

How can we measure independence after injury in humanitarian settings?

Trauma care in humanitarian settings is usually focused on saving life and limbs, and less on how patients are living their daily life after injury, a critical aspect of their recovery. Assessing patients' independence in daily life activities is therefore crucial to document. However, tools to measure this, tailored to humanitarian contexts, are lacking.

New tool proves valid and reliable for humanitarian use

The Activity Independence Measure-Trauma (AIM-T) is a tool to measure independence in mobility activities of patients after injury, going beyond only understanding mortality and morbidity. Healthcare professionals observe and rate patients while performing 12 daily life activities and assess difficulties experienced, as well as any need for human or material assistance.

This study demonstrated AIM-T is valid, reliable and could be applied in humanitarian contexts. The design and validation of the AIM-T is one component of broader research which is 1) assessing recovery of functioning up to six months after injury in humanitarian settings, and 2) identifying which patients recover best and their personal and care characteristics, including early physiotherapy.



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A physiotherapist uses the AIM-T pocket cards with a patient to assess her level of independence after trauma at the MSF Sica hospital in Bangui, Central African Republic.

Background

Injury represents a significant portion of the burden of disease in humanitarian settings, leading to health, social and economic consequences. The 2018 Sphere Standards state that trauma care in humanitarian settings should not only aim at reducing avoidable mortality and morbidity, but also disability. Monitoring the quality of trauma care including this perspective is therefore crucial. However, existing measures of disability have not been designed nor formally tested in humanitarian settings, challenging their relevance and the quality of data produced.

The AIM-T has been developed in Afghanistan and was used in other countries, without formal testing. There was a need to confirm the AIM-T validity and reliability before wider use.

How the research was conducted

The research was held in three phases to confirm the AIM-T validity and reliability:

- First, routinely collected data from 635 patients at MSF facilities managing patients after trauma in **Haiti, Burundi, Yemen, and Iraq** were used for to explore inter-item redundancy.
- Second, cultural appropriateness, relevance and feasibility was assessed based on semi-structured interviews with 23 health care professionals and 60 patients in **Haiti, Burundi, and Iraq**.
- Finally, the AIM-T construct validity and reliability was tested across 195 patients with acute injury in **Burundi, Iraq, Cameroon and Central African Republic**.

Key findings

From the initial AIM-T composed of 20 activities, the AIM-T was revised to 12 activities considering:

- **Brevity and focus:** 9 activities were removed due to redundancy
- **Cultural appropriateness and relevance:** 10 activities were revised, and one added.

This research provided evidence that the AIM-T is:

- **Valid:** The AIM-T can discriminate between different types of patients, is consistent with other measures, reflects independence in activities, and is best structured in three subscales.
- **Reliable:** There was a good-to-excellent agreement between raters.

Implications for humanitarian practitioners and policymakers

Having a valid and appropriate tool to gather data on the patients' outcomes in terms of disability may contribute to the improvement of the quality of trauma care in humanitarian settings through:

- **At health professionals' level, by improving practice:** contributing to a comprehensive assessment, promoting a patient-centered approach, encouraging early mobilization, supporting clinical reasoning and trauma team decision-making (e.g. discharge planning).
- **At service level, by monitoring trauma care:** using the AIM-T as quality of trauma care indicator, beyond mortality and morbidity.
- **At a global level, by informing advocacy:** producing reliable figures on the burden of injury beyond mortality and morbidity in different humanitarian settings.

For an adequate use of the AIM-T, healthcare professionals must be trained on its use and practical applications, using the training materials developed and available open access ([E-learning](#) and guidelines).

Recommendations for future research

The AIM-T is a valid and reliable tool with patients with acute injury in humanitarian settings but more evidence is needed with other types of patients, such as patients after reconstructive surgery.

The AIM-T is also a key outcome to measure the effects of early rehabilitation and generate evidence on the importance of timing of physical and functional rehabilitation after trauma. This project includes also a research component to assess recovery, using the AIM-T as primary outcome, following-up 500 patients up to six months after their injury.

Describing the experience of healthcare professionals and patients with the use of the AIM-T to encourage early rehabilitation in such settings would also be valuable.

About the study team

This research is a partnership between Humanity & Inclusion (HI), Médecins Sans Frontières and Karolinska Institutet.

This research project would not have been possible without the involvement of the MSF and HI physiotherapy and projects coordination and headquarters teams in Yemen, Iraq, Burundi, Haiti, Cameroon and Central African Republic.

Principal investigator: Bérangère Gohy
Berangere.gohy@ki.se
b.gohy@hi.org

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Articles and further reading

- <https://www.elrha.org/project/determinants-of-functional-outcomes-after-trauma-in-humanitarian-settings/>
- Monitoring independence in daily life activities after trauma in humanitarian settings: Item reduction and assessment of content validity of the Activity Independence Measure-Trauma (AIM-T) | PLOS Global Public Health
- Assessing independence in mobility activities in trauma care: Validity and reliability of the Activity Independence Measure-Trauma (AIM-T) in humanitarian settings | PLOS Global Public Health



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