Heart Research UK

in partnership with

Damart

#Lovinghearts
Women's health campaign

Summary Report
July 2017

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Executive summary

One of the strategic priorities for Heart Research UK is to support the prevention of heart disease within specific populations.

The aim of this survey was to highlight the degree of awareness and understanding among women of the clinical and lifestyle risk factors associated with coronary heart disease. This paper explains the findings of the research on women's heart health knowledge with a view to determining what messages and how these could be better targeted and to which groups of women, to meet gaps in women's understanding. The findings also help to determine in what settings and at which stages in life, messages might be presented. Our survey findings indicate that in general, knowledge of heart health, its risk factors and common misconceptions increase with age.

This report aims to inform interested parties about women's heart health knowledge in the UK and create an effective response to bridge gaps in knowledge and effectively target women's heart-health initiatives and avoid premature deaths from heart disease.

The authors note one key finding and make one key recommendation for action.

Introduction

Coronary heart disease (CHD), the UK's single biggest killer, affects around 920,000 women in the UK (BHF Heart Statistics 2017). It affects more men than women before the menopause. It is thought this is due to lower levels of hormones such as oestrogen in men. Oestrogen may give some protection against CHD therefore resulting in women being less likely to develop the condition than men before a certain age (BMJ Global health 2017). After the menopause, however, the risk of CHD increases in women and the gap between men and women narrows.

According to the World Health Organisation (2017), up to 80% of coronary heart disease cases can be prevented. By tackling the modifiable risk factors, more than 4,000 premature deaths (death before age 75 years reported by BHF Heart Statistics 2017) each year among women in the UK from coronary heart disease could be avoided through lifestyle change. Stopping smoking, eating a healthy diet and losing weight can all contribute to women living healthier, happier, longer lives. This evidence is supported by Dr Catherine Dickinson Consultant Cardiologist at Leeds General Infirmary, and spokesperson for Heart Research UK;

"Women fear dying from breast cancer but the fact is that we are almost three times more likely to die from heart disease. The good news is that by taking a few simple and positive steps we can prevent or reduce the likelihood of developing heart disease..." (Dickinson, 2016).

This survey, commissioned by Heart Research UK (HRUK) in partnership with clothing company Damart, set out to discover women's knowledge and understanding of their heart health.

Our aim was to highlight the degree of awareness among women of potentially controllable clinical risk factors for coronary heart disease such as healthy waist measurements, blood pressure and blood cholesterol levels, as well as lifestyle risk factors such as physical inactivity, smoking and nutrition.

The authors were also keen to explore beliefs and common myths associated with heart disease in relation to gender, anthropometric guidelines, physical activity and nutrition, as well as gain insights into personal health status.

Survey methodology

We used the following means to promote the on-line survey and collect responses;

- Market research company; OnePoll was commissioned to draw upon 2,000 women aged 18+ years across the UK.
- Heart Research UK's customer database of 6,466 women.
- Damart's customer database of 274,440.

The survey was also promoted using a link by Heart Research UK through the Charity's social media platforms LinkedIn, Facebook and Twitter. These posts were shared by Damart across their social media platforms.

The survey was opened up to OnePoll participants from 15 August 2016 to 18 August 2016 and was sent by email newsletter with a link to the survey to Heart Research UK's and Damart's databases on 17 August 2016 and repeated on 25 August 2016. Social media posts promoting the survey were posted from 17 August to 31 August 2016.

The survey consisted of 18 multiple choice questions (Appendix 1), each offering a choice of at least two responses. A further question relating to knowledge about blood pressure ranges was asked but later omitted due to the variance in recommendations depending on co-morbidities such as diabetes.

A 15% discount was offered on orders from Damart's mail-order catalogue to all respondents as an incentive to complete the survey.

Heart Research UK Ambassador and TV celebrity chef, Sally Bee, who survived three heart attacks aged 36, helped to publicise the campaign.

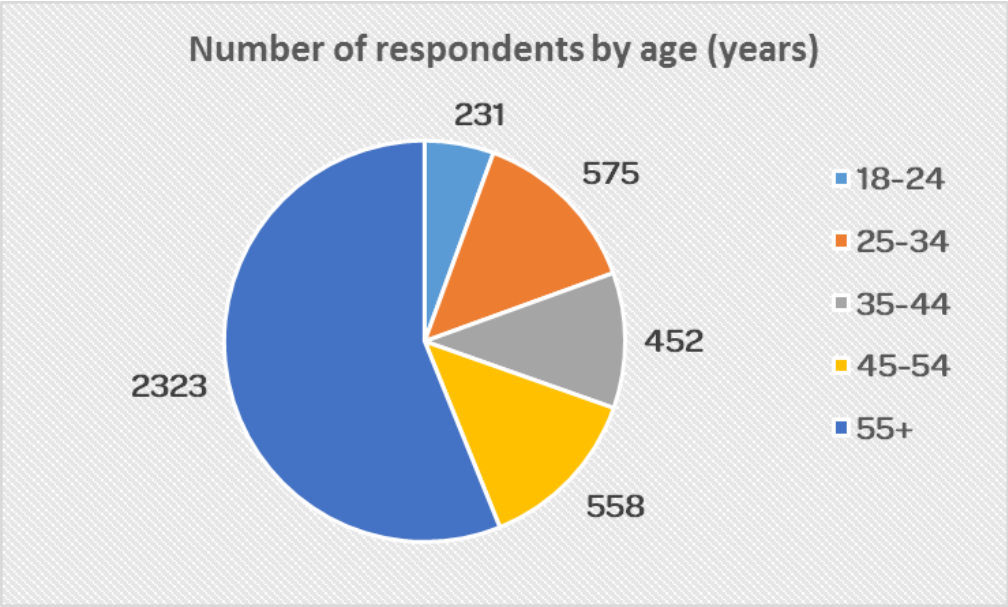
Survey responses

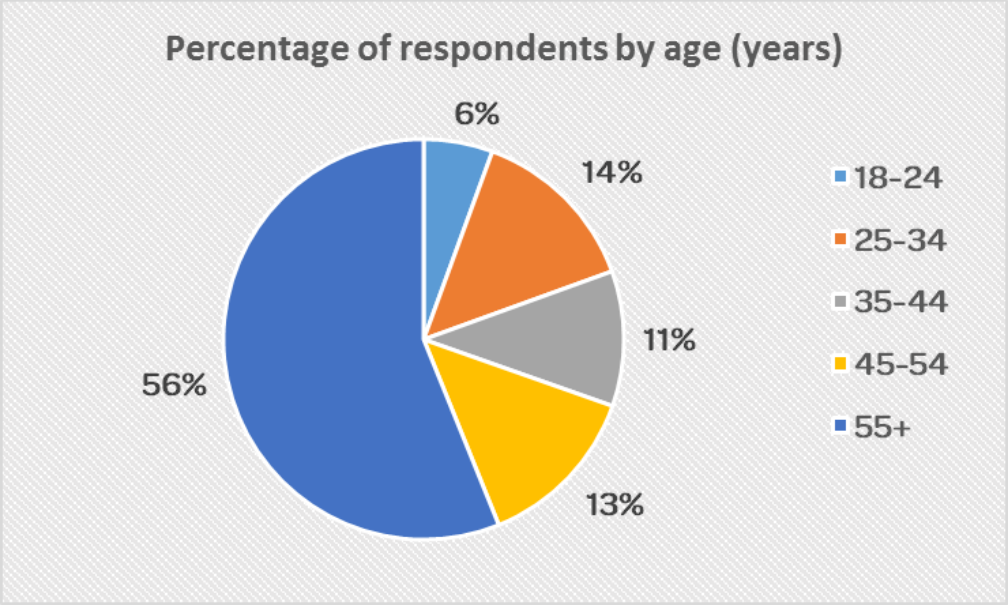
The survey attracted a total of 4,145 responses from across England, Northern Ireland, Scotland and Wales. Six respondents were male and were not counted in the analysis. The remaining 4,139 responses were analysed by age and UK region.

Number of respondents by age

Of the total Responses, 56% were aged 55+ with almost 70% of the responses coming from women in a "menopause age", 45 years+. The second highest response rate came from women in the age 25-34 age category, ahead of both the age 45-54 years and the age 35-44 years categories.

The high proportion of age 55+ respondents could be partly explained by the fact that Damart's market is aimed at women over age 45 and the survey being marketed to their customer database of 274,440, compared to Heart Research UK's much smaller database of 6,466 of unknown ages.

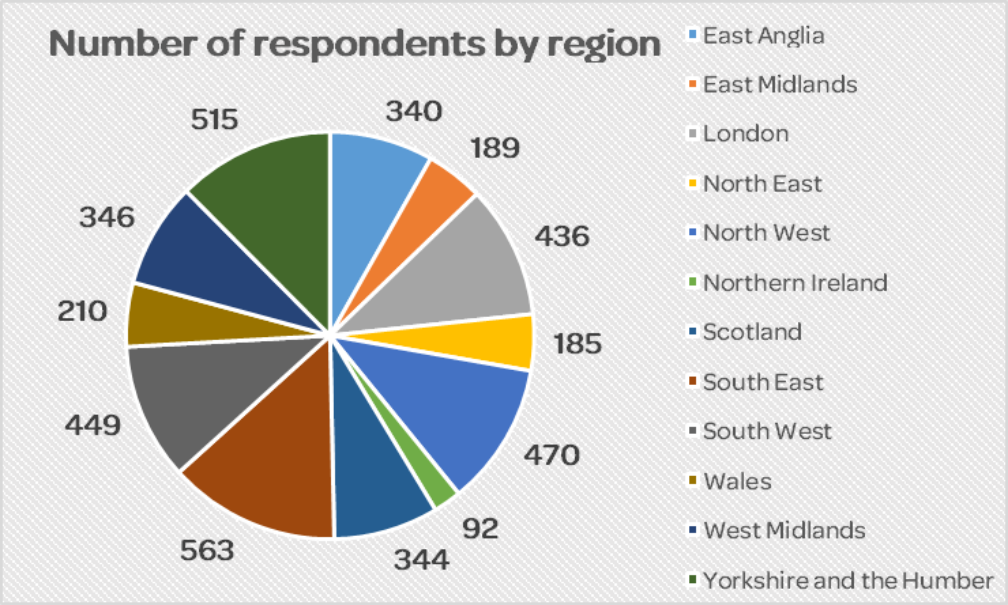


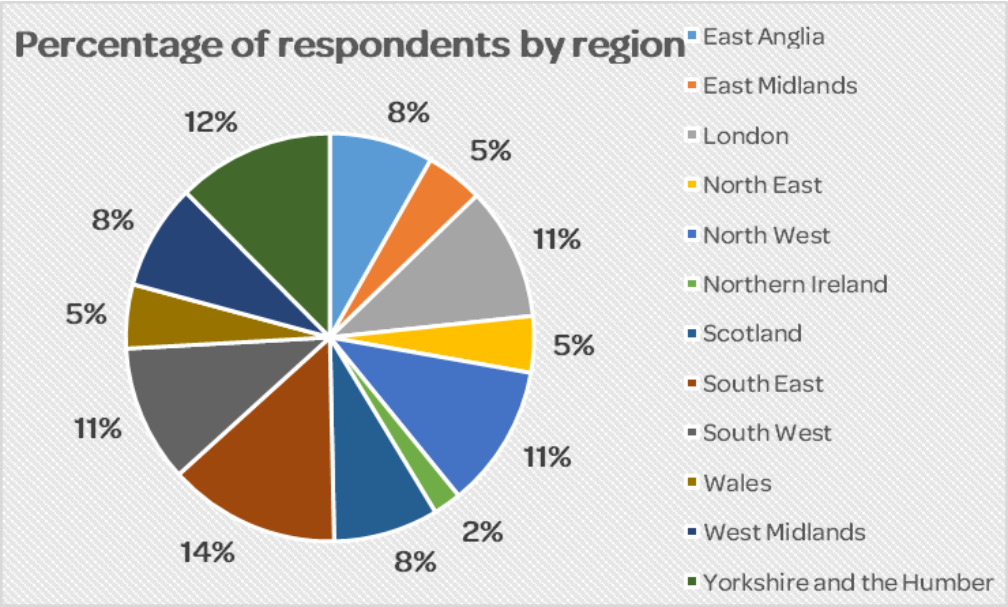


Number of responses by region

The highest proportion of responses were from the South East of England (13.6%) and the second highest from Yorkshire and Humberside (12%).

