

## **A08 Nutritional related factors and its association with delayed sputum smear conversion among Pulmonary Tuberculosis Patients in Kota Kinabalu, Malaysia**

***Khalid M<sup>1,2</sup>, Zaleha M<sup>2</sup>, Halim I<sup>2</sup> Julaidah S<sup>3</sup> and Firdaus MH<sup>4</sup>***

*<sup>1</sup>Department of Community and Family Medicine, Faculty of Medicine and Health Sciences, Universiti Malaysia Sabah, Kota Kinabalu, Sabah, Malaysia*

*<sup>2</sup>Department of Community Health, Faculty of Medicine, University Kebangsaan Malaysia*

*<sup>3</sup>Kota Kinabalu District Health Office, Ministry of Health Malaysia*

*<sup>4</sup>Department of Surgery, Faculty of Medicine and Health Sciences, Universiti Malaysia Sabah, Kota Kinabalu, Sabah, Malaysia*

Tuberculosis (TB) control system aims to control disease spread, and the most effective way to prevent transmission is to cure patients with smear-positive pulmonary TB (PTB), which is highly contagious. Conversion of sputum smear indicates the patient's response to therapy and the TB treatment program's efficiency. This study aims to determine nutritional-related factors contributing to the delayed conversion of sputum smears at the end of the intensive TB therapy phase. This cross-sectional study was carried out on patients with smear positive PTB patients treated in the five TB treatment canters in Kota Kinabalu, Sabah, Malaysia, from June 2019 to February 2020. Logistic regression models were used to assess the association of sociodemographic characteristics, clinical variables, nutritional status, and dietary intake with the delayed conversion of sputum smear. Thirty-five (13.9%) patients were identified as having delayed sputum conversion. Multiple logistic regression analysis found that PR1 Manggatal (aOR: 10.20, 95% CI:3.30-31.46), no directly observed therapy, short-course (DOTS) supervisor (aOR: 17.21, 95% CI:3.02-98.05), advanced Chest X-ray finding (aOR: 7.46, 95% CI: 1.31-42.59), high total white cell (TWC) (aOR: 6.05, 95% CI:1.99-18.42), high urea (aOR: 7.74, 95% CI: 2.06-29.12), anaemia (aOR: 6.26, 95% CI:1.67-23.478), low vitamin A intake (aOR: 1.01, 95% CI:1.00-1.01) and low vitamin C intake (aOR: 1.03, 95% CI:1.00-1.06) were having significant results. The sputum conversion rate among TB patients in this study was satisfying. To improve the sputum smear conversion rate, we need to increase the percentage of DOTS supervisors and early detection of PTB to prevent advanced PTB during diagnosis. Future studies should evaluate the mechanisms in which high urea is associated with delayed sputum conversion. Nonetheless, TB patients of rural residence warrant special attention. Nutritional referral and support for those who are needed may be beneficial.