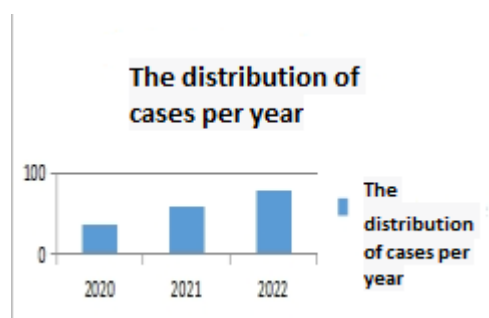
1. To evaluate the prevalence of gallstone cases in the Elbasan district from January 2020 to December 2022.
2. To identify various risk factors associated with the presence of gallstones.
3. To provide nursing care encompassing education and treatment for patients diagnosed with cholelithiasis.

Method

In this retrospective monocentric study, we enrolled patients who were diagnosed with gallstones and admitted to the gastro-hepatology ward and surgery department at "Xhaferr Kongoli" Hospital in Elbasan between January 2020 and December 2022. Patients who had been hospitalized more than 1 time with this diagnosis and pediatric individuals were excluded from the study. Data regarding socio-demographic and clinical characteristics were extracted from medical records, and an extensive analysis of various risk factors associated with gallstones was conducted, encompassing age, gender, weight, place of residence, and comorbidities.

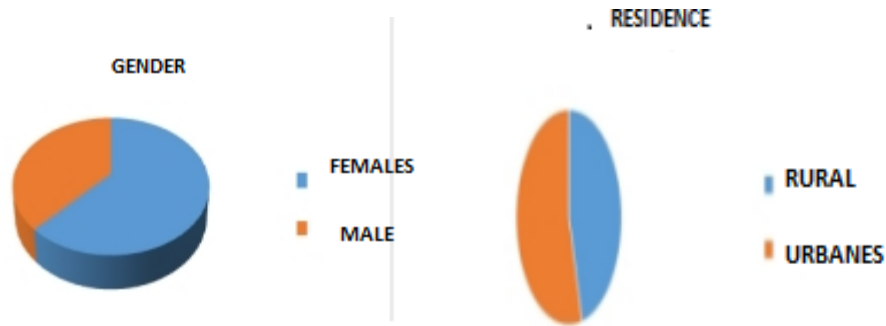
Results

Based on data obtained from Elbasan Regional Hospital during the period from January 2020 to December 2022, a total of 172 patients with gallstones were admitted. The age of the patients ranged from 21 to 81 years, with the youngest patient being 21 years old and the oldest patient being 81 years old.



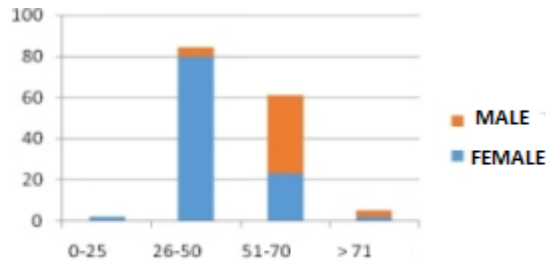
The distribution of cases per year (Graph 1)

In the year 2022, a notably higher incidence of cholelithiasis cases was observed, accounting for approximately 45% of the total cases, whereas the lowest incidence was documented in 2020, constituting 20.9%. These findings align with previous research conducted by various scholars. Furthermore, our study unveiled a rise in cholelithiasis occurrences subsequent to the pandemic, which can be attributed to sedentary lifestyles and weight gain.



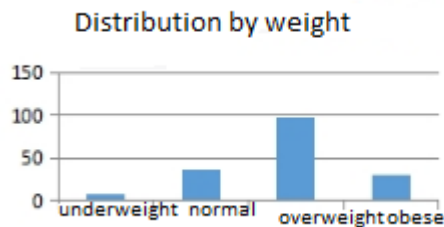
Distribution by gender (Graph 2) and by residence (Graph 3)

Among the individuals diagnosed with cholelithiasis, a majority of 62% were females, whereas 38% were males. Within this cohort, 93 patients (54.1%) were residing in urban areas, while 79 patients (45.9%) were residing in rural areas.



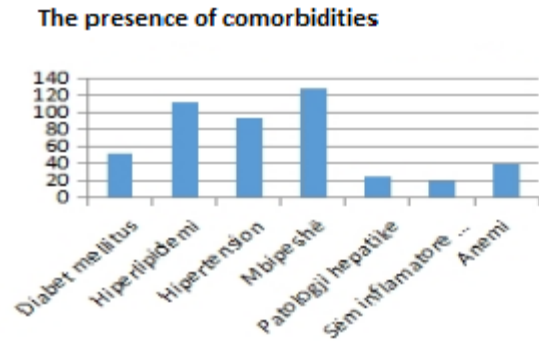
Distribution by age group and gender (Graph 4)

Based on the graphical representation illustrating the distribution of cholelithiasis cases according to age group and gender, it is evident that females face the highest risk within the age group of 26-50 years, whereas males exhibit a higher risk in the age group of 51-70 years.



Distribution by weight (Graph 5)

Based on the distribution graph depicting body weight, it is evident that individuals with higher body weight, including those classified as overweight or obese, were found to have a greater risk of developing gallstones.



The presence of comorbidities (Graph 6)

From the graph illustrating the distribution of comorbidities among patients with gallstones, it is evident that several high-risk factors contribute to the development of gallstones, including hyperlipidemia, overweight/obesity, hypertension, and diabetes mellitus.

Nursing Role

Nurses play a pivotal role in patient education for individuals with cholelithiasis, encompassing the following aspects:

Disease Understanding: Nurses provide comprehensive information about cholelithiasis, elucidating the nature of gallstones, their formation, and the potential symptoms or complications they can cause. This includes explaining the role of the gallbladder in digestion and its overall function.

