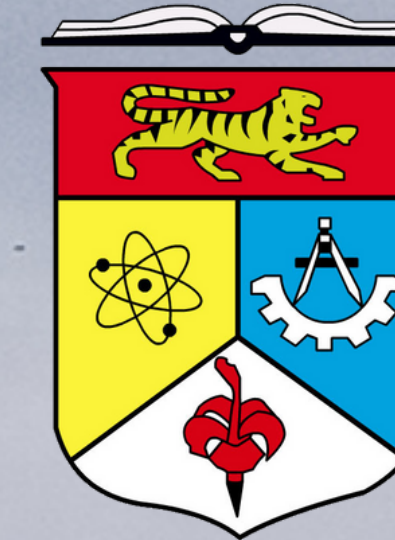


Revitalizing the Blood Culture Volume!



**Ummu Afeera Zainulabid (1, 2), Nabil Anaz Anzani Danapaul (3),
Chee Lan Lau (2), Najma Kori (2), Yusuf Zawir Abd Rahim (2),
Ramliza Ramli (2), Petrick Periyasamy (2)**



**Biomed
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INTRO

Blood cultures are undoubtedly the most critical investigation for bloodstream infections. However, insufficient blood culture volumes frequently impair diagnostic yield. Thus, we investigated the volume of blood culture bottles being filled at our institution. Then we looked at whether an educational intervention could increase the volume of blood culture bottles.

METHODS

A series of Continuing Medical Education (CMEs) were conducted, and we analysed the blood volume data of the pre-intervention (June 2021 - December 2021) and post-CME time frames (January - July 2022). The blood culture volumes were obtained from the Blood Volume Monitoring (BVM) report in the BD EpiCenter™ (V6.1.2A) linked to the BD BACTEC™ FX instrument. The blood volume in BD BACTEC Plus Aerobic/F negative bottles is estimated automatically from blood background signal data in BD BACTEC FX instruments. Red blood cells depend on environmental glucose as a source of energy and this metabolic activity is detected as a steady change in signal during the initial incubation of the BD BACTEC Plus Aerobic/F bottle. The rate at which this metabolism occurs correlates with blood volume. The BD BACTEC FX instrument can therefore estimate the blood volume and send it to EpiCenter for reporting.

RESULTS

The pattern of blood culture bottle filling from the four sets of data (boxplot, distribution histogram, plot of means and summary) of the BVM report showed that most wards had underfilled bottles. An improvement in blood volume was noticed post-CME series. Suboptimal blood culture bottle volumes are familiar and alarming for most hospitals. Poorly gathered specimens will produce subpar diagnostic results, thus leading to unnecessary treatment, extended length of stay and increased costs for patients, hospitals, and the government.

