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Original articles

"I have broken bones, where should I go now?": Qualitative research findings on refugees' journey with injury healthcare

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Background

The global refugee crisis presents a major public health challenge, with Syrian refugees in Lebanon facing a heightened injury burden. This population experiences 2.5 times more occupational injuries, with 1 in 5 suffering burns and 1 in 30 sustaining conflict-related injuries, among other trauma types. This study explores refugee injuries to inform targeted interventions and policies.

Methods

This study builds on the Surgeons Overseas Assessment of Surgical Need framework to explore injured refugees' perspectives and barriers to healthcare access. An ethnographic-inductive approach was employed, combining direct participation and thematic analysis of interviews. The interviews were conducted in colloquial Arabic with a sample of adult Syrian refugees with unmet surgical or healthcare needs and took place in participants' dwellings, following an interview guide, and were audio-recorded, transcribed, and analyzed using thematic analysis.

Results

A total of 17 participants were included. Findings indicate participants live with family members in suboptimal dwellings, have unsustainable work conditions, strained community relationships, and sustained injuries from violence, occupations, and war. The healthcare they have received seemed inadequate, delayed, and limited to specific services, leading to incomplete recovery and adverse impacts on their quality of life.

Conclusions

Syrian refugees in Lebanon face significant challenges in accessing equitable healthcare for injuries, resulting in prolonged suffering, incomplete recovery, and financial difficulties. Lebanon's privatized healthcare system, combined with insufficient humanitarian support, exacerbates these barriers. Addressing these issues requires a multifaceted approach, including subsidized healthcare programs, mobile medical units in refugee-dense areas, targeted injury prevention initiatives, and expanding mental health services for injured refugees.

Globally, injuries account for nearly 8% of annual deaths and contribute to 10% of disability-adjusted life years (DALYs).[1] The burden of injury disproportionally affects communities of low socioeconomic status, where approximately 90% of injury-related deaths occur in low- and middle-income countries (LMICs).[1] This burden is exacerbated among individuals forcibly fleeing war and conflict and settling in hazardous environment.[2] The global refugee crisis posed significant challenges for displaced individuals, with refugee injuries becoming a pressing public health concern. This injury burden is not only attributed to war and conflicts, but also associated with the challenges that refugees encounter in host countries, including limited resources, inadequate living facilities and infrastructure, and restricted access to healthcare services and education.[3] Remarkably, 76% of the 30.4 million refugees globally residing in LMICs, experience amplified vulnerability due to a multitude of obstacles associated with their living and working conditions, and resulting in injuries including occupational injuries, road injuries, and interpersonal violence.[3-6] The risk of various injuries increases due to the nature of labor they endure in hazardous working places such as working in agricultural fields adjacent to major highways which increase their occupational injuries and nearly doubles their road traffic mortality risk compared to local residents.[7-10]

Regional conflicts and war heighten injury risks and increase the incidence of gunshot wounds, traumatic brain injury and psychological trauma. Recent protracted wars in Syria, Afghanistan, Yemen, and the Ukraine, amassed to create the largest humanitarian refugee crisis worldwide.[11] Since the outbreak of the Syrian war in 2011, over 13 million refugees forcibly fled their homes and settled in camps and informal tented settlements across neighboring Lebanon, Jordan, and Turkey.[12] Lebanon, occupying an area of approximately 10,452 square kilometers in the Middle East, has assumed a significant role in hosting refugees, accommodating the highest concentration of refugees per capita worldwide.[12] With a total population of 5.3 million, the nation provides shelters to a substantial population of Syrian and Palestinian refugees, amounting to nearly one-third of its population.[12-15] Among this demographic, a notable subset comprises the influx of over 1.5 million Syrian refugees, predominantly settling in informal camps across Lebanon.[14] The profound impact of the Syrian war has led to numerous casualties and long-term repercussions on the physical and mental well-being of survivors who sought refuge in nearby countries. War-related injuries have become a significant concern, with approximately 1 in every 15 Syrian refugees in Jordan, and 30 in Lebanon, experiencing such injuries.[16] Research investigating injuries among Afghan and Syrian war victims consistently reveals gunshots as the primary cause of injury, predominantly affecting males, in addition to the high prevalence of blunt trauma and shrapnel injuries from bombings.[6,17-19]

