PUBLIC HEALTH RESEARCH

An Australian Evaluation of the Tick Program Awareness among University Students

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ABSTRACT

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Introduction	Cardiovascular disease is a major cause of death in Australia. The Tick Program by the National Heart Foundation was designed to assist consumers in making healthier food choices.
Objective:	The aim of our study was to evaluate the awareness of university students regarding the Tick Program as a sustainable approach in preventing the onset of cardiovascular disease (CVD) in youth.
Methods	Following Ethics Committee approval, a cross-sectional study was undertaken in 2006 to measure university students' level of awareness of the Tick Program using a self-administered survey form. Inclusion criteria were full-time university students who have lived in Australia for a minimum duration of twelve months and do their own shopping. Students of less than 18 years of age were excluded from the study.
Results	Of 110 university students surveyed, 97 questionnaires were successfully completed (response rate: 88%). Overall there was a high level of awareness (72.2%) of the Tick program, which was also considered trustworthy by a majority of participants, with a mean rating of 3.87 (on a scale of 1 to 5). Tick-approved products were also considered a healthier choice by participants (mean 4.06 out of 5). Participants were also asked to identify potential barriers limiting the use of the Tick in making purchase decisions. The most important barrier identified to the Tick program was the limited range of Tick-approved products. A significant proportion of respondents also believed there was limited publicity of the program.
Conclusions	The Tick Program is considered to be trustworthy and the approved products were regarded as healthy, with the results showing that participants have confidence in the Tick Program. This research also highlighted the potential areas for improvement of the Tick Program.
Keywords	cardiovascular disease (CVD) - Tick Program - nutrition - food selection - university students.

INTRODUCTION

Cardiovascular disease (CVD) is the number one killer in Australia, and is a major source of morbidity associated with marked disability and reduced quality of life.[1] Although society is well aware of the effects of CVD, many still perceive drugs and surgery as the best treatment options, hence overshadowing the importance of prevention.

It is a common misconception that atherosclerosis is a condition of the elderly, studies have proven that atherosclerosis is a slow progressive condition that starts in young adulthood and even in childhood.[2,3] An unhealthy diet may potentiate the risk of developing CVD later in life.[4-6] Unlike sex and genetic makeup, improper nutrition is a modifiable risk factor, and it is therefore believed that appropriate food selection can significantly reduce the incidence of CVD.[7-10] Nevertheless, mere instructions without proper guidance are ineffective as consumers often do not know how to interpret nutrition information labels.

To address this issue, the National Heart Foundation (NHF) in Australia developed a food labelling program aimed at improving the health of Australians by empowering consumers to make healthier food choices.[11] Strict nutrient guidelines have to be satisfied by food products for them to be certified with the "Tick" approval.[11]

Although the Tick Program has been launched since 1989, there is limited information regarding its effectiveness in promoting CVD prevention in targeting the youth population via better nutrition. The aim of this study was therefore to determine the awareness of the Tick Program among university students as a subgroup of the general population through a cross-sectional study using survey questionnaires. Besides, the authors hoped that this study would indirectly sensitise university students to the importance of healthy eating at a young age, which can be aided by the use of the Tick Program.

METHODS

The cross-sectional study was conducted in 2006 at Monash University in Clayton, Victoria, following approval from the Monash University Standing Committee on Ethics in Research Involving Human (SCERH).

A questionnaire was designed by the authors and was successfully piloted on 12 students. Given the proportion of international and local students at the Clayton campus, quota sampling was performed to obtain similar proportions of respondents from these two groups. The self-administered questionnaire was distributed at the Clayton Campus during July 2006 to collect both quantitative and qualitative data. Data gathered included demographics, the main factors that guide respondents when they shop, and their awareness and rating of the Tick Program. Potential improvements to the Tick Program were also assessed with both an objective and a free-response area. A total of 110 forms were distributed. Informed consent was obtained from all participants. Inclusion criteria included being full-time university students who have lived in Australia for a minimum duration of twelve months and do their own shopping. The main exclusion criterion was students of less than 18 years of age, for ethical reasons and consent purposes.

