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MONKEYPOX AND SEXUAL HEALTH

Okereke Promise Udohchukwu1,2,3, Mohamed Terra2,4, Sospeter Berling Sospeter 6\*, Okereke Wisdom Obumneme1,3, Uche Collins Chidera1,3, Ugwuanyi Philemon1,3, Ginger-Eke Ikenna Daniel1,2,3, Ibeh David Arinze5

1 Faculty of Dentistry, College of Medicine, University of Nigeria.

2 YOHAN Research Institute.  
3 African Dental Students Association (AfroDSA), Science and Technological Advancement Working Group.

4 Faculty of Medicine, Mansoura University, 60El-Gomhoria Street, Mansoura 35516, Egypt.

5 Faculty of Medicine, College of Medicine, University of Nigeria.

6 Weill Bugando School of Medicine, Catholic University of Health and Allied Sciences, Mwanza Tanzania.

Corresponding author:

Corresponding author: Sospeter Berling Sospeter\*

E-mail: [slukanazya@gmail.com](mailto:slukanazya@gmail.com)

Tel.: +255629006023

Address: CUHAS BUGANDO MWANZA TANZANIA

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**ABSTRACT**Monkeypox is a viral disease with skin rashes and symptoms similar to smallpox. Evidence suggests it can be sexually transmitted. This review focuses on the current understanding of sexual transmission, clinical manifestations, and roles of healthcare providers such as dentists and clinicians. Limited data exists on sexual transmission, making it less important for healthcare providers to consider it in patient management. Dentists and clinicians should be aware of the clinical manifestations and be vigilant for signs in patients with recent sexual contact. This review highlights the importance of ongoing surveillance and research into the sexual transmission of monkeypox and the role of healthcare providers in its management.

**Keywords**

Monkeypox, Sexual transmission, Clinicians, Dentists.

**INTRODUCTION**

After over a decade from the discovery of the Monkeypox virus among infected Monkeys at Copenhagen, Denmark in 1958, there was still no record of any human case infection 1. This contributed to the misnomer "Monkeypox" despite the virus' ability to infect other animal hosts, especially rodents and non-human mammals 2. But before smallpox was declared eradicated, the first human case was recorded in the Democratic Republic of Congo (DRC) in a 9-month-old baby in 1970 2. From then on, several cases of Human Monkeypox were discovered in tropical areas of Central and West Africa 2. But these cases remained endemic in Africa until 2003 when over 47 cases were recorded in the United States 3. However, the highest recorded cases of Monkeypox were in Nigeria in 2017, where there were over 500 suspected cases and 200 confirmed cases 2.

Human Monkeypox is a zoonotic virus from the family Poxviridae, subfamily Chordopoxvirinae, and Genus Orthopoxvirus. It was later divided into the West Africa Clade and the Central Africa (Congo Basin) Clade which is more virulent 4. In comparison to smallpox, monkeypox is less contagious but can also be transferred from animal to human, human to human, and even mother to fetus through the placenta 2. But the transmission is majorly through contact with infected bodily fluids, skin lesions, and infected environment (including nosocomial infection).

Monkeypox is a self-limiting disease with an incubation period of 5-21 days followed by the prodromal period of illness with symptoms of fever, severe headache, muscle pain, asthenia, and lymphadenopathy (distinguishing feature from smallpox) 2. After this period, skin eruptions begin to appear. These rashes usually appear on the face and extremities as well as the genitalia, mucosal membranes, conjunctiva, and cornea; progressing from macules, papules, vesicles, pustules, and finally crusts 5.

However, despite the approval of the attenuated vaccinia virus in 2019 and its treatment with antiviral agents like tecovirimat; there's still a lack of clinical management guidelines and available vaccines 2,6. It was discovered that people vaccinated in the last four decades against smallpox show lower susceptibility to Monkeypox but unfortunately, routine vaccination against smallpox has significantly declined since it was declared eradicated. Thus, both endemic and nonendemic areas are now more susceptible to monkeypox, particularly among those under 40 or 50 years old and those with preexisting health issues 4.

Therefore, it is important to understudy the relationship between monkeypox and sexual health in order to understand how they both interplay to affect overall health, given the fact that the disease in question has been declared a disease of public health concern, which is the overall health of this paper.

**SEXUAL TRANSMISSION OF MONKEYPOX**

So many possible routes of transmission have been posited. However, there have been speculations that the sexual transmission of Monkeypox is possible, ever since several cases were recorded among men sleeping with men 7. At this time, MPX denotes the most recent emerging zoonotic disease worldwide 8. For this reason, it is important to know the clinical characteristics, and sexual behavior to aid in the correct management of these patients.

It has been found that the majority of patients are men who have sex with men (MSM) or gay or bisexual as their sexual behavior are at high risk of contracting MPX virus with an average age of 36 years. Most of the patients may have a coexisting sexually transmitted infection (STI) such as Herpes virus, Gonorrhea, and syphilis with a high prevalence of HIV-positive patients 8–13.

