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Access to opioids for palliative care in humanitarian settings: two case studies of Médecins Sans Frontières (MSF) experience in India and Bangladesh

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Abstract

Background Alleviating suffering and preserving dignity are essential components of healthcare. Patients in need of palliative care often require opioid medication to relieve breathlessness and pain. However, a lack of access to essential opioids, particularly morphine, remains a major challenge in low- and middle-income countries (LMICs). This is notably critical in the humanitarian context. We conducted two case studies to identify the barriers and facilitators of access to opioids, particularly morphine, for palliative care patients in humanitarian settings while exploring humanitarian healthcare workers' perceptions and experiences with opioids.

Methods Two case studies were conducted based on two Médecins Sans Frontières (MSF) projects which integrated palliative care: advanced HIV care in Patna, Bihar, India, and paediatric and neonatal care in the refugee context in Cox's Bazar, Bangladesh. Six semi-structured interviews were conducted with key MSF healthcare professionals. Interviews were conducted in English, video- and/or audio-recorded and transcribed verbatim. Transcripts were coded and analysed using the grounded theory approach.

Results Several barriers impeding access to and use of essential opioids in palliative care were reported by the participants. These included limited availability, accessibility obstacles, sociocultural challenges such as low awareness and misconceptions, lack of healthcare providers' training on opioid use, and burdensome regulatory processes. Most participants reported that clinical guidelines, familiarity with the use of opioids and interdisciplinary teamwork were important facilitators of opioid prescribing. Participants expressed the urgency for further educational and advocacy initiatives to improve access to essential opioids for patients requiring palliative care.

Conclusion Humanitarian healthcare workers face multiple challenges, leading to inadequate access to essential opioid medication, which undermines effective palliative care delivery. Further training on the use of opioids and strong advocacy efforts led by humanitarian organizations and the medical community are critical to improving access to these essential medicines for the relief of pain and suffering.

Keywords Palliative care, Opioids, Humanitarian, Essential medicines, Qualitative research, Grounded theory

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Background

Palliative care is a critical component of care for people with health-related suffering caused by life-limiting and life-threating conditions [1]. Despite the growing need for palliative care, only 12% of the global need for palliative care and pain relief is met. An estimated 40 - 60 million people require palliative care globally, the majority of whom – 78% of adults and 98% of children – are in LMICs where access to palliative care and pain relief is patchy or unavailable [2].

Opioids are used in palliative care for the relief of moderate and severe pain and breathlessness in patients with advanced or end-stage disease [3]. Controlling such symptoms at an early stage is an ethical duty for healthcare providers to relieve suffering and preserve a person's dignity [4]. Morphine is inexpensive and is recommended as a first-line strong opioid; it has been on the WHO Essential Medicines List since 1977 [5]. However, access to opioid medication remains inadequate globally. More than eighty percent (84.25%) of the world's population lacks adequate access to opioid medication for pain control, and LMICs make up only 10% of global medical opioid consumption [2]. Among global efforts to strengthen palliative care, there is a focus on improving access to palliative care medicines, including opioids, through improved laws and regulations and delivery systems [2, 4]. The UN Single Convention on Narcotic Drugs, 1961, as amended by the 1972 Protocol, strongly upholds the use of opioids for symptom relief, stating that "the medical use of narcotic drugs continues to be indispensable for the relief of pain and suffering, and adequate provision must be made to ensure the availability of narcotic drugs for such purposes" [6, 7]. While the Single Convention on narcotic drugs has been ratified or acceded to by 186 states, the Single Convention is not a self-executing treaty, and so national governments are responsible for meeting this commitment. The majority have not done so [8].

Humanitarian situations inherently cause a high burden of suffering and mortality and undermine access to healthcare services, which, in many contexts, may already be limited [9]. Crisis situations compounded with limited access to curative treatments result in greater numbers of people in need of palliative care [10]. Despite medical humanitarian response and palliative care being guided by moral imperatives to "alleviate suffering and maintain human dignity" [10], it was not until recent years that palliative care was recognized as a key pillar of the humanitarian medical response [11]. The 2018 edition of the 'Sphere Handbook, Humanitarian Charter and Minimum Standards in Humanitarian Response' was the first to include a chapter on the alleviation of suffering and palliative care [12, 13]. The 2018 Lancet Commission report on pain relief and palliative care recognized palliative care as "an essential component of any response to humanitarian emergencies and crises" [11]. In the same year, the WHO issued a guide on 'Integrating palliative care and symptom relief into the response to humanitarian emergencies and crises' [12]. The COVID-19 pandemic further highlighted the necessity of palliative care provision and the need for quality care at the end of life focused on the relief of suffering [2, 12]. The basic package of essential palliative care medicines for humanitarian emergencies and crises comprises morphine in both its oral and injectable forms [9]. However, the provision of morphine for palliative care patients in the humanitarian context is undermined by the gap in access predominantly affecting LMICs, where health emergencies are more frequent [14]. Furthermore, limited resources and situational constraints further hinder access to morphine [15]. The WHO guide recognizes that essential palliative care medicines such as morphine are scarce in humanitarian situations [12]. Schneider et al. reported that a lack of opioids is the main reason for inadequate pain control and palliative care reported by healthcare workers in humanitarian settings [16]. While there is WHO guidance for simplified control measures for cross-border trade of opioids during humanitarian emergencies, they are not effectively or consistently used [17].