Given Lebanon's significant role as a host for refugees and the protracted nature of the Syrian war and crisis, it serves as a compelling case for investigating the injuries sustained by this population. Studies on injuries among Syrian refugees in Lebanon have been limited and often restricted to specific geographic areas, genders, or vulnerable age groups like children.[8,9,12,20] Current research predominantly relies on hospital records, which fail to capture the broader population of Syrian refugees who refrain from seeking medical attention for their injuries at local healthcare facilities and hospitals.[12,21,22] The lack of inside stories about the challenging experiences of seeking and accessing healthcare has contributed to the inadequate understanding of the injury burden and access to needed healthcare for this vulnerable population. For instance, restrictive work policies in Lebanon combined with the socioeconomic and financial crises, force refugees, particularly male providers, to undertake hazardous jobs and exploitative work, resulting in a nearly 2.5 times higher risk of sustaining life-threatening occupational injuries compared to locals.[4,9,10,23,24] Moreover, refugees experience another health threat, with approximately 1 in 5 Syrians in Lebanon experiencing burns annually, particularly among females and young children (4 years and below), who suffer double the risk of burns.[20] The lack of designated camps in Lebanon forces Syrian refugees to live in unsafe, overcrowded tented settlements, with 75% of the refugee population lacking access to basic food and shelter, and 58% facing extreme poverty.[23,25] Despite the prevalence of various injury mechanisms in this community, there is a dearth of relevant injury research that provides sufficient understanding of refugees' personal experiences navigating the host healthcare system and the challenges associated with accessing timely and affordable health services.

This study aims to explore and describe barriers to healthcare services from patients' perspectives. It builds on initial studies that have captured details pertaining to refugee patients' unmet surgical needs, and uses a selected sample of the refugee population in question to further examine their challenges and perceived barriers to healthcare access.[26,27] An exploration of refugee injuries from an emic perspective to capture context-specific perspectives and to inform focused interventions and policies that address their specific needs.

METHODS

SELECTION AND DESCRIPTION OF PARTICIPANTS

The study is an extension of the initial phase of a larger study and adopted the Surgeons Overseas Assessment of Surgical Need (SOSAS) framework. This phase of the study followed an exploratory ethnographic-inductive approach and aimed to assess injured refugees' perceived barriers to care and their ensuing quality of life. We used in-depth interviews to generate data with participants in their dwelling places. In-depth interviews are conversations with purpose which allow the researcher to gather rich data and explore participants' personal experiences by probing further into the relevant topics allowing for more comprehensive data.[28] The participants were identified from the preceding SOSAS study as refugees 18 years of age and above who had unmet surgical needs. Additionally, data were collected from another group of refugee patients, who were either waiting for a surgical procedure or who had undergone a surgical procedure and were receiving follow-up care post-surgery at the time of the study. The family member there at the time of the interview would join the discussion.

DATA COLLECTION AND MEASUREMENTS

Participants (N=17) were recruited by the researchers between June and August 2022 via phone call using an American University of Beirut IRB-approved invitation script. After obtaining informed consent also using an AUB-IRB approved consent form, the interviews were conducted in participants' dwelling places.

Two researchers, one female and one male conducted the interviews in colloquial Arabic. Both interviewers were trained and qualified in qualitative research and created a comfortable and inclusive environment for the participants throughout the interviews. The interviews followed an interview guide of open-ended questions about the participants' background, experiences, the challenges they faced in Lebanon, the circumstances surrounding their injury, and their ongoing medical needs. The interviews lasted between 15 to 47 minutes. After the 17th interview, the authors discussed and agreed that saturation was reached marking the end of the data collection process.

STATISTICS

The interviews were audio-recorded after the participants' approval, transcribed verbatim by a professional transcriptionist, and then verified by the interviewers. During the interview process, the researchers conducted informal observations on-site about the participants' dwelling places and documented the data through mental notes which they wrote after leaving the interview site. The transcripts were subject to thematic analysis guided by Clarke and Braun's six-phase framework consisting of familiarization, generation of initial codes, and developing and reviewing main themes for the final write-up.[29] The transcripts were analyzed using inductive reflexive thematic analysis,[30] whereby two of the investigators first immersed themselves in the data by validating the transcripts, and then using open coding developed initial codes relevant to the aims of the study. The coded transcripts were then independently reviewed by the other researchers and subsequently discussed with the whole research team. The emerging codes were then transported to a matrix which of categories following the interview guide and showing additional emerging categories from the interviews. The research team met several times to read through the matrix and used axial coding to develop relations between the codes and subsequent themes.

Table 1. Characteristics of the study participants.