The main intended measures included the awareness of the Tick Program among university students, its extent of use in food purchase, and the potential barriers to buying Tick-approved products. Views of the Tick program were also recorded. Data collected was analysed using SPSS software version 14 (SPSS Inc, Chicago, IL).

RESULTS

97 completed questionnaire forms were returned out of 110 distributed (response rate = 88%). Most participants (91 respondents or 93.8%) were in the 18-25 years age group (Table 1). Approximately half were international students (n=48) and half were Australian students (n=49). Out of all participants, 46 (47.4%) respondents were female while 51 (52.6%) were males. Participants were also asked about the two main factors that guided them whilst shopping for food. The two main factors identified were cost/price (75.3%) and personal preference (69.1%).

Table 1 Demographics of respondents (n= 97)

Characteristic	n	Percentage (%)
Age		
18-25 years	91	93.8%
≥ 26 years	6	6.2%
Sex		
Male	51	52.6%
Female	46	47.4%

Nationality		
Australian students	49	49.5%
International students	48	50.5%

From the data analysis, 70 participants (72.2 %) were aware of the Tick program. Of those, 23 were international students (32.9 %) and 47 were local Australian students (67.1 %). This translated into a higher level of awareness among local Australian students (47 out of 49 respondents being aware or 95.9%), compared with 47.9% among international students (23 out of 48 respondents) (p-value <0.001) *(Table 2)*. Our analysis also showed that 78.3% of females had an awareness of the Tick Program, compared with 66.7% in males. Of the total 70 students who were aware of the Tick Program, 56 (57.7%) subjects learnt about the Tick program through television, followed by 46 (47.7%) from supermarket labelling.

Table 2 Awareness of the Tick Program

	Aware, n	%	p-value
Status/Nationality			
Local Australian students (49)	47	95.9%	<0.001
International students (48)	23	47.9%	
Gender			
Male (51)	34	66.7%	0.2
Female (46)	36	78.3%	

Of the participants who were aware of the Tick Program, 15 (21.4%) used it when they shop. Participants aware of the program were also asked to rate the Tick program from a scale of 1 to 5 (1= strongly disagree, 5= strongly agree). The ratings were based on the following 5 criteria: trustworthy, healthy choice, easier food selection, time-saving and taste of Tick-approved products. The mean scores (M) and standard deviations (SD) for each category were: trustworthy (M= 3.9, SD= 0.8); healthy choice (M= 4.1, SD=0.7), easier food selection (M=3.1, SD=0.8); time-saving (M=2.8, SD=0.8); taste of Tick-approved products (M=3.1, SD=0.8) *(Table 3)*. An open response area was also included to which 3 participants suggested the Tick Program as reputable and a good guide for meat selection and low-cholesterol food.

Table 3 Participants' rating of the Tick Program

Category	Mean score (scale of 1 to 5)	Standard Deviation
Trustworthy	3.9	0.8
Healthy choice	4.1	0.7
Easier food selection	3.1	0.8
Time-saving	2.8	0.8
Tick-approved products	3.1	0.8

The above mean ratings were also analysed based on the participants' gender. Of note, trustworthiness in the Tick Program differed between genders, with females respondents having a higher mean score of 4.06 compared with 3.68 in males. This difference was statistically significant (p-value = 0.046). Additionally, females were more likely to rate the Tick Program as a healthy choice (female mean score of 4.25 v/s male mean score of 3.85), with the difference being statistically significant (p-value = 0.02).

A bivariate analysis was also performed which showed a strong positive correlation in participants who found the Tick Program trustworthy and those who perceived its products as being a healthy choice (Spearman's rho = 0.757). Additionally, we observed a moderate positive correlation between participants who found that the Tick Program made food selection easier and those

who found that it saved time shopping (Spearman's rho = 0.634).