MSF, as a humanitarian organization committed to saving lives and alleviating suffering, pursues the integration of palliative care services in its medical activities [18]. Bihar is one of the most populous states in India, with a large socioeconomically disadvantaged population and poor health indicators, including a high mortality rate due to advanced HIV [19]. In the state capital Patna, MSF supports an advanced HIV In-Patient Department (IPD) in collaboration with the local health authorities, providing holistic care to critically unwell advanced HIV patients with life-threatening complications [20]. MSF is currently the only provider of palliative care for people with advanced HIV in the state [21].

In Bangladesh, MSF is one of the main humanitarian actors responding to the medical and humanitarian needs of Rohingya refugees and Bangladeshi host communities in Cox's Bazar [22]. In 2022 it was estimated that approximately 920,000 Rohingya refugees from Myanmar continue to endure emergency-like conditions in refugee camps [23]. During this protracted crisis, the refugee population remains vulnerable to serious health threats and in need of palliative care services [22]. MSF's Goyalmara Mother and Child Hospital is a specialized medical facility providing inpatient neonatal, paediatric and maternity care, and palliative care represents a core component of the healthcare services provided [24].

Data on palliative care needs and interventions in humanitarian settings are limited, with existing research in these two contexts mainly addressing palliative care needs for cancer patients [21]. Research is critical to better understand bottlenecks and enablers for adequate access to pain relief for patients [25]. We sought to understand the situation of access to and use of opioids, particularly morphine, in these two humanitarian contexts. We conducted two case studies to explore MSF humanitarian healthcare workers' experiences and perceptions of opioid use in palliative care, with the aim of identifying the barriers and facilitators of opioid access encountered in humanitarian settings, building on existing knowledge, and providing valuable insights and potential solutions that could help inform more effective palliative care delivery.

Methods

We conducted two case studies involving semi structured interviews (SSIs) with key MSF humanitarian healthcare workers in two MSF projects providing palliative care: advanced HIV care in Patna, Bihar, India, and paediatric and neonatal care in Cox's Bazar, Bangladesh. An interpretative approach to the case studies allowed multifaceted explorations and an analysis of a complex issue in these contexts illustrating the unique experience from the point-of-healthcare delivery perspectives. From a critical and reflective standpoint, we sought to understand the distinct individual meanings attached to the studied phenomenon while considering the broader social and political aspects underpinning each case [26].

Glasser and Strauss classical grounded theory [27–29] and Kathy Charmaz constructivist grounded theory [30, 31] approaches guided the study. Grounded theory is a methodological approach aimed to develop theory from the data rather than from previous hypothesis, and particularly suitable to study complex phenomena of interest. No assumptions are made beforehand, and data collection, analysis and interpretation are concurrent [32]. The goal was not generalisability, but to go in-depth and to give voice to divergent opinions and experiences.

Purposive sampling was used to identify and select individuals who were knowledgeable about and experienced with the studied phenomenon [33]. We sought to interview MSF staff who had key roles and responsibilities regarding prescribing, administering, dispensing or managing supplies of opioids for palliative care at the MSF project sites between 2020–2021. Inclusion criteria were defined: health care professionals that were under contract with MSF in site (not at Headquarters nor coordination staff). Exclusion criteria included staff that did not speak English.

Six potential participants, both international mobile staff and locally hired staff, were provided with written information about the study and were invited to participate by email. Participation was voluntary, there were no direct benefits for participation nor negative consequences for declining to participate.

