



# Biased Studies and Sampling from LGBTQ Communities Created a Next-Level Social Stigma in Monkeypox: A Public Health Emergency of International Concern (PHEIC)

Rajeev K. Singla<sup>1,2\*</sup>, Shailja Singla<sup>2</sup>, Bairong Shen<sup>1\*</sup>

<sup>1</sup> Institutes for Systems Genetics, Frontiers Science Center for Disease-Related Molecular Network, West China Hospital, Sichuan University, Xinchuan Road 2222, Chengdu, Sichuan, China

<sup>2</sup> iGlobal Research and Publishing Foundation, New Delhi-110059, India

Address for Correspondence: Rajeev K. Singla, [rajeevsingla26@gmail.com](mailto:rajeevsingla26@gmail.com); Bairong Shen, [bairong.shen@scu.edu.cn](mailto:bairong.shen@scu.edu.cn)

## Received:

03.08.2022

## Accepted:

04.08.2022

## Published:

04.08.2022

## Keywords

Monkeypox;  
Public health;  
LGBTQ; MSM;  
Men having Sex  
with Men;  
Pandemic.

**ABSTRACT:** Since 2020, we are witnessing a COVID-19 pandemic that has ruled out all other pandemics ever happened in our history. Countries are still not be able to manage the COVID-19 threat properly, and while we are still dealing with it, here comes another deadly infectious disease, monkeypox. Rapid circulation of monkeypox infections worldwide has forced the WHO to declared it as PHEIC. As per the current reports available on WHO, though the monkeypox is alarmingly spreading, but this threat seems to be quite manageable if dealt properly with smallpox vaccine and other antibiotic regimens in proper place. Key challenge now is actually how to control misinformation and misleading news that flooded the social media and news outlets. We have gathered studies available on the PubMed search engine since the starting of 2022, and also collected relevant information from WHO and other reliable news sources. As on 27.07.2022, WHO reported 19,178 laboratory confirmed cases, and out of these, on the white paper, only for 31.8% cases, there was recorded information about the sexual orientation. But if we look at the scientific publications and social media, it is only men having sex with men (MSM) who are the main victims and having monkeypox infections. Same message is being circulated to the common public through such channels. It is thus becoming responsibility of WHO, government and public health agencies to properly guide the public and aware them about the misleading information. Further, the presence of monkeypox DNA in the urine and feces have again showcased the role of wastewater management and proper surveillance. © 2022 iGlobal Research and Publishing Foundation. All rights reserved.

**Cite this article as:** Singla, R.K.; Singla, S.; Shen, B. Biased Studies and Sampling from LGBTQ Communities Created a Next-Level Social Stigma in Monkeypox: A Public Health Emergency of International Concern (PHEIC). Indo Global J. Pharm. Sci., 2022; 12: 205-208. DOI: <http://doi.org/10.35652/IGJPS.2022.12025>

## INTRODUCTION

Monkeypox is caused by a rare zoonotic DNA orthopoxvirus, monkeypox virus. This infectious and communicable disease is now being declared by **World Health Organization (WHO)** as Global Public Health Emergency [1,2]. As per the records on **WHO**, a total of 19,178 laboratory confirmed cases of monkeypox infections have been reported from 78 member states (countries), as on 27.07.2022. Top ten countries accounting for 88.4% cases are being represented in **Figure 1**. Though countries from European region and American regions accounting for the maximum monkeypox cases, but this gives

no relaxation to the African and Asian countries. India has confirmed first death from monkeypox infection as per the reports from **Reuters** dated 01.08.2022. The most common symptoms being reported were any rash, systemic rash, and fever (Refer **Figure 2** for top ten symptoms) in monkeypox infected cases. Data completeness is a big issue when dealing with any such emergencies especially when you need to coordinate with countries across the globe. **Table 1** is representing glimpse of such issue being faced by WHO also. Though the WHO declared 19,178 laboratory confirmed cases, but **Table 1** covered only 17,235 cases. Out of these 17,235

cases, only for 15,071 cases i.e. 87.44%, they have detailed information.

news headlines is because of the biased studies and selected sampling from the LGBTQ community, other than the “*read between the lines*” attitude of media people.

