Natural vs. Synthetic Antibiotics in Battling E. coli Bacteria

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It is imperative to know what to do when you contract a bacterial infection such as an E. coli infection. Millions die every year from bacterial infections and grow resistant to antibiotics due to overuse and misuse. Developing countries don’t have access to synthetic antibiotics, so we must find an alternative. Bacterial infections are a leading cause of death in our world, and they must be stopped. Are natural or synthetic antibiotics more effective at treating E. coli bacteria? Three natural antibiotics (garlic, honey, and ginger) and three synthetic antibiotics (vancomycin, meropenem, and piperacillin-tazobactam) were soaked in blank antibiotic disks and placed in petri dishes streaked with E. coli bacteria. After three days of incubation, the zone of inhibition around each antibiotic disk was measured to calculate that antibiotic's resistance. Results were recorded into a bar graph. All synthetic antibiotics had a greater zone of inhibition than natural antibiotics. Piperacillin-tazobactam was most effective, followed by meropenem, vancomycin, honey, garlic, and ginger. This study proved that the most effective way to treat a bacterial infection like E. coli is to take a prescribed synthetic antibiotic like piperacillin-tazobactam. This will cure you the quickest, but you must be careful not to overuse it. If the type of bacteria is unknown, you should take a natural antibiotic. They are general antibiotics that are proven to inhibit bacteria growth by about 25% as effectively as synthetic antibiotics. This means that developing countries can use natural antibiotics like honey to decrease bacterial illnesses. In the future, I can test several types of bacteria to confirm that these results hold true for every type of bacterial infection.

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