Characteristics	Number
Gender	
Male	15
Female	2
Age	
18- 30	6
31-50	9
51 and above	2
Residence	
Beirut	7
North	6
South	4
Type of Work	
Solid waste scavengers	3
Construction/plumbing/ painting	4
Agriculture	2
Vegetable Market	2
Interns	2
Unemployed	4

RESULTS

PARTICIPANTS' BACKGROUNDS AND LIVING CONDITIONS

The participants ages ranged between 18 to 70 years, with the majority being between 30 and 50, and 15 were male while two were female, as shown in Table 1. Seven of them resided in Beirut, six in North Lebanon, and four in the South, mainly urban areas. Most of the participants were bedridden and lived with either nuclear or extended families, such as mothers, sisters, brothers, children, in-laws, and/or sibling's families. Nearly half of the participants reported having children whose well-being they were responsible for. Out of the 17, 13 reported being involved in semi-skilled or unskilled labor which requires physical effort, including collecting recyclables, construction, plumbing or painting, agriculture, vegetable market sales, car mechanics, and barber assistant. Among the male participants, 6 of them stopped working altogether because of the injury they incurred, and 9 were currently working but with several physical limitations because of their injury.

Despite some income, our participants described suffering from financial distress manifest in difficulties paying rent, buying food, and the inability to cover daily expenses, like electricity bills and children's educational expenses. The UNHCR support system was described by 10 participants to be inadequate to help them make ends meet.

> "Before my injury, I used to work with my sister, and we had some difficulties at home with rent, electricity, and things like that. Now, I can't work anymore, and she's working on her own. It's really become a major challenge." (23-year-old single male in the South)

> "I have four children. I was unable to send any of them to school or to provide them with anything. These children must go to school, study, learn, and become something better than this." (38-year-old married male in the North)

STRAINED RELATIONSHIPS WITH THE COMMUNITY

Despite some reference to good relations with the surrounding Lebanese and Syrian communities, our participants reported the predominance of adverse relations with both. Many participants expressed positive relations with fellow Syrians, highlighting the financial and moral support they received from neighbors or relatives for the healthcare and treatment they needed; however, the adverse economic conditions and other familiar stressors were reported to play a role in impeding this support. Impoverishment, social exclusion, and debt left them without financial support from their relatives and the surrounding Syrian network.

> "My siblings have always helped me, but their situation is not better. My brother, God help him, also has his children, and he can barely manage to feed and clothe them." (31-year-old married male in the North)

> "We became accustomed to helping each other, so if someone needed surgery, for instance, we'd sell some gold, manage things from here, and send money from there, or someone close might come. We continued to support each other until we reached rock bottom." (31-year-old married male in the North)

Table 2. Cause of injury reported.

Type of Injury	Number	Percentage
Gunshot/ Assaulted/ Violence Act	6	35.2%
Occupational-Related	4	23.5%
Road Traffic Injury	2	11.7%
Accident	3	17.6%
War-Related	4	23.5%
Total Injuries in Lebanon	12*	70.5%
Total Injuries in Syria	7*	29.4%
Total injuries in Lebanon and Syria	2	11.7 %
Total Injuries	17	100 %

* Including 2 who are both injured in Syria and Lebanon

While half of our participants spoke of financial support from employers and social support from neighbors in the Lebanese community, the majority described adverse encounters with the Lebanese community. Our participants reported choosing to maintain a distance due to repeated incidents of harassment.

> "There used to be problems happening to us, like even if you were just walking down the street, someone would come up, harass you, and start a fight with you.... Honestly, I don't even want to see them anymore. I just prefer to stay with my friends from my own country" (23-year-old single male in the South)

CAUSES OF INJURIES AND CONSEQUENT SELF-CARE

More than half of our participants reported suffering from an injury that occurred in Lebanon, while a few reported that their injuries happened in Syria before they came, and two participants described having one that occurred in Syria and another one in Lebanon. The majority of the injuries in Lebanon (six cases) were described as outcomes of violence, assault, or gunshots.

Four cases were work-related injuries (23.5%), and two road-related injury (11.7%). The injuries that occurred in Syria were mainly war-related injuries (23.4%), and three cases were a result of different incidents (17.6%), as shown in Table 2.

> "At that time, my sister was returning from work. She told me that someone was harassing her. When I went there, she was being harassed in front of me. So, some guys approached me, and the first thing that happened was that we got into an argument. They started hitting me, they hit me on my arm. Then, they hit me from behind as well. I fell to the ground and couldn't get up." (23-year-old single male in the South)

> "The day of the injury, I was going to fetch water and return home. As I was walking on the road at the junction, three or four young men approached and stopped me. They searched me and took my phone and money. They pushed me and I fell, my leg broke. They hit me on my head, and blood started flowing. I got hurt." (18-year-old single male in the North)

Many of the participants admitted that the injury events they experienced caused trauma not only to themselves but also to others who were involved, such as co-workers, family members, or friends who were also present and suffered injuries, and in some cases, even lost their lives.

