Public health management strategies to combat and mitigate social stigma in the MPOX outbreak

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ABSTRACT

In May 2022, an outbreak of the Mpox virus was observed in several countries, precipitating a rapid spread worldwide. The current Mpox outbreak has unusual characteristics compared to previous outbreaks. A salient peculiarity is the remarkable incidence of confirmed cases among men who have sex with men. The aim of this research is to discern, within the current scientific literature, the most pertinent and effective public health strategies to prevent or mitigate Mpox-related social stigmatization. Using the PRISMA model, a systematic review was conducted using the PubMed, SciELO, and Google Scholar databases, covering articles published from January 2022 to January 2024. Public health strategies to prevent or mitigate social stigmatization of Mpox were systematically recorded and summarized for subsequent analysis. Seven articles were identified and analyzed. None of the articles evaluated presented a comprehensive approach to public health strategies to combat social stigmatization in the midst of the Mpox outbreak. The studies examined emphasize the central role of interventions in three axes of public health strategies: awareness and training of health professionals, targeted communication that is sensitive to the needs of the different affected groups, and medical care measures that guarantee anonymity and respect for patients. Confronting the proposed strategies with the key issues that trigger stigmatisation, it becomes clear that a differentiated calibration of these strategies is needed to optimise the effectiveness of the implementation of public health guidelines. In addition, attention to the mental health of patients with Mpox is a crucial dimension that cannot be neglected, given the psychological vulnerability of these individuals, resulting from both the disease itself and social stigmatization.

Keywords: Mpox, Monkeypox, Stigmatization, Public Health Management, Risk Groups.

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INTRODUCTION

According to the World Health Organization, in May 2022 an outbreak caused by the Mpox virus was detected in several countries, which in a short time spread on a global scale (WHO, 2024). The Mpox virus was first identified in 1958 in Denmark in an outbreak that affected monkeys kept in captivity as guinea pigs for research, resulting in its designation as "monkeypox." The first notification of cases in humans occurred in 1970, in the Democratic Republic of Congo. Since then, the disease has been reported in humans in Central and West African countries (RAHIMI et al., 2023). Since 1970, isolated cases and local outbreaks of Mpox in humans have been described in nine countries on the African continent: Cameroon, Central African Republic, Republic of Congo, Côte d'Ivoire, Democratic Republic of Congo, Gabon, Liberia, Nigeria, and Sierra Leone (WHO, 2024; ALI et al., 2023; MCCOLLUM et al., 2023).

Mpox is a double-stranded DNA virus belonging to the genus *Orthopoxvirus* that is part of the Poxviridae family, the same family that includes the human smallpox virus. This virus is classified as a zoonosis, with the natural reservoir not yet proven to have been identified. Evidence of Mpox virus infections has been demonstrated in squirrels, Gambian pouch rats, dormice rodents, different species of monkeys, and other animals (WHO, 2024). Genetically, the Mpox virus is divided into two distinct clades that originated in Africa. The Central clade (Clade I), present mainly in the Congo River basin, is associated with greater clinical severity and predominantly zoonotic transmission, while the Western clade (Clade II) is characterized by less severe manifestations of the disease and is the origin of the genetic lineage responsible for the current outbreak of the disease among humans (Clade IIb) (KANG et al., 2023; MITJÀ et al. 2023a; FERDOUS et al., 2023; WANG et al., 2023; AMERICO et al., 2023).

Transmission of the Mpox virus occurs through direct or indirect contact with blood, body fluids, skin lesions, or mucous membranes of infected animals. In addition, secondary person-to-person transmission can occur, involving close contact with infected respiratory secretions, with skin lesions of an infected individual, or through contaminated objects and surfaces. Droplet transmission requires close and prolonged contact between the infected individual and others, such as unprotected healthcare workers, family members, and other close contacts. In addition, transmission vertical or during close contact in the postpartum period can also occur. Prevention measures include wearing masks and other personal protective equipment, hand hygiene, and cleaning surfaces. The incubation period of Mpox virus varies, typically being 6 to 16 days, but can extend up to 21 days (KANG et al., 2023; MITJÀ et al. 2023a; FERDOUS et al., 2023). Until recently, human-to-human transmission was considered rare, and frequent physical contact with the infected individual was considered necessary for viral transmission to be possible. The transmission of the viral agent of this disease in short-term close contacts requires further studies that lead to an understanding of the details of this

