Determinants of Knowledge, Attitudes, and Behaviours toward Aflatoxin Contamination: A Structural Equation Modelling Approach in Sri Lanka

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Aflatoxin contamination in food products is an emerging public health concern in Sri Lanka due to its carcinogenic and hepatotoxic effects. There is limited research on consumer knowledge, attitudes, and behaviours (KAB) regarding aflatoxin prevention, among Sri Lankan housewives. This study assessed the KAB of Sri Lankan housewives regarding aflatoxin contamination and examined the relationships among these constructs using Structural Equation Modelling (SEM). A cross-sectional study was conducted from November 2024 to February 2025 among 397 Sri Lankan housewives aged ≥18 years selected through voluntary convenience sampling using community flyers and social media platforms. Data were collected using a pre-tested interviewer-administered telephone questionnaire covering socio-demographic characteristics and KAB related to aflatoxin contamination. Ethical procedures were followed and informed consent was obtained from all participants. Data were analyzed using SPSS 26.0 and AMOS 23.0. Knowledge levels were categorized based on percentage scores. Confirmatory Factor Analysis (CFA) and SEM were used to validate constructs and examine relationships among KAB variables. Knowledge showed good reliability (Cronbach's $\alpha = 0.850$), while attitudes demonstrated excellent reliability ($\alpha = 0.992$). Behaviour reliability was comparatively low ($\alpha = 0.483$). SEM revealed a strong positive association between knowledge and attitudes ($\beta = 0.732$, $p < 0.001$) and a weak but significant association between knowledge and behaviours ($\beta = 0.181$, $p = 0.042$). However, attitudes were not significantly associated with behaviours ($\beta = -0.030$, $p = 0.727$). Education level significantly predicted both knowledge and attitudes ($p < 0.001$). Overall knowledge levels were low (48.9%) despite relatively positive attitudes and behaviours. These findings suggest that improving aflatoxin-related knowledge may support safer food practices among Sri Lankan housewives. However, findings should be interpreted cautiously due to the cross-sectional design, moderate model fit, and potential response bias associated with telephone-based surveys.

Keywords: Aflatoxins, Attitudes, Behaviours, Knowledge, Structural equation modelling