> "The injury occurred when my colleague and I were at work. Gangsters attacked the workshop. They attempted to kidnap us, but we resisted. I was shot in my leg here, and my other leg as well." (30-year-old married male in Beirut)

> "We were walking down the road when my cousin came on a motorcycle. He insisted that we join him. The vehicle slipped. My cousin passed away instantly. I got this injury here, my head was hit by a rock, and my son got injured" (39-year-old married male in the South)

Despite the variations in the type and site of injuries incurred, our participants' stories involved other actors who stepped in to provide support at the scene, before being taken to emergency healthcare services. Participants mentioned receiving immediate help from strangers, bystanders, neighbors, family members, or friends who either took them to the hospital or called the Red Cross for assistance and transportation to nearby healthcare facilities.

> "Strangers who were passing by were the ones who took me to the hospital. I still don't know who these people were." (23-year-old single male in the South)

> "I noticed that my phone was in my pocket, I called our boss, and I told him what happened, and that thugs attacked us. Good people came to our aid, and then the Red Cross came. They carried us to the hospital." (33-year-old married male in the North)

Injuries that occurred in Syria were treated at hospitals there, but follow-up treatment and surgeries were then sought in either public Primary Healthcare Centers (PHCs) or private hospitals in Lebanon while the majority of those injured in Lebanon sought help from private hospitals in their area of residence. Some reported receiving care from the PHCs, and two mentioned that they first sought public hospitals supported by UNHCR but were refused admission because of the unavailability of orthopedic services or because the hospital was unable to accommodate more patients and were redirected to a private hospital.

> "We went to (name of public hospital). When we arrived at the hospital's emergency room, the guys asked for a stretcher so they could take me in, but they refused to let us in. They said, "No, we're not admitting patients. We don't have any beds available. They kicked us out, although I am registered with the UN and all that. I have broken bones, where should I go now?" (44-year-old married male in Beirut)

> "I was taken to (name of private hospital), which is close to the work site. They provided me with medical assistance there; they took an X-ray and told me that I had a dislocated shoulder. They told us they couldn't

> handle such a case here, so they transferred me to another hospital in Beirut." (40-year-old married male in Beirut)

The few participants who sought healthcare from PHCs received it at a reduced cost with the support of a humanitarian organization. About half the participants reported not receiving any surgical care in Lebanon, despite needing it, primarily due to their inability to afford medical imaging for accurate diagnosis and pay for the surgery. Participants reported that UN agencies and most aid organizations do not cover the cost of X-rays and scans, which were described as essential for accurate diagnosis and effective treatment.

> "It was a small clinic, for dressing wounds and such. The service at the clinic was good, but there was no actual treatment. They are just patching up my wound, and I can do that at home, but I needed medical imaging for my eye and head, and I couldn't get any because it costs $200 to $300." (18-year-old single male in the North)

> "I went to a clinic, and they told me that the image would cost 1,300,000LBP and this was two years ago. I can't do the surgery without those images, and the UN doesn't cover laboratory tests or medical imaging." (40-year-old married male in the North)

All the patients who sought hospital care reported financial difficulties in the healthcare-seeking process which affected the extent and quality of care they received. The requirement of having to pay a down payment before being admitted to the hospital seemed to be problematic for them. Ten of our participants reported relying on financial donations from family, friends, neighbors, and even strangers to cover admission and the remaining hospital bills, while only one mentioned that their work insurance covered the first part of their treatment. This reliance on others for financial support placed them in debt and forced them to sell jewelry and other personal belongings to pay it back.

> "My sisters were with me, and they were able to secure the amount needed for me to be admitted to hospital. The neighbors pitched in too. But whatever they paid; I paid them back by selling some of my belongings in Syria. So, I managed to cover a part of the amount that was paid." (39-year-old married male in the South)

> "When we first arrived in Lebanon, I took a piece of gold from my sister, which her husband had given her. I sold the gold to pay for my back surgery." (31-year-old married male in the North)

Most of the participants despite receiving initial care including a needed surgery, explained that they did not receive adequate treatment thereafter and still experienced pain and suffered from long-term disability or impairment.

> "So, I can't go out; I get tired, but I end up falling to the ground. For example, I used to carry bags of cement up to the second floor, but now I can't even carry ten kilograms." (39-year-old married male in the South)

Several reported that they either experienced complications, unsuccessful surgical outcomes, or their treatment was incomplete and still required further medical intervention.

> "The last thing I was told was that I needed surgery. So, I went to a doctor who performed this laser surgery on me. I didn't benefit from it at all. I entered the room just for 5 minutes. He did the surgery and took $200, but I didn't feel any difference at all." (22-year-old single male in the South)

Besides the financial constraints hindering access to follow-up care, participants mentioned other reasons, such as the unavailability and inaccessibility of adequate specialties in primary and secondary healthcare services, resource shortages, inadequate healthcare provider attention, social exclusion, centralization, and their lack of understanding of the host country system.