outbreak, which requires the systematic collection of data on new cases (WHO, 2024). The clinical picture of the classic form of the disease begins with an initial febrile period, with symptoms such as fever, headache, myalgia, fatigue, back pain, and generalized lymphadenopathy. Subsequently, skin lesions appear that begin as a generalized rash on the face and spread rapidly throughout the body. The most affected body surfaces are the face, palms, soles of the feet, oral mucous membranes, genitalia, conjunctiva, and cornea. The lesions evolve in stages, starting as macules, which evolve sequentially to papules, vesicles, pustules, and crusts. Most cases are self-limiting, but in pregnant women, people with chronic skin diseases, children, and immunocompromised people, the disease can progress to more severe clinical conditions. In the final stage of the disease, when the scabs disappear, the person no longer poses a risk of transmitting the virus and can be released from isolation. This usually occurs after two to four weeks, when the scabs fall off and the skin recovers, although most of the time leaving scar marks (KANG et al., 2023; MITJÀ et al., 2023a; FERDOUS et al., 2023; KHATTAK et al., 2023). In the most recent outbreak, individuals with HIV infections are disproportionately impacted worldwide and tend to have more severe forms of the disease (MITJÀ et al., 2023b; SALDANA et al., 2023; SILVA, 2024)

The current Mpox outbreak has unusual characteristics when compared to previously recorded outbreaks. Although the causes of the new outbreak have not yet been clarified, the hypotheses are considered to be the decrease in the population's immunity due to the accumulation of unvaccinated people after the end of the immunization campaigns against smallpox, peculiar ecological conditions, risk behaviors of men who have sex with men, or genetic mutations of the virus that have facilitated the ability to transmit between humans (ZEBARDAST et al., 2023). The most striking feature is that a significant number of confirmed cases are bisexual individuals or men who have sex with men (ENDO et al., 2022; PAHO, 2023). The most recent report from the Pan American Health Organization, from March 2023, indicated that among the 48,651 (96%) of the confirmed cases in the Americas are male. Most of the cases with available information are individuals between the ages of 20 and 45 who identify as men who have sex with men. The same report shows that Brazil is the second country with the highest number of cases, totaling 10,825 and 15 deaths related to the disease by March 2023 (PAHO, 2023). In a review of official records, Benito et al. (2023) indicate that the number of cases registered in Brazil between January and October 2022 was 13,915 individuals infected with Mpox. The World Health Organization recognizes more than 30 Sexually Transmitted Infections, including Mpox (WHO, 2021), but sought not to associate the disease at the beginning of the current outbreak with sexual practice. The categorization of the disease as a Sexually Transmitted Infection would add another layer of stigmatization to patients and risk groups (HAZRA & CHERABIE, 2023). Nevertheless, the disproportionately high number of cases among the population of men who have sex with men has led the World Health Organization to

issue recommendations specifically aimed at this population, particularizing and highlighting the sexuality dimension, mobilizing a series of disadvantageous repercussions for the lives and health of these people and allowing the stigmatization of this group by other sectors of society (AQUINO et al., 2022; BANJAR and ALAQEEL, 2023). More recent research confirms by genetic sequencing and epidemiology that clade IIb of the virus in the current outbreak is associated with sexual contact (ALLAN-BLITZ et al., 2023; OKWOR et al., 2023; HARRIS, 2024; KIBUNGU et al., 2024). Determining certain diseases as sexually transmitted infections is challenging (ALLAN-BLITZ et al., 2023), and in many cases, and the dynamics of transmission can vary according to the circumstances or the peculiar characteristics of each strain. Changes in the transmission patterns of STIs today can be observed, for example, in the case of Mpox, previously prevalent as a zoonotic infection and recently associated with sexual transmission, and in the opposite direction, in the case of the bacterium *Haemophilus ducreyi*, traditionally considered an STI, whose incidence in the non-sexually transmitted form has emerged as a new challenge for public health (NORBERG et al., 2022). Human behavior in its various nuances plays a fundamental role in the dynamics of infectious disease outbreaks (BERGSTRON & HANAGE, 2024) and the recognition that the Mpox outbreak is associated with sexual practice is fundamental for the design of more specific public health measures aimed at preventing the disease. This finding also indicates the need for adjustments in the discourse of health education measures and information to the population in order to avoid stigmatization of affected individuals or those belonging to risk groups.

In November 2022, the World Health Organization decided to change the official nomenclature of the disease, from "Monkeypox" or Monkeypox, to Mpox, after recognizing that Western media was using images of black people in stories about the disease, although the current outbreak is predominantly present in nations of white and Western origin. The stigmatization of the black population and the racist association associated with the figure of the "monkey" cosubstantiated the decision of this international organization, in order to minimize the stigma of the disease and the undue association with individuals of African origin or descent, falsely assigned as risk groups, indicating the persistence of discrimination and racism as factors of social stigmatization potentiated by informational disorders in the context of the Mpox outbreak (TAYLOR, 2022; DAMASO, 2023; CAHILL, 2023).

