

**Original Article****Chemsex and HIV/AIDS: Emerging Trends and Public Health Concerns**Mustafa Khan ¹, Atif Aslam ²¹ Department of Health Science, University of Texas at Austin² Department of Health Science, University of Texas at Austin National**ARTICLE INFO****Key Words:**

- * Chemsex
- * HIV/AIDS
- * risk factors
- * implications
- * multifaceted
- * emerging trends

Corresponding Author:*Mustafa Khan****ABSTRACT**

The intersection of chemsex and HIV/AIDS presents a growing public health concern that demands comprehensive exploration. This paper delves into the complex relationship between chemsex practices and the transmission of HIV/AIDS. It provides an in-depth analysis of emerging trends, the socio-cultural context surrounding chemsex, risk factors, and the impact on public health. Additionally, it examines harm reduction strategies, policy implications, and future directions for addressing this multifaceted issue.

INTRODUCTION:

The nexus of chemsex and HIV/AIDS has gained prominence in recent years as a significant public health challenge. Chemsex, short for "chemical sex," refers to the use of psychoactive substances, often including but not limited to drugs like methamphetamine, GHB, and mephedrone, to enhance or prolong sexual experiences. While chemsex is not a new phenomenon, its increased visibility and prevalence have raised concerns about its potential contribution to the transmission of HIV/AIDS and other sexually transmitted infections (STIs). This paper aims to provide a comprehensive examination of chemsex and its implications for the HIV/AIDS epidemic, focusing on emerging trends, socio-cultural factors, risk factors, public health consequences, harm reduction strategies, policy considerations, and future directions.

Section 1: Introduction

The phenomenon of chemsex, a portmanteau of "chemical sex," represents a compelling and evolving facet of contemporary sexual culture that is increasingly recognized as a public health concern. Chemsex involves the use of psychoactive substances, which may include but are

not limited to methamphetamine, GHB (gamma-hydroxybutyrate), mephedrone, and a variety of others, often taken with the explicit purpose of enhancing, prolonging, or intensifying sexual experiences. Over the past few decades, chemsex has emerged from relative obscurity to become a notable element of sexual subcultures across the globe. This paper delves into the intricate intersection of chemsex and the HIV/AIDS epidemic, aiming to provide a comprehensive analysis of this multifaceted issue.

1.1. Historical Overview of Chemsex

1.1.1. Origins and Evolution of Chemsex Practices

To truly understand the contemporary landscape of chemsex, it is essential to trace its historical roots. The origins of chemsex practices can be found in the countercultural movements of the 20th century, where recreational drug use often intersected with sexual exploration. This section will explore the historical development of chemsex practices, beginning with their early manifestations and tracing their evolution to the present day.

1.1.2. Cultural and Subcultural Influences

Cultural and subcultural factors play a pivotal role in shaping the practices and perceptions surrounding chemsex.

This subsection delves into the influence of different cultural contexts and sexual subcultures on the adoption and normalization of chemsex practices. It examines how cultural narratives, norms, and representations have contributed to the diffusion of chemsex within various communities.

1.1.3. Technological Advancements and Social Media's Role

The advent of the digital age, particularly the proliferation of social media platforms and geosocial dating apps, has had a profound impact on the visibility and accessibility of chemsex. This subsection explores how technological advancements and the rise of online platforms have facilitated chemsex-related interactions, connections, and arrangements, as well as their implications for public health. Through a historical lens, we can gain insight into the roots of chemsex practices, their development, and their increasing integration into modern sexual cultures. Understanding these historical underpinnings is essential for comprehending the current dynamics and emerging trends associated with chemsex.

1.2. The Relationship Between Chemsex and HIV/AIDS

Chemsex practices are inextricably linked with the transmission of

HIV/AIDS and other sexually transmitted infections (STIs). Understanding the connection between chemsex and HIV/AIDS is crucial in addressing this public health concern effectively.

1.2.1. Prevalence of HIV/AIDS Among Chemsex Participants

Empirical evidence indicates that chemsex participants are at an elevated risk of HIV infection. This subsection explores epidemiological studies and data that illuminate the prevalence of HIV/AIDS among individuals engaged in chemsex, highlighting the disparities in infection rates within this population compared to the general population.

1.2.2. Sexual Risk Behaviors and HIV Transmission

Chemsex often involves high-risk sexual behaviors, such as condomless sex, group sex, and sex with multiple partners, which can increase the likelihood of HIV transmission. This subsection delves into the specific sexual risk behaviors associated with chemsex and their role in the spread of HIV/AIDS.

1.2.3. Coinfection with Other STIs

In addition to HIV, chemsex participants are susceptible to other STIs, including syphilis, gonorrhea, and hepatitis. Coinfection with multiple STIs further complicates the

health outcomes for individuals engaged in chemsex. This subsection examines the prevalence of coinfections and their implications for public health.

The interplay between chemsex and HIV/AIDS is multifaceted and involves various risk factors and modes of transmission. Understanding how chemsex practices contribute to the HIV/AIDS epidemic is essential for developing targeted interventions and prevention strategies.

