

EAHAD
European Association for Haemophilia and Allied Disorders
2025



18th ANNUAL CONGRESS OF THE EUROPEAN ASSOCIATION FOR HAEMOPHILIA AND ALLIED DISORDERS

MILAN, ITALY
4-7 FEBRUARY 2025

Number needed to scan with Point-of-care Ultrasonography for screening hemarthrosis in hemophilia patients

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Topic: Epidemiology

BACKGROUND

Hemarthrosis, especially in the knees, elbows, and ankles, is a typical clinical manifestation of hemophilia A and B. Ultrasonography (US) effectively detects osteochondral tissue changes in patients with haemophilia at early stages. Point-of-care ultrasonography (POC-US) is increasingly used in limited-resource environments(1) because it is user-friendly and supports clinicians and patients with diagnostic imaging completed rapidly to answer specific questions while being free of radiation, repeatable, and affordable(2).

AIM

To estimate the number of patients with hemophilia needed to scan (NNS) for suspecting hemarthrosis in a cohort of patients in a specialized treatment center in Colombia, during January 2018 and August 2024.

METHOD

Retrospective cohort study of patients with hemophilia A or B from 15 cities in Colombia, reporting bleeding events through telephone assistance. For patients with articular pain, an ultrasound scan was performed with Querol's POC-US technique in 3 joints: elbow, knee, and ankle of patients in whom an articular hemorrhagic event was suspected, evaluating the presence of intra-articular fluid. Median and interquartile range (IR) were used for quantitative variables and frequency measurements for qualitative ones. The NNS was estimated using the following formula. For absolute risk reduction (ARR) hemarthrosis was calculated in unscreened patients (no echography) and those screened:

$$\mathrm{NNS} = \frac{1}{\mathrm{ARR}}$$

ARR=risk of hemarthrosis in unscreened- risk of hemarthrosis in screened

RESULTS

533 Patients reporting bleeding

3542 Bleeding events

97.6% Men (n=520)

27 years of age (IR 17 to 42)

22.7 years-time disease evolution (IR 17 to 42)

80.5% Hemophilia A

- **20.6**% (n=110) **mild**
- **22.7**%(n=121) **moderate**
- **56.7**% (n=302) **severe**

21.9% Screened with **POC-US** (n=117)

Hemarthrosis findings in patients

- **59.8%** in those screened (n=70/117)
- **45.9%** in those **un**screened (n=191/416)

In 98.1% (n= 523) of patients, the bleeding was minor, in 41.6% (n=222) it was localized either in the elbow, knee, or ankle, and in 66.9% (n=357) it was traumatic.

Additionally, 57.8% (n=308) of patients were with prophylaxis prescribed.

In 47.5% (n=253), chronic hemophilic arthropathy was identified.

	Patients	Hemarthrosis	Proportion	ARR	NNS
Screened	117	70	0.598	0.109	9.21
Unscreened	416	191	0.459		
Total	533	261	-		

Table. Estimations for NNS to identify hemarthrosis

CONCLUSIONS

We need to scan with POC-US 9 patients to identify 1 with hemarthrosis, which is relevant considering that detecting joint bleedings in hemophilia is crucial in preserving joint function.

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REFERENCES

1. De la Corte-Rodriguez H, Rodriguez-Merchan EC, Jimenez-Yuste V. Point-of-care Ultrasonography in Orthopedic Management of Hemophilia: Multiple Uses of an Effective Tool. HSS J. 2018 Oct;14(3):307-313. doi: 10.1007/s11420-018-9604-x. Epub 2018 Mar 5. PMID: 30258338; PMCID: PMC6148577.
2. Amini R, Patanwala AE, Shokoohi H, Adhikari S. Number Needed to Scan: Evidence-Based Point-of-Care Ultrasound (POCUS). Cureus. 2021 Aug 18;13(8):e17278. doi: 10.7759/cureus.17278. PMID: 34540499; PMCID: PMC8447885.

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