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BACKGROUND

27% of adults and 19% of children in the United Kingdom eat out once a week or more¹.
 Foods eaten outside the home tend to have higher energy and fat content. Increased intake of meals out of home has been linked to increased body weight.²
 Calorie reduced calories ordered by 11% (93 calories)³.
 There is high demand for calorie menu labelling to enable consumers to make informed food choices⁴.
 Assessing dietary intake is limited when capturing energy and nutrient intake among those eating outside the home. This is because subjects are not aware of cooking methods or ingredients used⁵.
 The use of digital menus is a novel and way to present information for foods eaten outside the home. Research is needed to establish consumer acceptability and engagement with digital menu displays.

METHODS

Prior to the conference a communication link was established between Nutritics staff and conference catering staff. Food information was collected for 11 eating occasions across 4 days.

Recipes were created based on information supplied by catering staff. (Figure 1) Nutrition and allergen information were calculated using Nutritics protocol⁶.



Figure 1: Summary of methods used for digital menu creation in accordance with Nutritics protocol⁶

Pictures were taken and uploaded to the digital menu for visual appeal.

Menus were displayed on screens. (figure 2)

QR code web links enabled access to the menu on smartphones and personal devices. (figure 3)

Menu information was further accessible via a digital diet assessment app called 'Libro'.

Interactions with the menus were recorded and analyzed using Microsoft excel and SPSS (ver.24).



Figure 2: Example interactive digital menu showing nutrition and allergen information.

An on-site survey was conducted to assess the acceptability of the menus by delegates.

OBJECTIVES

- 1.To calculate and display digital nutrition and allergen information for composite recipes served at a European nutrition conference.
- 2.To analyze interactions and assess acceptability of digital menus.
- 3.To connect stakeholders using digital food information.

RESULTS

1654 attendees from 78 countries .
 1189 female, 455 male, 1 nonbinary and 9 gender not disclosed.
 223 ingredients used to create 101 recipes, and 46 final menu items.
 13 delegates downloaded Libro.

Day	Eating Occasion (n)	Interactions inside conference times (n)	Total interactions (n)
Tuesday	4	531	492
Wednesday	3	434	375
Thursday	3	374	374
Friday	1	124	87
Total	11	1464	1328

Positive correlation between the number of interactions per day and the number of eating occasions per day $r = 0.971$ $p = 0.029$.

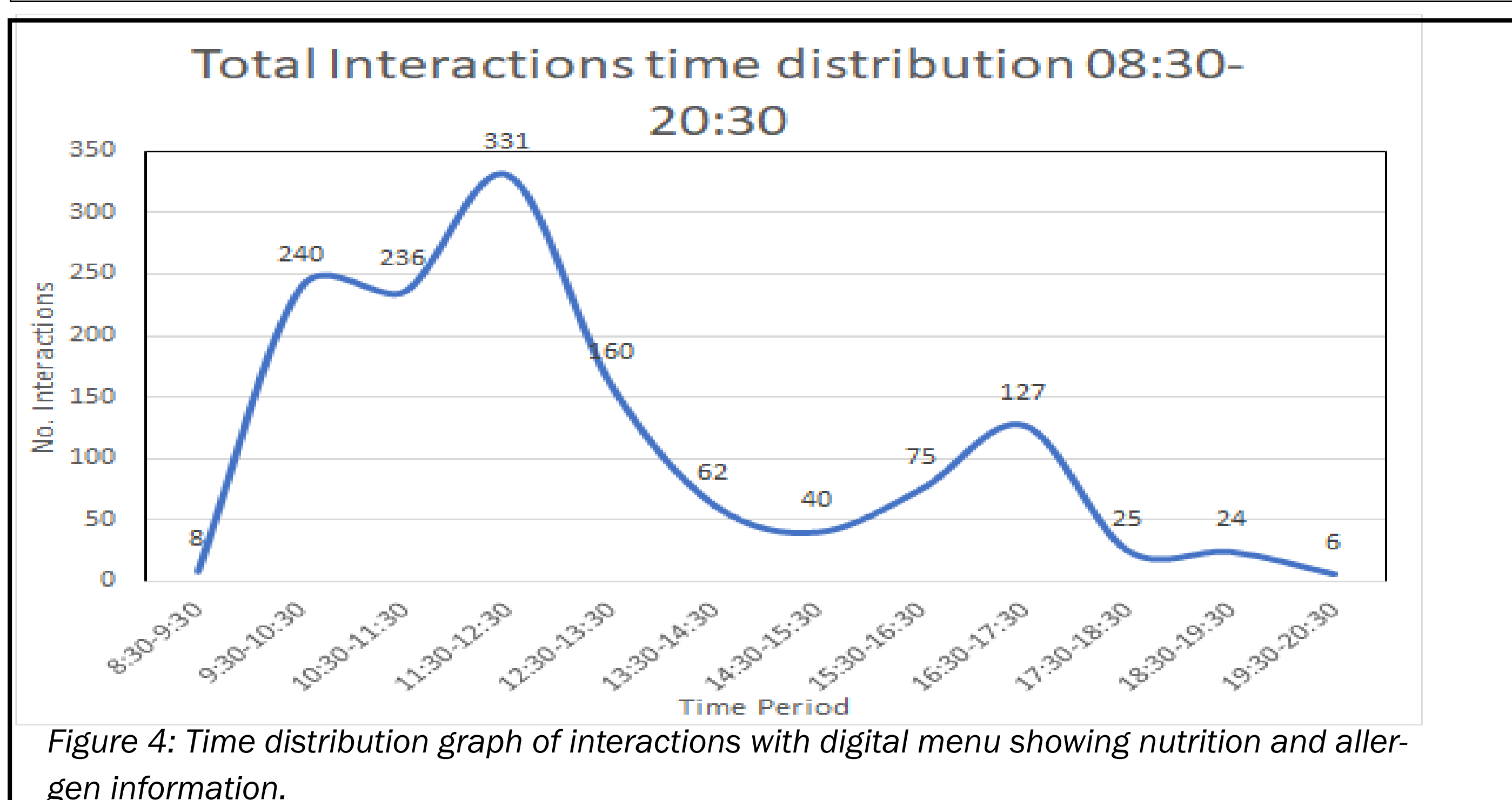


Figure 4: Time distribution graph of interactions with digital menu showing nutrition and allergen information.