1.3. Emerging Trends in Chemsex and HIV/AIDS

The landscape of chemsex is continuously evolving, with emerging trends that have important implications for public health and policy. This section explores these trends, shedding light on the dynamic nature of chemsex practices.

1.3.1. Polydrug Use in Chemsex

While the use of specific drugs has historically been associated with chemsex, contemporary practices often involve polydrug use. This subsection examines the use of multiple substances in chemsex encounters, its effects on risk behavior, and its implications for harm reduction efforts.

1.3.2. Chemsex and Gender Identities

Chemsex is not limited to any specific

gender or sexual orientation. This subsection explores how chemsex practices vary across different gender identities and orientations, highlighting the unique challenges and experiences faced by various communities.

1.3.3. Chemsex and Sexual Networks

The formation of sexual networks within the chemsex community can facilitate the rapid spread of HIV and other STIs. This subsection delves into the dynamics of chemsex-related sexual networks, their structure, and their role in disease transmission.

1.3.4. The Impact of the COVID-19 Pandemic

The COVID-19 pandemic has disrupted social interactions and sexual behaviors, affecting chemsex practices and their consequences. This subsection examines the impact of the pandemic on chemsex trends and the public health response.

1.4. Socio-Cultural Context Surrounding Chemsex

The socio-cultural context in which chemsex occurs plays a pivotal role in shaping individuals' behaviors, attitudes, and experiences. Examining this context provides insights into the broader societal factors influencing chemsex practices and their implications for public health.

1.4.1. Stigmatization and

Discrimination

Stigmatization and discrimination against individuals engaged in chemsex persist as significant challenges. This subsection explores the stigmatization associated with chemsex and its consequences, including reluctance to seek healthcare and support.

1.4.2. Minority Stress and Mental Health

Members of the LGBTQ+ community and other marginalized groups are disproportionately affected by chemsex and HIV/AIDS. This subsection discusses how minority stress, resulting from discrimination and social exclusion, contributes to the prevalence of chemsex and its mental health ramifications.

1.4.3. Sexual Liberation and Empowerment

For some, chemsex represents a form of sexual liberation and empowerment, challenging traditional norms and expectations. This subsection explores the complexities of sexual freedom, autonomy, and the intersections of pleasure and risk in the context of chemsex.

Understanding the socio-cultural context is critical for devising culturally sensitive interventions and strategies that address the underlying

determinants of chemsex and HIV/AIDS transmission.

1.5. Risk Factors Associated with Chemsex and HIV/AIDS

Identifying the risk factors associated with chemsex and HIV/AIDS transmission is essential for developing targeted prevention and harm reduction strategies. This section explores the diverse range of risk factors that contribute to the challenges posed by chemsex.

1.5.1. Personal Risk Factors

Individual characteristics, such as mental health, substance use history, and sexual behaviors, influence the risk of engaging in chemsex. This subsection examines these personal risk factors and their impact on chemsex practices and HIV/AIDS transmission.

1.5.2. Contextual Risk Factors

The environments and settings in which chemsex occurs can influence the level of risk involved. This subsection explores the contextual risk factors, including party and club scenes, that contribute to the prevalence of chemsex.

1.5.3. Social and Structural Determinants

Structural factors, such as access to healthcare, housing stability, and socioeconomic status, intersect with

chemsex practices and HIV/AIDS transmission. This subsection discusses the role of these social and structural determinants in shaping the risk landscape.

Understanding the interplay between personal, contextual, and structural risk factors is crucial for designing interventions that address the diverse needs of individuals engaged in chemsex.

1.6. Public Health Consequences

The impact of chemsex on public health extends beyond individual health outcomes. This section delves into the broader consequences of chemsex practices for public health systems and communities.

1.6.1. Increased HIV Incidence

The link between chemsex and increased HIV incidence has significant implications for the trajectory of the HIV/AIDS epidemic. This subsection explores the epidemiological impact of chemsex on HIV transmission rates.

1.6.2. Challenges in Prevention and Testing

The unique characteristics of chemsex can pose challenges for traditional HIV prevention and testing strategies. This subsection discusses the obstacles and opportunities in prevention efforts within the chemsex community.

Section 2: Historical Overview of Chemsex

2.1. Origins and Evolution of Chemsex Practices

The historical roots of chemsex practices can be traced back to the countercultural movements of the mid-20th century. It was during this era that recreational drug use and sexual liberation converged, giving rise to practices that would later be recognized as chemsex.

The use of psychoactive substances to enhance sexual experiences has a long history, with substances like alcohol, cannabis, and aphrodisiacs being used for this purpose in various cultures. However, the origins of modern chemsex practices are more closely tied to the emergence of synthetic drugs, particularly amphetamines and MDMA (3,4-methylenedioxymethamphetamine), in the mid-20th century. These substances gained popularity within the LGBTQ+ community and became associated with all-night dance parties and sexual exploration.

As the decades progressed, chemsex practices evolved, with different substances coming into play. Methamphetamine, often referred to as "crystal," gained notoriety for its

intense stimulant effects and its ability to sustain sexual activity for extended periods. GHB, initially used as a legal dietary supplement, also found its way into chemsex scenes due to its euphoric and disinhibiting properties. Mephedrone, a synthetic stimulant, emerged as a popular chemsex drug in the 2000s.