**CLINICAL MANIFESTATIONS AFTER TRANSMISSION**

The most frequent clinical manifestations that have been observed in patients confirmed with monkeypox were fever, headache, and painful perianal and genital lesions. (Figure 1) 14

The average number of days from systemic symptoms to the appearance of lesions was 3. The most frequent sites of lesions were perianal, genital, oral, trunk, and upper and lower extremities 8–13,15–19.

**THE ROLE OF THE DENTIST**

The dentist as an oral healthcare personnel might be the first to diagnose the infection given his wealth of knowledge as the oral lesions may be the first to appear. Common oral lesions like ulcerations on the tongue, tonsils, and cheek lining are believed to impact a patient's ability to eat and drink, leading to dehydration and malnutrition 20,21. These ulcers can result to an erosive lesion from the nascent maculopapular presentation 22. Thus, adequate care must be taken by the dentist in the management of MPX patients through adequate diagnosis as the clinical symptoms may be mistaken for the herpes virus infection hence definitive diagnosis by histology is advised 23.

Therefore, dentists are advised to implement and abide by the infection prevention control measures recommended by the World Health Organization (WHO) which include

1. the use of proper personal protective equipment (PPE) like KN95 facemasks, face shield and googles during invasive procedures that may generate aerosols like Root canal therapy, crown preparation, Scaling and polishing etc.
2. good environmental hygiene of the patients’ home and the dental clinic and facilities.
3. Appropriate handling of linens from a suspected MPX patient to avoid dispersion of infectious particles.
4. Strict observance to disinfection and sterilization measures per country guidelines.
5. Appropriate disposal of used PPEs at the designated disposal site while having in mind the procedures for offing used PPEs by dentists 24.

Also, dentists should defer elective dental procedures of patients suspected or diagnosed of the infection until the definitive diagnosis is obtained or patients becomes noninfectious. Dentists should also educate patients on the ways they can protect themselves from contracting or spreading the virus. Moreover, patients with MPX virus should not be managed in an open facility where other patients are being taken care of 25.

These roles if adequately followed and implemented will go a long way in ensuring the mitigation of infectivity and spread of the virus.

**THE ROLE OF THE CLINICIAN**

As international borders become more blurred as a result of increased human and animal mobility and transportation, as well as growing concerns about the possibility of bioterrorism threats, the public health system is expected to continue to confront infectious disease risks from novel and rare viruses. However, infectious diseases will pose challenges to more than just the public health system in the coming years. Clinicians should also anticipate that their patients will have questions about these emerging infections especially sexually transmitted infections and should expect them to seek updated information as well as reassurance. Thus, the clinician needs to be fully aware of these new developments as he attends to his patients as this will aid in mitigating the spread, also a good awareness needs to be made by clinicians amongst the young populace on the prevention of these diseases as they seem to be the prevalent population affected by the disease.

Besides, they should indeed consider that the disease may spread through sexual contact, which is not yet widely known or popularized, therefore they need to obtain a very detailed history and do the examination with caution, as well as have good background knowledge on the presentations and pathological features of the disease, while also being armed with the most recent updates on public health issues and outbreaks, which are reported each week in the Morbidity and Mortality Weekly Report (MMWR), that may be found on the CDC's website ([www.cdc.gov](http://www.cdc.gov)).  
Additionally, in both outpatient and inpatient settings, clinicians will need to have infection control procedures in place. For instance, if a woman goes to the office of her obstetrician and gynecologist complaining of a rash disease and her child keeps a prairie dog as a pet, there needs to be a system in place that allows for the appropriate response to be taken.

Furthermore, familiarity with the structure of the infectious illness reporting system is crucial. Clinicians should always notify their state or local health departments about any concerns they may have about a patient's unusual clinical presentation or a possible disease outbreak. In order to best inform their patients and provide reassurance, clinicians will need to be aware of any new infections as they emerge.

**Conclusion**

The reemerging of monkeypox has quickly spread all over the world and has shown uncommon accounts of person-to-person spread through possible sexual contact. The prevalence of STIs and the site of lesions point to local inoculation during intimate skin-to-skin or mucosal contact during sexual activity. Men who have sex with men have been shown to be people who are most at risk of spreading monkeypox, given that MPXV DNA can be found in seminal fluid. Good history and examination with adequate knowledge of the symptoms and presentation of the disease are crucial in diagnosis and treatment. Meanwhile, adequate awareness needs to be increased amongst the populace, especially the LGBTQ community who are the population at risk, to help in the prevention of the disease. Furthermore, clinicians and dentists need to arm themselves with the requisite knowledge of MPXV infection to ensure the adequate diagnosis and prompt infection prevention and control measures taken to be able to checkmate the increasing spread of the virus.

**Declaration of competing interests**

Authors have no conflict of interest.

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