

## **STUDY PROTOCOL**

**Title:**

The Effect of Food Safety Training on Employees' Knowledge, Attitudes, and Practices: A Solomon Four-Group Experimental Study

**Protocol ID:**

Erciyes University Protocol Record 2021/799

**Institution:**

Erciyes University, Department of Public Health

**Sponsor / Responsible Organization:**

Erciyes University

**Study Location:**

Turkey

**Document Type:**

Study Protocol

**Principal Investigator:**

Müncübe Duman Erbakırcı

**Supervisor:**

Assoc. Prof. Dr. Arda Borlu

**Date:**

30 June 2023

**Background:**

Food safety was recognized as a major public health issue worldwide. Inadequate knowledge and improper practices among food sector employees were associated with the occurrence of foodborne diseases. Therefore, food safety training was considered an important intervention to improve employees' knowledge, attitudes, and practices. The effectiveness of such training programs was evaluated using robust experimental designs. The Solomon four-group experimental design was used as a strong methodological approach to assess both the intervention effect and the effect of pre-testing.

**Objective:**

The aim of this study was to evaluate the effectiveness of food safety training and the effect of pre-testing on employees' knowledge, attitudes, and practices using a Solomon four-group experimental design.

**Study Design:**

This study was conducted as a field intervention study using a Solomon four-group experimental design. Participants were divided into four groups: Group 1 received a pre-test, training, and post-test. Group 2 received a pre-test and post-test but did not receive training. Group 3 received training and post-test only. Group 4 served as the control group and received only the post-test. This design allowed the evaluation of both the intervention effect and the effect of pre-testing.

**Study Population and Sample:**

The study population consisted of employees working in food-related services affiliated with KAYTUR. Individuals who were involved in food preparation or service and who voluntarily agreed to participate were included in the study. Those who refused to participate or provided incomplete data were excluded. The sample size was determined based on feasibility and the number of eligible participants available in the study setting.

**Intervention:**

The intervention consisted of a structured food safety training program covering hygiene, food safety, and safe food handling practices. The training was delivered through presentations and practical demonstrations.

**Data Collection:**

Data were collected using a structured questionnaire designed to assess participants' knowledge, attitudes, and practices. Pre-test and post-test measurements were conducted depending on group allocation.

**Outcome Measures:**

The primary outcome measures were changes in knowledge, attitude, and practice scores. Secondary outcomes included differences between groups and the assessment of pre-test effects.

**Statistical Analysis:**

Data were analyzed using SPSS software. Comparisons between groups were performed using appropriate statistical tests such as t-test, ANOVA, and chi-square test depending on the type and distribution of the data. A p-value of less than 0.05 was considered statistically significant.

**Ethical Considerations:**

Ethical approval was obtained from the Erciyes University Ethics Committee. Written informed consent was obtained from all participants. Participation was voluntary.

**Study Timeline:**

The study was conducted between 1 October 2022 and 30 June 2023 in municipal social facilities affiliated with KAYTUR. A total of 200 food industry employees participated in the study.