

ORIGINAL ARTICLE

Prevalence of Transfusion-transmissible Infections in Blood Donors: A Private Hospital Experience

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ABSTRACT

Introduction: Blood transfusion, a vital component of established medical protocols, has the potential to save lives and enhance well-being. Nonetheless, it carries inherent risks, with transfusion-transmissible infections (TTIs) remaining a global public health concern. Vigilant monitoring of TTI prevalence among blood donors and understanding of evolving patterns are crucial safety endeavours. The objective of this study was to assess the prevalence of TTIs and their patterns among blood donors within a private hospital's transfusion service. **Methods:** This retrospective study involved TTI testing results of blood donations at Normah Medical Specialist Centre (NMSC) in Kuching, Sarawak, spanning a decade from 2010 to 2019. **Results:** A total of 7329 blood donors contributed 16,085 blood units (2010 – 2019). Among them, 353 donors exhibited reactivity to TTIs, resulting in a prevalence of 4.81%. The majority of reactive donors were male (87.3%), of Malay ethnicity (62.6%), and first-time donors (73.9%). The prevalence rates were highest for HCV (2.69%), followed by HBV (1.41%), HIV (0.42%), and syphilis (0.39%). Both HBV and HCV demonstrated declining prevalence trends, while the prevalence of HIV and syphilis remained consistently low. The response to notification of positivity among reactive donors stood at a mere 4.0%, and the seroconversion rate among repeat donors reached 36.9%. No significant disparities in prevalence or response rates were observed between first-time and repeat donors. **Conclusions:** The prevalence of TTIs within NMSC's blood donor populace remains relatively low, though not negligible. The responsiveness of reactive donors to notifications displayed considerable deficiencies.

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INTRODUCTION

Blood transfusion is a cornerstone of modern medical practice, known for its potential to save lives and improve patient health. However, it is crucial to recognize that this life-saving procedure has inherent risks as blood transfusion can transmit infections. The prevalence of transfusion-transmissible infections (TTIs) among blood donors is influenced by the disease prevalence in the population from which donor selection is made, leading to geographical and regional variations (1).

According to WHO, low and middle-income countries often face higher TTI prevalence rates compared to high-income nations (1). These disparities can be attributed to challenges in healthcare services, varying hygiene

standards, cultural factors, and differences in detection methodologies (1).

A population-based study among Malaysian adults revealed that the seroprevalence of hepatitis B surface antigen (HBsAg) was 4%, while the seroprevalence of hepatitis C virus antibody (anti-HCV) was 0.3% (2). HBsAg is the serological marker for hepatitis B virus (HBV) infection, and it appears in serum from one to ten weeks following acute infection. Chronic HBV infection is typically confirmed if HBsAg persists for more than six months. The diagnosis of chronic hepatitis C virus (HCV) infection usually requires both a reactive HCV antibody test and a positive molecular test detecting HCV RNA.

The Ministry of Health (MOH), Malaysia has reported an incidence rate of 15.71 per 100,000 for HBV and 10.55 per 100,000 for HCV within the Malaysian population (3). In terms of seroprevalence, HBV infections are low, while HCV infections fall into the intermediate range (2). Furthermore, according to the Malaysian AIDS Council