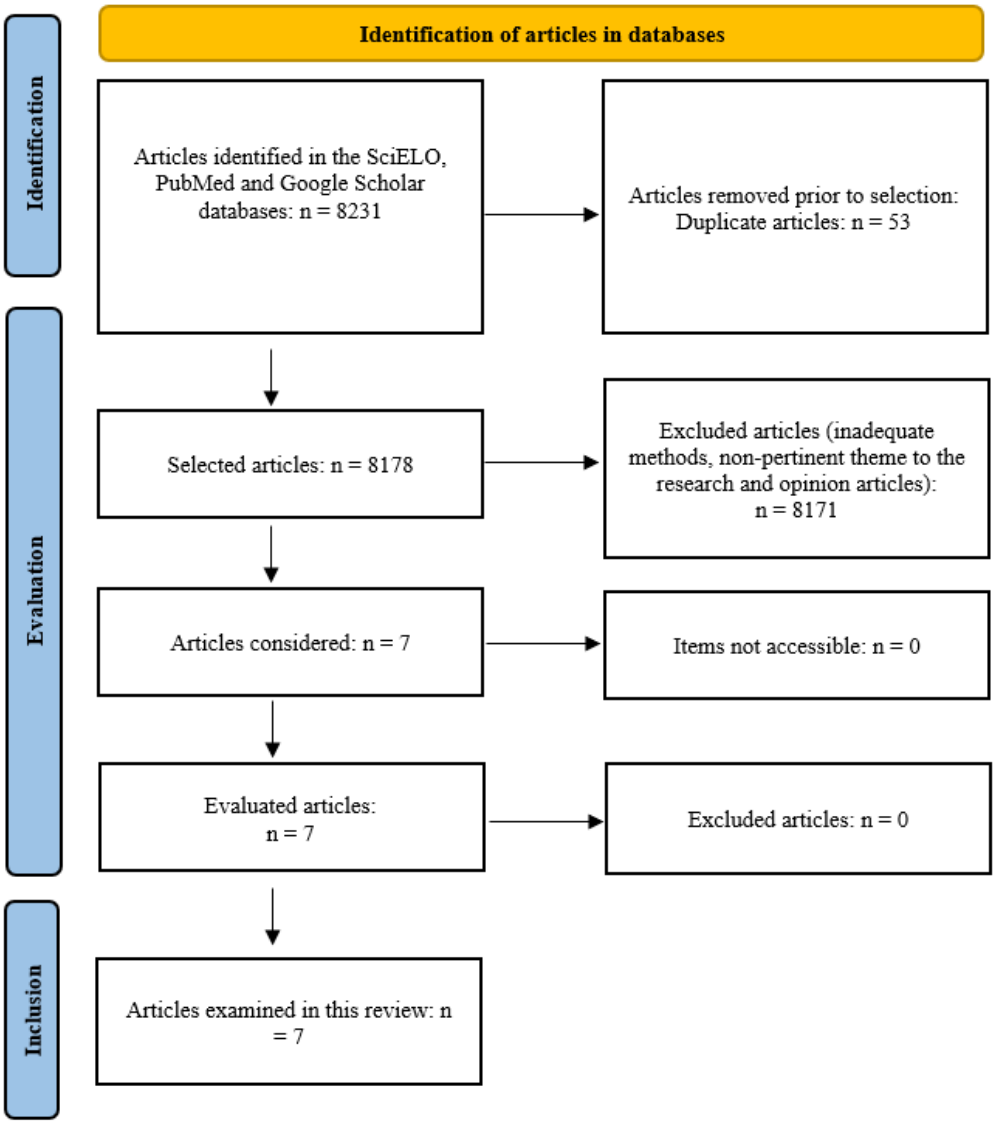
In order to avoid stigmatization of individuals infected with the Mpox virus, risk groups, or population groups wrongly associated with the disease, public health management policies and strategies should be adopted to prevent or reduce the damage caused by prejudice to these segments of the population. In this context, international organizations and public health authorities outline general public policy guidelines to address health issues at the population level, setting goals, priorities, and allocating resources to address specific challenges, such as the Mpox outbreak. In

order to achieve these objectives, public health strategies are established as specific action plans, developed to effectively implement public policy guidelines. Strategies include specific actions, interventions, and programs aimed at achieving desired outcomes in population health. The objective of this article is to identify, in the current scientific literature, which effective public health management strategies are most indicated to avoid stigmatization related to the disease.

