Knowledge and perceptions of low-calorie sweeteners in an adult population

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Low-calorie sweeteners (LCSs) are commonly used to provide a sweet taste that is comparable to sugars but with reduced energy and minimal effects on glycaemia(1,2). As such, they have become increasingly prevalent in today’s consumer market(3) and are often used as a weight management tool(4) or by individuals with diabetes mellitus(2). Following a stringent safety assessment, an acceptable daily intake (ADI) is usually assigned for each LCS prior to approval for use(5); however debate persists around the benefits and risks of LCS consumption. Dietitians’ perceptions of LCSs were recently investigated revealing a diversity of attitudes(6). However, limited scientific data are available on consumer attitudes towards LCSs and therefore the present study aimed to assess knowledge and perceptions of LCSs within an adult population.

A cross sectional study was conducted via the administration of an online survey comprising thirty-five questions designed to collect information on demographics, knowledge and perceptions of LCSs. The survey was disseminated among staff and students at the Ulster University by email and to a wider audience via social media sites. Statistical analysis, including Chi Square test, was conducted using SPSS to explore relationships between knowledge and perceptions of LCSs and $P < 0.05$ was considered statistically significant.

A total of 741 individuals (282 M; 459 F) completed the survey between March-July 2016. Of these, 73.5% ($n = 545$) reported being aware of LCSs; however, participants could identify average of 2.0 (SD; 1.9) LCSs from the list LCSs approved for use in Europe. Furthermore, the majority of participants (89.2%; $n = 661$) reported being unaware of an ADI for LCSs. With regards to perceptions of LCSs, 34.3% ($n = 254$) were of the opinion that LCS should not be used and 20.9% ($n = 155$) were of the opinion that they should be used; the remainder (44.8%; $n = 332$) declared no opinion on LCS use. Those who were ‘aware of ADI’ were more likely to have a positive perception of LCSs than those who were unaware or unsure of ADI (Fig. 1; $P < 0.001$).

A high level of awareness of LCSs was observed within this population; however there appeared to be a relative lack of awareness of specific LCSs, as well as an important regulatory aspect of LCSs i.e. ADI. This was associated with a more negative perception of LCSs suggesting that improved education around LCSs might improve acceptability within the general population.