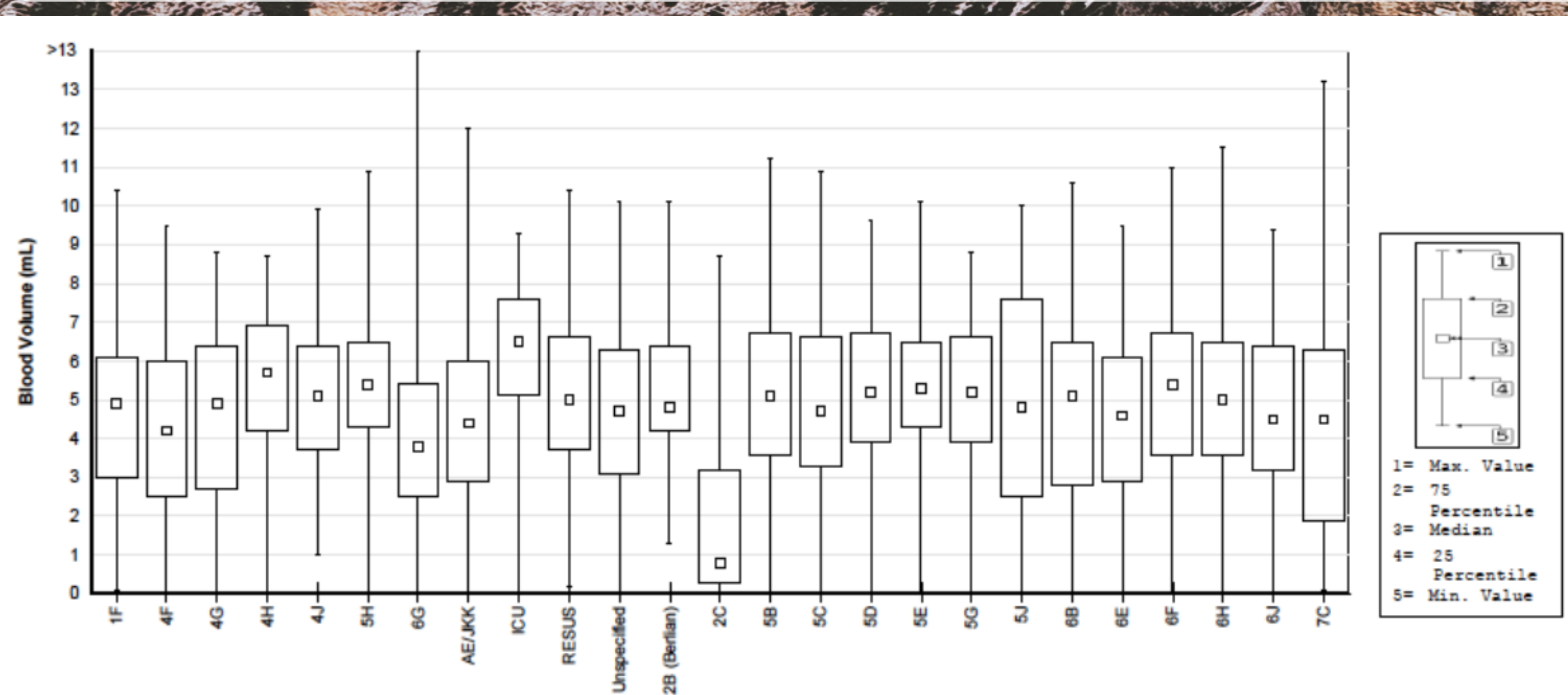


Figure 1. Boxplot distribution of blood culture volume (June 2021 - December 2021).

