

Original Research Article

Prevalence, risk factors, and management of ascites in the western sub-divisional hospitals of Fiji: a multi-center retrospective study

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ABSTRACT

Background: Ascites, a condition characterized by fluid accumulation in the abdominal cavity, is a common complication of chronic liver disease and other serious health conditions. In resource-limited settings such as Fiji, managing ascites presents unique challenges. This study investigates the prevalence, associated risk factors, and current management approaches for ascites in the Western Sub-Divisional Hospitals of Fiji, focusing on population demographics and healthcare practices.

Methods: This retrospective study analyzed patient records from January 2021 to December 2023 across five hospitals—Sigatoka, Nadi, Ba, Tavua and Rakiraki. Data on demographics, medical history, lifestyle factors and treatment practices were collected. The study adhered to ethical standards, with approval from the Fiji National Research.

Results: Ascites primarily affected individuals over the age of 50, with a higher prevalence among men and individuals of Indian descent. Key risk factors included alcohol abuse, chronic liver disease, and metabolic syndrome. Management typically involved sodium restriction, diuretics and in limited cases, Transjugular Intrahepatic Portosystemic Shunt (TIPSS) due to accessibility constraints.

Conclusions: The findings highlight a need for culturally responsive healthcare strategies, improved screening, and multidisciplinary treatment protocols to manage and prevent ascites effectively in this population. Enhanced public health initiatives and clinical guidelines could significantly impact patient outcomes in Fiji.

Keywords: Ascites, Alcohol abuse, Chronic liver disease, Fiji, Prevalence, Risk factors

INTRODUCTION

Ascites, defined as the pathological buildup of fluid in the peritoneal cavity, is a prevalent complication often associated with chronic liver disease, certain cancers and heart conditions.² Managing ascites is particularly challenging in resource-limited settings like Fiji, where risk factors such as alcohol abuse and metabolic disorders are widespread. The impact of these lifestyle-related risk factors on the healthcare system in Fiji underscores the need for targeted interventions to manage ascites

effectively (Ovarian Cancer Research Alliance, 2021).⁴ This study examines the prevalence of ascites, the associated risk factors and the management practices in Fiji's Western Division, contributing to a body of research that can inform more efficient and culturally sensitive healthcare solutions.

This study aims to assess the prevalence of ascites in patients with chronic liver disease and similar conditions, to identify demographic and lifestyle factors contributing to ascites, and to evaluate the impact of ascites on patient

outcomes such as hospitalization duration, readmission rates, and mortality. Additionally, it proposes feasible management strategies that are culturally appropriate within the constraints of Fiji's healthcare infrastructure.

METHODS

Study design

A retrospective review was conducted on patient data.

Study duration

The period of the study was from January 2021 to December 2023 across five public hospitals.

Study place

The study was conducted in Fiji's Western Division: Sigatoka, Nadi, Ba, Tavua, and Rakiraki.

Sample size

The study focused on patients diagnosed with ascites, totaling 500 cases within this period. Ethical approval was obtained from the Fiji National Research Ethics Review Board, ensuring confidentiality and ethical integrity throughout the study.

Inclusion criteria

Patients diagnosed with ascites during the study period were included in the analysis.

Exclusion criteria

Those with incomplete medical records or comorbid conditions potentially impacting the accuracy of an ascites diagnosis were excluded.

Data collection

Data were systematically collected from hospital records, focusing on demographics, medical history, and lifestyle factors, such as alcohol consumption and smoking.

Clinical presentations and management strategies were also recorded to enable an in-depth analysis of this patient population's risk factors and treatment practices.

Data analysis

Descriptive statistics were used to determine the prevalence of ascites, while logistic regression analysis identified significant risk factors. Survival analysis further examined the impact of ascites on patient outcomes, using SPSS software with statistical significance defined at a p value of <0.05.

RESULTS

Prevalence of ascites by gender and age

The prevalence of ascites was observed in 15% of the 500 reviewed patients. Ascites was most common in individuals over 50, comprising 60% of cases, with a slightly higher incidence in men (54%) compared to women (46%).

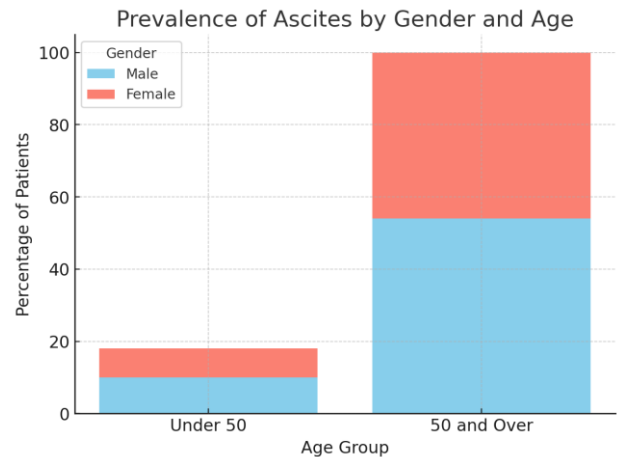


Figure 1: Prevalence of ascites by gender and age.

Ethnic distribution

Ascites was more prevalent among Fijians of Indian descent (60%) than among I-Taukei individuals (40%). This distribution suggests potential genetic or lifestyle influences affecting ascites incidence within these groups.

