Research Journal in Advanced Humanities

RJAH

https://doi.org/10.58256/d2f44c76

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RESEARCH ARTICLE

Section: *Sociology and Community Development*

Breaking the language barrier: How medical interpreters are preventing misdiagnoses and medical errors in Jordan's refugee camps

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ABSTRACT

This study examines the potential of medical interpreters to prevent misdiagnoses and medical errors in refugee camps in Jordan from the perspectives of three stakeholder groups: healthcare workers, medical interpreters, and refugee patients. Based on qualitative interviews with 15 interpreters, 15 health workers, and 20 refugee patients, the study examines the impact of interpreter-mediated communication on diagnostic accuracy, treatment explanations, and patient safety. The findings underscore the critical role of interpreters in overcoming language and cultural barriers, particularly when patients use metaphorical or regional speech to describe physical or emotional conditions. Physicians reported that interpreters significantly influenced their understanding of patient narratives, particularly in complex or traumatic situations. Refugee patients emphasised the crucial role of interpreters in facilitating discussions of sensitive issues and ensuring adherence to medical advice. However, the study also revealed significant challenges, including inconsistencies in training, cultural insensitivity, and emotional exhaustion, which can lead to burnout. The study proposes formal interpreter training programs, available mental health care for interpreters, and their full integration into multidisciplinary healthcare teams. Overall, the findings affirm the crucial role of professional interpreters in humanitarian health settings and call for immediate action to improve interpreter provision within Jordan's refugee camp system, thereby safeguarding patient outcomes and maintaining the dignity and rights of forcibly displaced individuals.

KEYWORDS: medical interpreting, refugee healthcare, misdiagnosis prevention, Jordan refugee camps, interpreter-mediated communication

Research Journal in Advanced Humanities

Volume 6, Issue 3, 2025

ISSN: 2708-5945 (Print)

ISSN: 2708-5953 (Online)

ARTICLE HISTORY

Submitted: **29 May 2025**

Accepted: **30 July 2025**

Published: 02 **August 2025**

HOW TO CITE

Hussein, S., Almahasees, Z., & Husienat, I. (2025). Breaking the language barrier: How medical interpreters are preventing misdiagnoses and medical errors in Jordan's refugee camps. *Research Journal in Advanced Humanities*, 6(3). https://doi.org/10.58256/d2f44c76

Published in Nairobi, Kenya by Royallite Global, an imprint of Royallite Publishers Limited

Introduction

Jordan has emerged as a key hub for refugee support in the Middle East, particularly since the Syrian civil war broke out in 2011. The country hosts over 650,000 registered Syrian refugees, in addition to thousands of unregistered refugees and displaced individuals from other conflict zones such as Iraq, Palestine, and Yemen. Most of these individuals reside in official camps like Zaatari and Azraq or informal shelters across the kingdom (Jordan, 2022; Salameh, 2024). The refugee influx has significantly strained Jordan's national infrastructure, particularly its healthcare system. The camps are characterised by overpopulated living conditions and substandard facilities for medicine and have proven to be safe havens for epidemics. In that high-pressure environment, perhaps no part of healthcare delivery is more overlooked but crucial than language, the effect of medical personnel on patient language differences on the quality of care and outcomes overall (Lupieri, 2021). Language variations within health institutions are significant barriers to accurate diagnosis, treatment adherence, and client satisfaction. Refugees entering Jordan speak several dialects, some of which they are not even literate in. Though Jordanian Arabic and Syrian Arabic share some mutual intelligibility, regional dialects and health vocabulary can vary greatly (Gougazeh et al., 2024). Patients and healthcare practitioners who communicate using different languages ensure that communication breaks down barriers. Such a breakdown can cascade into a domino effect of errors, including inappropriately reported symptoms, mismanagement of medication schedules, and missed follow-up therapies (Al-Soleiti et al., 2021). In humanitarian contexts where every decision makes a life-or-death difference, a mere miscommunication could mean delayed care, the wrong medications, or even worse, unnecessary deaths (Salim et al., 2021). This study aims to explore the utmost significance of medical interpreters in preventing misdiagnosis and medical errors in Jordanian refugee camps. Specifically, it examines how the interpretation services of trained interpreters enhance healthcare communication, reduce clinical risks, and establish trust between healthcare providers and refugee patients with diverse linguistic and cultural backgrounds.

Interpreting

Interpreting is a high-level cognitive and communicative process involving the oral transfer of spoken or signed language from a source language (SL) to a target language (TL) in real time. Being an essential pillar of cross-cultural communication, interpreting facilitates understanding among people who share no common language, especially in high-stakes situations such as courts, conferences, and hospitals (Pöchhacker, 2022). While a translator works with written language, interpreting means on-the-spot comprehension, analysis, and formulation of meaning, tone, or cultural nuance. Exceptional listening skills, linguistic competency, and a perceptive understanding of intercultural dynamics are essential for the interpreter to convey both words and intent, as well as the broader context (Fitria, 2024). The ethical dimension of interpretation also exists, requiring neutrality, confidentiality, and loyalty to the speaker's message. Whether interpreted consecutively, simultaneously, or by relay. Interpretation ensures that linguistic diversity does not hinder participation, rights, or services within multilingual communities (Aal-Hajiahmed, 2022).

Medical Interpreting

Medical interpreting is a professional field that enables communication between medical professionals and patients with limited proficiency in the dominant language of the healthcare field. It involves linguistic competence and extensive experience with medical terminology, clinical procedures, and healthcare-specific ethical standards (Osornio, 2022). Medical interpreters are essential in breaking down communication barriers, which may lead to misdiagnosis, inappropriate treatment, or patient nonadherence. Unlike general interpreting, medical interpreting often involves sensitive content such as reproductive health, mental illness, or end-of-life care, where the interpreter must manage emotional intensity without sacrificing accuracy and neutrality. (Mezad & Aityahyatene, 2024). Moreover, interpreters must adapt to varying environments—emergency rooms, outpatient clinics, or public health campaigns—and various patient dialects and literacy levels (Fennig & Denov, 2021). With all these needs in mind, medical interpreting is increasingly viewed as a professional activity requiring formal education, certification, and adherence to a specialized code of ethics, such as that developed by the National Council on Interpreting in Health Care (NCIHC) (Dallmann et al., 2024; Dean, 2021).

