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## ***Prevalence of Campylobacter in chickens in a tropical environment.***

### **Letter to the Editor**

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*Campylobacter* is a fastidious agent, because it is microaerophilic, has a slow growth rate, and its culture requires selective culture media. For these reasons, the first strains of this agent from humans were isolated from the blood of patients with sepsis, and the agent was classified in the genus *Vibrio* as *V. Fetus* or "related *Vibrio*" (1). The successful isolation of *Campylobacter* from stool samples in the 1970 was the result of a new methodology. Based on the relatively narrow diameter of this agent, the fecal samples for *Campylobacter* study were filtered through membranes With pores of 0.6µm in diameter (able to retain most of the enteric agents), and inoculated on non-selective culture media (2). Then, selective culture media were developed using antibiotics such as colistin, bacitracin, kanamycin, and vancomycin (3). For these reasons it was not until the 1970 when the role of *Campylobacter* in the etiology of diarrhea was known, emerging as one of the most important agents related with this clinical entity.

The more prevalent species associated with diarrhea is the binomial *C. jejuni-C. coli*, zoonotic agents isolated from pets, cattle, hogs, other animals including birds, mainly chickens (3). The frequency of chickens colonized by *C. jejuni* reported in different countries range from 50 to 90% (4). Therefore, it was postulated that contaminated chickens could be one of the most important risk factors in the epidemiology of campylobacteriosis, directly by consumption of contaminated meat or indirectly by cross-contamination of foods, including cooked foods (5). Furthermore, the bacteria can survive at least two hours in the grooves of wooden cutting boards used in kitchens (6) or some days associated with wood (7). The high prevalence of *Campylobacter* in chickens through, the world aimed to study in a Costa Rican poultry industry.

One hundred and fifty four 6 weeks old chickens of ca. were analyzed. The number of samples studied was calculated with a prevalence of 85% obtained from the results of the first 50

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samples. A fecal specimen takeout from the cloaca of each chicken was inoculated on Blaser agar media (BBL) and incubated under microaerophilic conditions, in a type GasPak-jar, for 48 hr at 42°C. The suspected colonies were analysed by Gram stain, oxidase, and catalase. Additionally, ten strains randomly selected were biochemically studied by the APIC system.

The prevalence of chickens infected or colonized by *Campylobacter* was 85.7% (132 positives out of 154 samples). The ten strains analyzed by API were confirmed as *C. jejuni*. The studied birds came from 12 poultry-farms localized in Atenas, (Alajuela, Costa Rica): 12 to 24 birds were analyzed in each farm. The lowest prevalence observed in the farms was 61%, and in three of them all the chickens were *Campylobacter*-positive.

*C. jejuni* commonly inhabit the caeca of apparently healthy chickens, persist in the environment, and may contaminate water; this can explain the high prevalence of this agent in some farms, as found in England (8). There are reports of 50 to 90% of retailed chickens contaminated by *C. jejuni* (4).

Perhaps the chickens are contaminated from their fecal material during slaughter and the bacteria could survive washing and rising procedures before packaging. The data presented suggest that raw chickens are a potential hazard needing more attention.

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