

## Dr. Zahra Hasan

Section of Molecular Pathology

Department of Pathology and Laboratory Medicine

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### SUMMARY:

Publication

115

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## Publications

### Year 2024

1. Correction: IgG antibodies to SARS-CoV-2 in asymptomatic blood donors at two time points in Karachi. Hasan M, Moiz B, Qaiser S, Masood KI, Ghous Z, Hussain A, Ali N, Simas JP, Veldhoen M, Alves P, Abidi SH, Ghias K, Khan E and Hasan Z. PLoS One. 2024 Dec 12;19(12):e0315960. DOI: [10.1371/journal.pone.0271259](https://doi.org/10.1371/journal.pone.0271259)
2. Pneumococcal carriage and changes in serotype distribution post- PCV13 introduction in children in Matiari, Pakistan. Iqbal I, Shahid S, Kanwar S, Kabir F, Umrani F, Ahmed S, Khan W, Qazi MF, Aziz F, Muneer S, Kalam A, Hotwani A, Mehmood J, Qureshi AK, Hasan Z, Shakoor S, Mirza S, McGee L, Lo SW, Kumar N, Azam I, Bentley SD, Jehan F, Nisar MI. Vaccine. 2024 Oct 3;42(23):126238. DOI: [10.1016/j.vaccine.2024.126238](https://doi.org/10.1016/j.vaccine.2024.126238)
3. Analysis of spinal muscular atrophy patients from the spinal muscular atrophy and muscular dystrophy registry of Pakistan. Aziz B, Arif AA, Ansar Z, Nasir A, Hasan Z, Kazi K, et al. Journal of Neuromuscular Diseases. 2024;0(0). <https://doi.org/10.1177/22143602241301657>
4. SARS-CoV-2 variants induce increased inflammatory gene expression but reduced interferon responses and heme synthesis as compared with wild type strains. Merchant M, Ashraf J, Masood KI, Yameen M, Hussain R, Nasir A and Hasan Z. Sci Rep. 2024 Oct 28;14(1):25734. DOI: 10.1038/s41598-024-76401-1. DOI: [10.1038/s41598-024-76401-1](https://doi.org/10.1038/s41598-024-76401-1)
5. Linezolid-resistant Enterococcus faecium clinical isolates from Pakistan: a genomic analysis. Nasir SAR, Zeeshan M, Ghanchi N, Saeed N, Ghayas H, Zaka S, Ashraf J, Jabeen K, Farooqi J, Hasan Z, Fatima T, Rezwan F, Mahmood SF, Arshad M, Khan E, Ozer EA and Hasan R. BMC Microbiol. 2024 Sep 14;24(1):347. <https://doi.org/10.1186/s12866-024-03491-2>
6. Disparities in age and gender-specific SARS-CoV-2 diagnostic testing trends: a retrospective study from Pakistan. Ghanchi NK, Masood KI, Qazi MF, Shahid S, Nasir A, Mahmood SF, Ansar Z, Nisar MI, Hasan Z. BMC Public Health. 2024 Sep 27;24(1):2629. <https://doi.org/10.1186/s12889-024-19958-w>
7. Efflux pump gene single nucleotide variants associated with resistance in Mycobacterium tuberculosis isolates with discrepant drug genotypes. **Hasan Z**, Razzak SA, Kanji A, Shakoor S, and Hasan R. J Glob Antimicrob Resist. 2024 May 22:S2213-7165(24)00095-X. DOI: [10.1016/j.jgar.2024.05.006](https://doi.org/10.1016/j.jgar.2024.05.006).
8. Shift in SARS-CoV-2 variants of concern from Delta to Omicron was associated with reduced hospitalizations, increased risk of breakthrough infections but lesser disease severity. Mwendwa F, Kanji A, Bukhari AR, Khan U, Sadiqa A, Mushtaq Z, Nasir N,