> "The doctor told me that I needed surgery, but here, the hospital doesn't have the expertise, no doctors, nothing. He explained it to me by saying that they don't even have the medical equipment needed to perform this kind of surgery." (55-year-old married male in the North)

To alleviate pain, some participants reported resorting to buying cheap Syrian medications as an alternative, and a few mentioned relying on traditional remedies to relieve their pain, and subsequently discontinued physiotherapy replacing that with self-physiotherapy at home because of the multiple barriers mentioned above.

> "I couldn't sleep at all at night. I applied some home remedies to it. We used an onion, soaked it in water, placed it on the infected site, and wrapped it around it. The next morning, I unwrapped them and found the onions decayed. The smell. No one could tolerate it. I cleaned and sterilized the area, got it sorted out, and finally managed to sleep." (33-year-old married male in the North)

ADVERSE CONSEQUENCES ON THEIR QUALITY OF LIFE

All our participants seemed to experience evident adverse outcomes resulting from their physical injuries and consequent long-term impairment, such as the inability to work and to provide for their families, in addition to limited mobility, and relying on others for pain management. They also reported enduring significant emotional, and mental consequences as a result of lifelong impairment. Every participant mentioned experiencing one or more feelings of fear, embarrassment, hopelessness, shame, depression, and even contemplating suicide. Some expressed feelings of powerlessness, indifference, hopelessness, or shame.

> "I do think about suicide. There's nothing left, I mean, the situation is like being in a war. There's no life left." (33-year-old single male in the South)

> "Oh, I'm just done with it all. I am depressed. I am tired of being confined at home, tired of everything related to injuries in my hands. Each time I think about how I

> lost mobility in my hands; I get depressed even more." (23-year-old single male in the South)

DISCUSSION

This qualitative research study explored the experiences of Syrian refugees concerning injuries and their perceived barriers to accessing healthcare services in Lebanon. Findings from this study complement earlier survey research assessing the burden of injuries among this population. Our findings revealed a wide range of injuries incurred because of interpersonal violence, work, and road traffic injuries (RTIs) emerging as mostly recurring in Lebanon, more so than in Syria. This pattern of injuries aligns with previous studies indicating that refugee status is associated with a heightened risk of occupational and violence-related injuries.[4,8,9,31] Notably, one study highlighted that nearly one-third of the injuries sustained by Syrian refugees in Lebanon were RTIs.[4] These alarming rates, although consistent with global injury trends, underscore the unique exposure of refugees to a higher incidence of road-related injuries as motorcycle riders or pedestrians compared to local communities, a vulnerability attributed to a variety of contributing factors.[1] Refugees are frequent road users as pedestrians, crossing major highways next to agricultural fields where they work or near refugee camps, increasing their exposure to vehicle crashes traveling at high speed. Many refugees use motorcycles as the sole means of transporting family members, often as overcapacity and without adopting any safety measures. A local observational study indicated that many refugees frequently disregarded safety precautions, particularly when traveling on roads and operating unsafe vehicles and motorcycles, a factor that significantly amplifies the frequency and severity of their injuries.[32] This behavioral trend is shaped by the safety norms prevailing in host communities and bears similarity with what is experienced by Afghan refugees in Pakistan, where individuals often use unsafe modes of transportation without adhering to safety guidelines.[33] Lebanon, a country characterized by inadequate road infrastructure and the lack of road safety law enforcement and compliance, both residents and refugees suffer from an increased risk of RTIs.[4,34]

In various global contexts, refugees often engage in physically demanding and hazardous work, leading to a higher rate of occupational-related injuries compared to the local population.[35-37] This pattern of occupational risk aligns with our findings among Syrian refugees, who frequently find themselves in precarious jobs without proper training, resulting in an elevated risk of injuries. Research suggests that challenges such as obtaining work permits, language barriers, and the lack of qualifications recognition hinder refugees' job prospects in host communities.[31] In countries like Lebanon and Jordan, Syrian refugees often have limited access to work permits, forcing many into informal employment and high-risk jobs.[38]