The rate of interactions was significantly greater during breaks (1.36 per min) compared with outside breaks (0.37 per min) $t = 5.764$, $p = 0.001$.

Peaks are observed during each eating occasion. (figure 4)

The most viewed item was the canapé 'Arancini with parmesan ragu' with 67 views. This item contained 55 Calories per 30g serving.

The "Marinated salmon bento box" was highest in energy (979 calories).

The mean energy value for menu items was 189 calories. ($SD = 271$)

Of delegates surveyed ($N = 61$), 92% found the information as expected or better than expected, 80% would use this information elsewhere. (figure 5)

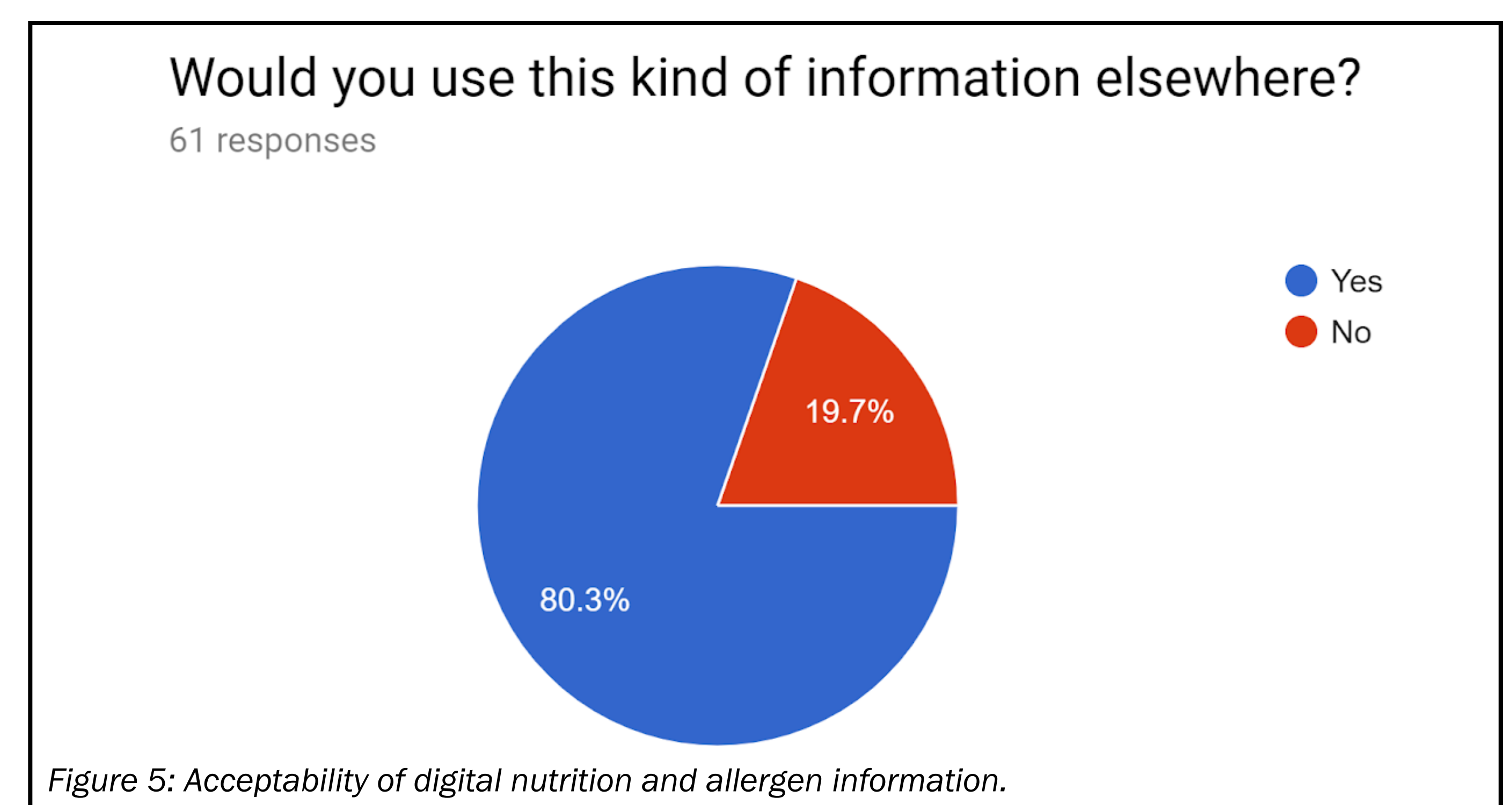


Figure 5: Acceptability of digital nutrition and allergen information.

CONCLUSION

- Delegates' perception of digital menus was extremely positive considering this is a novel way to present food information.
- There was a higher rate of menu interaction during breaks compared with outside of breaks, suggesting peaked interest while food is being served.
- Our findings suggest digital menus are an acceptable way to present food information when eating out of the home.
- Further research is needed to assess the usefulness of Libro connected with digital menus as a dietary assessment tool.

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Figure 3: QR code linking sample menu