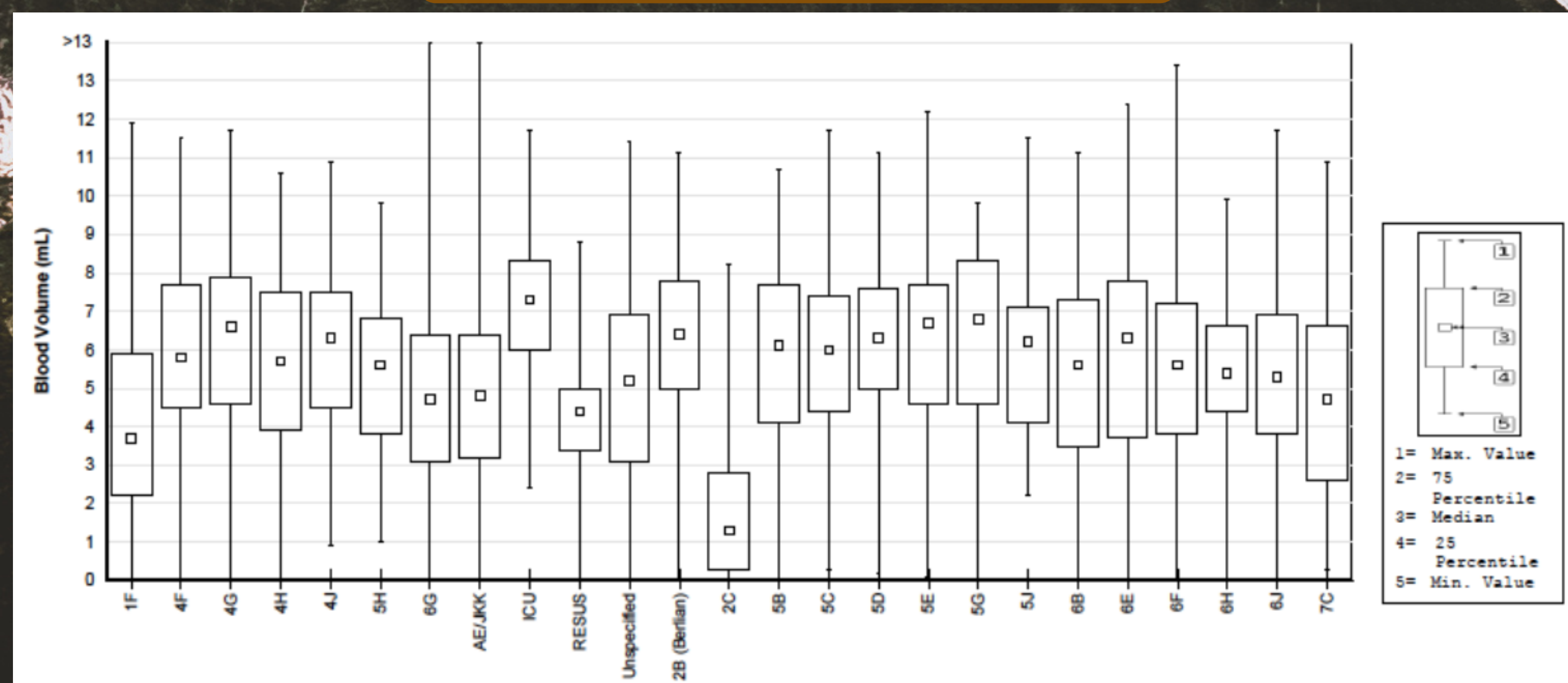
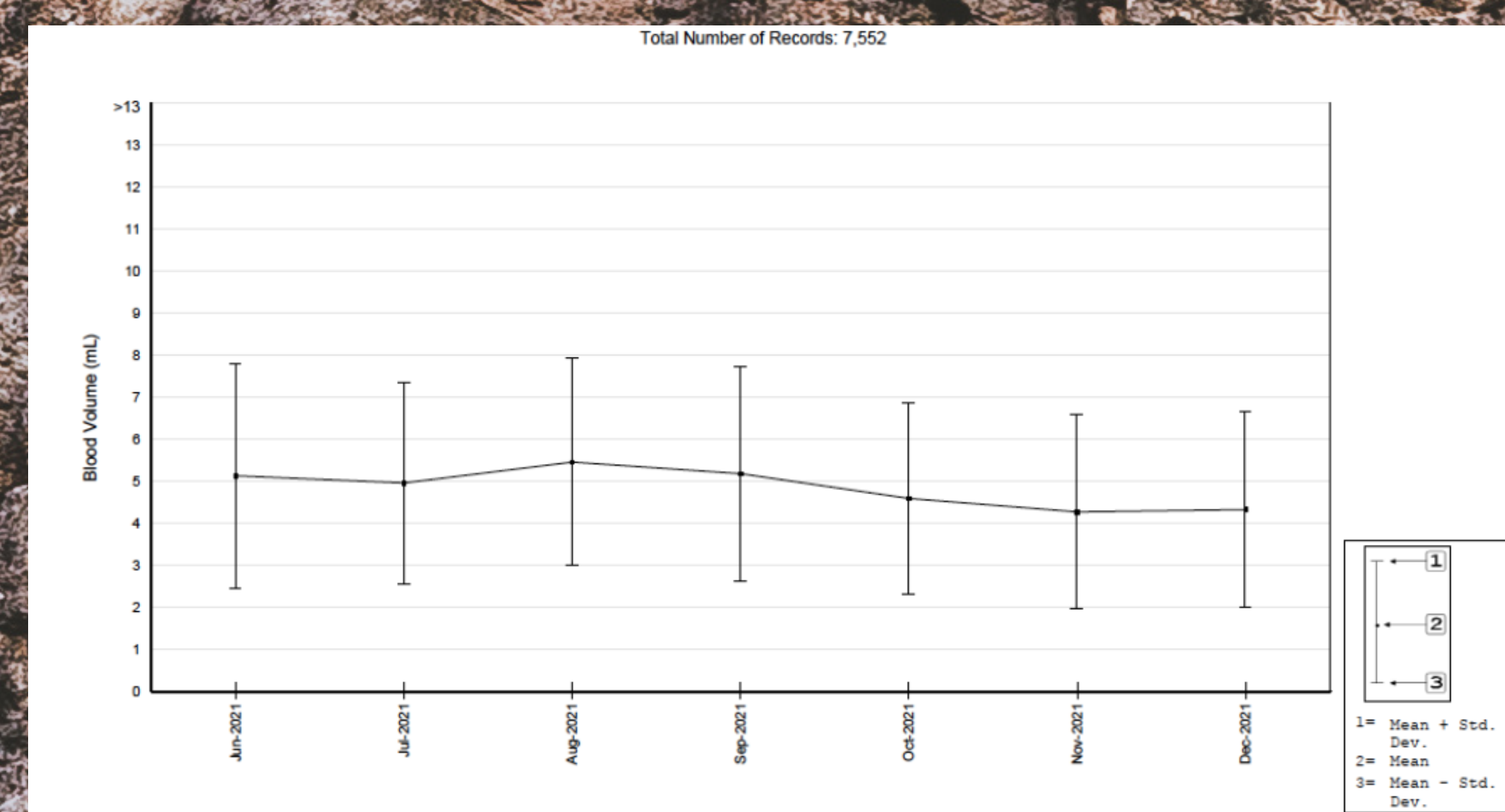