Further to the high burden of occupational injuries, violence-related injuries are prevalent among Syrian refugees residing in Lebanon. The elevated occurrences of violent incidents in this refugee community can be associated with war-related trauma and life-threatening conditions survived by these displaced individuals from the war in Syria. Prolonged displacement and the uncertainty of their future further exacerbate the psychological distress experienced by refugees, compounding the impact of the conflict.[39] Furthermore, the unsafe areas refugees inhabit, coupled with the challenges of poverty and discrimination they encounter within their host communities, further amplify their risk of violence and assaults. The lack of legal protections and the precarious legal status of many refugees in host countries largely contribute to their vulnerability and exposure to violence, as they often lack the means to seek legal protection.[40,41] Factors such as trauma, displacement, legal insecurity, and community dynamics, have been documented in previous studies conducted among vulnerable communities, both in Lebanon and in other regions including Jordan and Europe.[4,38,42] Community support networks play a crucial role in mitigating the risk of violence and mental issues within refugee populations, fostering a sense of belonging and safety.[43,44] Yet, our findings revealed that many participants, whether due to injuries sustained or financial constraints, tend to cut their social networks if they are unable to provide support and a safety net. Previously, these networks provided financial and mental support among members, but with the refugees' limited resources and their struggle to provide for their own families, these connections have been strained, elevating the distress felt by the injured refugees.

In addition, despite Syria's and Lebanon's collectivist society, where injured participants reported often receiving help from passersby, most refugees reported experiencing harassment from the local Lebanese population. Despite numerous projects implemented by NGOs and international organizations in Lebanon aiming at enhancing social cohesion between refugees and host community members, the ongoing socioeconomic crisis and the impact of the COVID-19 pandemic continue to create tension and strain social relations, making it imperative to address these challenges comprehensively.[45-47]

While our study reveals a prominent pattern of injuries comprising violence, occupational incidents, and RTIs among Syrian refugees in Lebanon, burns do not appear to be prevalent. This observation is especially intriguing in light of earlier research highlighting the high incidence of burns among Syrian refugees in Lebanon.[20,48] This discrepancy may be attributed to the fact that our study predominantly includes male adult participants, thus reflecting a higher prevalence of occupational injuries and violence, which are often associated with males.[4] The risk of burns, on the other hand, is often heightened among women and children in crowded and poor areas, such as refugee camps.[49,50]

Access to healthcare poses a significant challenge for Syrian refugees, particularly in obtaining immediate and adequate tertiary care. Factors such as low-income households, male gender, the absence of insurance, and mistreatment within healthcare organizations compared to locals, discourage refugees and other vulnerable individuals from seeking timely healthcare.[51,52] These factors, prevalent in

our study cohort, elucidate the restricted healthcare sought and received by refugees. This limited and delayed access to healthcare services, as highlighted in this study, exacerbates the impact of injuries on refugees' everyday productivity. It often results in a painful healing process and the onset of long-term disabilities.[53] Timely emergency care is critical to prevent individuals deteriorating health and ultimately their post-injury outcomes. Long-term disability can profoundly impact refugees' quality of life, diminishing their independence, limiting mobility, and causing physical and emotional distress. It often leads to reduced opportunities for employment, social engagement, and overall well-being, creating significant challenges in daily life and providing for their families.[53,54] This creates a distressing cycle for both the injured individuals and the healthcare system.

Despite the alarming prevalence of injuries, a limited number of refugees have access to timely and adequate healthcare. Financial constraints have been identified as a key determinant affecting refugees' access to healthcare services following injuries, resulting in an increased risk of long-term disability and mortality.[8,12,20] A study conducted in Jordan underscored the presence of financial barriers to healthcare, although, during the study period, most Syrian refugees sought public and mostly free healthcare services.[55] In Lebanon, the situation differs significantly, with most refugees relying on separate facilities supported by the United Nations High Commissioner for Refugees (UNHCR), United Nations Relief and Works Agency for Palestine Refugees (UNRWA), and non-governmental organizations (NGOs) as an alternative solution to accessing local healthcare services available to citizens.[12,15] The United Nations (UN), through its specialized agencies such as the UNHCR and UNRWA, assumes a pivotal role in providing essential support to refugee populations including education, healthcare, and shelter, and ensuring the protection, well-being, and rights of refugees.[14,15] The primary obstacle to adequate healthcare access lies in funding, as Syrian refugees heavily rely on the UNHCR and various NGOs to cover their medical expenses. Alarming findings from our study reveal that the UNHCR's coverage is notably deficient in many crucial injury care services, such as medical imaging and treatments required for long-term rehabilitation. Refugees with conditions demanding long-term, specialized, and high-cost treatment are not supported by the UNHCR. The absence of support at the outpatient level for severe yet non-urgent health conditions, encompassing expensive radiological procedures and laboratory examinations, is also evident in our study. However, these supporting UNHCR and UNRWA agencies face serious challenges that hinder their efforts including systemic underfunding, inefficient bureaucracy, restricted coverage of healthcare services and policy constraints and limitations. Moreover, the severity of the socio-economic crisis in Lebanon has limited refugees' work opportunities and further exacerbated their financial challenges, particularly when seeking medical care for their injuries.[14,15] The adverse impact of Lebanon financial crisis and economic strain has created tensions between the refugee community and local residents. While these tensions were shaped by the broader socio-political context, the country's political instability and resource competition, they have adversely affected refugees' social integration within the Lebanese community as well as their access to services and employment.