Six semi-structured interviews (SSIs) were conducted to inform the case studies following a semi-structured guide (annex 1), which was developed based on references from the literature and insights from co-investigators. The SSIs aimed to explore the participants' experience in palliative care, their roles and responsibilities for the respective MSF assignment, their views and attitudes regarding access to and use of opioids for palliative care, and their understanding of the legal and regulatory frameworks of opioids in the country setting. SSIs aimed to help understand the challenges they faced in their work as front-line providers of palliative care, the potential facilitators and their recommendations on how to improve access to and use of opioids for palliative care. The SSI started with 'setting the scene questions' to explore lived experience and then open-ended questions to obtain specific responses and generate further narratives. After obtaining written and signed informed consent from each of the participants, 60- to 90-minute interviews were conducted in English online via Zoom® between March 17th and May 26^{th,} 2022. They were video- or audio-recorded. To ensure the security of the data, the recordings were saved to an encrypted password-protected digital storage system accessible only to the coinvestigators.

The recordings were transcribed verbatim into Microsoft-Word® using Otter.ai®. The transcripts were anonymized, and the participants' demographics and baseline characteristics were extracted. Grounded theory guided the case studies. This methodological approach implies a circular process of collecting, coding and analysing data inductively. Theoretical generalizations emerge from the data rather than being assumed beforehand. The transcripts were coded using Dedoose® software for qualitative data analysis. Codes were developed and refined based on congruity with coded and newly emergent data and compared and analysed iteratively and concurrently with continuous reflection and interpretation [34]. By grouping text coded similarly, themes were progressively constructed and compared. Emerging themes further informed subsequent interviews and guided the data analysis [35]. The coding tree is presented in annex 2.

Ethical approval was obtained on March 1st, 2022 from the Ethics Review Board (ERB) Comité de Ética de la Investigación con medicamentos (CEIM) Hospital Clinic Barcelona. All information resulting from participating

in the study was confidentially treated. Identifying information was excluded from the transcripts. Data collected were managed, analysed and reported in a way that ensures anonymity and confidentiality.

Results

Sociodemographic data of the study participants

Six English-speaking MSF healthcare professionals were interviewed. The interview duration averaged one hour and 16 minutes. Three participants were involved in each of the MSF project sites. One participant reported having been involved in both projects. The participants' main characteristics are summarized in Table 1. Identifying information was not disclosed to maintain the confidentiality and anonymity of the participants.

The main thematic findings from the interviews with the participants are presented below. The number following each quote refers to a specific participant.

Palliative care and its role in the humanitarian medical response

Participants were invited to share their understanding of palliative care and its role in the humanitarian response. One participant pointed out a shared confusion around a clear definition of palliative care. However, there was a collective understanding among all participants that it consists of a holistic approach aiming to alleviate patients' suffering and relieve their pain. The majority agreed that it extends beyond easing physical suffering and encompasses psychosocial and spiritual components, as well as supporting the patient's family.

> *"I guess in terms of how I would define palliative care, this is something that we really wrestled with, as a group, like, what exactly is it, it can be this sort of slightly nebulous thing, I think. But to me, it's about relieving suffering. Suffering in a really broad sense, so physical pain, nausea, all those things, but also like psychological suffering, loneliness, fear about the future, spiritual distress, all those different forms of suffering." 6*

Participants collectively highlighted that palliative care provision is particularly critical in humanitarian settings. High mortality rates and resource constraints, including a lack of therapeutic options, were the main arguments provided. Furthermore, palliative care was considered crucial in the refugee context given additional situational pressures. Participants noted that large refugee populations face restrictions of movements hindering physical access to healthcare services.

One participant expressed that humanitarian response efforts often tend to focus on curative and disease-focused approaches but lack patient-centeredness and attentiveness to what the patient is experiencing; she also added that palliative care entails allaying people's suffering, which is central to humanity and must be at the core mission of humanitarian assistance.

All participants described witnessing situations of patients with life-threatening conditions and enduring severe pain and stressed the need for palliative care. Most participants reported that in patients with advanced-stage disease with a low chance of survival, therapeutic options and curative treatments are ineffective. Palliative care was believed to be most appropriate at this stage to relieve the patient's symptoms, provide dignified care and support peaceful last moments of life.