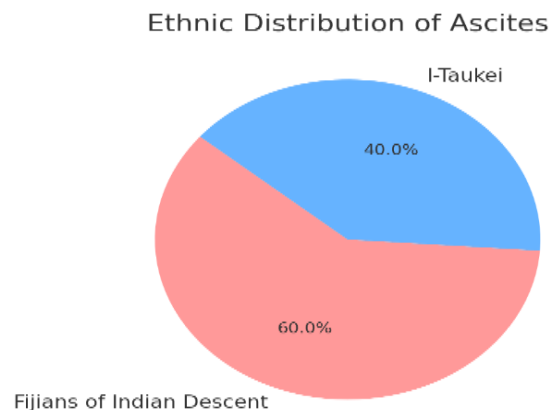


Figure 2: Ethnic distribution of ascites.

Identified risk factors

The analysis revealed that alcohol abuse was present in 65% of cases, chronic liver disease affected 55% of patients, and metabolic syndrome (encompassing diabetes and obesity) was noted in 45% of cases. Additionally,

30% of patients reported smoking as a factor contributing to their condition.

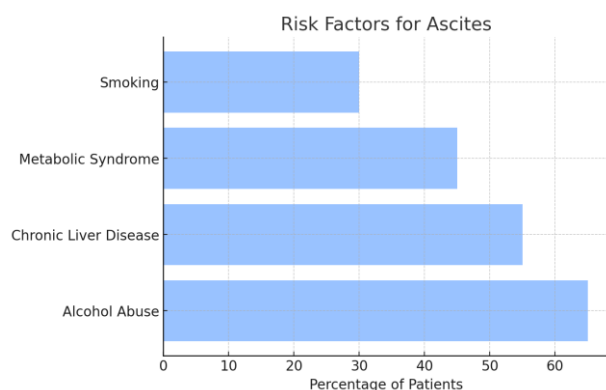


Figure 3: Risk factors for ascites.

DISCUSSION

This study highlights the considerable burden of ascites on the healthcare system in Fiji's Western Division, with a particularly high impact on older adults, men, and Fijians of Indian descent. The demographic pattern observed, with a higher prevalence of ascites among individuals over 50 and among males, is consistent with global data showing that chronic liver disease and metabolic disorders, both common causes of ascites, are more prevalent in these groups. The significant association between alcohol abuse and ascites aligns with prior research indicating that alcohol consumption is a major risk factor for liver disease and related complications in similar populations.²

The findings reveal a notable ethnic disparity, with a higher proportion of ascites cases among Fijians of Indian descent. This may suggest both genetic predispositions and lifestyle factors, such as dietary habits and alcohol consumption patterns, which could vary between ethnic groups in Fiji. Previous studies have suggested that genetic factors may play a role in how different populations respond to liver-related health risks, particularly those associated with alcohol metabolism and susceptibility to liver disease.¹ Understanding these ethnic disparities is essential for developing targeted public health interventions that are culturally appropriate and effective.

The study's findings underscore the importance of addressing modifiable risk factors, particularly alcohol abuse, which was associated with 65% of cases. This strong correlation suggests an urgent need for public health campaigns focused on reducing alcohol consumption, which could significantly lower the incidence of ascites and related health conditions. Community-based programs and culturally sensitive educational campaigns could encourage healthier lifestyle choices, potentially reducing the burden of chronic liver diseases that contribute to ascites.

In terms of management, the current practices in Fiji's Western Sub-Divisional Hospitals largely rely on basic symptomatic treatments, such as sodium restriction, diuretics, and paracentesis. Although effective for temporary symptom relief, these approaches do not address the underlying causes of ascites and may lead to high readmission rates and prolonged hospital stays, as indicated by the study's findings. The limited use of Transjugular Intrahepatic Portosystemic Shunt (TIPSS), which was accessible in only 10% of cases, highlights a significant gap in advanced therapeutic options within this healthcare setting. Studies have shown that TIPSS can be highly effective for managing refractory ascites and reducing hospital admissions.³ However, its limited availability in Fiji underscores the challenges faced by resource-constrained healthcare systems in providing specialized care.

Given these challenges, a multidisciplinary approach to ascites management, involving a combination of medical treatment, lifestyle modification, and patient education, could be beneficial. Collaborations among healthcare providers, social workers and community health advocates could help ensure a holistic care model that not only treats symptoms but also addresses the root causes of ascites. For instance, integrating lifestyle counseling and addiction support into routine care for at-risk patients may help mitigate the impact of alcohol abuse. The study's retrospective nature and dependence on hospital records may restrict data completeness and limit generalizability. Future prospective studies could provide a more detailed understanding of ascites and its management in resource-limited settings.

CONCLUSION

Ascites represents a major healthcare challenge in Fiji, disproportionately affecting older men and individuals of Indian descent. Addressing this issue requires robust public health campaigns, culturally tailored interventions, and improved clinical protocols that account for Fiji's unique demographics and healthcare constraints. A coordinated approach by healthcare providers, involving patient education and accessible treatment options, could significantly enhance patient outcomes and reduce the burden on Fiji's healthcare system.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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