Despite hosting a significant number of Syrian refugees, countries such as Lebanon, Jordan, and Iraq, are not signatories to the Refugee and Statelessness Conventions.[56] As a result, they lack a legal obligation to address the needs of Syrian refugees, increasing the burden on the UNHCR to sponsor Syrian refugees. The primary healthcare services provided by the UNHCR serve as an inequitable and cost-effective means to facilitate healthcare access for Syrian refugees. While there are over 200 primary healthcare clinics available for refugees' in Lebanon, these services are often insufficient for managing a wide range of medical conditions and do not cover surgeries,[57] of which are frequently managed by tertiary healthcare. A local study showed that nearly 78% of refugees had financial barriers to accessing healthcare services.[12] A more recent study indicated that refugees suffered from limited access to healthcare services, with only 20% of refugees seeking treatment for their surgical conditions due to financial difficulties reported by 75% of respondents. As underscored in our study, the absence of covered essential healthcare services has dire economic consequences for injured refugees, compelling them to sell precious belongings like jewelry to pay for medical expenses. This highlights the financial strain caused by the lack of adequate healthcare funding, exacerbating the already precarious financial situation of these refugees residing in Lebanon.

Despite collaborative efforts between the Lebanese Ministry of Public Health, the UNHCR, and other NGOs to alleviate the financial burden on refugees, Lebanon's highly privatized healthcare system presents significant challenges.[57] The system is characterized by its high costs, rendering healthcare services expensive and inaccessible to a large proportion of the Lebanese population, let alone the refugee community.[53,58] This is particularly pronounced when compared to public hospitals, where Lebanese private hospitals have generally adequate resources and infrastructure, resulting in enhanced patient services and the provision of care.[57,59] Nearly 50% of a refugee cohort sought care at public hospitals, in contrast to 9% of local Lebanese seeking care in the same facilities, highlighting the financial constraints that Syrian refugees face.[4] This means that Syrian refugees are compromising the quality of care due to financial constraints, leading to unsuccessful surgical outcomes and medical experiences reported by our study participants. This coverage limitation also frequently discourages refugees from seeking care, forcing some to resort to traditional remedies or even to disregard their injuries, significantly reducing their overall quality of life. This pattern closely aligns with earlier research, where eight out of ten refugees with surgical conditions opt to refrain from undergoing necessary surgeries due to the limited healthcare provisions accessible to the refugee community and the elevated costs associated with surgical procedures, often exceeding their financial capacity.[12]

Our study identified an evident gap in the current healthcare services available to Syrian refugees in Lebanon. Despite UNHCR's efforts and its aim to enhance mental health services since its intervention in Lebanon following the Syrian crisis,[57] our findings align with earlier research that identified a high prevalence of mental health issues among Syrian refugees in Lebanon.[21,60] Many participants in our study exhibited signs of mental health problems and reported experiencing suicidal ideation, commonly associated with their injuries and long-term disabilities.[61] These findings suggest that adequate psychological follow-up and care have not been provided, either because participants are unaware of available services or feel ashamed to seek help due to existing social taboos surrounding mental health.[62] While there has been progress in health communication about mental health in Lebanon and globally, a substantial gap in mental healthcare services and follow-up persists, which affects the quality of life of refugees.

In our study, the overwhelming desire of the participants to leave Lebanon (14 out of 17), coupled with almost none expressing a wish to return to their home countries (15 out of 17), highlights the dire nature of the refugees' current situations.

In addition, a concern echoed by nearly all participants, with only two exceptions, was the urgent need for adequate healthcare. Their unanimous plea for enhanced healthcare services emphasizes the severe challenges they confront and underscores the pivotal role healthcare plays in shaping their well-being and prospects for a more hopeful future. In addition to the pressing need for enhanced healthcare services highlighted by the participants, studying successful healthcare models in other host countries for refugees and examining their adaptability to the Lebanese context could yield valuable insights. Moreover, a comprehensive examination of socio-cultural factors impacting healthcare access, particularly for vulnerable groups such as women, children, and the older adults, would provide a holistic understanding.

