

Abstract

Prevalence of and Factors Associated With Transfusion-Transmitted Infections Among Multi-transfused Patients, Sana'a City, Yemen, 2019

Suaad Moghalles¹; Abdulwahed Al Serori¹; Abd Alrahman Alhadi²; Ahmed Shamsan³

¹Yemen-FETP, Sana'a, Yemen

²Leukemia Childhood Unit, Sana'a, Yemen

³Thalassemia & Genetic Blood Disorder Association, Sana'a, Yemen

Corresponding Author:

Suaad Moghalles

Yemen-FETP

Building 24, Hadah

Sana'a, 00967

Yemen

Phone: 967 735800572

Email: smughalles@gmail.com

Abstract

Background: Multi-transfused patients (MTPs) are at higher risk of transfusion-transmitted infections (TTIs) due to their frequent need for blood transfusion. Nevertheless, little is known about the prevalence of TTIs among MTPs and its associated factors in Yemen.

Objective: We aimed to determine the prevalence of hepatitis B virus (HBV), hepatitis C virus (HCV), and HIV and its associated factors among MTPs.

Methods: A cross-sectional study was conducted at the Yemeni Society for Thalassemia and at Pediatric Leukemia Unit in Sana'a City. The calculated sample size of 357 was increased to 405 to overcome any nonresponses. By using probability proportional to size sampling, 80 patients with thalassemia, 240 patients with sickle cell anemia, and 85 patients with leukemia were randomly selected. Data were collected through face-to-face interviews with patients or their caretakers by using a predesigned questionnaire covering demographic, socioeconomic characteristics and TTI-associated factors. Blood samples were drawn and were tested for HBsAg, anti-HCV, and HIV I and II by using an electrochemiluminescence immunoassay.

Results: The overall prevalence of TTIs among MTPs was 13.1% and was significantly highest (37.3%) among patients with leukemia. HBV (16.2%) and HCV (27.5%) prevalence were also highest among patients with leukemia. Only 2 (0.04%) patients were found to be HIV positive among patients with sickle cell anemia. Coinfection with HBV and HCV was only found in 5 patients with leukemia. There was a significant association between TTIs and the receipt of >30 blood units. Only 35% of MTPs were found to be vaccinated against HBV.

Conclusions: Our findings raise an alarm for the existence of a high risk of TTIs among MTPs, especially among patients with leukemia and those who undergo an increasing number of transfusions. Using advanced technology in blood screening and strict infection prevention during transfusion should be adopted. The rational use of blood/blood substitutes and ensuring that MTPs are vaccinated against HBV are recommended.

(*iproc* 2022;8(1):e36557) doi: [10.2196/36557](https://doi.org/10.2196/36557)

KEYWORDS

prevalence; transfusion-transmitted infections; multi-transfused patients; Yemen

Multimedia Appendix 1

Prevalence and factors associated with transfusion-transmitted viral infections among multi-transfused patients, Sana'a City, Yemen, 2019.

[[PPTX File , 445 KB-Multimedia Appendix 1](#)]

Edited by Y Khader; this is a non-peer-reviewed article. Submitted 17.01.22; accepted 18.01.22; published 15.03.22.

Please cite as:

Moghalles S, Al Serori A, Alhadi AA, Shamsan A

Prevalence of and Factors Associated With Transfusion-Transmitted Infections Among Multi-transfused Patients, Sana'a City, Yemen, 2019

iproc 2022;8(1):e36557

URL: <https://www.iproc.org/2022/1/e36557>

doi: [10.2196/36557](https://doi.org/10.2196/36557)

PMID:

©Suaad Moghalles, Abdulwahed Al Serori, Abd Alrahman Alhadi, Ahmed Shamsan. Originally published in Iproceedings (<https://www.iproc.org>), 15.03.2022. This is an open-access article distributed under the terms of the Creative Commons Attribution License (<https://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in Iproceedings, is properly cited. The complete bibliographic information, a link to the original publication on <https://www.iproc.org/>, as well as this copyright and license information must be included.