The lowest proportion of responses were from Northern Ireland (2%).



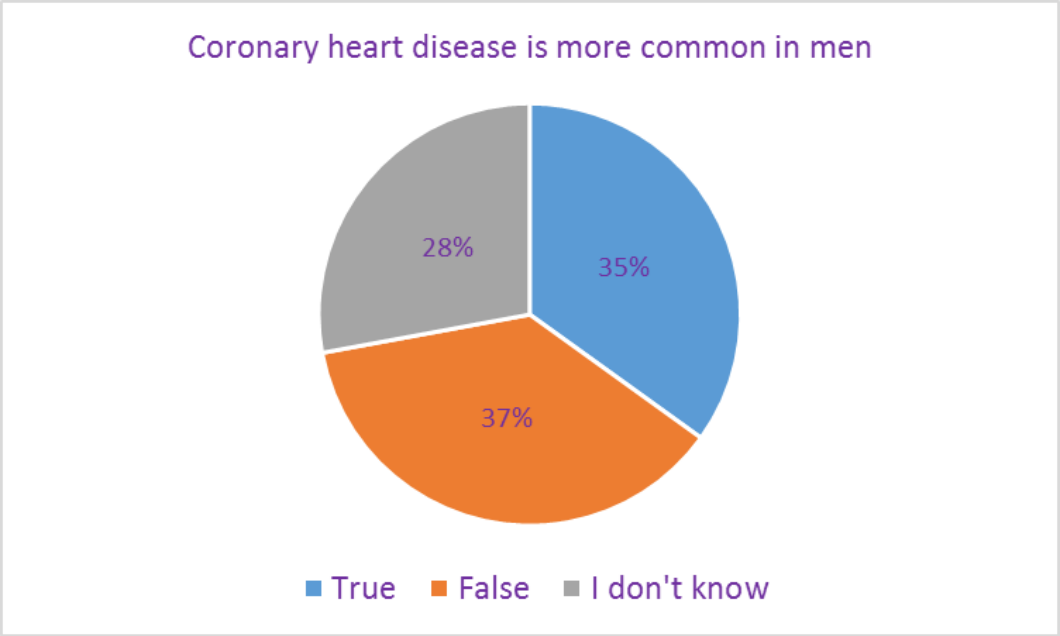


Survey results

Q1: Do you believe the following statement to be true or false? Coronary heart disease is more common in men. – Correct answer: false

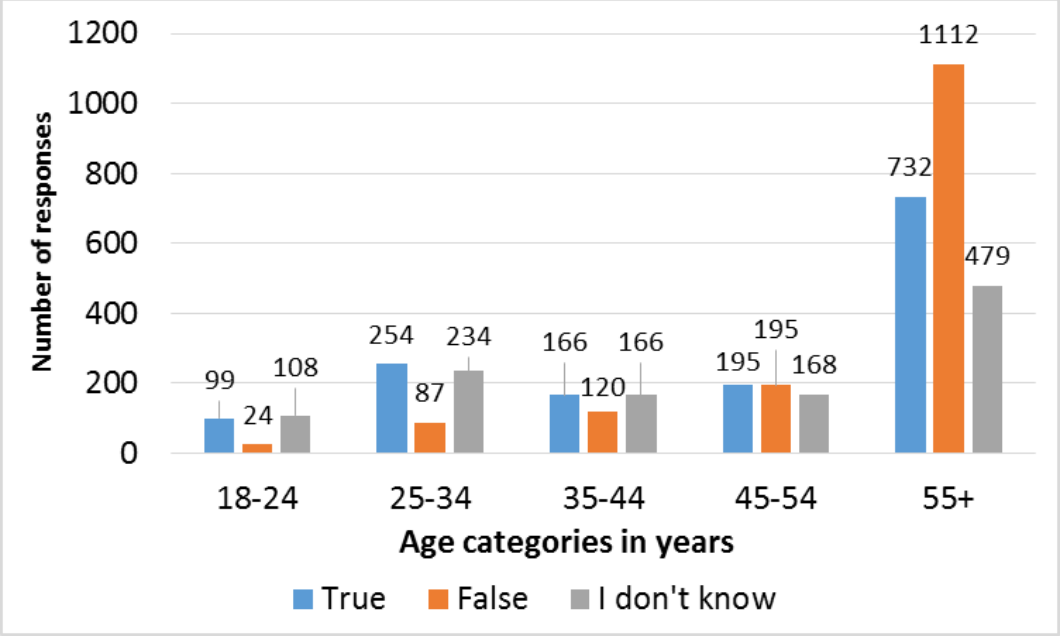
Q1: Responses

There was very little difference between the numbers of women that either incorrectly answered true, (35%) or correctly answered false (37%). However, over three in five (63%) of respondents answered either incorrectly or 'I don't know'.



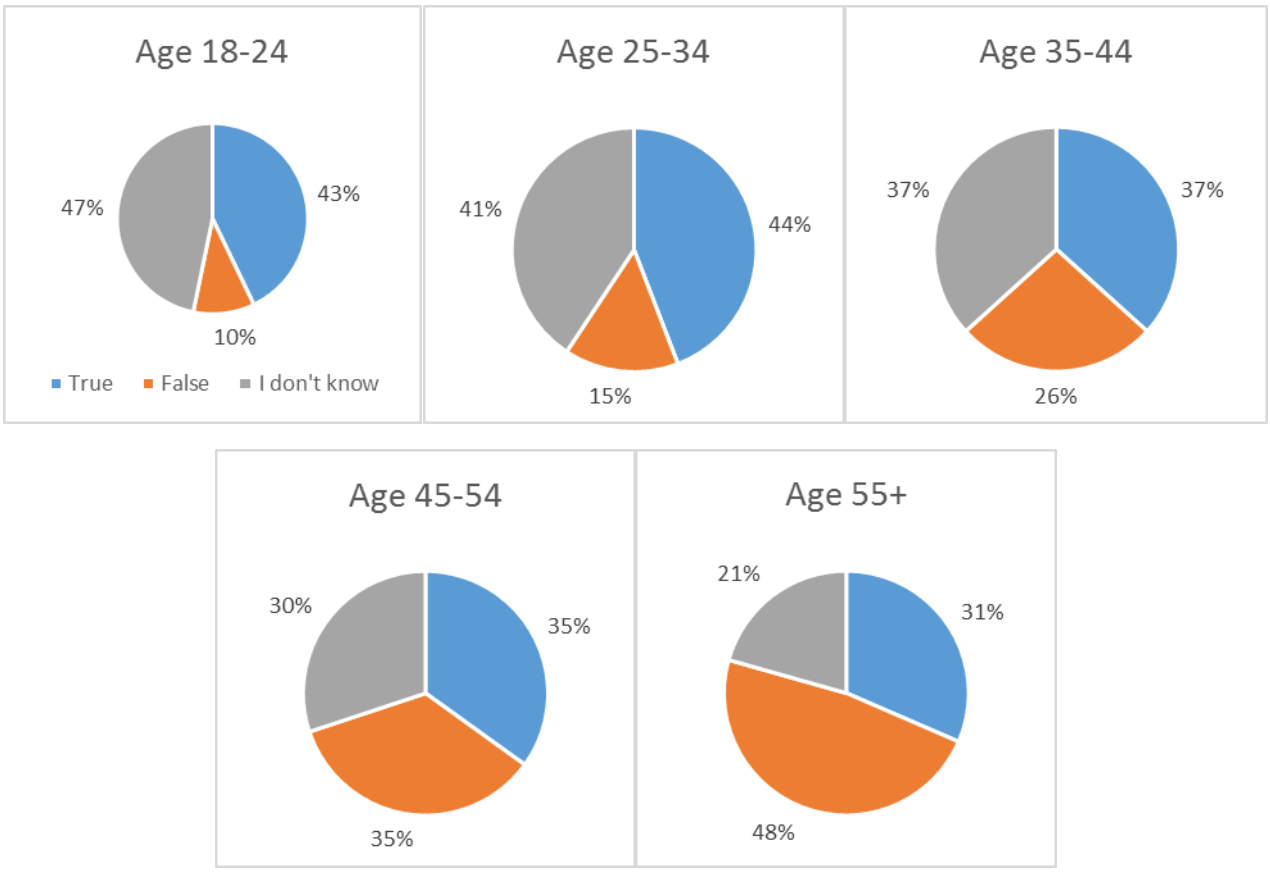
Q1: Responses by age

The highest proportion of correct answers were given by the age 55+ category with an equal true and false split response in the age 45-54 category. Incorrect or 'I don't know' responses were higher in all other age groups with the highest proportion of respondents in the age 25-34 category believing it to be more common in men.



Q1: Breakdown of responses by age

Do you believe the following statement to be true or false? Coronary heart disease is more common in men. – Correct answer: false

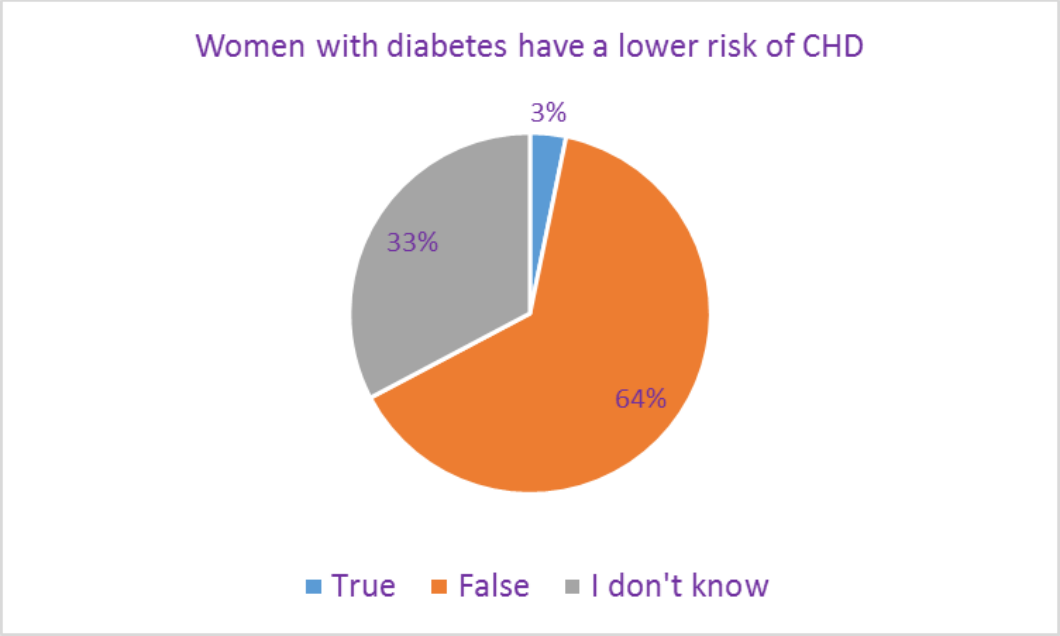


Less than one in two respondents in all age groups were incorrect in believing that coronary heart disease is more common in men. The proportion of correct responses increased with age.