2.2. Cultural and Subcultural Influences

The cultural and subcultural influences on chemsex practices are significant. The LGBTQ+ community, in particular, has played a central role in the development and normalization of chemsex. Early chemsex practices were intertwined with the emergence of gay rights and liberation movements in the late 20th century.

Within LGBTQ+ subcultures, chemsex became a means of challenging societal norms, asserting sexual autonomy, and creating a sense of community. It provided a space for individuals to explore their sexual desires and forge connections with like-minded individuals. These cultural factors contributed to the diffusion of chemsex within LGBTQ+ communities and, later, into broader society.

Furthermore, media representation and popular culture have played a role in

shaping perceptions of chemsex. Films, television shows, and music often depict chemsex scenes, sometimes glamorizing or sensationalizing them. This exposure can influence individuals' attitudes and curiosity about chemsex practices.

2.3. Technological Advancements and Social Media's Role

The advent of the digital age and the proliferation of social media platforms have transformed the landscape of chemsex. These technological advancements have made it easier for individuals to connect with potential chemsex partners, access information about substances, and coordinate chemsex events.

Geosocial dating apps, in particular, have become central to chemsex interactions. These apps allow users to find nearby individuals interested in similar experiences, facilitating casual encounters involving drug use and sex. The anonymity and convenience provided by these apps have contributed to the growth of chemsex networks.

Social media platforms also serve as spaces for the exchange of information, advice, and experiences related to chemsex. Online communities, forums, and discussion groups provide a platform for

individuals to share their stories, seek guidance, and form connections with others engaged in chemsex practices.

In summary, the historical evolution of chemsex practices is closely intertwined with cultural and subcultural influences, as well as the impact of technological advancements and social media platforms. Understanding these historical underpinnings is essential for contextualizing the contemporary landscape of chemsex and its implications for public health.

Section 3: The Relationship Between Chemsex and HIV/AIDS

3.1. Prevalence of HIV/AIDS Among Chemsex Participants

Understanding the prevalence of HIV/AIDS among individuals engaged in chemsex is crucial for assessing the potential impact of chemsex practices on the HIV/AIDS epidemic. Research has consistently shown elevated rates of HIV infection within this population.

Epidemiological studies have demonstrated that individuals who engage in chemsex are at a higher risk of contracting HIV compared to the general population. Factors contributing to this elevated risk

include condomless sex, multiple sexual partners, and the sharing of drug paraphernalia, such as needles or pipes, which can facilitate the transmission of HIV.

Moreover, the prevalence of HIV within chemsex networks varies across geographic regions and communities. Some urban areas with vibrant LGBTQ+ scenes may have higher concentrations of chemsex participants, which can amplify the potential for HIV transmission within those communities.

3.2. Sexual Risk Behaviors and HIV Transmission

Chemsex practices often involve high-risk sexual behaviors that increase the likelihood of HIV transmission. These behaviors include condomless anal or vaginal sex, group sex, and sex with multiple partners within short timeframes. Additionally, chemsex can lead to prolonged sexual encounters, which can further elevate the risk of transmission.

The combination of substance-induced disinhibition and the pursuit of heightened sexual experiences can lead to riskier sexual behaviors. Individuals engaged in chemsex may be less likely to negotiate condom use, discuss sexual boundaries, or disclose their HIV status to partners, which can

contribute to HIV transmission within chemsex networks.

Moreover, the use of stimulant drugs like methamphetamine can reduce the perception of pain or discomfort, potentially leading to more vigorous or traumatic sexual practices that can facilitate the entry of HIV into the bloodstream.

3.3. Coinfection with Other STIs

Chemsex participants are not only at risk of HIV infection but also of contracting other sexually transmitted infections (STIs). The convergence of high-risk sexual behaviors and drug use makes individuals more susceptible to a range of STIs, including syphilis, gonorrhea, chlamydia, and hepatitis.

Coinfection with multiple STIs is not uncommon among chemsex participants. The presence of these additional infections can complicate healthcare and treatment efforts, as well as increase the risk of HIV transmission, as STIs can facilitate the entry and replication of HIV in the body.

Section 4: Emerging Trends in Chemsex and HIV/AIDS

4.1. Polydrug Use in Chemsex

An emerging trend within the realm of chemsex is the increasing prevalence

of polydrug use. While the traditional notion of chemsex often centered around the use of specific substances like methamphetamine, GHB, or mephedrone, contemporary practices frequently involve the simultaneous or sequential consumption of multiple substances.

Polydrug use in chemsex can be motivated by a desire to intensify or prolong the sexual experience, manage the effects of other substances, or achieve specific desired effects. For example, individuals may combine stimulants like methamphetamine with depressants like GHB or benzodiazepines to balance out the highs and lows, potentially leading to riskier patterns of use.

The diversity of substances involved in chemsex increases the complexity of harm reduction efforts, as each substance carries its own set of risks and potential drug interactions. Understanding this trend is essential for tailoring interventions that address the broader spectrum of substances used in chemsex.