METHODOLOGY

A systematic review was conducted using the PRISMA model, according to the methodological guidelines proposed by Moher et al. (2009) updated by Page et al. (2021). The aim of the review was to investigate effective public health measures to prevent or mitigate the effects of stigmatization of patients with Mpox or groups at risk for this disease. The review used bibliographic sources obtained from the PubMed, SciELO and Google Scholar databases. The search used descriptors such as "Mpox"; "Monkeypox", "Stigma", "Discrimination", "Public Health", "Strategies", "Mitigation", "Risk Group", "MSM" in various combinations. The revised manuscripts covered publications in English, Portuguese, and Spanish, covering the period from 2022 to January 2024. The inclusion criterion for the articles was the verification of results consistent with the objective of the research, whose content addressed public health strategies against the stigmatization of smallpox patients and risk groups. Articles that did not meet the evaluation criteria were excluded, such as those with deficient or inadequate methodology and inconsistent data. After reading the title and abstract, materials consistent with the researched theme were selected, which were then read in full. Subsequently, the material was analyzed and a summary of the most relevant aspects of each article was made. Then, the critical review was written, in which it was implemented in a multilevel evaluation approach. The most crucial aspects were recorded and summarized for analysis. A flowchart illustrates the process of screening and selecting the reference material for this review (Figure 1).

Figure 1. Sorting flow and selection of reference material for review.



*Source: the authors.

RESULTS

Surprisingly, although the currently available scientific literature is prolific in articles that address public policy guidelines and discriminatory and stigmatizing aspects of individuals infected with Mpox, there are few scientific articles that address the application of public health strategies for the implementation of health policies aimed at avoiding or mitigating the effects of social stigmatization in the context of the current Mpox outbreak. None of the articles evaluated presented a comprehensive approach to public health strategies to combat social stigmatization in the context of Mpox. Analyzing the references consulted, the recommendations can be summarized in three axes of action: awareness of health professionals, effective communication in the non-discriminatory understanding of the population, and specific medical care measures to mitigate the effects of stigmatization of patients with Mpox. Considering that individuals in real risk groups or those falsely attributed to these groups by ethnic discrimination are more vulnerable to stigmatization by society,

such measures cannot be neglected in the management of effective public health measures. The most relevant aspects of the articles dealing with public health strategies for the prevention or mitigation of social stigma in Mpox are summarized in Table 1.

TABLE 1 – Main recommendations in references that deal with public health strategies in the prevention or mitigation of social stigmatization in the context of the Mpox outbreak.

Reference	Focus of the public health strategies presented	Key Recommended Public Health Measures
Lim et al.	Anonymity and respect for patients. Implementation of targeted communication.	Anonymized testing procedures. Collaborative partnerships between health authorities, individual influencers, and organizations representing stigmatized groups.
Yang et al.	Implementation of targeted communication.	Communication strategies that dissociate Mpox from sexual behavior and promote efforts to reduce the proliferation of stigma.
Aquino et al.	Implementation of targeted communication.	Communication strategies dissociating Mpox from sexual behavior and focusing on the general public.
Schmidt-Sane et al.	Implementation of targeted communication.	Collaboration between public health authorities and LGBTQ+ community organizations. Involvement of LGBTQ+ communities in case identification and contact tracing. Utilize location-based strategies of individuals or groups vulnerable to social stigma, such as in LGBTQ+ bars and festivals.
Steps et al.	Awareness and training of health professionals	Establish spaces for discussion in health teams, encouraging the collective development of knowledge, humanized practices and ethical considerations.
Woodward e Rivers	Anonymity and respect for patients. Awareness and training of health professionals	Improve the ability to continuously interact with patients by incorporating cultural sensitivity and linguistic aspects specific to the LGBTQ+ communities served. Conducting medical interviews with empathy, fostering trust-building relationships with patients. Promote anonymity during the diagnosis and treatment phases.
Bergman et al.	Awareness and training of health professionals	Do not segregate the environment of medical care by sexual orientation. Empathy and positive questions and messages of affirmation during the process of obtaining medical history. Ensure up-to-date information on Mpox and humanized practices to health teams.

