

Abstract

Milk is an ideal food for all age groups. The current study was carried out to identify the microorganisms to assess the raw milk quality and the antibiotic resistance of those identified microorganisms. Five raw milk samples along with two high treatment (UHT) milk samples from different locations of Noakhali district of Bangladesh were analyzed. Bacterial isolation was performed by Nutrient Agar (NA) and MacConkey (MCA), Eosin Methylene Blue (EMB) and Genital Menital Salt agar (GMSA). The isolates were then identified by Kliger's Iron Agar (KIA) test, Motility Indole Urease (MIU) test, Catalase and Oxidase tests. Antibiotics resistance tests were done for 13 different antibiotics. Among all these samples, Majdee Bazar (S4) contained the highest load as 1.87×10^6 and the UHT samples contained no bacterial contamination. *E. coli* covered 47.05% whereas *Listeria*, *Bacillus* and *Yersinia* were in the same percentage as 5.88% among all isolates. *Salmonella* and *Staphylococcus* were 23.53% and 11.76%, respectively. *Listeria* and *Salmonella* were resistant to five different antibiotics by 46.15% and 38.46% of multiple antibiotic resistance index (MRI), correspondingly. However, *E. coli* and *Yersinia* were resistant to three antibiotics namely, Rifampicin (RIF), Cefotaxime (CTX), Amoxycillin (AMX) by about 23% as MRI percentage. *Bacillus* and *Staphylococcus* both were resistant to Cefepime (CPM) by 7.69% of MRI. Hence, it can be concluded that Rifampicin and Cefepime were the most common antibiotics which were resisted by most of the isolates. Therefore, hygiene aspect of these milk sources needs to be taken into consideration with high priority. Also, the antibiotics which are resisted by different organisms will be detrimental for public health aspects.