The relevance of opioids in palliative care

Morphine being an essential medicine for effective pain control and palliative care was a clear consensus among all respondents. Participants emphasized that morphine is the drug of choice to lessen moderate and severe pain, relieve breathlessness and alleviate physical suffering in patients with terminal stage disease requiring palliative care, allowing them to have a pain-free, dignified end of life. All stated that if there is an indication for use and if used correctly at the appropriate dosage and under monitoring, morphine is a safe medicine. Two participants added that morphine is a key component of the

Table 1 Main characteristics of the study participants

Characteristics	Values
Sex	3 females, 3 males
Age (mean, range)	36 (30-41)
Profession	4 Medical doctors (1 Paediatrician, 1 HIV specialist, 2 General Practitioners), 1 Pharmacist, 1 Nurse
Years of work experience (mean, range)	12 (4-16)
Duration of the assignment in months (mean, range)	15 (6-24)
Recruitment	3 locally recruited/ 3 internationally recruited
Project site	3 India, 3 Bangladesh

comprehensive palliative care package, yet it is only one of many essentials. Overall, the respondents underlined the benefit of using morphine in palliative care patients, who shared testimonies of witnessing first-hand transitions from extreme distress to peaceful and profound relief in patients after receiving morphine.

> *"I was seeing suffering, the baby, suffering, suffering, suffering, suffering. And then at the moment I used the morphine, I could see how peaceful he was." 1*
> *"There was a patient who had HIV, Kala-Azar, TB and he came with loss of sodium and severe pain, severe headache, and abdominal pain, and he was also having epileptic seizures. So, we were trying to manage the patient non-stop for three days. And we discuss this case with the medical advisor. And he also told [us], the advisor, there is nothing much we can do about this patient. These, these are the very patients who qualify for palliative care, and the use of morphine or strong opiates comes in. It could be used to make, just make their death, the process of death, more tolerable or less painful. "4*
> *"There's loads of patients I've used morphine in for when they're breathless, and it has definitely calmed them. It's helped carers, family, witness how much peaceful their end of life is." 2*

All respondents highlighted that adequate access to, and appropriate use of opioid medications are prerequisites for delivering quality palliative care. Five participants believed there was an unmet need for opioids for palliative care provision and stressed the necessity of ensuring that they are available and accessible to patients who need them.

Barriers impeding access to and use of opioids for palliative care patients

Multiple challenges hindering access to, and use of opioids were reported by participants.

Availability

Despite the inclusion of morphine in the Indian and Bangladeshi National Essential Medicine Lists, morphine was often unavailable in both settings. Contrasting opinions were given by participants about availability in the country context. While one participant from India mentioned that morphine availability did not pose a challenge given that numerous manufacturers produce and supply morphine and other opioids on the market, he indicated an accessibility issue. Limited availability was described in the Bangladeshi context.

Overall, access to morphine for palliative care patients in these contexts was limited, and lack of availability was identified as a major barrier. One participant described having no access to morphine at the beginning of his assignment in India; however, morphine became available later during the mission. Another participant asserted complete unavailability of morphine for the duration of his assignments in both contexts. He later commented that, to his knowledge, morphine became available sometime after his departure.

> *"We never had opioids in the mission [project] when I was working; it was just in the guideline, that morphine is one of the drugs which could be used for palliative care, but it is a pity that we do not have access to it." 4*

Although participants reported some availability of morphine in their project settings, they described significant gaps in supply, limited stocks, and frequent shortages.

Most participants conveyed feelings of frustration and helplessness due to frequent shortages of morphine and recognized the difficulty for the patients since they were not able to provide them with adequate relief of pain and breathlessness. In addition, the inability to understand the underlying reasons for the unavailability of morphine and the complexity surrounding its access were indicated as other causes of frustration.

> *"There were definitely times when I was like, we have this child who has, you know, congenital heart disease, and it's so unfair, that we can't do anything more to treat the child's breathlessness but like, not having that tool to help them feel more comfortable was very upsetting." 6*

Most participants also recalled that they often had to use alternative, less appropriate analgesics when confronted with the unavailability of morphine. They mentioned having to prescribe other strong opioids such as fentanyl—which was in turn only occasionally available—although it needs to be administered parenterally (no oral route available) and hence requires inpatient care. Tramadol (a weak opioid) and simple analgesics (such as paracetamol and nonsteroidal anti-inflammatory drugs) were often prescribed in place of morphine, and participants emphasized that these were often inadequate for symptom control.

> *"Tramadol, we never, we use it very, very little, but in children [it] is not very much recommended. So, we only use it for bigger children that were in pain, for example, with leukemias, because it was the only option that we could give them orally at home." 1*

Low awareness and misconceptions about opioid medication within the community

Participants mentioned that in general, patients and their families were not opposed to strong analgesics (opioids) but were often unaware of this possibility for symptom control. One participant further commented that a lack of patient and family awareness about the availability of these medications to relieve symptoms prevents them from seeking care.

