

Short Communication

Open Access

Psychological Dimensions of Human Metapneumovirus Infections

Rayees Mohammad Bhat^{1*}, Arockia Philip Raj² and Mostafa Amr³

¹Assistant Professor, Psychology, Department of Psychiatry and Behavioral Sciences, College of medicine and Health Sciences, National University of Science and Technology, Sohar, Oman

²Assistant Professor, Psychology, Department of Psychiatry and Behavioral Sciences, College of medicine and Health Sciences, National University of Science and Technology, Sohar, Oman

³Prof and HOD, Department of Psychiatry and Behavioral Sciences, College of medicine and Health Sciences, National University of Science and Technology, Sohar, Oman & Visiting professor, Dept of Psychiatry, Mansoura University, Egypt

ABSTRACT

Beyond their medical symptoms, Human Metapneumovirus (hMPV) infections cause emotional problems. This statement reaffirms the psychological effects of hMPV infections, particularly in young people. The evaluation reveals that hMPV infections make patients and caregivers anxious, stressed, and potentially traumatized. The psychological aspects of hMPV have not been thoroughly studied empirically, but related respiratory disorders indicate that significant psychological support is necessary for hMPV management.

*Corresponding author

Rayees Mohammad Bhat, Assistant Professor, Psychology, Department of Psychiatry and Behavioral Sciences, College of medicine and Health Sciences, National University of Science and Technology, Sohar, Phone: +968 7843 9542, Oman.

Received: January 08, 2025; **Accepted:** January 17, 2025; **Published:** January 23, 2025

Keywords: Psychological Effects, Supporting Psychological Well-Being, Human Metapneumovirus

Psychological Dimensions of Human Metapneumovirus Infections

Human Metapneumovirus (hMPV) is a serious viral pathogen that causes acute respiratory infections and primarily affects susceptible groups [1]. Studies reveal a wide range of incidence rates and elevated mortality rates in developing nations [2,3]. Late winter and early spring see a spike in the virus [4]. Human Metapneumovirus has a large impact, but management is difficult because there are no vaccines or antivirals for it, but phase II trials of IVX-A12 vaccines offer hope for targeted prevention, highlighting the need for more research and innovative treatments [1, 5]. Psychosocial effects that impact patient outcomes are less well-known than the physical health effects of hMPV infection.

Mental Health Issues with hMPV

The impact of hMPV on the mind is varied. According to, children and their families may experience anxiety and trauma due to severe respiratory issues and hospitalization [6]. With intensive medical care, psychological suffering rises [7]. Caregiving can lead to stress and burnout, particularly when it involves home ventilation [8]. Social isolation, fear, anxiety, and despair are all consequences of psychological pressure in the community [9]. The lack of focused HMPV therapy increases psychological distress due to ambiguity and impotence, especially in severe cases [7,10].

Advice for Psychological Support

Human metapneumovirus infections (hMPV)-related psychological

issues may be mitigated by interventions based on similar respiratory disorders. CBT has shown promise in treating anxiety through cognitive restructuring [11]. Psychoeducational therapy for patients and carers, both in-person and remotely, increase coping and disease understanding [12]. Relaxation and mindfulness-based stress management methods have also improved psychological and immunological results in similar diseases [13]. These therapies can greatly improve the mental health of hMPV patients and carers when included in a comprehensive treatment model.

Conclusion

Patient therapy of hMPV infections often overlooks psychosocial factors. The hMPV's psychological impact is seldom studied, but related respiratory disorders show the need for extensive psychological support in treatment regimens. Given the unique challenges experienced by young patients and their caregivers, integrating substantial psychosocial assistance with medical therapies may improve hMPV patient outcomes and quality of life. hMPV-affected groups need specific psychological therapies, thus future study should focus on them.

Author Note

The authors declare no competing interests, financial or non-financial, directly or indirectly related to the submitted work. This study was conducted independently without external funding or support. There are no conflicts of interest to disclose. No acknowledgements are necessary for this study.

References

1. Costa-Filho R C, Saddy F, Costa J L F, Tavares L R, Neto H C C F (2025) The Silent Threat of Human Metapneumovirus: Clinical Challenges and Diagnostic Insights from a Severe Pneumonia Case. *Microorganisms* 13: 73.
2. Deval H, Kumar N, Srivastava M, Potdar V, Mehta A, et al. (2024b) Human metapneumovirus (hMPV): an associated etiology of severe acute respiratory infection in children of Eastern Uttar Pradesh, India. *Access Microbiology* 23: 388.
3. Lamichhane J, Upreti M, Nepal K, Upadhyay B P, Maharjan U, et al. (2023) Burden of human metapneumovirus infections among children with acute respiratory tract infections attending a Tertiary Care Hospital, Kathmandu. *BMC Pediatrics* 23.
4. Barrera-Badillo G, Olivares-Flores B, Ruiz-López A, Fierro-Valdez M Á, Gutiérrez-Vargas R I, et al. (2020) Human Metapneumovirus: Etiological Agent of Severe Acute Respiratory Infections in Hospitalized and Deceased Patients with a Negative Diagnosis of Influenza. *Pathogens* 9: 85.
5. Boggs K B, Edmonds K, Cifuentes-Munoz N, Najjar F E, Ossandón C, et al. (2022) Human metapneumovirus phosphoprotein independently drives phase separation and recruit's nucleoprotein to Liquid-Like bodies. *mBio* 13.
6. Nadiger M, Sendi P, Martinez P A, Totapally B R (2023) Epidemiology and clinical features of human metapneumovirus and respiratory syncytial viral infections in children. *The Pediatric Infectious Disease Journal* 42: 960-964.
7. Russell C J, Penkert R R, Kim S, Hurwitz J L (2020) Human metapneumovirus: a largely unrecognized threat to human health. *Pathogens* 9: 109.
8. Van Kesteren R G, Velthuis B, Van Leyden L W (2001) Psychosocial Problems Arising from Home Ventilation. *American Journal of Physical Medicine & Rehabilitation* 80: 439-446.
9. Khalaf N M A (2020) Psychological consequences of COVID-19 and challenges for post-traumatic interventions. *Journal of Psychology Research* 10.
10. Sojati J, Zhang Y, Williams J V (2024) Clinical human metapneumovirus isolates show distinct pathogenesis and inflammatory profiles but similar CD8 + T cell impairment. *mSphere* 9.
11. Fadhli T, Situmorang D D B (2021) Implementation of cognitive behavioral therapy with cognitive restructuring technique to reduce psychosocial anxiety in the COVID-19 outbreak. *Addictive Disorders & Their Treatment* 20: 268-277.
12. López AM, Cuello AM G, Chicano M T R, Marín C C, Morales A M C, et al. (2022) In-person and online psychoeducational nursing interventions for the management of anxiety: an integrative review of the literature. *Enfermería Global* 21: 531-561.
13. Rahmati F, Khalili R (2022) Investigating the effectiveness of psychological interventions in response to stress, anxiety, and depression in coronavirus disease 2019 patients. *Journal of Education and Health Promotion* 11: 203.

Copyright: ©2025 Rayees Mohammad Bhat, et al..This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.