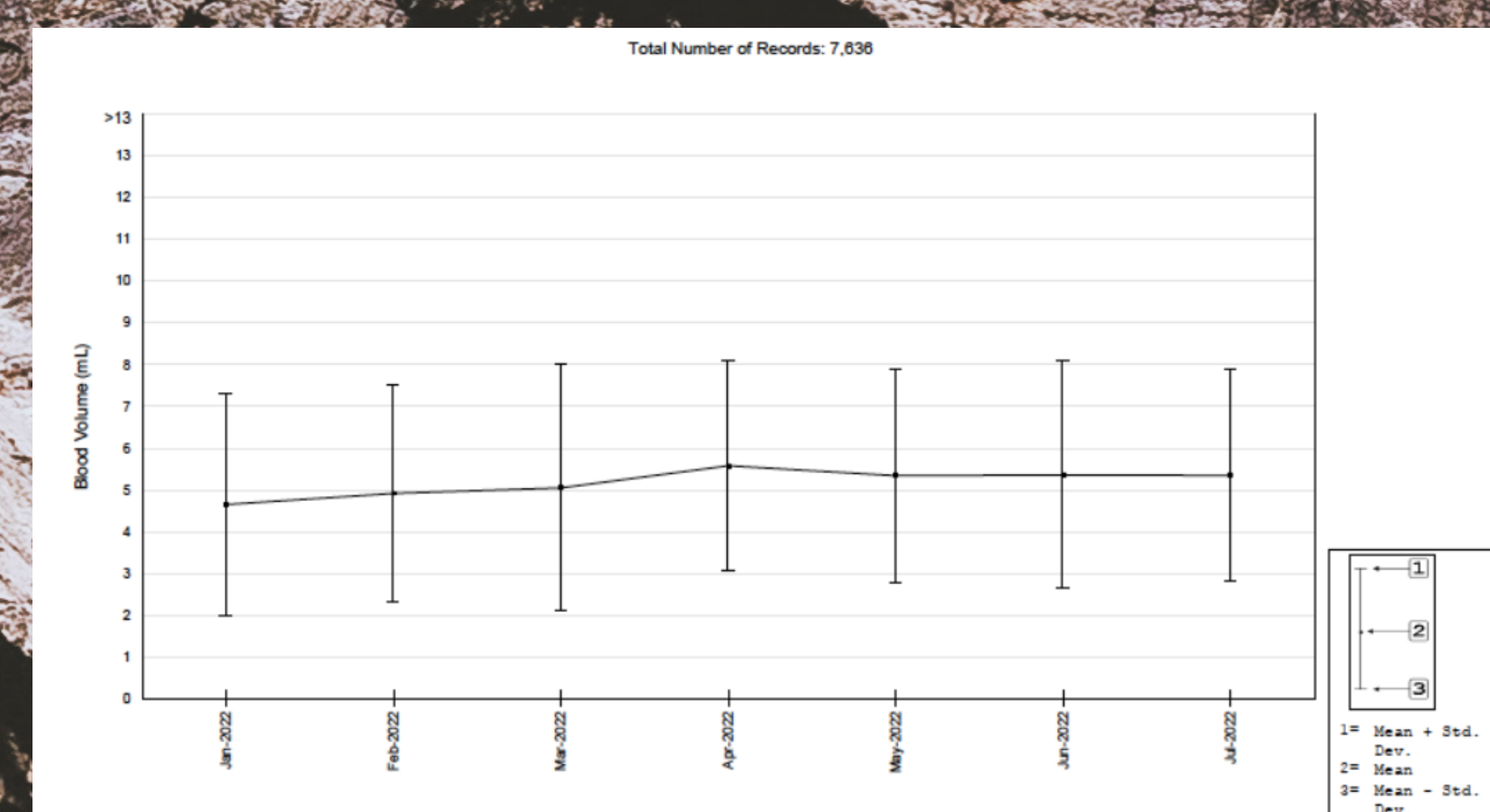