Q2: Do you believe the following statement to be true or false? Women with diabetes have a lower risk of coronary heart disease. – Correct answer: false

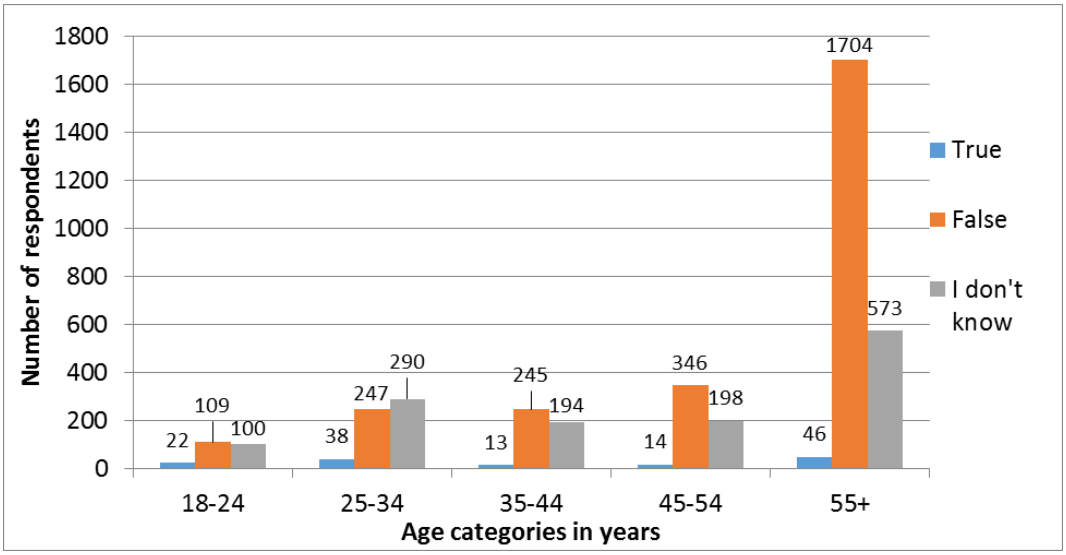
Q2: Responses

Almost two thirds of respondents correctly answered this question whilst one third of women answered 'I don't know'.



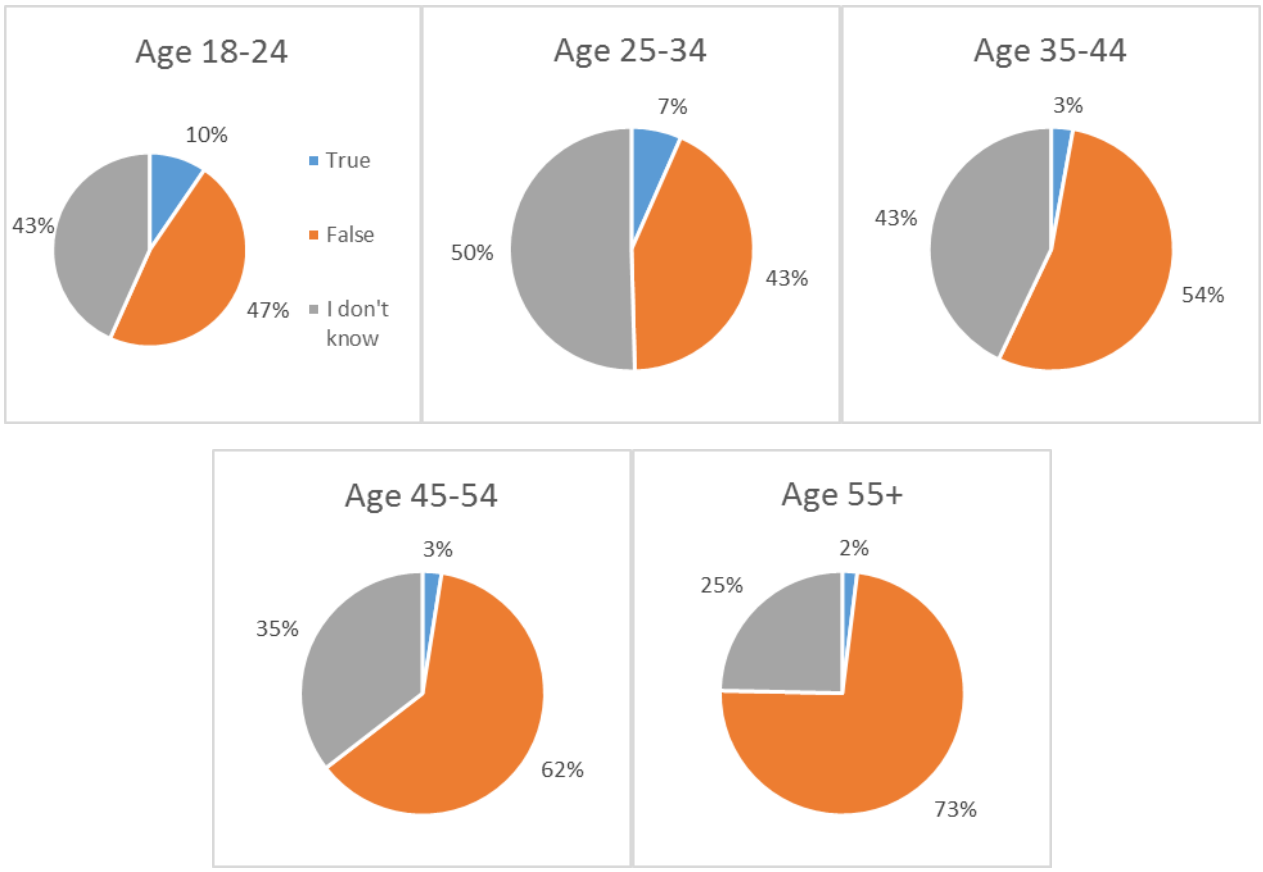
Q2: Responses by age

Our findings showed that a high proportion of women aged 55+ were aware that women with diabetes have a higher risk of developing coronary heart disease. There was a higher proportion of correct answers across all age groups except the age 25-34 category with the majority of those responding with 'I don't know'.



Q2: Breakdown of responses by age

Do you believe the following statement to be true or false? Women with diabetes have a lower risk of coronary heart disease. – Correct answer: false

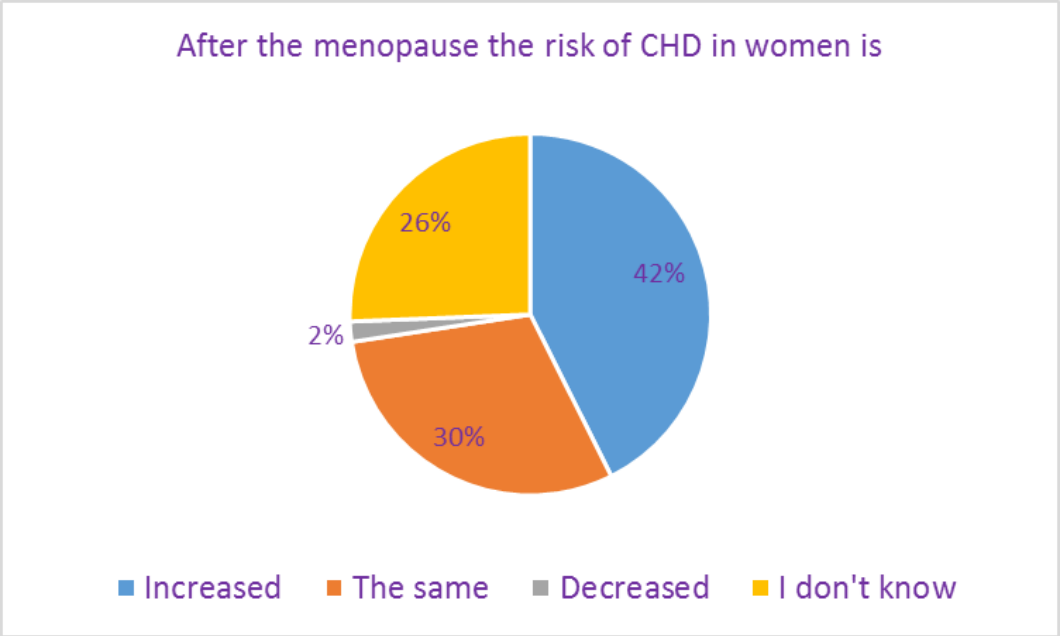


There was an increasing level of knowledge with age except for age category 25-34 who were less aware than the age 18-24 category. One in four women age 55+ answered 'I don't know' and over one third of respondents aged 45-54. As many as one in two (50%) gave this response in the age 25-34 category.

Q3: Do you think that after the menopause the risk of coronary heart disease in women is increased, decreased, the same, I don't know? - Correct answer: increased

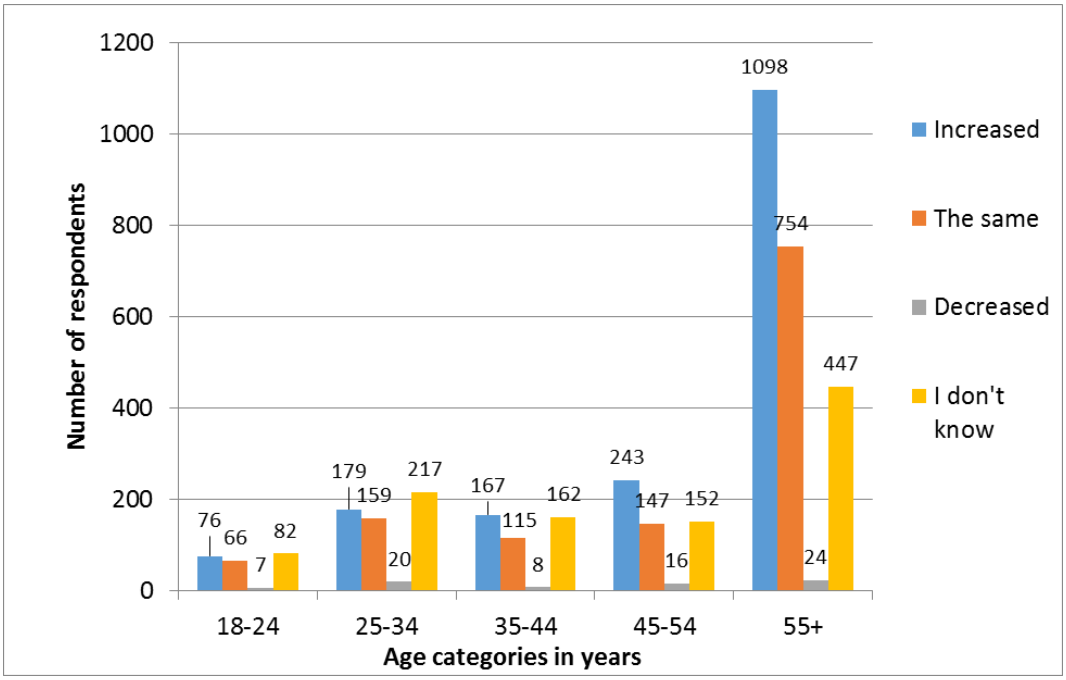
Q3: Responses

Of the total responses, 42% were correctly aware that CHD risk increases after the menopause whilst 30% believe it to be the same and a further 26% responding with 'I don't know'.



