PREVALENCE OF ANAEMIA AMONG THE MEDICAL UNDERGRADUATES OF A LOCAL UNIVERSITY

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Background

Anaemia continues to be a major global public health problem affecting low-, median- and high-income countries. It can be attributed to a wide range of aetiological factors and manifested clinically in varied morphology. Severe anaemia is associated with substantially notorious health consequences. There is scarcity of data on national prevalence of anaemia among young adults as most surveys are related to children, pregnant women and adolescent. Therefore, this study was designed to determine the prevalence of anaemia among the medical undergraduates of Universiti Malaysia Sarawak (UNIMAS), as well as to determine the association of anaemia with body mass index (BMI) and academic performance.

Materials and Methods

This was a cross-sectional study involving 310 medical students with written consent from year 1 to year 5 of study (22.9% males, 77.1% females). They were racially diverse with a mean age of 21.67 years old. Anaemia was assessed by measurement of full blood count and microscopic examination of peripheral blood films. BMI was generated using a stadiometer and body composition monitor.

Results and discussion

Prevalence of anaemia among the medical undergraduates was 23.5%, which was higher than the prevalence reported in other public medical schools. Majority of the anaemic students were having mild anaemia (75.3%) and the rest were moderate anaemia (24.7%).

Prevalence of anaemia was higher in females (28.0%) than males (8.5%) (p=0.001). Among the females, anaemia was significantly associated with the duration of menstrual flow per cycle (r = -0.158, p=0.001) and presence of blood clots during menstruation (χ^2 = 7.11, p=0.008). The most common morphological type of anaemia found among the medical undergraduates was hypochromic, microcytic anaemia (68.5%), which was most likely due to iron deficiency, thalassaemia trait, Southeast Asian ovalocytosis (SAO) or other haemoglobinopathies. The anaemic students with normochromic, normocytic red cells might have a combination of iron and folate deficiencies. There was a small portion of non-anaemic students (11.0%) presented with hypochromic, microcytic red cells, indicating a latent phase of iron deficiency. In addition, there were 3.5% of the students presented with SAO and majority of them (72.7%) were of Sarawak origin. However, there was no significant correlation observed between anaemia dan BMI (p=0.329) as well as academic performance (p=0.241).

Conclusion: In view of the high prevalence of anaemia among the medical undergraduates, further laboratory investigations are required to confirm the underlying aetiology so that appropriate management can be administered timely. As morphological studies suggested high frequency of thalassaemia trait, the anaemic students should be well-informed of the importance of verifying their carrier status before marriage.

Key wards: anaemia, medical undergraduates, BMI, academic performance.