Medical interpreters are now an essential part of bridging linguistic and cultural gaps. Their role is not

a simple word-for-word substitution. A good medical interpreter must be familiar with medical terminology, understand the cultural context behind the patient's statements, and be able to convey this information to the provider in a medically accurate and culturally sensitive manner. Interpreters enable patients to explain symptoms, pose well-informed questions about their course of treatment, and receive post-visit directives, enabling otherwise inaccessible communication (Butow et al., 2012). In refugee situations where patients are dealing with trauma, distrust of powers, or familiarity with health facility systems, interpreters usually play the role of cultural bridge, enabling health workers to understand the social and medical history and psychology leading to the disease.

Medical Interpreting in Humanitarian Contexts

Medical interpretation is particularly in high demand and challenging in humanitarian settings, such as among refugee populations (Ruiz Rosendo et al., 2021). Refugee populations are often linguistically diverse and may not be familiar with healthcare terminology and standards. In such settings, medical interpreters translate more than just words, serving as cultural mediators that bridge the gap between Western medical protocols and the displaced population's beliefs. This dual function is essential to building trust, maintaining informed consent, and facilitating continuity of care (Moser-Mercer et al., 2021). However, inadequately trained interpreters, unstable interpreting standards, and under-funded healthcare services too frequently undermine the quality of interpretation in these environments. Interpreters are left vulnerable to emotionally taxing situations without psychological support and are even sometimes forced to work without clear ethical guidelines. Despite these challenges, studies have consistently shown that well-trained medical interpreters integrated into healthcare teams significantly contribute to the reduction of health disparities and improvement in patient safety and satisfaction in disaster-affected regions (Suarez et al., 2021).

Literature Review

Karliner et al. (2007) assessed the impact of professional medical interpreters on clinical care for individuals with limited English proficiency (LEP). A systematic literature review, including studies published from 1966 to September 2005, was conducted through PubMed, PsycINFO, and the Cochrane Library. Out of 3,698 citations, 28 studies were selected based on some criteria, of which 21 were focused on professional interpreters versus ad hoc interpreters. Extracted data included study design, sample size, interpreter training and communication, clinical use, errors, understanding, and patient satisfaction outcomes. The findings indicated that professional interpreters significantly improved communication, reduced errors, enhanced patient understanding, and led to better clinical outcomes and higher satisfaction compared to ad hoc interpreters. These results show that using professional interpreters improves the quality-of-care LEP patients receive and decreases healthcare disparities, bringing the clinical care they receive closer to that of linguistically accessible patients. This highlights the crucial role that professional medical interpreters play in making healthcare delivery effective and equitable for LEP populations.

Flores et al. (2012) aimed to compare interpreter errors and their potential clinical impact during medical encounters with professional interpreters, ad hoc interpreters, and without interpreters. Over 30 months in two of Massachusetts's largest pediatric emergency rooms, the study enrolled Spanish-speaking limited-English-proficient patients, caregivers, and interpreters. Fifty-seven encounters were examined, comprising 20 with professional interpreters, 27 with ad hoc interpreters, and 10 without interpreters. One thousand eight hundred eighty-four interpreter errors were recorded, of which 18% can be expected to have clinical significance. The results showed that the percentage of errors of possible clinical relevance was considerably lower when professional interpreters were used (12%) compared to when ad hoc interpreters were used (22%). No interpreters were used (20%). Additionally, for interpreters, the number of hours of interpreter training, rather than years of experience, was highly correlated with lower numbers of errors and fewer errors with potential impact. Interpreters with 100 or more hours of training produced fewer overall errors (12 errors vs. 33 for less-trained interpreters) and significantly fewer error rates with potential impact (2% vs. 12%). These findings suggest that using professional interpreters with proper training, particularly with a minimum of 100 hours of training, is expected to minimise errors and enhance patient safety in health facilities. The study advocates for establishing minimum training standards for medical interpreters to enhance the quality of care

and reduce the likelihood of errors during clinical encounters.

Brooks et al. (2016) analyzed the challenges of LEP individuals receiving appropriate medical interpretation services. Focus groups were conducted with 22 Spanish LEP adults, and the conversations were transcribed and analyzed in native Spanish. The outcome revealed that LEP patients encounter significant challenges in healthcare settings, primarily due to the unavailability of professional interpreters, fear of disclosing their limited English proficiency, and language-concordant healthcare professionals who overestimate the patient's English proficiency. These challenges contributed to most respondents' perception that they received lower-quality care than patients who speak English. The study emphasises the importance of routine professional interpreting services to enable LEP patients to understand their healthcare options and receive equitable care. Providing adequate interpretation is critical to improving health outcomes and patient satisfaction, ultimately bridging the healthcare communication gap among immigrant and Hispanic populations.

Wu and Rawal (2017) examined the activities of professional medical interpreters to enhance patient safety, particularly among patients with limited English proficiency (LEP). Conducted with in-depth, semi-structured interviews of 15 professional interpreters who are members of the Healthcare Interpretation Network in Toronto, Canada, the study aimed to learn how the interpreters perceive their role in averting adverse events in healthcare. The findings showed that interpreters perceive their work as central to ensuring safe patient care through communication facilitation, enhancing patient comprehension, giving patients a voice, and promoting safety. The research also established an underlying conflict between the interpreters' ethical obligation to remain neutral and the desire to advocate for patient safety. Additionally, interpreters faced issues with the medical hierarchy, and providers often lacked an understanding of the interpreters' role. Thus, they could diverge from safe practices if the providers insisted that the interpreters exceed their professional roles. The study concludes that professional interpreters belong to patient safety, and healthcare providers must acquire a standard comprehension of the interpreters' role to engage in safety programs successfully. It also emphasises the importance of healthcare providers and facilities engaging interpreters actively in safety initiatives to enhance the outcomes for LEP patients.