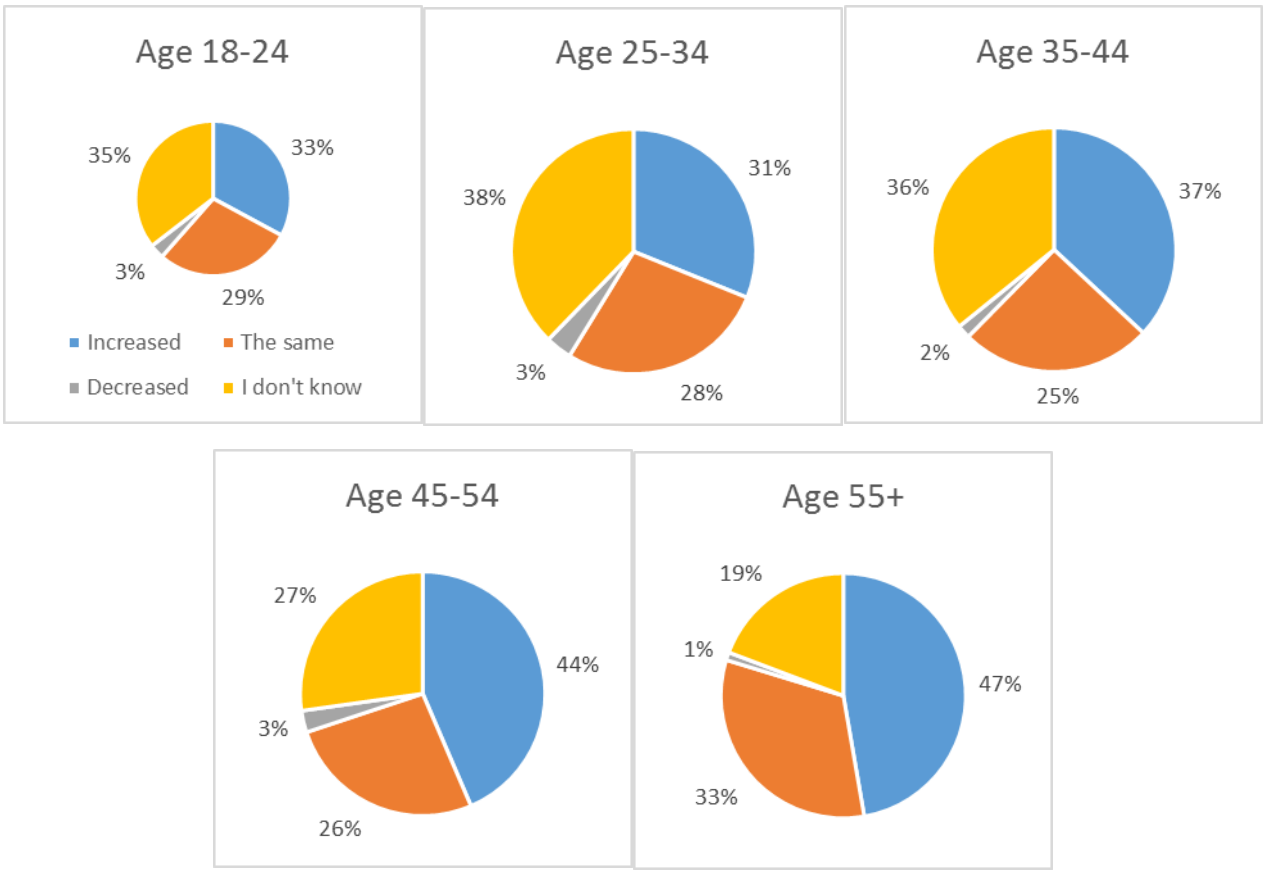
Q3: Responses by age

A higher proportion of women age categories over 35 + were aware that CHD increases after the menopause with 'I don't know' being the second highest response in those age categories.



Q3: Breakdown of responses by age

Do you think that after the menopause the risk of coronary heart disease in women is increased, decreased, the same, I don't know? - Correct answer: increased

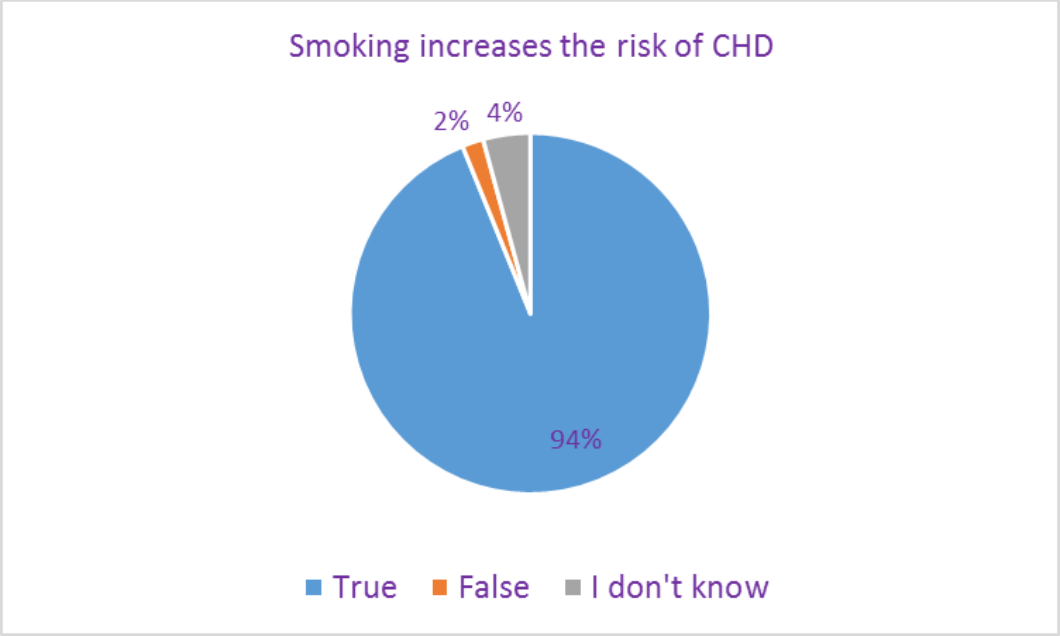


There was an increasing level of knowledge with age that coronary heart disease in women increases after the menopause except for the age 25-34 category who are less aware than age 18-24 year olds. More than 50% of respondents across all age categories were unaware of increased heart disease risk after the menopause. Almost one in five respondents age 55+ and over one third of respondents in under age 44 categories answered 'I don't know'.

Q4: Do you believe the following statement to be true or false? Smoking increases the risk of coronary heart disease. - Correct answer: true

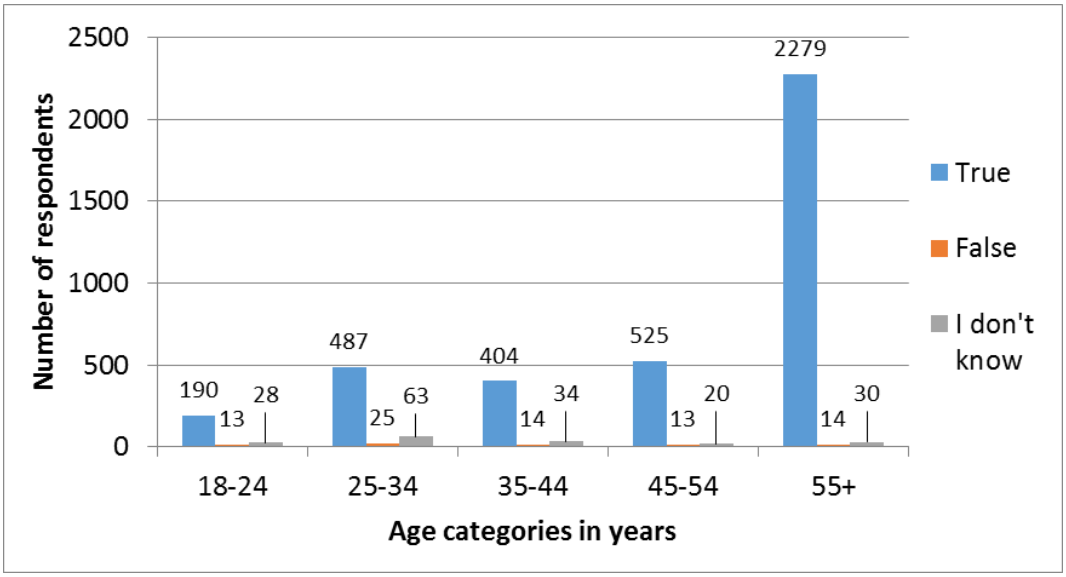
Q4: Responses

The majority of respondents (94%) answered correctly though 2% incorrectly responded with false and 4% answered 'I don't know'.



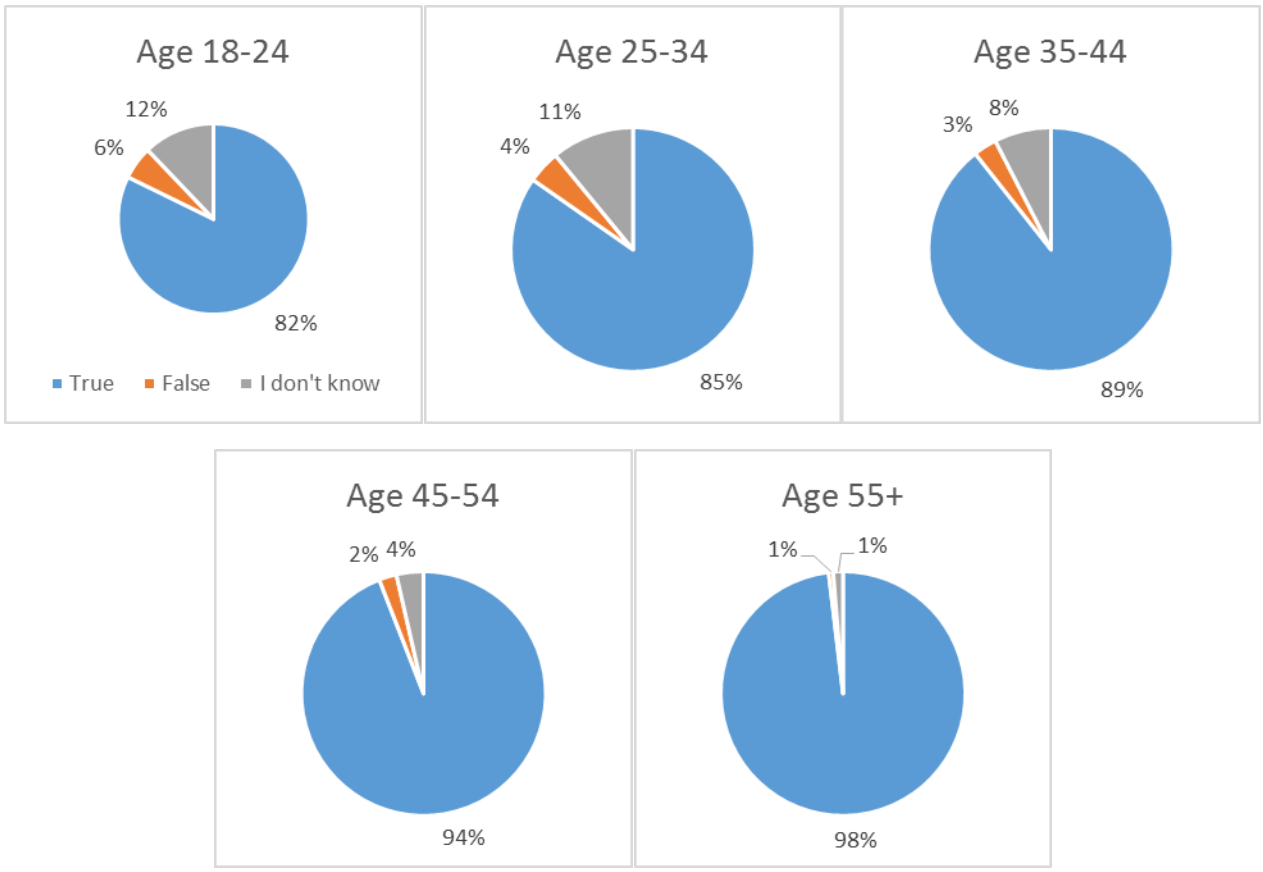
Q4: Responses by age

The majority of respondents answered correctly in all age categories.