Risk Factors and Prevention: Nurses educate patients about the various risk factors associated with gallstone formation, such as obesity, dietary choices, and family history. They discuss strategies to mitigate the risk of developing gallstones, emphasizing the significance of maintaining a healthy weight, adhering to a balanced diet, and engaging in regular physical activity.

Symptoms Recognition: Nurses empower patients to recognize the signs and symptoms of gallstones, including abdominal pain, nausea, vomiting, and jaundice. They provide guidance on when to seek medical attention for worsening or severe symptoms.

Dietary Modifications: Nurses offer dietary guidance, underscoring the importance of a low-fat, high-fiber diet. They explain the impact of dietary choices on gallstone formation and provide practical suggestions for integrating healthy eating habits into the patient's lifestyle.

Medication Education: If medication management is part of the treatment plan, nurses elucidate the purpose, dosage, and potential side effects of prescribed medications. They ensure that patients comprehend the significance of medication adherence and discuss strategies to facilitate compliance.

Lifestyle Modifications: Nurses discuss lifestyle adjustments that can help manage gallstones, including weight management, regular exercise, and avoiding rapid weight loss. They may also address the potential benefits of smoking cessation and moderate alcohol consumption.

Self-Care and Symptom Management: Nurses educate patients on self-care measures to alleviate symptoms associated with gallstones. This may involve recommending dietary modifications during episodes of pain, emphasizing adequate hydration, and providing strategies for pain management at home.

Surgical Options: If surgical intervention becomes necessary, nurses educate patients about the procedure, including its rationale, potential risks, benefits, and post-operative care. They address any concerns or queries the patient may have and provide information about the recovery process.

Follow-up Care and Monitoring: Nurses emphasize the significance of follow-up appointments and monitoring for potential complications. They educate patients on signs indicative of complications, such as infection or bile duct obstruction, and advise on when to seek immediate medical attention.

Conclusions

The findings of this study highlight that middle-aged women, obesity, urban residence, comorbidities such as diabetes, hyperlipidemia, hypertension, and the pandemic period are influential factors in gallstone formation. These discoveries have the potential to inform preventive strategies aimed at minimizing the occurrence of stones, leading to a decrease in the number of cases. Nurses play a critical role in delivering effective care to these patients, as they prioritize accurate diagnoses and implement appropriate interventions to manage distressing symptoms. Understanding the risk factors, continually updating nursing knowledge, and patient education are pivotal factors in achieving positive nursing care outcomes.

References

- [1]. Ackley, B. J., Ladwig, G. B., Makic, M. B., Martinez-Kratz, M. R., & Zanotti, M. (2020). *Nursing diagnoses handbook: An evidence-based guide to planning care*. St. Louis, MO: Elsevier
- [2]. Browning, J. D., & Horton, J. D. (2003). Gallstone disease and its complications. *Seminars in Gastrointestinal Disease*, 14(4), 165–177.
- [3]. Di Ciaula, A., Garruti, G., Frühbeck, G., De Angelis, M., de Bari, O., Wang, D. Q.-H., Lammert, F., & Portincasa, P. (2019). The Role of Diet in the Pathogenesis of Cholesterol Gallstones. *Current Medicinal Chemistry*, 26(19), 3620–3638. <https://doi.org/10.2174/0929867324666170530080636>
- [4]. Everhart, J. E., Khare, M., Hill, M., & Maurer, K. R. (1999). Prevalence and ethnic differences in gallbladder disease in the United States. *Gastroenterology*, 117(3), 632–639. [https://doi.org/10.1016/s0016-5085\(99\)70456-7](https://doi.org/10.1016/s0016-5085(99)70456-7)
- [5]. Everhart, J. E., & Ruhl, C. E. (2009). Burden of Digestive Diseases in the United States Part III: Liver, Biliary Tract, and Pancreas. *Gastroenterology*, 136(4), 1134–1144. <https://doi.org/10.1053/j.gastro.2009.02.038>
- [6]. Gulanick, M., & Myers, J. L. (2022). *Nursing care plans: Diagnoses, interventions, & outcomes*. St. Louis, MO: Elsevier
- [7]. Lee, B. J. H., Yap, Q. V., Low, J. K., Chan, Y. H., & Shelat, V. G. (2022). Cholecystectomy for asymptomatic gallstones: Markov decision tree analysis. *World Journal of Clinical Cases*, 10(29), 10399–10412. <https://doi.org/10.12998/wjcc.v10.i29.10399>
- [8]. Littlefield, A., & Lenahan, C. (2019). Cholelithiasis: Presentation and Management. *Journal of Midwifery & Women's Health*, 64(3), 289–297. <https://doi.org/10.1111/jmwh.12959>
- [9]. Sigmon DF, Dayal N, Meseha M. Biliary Colic. [Updated 2023 Feb 7]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 Jan-
- [10]. Stinton, L. M., & Shaffer, E. A. (2012). Epidemiology of Gallbladder Disease: Cholelithiasis and Cancer. *Gut and Liver*, 6(2), 172–187. <https://doi.org/10.5009/gnl.2012.6.2.172>
- [11]. Tanaja, J., Lopez, R. A., & Meer, J. M. (2023). Cholelithiasis. In StatPearls. StatPearls Publishing. <http://www.ncbi.nlm.nih.gov/books/NBK470440/>
- [12]. Türkmen Sariyildiz, G. (2022). The effect of the COVID-19 pandemic period on the cases of acute cholecystitis. *Journal of Health Sciences and Medicine*, 5(4), 966–968. <https://doi.org/10.32322/jhsm.1086679>