Jacobs et al. (2018) compared interpreter errors and their potential clinical impact during medical encounters with professional interpreters, ad hoc interpreters, and without interpreters. Over 30 months in two of Massachusetts's largest pediatric emergency rooms, the study enrolled Spanish-speaking limited-English-proficient patients, caregivers, and interpreters. Fifty-seven encounters were examined, comprising 20 with professional interpreters, 27 with ad hoc interpreters, and 10 without interpreters. One thousand eight hundred eighty-four interpreter errors were recorded, of which 18% can be expected to have clinical significance. The results showed that the percentage of errors of possible clinical importance was considerably lower when professional interpreters were used (12%) compared to when ad hoc interpreters were used (22%). No interpreters were used (20%). Additionally, for interpreters, the number of hours of interpreter training, rather than years of experience, was highly correlated with lower numbers of errors and fewer errors with potential impact. Interpreters with 100 or more hours of training produced fewer overall errors (12 errors vs. 33 for less-trained interpreters) and significantly fewer error rates with potential impact (2% vs. 12%). These findings suggest that using professional interpreters with proper training, particularly with a minimum of 100 hours of training, is expected to minimise errors and enhance patient safety in health facilities. The study advocates for the implementation of minimum training standards for medical interpreters to enhance the quality of care and minimise the risk of errors during clinical encounters.

Qudah and Al-Haq (2023) addresses the problem of mental health interpreting among Syrian refugees in Jordan. This country hosts many refugees, but in which interpreting is not a licensed profession. The research specifically examines the performance of Yarmouk University MA Translation students learning an interpreting module, particularly their ability to interpret emotionally charged expressions commonly used in therapy, including Syrian colloquial idioms and expressions of distress. The study aimed to determine the extent to which students conveyed shades of meaning in their source languages (A) and target languages (B) and to investigate the implications of errors in translating emotional expressions and idioms in mental health contexts. The results showed that 20.8% of the students could properly convey all shades of meaning when translating into their B language, while 42.4% did so in their A language. The challenges were even greater when translating idioms and expressions of distress, as only 8.63% of the students produced translations that were both sufficient and

accepted. The others were partly accepted (43.15%) or completely rejected (48.23%). These findings highlight a significant gap in interpreter training in Jordan, particularly in humanitarian settings where effective and culturally sensitive communication is essential. The study highlights the urgent need for capacity building of interpreters in Jordan to enhance the quality and efficiency of their work, particularly in mental health settings, where misinterpretation could have severe consequences for therapy and diagnosis.

Methodology

Research Design

This research employed a qualitative approach to examine how medical interpreters contribute to reducing misdiagnoses and clinical mistakes in Jordan refugee camps. Through discussions with three different stakeholder groups—professional and volunteer interpreters, healthcare workers, and refugee patients—the research aimed to understand interpreter-mediated communication in humanitarian healthcare contexts comprehensively.
Participants were recruited using purposive sampling to ensure that they were relevant to the research objectives. The sample comprised 50 individuals: 15 medical interpreters with varying levels of training, 15 healthcare providers (including general practitioners, paediatricians, nurses, and mental health specialists), and 20 Syrian refugee patients who had received interpreter-assisted medical care. Semi-structured interviews were used as the primary data collection method. Interviews were conducted in Arabic or English. A small number of clinic observations were also conducted to enrich contextual understanding. Thematic analysis was guided by Braun and Clarke (2006) The six-phase framework enabled an iterative, inductive coding process that effectively accommodated the complexity and sensitivity of the research topic.

Credibility was facilitated through member checking, in which selected participants could review summarised interpretations of their responses and verify accuracy. Triangulation was achieved through sampling from three participant groups, allowing for the cross-validation of emerging themes and reducing reliance on any single perspective. Additionally, peer review was conducted with two external researchers who specialise in interpreting studies and qualitative inquiry, and they provided critical feedback on both the coding scheme and theme development. An obvious audit trail of analytical decisions was maintained throughout the coding process to enable dependability. Finally, by providing detailed descriptions of participant demographics and the research context, the study facilitated transferability, allowing for the generalizability of results to other refugee or humanitarian healthcare contexts where interpreter services are being implemented.

Discussion and Analysis

Group One: Perceptions of Professional and Volunteer Medical Interpreters.

Demographic Information

Variable	Category	Frequency (N)	Percentage (%)
Gender	Male	7	46.7%
	Female	8	53.3%
Age	20–29 years	5	33.3%
	30–39 years	6	40.0%
	40–49 years	3	20.0%
	50+ years	1	6.7%
Educational Background	BA in English/Translation	9	60.0%
	MA in Translation/Interpreting	4	26.7%
	Non-degree (community volunteer)	2	13.3%
Medical Interpreting Training	≥100 hours	6	40.0%
	<100 hours	5	33.3%
	No formal training	4	26.7%

Years of Experience	1 year	3	20.0%
	1–3 years	7	46.7%
	>3 years	5	33.3%

The table above displays 15 medical interpreters who had worked to provide interpreting services in Jordan refugee camp clinics. The female percentage (53.3%) is slightly greater than the male percentage (46.7%). The most common age group is 30–39 years (40%), followed by 20–29 years (33.3%), indicating that most interpreters are adults in the early to middle stages of their careers. Academically, most interpreters (60%) hold a BA in English or related translation disciplines, and about a quarter (26.7%) hold an MA, indicating overall high academic credentials. Very few (13.3%) are community volunteers without translation-related educational credentials, which could compromise the quality of interpreting.

Regarding training for medical interpreters, 40% of interpreters received over 100 hours of specialised training aligned with the best international practices. However, 60% received fewer than 100 hours or no training at all. This indicates possible inconsistencies in preparation and the necessity for standardised training programs. For field experience, almost half of the interpreters (46.7%) have 1–3 years of experience and one-third (33.3%) have more than three years, reflecting moderate to high levels of experience working as interpreters in humanitarian settings. All participants were able to interpret English and Arabic; a small minority (13.3%) also interpreted in French. This demographic profile describes a workforce characterised by high levels of formal education and training, outlining the strengths and weaknesses of the existing interpreting capacity within Jordan's refugee camps. The report indicates that more training is required, particularly regarding the emotional and medical complexities interpreters encounter in humanitarian environments.