Figure 2. Boxplot distribution of blood culture volume (January 2022 - July 2022). An improvement in blood volume was noticed post-CME series.



June 2021-December 2021



January 2022 - July 2022

Figure 3. The plot of means and summary of the Blood Volume Monitoring (BVM) report showed that most wards had underfilled bottles. An improvement in blood volume was noticed post-CME series.

CONCLUSION

High-quality blood culture specimens should be collected according to best practices guidelines. Continuous CMEs and targeted education sessions on proper collection techniques are crucial in ensuring accurate results that ultimately improve patient outcomes.



33rd

ECCMID

Copenhagen, Denmark
15–18 April 2023

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Basel, 28th April 2023

ECCMID 2023 Paper Poster presentation certificate

To whom it may concern:

We hereby confirm that the below abstract was submitted, accepted, and presented during poster session at the 33rd ECCMID (European Congress of Clinical Microbiology and Infectious Diseases), which took place in Copenhagen, Denmark, from 15 – 18 April 2023.

Title: Revitalising the blood culture volume

Presenting author: Zainulabid Ummu Afeera

Authors and Affiliation: Ummu Afeera ZAINULABID (1, 2), Nabil Anaz ANZANI DANAPPAUL (3), Chee Lan LAU (2), Najma KORI (2), Yusuf Zawir ABD RAHIM (2), Ramliza RAMLI (2), Petrick PERIYASAMY (2) -
(1) International Islamic University Malaysia, Malaysia, (2) Hospital Canselor Tuanku Muhriz, Malaysia, (3) Biomed Global, Application and Clinical Marketing, Malaysia
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Session Title: 11c. Medical education for CM/ID

Abstract/ePoster Number: 272/P3478

Sincerely yours,

Jacob Moran-Gilad
ECCMID Programme Director



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Sincerely yours,

Jacob Moran-Gilad
ECCMID Programme Director




UMMU AFEERA BINTI ZAINULABID . <ummuafeera@iium.edu.my>

ECCMID 2023 - Your abstract result

ECCMID Secretariat <eccmidinfo@escmid.org>
To: ummuafeera@iium.edu.my

Mon, Jan 30, 2023 at 8:44 PM

33rd ECCMID **Copenhagen, Denmark**
15–18 April 2023

The congress of  ESCMID

Basel, 30/01/2023

Dear Ummu Afeera Zainulabid,

Thank you for submitting an abstract to the 33rd European Congress of Clinical Microbiology and Infectious Diseases - [ECCMID 2023](#).