Q4: Breakdown of responses by age

Do you believe the following statement to be true or false? Smoking increases the risk of coronary heart disease. - Correct answer: true

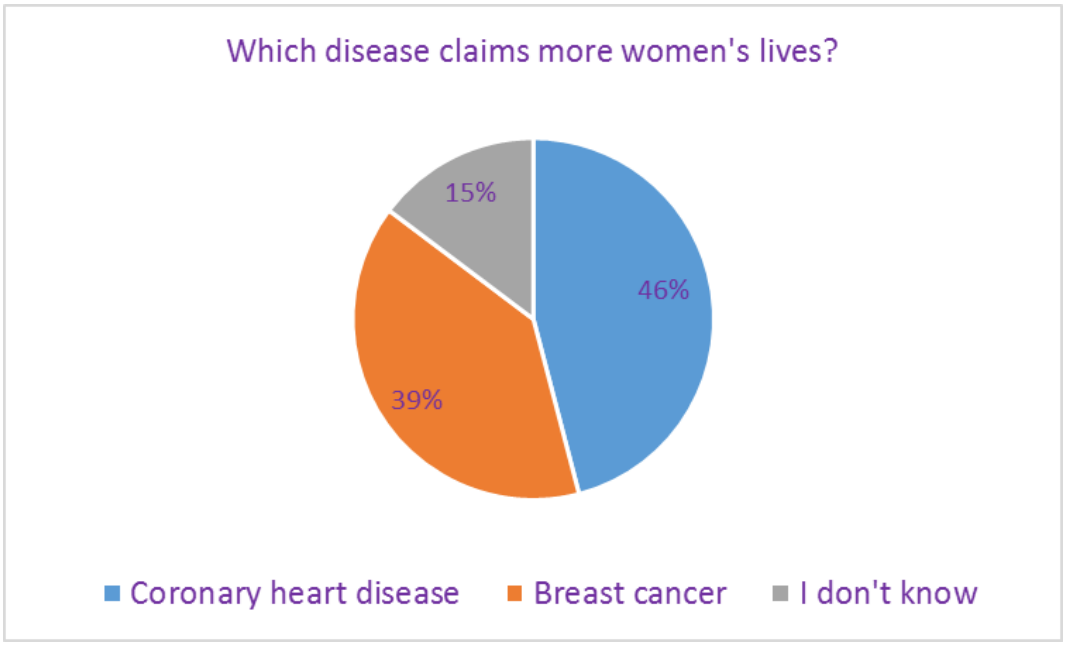


There was an increasing level of knowledge with age however, 18% of age 18-24 year olds were unaware that smoking increases risk of coronary heart disease.

Q5: Which disease do you think claims more women's lives, coronary heart disease, breast cancer, I don't know? - Correct answer: coronary heart disease

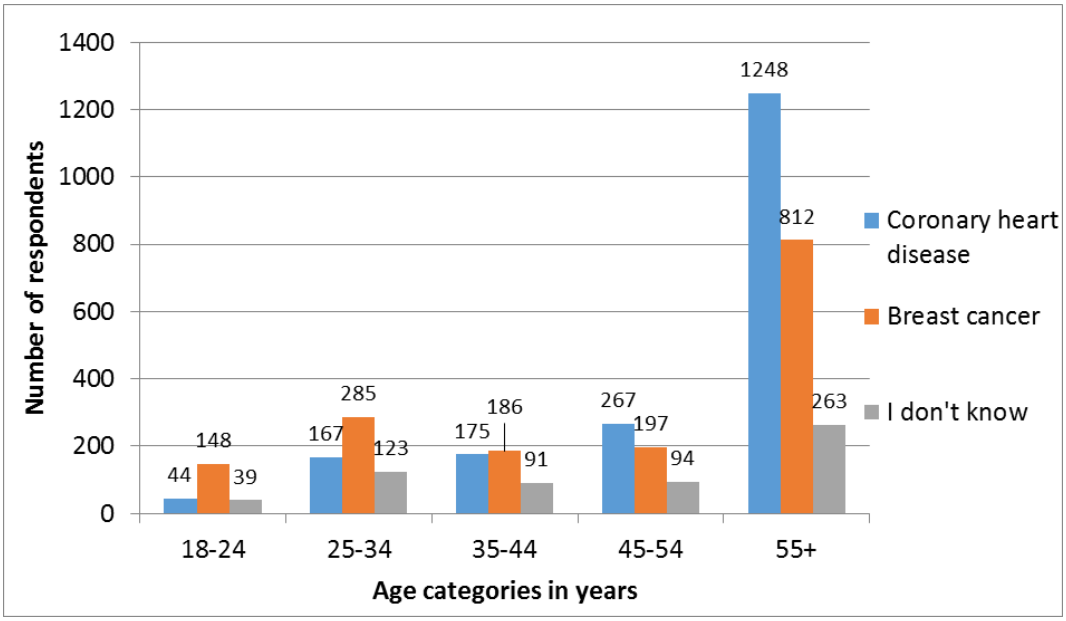
Q5: Responses

The highest proportion of respondents were correctly aware that coronary heart disease claims more women's lives than breast cancer. However, over half of respondents (54%), were unaware that CHD claims more lives than breast cancer with 15% of respondents answering 'I don't know'.



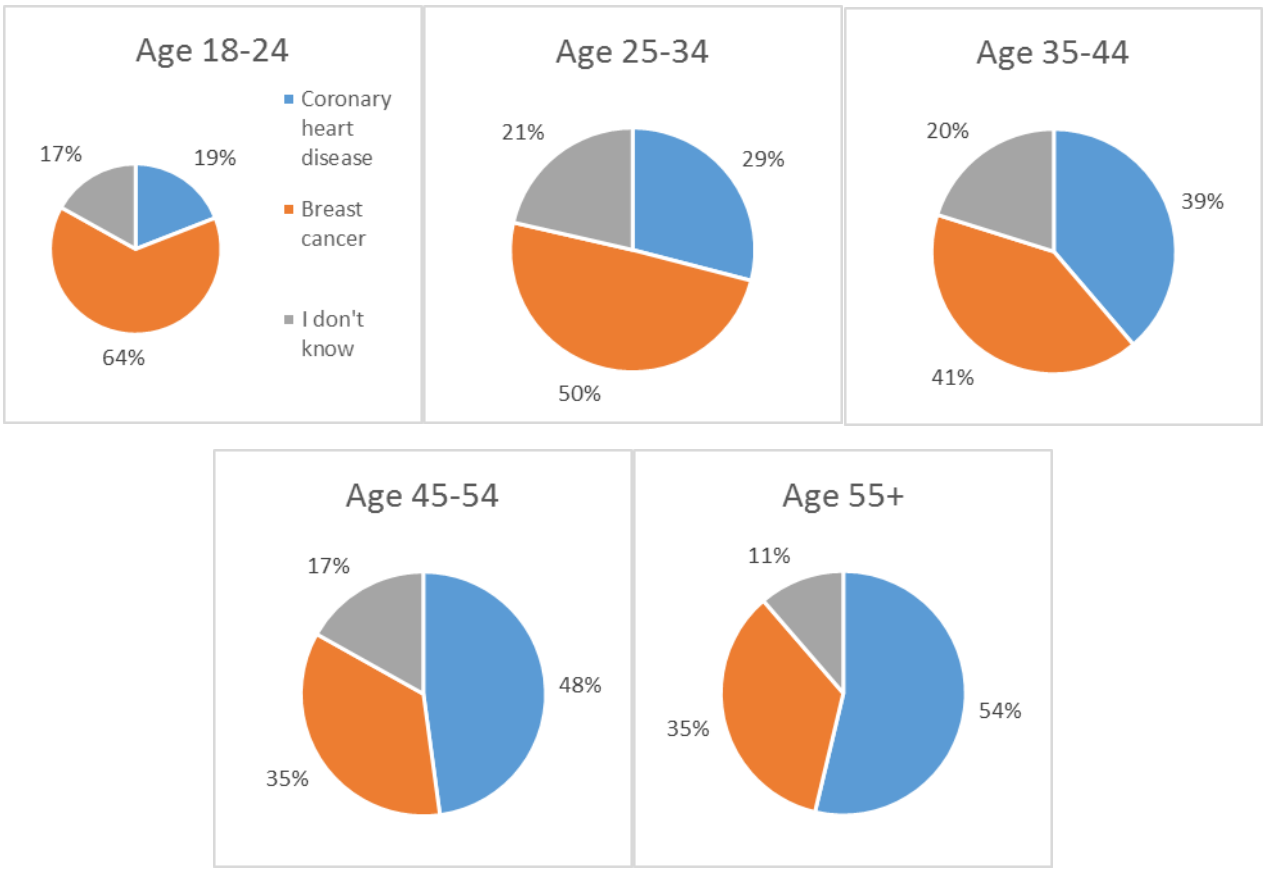
Q5: Responses by age

The majority of respondents in the two upper age categories, age 45-54 years and age 55+ were aware that CHD claims more lives than breast cancer with breast cancer being the most popular answer in all other age groups.



Q5: Breakdown of responses by age

Which disease do you think claims more women's lives, coronary heart disease, breast cancer, I don't know? - Correct answer: coronary heart disease



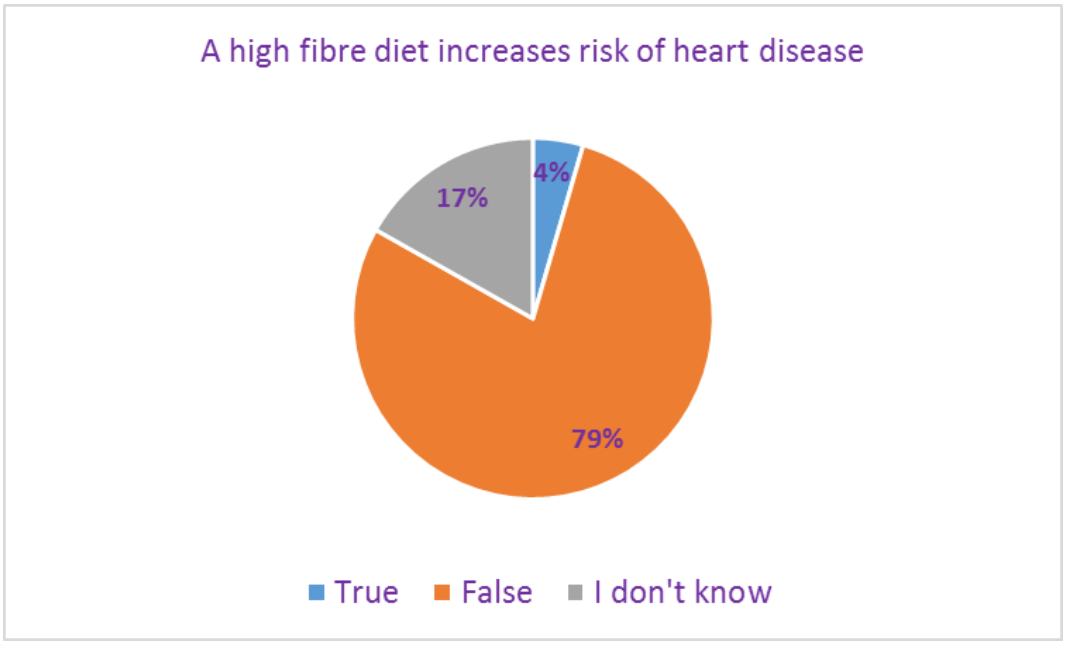
There was a higher proportion of women age 45 and over who were aware that coronary heart disease claims more women's lives than breast cancer. More than three in five (64%) of women aged 18-24 and half of women (50%) age 25-34, were incorrect in believing that breast cancer claims more lives than CHD.

Less than half of women age under 55 were aware that CHD claims more lives than breast cancer. As many as four in five women, (81%) aged 18-24, were unaware or didn't know and three in five women (61%) aged 35-44.