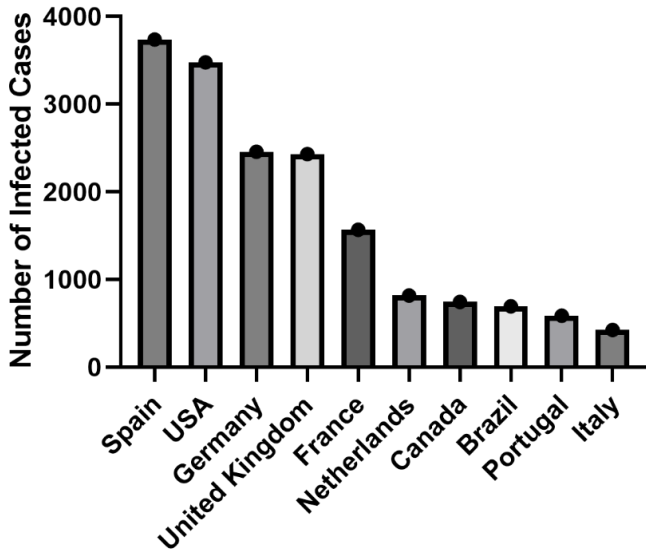


Figure 1: Top ten countries with maximum number of monkeypox infected cases. Data adopted from WHO infographics, last updated 27.07.2022.

Table 1: Monkeypox reporting completeness as per the WHO records dated 27.07.2022.

WHO Classified Regions	Total Confirmed Cases	% Detailed Cases Reported
European Region	13,043	97.8%
Region of the Americas	3,772	56.2%
African Region	328	52.7%
Western Pacific Region	62	21.0%
Eastern Mediterranean Region	25	92.0%
South-East Asia Region	5	100%

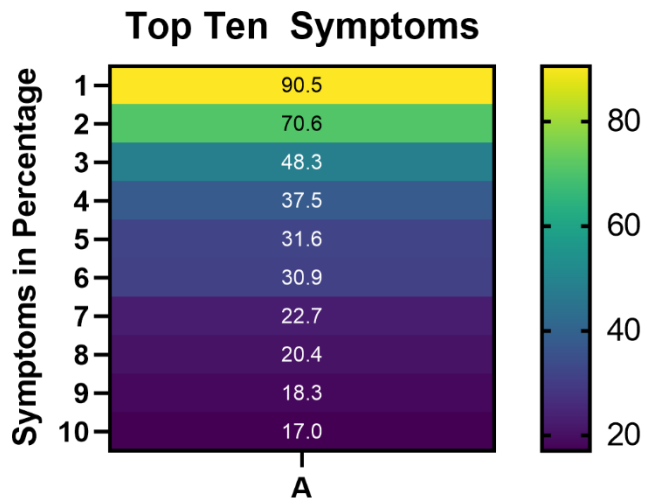


Figure 2: Top ten symptoms observed in the monkeypox infected cases as per the data collected by WHO as on 26.07.2022. 1: Any rash; 2: Systemic rash; 3: Fever; 4: Genital rash; 5: Any lymphadenopathy; 6: Lymphadenopathy; 7: Fatigue; 8: Headache; 9: Muscle ache; 10: Local lymphadenopathy.

