

FOOD PREPARATION SAFETY EDUCATION OF STREET FOOD VENDORS AROUND PUBLIC ELEMENTARY SCHOOLS TO IMPROVE BACTERIOLOGICAL AND CHEMICAL FOOD SAFETY

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Abstract. Cases of food poisoning have occurred among elementary students after consuming street food from vendors near their schools in southern Cimahi City, Indonesia. We aimed to improve the bacteriological and chemical safety of the food served by these vendors through an education program. In this study we assessed the efficacy of this education program using a quasi-experimental study design. We used a pre-test/post-test design with 27 vendors in intervention and 27 vendors in control groups. The intervention group consisted of vendors around 4 public elementary schools in southern Cimahi City where the food poisoning cases occurred and the control group consisted of vendors around 4 public elementary schools in northern Cimahi City where no cases of food poisoning had occurred. The vendors were selected through random sampling. Prior to the intervention the bacterial (coliform, *E-coli* and total plate count) and chemical (sodium borate/borax, formaldehyde, rhodamin B and yellow methanol) safety of both groups were assessed. During the intervention, a sanitation officer educated the vendors in the intervention group about food safety for 20-30 minutes a week for 6 months. In the control group, no education was provided. In the control group 14.8% of the vendors had food that was determined to be bacteriologically safe at the beginning of the study and 14.8% of the vendors had food that was bacteriologically safe at the end of the study. The difference in the percentages of food bacteriologically safe did not differ significantly. In the control group 88.9% of the vendors had food that was determined to be chemically safe at the beginning of the study and 88.9% at the end of the study; there was no significant difference in the percentages of chemically safe food. In the intervention group, 11.1% of the vendors had food that was determined to be bacteriologically safe at the beginning of the study and 70.4% of the vendors had food that was bacteriologically safe at the end of the study; this was a significant improvement ($p=0.001$). In the intervention group, 70.4% of the vendors had food that was determined to be chemically safe at the

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beginning of the study and 100% of the vendors had food that was chemically safe at the end of the study; this was a significant improvement ($p=0.008$). The food safety education program for food vendors was effective in significantly improving the safety of food served by food vendors around the studied primary elementary schools in southern Cimahi City, Indonesia. Further studies are needed to determine if the program can be successfully expanded to other cities.

Keywords: *E.coli*, coliform, borax, formaldehyde, total plate count, food safety