Interview Questions for Medical Interpreters

Question 1. Could you recount an instance where your interpretation facilitated the resolution of a misunderstanding between a physician and a patient in a refugee camp environment? What were the results?

The analysis of 15 interpreters' answers reveals that accurate interpretation often had a key function in preventing dangerous medical errors within refugee camp settings. One interpreter mentioned an occasion when a Syrian refugee said, "رلق يبلب يولوع نار," which the doctor initially thought was a sign of anxiety. However, the interpreter clarified that the sentence was used to express severe chest pain, which prompted the doctor to give an ECG that revealed a cardiac issue. Another interpreter clarified that a kid complained of "رأس يس عم يطنطن," which the doctor heard as a headache in general. However, the interpreter explained that it was a ringing feeling, leading to an ear checkup that validated an infection. A third instance involved a woman uttering "كل رس كم يمس ج," which the physician interpreted as being related to bones. However, the interpreter permitted the clinician to interpret it as extreme fatigue linked to anaemia.

These examples illustrate how interpreters translate and frame symptoms in culturally viable terms. Lacking an interpreter, these symptoms could have led to misinterpretation or ineffective treatments. In refugee patienthood contexts, patients may metaphorically report on pain and suffering. The interpreter's function here is vital as a mediator between experienced life and the clinic's speech. The nuance they instil enables practitioners to respond more accurately and culturally adequately, ultimately in a better attempt to avoid risking patient safety.

Question 2: What challenges do you face when interpreting medical terms or emotional expressions, especially in cases involving Syrian dialects or culturally sensitive topics?

All but one interpreter stated that the most significant challenges were encountered in translating technical and medical terminology, as well as delicate emotional utterances. The common challenge was how to interpret phrases such as "ام عم بقدر نام" (I cannot sleep), which can signify stress, minor trouble, or profound trauma.

One interpreter said that he had difficulty conveying the particular emotional inflexion of such words to physicians unfamiliar with the cultural setting. Another example demonstrated the interpreter's struggle to translate euphemisms of sexual health, such as "لبحن مع ام," when the patient himself avoided stating the issue of infertility directly. Interpreters must choose their words carefully in such cases to support respect for cultural tradition and medical facts.

Additionally, idiomatic Syrian expressions often lack literal equivalents in Modern Standard Arabic or English. One of the participants cited the expression "روسكم يبلق," which is used in a mental health context. The interpreter feared that a literal translation ("my heart is broken") might be taken as a reference to a cardiovascular disease. These challenges demonstrate that interpreting is both linguistic, emotional, and ethical. Interpreters must balance respect for cultural codes with the provision of clear, medically actionable information. In refugee medicine, with its attendant culture of stigmatization and trauma, interpreters must carry double the burden of clarity and sensitivity.

Question 3: Have you ever encountered a situation where a misinterpretation (by you or another interpreter) led to a misunderstanding or risked a wrong diagnosis? How was it resolved?

Interpreters also shared several alarming anecdotes about how minor misinterpretations had nearly led to unfavourable outcomes. One interpreter recalled a situation where the word "ركس" was interpreted as "sugar" in a dietary context rather than "diabetes," confusing the patient's condition. Fortunately, the error was corrected in a later session. A second interpreter remembered a time when "يبلق ينعط" was wrongly translated by a volunteer interpreter as "stabbing pain in the chest," and emergency heart-related procedures were underway when the patient was merely describing emotional pain because of sadness. In a third incident, a new interpreter failed to translate a patient's penicillin allergy, and the patient received the drug. Thankfully, the nurse double-checked the file and averted a life-threatening allergic reaction.

These cases illustrate the danger of employing untrained or ad hoc interpreters. Even trained interpreters accept that complex situations and dialectical variety can sometimes lead to errors. However, when professional interpreters are used, these errors are generally caught and eliminated early, minimising risk. These examples support the assertion that the common utilisation of experienced interpreters who are dialectically proficient can do much to minimise medical mistakes, especially in tense settings like refugee camps, where miscommunication could be life-threatening.

Question 4: What kind of training or support would improve the quality and safety of interpreting in Jordan's refugee healthcare system?

Interpreters were unanimous on the need for professional training in medical terminology, dialectal differences, and trauma-informed interpreting. One suggestion was the inclusion of simulation-based workshops that mimic refugee camp environments and expose interpreters to real-time decision-making. One interpreter explained that their exposure to a training session involving role-playing between doctors, patients, and interpreters helped immensely in increasing their confidence level when handling sensitive topics. A further interpreter identified emotional resilience training, referencing the psychological toll of hearing traumatic patients' histories without any psychological backup.

Furthermore, interpreters have called for open institutional policies that define the interpreter's role and ethics. The analogy given was that without set protocols, medical providers would typically turn to interpreters to establish diagnoses or even treatment recommendations, which are not part of their job. Participants also proposed joint sessions between medical professionals and interpreters to build mutual understanding and collaboration. These recommendations show a growing recognition that interpreters are key members of the healthcare team. Investing in their development through systemic mechanisms is key to enhancing safety and reducing diagnostic errors in refugee contexts.

Second Group: Health Care Professionals

Demographic Information

Table 2: **Demographic Information of Healthcare Professionals:**

Variable	Category	Frequency	Percentage (%)
Gender	Male	9	60%
	Female	6	40%
Age Group	25–34 years	4	26.7%
	35–44 years	7	46.7%
	45+ years	4	26.7%
Profession	General Practitioner	5	33.3%
	Nurse	4	26.7%
	Pediatrician	3	20%
	Mental Health Specialist	3	20%
Experience in Refugee Camps	2–4 years	5	33.3%
	5–9 years	7	46.7%
	10+ years	3	20%

Participants in this study were 15 health workers working in Jordanian refugee camps, Za'atari and Azraq. Their areas of professional expertise encompassed a range of medical specialisations relevant to providing care to refugees, including five general practitioners (33.3%), four nurses (26.7%), three paediatricians (20%), and three mental health experts (20%). This interdisciplinary population provided representative exposure to the effects of interpreter-mediated communication on all aspects of patient care, from diagnosis and medication management to psychological assessment.