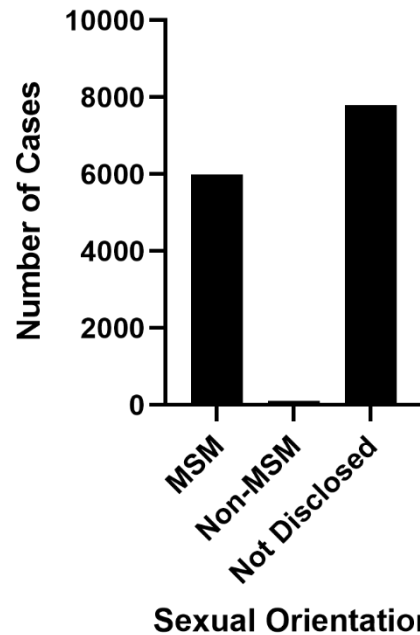


Figure 3: Sexual orientation of the monkeypox reported cases as per WHO dated 27.07.2022. Note: WHO has this data of 13,893 cases only out of 19,178 total cases. Not disclosed should also be considered as missing value or no information.

Further, out of 13,893 cases from these, WHO is having information about sexual orientation for 6,099 cases only (Figure 3). So, considering 19,178 laboratory confirmed cases, we could also say that only for 31.8% cases (6,099 cases) we have sexual orientation data. But ironically, despite being such a low number, the headlines in newspapers these days claiming monkeypox to be in Men having Sex with Men (MSM). The story doesn’t end here. The key reason for such

**BIASED STUDIES/SELECTED SAMPLING**  
Benatti and the collaborators have discussed the ophthalmic manifestation in the monkeypox infected case of 39 years old

male whose sexual orientation is bisexual. He have had multiple unprotected sexual encounters. During the infection time, he had developed left eye blepharconjunctivitis, which was treated well with topical ophthalmic formulations [3].

Bociąga-Jasik and the team have presented a case of 47 years old, HIV-1 infected case who have had unprotected sex with men 7 and 14 days before the symptoms of monkeypox infection like painless genital rash and inguinal lymph nodes [4].

Hoffmann and the collaborators had intention to characterize the monkeypox cases, but to do that, they have decided to send anonymous questionnaire to the German AIDS society and the physicians dealing with HIV medicine. The results are obvious then with 301 PCR-verified monkeypox cases to be the affected person of the category MSM. They have further concluded their work with probability claim of monkeypox infection being the sexually transmitted infection (STI) among MSM [5].

Ortiz-Martínez and the collaborators have selected to present the case of sexually active, 36 years old MSM case from Colorado, USA who was also on a HIV pre-exposure prophylaxis. The patient has reported painless lesions on the penis and found to be positive with monkeypox infection [6].

Peiró-Mestres and the team had taken clinical samples from 12 monkeypox infected cases and all of them are MSM cases. Though their study is of significance as they found that the monkeypox DNA was detected in multiple bodily fluids like saliva, semen, urine, feces, etc [7].

Patel and the team had studied 197 monkeypox infected cases from central London centre and 196 out of them were gay, bisexual, or other MSM category people. They have observed a variable temporal association between mucocutaneous and systemic disease [8].

Davido and the collaborators have studied a 48 years old MSM case who was infected with monkeypox virus. But the information worthy to note in this study was that the case was previous vaccinated with smallpox vaccine [9].

Liu and the team have claimed MSM category people as the new victim for monkeypox infection. They have specifically discussed the monkeypox characteristics and associated health threats in the MSM cases [10].

## **STUDIES IN CONTRAST TO MSM THEORY**

Pembi and the collaborators have presented an exciting case of monkeypox infection and reportedly being the first case in Adamawa State, Nigeria. The case is about a 30 years old military personnel, who had no history of contact with any infected case considering the past three weeks before onset of the monkeypox symptoms. Infact, it seems like a non-MSM case and also not a single indication of this infection through

any sort of sexual contact as per the reports published in the article [11].

## **OTHER MISINFORMATION'S CIRCULATED DURING SUCH PANDEMICS OR EMERGENCY**

Ortiz-Martínez and the team had presented the results from top 100 tweets with monkeypox term and having at least 100 replies, retweets and likes, and found that 52% of the tweets were including misinformation and unverifiable information. One of such misleading tweets include "Is it really monkeypox? Or is it Pfizerpox?" [12].