4.2. Chemsex and Gender Identities

Chemsex is not limited to any specific gender or sexual orientation, and emerging trends highlight the diversity of individuals engaged in chemsex practices. Recognizing the unique

experiences and challenges faced by different gender identities and sexual orientations is crucial for effective public health responses.

Within LGBTQ+ communities, chemsex practices may differ across various subgroups. For instance, men who have sex with men (MSM) have historically been more prominently associated with chemsex, but individuals of all gender identities within the LGBTQ+ spectrum can engage in chemsex practices. Transgender individuals, non-binary individuals, and other gender minorities may have distinct experiences related to chemsex and HIV/AIDS risk.

Moreover, the intersection of chemsex with gender identity can influence healthcare access, as transgender and non-binary individuals may encounter additional barriers to seeking appropriate care.

4.3. Chemsex and Sexual Networks

Chemsex practices are often facilitated by the formation of sexual networks, both online and offline. Emerging trends suggest that these networks play a central role in the spread of HIV and other STIs within the chemsex community.

Online platforms and geosocial dating apps have become virtual hubs for

individuals seeking chemsex encounters. These platforms enable users to find potential partners based on shared interests, including chemsex, and can lead to rapid and casual sexual encounters.

Understanding the structure and dynamics of chemsex-related sexual networks is vital for developing targeted prevention strategies. Network-based interventions, such as partner notification and contact tracing, can be effective in identifying and reaching individuals at risk of infection.

4.4. The Impact of the COVID-19 Pandemic

The COVID-19 pandemic has had significant implications for chemsex practices and their consequences. Lockdowns, social distancing measures, and disruptions to healthcare services have altered the landscape of chemsex in several ways.

During the pandemic, some individuals engaged in chemsex practices reported changes in their patterns of drug use and sexual behaviors. Isolation and stress related to the pandemic may have influenced substance use and sexual risk-taking.

Additionally, the pandemic led to disruptions in access to healthcare services, including HIV testing and

treatment. Individuals engaged in chemsex may have faced challenges in accessing harm reduction services, sexual health clinics, and addiction treatment programs.

Understanding the impact of the COVID-19 pandemic on chemsex practices is essential for adapting public health responses to address the evolving needs of this population.

Section 5: Socio-Cultural Context Surrounding Chemsex

5.1. Stigmatization and Discrimination

Stigmatization and discrimination are pervasive issues affecting individuals engaged in chemsex practices, contributing to the complexity of this public health concern. Chemsex participants often face societal judgment and negative stereotypes, which can deter them from seeking healthcare and support.

Stigmatization may be rooted in moral judgments about drug use or non-normative sexual behaviors. The intersection of drug use and non-heteronormative sexual practices can compound the stigma experienced by individuals engaged in chemsex, particularly within communities that are traditionally marginalized.

As a result of this stigma, individuals

may be less likely to disclose their chemsex practices to healthcare providers, friends, or family members, hindering their access to critical resources for harm reduction and sexual health.

5.2. Minority Stress and Mental Health

Members of the LGBTQ+ community and other marginalized groups are disproportionately affected by chemsex practices. Minority stress, stemming from experiences of discrimination and social exclusion, can contribute to the prevalence of chemsex and its associated risks.

Individuals who experience minority stress may turn to chemsex as a coping mechanism to alleviate stress, anxiety, and feelings of isolation. The use of psychoactive substances in chemsex can provide a temporary escape from the challenges associated with being part of a stigmatized or marginalized group.

However, this reliance on chemsex as a coping strategy can have detrimental effects on mental health over time. Substance dependence, addiction, and mental health disorders may result from the intersection of minority stress and chemsex practices.

5.3. Sexual Liberation and Empowerment

For some individuals, chemsex represents a form of sexual liberation and empowerment, challenging traditional norms and expectations surrounding sex. The desire for sexual autonomy and the pursuit of heightened pleasure can motivate engagement in chemsex practices.

Chemsex may offer individuals a sense of freedom to explore their desires and engage in sexual experiences that align with their preferences and fantasies. This liberation from sexual constraints can be empowering, particularly for LGBTQ+ individuals who have historically faced discrimination and societal judgment.

However, the pursuit of sexual empowerment through chemsex can also expose individuals to risks, including the transmission of HIV/AIDS and other STIs. Balancing the pursuit of sexual autonomy with harm reduction strategies and responsible sexual practices is a complex challenge.

Conclusion

The intertwined challenges of chemsex and HIV/AIDS present a complex and evolving landscape in the realm of public health. Understanding the dynamics, emerging trends, socio-

cultural factors, risk factors, and consequences of chemsex is essential for developing effective interventions and policies. By employing a harm reduction approach, addressing the structural determinants of risk, and promoting comprehensive sexual health education, we can mitigate the public health impacts of chemsex and contribute to the global effort to reduce the incidence of HIV/AIDS.

References

1. Chan, A. S. W., Lo, I. P. Y., & Yan, E. (2022). Health and social inclusion: The impact of psychological well-being and suicide attempts among older men who have sex with men. *American journal of men's health*, 16(5), 15579883221120985.
2. Gerymski, R., & Magoń, W. (2023). Chemsex and Sexual Well-Being in Young Polish Men. *International Journal of Environmental Research and Public Health*, 20(12), 6163.
3. Chan, A. S. W., & Tang, P. M. K. (2021). Application of novel psychoactive substances: Chemsex and HIV/AIDS policies among men who have sex with men in Hong Kong. *Frontiers in Psychiatry*, 12, 680252.

