



Consumer attitudes and Knowledge about genetically modified foods in Cyprus

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Abstract

Cyprus has always voted against all genetic modifications regardless of utilization and therefore the present study is of particular importance. The objective of this study was to determine the trend of safety concerns regarding genetically modified foods (GMF) in Cyprus and its correlation with age and knowledge.

Introduction

Consumer attitudes vary across culture and geographical region (Chen and Li, 2007). A number of reasons have been suggested as potentially responsible for the skeptical attitudes towards genetically modified organisms (GMO). Meanwhile, consumer's preferences are shifting. According to the latest Eurobarometer Survey (EFSA, 2019), the percentage of consumers who are concerned about GMOs in Europe has been substantially reduced from 66% in 2010 (EFSA, 2010), to 27% in 2019.

Materials and Methods

- ❖ A cross-sectional study was conducted with sample originating from the population of Cyprus.
- ❖ Convenience sampling was conducted between September and December 2019.
- ❖ The research tool used was a questionnaire consisting of two parts with closed-ended questions. The first part of the questionnaire investigates basic information on the socio-economic characteristics of the participants, such as gender, age, income. The second part includes questions aimed at investigating the level of public self-reported knowledge and general attitudes towards GMF.
- ❖ Data were collected using an online survey.
- ❖ The analysis was carried with a sample of 442 participants.

Participants were informed about all aspects of the study and voluntarily confirmed their willingness to participate. No personal data were recorded, and all questionnaires were completed anonymously. Study approval was obtained by the Cyprus National Bioethics Committee (Reference number: EEBK EP 2020.01.19).

Results

- ❑ Regarding GMF, 58% of the participants believe that they are not safe.
- ❑ The increase in age was associated with decrease in positive attitudes (coefficient beta=-1.6, 95% confidence interval=-2.4.6-(-0.8, p<0.001).
- ❑ Participants with higher educational level were more positive (coefficient beta=1.3, 95% confidence interval=0.5-2.0, p=0.002.)
- ❑ Participants with higher self-reported knowledge about GMOs were associated with negative attitudes (coefficient beta=-1.4, 95% confidence interval=-0.5-2.4, p=0.003).

The demographic and socio-economic characteristics of the participants are shown in the following table

Characteristics	N	%
Gender		
Male	263	59,5
Female	179	40,5
Educational level		
Primary education	2	0,5
Secondary school	2	0,5
High school	39	8,8
Higher school	49	11,1
University	139	31,4
Postgraduate diploma	162	36,7
PhD diploma	49	11,1
Age		
18-25	56	12,7
26-35	92	20,8
36-45	139	31,4
46-55	93	21
56-65	52	11,8
>65	10	2,3
Level of knowledge		
Very low	16	3,6
Low	117	26,5
Moderate	163	36,9
Good	116	26,2
Very good	30	6,8

Discussion

- The level of awareness compared to the results of the Eurobarometer for Biotechnology (2010), where 83% of Cypriots disagreed with the statement «GM Food is safe for your health and your family's health», indicates significant decrease. Similar results reported in the Eurobarometer of Food Safety (EFSA, 2019), according to which the concern of GMF decreased significantly in both European Union and Cyprus, 39% and 46% respectively. This finding may be a result of the fact that GMOs, cannot enter into the food chain unless passing complex food safety tests (Borda et.al., 2021) and also due to the fact that the public gained confidence in the official control performed by the competent state authority (State General Laboratory, 2020)
- By the literature, age differences have been suggested as a factor influencing citizens' attitudes (Capalbo, et al., 2015). The reduction of positive attitudes with increasing age may be is a consequence of the traditional way of life of older people, which makes it less likely to accept emerging technologies such as GM (Veeman, Adamowicz and Hu, 2005), in contrast to the younger people who are more likely to accept the new technology (Antonopoulou, Papadas and Targoutzidis, 2009), due to the up to date knowledge of GMOs and educational level (Popek and Halagarda, 2017).
- Knowledge is often measured as subjective or objective. Subjective knowledge is what the consumer thinks she/he knows whereas objective knowledge is what she/he actually knows (House et al. 2004). Self –reported knowledge is more subjective knowledge, while academic level is more proportional to objective knowledge. Both objective and subjective knowledge impact consumer perceptions and behavior towards GM foods. However, studies are inconsistent on the extent that subjective and objective knowledge influence consumer behavior (Rihn, Khachatryan and Wei, 2021).

Conclusion

The findings showed that the concern for GMF presents a declining trend especially at younger ages. High academic level has a positive influence to the participants, while self- reported knowledge is associated with negative attitudes.

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