Q6: Do you believe the following statement to be true or false? A high-fibre diet increases risk of heart disease. – Correct answer: false

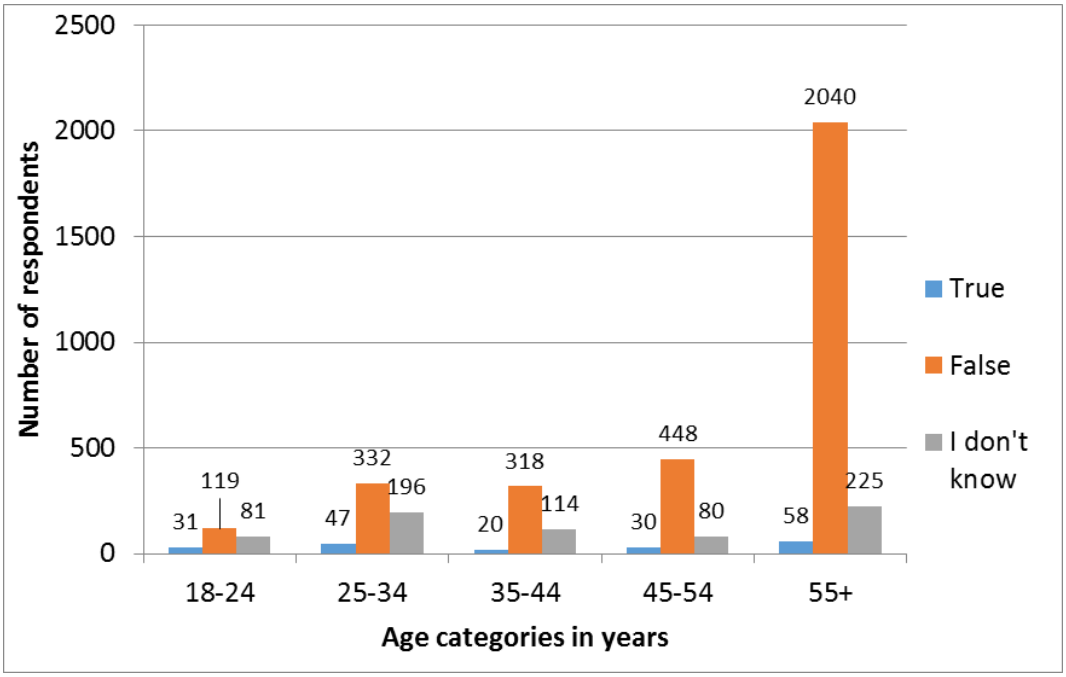
Q6: Responses

Almost four in five women, (79%) correctly believed that a high-fibre diet does not increase risk of heart disease.



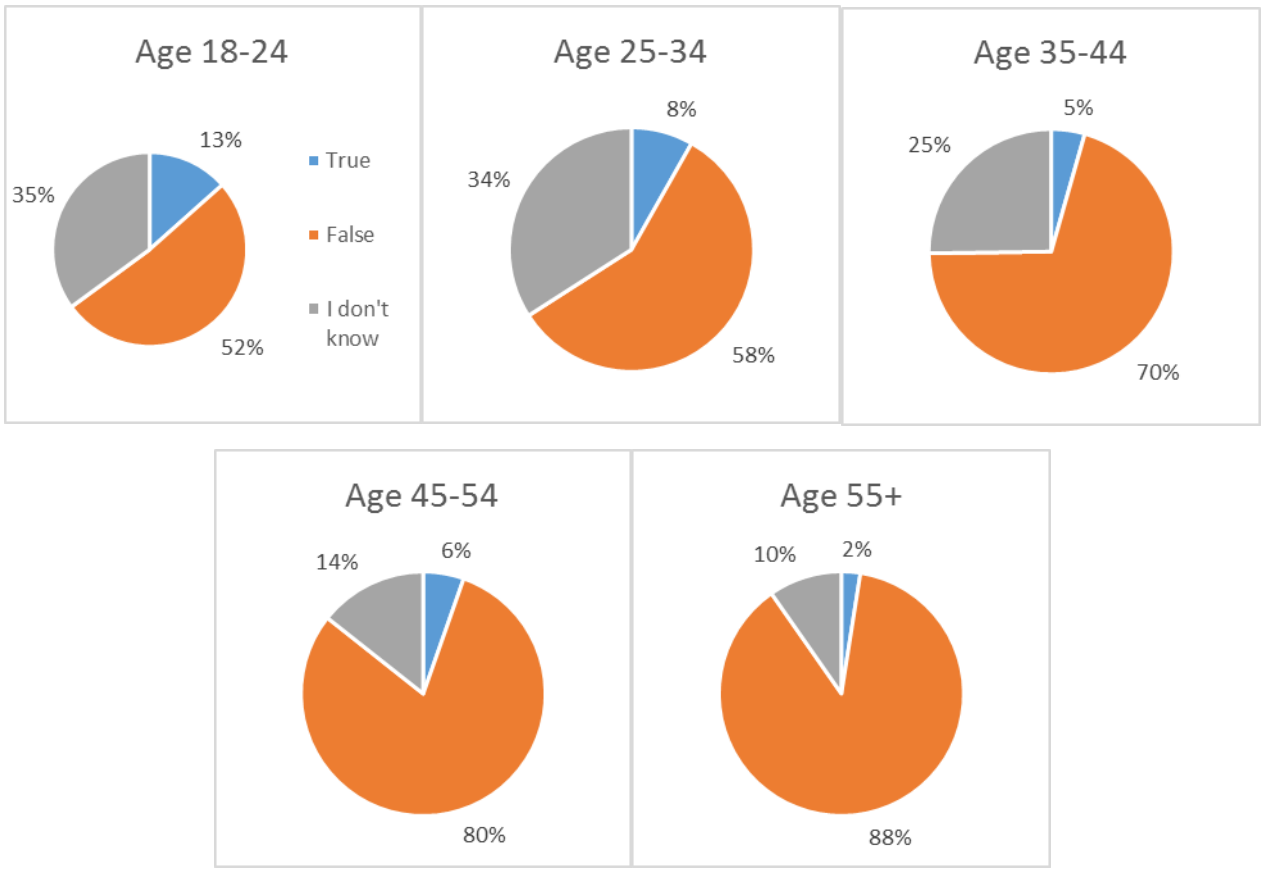
Q6: Responses by age

The majority of respondents in all age groups were correctly aware that a high fibre diet does not increase risk of CHD with the difference between correct and incorrect or 'I don't know' responses becoming closer, the younger the age category.



Q6: Breakdown of responses by age

Do you believe the following statement to be true or false? A high-fibre diet increases risk of heart disease. – Correct answer: false

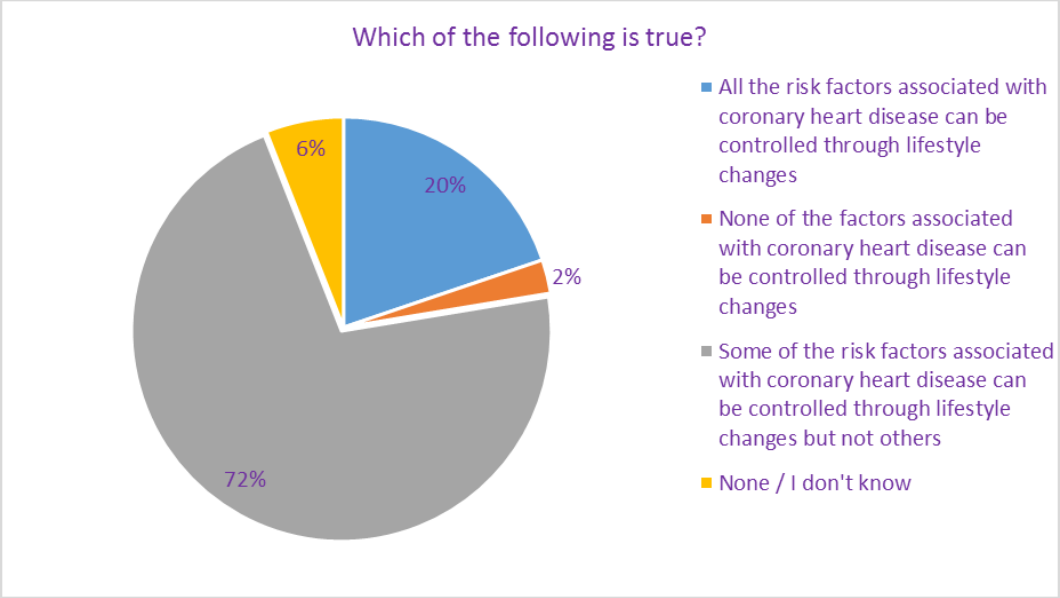


There was an increasing level of knowledge across all age categories that a high fibre diet does not increase risk of coronary heart disease with the highest proportion of respondents answering 'I don't know' (35%) in the age 18-24 category.

Q7: Which of the following statements is true: all the risk factors associated with coronary heart disease can be controlled through lifestyle changes, none of the risk factors associated with coronary heart disease can be controlled through lifestyle changes, some of the risk factors associated with coronary heart disease can be controlled through lifestyle changes but not others, none/I don't know? – Correct answer: Some of the risk factors associated with coronary heart disease can be controlled through lifestyle changes but not others.

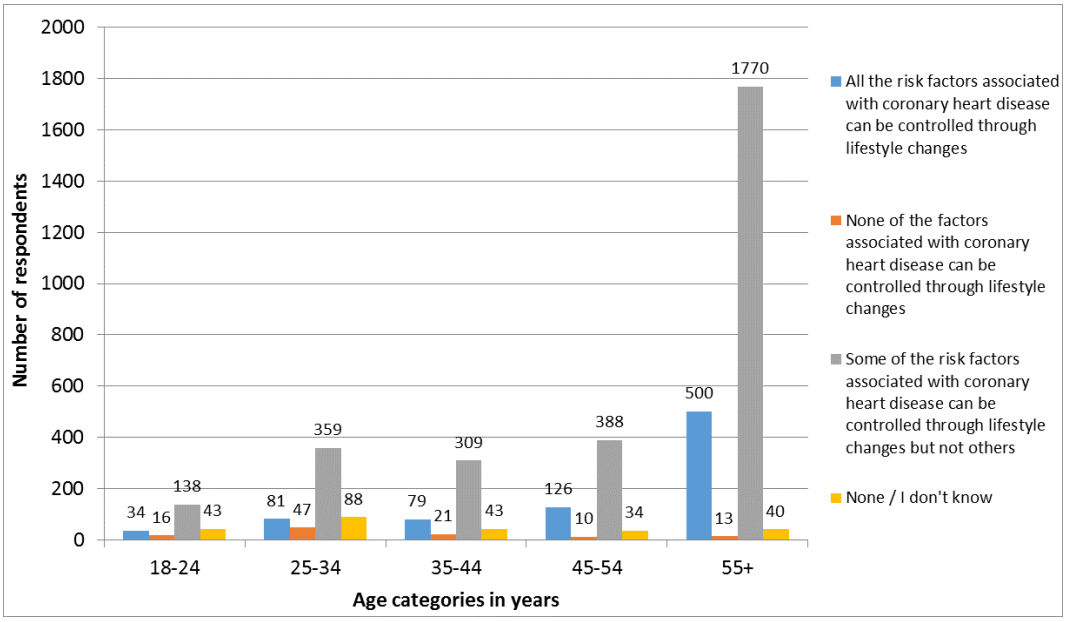
Q7: Responses

The majority of respondents, (72%) were correctly aware that some of the risk factors associated with CHD can be controlled through lifestyle changes, whilst one in five incorrectly believing that all the risk factors can be controlled.