Mahmood SF, Aamir UB, and **Hasan Z**. J Infect Public Health. 2024 Jun;17(6):1100-1107. DOI: [10.1016/j.jiph.2024.04.025](https://doi.org/10.1016/j.jiph.2024.04.025)

9. Value of 3-D-Printed Swabs for Respiratory Sampling and Testing. **Hasan Z**, Iqbal A, Ahmed I, Khan MA, Jabeen K, Islam N, Khan E and Sayani S. Received: 28 June 2023 / Accepted: 24 July 2023. Biomedical Materials & Devices. <https://doi.org/10.1007/s44174-023-00120-w>.
10. Immune mapping of human tuberculosis and sarcoidosis lung granulomas. Carow B, Muliadi V, Skálén K, Yokota C, Kathamuthu GR, Setiabudiawan TP, Lange C, Scheu K, Gaede KI, Goldmann T, Pandita A, Masood KI, Pervez S, Grunewald J, **Hasan Z**, Levin M and Rottenberg ME. Front Immunol. 2024 Feb 7;14:1332733. DOI: [10.3389/fimmu.2023.1332733](https://doi.org/10.3389/fimmu.2023.1332733)

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11. Exploring the relationship between SARS-CoV-2 variants, illness severity at presentation, in-hospital mortality and COVID-19 vaccination in a low middle-income country: A retrospective cross-sectional study. Mushtaq MZ, Nasir N, Mahmood SF, Khan S, Kanji A, Nasir A, Syed MA, Aamir UB and **Hasan Z**. Health Sci Rep. 2023 Dec 1;6(12):e1703. DOI: [10.1002/hsr2.1703](https://doi.org/10.1002/hsr2.1703)
12. Humoral and T cell responses to SARS-CoV-2 reveal insights into immunity during the early pandemic period in Pakistan. Masood KI, Qaiser S, Abidi SH, Khan E, Mahmood SF, Hussain A, Ghous Z, Imtiaz K, Ali N, Hasan M, Memon HA, Yameen M, Ali S, Baloch S, Lakhani G, Alves PM, Iqbal NT, Ahmed K, Iqbal J, Bhutta ZA, Hussain R, Rottenberg M, Simas JP, Veldhoen M, Ghias K and **Hasan Z**. BMC Infect Dis. 2023 Dec 1;23(1):846. DOI: [10.1186/s12879-023-08829-1](https://doi.org/10.1186/s12879-023-08829-1)
13. Substitution spectra of SARS-CoV-2 genome from Pakistan reveals insights into the evolution of variants across the pandemic. Ashraf J, Bukhari SARS, Kanji A, Iqbal T, Yameen M, Nisar MI, Khan W and **Hasan Z**. Sci Rep. 2023 Nov 28;13(1):20955. DOI: [10.1038/s41598-023-48272-5](https://doi.org/10.1038/s41598-023-48272-5)
14. Investigating the impact of prior COVID-19 on IgG antibody and interferon  $\gamma$  responses after BBIBP-CorV vaccination in a disease endemic population: A prospective observational study. **Hasan Z**, Masood KI, Qaiser S, Khan E, Hussain A, Ghous Z, Khan U, Yameen M, Hassan I, Nasir MI, Qazi MF, Memon HA, Ali S, Baloch S, Bhutta ZA, Veldhoen M, Pedro Simas J, Mahmood SF, Ghias K and Hussain R. Health Sci Rep. 2023 Sep 8;6(9):e1521. DOI: [10.1002/hsr2.1521](https://doi.org/10.1002/hsr2.1521)
15. Sequential viral introductions and spread of BA.1 across Pakistan provinces during the Omicron wave. Bukhari AR, Ashraf J, Kanji A, Rahman YA, Trovão NS, Thielen PM, Yameen M, Kanwar S, Khan W, Kabir F, Nisar MI, Merritt B, Hasan R, Spiro D, Rasmussen Z, Aamir UB and **Hasan Z**. BMC Genomics. 2023 Aug

