

Title: Validation of portion size photographs used for the RAPP tool

Abstract

The aim was to develop a dietary assessment tool to determine fumonisins exposure of Xhosa-speaking people in rural areas of the Eastern Cape. This tool included a food frequency questionnaire (developed with focus groups) with three portion size photographs and where applicable, three ratio photographs. The ratio photographs were included because participants mix maize meal porridge with vegetables (mainly spinach/imifino or pumpkin) and the ratio depends on availability.

Sixty participants were recruited from rural villages. Participants were asked to select a photograph representing their usual portion size of eight dishes. Thereafter participants were required to dish-up the actual portion size usually eaten from a corresponding prepared dish. Six of the dishes (porridge, stiff porridge- pumpkin, stiff porridgeimifino, samp-beans, kernels and soup) were mild to moderately (10-25%) over-estimated from the photographs. Two dishes were either correctly estimated (stiff porridge by 4%) or grossly over-estimated (crumbly porridge by 44%). Participants experienced difficulty in estimating the depth of the serving dish and used the surface area as portion size indicator. This was most probably because the chosen dishes were all amorphous in consistency. Accuracy was not influenced by gender or education. However, those older than 65 years and those with a body mass index larger than 30 over-estimated more.