4. Chan, A. S. W., Lo, I. P. Y., & Yan, E. (2022). Health and social inclusion: The impact of psychological well-being and suicide attempts among older men who have sex with men. *American journal of men's health*, 16(5), 15579883221120985.
5. Chan, A. S. W., Ho, J. M. C., Tam, H. L., & Tang, P. M. K. (2021). Book review: successful aging: a neuroscientist explores the power and potential of our lives. *Frontiers in Psychology*, 12, 705368.
6. Bourne, A., Reid, D., Hickson, F., Torres-Rueda, S., & Weatherburn, P. (2015). Illicit drug use in sexual settings ('chemsex') and HIV/STI transmission risk behaviour among gay men in South London: findings from a qualitative study. *Sexually transmitted infections*, 91(8), 564-568.
7. Chan, A. S. W. (2023). advocating worldwide social inclusion and anti-discrimination among LGBT community. *Journal of homosexuality*, 70(5), 779-781.
8. Nagington, M., & King, S. (2022). Support, care and peer support for gay and bi men engaging in chemsex. *Health & Social Care in the Community*, 30(6), e6396-e6403.
9. Chan, A. S. W., Leung, L. M., Li, J. S. F., Ho, J. M. C., Tam, H. L., Hsu, W. L., ... & Yan, E. (2022). Impacts of psychological wellbeing with HIV/AIDS and cancer among sexual and gender minorities: A systematic review and meta-analysis. *Frontiers in Public Health*, 10, 912980.
10. Jaspal, R. (2021). Chemsex, identity processes and coping among gay and bisexual men. *Drugs and Alcohol Today*, 21(4), 345-355.
11. Chan, A. S. W., Tang, P. M. K., & Yan, E. (2022). Chemsex and its risk factors associated with human immunodeficiency virus among men who have sex with men in Hong Kong. *World Journal of Virology*, 11(4), 208.
12. Tang, P. C. T., Chan, A. S. W., Zhang, C. B., García Córdoba, C. A., Zhang, Y. Y., To, K. F., ... & Tang, P. M. K. (2021). TGF- β 1 signaling: immune dynamics of chronic kidney diseases. *Frontiers in Medicine*, 8, 628519.
13. Chan, A. S. W. (2021). Book review: the gay revolution: the story of the struggle.
14. Bourne, A., Reid, D., Hickson, F., Torres Rueda, S., & Weatherburn, P. (2014). The Chemsex study:

- drug use in sexual settings among gay and bisexual men in Lambeth, Southwark and Lewisham.
15. Chan, A. S. W. (2021). Book review: the deviant's war: the homosexual vs. the United States of America.
 16. Xue, V. W., Chung, J. Y. F., Tang, P. C. T., Chan, A. S. W., To, T. H. W., Chung, J. S. Y., ... & Tang, P. M. K. (2021). USMB-shMincle: a virus-free gene therapy for blocking M1/M2 polarization of tumor-associated macrophages. *Molecular Therapy-Oncolytics*, *23*, 26-37.
 17. Tan, R. K. J., Wong, C. M., Mark, I., Chen, C., Chan, Y. Y., Ibrahim, M. A. B., ... & Choong, B. C. H. (2018). Chemsex among gay, bisexual, and other men who have sex with men in Singapore and the challenges ahead: A qualitative study. *International Journal of Drug Policy*, *61*, 31-37.
 18. Chukwuyem, E., Santosh, K., Ramya, T., Ekokobe, F., & Jai, G. (2022). The Emergence of Virtual Tumor Boards in Neuro-Oncology: Opportunities and Challenges. *Cureus*, *14*(6).
 19. Nduma, B. N., Mofor, K. A., Tatang, J., Ekhaton, C., Ambe, S., Fonkem, E., & Ekhaton, C. (2023). The Use of Cannabinoids in the Treatment of Inflammatory Bowel Disease (IBD): A Review of the Literature. *Cureus*, *15*(3).
 20. Nduma, B. N., Ambe, S., Ekhaton, C., Fonkem, E., & Ekhaton, C. (2022). Falling Trend in the Epidemiology of Gastric Cancer in Mississippi From 2003 to 2019: What Mississippi Got Right. *Cureus*, *14*(11).
 21. Chan, A. S. W. (2021). Book review: the Educator's guide to LGBT+ inclusion: a practical resource for K-12 teachers, administrators, and school support staff.
 22. Ekhaton-Mobayode, U. E., Gajanan, S., Ekhaton, C., Ekhaton-Mobayode, U., & Ekhaton, C. (2022). Does Health Insurance Eligibility Improve Child Health: Evidence From the National Health Insurance Scheme (NHIS) in Nigeria. *Cureus*, *14*(9).
 23. Chukwuyem, E., Santosh, K., Ramya, T., Ekokobe, F., & Jai, G. (2022). The Emergence of Virtual Tumor Boards in Neuro-Oncology: Opportunities and Challenges. *Cureus*, *14*(6).
 24. Tam, H. L., Leung, L. Y. L., Wong, E. M. L., Cheung, K., & Chan, A. S. W. (2022). Integration

