**Assessing Contributory Factors of Diarrhea among Under-Five Children in Bangladesh: A Comprehensive Analysis of Three Waves of Nationally Represent Data**

Mohammad Nayeem Hasan1\*, Mst. Farzana Akter1,2\*, Sabikunnaher Mitu3\*, M. Noor-e-alam Siddiqui1\*,Muhammad Abdul Baker Chowdhury1,4, Md Jamal Uddin1,5\*\*

1Department of Statistics, Shahjalal University of Science & Technology, Sylhet-3114, Bangladesh.

2Department of Community Health Sciences, University of Manitoba, Winnipeg, Manitoba, Canada

3Department of Sociology, Shahjalal University of Science & Technology, Sylhet-3114, Bangladesh.

4Department of Neurosurgery, University of Florida College of Medicine, Gainesville, FL, USA.

5Department of General Educational and Development, Daffodil International University, Dhaka, Bangladesh

\*Equal contributions

**\*\*Corresponding Author: Md Jamal Uddin;** [**jamal-sta@sust.edu**](mailto:jamal-sta@sust.edu)**; Department of Statistics, Shahjalal University of Science and Technology, Sylhet-3114, Bangladesh.**

**Declarations**

***Funding***

This research received no specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

***Conflicts of interest***

The authors reported no potential conflict of interest.

***Ethical consent***

Our study was wholly based on an analysis of existing public domain health survey datasets obtained from the MICS 2006, 2012, and 2019 which are freely available online with all personal identifying information removed. The MICS procedures were reviewed and approved by the Bangladesh Bureau of Statistics (BBS) and UNICEF. Informed consent was obtained from participants while interviewing them. Because this study involved the analysis of secondary data thus, it did not require the ethical approval of the respective institution.

***Acknowledgments***

We acknowledge UNICEF and the Bangladesh Bureau of Statistics for allowing us to use the data.

***Author Contributions***

MNH, MNS, MFA, SM, MABC, and MJU conceptualization, data curation, formal analysis, investigation, methodology, project administration, software, supervision, validation, visualization, roles/writing - original draft, review, and editing.