Regarding gender, there were nine male participants (60%) and six female participants (40%). The age profile was mature and experienced, with four professionals (26.7%) aged 25–34, 7 (46.7%) aged 35–44, and 4 (26.7%) aged 45 years and above. This highlights the prevalence of mid-career clinicians with substantial professional experience and exposure to the unique challenges of refugee health environments.

Concerning experience in the refugee camp setting, 5 (33.3%) worked in camps for 2–4 years, 7 (46.7%) for 5–9 years, and 3 (20%) had 10+ years of work experience. This provides evidence that most interviewees had a long history of exposure to interpreter-mediated care in humanitarian settings, thus increasing the validity and richness of information obtained during the interviews.

Understanding Patients through Interpreters: Diagnostic Impact

The respondents agreed on the significant degree to which interpreters helped improve diagnostic accuracy by clarifying idiomatic or metaphorical language often used by Syrian refugees. Many participants recalled situations where patients used imagery or figurative speech, words with "fire in the chest" or "my heart is broken"—that were easily misinterpreted as emotional rather than physical distress. Syrian dialect interpreters often made sense of these terms by identifying them as references to possible serious illnesses, such as cardiac pain or chronic fatigue. Another frequently set-forwarded benefit was the interpreter's ability to distinguish between overlapping symptoms. Due to an inner ear problem, the difference between dizziness and vertigo was made possible through precise linguistic breaking. Mental health professionals again emphasized the need for interpreters in translating expressions of trauma, with sentences like "I feel crushed" being placed in contexts that implied psychological harm rather than mere sadness, thus leading to more appropriate therapeutic reactions.

Challenges of Interpreter-Mediated Communication in Sensitive Contexts

Despite the benefits, health professionals identified universal challenges in using interpreters, particularly in emotionally or culturally sensitive circumstances. A significant issue was the perceived lack of confidentiality, particularly when the interpreters came from the same population group as the patient. The patients were not willing to disclose sensitive information, such as experiences of sexual violence, psychological trauma, or

reproductive health issues—for fear of judgment or gossip within the community. Additionally, the information providers indicated that interpreters possessed various skills. Some were well-trained, while others lacked proper medical terminology and would simplify or paraphrase crucial information, creating ambiguity or omitting important diagnostic details. This was particularly concerning in psychiatric or psychosocial consultations, where precision is critical. Another issue was the interpreter's ability, or lack thereof, to interpret emotional intensity. Emotions of despair, grief, or concern were sometimes translated into diluted terms, which altered the clinical impression of the patient's mental state and, perhaps, the regimen of treatment.

Consequences of Miscommunication and the Absence of Interpreters

Medical professionals also cited several instances where the unavailability of qualified interpreters or misinterpretation during interpreting led to serious clinical consequences. One of the most frequent issues was medication misuse, such as one situation in which a diabetic patient misunderstood insulin dosing instructions due to unqualified interpretive support, presenting an overdose risk. Misinterpretation of symptoms was also a frequent issue. In one instance, a child's rash was misinterpreted as a behavioural issue, prompting a follow-up visit to resolve the symptoms through a more thorough evaluation. Multiple participants described delays in diagnosis when inaccurate or vague interpretations led doctors to misjudge the severity or nature of the condition. Although these cases were typically explained later in subsequent follow-ups or corrections, they highlighted the risks of haphazard interpreter deployment and the lack of standard communication protocols in humanitarian medicine.

Recommendations for Improving Interpreter-Mediated Care

When asked how interpreter-mediated healthcare could be improved, nearly all experts emphasised the need for standardised training tailored to both medical and mental health settings. They recommended at least 100 hours of formal training covering medical terminology, Syrian dialects, the ethics of practice, and trauma-informed communication techniques. The majority felt interpreters should interpret and understand the clinical meaning of what is being conveyed. The second standard recommendation was to include interpreters more in clinical practice. This can be achieved by having interpreters attend case briefings, handovers, and cross-disciplinary meetings so that they are not seen as external assistants but as working members of the medical team. Finally, the experts added that interpreters also require institutional support, particularly psychological care and regular debriefing sessions. Considering the stress of continuously interpreting traumatic patient stories, such support would ensure the interpreter's well-being and sustained performance in challenging circumstances.

Refugee Patients' Perspectives on Medical Interpreters

Twenty Syrian refugee patients who had received interpreter-mediated care in Jordan refugee camps (Za'atari and Azraq) participated in semi-structured interviews. The interviewees varied in age, gender, and level of education. They were asked to give their views on the role of interpreters in augmenting access to and experience with healthcare. The most common responses to the four open-ended questions are presented below.

Demographic Information of Refugee Patient Participants

Variable	Category	Frequency	Percentage (%)
Gender	Male	9	45%
	Female	11	55%
Age Group	18–29 years	4	20%
	30–44 years	10	50%
	45+ years	6	30%
Education Level	No formal education	5	25%
	Primary education	8	40%
	Secondary or above	7	35%

Clinic Visit Type	General medical	9	45%
	Pediatric	4	20%
	Mental health	7	35%
Interpreter Present	Yes (professional)	13	65%
	Yes (volunteer/untrained)	4	20%
	No interpreter present	3	15%

The patient population consisted of 20 refugees, 55% of whom were female and 45% male. This gender distribution is reflective of broader trends in healthcare use in refugee camps, where women are more likely to use services—particularly reproductive health, paediatrics, and mental health. Having both male and female patients in the sample is equally valuable in understanding how interpreter-mediated communication functions in gendered healthcare experiences.

By age, the 30–44 years had the most significant representation in the sample at 50%, indicating that most respondents were within their productive caregiving or working years—typically caring for children or older family members. The remaining participants were roughly divided evenly between the young adults aged 18–29 (20%) and the older adults aged 45 and above (30%). This age range indicates that interpreter services are utilised across a broad spectrum of life stages, reflecting the overall health diversity in the camps.

The educational background was mixed considerably: 40% had only primary education, 25% had no formal education, and 35% had secondary education or above. This supports the importance of clear and comprehensible communication in health encounters, as decreased education is often associated with lower health literacy. Patients with limited education may struggle to cope with medical terminology or formal Arabic, highlighting the role of interpreters.