Abstract number: 00272

Title: **Revitalising the blood culture volume**

The ECCMID 2023 Programme Committee is pleased to inform you that your abstract has been accepted for an poster presentation, and allocated to the following session:

Session type: Poster Session

Poster number : P3478

Session title: 11c. Medical education for CM/ID

Session date: 18/04/2023

Session time and location : 12:00 in Poster Area

Due to the hybrid nature of ECCMID 2023, in addition to the paper posters presented onsite, all accepted posters must be uploaded as ePoster to our platform no later than the **1st of April 2023**. You will receive ePoster upload detailed instructions after you complete registration for the congress.

Please make sure to include the provided poster number on the printed and electronic versions of your poster. You will find additional [technical instructions](#) and poster [templates](#) on our website

If you are not the presenting author of this abstract, please forward this notification to the presenting author and inform the Abstract Team at eccmidabstracts@escmid.org.

Please note

- the upcoming ECCMID 2023 will take place in Copenhagen, Denmark, on **15-18 April 2023** as a hybrid event. In addition to onsite presence, the event will be live-streamed online for participants unable to join us in Copenhagen
- the presenting author must register before **1st of April 2023**. Abstracts without a registered presenting author will not be included in the final ECCMID 2023 programme
- if you are unable to attend onsite or online, please inform us about abstract withdrawal before **1st of April 2023**
- early-bird registration is available until the **8th of February 2023**

To register now, please visit the [congress website](#). For any inquiries regarding registration please get in touch with eccmidregistration@escmid.org.

ECCMID 2023 registration includes access to six online-only events that will take place before and after the congress. The [Pre- & Post-ECCMID Days](#) are an integral part of the 2023 scientific programme and will feature the following:

Pre-ECCMID events

- Emerging Public Health challenges - 15th February 2023, 16:00 - 19:00 CET
- Global Health issues post-COVID - 16th February 2023, 16:00 - 19:00 CET
- Controversies in AMS - 15th March 2023, 16:00 - 19:00 CET
- AMR - old problems, new challenges - 16th March 2023, 16:00 - 19:00 CET

Post-ECCMID events

- Viral diseases, just not COVID - 24th May 2023, 16:00 - 19:00 CEST
- Advances in infection diagnosis - 25th May, 16:00 - 19:00 CEST

We congratulate you on the acceptance of your abstract and are looking forward to seeing you in Copenhagen. If you have any questions or need assistance, please contact us at eccmidabstracts@escmid.org.

Yours sincerely,

ECCMID Abstract Team
c/o ESCMID Executive Office
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Email : eccmidabstracts@escmid.org
www.eccmid.org

You received this email because you are the submitter/presenting author of an abstract submitted to ECCMID 2023. If you have any questions in regards to this, please contact the scientific secretariat at: eccmidinfo@escmid.org. Please quote your abstract number in the email subject line.

11. Other

11c. Medical education for CM/ID

Likely attendance

Onsite

Ummu Afeera Zainulabid^{1, 2}, Nabil Anaz Anzani Danapaul³, Chee Lan Lau², Najma Kori², Yusuf Zawir Abd Rahim², Ramliza Ramli², Petrick Periyasamy²

¹International Islamic University Malaysia - Kuantan, Pahang (Malaysia), ²Hospital Canselor Tuanku Muhriz - Bandar Tun Razak, Kuala Lumpur (Malaysia), ³Biomed Global, Application and Clinical Marketing - Kuala Lumpur (Malaysia)