Overall, participants felt that there was low awareness about opioid medication within the community in both contexts. They believed there were common misconceptions and fears in the community that opioids were associated with addiction, overdose, diversion and illicit use. One participant shared that the media in India played a role in escalating such views around opioids.

Healthcare providers' misconceptions, opiophobia and lack of training

Some participants described low awareness about opioids and inadequate knowledge about their use among local healthcare providers working in the project setting. This was identified as a clear obstacle to patient care.

> *"People are quite ignorant. They do not know [about opioids]. They think that they cannot do anything for their patients who are terminally ill." 4*

Participants in both settings explained that some of their colleagues expressed concerns about prescribing opioids due to fear of addiction as well as the risk of overdose and respiratory depression.

> *"If you use a bit too much morphine, yeah, you could depress the respiratory drive, you can get it wrong. And there was a lot of fear of that." 2*

One participant believed that historical contextual circumstances in India concerning illicit opium and opium-derived substance trafficking may have led to the predominant public perceptions surrounding fear of opioids, which may in turn have influenced the attitudes of healthcare providers and led to limited use of opioids in medical practice.

> *"I think it [fear] was due to the close bad history with drug dealing with opium." 1*

Several participants also highlighted that some colleagues felt uncomfortable with prescribing and administering opioids.

> *"They were a bit… AA… They didn't want to use it, at all, at the beginning. Oh, no, no, no, let's wait. Let's try another thing." 1*

Some participants believed that lack of training, lack of experience prescribing and seeing the benefits of opioids for patients with severe pain or breathlessness were closely related to low awareness and opiophobia (fear of prescribing opioids). They considered that the insufficient or inadequate training of medical professionals in prescribing and managing opioids was a major limitation. Some participants felt that some local healthcare providers may have received training that could have shaped the fear of addiction, respiratory depression and overdose and could have been the reason to deter them from using opioids. Similarly, a lack of healthcare providers' training in palliative care more broadly was described as a barrier. Participants from both settings explained that only oncologists and surgeons were trained on palliative care and the use of opioids. In Bangladesh, palliative care was described by participants as a relatively new field not yet well established in medical practice.

Morphine was practically unknown to one participant, who acknowledged never being exposed to or having used morphine for the entirety of his 12-year medical career in India. He felt that this was the case for many Indian doctors practicing outside oncology or surgery departments. He admitted that he had limited basic knowledge about opioids and believed that the lack of use of opioids in medical practice reinforced the knowledge gap both among patients and healthcare providers. Similarly, one participant from Bangladesh shared this view, recalling only two occasions in which he used opioids in patients.

> *"There is lack of using, it is not in practice, and therefore I think people are not aware, both the patient and the healthcare providers are not aware of the benefits of morphine or strong opioids in palliative care." 4*

Opioid policy, legal and regulatory barriers

MSF adheres to local rules and regulations on the procurement and use of opioids. While most participants recognized having limited knowledge and understanding of the local laws, policies and regulations governing opioids, they used words such as strict, highly controlled and restrictive to describe them and commonly identified them as barriers limiting access to opioids for patients receiving palliative care in both settings.

> *"I think the regulatory mechanisms are very prolonged, full of red tape. There's lots of bits of paper and people to talk to." 2*

One participant mentioned that in India, the 1985 Narcotic Drugs and Psychotropic Substances (NDPS) Act

sets the legal framework for opioids at the national level. He noted that the law underwent several modifications over the years and further explained that although the federal government sets up the main rules, states adopt it with the ability to apply minor changes that, in some cases, can be restrictive.

Acquiring a licence was identified as a mandatory step in the regulations for the procurement and use of opioids. Most participants described it as a long, complex, burdensome and bureaucratic process involving different actors and numerous steps. Even once obtained, the opioid licence is valid only for a limited period, and strict conditions need to be fulfilled for it to be retained.

> *"I think [it] is quite a tedious and protracted process to get permission and licence to use opioids in palliative care." 4*

The restrictive laws and regulations were considered by one participant to be shaped by widespread misconceptions associated with opioids rather than evidence of medical need.

> *"I believe that these restrictions have been more based on popular demand, how the government wants to, government is more on popular demand, how it would be perceived by the common people than on evidence or the medical need." 4*

The complexity of the legal and regulatory frameworks for opioids is particularly limiting for humanitarian medical organizations. The urgent need to provide symptom relief in the palliative care setting was impeded by such hurdles. One participant further noted a limitation regarding not being able to import opioids in the refugee context in Bangladesh.

Two participants shared that locally produced morphine was sometimes available in the local market, although it was not accessible for patients served by MSF, as it did not meet MSF quality standards. They explained that MSF follows minimum standards to ensure good-quality medicines for patients.