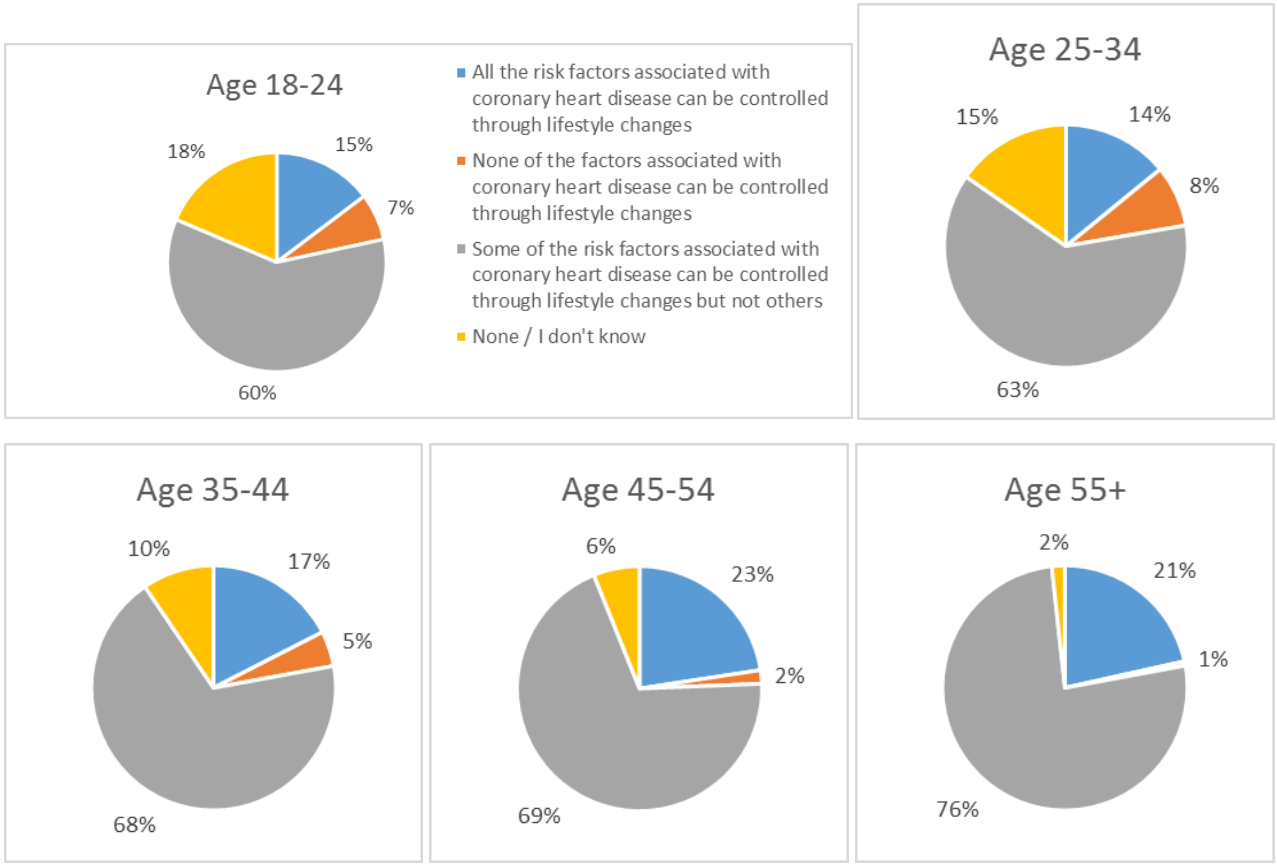
Q7: Responses by age

The majority of respondents across all age categories answered correctly with higher none/'I don't know' responses given in age under 34 years.



Q7: Breakdown of responses by age

Which of the following statements is true, all the risk factors associated with coronary heart disease can be controlled through lifestyle changes, none of the risk factors associated with coronary heart disease can be controlled through lifestyle changes, some of the risk factors associated with coronary heart disease can be controlled through lifestyle changes but not others, none/I don't know? – Correct answer: that some of the risk factors associated with coronary heart disease can be controlled through lifestyle changes but not others.

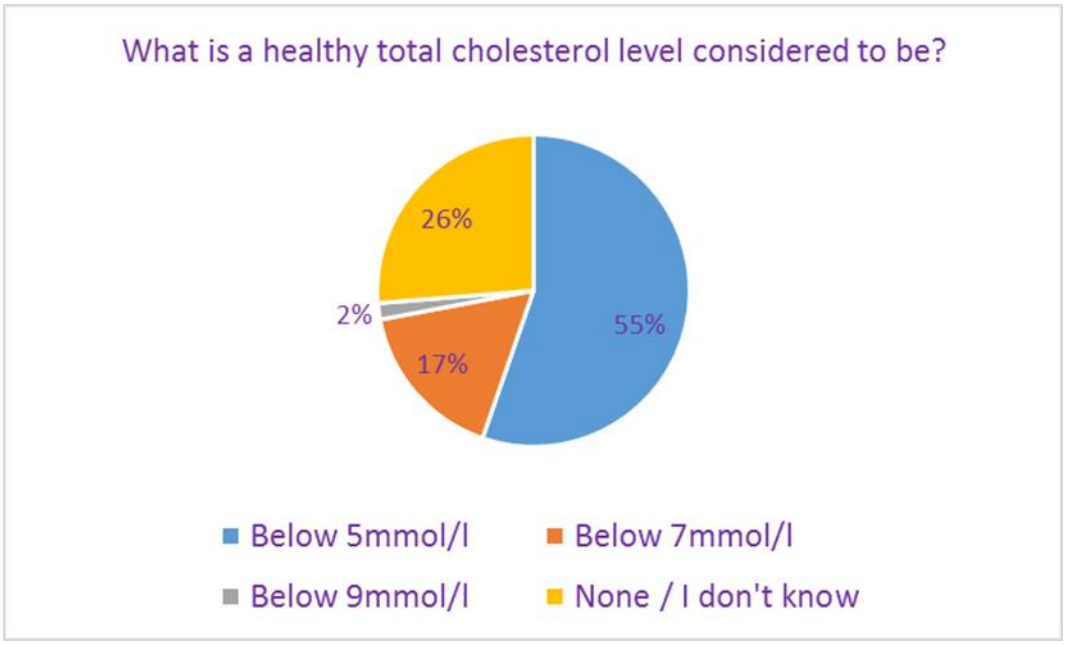


There was an increasing level of knowledge with age that some of the risk factors associated with coronary heart disease can be controlled through lifestyle changes but not others, across all age categories. Two in five women (40%) in the age 18-24 category and up to one in four women (76%) age 55+ were unaware.

Q8: What do you think a healthy total cholesterol is considered to be? – Correct answer: below 5mmol/l

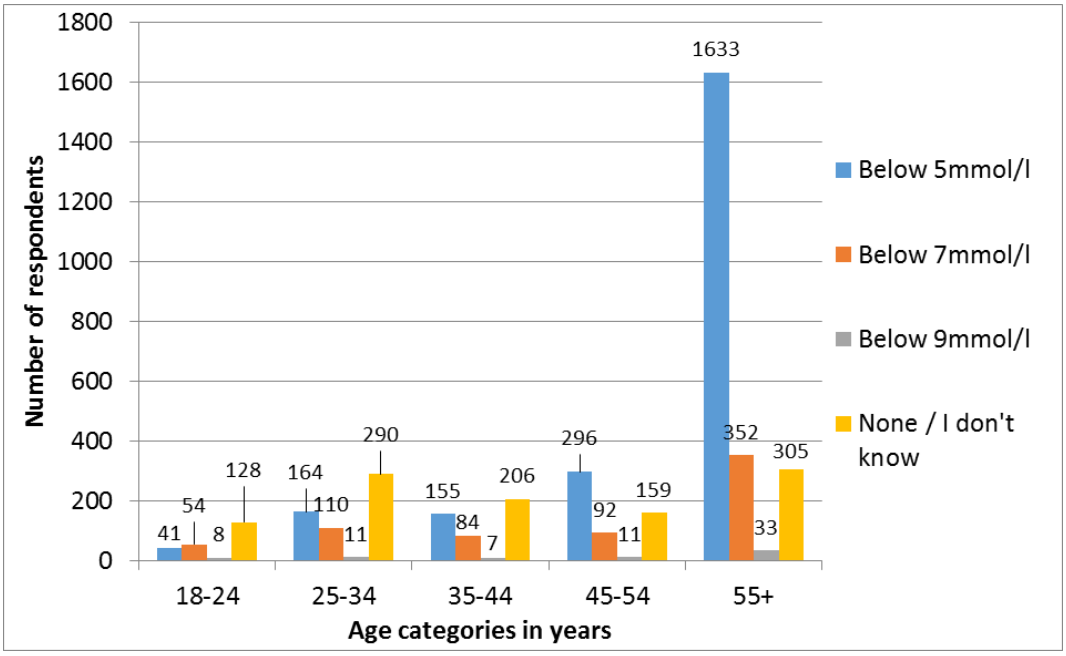
Q8: Responses

The majority of respondents, (55%) were correctly aware of recommended healthy total cholesterol guidelines however, over one in four women, (26%) answered 'I don't know'.



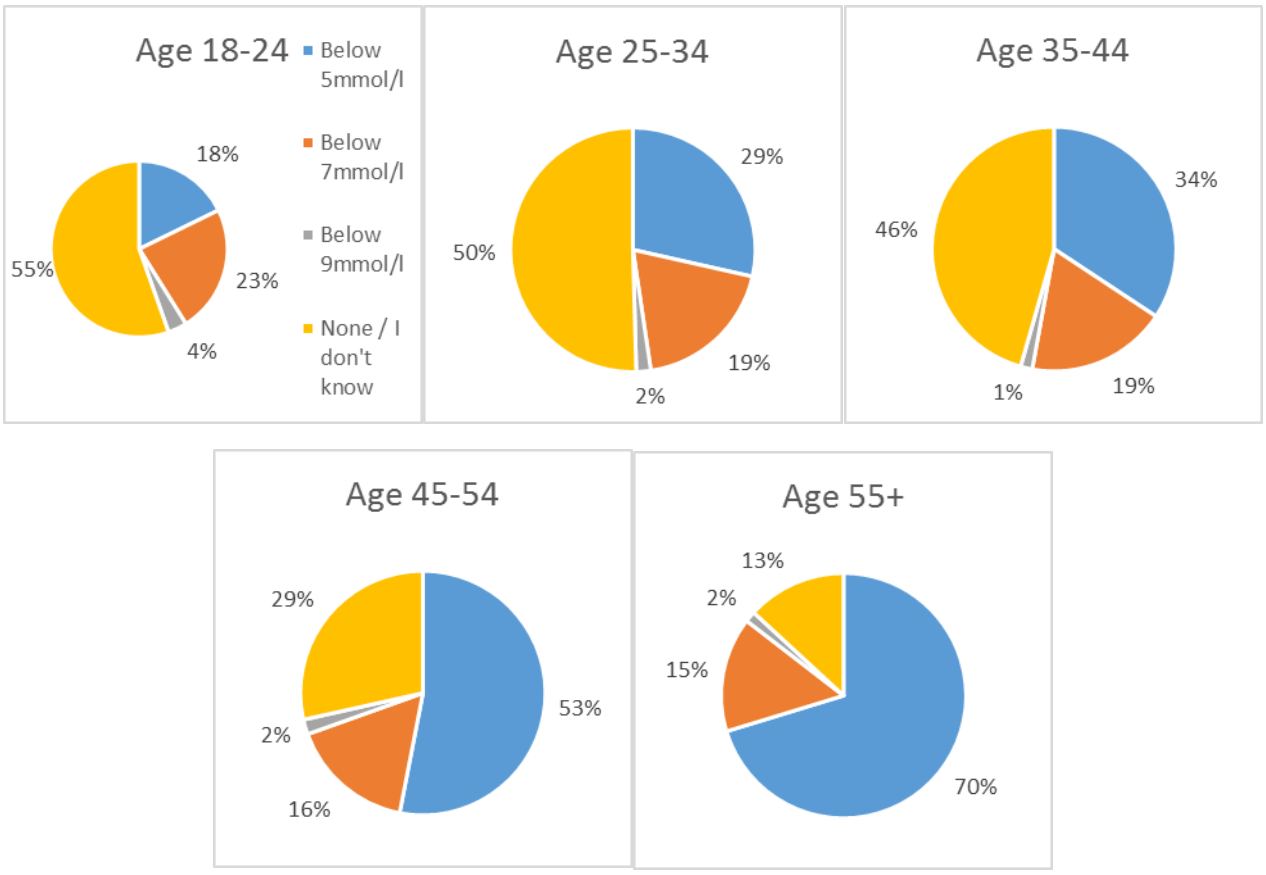
Q8: Responses by age

The majority of respondents in both the age 45-54 and age 55+ categories responded correctly whilst the majority of respondents in the other age categories answered none/'I don't know'.