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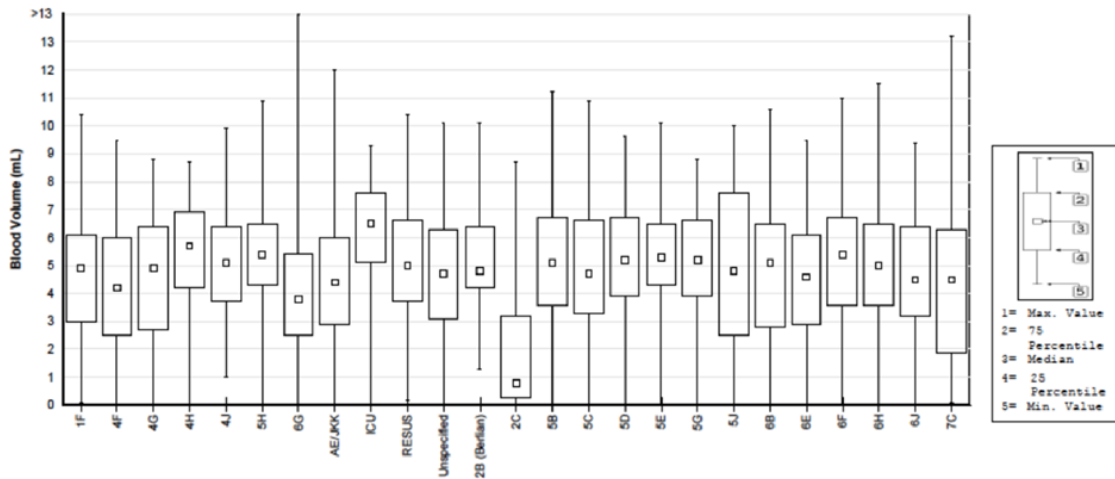


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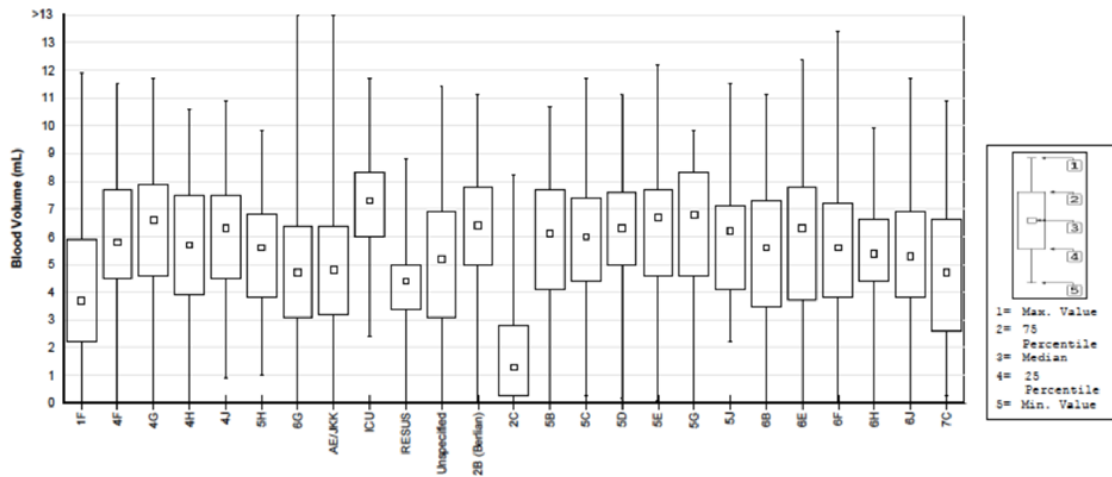
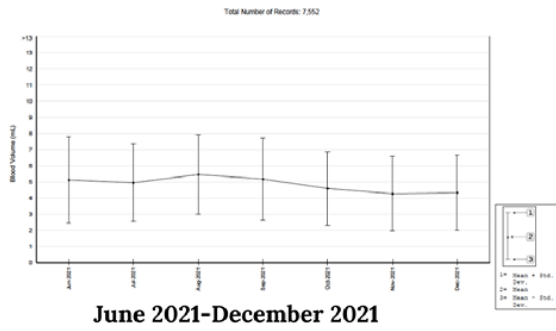
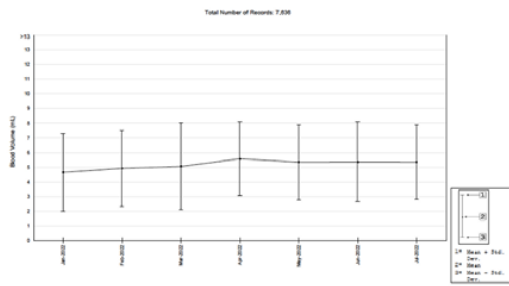


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Keyword 1

Education, publishing and professional affairs

Keyword 2

None of the above

Keyword 3

Blood culture; blood volume

Conflicts of interest

Do you have any conflicts of interest to declare?

No