While all participants agreed that strict policies hinder access to opioid medications for patients in need, one participant also felt that existing policies in Bangladesh were not so restrictive and should be more restrictive to counter the risks of diversion and misuse.

Facilitators of access to and use of opioids

The participants acknowledged several factors that have facilitated access to opioids for the patients they serve.

Participants reported that regular training on palliative care and opioids improved their awareness of the role of morphine in symptom control in palliative care. All participants considered training a key element for improving access to opioids.

Additionally, participants explained that seeing the impact of morphine on alleviating pain and breathlessness was an important step and helped them to recognize that morphine was a safe and effective medication. Both training and experience led to participants feeling more comfortable prescribing and administering morphine.

> *"I think that by using morphine on a day-by-day basis, by experience, it has been proven that they [healthcare providers] get more comfortable with the use of this." 1*
>
> *"Slowly, I think they [colleagues] started to understand and see quite clearly with their eyes, the benefits of giving small doses of opiates for those in pain but also, we have a large amount of patients who are breathless, and the relief it gives when you're struggling to breathe, when we can't intubate you and make you more comfortable, is invaluable." 2*
>
> *"I just think using it [morphine] more, more, more exposure, normalizing it [use of morphine], it's been like… I think it's like one of those things like HIV testing, because we don't do it [use of morphine], very often because it carries a load of shrouded mystery, then people think oh, but actually, if you just do it [use morphine] and say this is normal… So if you have pain, and it is severe pain, or if you are dying, and you are breathless, this is part of the standard treatments, it just normalizes [it], and exposing nurses and doctors [to the use of morphine]." 2*

Interdisciplinary teamwork, effective communication, practical recommendations from supervisors and routine debriefing were reported as helpful by several participants to improve confidence in the use of morphine.

Palliative care guidelines were also key because they helped the prescription of morphine to be perceived as standard care for patients with severe symptoms and advanced disease. The guidelines for morphine dose calculation, titration and medicine preparation were particularly helpful to participants. Participants mentioned national guidelines for palliative care in both countries. Although respondents welcomed this initiative and considered it crucial to support palliative care and clinical decision-making and to provide best practices for using opioids, they stressed a need for effective implementation.

One participant further indicated that the availability of naloxone, an opioid antagonist that can reverse the effects of an opioid overdose, was also a critical factor in the use of morphine and was shown to increase confidence among her colleagues.

Table 2 Summary of the main barriers to and facilitators of opioid access and use

Barriers	Facilitators
- Limited or intermittent availability of opioids in general and morphine in particular, due to gaps in supply, limited stocks and frequent shortages - Low community and patients' relatives' awareness about the availability and the benefits of opioids in palliative care - Stigma and misconceptions: Opioids associated with addiction, overdose, diversion and illicit use. - Opiophobia and reluctance to use by healthcare providers - Lack of healthcare providers´ knowledge and training on opioids for palliative care management - Lack of experience in using opioids in clinical practice - Restrictive policies and regulations governing the medical use of strong opioids (affecting local production and importation): Complex process for a licence to procure, store and dispense opioids	- Training on pain relief and palliative care - Clinical experience with opioids for palliative care - Witnessing the impact of opioids in alleviating pain and symptoms - Interdisciplinary teams working together and good team communication - Senior palliative care support - Palliative care guidelines and protocols - Availability of Naloxone to reverse opioid overdose generates confidence among healthcare providers

Table 2 summarizes the main barriers and facilitators of opioid access and use that have been previously described.

Recommendations to improve access to and use of opioids

Participants were asked to share their views on how access to opioids for their patients could be improved.

Most participants emphasized a need for education and raising awareness among healthcare workers and in the public to reduce misconceptions about opioid medication.

> *"It may take some time for the question [of] perception to change. For that, a lot of work has to be done like seminars and conferences and case presentations, and the more people in the medical fraternity will talk about the benefit, the more it will be acceptable." 4*

On many occasions, discussions and thoughts came up on MSF's role to promote and advocate for access to opioids and improve palliative care provision in the humanitarian medical response.

> *"I think MSF, as an organization, can play a much larger role than they are currently playing on this front." 4*

Some participants called for further integration of palliative care in MSF projects. One participant argued that interventions focusing on mental health and psychosocial support have been part of the humanitarian medical response, and likewise, palliative care should be put forward and prioritized as basic medical care in humanitarian settings.