RECOMMENDATIONS

A multifaceted approach is needed to improve the quality of life of Syrian refugees in Lebanon. First, enhancing healthcare access should be a priority, particularly for secondary and tertiary care, with a focus on affordability and adequate provision of healthcare services. Public-private partnerships can help expand healthcare provision. Second, since injuries are preventable, comprehensive injury prevention programs should be implemented, including social media campaigns, safety training, and community engagement to reduce occupational injuries, violence, burns, and road traffic injuries. Third, follow-up treatment and mental health services must be further developed and destigmatized to address the high prevalence of mental health issues among refugees. While this study does not explore mental health in depth, future research should examine the systemic and environmental factors contributing to psychological distress, as well as the coping mechanisms and resilience strategies refugees employ. Community-based mental health programs, trauma-informed care training for healthcare providers, and digital mental health interventions should be explored as viable strategies to improve access to care. Fourth, addressing healthcare access barriers requires policies that align with Lebanon's socio-political and economic realities. Given Lebanon's economic crisis and limited healthcare infrastructure, integrating refugee healthcare into existing national services, strengthening partnerships with humanitarian organizations, and securing international funding to support sustainable healthcare models are critical. Policymakers should also consider regulatory reforms that allow refugees greater access to employment and healthcare services, reducing dependence on humanitarian aid. International cooperation is essential to support low-middle-income host countries like Lebanon to provide adequate healthcare services to their refugee populations. Exploring policy recommendations, such as advocating for better integration of refugees into the local healthcare system, fostering public-private partnerships to enhance healthcare provision, and seeking international support to bridge funding gaps, could provide tangible steps toward addressing the identified issues and creating sustainable improvements in healthcare access for refugees in Lebanon.

The study has some limitations. Firstly, there is a potential for reporting bias as participants may not have disclosed injuries that did not lead to long-term impacts or disabilities. Secondly, the gender disparity in this study represents the unequal representation of males, who are typically the primary providers and are more frequently involved in occupational injuries, violence and conflicts, potentially overlooking the unique experiences of females who may face different types of injuries.

This mainly reflects the cultural and social factors that hinder women participation in research. It further reinforces the fact that more males are vulnerable to injuries, owing to their engagement in physically demanding and risky activities. Additionally, this study did not target the mental health strain as addressing mental health in detail is a complex and multifaceted issue that requires extensive investigation. Given the profound psychological impact of displacement, conflict, and injury, a separate in-depth study is needed to explore mental health outcomes for an emic perspective of interventions for refugees. The findings from this study are pivotal for designing evidence-based interventions and policies to enhance the well-being and safety of refugees and improve their access to healthcare within their host communities.[4]

CONCLUSIONS

The study provides valuable insights into the experiences of Syrian refugees in Lebanon, shedding light on the significant challenges they face in accessing healthcare services and dealing with injuries. The findings underscore a pattern of injuries, with road traffic injuries, occupational incidents, and violence-related injuries standing out as prominent issues. These injuries are further exacerbated by the unique circumstances of refugee life and the lack of immediate and adequate access to healthcare, which not only

prolongs the healing process but also hinders refugees' ability to work and support their families. Access to healthcare emerges as a significant obstacle, with limited funding, and inadequate support from organizations like the UNHCR in covering essential injury care services leaving refugees to grapple with the financial burden of their medical needs creating a distressing cycle of pain and disability for the injured. The high costs of Lebanon's privatized healthcare system pose a significant barrier, forcing many refugees to compromise on the quality of care or forego treatment altogether. Local Non-Government Organizations and international agencies can play a crucial role in supporting refugees through healthcare capacity building, technical training and policy advocacy to secure refugees' health rights at a national and international levels. Moreover, mental health issues among refugees remain a pressing concern, and the existing gap in psychological follow-up and care needs to be addressed. Future studies and intervention should target underrepresented groups among refugees, closing the gender disparity gap and should integrate a multifaceted approach to improve the quality of life for Syrian refugees in Lebanon. This includes enhancing healthcare access, implementing comprehensive injury prevention strategies and programs, addressing mental health issues, and fostering international cooperation to support host countries.

ETHICS STATEMENT

The American University of Beirut Institutional Review Board approved the study (SBS-2018-0561). Consent was deemed applicable by the committee. All participants were above 18 and were carefully briefed about this study. Written informed consent was obtained from all participants. All methods were performed in accordance with the ethical standards as laid down in the Declaration of Helsinki and its later amendments or comparable ethical standards.

DATA AVAILABILITY

The dataset(s) supporting the conclusions of this article is(are) available upon reasonable request from the corresponding author.

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AUTHORSHIP CONTRIBUTIONS

JM and SA contributed to the conceptualization, data analysis and initial manuscript drafting, and review. LS contributed to the data collection, analysis and manuscript drafting and review. All authors read and approved the final manuscript.

DISCLOSURE OF INTEREST

The authors completed the ICMJE Disclosure of Interest Form (available upon request from the corresponding author) and disclose no relevant interests.

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