3;24(1):432. DOI: [10.1186/s12864-023-09539-3](https://doi.org/10.1186/s12864-023-09539-3)

16. Effectiveness of inactivated COVID-19 vaccines against SARS-CoV-2 infections among healthcare personnel in Pakistan: a test-negative case-control study. Khan UI, Niaz M, Azam I, **Hasan Z**, Hassan I, Mahmood SF and Ali A. *BMJ Open*. 2023 Jun 27;13(6):e071789. DOI: [10.1136/bmjopen-2023-071789](https://doi.org/10.1136/bmjopen-2023-071789)
17. Tracking SARS-CoV-2 variants through pandemic waves using RT-PCR testing in low-resource settings. Nasir A, Aamir UB, Kanji A, Bukhari AR, Ansar Z, Ghanchi NK, Masood KI, Samreen A, Islam N, Ghani S, Syed MA, Wassan M, Mahmood SF and **Hasan Z**. *PLOS Glob Public Health*. 2023 Jun 1;3(6):e0001896. DOI: [10.1371/journal.pgph.0001896](https://doi.org/10.1371/journal.pgph.0001896)
18. Whole-genome sequencing reveals genotypic resistance in phenotypically susceptible *Mycobacterium tuberculosis* clinical isolates. **Hasan Z**, Razzak SA, Kanji A, Shakoor S and Hasan R. *Int J Mycobacteriol*. 2023 Apr-Jun;12(2):179-183. DOI: [10.4103/ijmy.ijmy\\_101\\_23](https://doi.org/10.4103/ijmy.ijmy_101_23)
19. Correction: Ceftriaxone resistant *Salmonella enterica* serovar Paratyphi A identified in a case of enteric fever: first case report from Pakistan. *BMC Infect Dis*. 2023 May 23;23(1):346. Irfan S, **Hasan Z**, Qamar FN, Ghanchi N, Ashraf J, Kanji A, Razzak SA, Greig D, Nair S and Hasan R. *BMC Infect Dis*. 2023 May 23;23(1):346. DOI: [10.1186/s12879-023-08321-w](https://doi.org/10.1186/s12879-023-08321-w)
20. Ceftriaxone resistant *Salmonella enterica* serovar Paratyphi A identified in a case of enteric fever: first case report from Pakistan. Irfan S, **Hasan Z**, Qamar F, Ghanchi N, Ashraf J, Kanji A, Razzak S, Greig D, Nair S and Hasan R. *BMC Infect Dis*. 2023 Apr 26;23(1):267. DOI: [10.1186/s12879-023-08152-9](https://doi.org/10.1186/s12879-023-08152-9)
21. Using rapid antigen testing for early, safe return-to-work for healthcare personnel after SARS-CoV-2 infection in a healthcare system in Pakistan: A retrospective cross-sectional study. Khan UI, Mahmood SF, Khan S, **Hasan Z**, Cheema A, Hakim A and Ali SI. *PLOS Glob Public Health*. 2023 Mar 22;3(3):e0001746. DOI: [10.1371/journal.pgph.0001746](https://doi.org/10.1371/journal.pgph.0001746).
22. Identifying the current status and future needs of clinical, educational, and laboratory genetics services in Pakistan: a web-based panel discussion. Ashfaq M, Ahmed SA, Aziz-Rizvi R, **Hasan Z**, Kirmani S, Munim S, Naeem R, Raza J and Furqan A. *J Community Genet*. 2023 Feb;14(1):71-80. DOI: [10.1007/s12687-022-00615-x](https://doi.org/10.1007/s12687-022-00615-x).
23. Assessing the effectiveness of COVID-19 vaccines in Pakistan: a test-negative case-control study. *J Infect*. Nisar MI, Ansari N, Malik AA, Shahid S, Lalani KRA, Chandna

MA, Younus AM, **Hasan Z**, Khan U, Khalid F, Mahesar M, Qazi MF, Yildirim I, Jehan F and Omer SB. 2023 Jan 25:S0163-4453(23)00021-X. DOI: [10.1016/j.jinf.2023.01.016](https://doi.org/10.1016/j.jinf.2023.01.016).