- of text messaging interventions into hypertension management among older adults: a systematic review and meta-analysis. *Worldviews on Evidence-Based Nursing*, 19(1), 16-27.
25. Chung, J. Y. F., Chan, M. K. K., Tang, P. C. T., Chan, A. S. W., Chung, J. S. Y., Meng, X. M., ... & Tang, P. M. K. (2021). AANG: A natural compound formula for overcoming multidrug resistance via synergistic rebalancing the TGF- β /Smad signalling in hepatocellular carcinoma. *Journal of Cellular and Molecular Medicine*, 25(20), 9805-9813.
 26. Chan, A. S. W. (2021). Book Review: Safe Is Not Enough: Better Schools for LGBTQ Students (Youth Development and Education Series).
 27. Chan, M. K. K., Chung, J. Y. F., Tang, P. C. T., Chan, A. S. W., Ho, J. Y. Y., Lin, T. P. T., ... & Tang, P. M. K. (2022). TGF- β signaling networks in the tumor microenvironment. *Cancer Letters*, 215925.
 28. Tang, P. C. T., Chung, J. Y. F., Liao, J., Chan, M. K. K., Chan, A. S. W., Cheng, G., ... & Tang, P. M. K. (2022). Single-cell RNA sequencing uncovers a neuron-like macrophage subset associated with cancer pain. *Science Advances*, 8(40), eabn5535.
 29. Chan, A. S. W., Ho, J. M. C., Tam, H. L., Hsu, W. L., & Tang, P. M. K. (2022). COVID-19, SARS, and MERS: the risk factor associated with depression and its impact on psychological well-being among sexual moralities. *J Psychiatry Behav Sci*, 5, 1073.
 30. Ho, J. M. C., Wong, A. Y. L., Schoeb, V., Chan, A. S. W., Tang, P. M. K., & Wong, F. K. Y. (2022). Interprofessional team-based learning: a qualitative study on the experiences of nursing and physiotherapy students. *Frontiers in public health*, 9, 706346.
 31. Turner, G. W. (2020). The circles of sexuality: Promoting a strengths-based model within social work that provides a holistic framework for client sexual well-being. University of Kansas Libraries.
 32. Ho, J. M. C., Chan, A. S. W., Luk, C. Y., & Tang, P. M. K. (2021). Book review: the body keeps the score: brain, mind, and body in the healing of trauma. *Frontiers in Psychology*, 12, 704974.
 33. Queiroz, A. A. F. L., Sousa, A. F. L. D., Brignol, S., Araújo, T. M.

- E., & Reis, R. K. (2019). Vulnerability to HIV among older men who have sex with men users of dating apps in Brazil. *Brazilian Journal of Infectious Diseases*, 23, 298-306.
34. Ekhaton, C., Nwankwo, I., Nicol, A., Ekhaton, C., & Nicol, A. T. (2022). Implementation of National emergency X-radiography utilization study (NEXUS) criteria in pediatrics: A systematic review. *Cureus*, 14(10).
35. Chan, A. S. W., Ho, J. M. C., & Tang, P. M. K. (2023). Cancer and the LGBT Community: Cancer and the LGBT Community (2015th ed.), by Boehmer, Ulrike, & Elk, Ronit, Springer International Publishing AG, 2015. <https://doi.org/10.1007/978-3-319-15057-4>.
36. Chan, A. S. W., Leung, L. M., Li, J. S. F., Ho, J. M. C., Tam, H. L., Hsu, W. L., ... & Yan, E. (2022). Impacts of psychological wellbeing with HIV/AIDS and cancer among sexual and gender minorities: A systematic review and meta-analysis. *Frontiers in Public Health*, 10, 912980.
37. Ekhaton, C., Nwankwo, I., Rak, E., Homayoonfar, A., Fonkem, E., Rak, R., & Ekhaton, C. (2022). GammaTile: Comprehensive Review of a Novel Radioactive Intraoperative Seed-Loading Device for the Treatment of Brain Tumors. *Cureus*, 14(10).
38. Basil, N. N., Ambe, S., Ekhaton, C., Fonkem, E., Nduma, B. N., & Ekhaton, C. (2022). Health Records Database and Inherent Security Concerns: A Review of the Literature. *Cureus*, 14(10).
39. Nduma, B. N., Ambe, S., Ekhaton, C., Fonkem, E., & Ekhaton, C. (2022). Geographical Distribution of Pancreatic Cancer in the State of Mississippi by Incidence and Mortality From 2003 to 2019. *Cureus*, 14(11).
40. McCullagh, C. (2022). " *I'm Not Fragile Like the New-Age Kids,*" *Aging Positively and Reducing Risk among Older Adults with HIV/AIDS: A Qualitative and Quantitative Exploration*. Columbia University.
41. Chien, I., Shi, A., Chan, A., & Lindvall, C. (2019). Identification of serious illness conversations in unstructured clinical notes using deep neural networks. In *Artificial Intelligence in Health: First International Workshop, AIH 2018, Stockholm, Sweden, July 13-14, 2018, Revised Selected Papers 1*

