

THE EFFECT OF A FORTIFIED FOOD, E'PAP, ON ORAL CANDIDIASIS IN ADULT TB PATIENTS ATTENDING CLINICS IN ALEXANDRA, JOHANNESBURG, SOUTH-AFRICA

ABSTRACT

Introduction

The association between tuberculosis (TB) and malnutrition is well known. Malnutrition also weakens the immune system increasing the chance of latent TB progressing to active disease. Nutritional interventions can help improve overall quality of life and can reduce susceptibility to opportunistic infections including all forms of Oral Candidiasis (OC) which includes: (1) pseudomembranous candidiasis (oral thrush), (2) atrophic (erythematous) candidiasis, (3) hyperplastic candidiasis, and (4) angular cheilitis. This secondary data analysis of a longitudinal follow-up study evaluates the impact of a fortified supplementary food on OC among adult TB patients over a three month period.

Results

At baseline, an overall prevalence of 33% of OC (27 out of 83) was found in 83 adult TB patients; (pseudo-membranous 46% (16 out of 35), erythematous 26% (9 out 35), angular cheilitis 20% (7 out 35) and hyperplastic 8% (3 out of 35). Thirty five different types of OC were found in 27 of the subjects some of whom manifested with more than one type of OC. Almost 89% of these TB patients had low levels of malnutrition (8% for selenium, 55% for iron, 62% for Vit-A, 42% for albumin, 47% for Vit-D and 34% for zinc). Their p values related to OC were (p=0.64 for selenium, p=0.74 for iron, p=0.19 for Vit-A, p=1 for albumin, p=1 for Vit-D and p=0.09 for zinc) showing no statistically significant difference for malnutrition in each different type of micronutrient related to OC at baseline. However, there was a statistically significant difference in HIV status (p=0.01) related to OC among factors such as sex (p=0.34), employment status (p=0.74), ARV status (p=0.46) and wellbeing (p=0.18) at baseline. OC was statistically significant at both 2nd and 3rd visits using univariate analysis p=0.04 (95%CI 0.22 to 0.97) and p=0.00 (95%CI 0.06 to 0.43) and also multivariate analysis p=0.01(95%CI 0.17 to 0.85) and p=0.00 (95%CI 0.04 to 0.34) with reference to the 1st visit (the prevalence of OC was significantly decreased in both 2nd and 3rd visits). For different types of clinical OC, pseudomembranous candidiasis was the only type of OC that showed statistically significant

difference at the 3rd visit in both univariate analysis (p= 0.01, 95%CI 0.01 to 0.46) and multivariate analysis (p= 0.00, 95%CI 0.01 to 0.38) with reference to 1st visit.

Discussion and Conclusions

This study found no significant association between overall micronutrient level and the presence of OC at baseline. However, micronutrient interventions to the 83 adult TB patients receiving treatment at Johannesburg city clinics located in Alexandra showed a decrease in prevalence of different types of OC in both 2nd and 3rd visits. This analysis showed encouraging results which indicated a beneficial effect of e'Pap in adult TB patients.