Other misleading information on the social media is the unsubstantiated association of monkeypox virus with COVID-19 vaccination, especially that of Astrazeneca vaccine [13].

## **CONCLUSION AND KEY HOME MESSAGES**

In a bid to intensify the disease control measures, WHO has declared monkeypox as PHEIC [14]. For more than 68% of the monkeypox infected cases, sexual orientation related information was missing. Despite this fact, the PubMed was flooded with the articles and case-history reports related to the MSM and LGBTQ community people.

LGBTQ community facing tremendous issues related to the sexually transmitted diseases including HIV, but the main challenge to them is still their social acceptance. Now selective monkeypox related studies of the MSM and other LGBTQ people further decreased their acceptability.

As monkeypox is an infectious and communicable disease, it will be noteworthy to recommend and take necessary measures to avoid it as much as possible. Even if we give sexual contact as minimal possible way of transmission, we can't rule it out still. So, it will be advisable to do the protected sex. As examined by the team of Peiro-Mestres, the presence of monkeypox DNA in urine and feces samples has indicated the importance of wastewater management and surveillance [7,15].

## **ACKNOWLEDGEMENT**

This paper is dedicated to all frontline health-workers and social workers who are working towards curbing such global public health emergencies.

## **AUTHOR'S CONTRIBUTION**

All authors listed have made a substantial, direct, and intellectual contribution to the work and approved it for publication.

## **FUNDING SOURCE**

There was no funding source for this review article.

## **ETHICS STATEMENT**

The authors have taken all the necessary permissions as per ethical guidelines wherever applicable. The authors will be responsible for all the technical content mentioned in

the manuscript. Journal and Publisher will not be responsible for any copyright infringement and plagiarism issue.

## CONFLICTS OF INTEREST

Dr. Rajeev K. Singla and Shailja Singla have an honorary-based association with the iGlobal Research and Publishing Foundation (iGRPF), New Delhi, India. All authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

## DATA AVAILABILITY

All the key information is already available in the manuscript; still, the authors are ready to any further data if the inquiry's proper channel will be routed through journal and affiliation authorities.

## REFERENCES

1. Adler, H.; Gould, S.; Hine, P.; Snell, L.B.; Wong, W.; Houlihan, C.F.; Osborne, J.C.; Rampling, T.; Beadsworth, M.B.J.; Duncan, C.J.A.; et al. Clinical features and management of human monkeypox: a retrospective observational study in the UK. *The Lancet Infectious Diseases* **2022**, *22*, 1153-1162, doi:10.1016/s1473-3099(22)00228-6.
2. Nuzzo, J.B.; Borio, L.L.; Gostin, L.O. The WHO Declaration of Monkeypox as a Global Public Health Emergency. *Jama* **2022**, doi:10.1001/jama.2022.12513.
3. Benatti, S.V.; Venturelli, S.; Comi, N.; Borghi, F.; Paolucci, S.; Baldanti, F. Ophthalmic manifestation of monkeypox infection. *The Lancet Infectious Diseases* **2022**, doi:10.1016/s1473-3099(22)00504-7.
4. Bociąga-Jasik, M.; Raczyńska, A.; Lara, M.; Kalinowska-Nowak, A.; Garlicki, A. Monkeypox present with genital ulcers-challenging clinical problem. *Polish Archives of Internal Medicine* **2022**, doi:10.20452/pamw.16304.
5. Hoffmann, C.; Jessen, H.; Wyen, C.; Noe, S.; Kreckel, P.; Köppe, S.; Krauss, A.-S.; Schuler, C.; Bickel, M.; Lenz, J.; et al. Monkeypox in Germany. *Deutsches Ärzteblatt international* **2022**, doi:10.3238/arztebl.m2022.0287.
6. Ortiz-Martínez, Y.; Rodríguez-Morales, A.J.; Franco-Paredes, C.; Chastain, D.B.; Gharamti, A.A.; Vargas Barahona, L.; Henao-Martínez, A.F. Monkeypox – a description of the clinical progression of skin lesions: a case report from Colorado, USA. *Therapeutic Advances in Infectious Disease* **2022**, *9*, doi:10.1177/20499361221117726.
7. Peiró-Mestres, A.; Fuertes, I.; Camprubí-Ferrer, D.; Marcos, M.Á.; Vilella, A.; Navarro, M.; Rodríguez-Elena, L.; Riera, J.; Català, A.; Martínez, M.J.; et al. Frequent detection of monkeypox virus DNA in saliva, semen, and other clinical samples from 12 patients, Barcelona, Spain, May to June