The 70 participants who were aware of the Tick Program were also asked to identify the possible barriers in using it when they shop. Of those, 47 (67.1%) responded that there was a limited range of Tick-approved products, 39 (55.7%) said that food products on special offers were more appealing, and 28 (40%) believed that Tick-approved products were more expensive while 3 (4.3%) said that the Tick program was unreliable. Other possibilities including lack of publicity, the Tick symbol not outstanding enough, or the "tick symbol" being ubiquitous (e.g. similar symbols used by some food brands) were felt important by 8 (11.4%) participants who contributed to the optional response section. We also assessed the above barriers with regards to gender. A statistically significant difference was noted with females being more likely than males to find that there was a limited range of Tick-approved products (80% of females v/s 53% of males, p-value < 0.05). Gender difference was not statistically significant for the other barriers identified.

Of 27 respondents who have not heard of the Tick program, 13 (48.1%) would want to know more about the Tick. Participants felt that the best information sources were supermarkets (29.6%), posters/flyers (22.2%) and television (18.5%). 1 participant also suggested the gym as an alternative information source.

Possible improvements on the Tick program were also assessed. 47 (48.5 %) participants believed that Tick-approved products should be subsidized, 60 (61.9%) thought that more food manufacturers should be encouraged to apply for the Tick approval, 26 (26.8%) thought that the taste of Tick approved products could be improved, 58 (59.8%) thought there should be more publicity on the Tick program while 45 (46.4 %) thought that school children should be educated on the Tick program. In the open response area, 2 respondents suggested making the Tick symbol more obvious on food products.

DISCUSSION

The results revealed that the general awareness of the Tick Program is good, with 72.2% of participants being aware of the program. However, there could be a potential bias due to other food labels (e.g. supermarket value buy products) with logos similar to the Tick. Hence, participants may be misled into thinking that any item with a tick is approved by the NHF. One aim of our study was to identify subgroups of participants who were less likely to be aware of the Tick Program. From our study, we observed a slightly lower level of awareness among males, although this was not statistically significant. We however noted that international students were significantly less likely to know about the Tick Program (95.9% in Australian local students v/s 47.9% among international students v/s; p-value <0.001). The latter group therefore represents a potential target for further sensitisation campaigns on the primary prevention of cardiovascular disease through diet modification and the use of the Tick Program. Interestingly, half of the 27 patients who have not heard of the Tick Program did not want to know more about the program, which may reflect a lack of concern for cardiovascular health among the youth.

On the whole, the Tick Program is considered to be trustworthy and the approved products are regarded as healthy, with the results showing that participants have confidence in the Tick Program. Our analysis showed that females generally rated the Tick Program higher in these 2 aspects as compared to males, thus highlighting a potential area of improvement in the latter group.

While there was no overall difference in opinion that the Tick helped to make food selection easier, a significant proportion of respondents disagreed that it saved shopping time. This could possibly be attributed to the Tick symbol not being readily noticeable on food products. Additionally, Tick-approved products are not shelved in specific locations in supermarkets, making it inconvenient as consumers would have to search the whole supermarket for Tick-approved products.

Although the Tick is generally deemed useful by participants, 79% of them do not use it. This may relate to its limited choices, competition with products on special offers and price. When asked of possible solutions, the majority (61.9%) agreed that food manufacturers should send more food products for analysis and approval by the Tick. At present, limited companies do so, possibly because of the annual royalty fee and the additional costs involved in modifying nutrient content and the subsequent impact on mass production. Another improvement suggested was to increase the Tick's publicity. This could be attributed to the lack of ongoing advertisements regarding the Tick in various mass media.

The limitations of this study are the small population size and the population sample consisting of university students, which may not be an accurate reflection of the youth population at large. Further suggested research may include larger studies across various subgroups of the youth population, including university students and youngsters in the workforce.

CONCLUSIONS

Fieldwork investigations revealed that most university students were aware of the Tick program. However, this may be confounded by the wide use of symbols similar to the Tick logo by some brands.

Our study identified groups that were generally less aware of the Tick Program and may benefit from further sensitisation and awareness campaigns. Also, while there was a rather positive view of the Tick Program, only a limited proportion of subjects used it as a guide when shopping. Our study noted significant gender differences in participants' rating of the Tick Program, especially with regards to its trustworthiness and to it being a healthy choice. Potential barriers and improvements to the program were also identified, and further research into this area is recommended.

CONFLICTS OF INTEREST
None declared.

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