Lim et al. (2022) conducted extensive research on public health measures targeting LGBTQ+ people in South Korea, identifying shortcomings and successes in this process. Several successful strategies in public health management have been identified. Anonymized testing procedures for diagnosis have reduced stigma and progressively encouraged testing rates. Establishing partnerships between health authorities and organizations (both formal and informal) established partnerships, consultations, and collaborated with stigmatized groups in outbreak control. Health authorities worked together with individual "influencers" – including digital influencers, with a large reach on

social networks – known in stigmatized groups as reliable agents, to disseminate guidance on the disease and measures to be adopted to avoid discrimination. In addition to these measures, health authorities have proactively developed anti-discrimination policies and dissociation of the image of LGBTQ+ groups and Mpox infection, informing about the forms of non-sexual transmission and promoting campaigns of empathy, social harmonization and solidarity with those infected.

Yang et al. (2022) propose four steps in public health communication strategies to avoid stigmatization of those infected with Mpox and risk groups. First, to inform that it is not an essentially sexually transmitted disease, and that the main form of transmission of the virus occurs through contact with the skin, eyes, nose or mouth, emphasizing in the communication to the general public that it is not appropriate to establish a direct link between Mpox infection and homosexuality. Second, to guide communication in an appropriate and accurate manner, to eliminate social perceptions that the disease is caused only by inappropriate sexual behavior. Third, avoid using emotionally charged language to describe Mpox. Fourth, community engagement must be strengthened to reduce the proliferation of stigma. It is critical that the community provides public access to information and education about Mpox, guiding for cultural change and reducing stigma in the community, with the use of neutral and inclusive language. This procedure will make it easier for people infected with Mpox to develop a sense of social support when dealing with personal stigma.

Aquino et al. (2022) point out errors in public health strategies in information campaigns related to the Mpox outbreak. These authors consider that targeted campaigns can generate conceptual ambiguities that undermine public health responses to the outbreak, as well as psychosocial harm to the groups highlighted by such campaigns. Discourses that rely on unfair generalizations undermine public health responses. Global public health responses should avoid resurrecting or reinforcing the myth of the "gay disease" as occurred at the beginning of the HIV epidemic in the 1980s (McCracken et al., 2022), especially in countries where homosexual activities are criminalized. According to the authors, stigma can be internalized even by the general population, who refuse to access and use health services for diseases presumably associated with sexual minorities. Thus, campaigns should be guided only by guidelines for prevention, identification of symptoms and search for medical attention.

According to Schmidt-Sane et al. (2022), the action of public health management bodies in conjunction with LGBTQ+ community organizations and sex workers is important for the response to Mpox. These organizations have established networks and outreach strategies. Response efforts can be integrated into these structures, and can be subsidized in the form of resources (dissemination material, guidance for care, or specific channels for the notification and referral of those infected) or financial, for the adoption of community engagement and stigma reduction strategies. The authors point out that it is critical to engage communities in case identification and contact tracing, as trust

plays a crucial role. Venue-based strategies, such as LGBTQ+ bars and festivals, can be used to reach at-risk groups by providing relevant information and services during large-scale events, with a lower risk of arousing stigma in the general population, as it has targeted audiences engaged in self-protection.

Passos et al. (2023) evaluated the strategies applied to health professionals in demystifying the association between Mpox and male patients who have sex with men. The main measure was the creation of spaces for debate in the health teams, in order to collectively build more humanized, ethical knowledge and practices of respect for the patient. The debate spaces allowed the clarification of information about Mpox, with the updating of health professionals about the disease, contributing to better care without stigmatization of patients.

Woodward and Rivers (2023) interviewed fifteen public health officials representing ten public health agencies, and four infectious disease specialists with experience in the care of patients with Mpox in order to establish the basic capacities needed to prepare effective public health actions for case investigation and contact tracing. Among the attributes considered most important in the care of the population most vulnerable to the disease, the ability to integrate between the health professional and the patient stands out, with cultural understanding and linguistic aspects peculiar to the communities they serve. According to the authors, healthcare professionals should be trained to conduct empathetic medical interviews in order to gain patients' trust. Another factor considered important is the maintenance of patients' anonymity in the diagnosis and treatment stages.

Bergman et al. (2022) suggest that an impartial clinical space should be used in the care of patients with suspected Mpox. The non-segregation of the care space for individuals with non-heterosexual practices allows patients to more easily disclose sexual practices that could potentially expose them to Mpox. The authors suggest that during the anamnesis, positive questions and messages regarding sexuality should be asked when interviewing people who have concerns about Mpox virus infection, so that there is no psychological embarrassment and allows for greater interaction and trust between doctor and patient. The establishment of empathy allows the patient to more easily report possible symptoms, aiding in the diagnosis and practices of mitigation of transmission. At the institutional level, it is important to ensure that the team of health care providers has access to the most up-to-date information about the disease in order to prevent misinformation and reduce fear and prejudice towards this infection.