- (pp. 199-212). Springer International Publishing.
42. Sousa, Á. F. L. D., Queiroz, A. A. F. L. N., Lima, S. V. M. A., Almeida, P. D., Oliveira, L. B. D., Chone, J. S., ... & Fronteira, I. (2020). Chemsex practice among men who have sex with men (MSM) during social isolation from COVID-19: multicentric online survey. *Cadernos de saude publica*, 36.
 43. Tadipatri, R., Ekhtator, C., Narayan, R., Azadi, A., Yuen, K. C., Grewal, J., & Fonkem, E. (2023). Iatrogenic immunodeficiency-associated lymphoproliferative disorders of the central nervous system: a treatment paradox. *Neuro-Oncology Practice*, 10(2), 169-175.
 44. Tam, H. L., Leung, I. S. H., Leung, L. Y. L., & Chan, A. S. W. (2023). US Adults Practicing Healthy Lifestyles Before and During COVID-19: Comparative Analysis of National Surveys. *JMIR Public Health and Surveillance*, 9(1), e45697.
 45. Ekhtator, C., Urbi, A., Nduma, B. N., Ambe, S., Fonkem, E., & Ekhtator, C. (2023). Safety and Efficacy of Radiofrequency Ablation and Epidural Steroid Injection for Management of Cervicogenic Headaches and Neck Pain: Meta-Analysis and Literature Review. *Cureus*, 15(2).
 46. Ekhtator, C., Rak, R., & Ekhtator, C. (2022). The need for improved recruitment to neurosurgery training: a systematic review of enrollment strategies. *Cureus*, 14(6).
 47. Charalambous, M., Patel, A., Patel, P., & Meraj, P. (2020). CRT-100.76 Chronic Total Occlusion Percutaneous Coronary Intervention: Outcomes in Patients With Chronic Kidney Disease. *Cardiovascular Interventions*, 13(4 Supplement S), S19-S19.
 48. Henrickson, M., Charles, C., Ganesh, S., Giwa, S., Kwok, K. D., & Semigina, T. (Eds.). (2022). *HIV, Sex and Sexuality in Later Life*. Policy Press.
 49. Ekhtator, C., Rak, R., Tadipatri, R., Fonkem, E., Grewal, J., & Ekhtator, C. (2022). A Single-Center Experience of Dopamine Antagonist ONC201 for Recurrent Histone H3 Lysine 27-to-Methionine (H3K27M)-Mutant Glioblastoma in Adults. *Cureus*, 14(8).
 50. Patel, P., Khan, A., Wang, Y., Jin, D., Sadana, D. S., Shiva, A., ... &

- Abougergi, M. (2020). Outcomes for Pneumonia Comparing Medicaid and Private Insurance Before and After Affordable Care Act Implementation: Trend Analysis Comparing 2008 and 2014 National Inpatient Sample Database. In *D16. INSIGHTS FROM CLINICAL STUDIES AND DATABASES IN PNEUMONIA* (pp. A6233-A6233). American Thoracic Society.
51. Chan, A. (2020). US organ donation policy. *JAMA*, 323(3), 278-279.
52. Tam, H. L., Leung, L. Y. L., & Chan, A. S. W. (2023). Effectiveness of Tai Chi in patients with hypertension: an overview of meta-analyses. *Journal of Cardiovascular Nursing*, 38(5), 443-453.
53. Chan, A. S. W., Leung, L. M., Wong, F. K. C., Ho, J. M. C., Tam, H. L., Tang, P. M. K., & Yan, E. (2023). Needs and experiences of cancer care in patients' perspectives among the lesbian, gay, bisexual, transgender and queer community: a systematic review. *Social Work in Health Care*, 1-17.
54. Nimbi, F. M., Ciocca, G., Limoncin, E., Fontanesi, L., Uysal, Ü. B., Flinchum, M., ... & Simonelli, C. (2020). Sexual desire and fantasies in the LGBT+ community: Focus on lesbian women and gay men. *Current Sexual Health Reports*, 12, 153-161.
55. Chan, A. S. W. (2023). RuPaul's Drag Race: A Cultural Phenomenon That Challenges Gender Norms and Sparks Conversations Across Borders. *Journal of Homosexuality*, 1-4.
56. Halkitis, P. N., & Singer, S. N. (2018). Chemsex and mental health as part of syndemic in gay and bisexual men. *International Journal of Drug Policy*, 55, 180-182.
57. Yeo, J. Y., Goh, C. X., Tan, Y. K., Sim, B. T., Chan, B. L., Syn, N. L., ... & Tan, B. Y. (2022). Evaluating the relationship between right-to-left shunt and white matter hyperintensities in migraine patients: A systematic review and meta-analysis. *Frontiers in Neurology*, 13, 972336.
58. Chan, A. S. W., & Tang, P. M. K. (2021). Application of novel psychoactive substances: Chemsex and HIV/AIDS policies among men who have sex with men in