> *"There is a mental health component in each of the MSF project I've seen; similarly, we can have a palliative care component and advisor or expert, who would advise and take care of the palliative care patients in MSF projects." 4*

Several participants stressed the need for advocacy and educational initiatives to promote adequate access to essential pain relief for palliative care patients from the medical community as well as humanitarian organizations.

> *"I feel that the government themselves need to be educated by high level advocacy at the national and international level and forum. Then only any change would happen. So, the answer and the responsibility lie on the medical community, the scientific bodies, the researchers to put it across the table to the government to make them understand the need of it, so that it could be used in palliative care." 4*

Participants called for more balanced policies and less arduous regulation to ensure access to opioids for medical purposes while simultaneously preventing diversion and misuse. Some suggested interdisciplinary collaboration between different stakeholders, including medical professionals, legal experts, and policymakers.

> *"There should be a balance so that those cases that need opioids, they can easily access those medications and those who are, who are misusing this, they cannot use it easily." 3*

One participant strongly believed that practical change at the institutional and patient levels is contingent on policy change at the national level.

> *"The game changer would be advocacy at the highest level, so that there is a policy change and regulations and laws, and so that, then only it will percolate down to the hospital level or district level and will be freely available." 4*

One participant further suggested setting up regulatory mechanisms specifically tailored for international humanitarian actors, which would ensure adequate

access to essential opioid medicines in humanitarian settings.

> *"There should be some international law, by which we have, MSF or other humanitarian actors like WHO or ICRC or other people should have access to these medicines and because these, they are professional organisations and they will not misuse, of course. So, it will be quite handy if these organisations have some channels through which they can use these medicines in these humanitarian crises." 4*

Discussion

Humanitarian contexts are inherently marked by a large burden of suffering and mortality [10]. Limited resources and therapeutic options, in addition to limited referral options, result in more patients requiring access to palliative care [13]. Our findings are consistent with the literature stressing the importance of palliative care and the need for access to opioids to relieve pain and breathlessness for patients with life-limiting and life-threatening conditions as part of the medical humanitarian response. [10, 14–16, 25, 36].

Participants recognized that effective palliative care is contingent on access to essential opioids. Their experience of providing palliative care in India and Bangladesh with MSF was characterized by persistent challenges with access to morphine for patients requiring palliative care, leading to feelings of frustration when faced with patients requiring opioids for symptom relief. Similarly, Schneider et al. reported that a lack of opioids was a major reason for inadequate pain control and palliative care in humanitarian assistance and reported similar feelings among MSF humanitarian healthcare workers providing palliative care [14, 16].

Our findings on the barriers encountered in accessing essential opioids are consistent with other reports on access to and use of opioids for palliative care in India, Bangladesh and other LMICs, and they suggest numerous complex and interrelated factors [37–40]. In Bangladesh, the International Narcotics Control Board (INCB) reported that only 18 kg of morphine was consumed in 2017. This was estimated to represent less than 1% of the anticipated national opioid need [41–43]. India holds a leading position as an opioid producer and exporter globally; paradoxically, medical opioid consumption is low [39], with only a small fraction of the population requiring morphine having access to it (approx. 0.5% of patients in need of palliative care) [44].

The healthcare workers participating in this study encountered limited availability of morphine for palliative care patients who urgently needed symptom relief. Similarly, Cleary et al. described limited availability and regular shortages of morphine in both India and Bangladesh. Despite being included in the national formulary, opioids were reported to be available only 'occasionally' [42]. Vallath et al. noted regional disparities in opioid accessibility in Bangladesh [45].

Our study suggested opiophobia amongst healthcare workers, which can be understood as 'prejudice and misinformation about the appropriate medical use of opioids', and lack of training on pain relief and palliative care were barriers to prescribing morphine in both settings. An ethnographic study conducted by LeBaron et al. showed comparable results and identified key barriers to accessing opioids, including lack of knowledge and misperceptions on opioid management and pain control among healthcare providers [46]. Even when available, morphine may be underused when healthcare providers are unfamiliar and uncomfortable with its use [39]. In alignment with our findings, Berterame et al. identified the absence of training, fear of addiction, fear of diversion, and fear of criminal prosecution or sanction as impediments to opioid accessibility in regions and countries where they reported low use of opioid analgesics [37]. Similarly, Vallath et al. indicated 'opiophobia' in medical professionals and the public as a major barrier to opioid access in Bangladesh [47].

