

# Assessment of Human Papillomavirus Genotype distribution among women population in Kota Kinabalu, Sabah, Malaysia

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## ABSTRACT

**Introduction:** Recent advances in molecular biology have demonstrated the causal link between persistent human papillomavirus (HPV) infection and cervical cancer development in women population. In order to evaluate the efficacy and maximize the cost-effectiveness of HPV vaccines in Malaysia, it is crucial to consider the importance of geographic variation in the distribution of HPV genotypes. Therefore, the purpose of this study was to assess HPV genotype distribution among women from Kota Kinabalu in Sabah, Malaysia. **Methods:** A total of 215 cervical swabsamples were collected from female volunteers who attended Obstetrics and Gynaecology clinics in Sabah Women and Children Hospital and Universiti Malaysia Sabah Polyclinic situated in Kota Kinabalu between September 2016 to May 2017. Nucleic acids were extracted from cell samples and later subjected to amplification of HPV L1 gene via polymerase chain reaction (PCR) for HPV detection. Restriction fragment length polymorphism (RFLP) was performed on PCR products of HPV-positive samples using four types of restriction enzymes in order to identify HPV genotypes. **Results:** HPV DNA was detected in 19 (8.8%) out of 215 total samples collected. Among the most common HPV genotypes found in the positive samples were high-risk oncogenic HPV56 (15.7%), HPV58 (10.5%), and HPV16 (10.5%), probable high-risk HPV53 (10.5%), and low-risk HPV70 (15.7%). Other HPV genotypes found include HPV33, HPV59, HPV61, HPV62, HPV66, HPV69, HPV81, HPV82, HPV84. The prevalence rate was at its highest among women between 35-44 years old. **Discussion:** Despite the low prevalence rate of HPV infection discovered in women population of Kota Kinabalu, it is important to take note of the HPV genotype distribution whereby 80% of the genotypes found are not among the primary targets of currently introduced HPV vaccines in Malaysia. This information is critical in the estimation of the efficacy of HPV vaccine particularly on the population in Sabah.

Med J Malaysia Vol 72 Supplement 1 August 2017:A25

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# Association between body adiposity and prevalence of impaired fasting glucose among adolescents in Malaysia: Malaysian Health and Adolescents Longitudinal Research Team (MyHeART) study

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## ABSTRACT

**Introduction:** Body adiposity is a major modifiable risk factor for non-communicable diseases (NCD). In Malaysia, prevalence of overweight and obesity in adolescents have been increasing from 1990-2014. The objective of this analysis is to report the association between body adiposity and the prevalence of impaired fasting glucose (IFG) among adolescents in Malaysia. **Methods:** This is a cross sectional analysis of the MyHeART cohort utilizing 2016 follow up data. MyHeART study used a multi-staged cluster sampling method to select participants among adolescents attending public secondary schools in Malaysia. A self-administered questionnaire was used to collect socio-demographic and lifestyle information. A digital weighing scale (Seca 813, Seca, UK) and vertical stadiometer (Seca Portable 217, Seca, UK) were used for anthropometric measurements. Fasting blood samples were taken to measure blood glucose. Overweight and obesity was defined according to the WHO (BMI for age percentiles) for both boys and girls. The multivariate model was adjusted for confounders including age, gender, race, location of school and physical activity. **Results:** For this analysis, we included 1025 of the 1032 participants who attended the 2016 follow up visit. Prevalence of overweight and obesity was 8.8 % and 13.5 % respectively. Compared to those with normal or underweight, the adjusted prevalent odds ratio for IFG among those overweight and obese adolescents was 3.34 (95%CI 1.19 , 9.37 ; P<0.05). **Discussion:** Body adiposity was associated with prevalent IFG among overweight and obese adolescents in Malaysia. However, further analysis are required to determine the longitudinal association of body adiposity with the risk of IFG.