



# Assessing the Long-Term Health Impact and Evolving Needs of the Zaatari Refugee Camp Population

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## Research Article

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## Abstract

**Background:** The global refugee population exceeds 20 million individuals, and the Al Zaatari refugee camp in Jordan houses approximately 329,811 refugees. Still, limited research has been conducted on the health trends and management of chronic pain among refugees in Jordan. This study aimed to explore the health trends and utilization of pain medicine services among refugees.

**Material & Method:** A cross-sectional study was conducted in the Al Zaatari camp, targeting refugees who reported experiencing pain and were referred to the chronic pain management clinic at the King Salman Relief and Humanitarian Center (KSrelief) in Jordan in July 2023. The data collected included the refugees' age, gender, pain complaints, prescribed medications, and the frequency of treatment visits.

**Results:** The study involved 145 refugees, with a mean age of 50.11 (15.45) years. The most common pain complaints were back pain (31.2%), knee pain (30.5%), and followed by shoulder pain (13.9%). The most frequently prescribed medications were paracetamol (85.5%), nonsteroidal anti-inflammatory drugs (NSAIDs) (75.9%), and ultrasound-guided steroid injections (75.9%).

**Conclusion:** Knee and back pain were the most prevalent complaints among the refugees in the Al Zaatari camp. It is crucial to provide these refugees with comprehensive healthcare services, including specialized care for chronic pain.

**Keywords:** Health Trends; Refugees; Zaatari Camp; Anesthesia; Chronic Pain Clinic

## Introduction

Refugee camps have become long-term accommodations for displaced individuals who are unable to return to their home countries. While these camps are intended to provide

basic necessities, the extended stay can present significant challenges for the refugee population [1]. Globally, the refugee population exceeds 20 million, with 4.6 million residing in refugee camps [2]. The Al Zaatari refugee camp in Jordan is one of the largest, housing approximately 329,811

refugees, many of whom fled the civil war in southern Syria that began in 2011 [3,4].

The World Health Organization (WHO) recognizes that refugees have unique healthcare needs, which are influenced by various factors, including their experiences in their home country, the migration process, the policies of their host country, and the conditions in which they live and work. These factors often increase the vulnerability of refugees to chronic health conditions, underscoring the diverse healthcare challenges they face [5]. Refugees in these camps commonly encounter a range of health, social, and environmental concerns that can impact their overall well-being [6]. A recent review in 2018 on the health challenges faced by Syrian refugees in Jordan revealed a high prevalence of acute and chronic diseases, communicable diseases, emotional and mental health conditions, injuries, physical impairments, and financial barriers to accessing healthcare. This finding has been identified as a significant health burden within the country [7]. Refugees are also susceptible to various risk factors associated with the development of chronic pain. Those who have spent a more extended period in their host country tend to have a higher prevalence of chronic pain. Factors such as gender, lower education, financial difficulties, body mass index (BMI) status, traumatic experiences, refugee status, and mental health conditions have been linked to the increased risk of chronic pain [8]. A study among Syrian refugees in Lebanon showed that one in four individuals with chronic pain regularly took analgesics, highlighting the need for further research on the pharmacological management of pain problems in this population [9].

Chronic pain can have a significant impact on an individual's quality of life, reducing overall well-being and limiting their ability to find enjoyment in various aspects of life [10]. Extensive evidence suggests a strong association between mental health disorders and chronic pain, particularly concerning conditions affecting the back and neck. This correlation has been observed consistently across both developed and developing countries, underscoring the substantial burden on individuals experiencing chronic pain [11]. Furthermore, research has identified chronic pain as a potential risk factor for suicidal ideation, emphasizing the critical importance of understanding and addressing the psychological impact of chronic pain. Suicidal thoughts have been particularly linked to head pain [12]. Given the lack of information on the health status of refugees in Jordan, this study aims to assess the health trends observed at the chronic pain clinic among Syrian refugees in the country. Specifically, the study seeks to evaluate the chronic conditions experienced by refugees and the medications prescribed to manage their health concerns.

## Materials and Methods

This cross-sectional study was conducted among refugees residing in the Al Zaatari camp in Jordan. The data collection took place over one week in July 2023. After obtaining approval from the institutional ethics committee and securing written informed consent from the participants, the study included Al Zaatari camp refugees who had reported experiencing pain and were referred to the chronic pain clinic at the King Salman Relief and Humanitarian Center (KSrelief) Clinics in Jordan in July 2023. The data collected in this study included characteristics of the refugees, including their age, gender, and specific pain complaints. Additionally, the researchers gathered information on the prescribed medications and treatment approaches utilized for the patient population.

## Statistical Analysis

The collected data was extracted and compiled into an Excel spreadsheet. The statistical analysis was conducted using the IBM SPSS software (version 26.0, Armonk, NY, USA). Categorical variables were described using numbers and percentages, while continuous variables were assessed for normality. Continuous variables were then reported as mean and standard deviation (SD), as well as the minimum and maximum values.

## Results

The study included 145 refugees from the Al Zaatari camp who attended the chronic pain clinic at the KS relief Clinics. The study also added two patients who were unable to visit the clinic, and instead, they were seen directly at the refugee camp. The participants had a mean age of 50.11 years (SD = 15.45). Approximately two-thirds of the refugees (60.7%) were female. The study findings revealed that the most common pain complaints were back pain (31.2%) and knee pain (30.5%). Other reported pain issues included shoulder pain (13.9%), foot pain (11.1%), numbness in the extremities (7.6%), and hand pain (6.9%).