From a utilisation of healthcare services perspective, 45% of the patients attended general medical clinics, 35% mental health clinics, and 20% pediatric clinics (tending in the vast majority of cases to bring their children). The relatively high percentage of patients accessing mental health services is notable as evidence of the psychological and emotional toll of displacement and of a growing demand for interpreters who can conduct sensitive, trauma-aware consultations.

Regarding interpreter involvement, 65% reported being assisted by a professional interpreter, 20% by untrained or volunteer interpreters, and 15% by none during their clinical visit. These variations represent existing discrepancies in interpreter availability and quality. That 1 in 5 patients saw an untrained interpreter—and some none—plants seeds of concern about communication safety and the risk of misdiagnosis or nonadherence with treatment.

Q1. Can you describe a time when a medical interpreter helped you during a visit to the clinic? What difference did it make?

Most patients recalled at least one situation in which the interpreter played a critical role in ensuring that the doctor accurately understood their symptoms. One of the older male patients described how, during a visit to the cardiology clinic, he tried to communicate severe pressure in his chest but was able to do so only with the use of a popular Syrian proverb. The interpreter immediately caught the idiom and translated it literally into English, which prompted the doctor to arrange an emergency ECG test—which confirmed that the patient was experiencing the early stages of a heart ailment. Had the interpreter not caught on to the context, this symptom might have been misdiagnosed as simple fatigue.

Another refugee, a 35-year-old mother of four, related how, when her child had trembled with a high fever, she had tried to use a local idiom: "ابني عم يرجف متل الورقة" (my son is shaking like a leaf). The accurate and culturally appropriate translation by the interpreter allowed the pediatrician to administer the correct antipyretics promptly. Some women described how only when the interpreter, most importantly a woman, used empathy during their encounter with them did they feel comfortable discussing their pregnancy complication, menstrual pain, or depression. These findings suggest that interpreters are not just linguistic bridges, but also cultural bridges, making it easier to translate imprecise and emotionally charged words into clinically useful language.

Q2. What problems do you face when talking to doctors without an interpreter or with someone who does not understand your dialect well?

The most frequently mentioned fear was the overwhelming fear of being misunderstood, especially during urgent consultations. Patients reported that without an interpreter or with someone who did not fully understand the Syrian dialect, they often felt vulnerable, misheard, or ignored. One woman reported that when the doctor spoke to her in formal Arabic, she replied tentatively, fearing that what she said might be misunderstood or misinterpreted. She detailed nodding "yes" many times, even when she was unsure what the doctor uttered, to avoid looking ignorant or holding up the line. This created confusion as to whether she had been prescribed medicine for her kidney problem or just vitamins.

Male participants also reported the same issues. A 45-year-old patient told us that when an attempt was made to interpret through a bilingual health worker who was not familiar with his dialect, "وجع شديد بالعظم" (severe bone pain) was interpreted as "muscle ache" and the doctor prescribed a painkiller that failed to address the underlying inflammation. Several participants noted that miscommunications of this type were more likely to occur when interpreters were under time pressure, not medically trained, or not skilled in dealing with sensitive topics. Patients regularly expressed the annoyance of needing to "guess" or "interpret the interpreter" in these circumstances.

Q3. Have you ever been confused or harmed because of poor translation or no translation during a clinic visit? What happened?

Nearly all the patients reported one or more instances of confusion due to miscommunication, and some reported incidents that might have had serious health consequences. One elderly woman reported being given wrong instructions about her hypertension medicine when given in a hurry by an interpreter. She was told to take the medication "بعد الأكل" (after food), but the interpreter did not clarify that it should be taken in the morning by itself. She then took the pills in the morning and evening for a week, which caused her to faint because of low blood pressure.

One patient reported an episode where he told the doctor that he had "صداع خلف العين وضغط بالعينين" (a headache at the back of the head with pressure in the eyes). The interpreter confused this with the general headache and did not add the eye pressure. The patient was given mild analgesia and sent home. A few days later, having worsened, another doctor diagnosed increased intracranial pressure—something that would have been treatable if the symptoms had been appropriately explained in the first place.

Patients also shared instances where interpreters interpreted the physician's orders as "everything is fine" without detailing the treatment plan or inquiring if the patient had any questions. This resulted in partial compliance with medical instructions. These stories point out the real risks of misdiagnosis, excessive delay in treatment, or non-compliance when interpretation is cursory or incomplete.

Q4. What advice do you have to improve communication between patients and doctors at camp?

The most common recommendation from refugee patients was to have more professionally trained interpreters who are fluent in the Syrian language and familiar with basic medical terminology. Patients reported being more comfortable when interpreters did not translate verbatim but explained everything clearly and slowly. One mother explained the advantage of having the interpreter rephrase medication instructions and offer examples, such as "after breakfast" instead of merely "in the morning," so that she could administer the treatment correctly. Privacy and trust also were issues. Some of the female patients preferred a female interpreter for psychological or gynecologic visits and wanted to know that the interpreters would not discuss their cases with others. Others even requested that interpreters not be from their camp zone or social circle. Others proposed that interpreters be invited to join the healthcare team as full members and have adequate time during consultations rather than being hurried or excluded by busy doctors.

Patients also recommended ongoing training for interpreters, especially in mental health, trauma communication, and paediatrics. One father said, "If the interpreter understands that a parent is describing a

sick child in terms of fear, not words, they will interpret more than words—they will interpret emotion." These remarks highlight the close relationship between practical, empathetic interpretation, patient satisfaction, trust, and safety.

Discussion

The study examined the perceptions of three main stakeholders of interpreter-mediated healthcare in Jordan's refugee camps: medical interpreters, healthcare workers, and refugee patients. A shared appreciation among all the groups was the importance of the interpreter's role in securing effective communication, especially in risky clinical situations. Interpreters had the task of providing literal translations and bridging linguistic, emotional, and cultural gaps between healthcare providers and refugee patients. The findings in the study support (Karliner et al., 2007), who found that professional interpreters significantly reduce clinical mistakes and enhance patient comprehension and satisfaction, especially among linguistically diverse populations.

