

## Microbial Quality of Soups Served With "Tuo-Zaafi" Sold in Tamale Metropolis' Central Business District

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### Abstract:

Food safety have become topical across the globe, especially in developing countries owing to an increase in street food vendors and the non-enforcement of laws governing establishment and operation of food vendors. This research determined the microbiological quality of soups served with "tuo-zaafi" marketed in the Central Business District of the Tamale Metropolis. A total of 30 samples were collected, preserved, transported and analysed in the Spanish Laboratory of the University for Development Studies. The presence, levels and antibiotics resistivity of bacteria in soup samples were determined. *Staphylococcus aureus* recorded the highest (83.3%) in soup sample with levels ranging from 0 to  $9.2 \times 10^4$  cfu/ml. *E. coli* was detected in 76.7% of the soup with levels varying from 0 to  $8 \times 10^4$  cfu/ml and *Salmonella* spp. (63.3%) levels ranged from 0 to  $9.6 \times 10^4$  cfu/ml. *Shigella* spp. was present in 73.3% of samples with levels ranging from 0 to  $9.5 \times 10^4$  cfu/ml. Mean microbial counts in "Ayoyo" and Dry Okra soups across the study area were  $1.19 \times 10^4$  cfu/ml and  $1.83 \times 10^4$  cfu/ml, respectively. Contamination varied significantly (p

### Objectives:

To investigate the therapeutic effect of micro current electronic acupoint stimulation therapy on patients with Parkinson's disease. Subjects were 77 hospitalized patients with Parkinson's disease. 57 of them had received prior treatment without further improvement. This new therapy involved stimulating the acupuncture points with micro-current every day for 90 days. With the guide of the therapist, patients used the equipment by themselves to stimulate the related acupuncture points on the sole and body. And the therapist conducted the micro-current therapy on the head through massage. Modified Webster scale was used to analyze effectiveness of treatment. Combining the 10 symptoms, 35 patients (45.45%) had an improvement of more than or equal to 50%, and 19 patients (24.68%) had an improvement between 30% and 50%. Only 14 people (18.18%) improved less than 30%. Each symptom of the patients had significant improvement. This study has shown that micro-current electronic acupoint stimulation therapy can effectively improve the symptoms of Parkinson's disease, which is worthy of clinical promotion and further research.

### Keywords:

Soups; Ayoyo; Dry Okra; Tuo-zaafi; Tamale; *Staphylococcus aureus*; *Escherichia coli*; *Salmonella* spp; *Shigella* spp

### Background:

Food is a source of energy that also delivers the nutrients that the human body requires to fight sickness. Customer confidence in the safety of the food they get is critical [1], and it aims to prevent foodborne illness. Contamination of foods and food poisoning [2]. Moreover, a large number of customers When selecting a food seller, pay close attention to hygiene.as well as its location [3]. Nonetheless, everyone has had a bad experience.previously had an experience with foodborne diseases as a result of consuming foods that have been tainted As a result, food safety has become a hot concern.due to the development of foodborne illnesses around the world in recent years Illnesses caused by improper management

### Conclusions:

The occurrence of foodborne illness is increasing each day due to contamination by microbes. The study therefore sought to determine the microbial quality of soups sold by food vendors and the hygienic practices observed by food vendors in the Central Business District of the Tamale Metropolis. In this study, *Escherichia coli* and *Salmonella* spp were present in 76.7% and 63.3% of the soup samples with total mean of  $3.71 \times 10^4$  cfu/ml and  $2.11 \times 10^4$  cfu/ml respectively. *Staphylococcus aureus* was present in 83.3% of soup samples with total mean count of  $4.14 \times 10^4$  cfu/ml whereas *Shigella* spp was detected in 73.3% of soup collected with a total mean count of  $3.79 \times 10^4$  cfu/ml. Also statistical analysis showed that the mean counts of *Salmonella* spp., *E. coli*, *Staphylococcus aureus* and *Shigella* spp. varied significantly across of the study area.