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24. Identifying the current status and future needs of clinical, educational, and laboratory genetics services in Pakistan: a web-based panel discussion. Ashfaq M, Ahmed SA, Aziz-Rizvi R, **Hasan Z**, Kirmani S, Munim S, Naeem R, Raza J, and Furqan A. J Community Genet. 2022 Oct 20. DOI: [10.1007/s12687-022-00615-x](https://doi.org/10.1007/s12687-022-00615-x).
25. COVID-19 age-dependent immunology and clinical outcomes: implications for vaccines. Sarfraz A, Hasan Siddiqui S, Iqbal J, Ali SA, **Hasan Z**, Sarfraz Z, Iqbal NT. J Dev Orig Health Dis. 2022 Jun;13(3):277-283. DOI: [10.1017/S2040174421000398](https://doi.org/10.1017/S2040174421000398).
26. Characterisation of drug-resistant Mycobacterium tuberculosis mutations and transmission in Pakistan. Napier G, Khan AS, Jabbar A, Khan MT, Ali S, Qasim M, Mohammad N, Hasan R, **Hasan Z**, Campino S, Ahmad S, Khattak B, Waddell SJ, Khan TA, Phelan JE, Clark TG. Sci Rep. 2022 May 11;12(1):7703. DOI: [10.1038/s41598-022-11795-4](https://doi.org/10.1038/s41598-022-11795-4)
27. Latent M. tuberculosis infection is associated with increased inflammatory cytokine and decreased suppressor of cytokine signalling (SOCS)-3 in the diabetic host. Masood KI, Irfan M, Masood Q, Yameen M, Jamil B, Ram N, Rao S, Rottenberg M and **Hasan Z**. Scandinavian journal of immunology. 2022 April;95(4), e13134. <https://doi.org/10.1111/sji.13134>.
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30. Variants associated with Bedaquiline (BDQ) resistance identified in Rv0678 and efflux pump genes in Mycobacterium tuberculosis isolates from BDQ naïve TB patients in Pakistan. Saeed DK, Shakoor S, Razzak SA, **Hasan Z**, Sabzwari SF, Azizullah Z, Kanji A, Nasir A, Shafiq S, Ghanchi NK and Hasan R. BMC Microbiol. 2022 Feb 25;22(1):62. DOI: [10.1186/s12866-022-02475-4](https://doi.org/10.1186/s12866-022-02475-4).
31. IgG antibodies to SARS-CoV-2 in asymptomatic blood donors at two time points in Karachi. Hasan M, Moiz B, Qaiser S, Masood KI, Ghous Z, Hussain A, Ali N, Simas JP, Veldhoen M, Alves P, Abidi SH, Ghias K, Khan E and **Hasan Z**. PLoS One. 2022 Aug 24;17(8):e0271259. DOI: [10.1371/journal.pone.0271259](https://doi.org/10.1371/journal.pone.0271259).

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32. Discrepancy between PCR based SARS-CoV-2 tests suggests the need to re-evaluate

diagnostic assays. Mushtaq Z, Shakoor S, Kanji A, Shaheen N, Nasir A, Ansar Z, Ahmed I, Mahmood SF, Hasan R, **Hasan Z**. DOI: 10.21203/rs.3.rs-551208/v1.

<https://doi.org/10.1186/s13104-021-05722-5>.