A dominant theme across interviews was the contribution of interpreters to diagnostic accuracy and patient safety. All healthcare providers reiterated that interpreters' ability to interpret idiomatic language, such as "يردصب ران يف" ("a fire in my chest"), led to early and correct diagnoses that might otherwise have been missed or misinterpreted. Refugee patients confirmed that interpreters enabled the expression of barely communicable symptoms in official Arabic or English, particularly through the application of regional Syrian dialects or metaphorical language. These findings support (Flores, 2005; Flores, 2023) It is highlighted that the absence of professional interpreters in clinics often leads to misdiagnosis and ineffective treatment. Furthermore, this study reveals that even trained healthcare workers can misinterpret symptoms if interpreters are absent or insufficiently trained, especially in cases involving mental health or chronic illness.

Despite their beneficial role, interpreters face significant challenges that impact the quality of care. Health professionals were troubled by the wide variation in interpreters and the lack of standardised medical terminology. Refugee clients reported that some interpreters paraphrased, omitted affective content, or were too integrated within the community to ensure confidentiality. This created suspicion, especially in intimate consultations about sexual or psychological health. These findings resonate with Theys et al. (2022), who argued that interpreters must be linguistically, ethically, and culturally trained to manage the social dynamics of healthcare interactions. The absence of regulation for interpreters in Jordan currently exacerbates these challenges, as noted in previous research emphasizing the importance of professional certification and ethical training mechanisms in humanitarian settings.

Mental health care was another area in which interpreter participation had a notable impact. Patients would express emotional suffering through metaphorical or emotionally charged language. Interpreters who held cultural code knowledge were better able to translate these expressions in a manner that would be relatable to mental health professionals. This was particularly the case due to the high incidence of trauma-related disorders within refugee populations. Mental health remains one of the most overlooked among refugee health due to both stigma and communication gaps (Shannon et al., 2015). The present study confirms that experienced and familiar interpreters play a crucial role in ensuring access to these vital services.

The members of each group made recommendations for improving interpreter-mediated care. The most common was implementing formal training programs consisting of at least 100 hours of study in medical vocabulary, dialectical variation (i.e., Syrian Arabic), trauma-informed communication, and ethics. Providers and patients recommended making interpreters more fully engaged members of healthcare teams, including attending briefings and debriefings. Also, interpreters themselves petitioned for psychological and emotional counselling, quoting the expense of always interpreting trauma stories. These suggestions align with the findings of (Hsieh, 2015) and suggested institutional investment in building the capacity of interpreters to reduce clinical errors and improve continuity of care.

Last but not least, this study's evidence demonstrates that interpreters are not merely ancillary support staff but rather essential enablers of safe and equitable healthcare in refugee camps. Interpreters build bridges beyond words—between people's experiences, decrease fear, and preserve dignity in medical facilities. However, their quality depends on the systems that support them. Addressing training requirements, integrating institutions, and responding to emotional support needs will enhance interpreter performance, improve patient outcomes, and strengthen the refugee healthcare system.

Conclusion

This study aimed to investigate the role of medical interpreters in preventing medical errors and misdiagnoses in Jordanian refugee camps, drawing on findings from three key stakeholder groups: refugee patients, healthcare clinicians, and interpreters. Findings indicate that interpreters play a pivotal role in enhancing the safety, accuracy, and quality of medical communication in these vulnerable and multilingual settings. Their presence consistently reduced the potential for clinical miscommunications, particularly when communicating with metaphorical expressions, local dialects, and emotionally loaded expressions often used by Syrian refugees.

Healthcare professionals across the board have identified interpreters as the cornerstone of accurate diagnosis, effective treatment, and patient trust. However, they also mentioned the issues created by variations in interpreter training and cultural competence, especially in high-risk areas like mental illness and disease management. Equally, refugee patients reported that interpreters assisted them in describing symptoms they could not convey in formal Arabic or English, which tended to affect the doctor's reaction and decisions regarding their care. Nevertheless, patients also reported experiences of miscommunication when interpreters lacked training or were not culturally prepared, highlighting the necessity for further professionalized and standardised interpreter services.

Collectively, the perceptions of interpreters, clinicians, and patients convey a clear message: Medical interpreters are not secondary players but vital components of refugee care. Their linguistic, cultural, and affective breaking enables vulnerable patients to receive safe, timely, and dignified care. Training interpreters should be better integrated into clinical teams to enable them to contribute at their best, and their emotional well-being should be actively supported. Investing in the development and regulation of medical interpreting in Jordan's refugee camps is not merely a logistical matter but a crucial step toward achieving health equity and ensuring patient safety in humanitarian healthcare systems.

Funding Statement: This research received grant no. (488/2024) from the Arab Observatory forTranslation (an affiliate of ALECSO), which is supported by the Literature, Publishing & Translation Commission in Saudi Arabia.

References

Aal-Hajiahmed, M. J. (2022). Cognitive Processes in Simultaneous Interpreting From English Into Arabic and From Arabic Into English. A Study of Problems and Interpreter Strategies.

Al-Soleiti, M., Adi, M. A., Nashwan, A., & Rafla-Yuan, E. (2021). Barriers and opportunities for refugee mental health services: clinician recommendations from Jordan. *Global Mental Health*, *8*, e38. https://doi.org/https://doi.org/10.1017/gmh.2021.36

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, *3*(2), 77-101. https://doi.org/https://doi.org/10.1191/1478088706qp063oa

Brooks, K., Stifani, B., Batlle, H. R., Nunez, M. A., Erlich, M., Phil, M., & Diaz, J. (2016). Patient perspectives on the need for and barriers to professional medical interpretation. *Rhode Island Medical Journal*, *99*(1), 30.

Butow, P. N., Lobb, E., Jefford, M., Goldstein, D., Eisenbruch, M., Girgis, A., King, M., Sze, M., Aldridge, L., & Schofield, P. (2012). A bridge between cultures: interpreters' perspectives of consultations with migrant oncology patients. *Supportive Care in Cancer*, *20*, 235-244.

