

# Consumer perceptions and intakes of garlic as a cardio-protective food

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## Background

Cardiovascular disease (CVD) is a major public health concern as it is the leading cause of death worldwide (Rolfes et al, 2015). Garlic has been suggested to have potential preventive effect on CVD risk factors. Nevertheless, there is not sufficiently strong evidence to be in NICE CVD guidelines alongside fruit and vegetables, oily fish and unsalted nuts (NICE, 2010). The optimum dosage and form of garlic for the treatment of hypertension and preventing CVD has yet to be established (Wilburn et al, 2004). However, the dosage of garlic supplements in most studies that have been conducted was 600mg-900mg (Ried et al, 2014) equivalent to 2-3 garlic cloves.

Previous research has shown garlic intake in the UK is lower than the suggested amount to help reduce cholesterol and BP (Shouk et al, 2014). This may be due to a lack of consumer awareness of garlic intake and CVD prevention compared to other cardio-protective foods as well as barriers to consumption. However, there is currently a lack of evidence exploring barriers to consumption, consumer perceptions, and intakes of garlic as a cardio-protective food.

Therefore, the aim of this study is to to explore consumer perceptions and intakes of garlic as a cardio-protective food.

## Methods

A cross-sectional study of 45 adults aged 18-60 years was undertaken using a self-administrated questionnaire to explore participant's current intakes and perceptions of garlic as a cardio-protective food.

## Results

The participants were predominantly female 67% (n=30) and aged between 18-60 years of which 27% (n=12) had health problems. 82% of participants liked garlic, however only 47% consume garlic. Younger participants (18-39 years) are more likely to like and consume garlic compared to older participants, however this was not statistically significant (p=0.446). The study established that pre-chopped and garlic-powder was most commonly consumed forms of garlic. The main barriers to garlic consumption is that participants are unsure how to cook 29% (n=7) and unsure what to add garlic to 29% (n=7). Only 17% (n=4) of participants stated that bad odour was a barrier to the consumption of garlic.

Figure 1: Perception of effectiveness of garlic as a cardio-protective food.

	Least effective	1	2	3	4	Most effective
Fruit and vegetables	0	0	0	29%	71%	
				(n=13)	(n=32)	
Garlic	89%	4%	7%	0	0	
	(n=40)	(n=2)	(n=3)			
Unsalted nuts	0	84%	13%	0	0	
		(n=38)	(n=6)			
Soya products	9%	9%	82%	0	0	
	(n=4)	(n=4)	(n=37)			
Oily fish	0	0	0	73%	27%	
				(n=33)	(n=12)	

Figure 1 showed consumers perceived fruit and vegetables to be the most effective cardio-protective food, followed by oily fish, then soya, then unsalted nuts, with garlic the least effective.

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There is no statistically difference between health problems and health perceptions of garlic helping to reduce cholesterol (p=0.224) and lowering blood pressure (BP) (p=0.743).

Figure 2: Perception of health benefits of garlic

	Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly disagree
Eating garlic helps reduce cholesterol	10%	0	52%	0	38%
	(n=2)		(n=11)		(n=8)
Eating garlic has no health benefit	19%	0	33%	48%	0
	(n=4)		(n=7)	(n=10)	
Eating garlic helps lower BP	10%	0	62%	0	29%
	(n=2)		(n=13)		(n=6)

Figure 2 shows that the majority of participants 90% of participants are unsure or disagreed that consuming garlic helps reduce cholesterol and lower BP.

## Discussion and Conclusion

The present study suggests that people are unaware that consuming garlic has potential preventive effects on CVD risk factors, however; it is evident that the majority of the population are aware that fruit and vegetables and oily fish are seen as a cardio-protective food. This may be due to the sufficiently strong evidence of fruit and vegetables and oily fish's cardio-protective benefits which is reflected in the NICE CVD guidelines, unlike garlic (NICE, 2010). Therefore, garlic is likely to provide an additional benefit alongside the cardio-protective diet. This also may be due to fruit and vegetable health intervention programmes such as '5 a day' focusing on preventing CVD. However, this also shows that health intervention programmes are effective in raising health awareness of topics such as CVD prevention. This study highlights the need for interventions to raise awareness of garlic as a cardio-protective food, garlic intake may increase and people's perceptions may change.

This study has added to the depth of evidence regarding consumer perceptions of garlic, intakes of garlic as a cardio-protective food and the barriers to garlic consumption. It has shown that most of the population like garlic, however; do not consume garlic due to several barriers such as people not knowing how to cook garlic as well as being unsure what to add garlic to. It was predicted that the main barrier of garlic consumption would be bad odour. However, only 17% of participants stated that bad odour was a barrier to garlic consumption. Therefore, education and suggestions on what foods to add garlic to may help support usage and raise awareness of garlic and CVD prevention.

In conclusion, this study has highlighted a greater need for consumer awareness of garlic and its health benefits as a cardio-protective food. Regular garlic intake is likely to provide benefits to preventing CVD in addition to other cardio-protective foods in the diet to help prevent CVD due to its lipid and BP lowering effects, low risk and toxicity. However, due to the strength of evidence its role as a main therapeutic agent cannot be recommended and it is suggested that further research is needed, particularly to establish an optimum dose and form of garlic.

## References

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