

A32 The anthropometric changes across the years in university students who observed Ramadan fasting during semester period

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The objective of this study was to compare the anthropometric measurements (weight, height, and waist circumference) of university students before, during and after the Ramadan fasting period. It was hypothesised that Ramadan fasting on campus would have caused participants to lose weight. Observations were made when Ramadan coincided with semester period in the years 2009, 2019 and 2021. The 2021 study was conducted during the Movement Control Order for covid-19 mitigation. For each year, a random sample of students who observed the fast were recruited for this cross-sectional study. Participants ($n=159$) included university students from Universiti Malaysia Sabah who were aged 19 to 27 years (2009: 21 females; 2019: 8 males, 61 females; 2021: 10 males, 59 females). All participants observed the fast in Kota Kinabalu in all three studies. Most participants identified as Malay (52.1%), indigenous Sabahan (23.3%), and Muslim (87.3%). In each study, participants recorded their weight, height, and waist circumference for 1 week before Ramadan, during Ramadan and 1 week after Ramadan. For the three studies, there were slight decreases in weight and waist circumference during Ramadan, and slight increases in weight and waist circumference after Ramadan; however the differences between the three periods were statistically insignificant ($p<0.05$). The increase in weight one week after Ramadan might be due to the feasting week where there is usually an increase in number of meals, snacks and drinks during the first week of Syawal. Fasting during the Covid-19 pandemic did not produce a different pattern in anthropometric changes in before, during and after Ramadan compared to fasting outside of pandemic despite the lack of Ramadan bazaars in Sabah during the pandemic. In the 12 year time difference from the first to the third study, females' weight increased significantly (2009: 50.3 ± 7.9 kg; 2019: 58.1 ± 13.6 kg; 2021: 54.6 ± 11.0 kg; $p=0.025$). In conclusion, there were no significant changes in weight and waist circumference due to changed eating habits for those observing Ramadan on campus. These findings suggest that energy balance was probably not significantly different between before, during and after Ramadan. Further analysis on total energy intake and physical activity could be conducted in the future.