DISCUSSION

Apart from the strategies to combat social stigmatization, most of the scientific articles on public health management about the current outbreak indicate protocols and measures for the care of patients with Mpox with a focus on hospital organization, medical care and treatment. Ahmed et al.

(2023) provide a synthesis of the main hospital management measures in the care of patients with Mpox. These authors prescribe the recruitment of specialized health professionals, preferably under 45 years of age, excluding those over 60 years of age and individuals with comorbidities or undergoing imnosuppressive therapy. Public health managers should provide training for professionals in the screening, management and clinical treatment, necessary care and support of patients with Mpox. The authors suggest that this training can be carried out through online platforms, following the recommendations of the WHO and following the advancement of science in best care practices. In relation to physical resources, there should be an adjustment in the administration, organization of the hospital space, supplies, resource management, and a specific room for the management of patients with Mpox; assessing the availability of resources for intensive care units as well as other departments, as well as the adoption of prophylaxis measures and vaccination strategies. Healthcare staff and healthcare facility staff entering patient rooms should wear personal protective equipment, including gowns, gloves, eye protection, and masks with standard N95 or higher filtration. Regarding patient follow-up, they suggest monitoring people and animals exposed to the risk of transmission through contact with infected patients within 21 days of exposure, inquiring about signs and symptoms suggestive of Mpox infection. Infected individuals should be isolated in their homes or other places during the period of disease manifestation. As an antiviral therapy, they suggest the use of Tecovirimat, with explicit medical guidance to patients about the use of this drug.

Goffman (1986) defines stigma as a mark or attribute that is associated with a person and that makes them socially unacceptable or deviant in some way. These marks can be physical, such as a visible scar, or social attributes, such as belonging to a minority ethnic group or having a non-heterosexual sexual orientation. This author argued that stigmas can be perceived negatively by society and that stigmatized people often face discrimination and prejudice. Following Goffman's (1986) reasoning, in the case of Mpox there are multiple layers of stigmatization, as the infectious disease is characterized by visible and exuberant skin lesions, in addition to the association of cases with men who have sex with men in the most recent outbreak. There is also the possibility of stigmatization due to the African origin of the disease, with prejudice associated with black or brown individuals; and the old name of the disease itself — Monkeypox or "monkeypox" — which reinforces the semantic dubiety in favor of racial discrimination. Stigma is a significant concern in public health management and policies, and effective and comprehensive interventions are needed to counter discriminatory effects during infectious disease outbreaks (YUAN et al., 2022). Stigmatizing discourses often use stereotyped formulas that feed cycles of fear. As a result, they segregate vulnerable social groups and restrict the access of individuals from these groups to health services (PINEDA et al., 2023). The stigmatization of individuals with Mpox may be responsible for

underreporting and isolation without seeking medical care that allows cases to be recorded (PINEDA et al., 2023; KENYON, 2022; ORSINI et al., 2023; YAGÜE-PASAMÓN, 2023; LE FORESTIER et al., 2024).

Passos et al. (2023), Bergman et al. (2022) and Woodward and Rivers (2023) propose that updating health professionals who care for groups at risk for Mpox is an important component in public health management, as it allows these professionals, in addition to knowledge about the disease, to eliminate prejudices that impair the correct conduct of health actions in the care of those infected. While Passos et al. (2023) and Bergman et al. (2022) are based on the idea that the discussion of the topic among the components of health teams is an ideal proposal for reducing social stigma, coherence of conduct, and cooperation in the dissemination of knowledge, Woodward and Rivers (2023) propose the training of professionals to conduct medical interviews with a focus on empathy, in order to gain the trust of patients. The combination of both recommendations is complementary, and the conduct of these coordinated practices by public health authorities is an important step in improving care protocols for the population affected by the Mpox outbreak. Training of health teams through online platforms, recommended by the WHO (AHMED et al., 2023), would make the care procedures and knowledge sharing of health teams more homogeneous and aligned with the health policies recommended by public health authorities.