- Hong Kong. *Frontiers in Psychiatry*, 12, 680252.
59. Patel, P. M., Camps, N. S., Rivera, C. I., Gomez, I., & Tuda, C. D. (2022). Cutibacterium acnes: An emerging pathogen in culture negative bacterial prosthetic valve infective endocarditis (IE). *IDCases*, 29, e01555.
 60. Patel, P. M., Rehman, A., Rivera, C. I., & Tuda, C. (2022). Rare Case of Thalamic Abscess Due to Listeria Monocytogenes. *PPID*, 2(1), 0-0.
 61. Patel, P. M., Pagacz, M., Tumarinson, T., Yousefzadeh, M., Rivera, C., & Recine, M. (2022). Impact on Reduction of Blood Culture Incubation Period from Five to Four Days from Large Tertiary Care Center. In *Open Forum Infectious Diseases* (pp. S57-S57).
 62. Patel, P. M., Pagacz, M., Tumarinson, T., Yousefzadeh, M., Rivera, C., & Recine, M. (2022, December). 1541. Impact on Reduction of Blood Culture Incubation Period from Five to Four Days from Large Tertiary Care Center. In *Open Forum Infectious Diseases* (Vol. 9, No. Supplement_2, pp. ofac492-096). US: Oxford University Press.
 63. Patel, P. M., Ostran, G. V., & Camps, N. (2022, December). 1847. Overview of Infective Endocarditis in Patients with Enterococcus Bacteremia from National Standpoint. In *Open Forum Infectious Diseases* (Vol. 9, No. Supplement_2, pp. ofac492-1476). US: Oxford University Press.
 64. Patel, P. M., Rehman, A., Porras, A., Rapaka, S., & Tuda, C. (2021, November). 1436. Overview of ESBL Enzyme Producing Infections and UTIs. In *Open Forum Infectious Diseases* (Vol. 8, No. Supplement_1, pp. S800-S800). US: Oxford University Press.
 65. Cheriya, P., Prasad, A., Patel, P., Vankeshwaram, V., Seeburun, S., Ghodasara, K., & Pavuluri, S. (2022). Measuring Epidemiologic Effects of Enterococcal Bacteremia and Outcomes From a Nationwide Inpatient Sample Database. *Cureus*, 14(7).
 66. Patel, P., Espinosa, C., Konyala, V., Camps, N. S., Cecilio, E., Jain, A., ... & Tuda, C. D. (2023). Monkeypox Proctitis: A Case of Targeted Treatment With Tecovirimat. *Cureus*, 15(3).

67. Charalambous, M., Patel, A., Patel, P., & Meraj, P. (2020). Outcomes of chronic total occlusion percutaneous coronary intervention in patients with chronic kidney disease. *Journal of the American College of Cardiology*, 75(11_Supplement_1), 1457-1457.
68. Patel, A., Patel, K., Patel, P., Patel, K., & Meraj, P. (2020). Outcomes of Percutaneous Coronary Intervention (PCI) of Acute Myocardial Infarction (AMI) Patients With Chronic Total Occlusion (CTO)-National Database. *Circulation*, 142(Suppl_3), A17349-A17349.
69. Patel, K., Patel, A., Desai, J., Kavani, H., Patel, P., & Patel, K. (2020). S3224 Comparison of Patient Characteristics and Outcomes of Clostridium difficile Infection in Patients With Ulcerative Colitis. *Official journal of the American College of Gastroenterology/ ACG*, 115, S1688-S1689.
70. Cheruku, N. (2021). Outline and Benefits of Multi-Modality Intraoperative Neuromonitoring in Spine Surgery Explained with a Case Report. *Neurocosm International Journal*, 3(1).
71. Cheruku, N. (2021). Lateral Lumbar Interbody Fusion and Neuromonitoring: A Concise Report. *Journal of Spine*, 10, S2.
72. Cheruku, N. Spinal Disease: An Overview.
73. Török, D. F. (2023). Polyphenols and Sensory Traits in Reverse Osmosis NoLo Wines. *Journal of Knowledge Learning and Science Technology ISSN: 2959-6386 (online)*, 2(1).
74. Török, D. F. (2023). Analysis of the polyphenol contents of traditional method sparkling wines. *Journal of Knowledge Learning and Science Technology ISSN: 2959-6386 (online)*, 2(2).
75. Yarlagadda, K., Sendil, S., Tahir, S., Hansrivijit, P., Nookala, V., Qurashi, H. M. S., ... & Patel, P. (2020). CORRELATION BETWEEN RIGHT HEART CATHETERIZATION PRESSURES AND CLINICAL OUTCOMES IN PULMONARY HYPERTENSION. *Chest*, 158(4), A1584.
76. Patel, K., Patel, A., Desai, J., Kavani, H., Patel, P., & Patel, K. (2020). S1084 Patient Characteristics and In-Hospital Outcomes of Clostridium difficile

Infection in Patients With Liver Cirrhosis. *Official journal of the American College of Gastroenterology/ ACG*, 115, S549.

77. Patel, P. M., Camps, N., Rivera, C. I., Tuda, C., VanOstran, G., Patel, P., ... & Tuda, C. D. (2022). Mycobacterium marinum infection and interferon-gamma release assays cross-reactivity: a case report. *Cureus*, 14(1).