Dallmann, L. G., Lor, M., & Stitt, E. (2024). The National Council on Interpreting in Health Care Research Reports Series. https://doi.org/https://www.ncihc.org/assets/documents/publications/Q34-39_Interpreting%20for%20deafblind%20patients.pdf

Dean, R. K. (2021). Healthcare interpreting ethics: A critical review. *The Routledge handbook of translation and health*, 198-215.

Fennig, M., & Denov, M. (2021). Interpreters working in mental health settings with refugees: An interdisciplinary scoping review. *American Journal of Orthopsychiatry*, *91*(1), 50.

Fitria, T. N. (2024). The Roles of Translators and Interpreters: Opportunities and Challenges in Translation and Interpreting Activity. *Jurnal Humaya: Jurnal Hukum, Humaniora, Masyarakat, Dan Budaya*, *4*(1), 13-31.

Flores, G. (2005). The impact of medical interpreter services on the quality of health care: a systematic review. *Medical care research and review*, *62*(3), 255-299. https://doi.org/https://doi.org/10.1177/1077558705275416

Flores, G., Abreu, M., Barone, C. P., Bachur, R., & Lin, H. (2012). Errors of medical interpretation and their potential clinical consequences: a comparison of professional versus ad hoc versus no interpreters. *Annals of emergency medicine*, *60*(5), 545-553.

Flores, N. (2023). Toward a raciolinguistic perspective on translation and interpretation. *Language in Society*, *52*(5), 893-901. https://doi.org/https://doi.org/10.1017/S0047404523000660

Gougazeh, Y. M., AlHussami, M. O., Tsaras, K., Almegewly, W. H., Karavasileiadou, S., & Kleisiaris, C. (2024). Assessing Barriers and Difficulties to Healthcare Access Among Syrian Refugees in Jordan: An Observational Study. Healthcare,

Hsieh, E. (2015). Not just "getting by": factors influencing providers' choice of interpreters. *Journal of general internal medicine*, *30*, 75-82. https://doi.org/https://doi.org/10.1007/s11606-014-3066-8

Jacobs, B., Ryan, A. M., Henrichs, K. S., & Weiss, B. D. (2018). Medical interpreters in outpatient practice. *The Annals of Family Medicine*, *16*(1), 70-76.

Jordan, Z. (2022). 'The world we share': everyday relations and the political consequences of refugee-refugee hosting in Amman, Jordan. *Citizenship Studies*, *26*(6), 868-884. https://doi.org/https://doi.org/10.1080/13621025.2022.2103976

Karliner, L. S., Jacobs, E. A., Chen, A. H., & Mutha, S. (2007). Do professional interpreters improve clinical care for patients with limited English proficiency? A systematic review of the literature. *Health services research*, *42*(2), 727-754.

Lupieri, S. (2021). *The Making of a'Crisis': Syrian Refugees and the Politics of Health in Jordan* [Apollo - University of Cambridge Repository]].

Mezad, N., & Aityahyatene, A. (2024). *Investigating Workplace Language Variation within Healthcare Profession* ibn khaldoun university-Tiaret].

Moser-Mercer, B., Qudah, S., Ali Malkawi, M. N., Mutiga, J., & Al-Batineh, M. (2021). Beyond aid: Sustainable responses to meeting language communication needs in humanitarian contexts. *Interpreting and Society*, *1*(1), 5-27. https://doi.org/https://doi.org/10.1177/27523810211036534

Osornio, J. (2022). *Heritage-Language Healthcare Workers: Medical Interpretation as an Approach Towards Inclusiveness in Healthcare*

Pöchhacker, F. (2022). *Introducing interpreting studies*. Routledge.

Qudah, S., & Al-Haq, F. A.-A. (2023). From Campus to Camps: The Linguistic Challenges of Training Humanitarian Interpreters to Work in Mental Health Clinics. *Jordan Journal of Modern Languages & Literatures*, *15*(2), 611-631. https://doi.org/https://doi.org/10.47012/jjmll.15.2.13

Ruiz Rosendo, L., Barghout, A., & Martin, C. H. (2021). Interpreting on UN field missions: A training programme. *The Interpreter and Translator Trainer*, *15*(4), 450-467. https://doi.org/https://doi.org/10.1080/1750399X.2021.1903736

Salameh, M. T. B. (2024). Beyond Borders: Impacts of the Syrian Refugee Crisis on Jordan. *Migration and Forced Displacement-Vulnerability and Resilience-Volume 2: Vulnerability and Resilience-Volume 2*, 27.

Salim, N. A., Meyad, S. H., Sawair, F. A., Satterthwaite, J. D., & Sartawi, S. (2021). Satisfaction with healthcare services among refugees in Zaatari camp in Jordan. *BMC health services research*, *21*(1), 507. https://doi.org/https://doi.org/10.1186/s12913-021-06471-8

Shannon, P. J., Wieling, E., Simmelink-McCleary, J., & Becher, E. (2015). Beyond stigma: Barriers to discussing mental health in refugee populations. *Journal of Loss and Trauma*, *20*(3), 281-296. https://doi.org/https://www.tandfonline.com/doi/abs/10.1080/15325024.2014.934629

Suarez, N. R. E., Urtecho, M., Jubran, S., Yeow, M.-E., Wilson, M. E., Boehmer, K. R., & Barwise, A. K. (2021). The roles of medical interpreters in intensive care unit communication: a qualitative study. *Patient education and counseling*, *104*(5), 1100-1108. https://doi.org/https://doi.org/10.1016/j.pec.2020.10.018

Theys, L., Wermuth, C., Hsieh, E., Krystallidou, D., Pype, P., & Salaets, H. (2022). Doctors, patients, and interpreters' views on the co-construction of empathic communication in interpreter-mediated consultations: A qualitative content analysis of video stimulated recall interviews. *Qualitative health research*, *32*(12), 1843-1857. https://doi.org/https://doi.org/10.1177/1049732322111936

Wu, M. S., & Rawal, S. (2017). "It's the difference between life and death": the views of professional medical interpreters on their role in the delivery of safe care to patients with limited English proficiency. *PloS one*, *12*(10), e0185659.