

# High prevalence of multidrug resistant bacteria causing urinary tract infection among children in northern Bangladesh

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## Abstract

Urinary tract infection is one of the most common pediatric infections. The present study aims at identifying the causative agents of pediatric UTI and their resistance pattern against different antibiotics as well as rate and determinants of multi drug resistance in northern Bangladesh. In this retrospective study report of culture and sensitivity test of 991 clean-catch mid-stream urine sample from clinically suspected UTI patients, aged between 0 and 17 years, performed in microbiology laboratory of Rajshahi Medical College Hospital by Kirby-Bauer disc diffusion method was analyzed. Multivariate analyses were used to identify the determinants of multidrug resistance. 991 suspected culture of urine yielded 261 (26.3%) bacterial growth. Rate of isolation was higher among female (30.2%) than male (19.3), p-value <0.001. Age distribution of isolation was not significant. *Escherichia coli* was most commonly isolated pathogen (80.1%) followed by *Staphylococcus saprophyticus* (12.3%) and *Klebsiella pneumoniae* (3.8%). 92.3% of all bacteria were multidrug resistant. In logistic regression, female sex was significantly more susceptible to be affected by MDR pathogens (OR 3.945, p-value <0.01). Both gram positive and gram negative bacteria from different age groups were equally resistant to multi drugs. Both gram negative and positive organisms were highly resistant against most of the third generation cephalosporins, quinolones and aminoglycosides (65 to 100%) except Cefepime and Levofloxacin. Imipenem, meropenem and nitrofurantoin were the most susceptible antibiotics. Rational use of empirical antibiotics based on these evidences is crucial to preserve long term efficacy of the sensitive drugs.

Dhaka Cast, an online platform to support diabetic patients of Bangladesh. He also works in the lab of American Society for Microbiology, Rajshahi University chapter as a research assistant.

## Speaker Publications:

1. Rafi MA, Mamun MA, Hsan K, Hossain M and Gozal D ; “Psychological Implications of Unemployment Among Bangladesh Civil Service Job Seekers: A Pilot Study”; Front. Psychiatry/ (2019) 10:578. doi: 10.3389/fpsy.2019.00578 .
2. Mamun, M.A., Rafi, M.A., Al Mamun, A.H.M.S. et al; Int J Ment Health Addiction/ (2019). <https://doi.org/10.1007/s11469-019-00066-5>.

[7<sup>th</sup> World Congress and Exhibition on Antibiotics and Antibiotic Resistance](#); London, UK- March 16-17, 2020.

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## Biography:

Abdur Rafi is an undergraduate (MBBS) student of Rajshahi Medical College, Rajshahi, Bangladesh. He is the co-founder of