33. Comparison of clinical characteristics and outcomes between COVID-19 pneumonia and H1N1 influenza. Nasir N, Khanum I, Habib K, Ahmed R, Hussain M, **Hasan Z**, Irfan M. *Advance in respiratory medicine*. DOI: 10.5603/ARM.a2021.0049. *Adv Respir Med*. 2021;89(3):254-261. <https://doi.org/10.5603/ARM.a2021.0049>.
34. Increasing IgG antibodies to SARS-CoV-2 in asymptomatic blood donors through the second COVID-19 wave in Karachi associated with exposure and immunity in the population. Hasan M, Moiz B, Qiaser S, Ghous Z, Hussain A, Masood KI, Ali N, Simas JP, Veldhoen M, Alves P, Abidi SH, Ghias K, Khan E and **Hasan Z**. DOI: <https://doi.org/10.21203/rs.3.rs-941908/v1>.
35. A rapid real-time polymerase chain reaction-based live virus microneutralization assay for detection of neutralizing antibodies against SARS-CoV-2 in blood/serum. Abidi SH, Imtiaz K, Kanji A, Qaiser S, Khan E, Iqbal K, Veldhoen M, Ghias K, Simas JP and **Hasan Z**. *PloS one*. 2021;16(12), e0259551. doi: [10.1371/journal.pone.0259551](https://doi.org/10.1371/journal.pone.0259551).
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38. Latent M. tuberculosis infection is associated with increased inflammatory cytokine and decreased suppressor of cytokine signaling (SOCS)-3 in the diabetic host. Masood KI, Irfan M, Masood Q, Yameen M, Jamil B, Ram N, Rao S, Rottenberg M and **Hasan Z**. *Scandinavian journal of immunology*, e13134. 2021 Dec 24;e13134. Advance online publication. DOI: [10.1111/sji.13134](https://doi.org/10.1111/sji.13134).
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40. Lipid A-Ara4N as an alternate pathway for (colistin) resistance in Klebsiella pneumonia isolates in Pakistan. Masood KI, Umar S, **Hasan Z**, Farooqi J, Razzak SA, Jabeen N, Rao J, Shakoor S and Hasan R. *BMC research notes*. 2021;14(1), 449. <https://doi.org/10.1186/s13104-021-05867-3>,
41. Higher entropy observed in SARS-CoV-2 genomes from the first COVID-19 wave in Pakistan. Ghanchi NK, Nasir A, Masood KI, Abidi SH, Mahmood SF., Kanji A, Razzak S, Khan W, Shahid S, Yameen M, Raza A, Ashraf J, Ansar Z, Dharejo MB, Islam N, **Hasan Z** and Hasan R. *PloS one*. 2021;16(8), e0256451. <https://doi.org/10.1371/journal.pone.0256451>.

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44. Raised levels of IFN-gamma and IL-13 are associated with pre-diabetes amongst newly diagnosed patients with Tuberculosis. **Hasan Z**, Irfan M, Masood Q, Ahmed O, Moosajee US, Rao S and Salahuddin N. *J.P.M.A. The Journal of the Pakistan Medical Association*. 2019; 69(4), 468–473.
45. Impact of diabetes on mechanisms of immunity against *Mycobacterium tuberculosis*. Rao S, Rahim M, Iqbal K, Haroon F and **Hasan Z**. *J Pak Med Assoc*. 2019 Jan;69(1):94-98.
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56. Case Series of Naegleria fowleri Primary Amoebic Meningoencephalitis from Karachi, Pakistan. Ghanchi NK, Jamil B, Khan E, Ansar Z, Samreen A, Zafar A, **Hasan Z**. Am J Trop Med Hyg. 2017 Nov;97(5):1600-1602. Doi: 10.4269/ajtmh.17-0110. Epub 2017 Oct 10. DOI: [10.4269/ajtmh.17-0110](https://doi.org/10.4269/ajtmh.17-0110).

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58. Increased expression of efflux pump genes in extensively drug-resistant isolates of Mycobacterium tuberculosis. Kanji A, Hasan R, Zhang Y, Shi W, Imtiaz K, Iqbal K, Shafiq S, **Hasan Z**. Int J Mycobacterial. 2016 Dec;5 Suppl 1: S150. doi: 10.1016/j.ijmyco.2016.09.067. DOI: [10.1016/j.ijmyco.2016.09.067](https://doi.org/10.1016/j.ijmyco.2016.09.067).
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