Most of the articles evaluated emphasize the role of raising awareness among the general public and the groups most affected by the disease as fundamental in the prevention and control of the Mpox outbreak (YANG et al., 2022; SCHMIDT-SANE et al., 2022; LIM et al., 2022; WOODWARD and RIVERS, 2023). Communication is an important tool in public health management. According to Bragazzi et al. (2023), this communication should actively involve both the sender and the receiver (in this case, health authorities/organizations, the general public, and the non-heterosexual community, especially men who have sex with men) since health communication is a complex, multidimensional, and multi-stage process. Yang et al. (2022) and Lim et al. (2022) emphasize the need for different strategies in efficient public health communication for two distinct audiences, the at-risk groups and the general population. Such a proposition seems to be the most appropriate in order to avoid the errors of awareness campaigns pointed out by Aquino et al. (2022), mainly by using specific communication channels for the groups most affected by the outbreak, reducing the risks of stigmatization. These multi-level communication actions, however, require an even greater effort and the complexity necessary to achieve success in reaching and resulting in relation to target audiences. In this sense, Schmidt-Sane et al. (2022) and Lim et al. (2022) emphasize the role of contact networks as fundamental in the dissemination of reliable information to the at-risk population. Research among the general population and among key groups regarding knowledge about the disease, the perception of discriminatory and socially stigmatizing reactions,

and informational disorder are essential to adjust and direct the discourse, target audience, and content of information campaigns by public health managers in order to combat or mitigate the stigma attributed to those infected with Mpox and to socially discriminated groups (ZIMMERMANN et al., 2023; TORRES et al., 2023; SAALIM et al., 2023; CHOW et al., 2023).

Effective communication strategies should also be used in vaccination campaigns to avoid stigmatization. Although the willingness to vaccinate is considered satisfactory among stigmatized groups, at levels higher than those of the general population (TORRES et al., 2023; CHOW et al., 2023; MAY et al., 2023; PINTO et al., 2024, LEÓN-FIGUEROA et al., 2024), men who have sex with men who have concealed their sexual orientations are less willing to be vaccinated against Mpox, to undergo diagnostic testing for Mpox, and to report being immunized against Mpox (LE FORESTIER et al., 2024). Such concealment may be related, among other psychological circumstances, to the fear of stigma related to sexual orientation, exacerbated by the risk of stigmatization related to the possibility of Mpox infection. This finding highlights the need for multi-level communication strategies, associated with anonymity protocols, to expand the reach of health services to individuals refractory to care due to the stigma associated with Mpox. Thus, while the propositions of Schmidt-Sane et al. (2022) and Lim et al. (2022) are more appropriate to reach the specific audience identified with the community of men who have sex with men, the premises of Yang et al. (2022) and Aquino et al. (2022), which predict the non-association of Mpox prevention with sexual behaviors, It can be effective in reaching a portion of men who have sex with men who have hidden their sexual orientations in awareness campaigns for a group that may not follow the communication channels aimed at the non-heterosexual public. This group could also be less refractory to vaccination and access to health systems if reached by campaigns that emphasize anonymity in the stages of screening, diagnosis, treatment, and follow-up of the infection, as proposed by Lim et al. (2022), Woodward and Rivers (2023), and Bergman et al. (2022).

A prominent risk for stigmatization in the context of the Mpox outbreak is discriminatory, inaccurate, or alarmist content on social media. Although the levels of misinformation and stigma in social media posts have decreased since the beginning of the outbreak (EDINGER et al., 2023), much of the content still has misconceptions, lack of information, and content that leads to stigmatization of patients and real or assigned risk groups (BARTON et al., 2023; HONG, 2023; GARCIA-IGLESIAS et al., 2023; SHI et al., 2023; COMEAU et al., 2023; JI-XU et al., 2023; ANOOP and SREELAKSHMI, 2023; BASCH et al., 2024). The necessary isolation during the manifestation of the clinical signs of Mpox keeps infected individuals away from places of concentration such as bars and festivals, where the information strategies proposed by Schmidt-Sane et al. (2022) would be applied. The open and anarchic nature of the dissemination of information on social networks is beyond the control of public health authorities and requires countermeasures to

combat the reach and sedimentation of ideas that incite social stigmatization of those affected by the Mpox outbreak. It is in this context that the recommendations of Lim et al. (2022) on the partnership between digital influencers and health authorities for the production of scientifically based content and guidance and psychological support for individuals in isolation may be important to mitigate the effects of stigmatization and psychological effects resulting from quarantine. Health professionals, especially those responsible for mental health in the follow-up of these patients, should provide guidance on the need for access to safe and non-stigmatizing information during the isolation period, indicating which sources are recommended by public health managers.