In our study, participants shared that, restrictive policies and regulation governing the medical use of strong opioids and complex processes for a licence to procure, store and dispense opioids, limited access to essential pain relief for patients requiring palliative care. Consistent with our findings, Cleary et al. highlighted significant impediments to access to and use of opioids because of strict policies and regulations in both contexts [42]. Similarly, LeBaron cited regulatory hurdles as clear barriers [42, 46]. The regulatory barriers included the need for physicians to receive a licence to prescribe opioids; however, there were few restrictions on oncologists and surgeons. Family doctors require special authorization and can only prescribe opioids in emergency situations in Bangladesh and in many states of India, including Bihar [46]. Khan et al. similarly noted that the most important barrier in the Bangladesh Narcotic Law of 1990 was to restrict the number of physicians who can prescribe opioids [48]. In India, only hospital pharmacies are allowed to dispense morphine in many states, including Bihar [38, 39].

Strict regulation reinforces fear of the addictive potential and misuse of opioids in the general community, and the perception within the medical work force [38]. As we found in our study, LeBaron et al. and Khan et al. reported knowledge among healthcare professionals on the use of opioids for palliative care to be insufficient in both settings [39, 46, 48]. Furthermore, knowledge about

palliative care in Southeast Asia remains limited, with many medical professionals unaware of the benefits of opioids for symptom control in palliative care [45, 44].

Our study findings recognised the need for training on the use of opioids to relieve pain and the need for clinicians to observe the impact of effective symptom control on the relief of suffering. Sensitization and raising awareness about the need for opioids for patients requiring palliative care can help address misinformation and misconception about medical use of opioids for symptom control. Building on interdisciplinary collaboration, educational initiatives targeting medical professionals, the public, and policymakers are crucial for improving knowledge and attitudes on the role of opioids in palliative care. Policymakers play a critical role in ensuring the availability and adequate access of patients to opioids. Strategies for preventing misuse and diversion should not come at the cost of patients accessing essential pain relief. Balanced opioid policies centred on health and human welfare that avoid unnecessarily burdensome regulations need to be established and accompanied by effective implementation at the institutional level [47]. From a public health and human rights standpoint, continued and persistent advocacy efforts to address regulatory obstacles need to be made to ensure access to essential pain relief medicines for all patients in need of them [13].

Study limitation s

The sample size and sampling strategy were limited. Including more participants may have resulted in greater diversity in response, and managerial profiles may have provided a deeper understanding of the policy and regulatory barriers. We acknowledge potential recall and desirability bias. The interviews may have been influenced by the interaction between the researcher and the interviewee, considering their sociocultural characteristics and educational and professional backgrounds. We engaged in continuous reflection during the data collection and analysis while trying not to make any assumptions and maintain neutrality; however, we recognize that there may have been some implicit bias from the researcher's standpoint.

Conclusion

Despite the substantial burden of suffering and the subsequent need for symptom relief, access to essential opioids – including morphine – for palliative care remains a major challenge in LMICs; this is further pressing in humanitarian settings. Multiple complex and interconnected factors are at play. Examples of MSF experiences in India and Bangladesh have attempted to illustrate this critical issue and to provide a snapshot of the main barriers perceived by humanitarian healthcare workers. Low availability, accessibility challenges, sociocultural barriers, strict policies and burdensome regulations, and healthcare providers' lack of training were identified as barriers preventing adequate access to and use of essential opioids for patients requiring palliative care in humanitarian settings. Humanitarian organizations and the medical community play a critical role in raising awareness about the need for and benefits of opioids for palliative care, along with training healthcare professionals on the best practices for pain management and advocating for better access to essential pain relief. Further research is needed to provide lessons learned and inform future interventions aiming to improve pain relief and palliative care in the humanitarian context.

Supplementary Information

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Supplementary Material 1.

Supplementary Material 2.

Supplementary Material 3.

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Authors' contributions

Each named author has substantially contributed to conducting the underlying research, and to drafting this manuscript or substantially revising it. All authors have approved the submitted version. All authors have agreed both to be personally accountable for their own contributions and to ensure that questions related to the accuracy or integrity of any part of the work, even ones in which the author was not personally involved, are appropriately investigated, resolved, and the resolution documented in the literature.

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Data availability

The data generated and/or analysed during the current study are not publicly available due data protection reasons but are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

Ethics approval was obtained on March 1st, 2022, from the Ethics Review Board (ERB) Comité de Ética de la Investigación con medicamentos (CEIM) Hospital Clinic Barcelona.
Participants were provided with written information about the study and were invited to participate. Participation was voluntary, there were no direct benefits for participation nor negative consequences for declining to participate. Participants agreeing to participate provided written consent and signed an Informed Consent Form (ICF).

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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