River Water Purification Process With Moringa oleífera Lam. Tablet

Prates Brandao , Maria Eduarda (School: Escola Sesi Ignez Pitta de Almeida)
Nogueira Oshiro, Ana Luiza (School: Escola Sesi Ignez Pitta de Almeida)
Fernandes de Oliveira, Sarah (School: Escola Sesi Ignez Pitta de Almeida)

One of the great challenges for science is to guarantee the availability and potability of water for everyone while looking for sustainable ways to do this. The present research aimed to produce a filtered tablet of M. oleífera and to evaluate its potential for the treatment of water through the physicochemical and microbiological parameters. The study was carried out in the municipality of Barreiras, Bahia, by collecting water from the Rio Grande, a river that crosses the city and serves as a water supply for several residences. The M. oleífera tablets were produced from seeds that were crushed together with activated charcoal and water. Subsequently, they were heated until reaching pastiness for the final modeling of the tablet. For the physicochemical parameters, the Hanna waterproof multiparameter meter was used. For the microbiological qualitative techniques, methods for the detection of total coliforms and E.coli were used. The tests were carried out on four samples, three with M. oleífera treatment, and one without the tablet, which served as a control sample. The results of the physicochemical tests corroborate with the recommendation of the Brazilian Ministry of Health, which determines the acceptance levels. The turbidity results of the treated samples were acceptable according to the standard in force in Brazil. The results of this study showed that the natural water of the Rio Grande is inappropriate for consumption. However, the tests carried out after the addition of the tablets showed significant physicochemical parameters as well as the microbiological tests and did not show the presence of E.coli in the samples.