Lim et al. (2022), Woodward and Rivers (2023), and Bergman et al. (2022) address issues related to specific medical care measures to mitigate the effects of stigmatization of patients with Mpox. According to these authors, the performance of diagnostic tests that maintain anonymity is essential to reach possibly infected individuals without fear of stigmatization. Bergman et al. (2022) also point out as important factors the non-segregation of the care space for individuals with non-heterosexual practices and the conduction of anamnesis with positive and non-discriminatory attitudes towards sexuality as measures to be adopted to mitigate the stigmatization of patients in risk groups for the disease. The adoption of such practices, under the guidance of public health managers, mitigates the problems caused by stigmatization and humanizes the medical care necessary for the detection and treatment of Mpox infection. A good doctor-patient relationship, based on respect and trust, is essential for the success of treatment (TURABIAN, 2019), especially when isolation is necessary due to the disease to prevent dissemination to other individuals and to preserve the patient from possible acts of social discrimination due to the exuberant lesions of Mpox.

Although not directly mentioned in the articles that deal directly with public health management in the care of patients with Mpox, the mental health dimension of these patients should not be neglected. Individuals with illnesses associated with social stigmas often experience psychosocial or psychiatric complications, such as social isolation, depression, or even suicidal ideation (YAGÜE-PASAMÓN, 2023; CHIME et al., 2022). According to Aroyewun et al. (2022), the signs and symptoms of Mpox, as well as the methods of controlling its spread, are related to stressors, such as fear, panic, anxiety, anger, boredom, exhaustion, social isolation, financial loss, and stigma. These stressors can be aggravated during isolation by Mpox-related stigmatization posts on social media (EDINGER et al., 2022; BARTON et al., 2023; HONG, 2023; GARCIA-IGLESIAS et al., 2023; SHI et al., 2023; COMEAU et al., 2023; JI-XU et al., 2023; ANOOP and SREELAKSHMI, 2023; BASCH et al., 2024; KEUM et al., 2023). Adler et al. (2022) point out that more than 25% of Mpox patients who were hospitalized had anxiety or depression that required counseling. HIV patients affected by Mpox were also more likely to experience anxiety (FU et al., 2023). Considering the psychological vulnerability of patients who are already stigmatized by the

virus, the mental health of these patients should conform to the set of public health management measures in the follow-up of treatment, which, in addition to the psychological pressures related to the skin lesions caused by the disease and the stigmatization by society, requires isolation for a recommended period of 21 days. Impacts on mental health in periods of isolation and quarantine have been seen in the recent COVID-19 pandemic, with high rates of anxiety, depression, and suicide (ADLER et al., 2022; LEAUNE et al., 2020; RESKATI et al., 2023; MISGANA et al., 2023).

Hodson et al. (2023) state that the current Mpox outbreak, as it involves aspects that go beyond the singularity of the sudden increase in infection, requires a multidisciplinary approach. Although none of the articles consulted covered all perspectives of conduct in public health management, the joint approach in the three axes synthesized in the analysis of the literature that reflects the international experience should be added to the incorporation of the mental health aspect to the care of individuals from the groups with the highest incidence and infected. The holistic management of the set of public health strategies, encompassing all these aspects, is critical to driving effective strategies in mitigating the social stigma associated with Mpox.

CONCLUSION

Analysis of the scientific literature reveals the complexity of the challenge of managing the social stigma associated with Mpox. The conjuncture of the current outbreak adds, in addition to the physical stigmas of skin rashes, the already existing discrimination against risk groups affected by the epidemic, mainly men who have sex with men, and falsely attributed risk groups, such as black individuals or those of African origin. To address this problem comprehensively, the reviewed studies highlight the importance of public health management strategies in three areas: awareness and training of health professionals, targeted communication that is sensitive to the needs of different affected groups, and medical care measures that ensure anonymity and respect for patients.

Comparing the proposed strategies with the main problems that incite stigmatization, it is evident that the adjustment of strategies concerning the characteristics of the disease, the population groups most affected in the present outbreak, and the potential for social stigmatization of these groups is necessary to achieve greater effectiveness in the application of public health guidelines. The awareness and training of professionals should be directed to the training of professionals and the conduction of medical interviews with a focus on empathy. In the area of targeted communication, multilevel strategies should be adopted to reach the various vulnerable population groups. In relation to medical care, protocols that ensure the performance of diagnostic tests that maintain anonymity and non-segregation of the care space for individuals with non-heterosexual practices and the conduction of anamnesis with positive and non-discriminatory attitudes towards

sexuality as measures to be adopted to mitigate the stigmatization of patients in risk groups for the disease.

In addition to the strategies found in the current literature review, mental health care for patients with Mpox is a crucial dimension that cannot be neglected, given the psychological vulnerability of these individuals due to both the disease itself and social stigmatization. As social stigma can have important psychological effects, individuals who feel threatened, who develop the infection and especially those who need quarantine due to the clinical evolution of the disease need follow-up and guidance in order to avoid the effects of stigmatization or social isolation necessary until the process of curing Mpox.

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