In terms of treatment, the majority of patients were prescribed paracetamol (85.5%), nonsteroidal anti-inflammatory drugs (NSAIDs) (75.9%), and ultrasound-guided steroid injections (75.9%) by the attending physicians. Furthermore, 37 refugees were transferred to other units for additional care. Among these, 32 were referred to physical therapy, 3 were sent to the Immediate Care Unit, and 2 were referred to a psychologist, as shown in Table 1.

Age (Years)	Mean (SD)	50.11 (15.45)		
	Min-Max	8-82		
Parameters	Category	Number	Percentage	
Gender	Male	57	39.3	
	Female	88	60.7	
Complaints (N=144)	Back pain	45	31.2	
	Knee pain	44	30.5	
	Shoulder pain	20	13.9	
	Foot pain	19	13.2	
	Numbness in extremities	11	7.6	
	Hand pain	10	6.9	
	Neck pain	5	3.5	
	General body pain	4	2.7	
	Elbow joint pain	3	2.1	
	Muscle cramps	3	2.1	
	Bone spurs	2	1.4	
	General body pain	2	1.4	
	Hip joint pain	2	1.4	
	Wrist pain	2	1.4	
	Peripheral nerve entrapment	1	0.7	
	Chest pain	1	0.7	
	Prescribed medication	Paracetamol	124	85.5
		Nonsteroidal anti-inflammatory drugs	110	75.9
Ultrasound-guided steroid injection		50	34.5	
Tricyclic antidepressants		35	24.1	
Muscle relaxant		40	27.6	
Diclofenac topical		30	20.7	
Vitamin B complex		20	13.8	
Vitamin D		15	10.3	
Where was the patient transmitted to other units? (N=37)	Physical therapy	32	86.5	
	Immediate care unit	3	8.1	
	Referral to psychologist	2	5.4	

**Table 1:** Demographic characteristics of the refugees (N=145).

The proportion of ultrasound-guided steroid injections used for refugees' most common pain complaints is presented in Table 2. The ultrasound-guided steroid injection was the

most prevalent form of medication for hand pain (70.0%) and shoulder pain (65.0%).

Complains	Ultrasound-guided steroid injection	
	Number	Percentage
Hand pain (N=10)	7	70
Shoulder pain (N=20)	13	65
Knee pain (N=43)	17	39.5
Numbness in extremities (N=11)	4	36.4
Foot pain (N=16)	5	31.3
Back pain (N=43)	7	16.3

**Table 2:** Proportion of ultrasound-guided steroid injection used in pain management among refugees.

## Discussion

Chronic pain is a common and potentially debilitating condition that affects displaced populations. Given its multifactorial nature, managing chronic pain can be challenging for clinicians, who must understand the various contributing factors to develop an effective treatment strategy [13,14].

The current cross-sectional study aimed to report the methodology and results collected through the chronic pain management clinic at the KSrelief Clinics. The study was able to draw a comprehensive picture of health trends related to chronic pain management among the Al Zaatari camp refugees, with a sample of 145 participants. The mean age of the participants in this study was 50.11 years, which is consistent with the findings of a previous study conducted among refugees in Vietnam, where the mean age was 47.5 years [15]. Additionally, the current study found that two-thirds of the refugees were female, aligning with the observation that at least 50% of the health needs of refugees are related to women [16]. As noted in a previous study, training health workers in refugee camps can provide an opportunity to impart knowledge, address misconceptions, and empower women [17].

The most common pain complaints reported in the current study were knee and back pain, followed by shoulder pain, foot pain, numbness in the extremities, and hand pain. These findings are similar to those of a previous study in 2020, which showed that knee, foot, and hand pain (83%), back pain (75%), and shoulder pain (71%) represented the majority of pain among refugees [18]. Regarding the prescribed medications, the study found that paracetamol, nonsteroidal anti-inflammatory drugs (NSAIDs), and ultrasound-guided steroid injections were the most frequently prescribed. This is consistent with the findings of a study conducted among Syrian refugees in Lebanon and Norway, which showed that women used painkillers daily due to chronic pain issues [19]. The prescription of paracetamol may be attributed to its high safety profile and accessibility among refugees. Additionally,

the prevalent use of ultrasound-guided steroid injections for hand and shoulder pain could be due to the injection's ability to provide a fast effect and control the pain.

Regularly using medication can be challenging for displaced populations. Studies from Jordan have shown that about a quarter of Syrian refugees who need medication do not have access to it, primarily due to limited financial resources, leading to interruptions in their regular medication regimen [20,21]. As such, it is crucial to improve access to affordable healthcare services, including medication, through clinics or mobile health units. Furthermore, the short duration of the study was not long enough to determine the long-term benefits of the provided treatment. Therefore, ensuring that refugees have access to comprehensive healthcare services, including specialized care for chronic pain, orthopedics, and spine clinics, is crucial. Additionally, it is essential to obtain regular feedback from refugees to ensure that the healthcare services provided meet their specific needs.

For long-term management of these patients, we implemented the following:

1. Educating / Teaching the medical staff and refugees in the camp about chronic pain.
2. Advised for refill clinic.
3. The chronic pain clinic should be part of any future mission.

## Limitations

The findings of this study have several limitations. First, the lack of follow-up a control group prevents conclusive inferences about the efficacy of the medications prescribed. Additionally, the study had limited access to controlled medications and lacked access to C-Arm X-ray and X-ray technology for more complex injections.

## Conclusion

This recent study conducted in the Al Zaatari refugee camp found that knee and back pain were the most

common medical conditions among the participants. The most frequently prescribed medications were paracetamol, NSAIDs, and ultrasound-guided steroid injections. Notably, the ultrasound-guided steroid injection was the most prevalent form of medication for hand and shoulder pain. Further studies should be conducted to evaluate the overall health status of refugees and the long-term effectiveness of the interventions.

**Conflicts of Interest:** The authors declare no conflict of interest.

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