2022. *Eurosurveillance* **2022**, *27*, doi:10.2807/1560-7917.Es.2022.27.28.2200503.
8. Patel, A.; Bilinska, J.; Tam, J.C.H.; Da Silva Fontoura, D.; Mason, C.Y.; Daunt, A.; Snell, L.B.; Murphy, J.; Potter, J.; Tuudah, C.; et al. Clinical features and novel presentations of human monkeypox in a central London centre during the 2022 outbreak: descriptive case series. *Bmj* **2022**, doi:10.1136/bmj-2022-072410.
9. Davido, B.; D'Anglejan, E.; Baudoin, R.; Dahmane, L.; Chaud, A.; Cortier, M.; Vauloup-Fellous, C.; De Truchis, P.; Ghosn, J. Monkeypox outbreak 2022: an unusual case of peritonsillar abscess in a person previously vaccinated against smallpox. *Journal of Travel Medicine* **2022**, doi:10.1093/jtm/taac082.
10. Liu, X.; Zhu, Z.; He, Y.; Lim, J.W.; Lane, B.; Wang, H.; Peng, Q.; Sun, L.; Lu, H. Monkeypox claims new victims: the outbreak in men who have sex with men. *Infectious Diseases of Poverty* **2022**, *11*, doi:10.1186/s40249-022-01007-6.
11. Pemi, E.; Awang, S.; Salaudeen, S.O.; Agaba, I.A.; Omoleke, S. First confirmed case of Monkeypox in Adamawa State, Nigeria: a clinico-epidemiological case report. *Pan African Medical Journal* **2022**, *42*, doi:10.11604/pamj.2022.42.38.34715.
12. Ortiz-Martínez, Y.; Sarmiento, J.; Bonilla-Aldana, D.K.; Rodríguez-Morales, A.J. Monkeypox goes viral: measuring the misinformation outbreak on Twitter. *The Journal of Infection in Developing Countries* **2022**, *16*, 1218-1220, doi:10.3855/jidc.16907.
13. Ennab, F.; Nawaz, F.A.; Narain, K.; Nchasi, G.; Essar, M.Y.; Head, M.G.; Singla, R.K.; Atanasov, A.G.; Shen, B. Monkeypox Outbreaks in 2022: Battling Another "Pandemic" of Misinformation. *International Journal of Public Health* **2022**, *67*, doi:10.3389/ijph.2022.1605149.
14. Zarocostas, J. Monkeypox PHEIC decision hoped to spur the world to act. *The Lancet* **2022**, *400*, doi:10.1016/s0140-6736(22)01419-2.
15. Nelson, B. What poo tells us: wastewater surveillance comes of age amid covid, monkeypox, and polio. *Bmj* **2022**, doi:10.1136/bmj.o1869.

Indo Global Journal of Pharmaceutical Sciences( ISSN 2249 1023; CODEN- IGJPAI; NLM ID: 101610675) indexed and abstracted in CrossRef (DOI Enabling), CNKI, EMBASE (Elsevier), National Library of Medicine (NLM) Catalog (NCBI), ResearchGate, Publons (Clarivate Analytics), CAS (ACS), Index Copernicus, Google Scholar and many more. For further details, visit <http://iglobaljournal.com>