Q8: Breakdown of responses by age

What do you think a healthy total cholesterol is considered to be? – Correct answer: below 5mmol/l

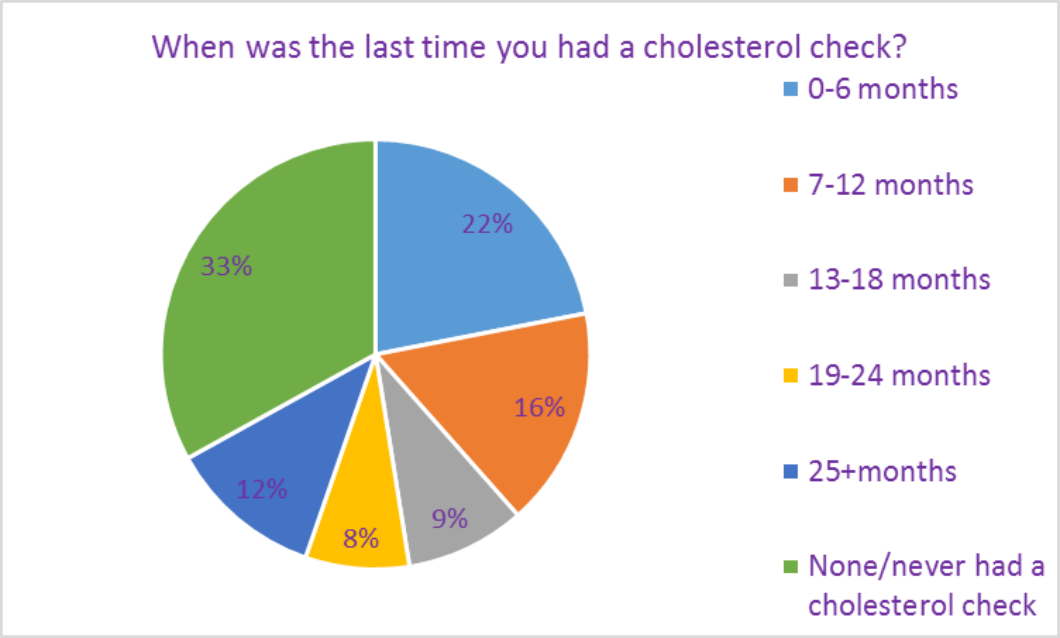


There was an increasing knowledge of the recommended healthy total cholesterol level with the highest proportion, (70%) being in the age 55+ category. Less than one in five women, (18%) in the age 18-24 category answered correctly.

Q9: When was the last time you had your cholesterol checked? Please select nearest match in months. – There is no correct answer for this question

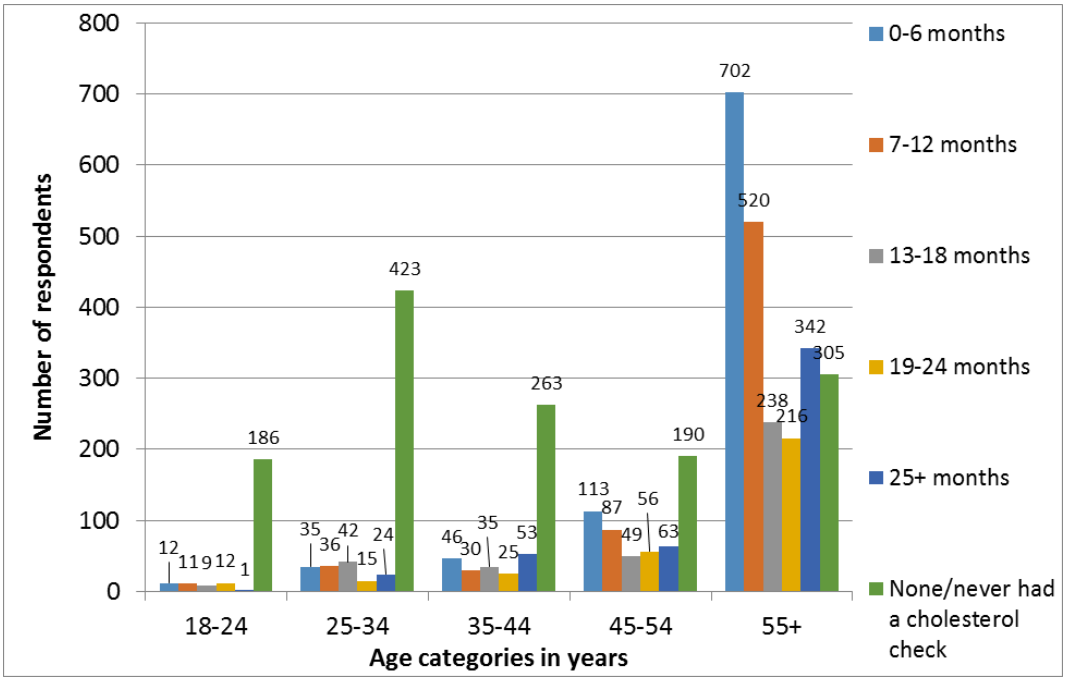
Q9: Responses

Whilst there is no recommended guidance on how often women should get their cholesterol levels checked, the NHS recommends that healthy adults over age 40 years should undergo an NHS cardiovascular risk assessment every five years (NHS 2017). More than one in five, (22%) of women had had their cholesterol checked within the last 6 months and one third of women have had one between 7 and 24 months. One third (33%) of respondents had never had their cholesterol checked.



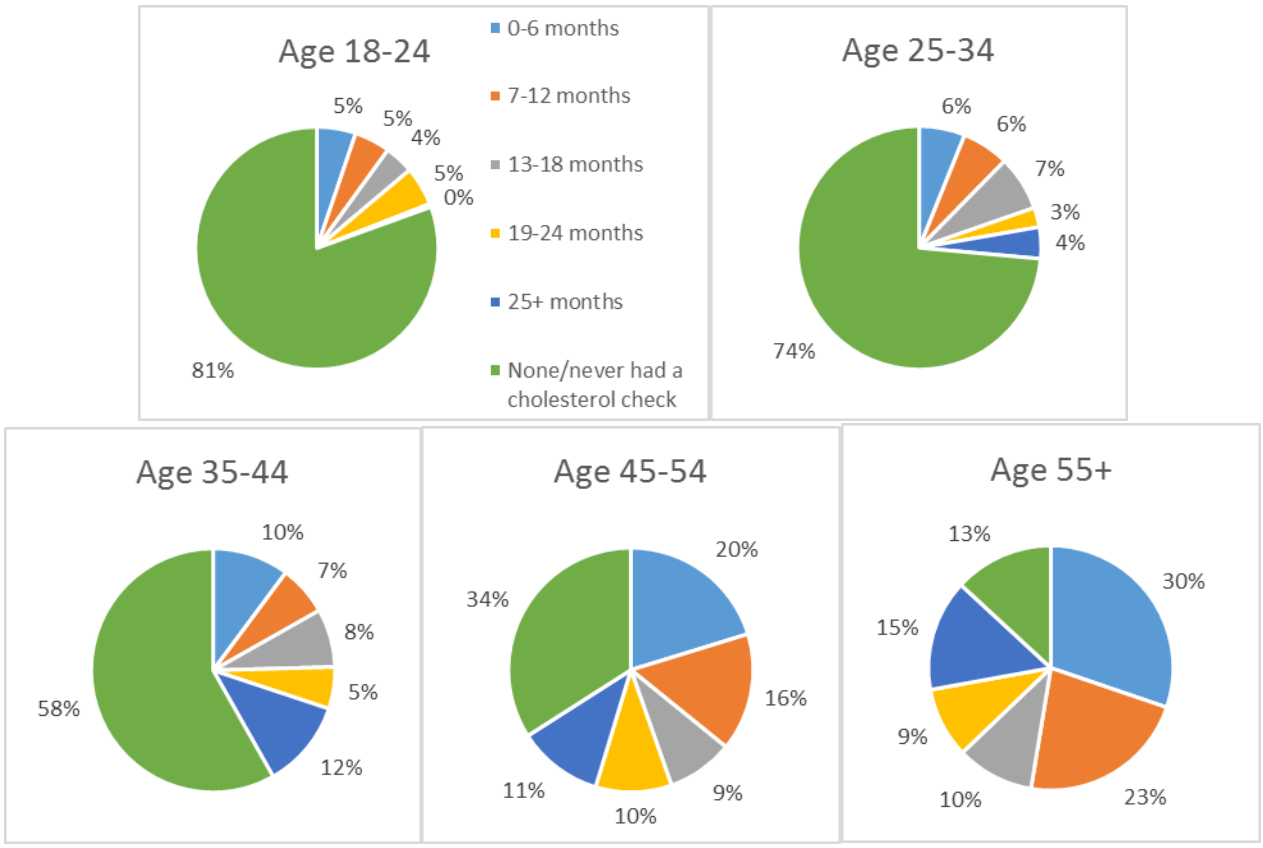
Q9: Responses by age

The majority (53%) of women in the age 55+ category have had a cholesterol check within the last twelve months. However, the majority of respondents below age 45 had never had their cholesterol levels checked.



Q9: Breakdown of responses by age

When was the last time you had your cholesterol checked? Please select nearest match in months. – There is no correct answer for this question

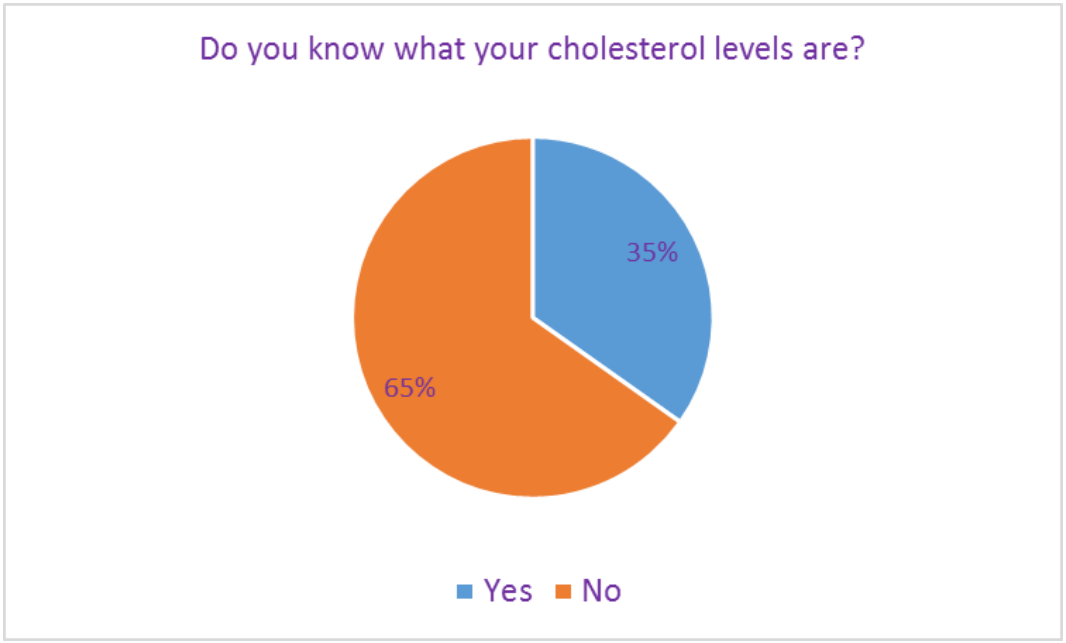


There was a corresponding increase with age in the number of respondents that had had their cholesterol checked in the last 6 months however, almost three in five women, (58%) in the 35-44 category and one third of women, (34%) in the age 45-54 category have never had a cholesterol check despite it being routinely available to women aged 40+.

Q10: Do you know what your cholesterol levels are? – There is no correct answer for this question.

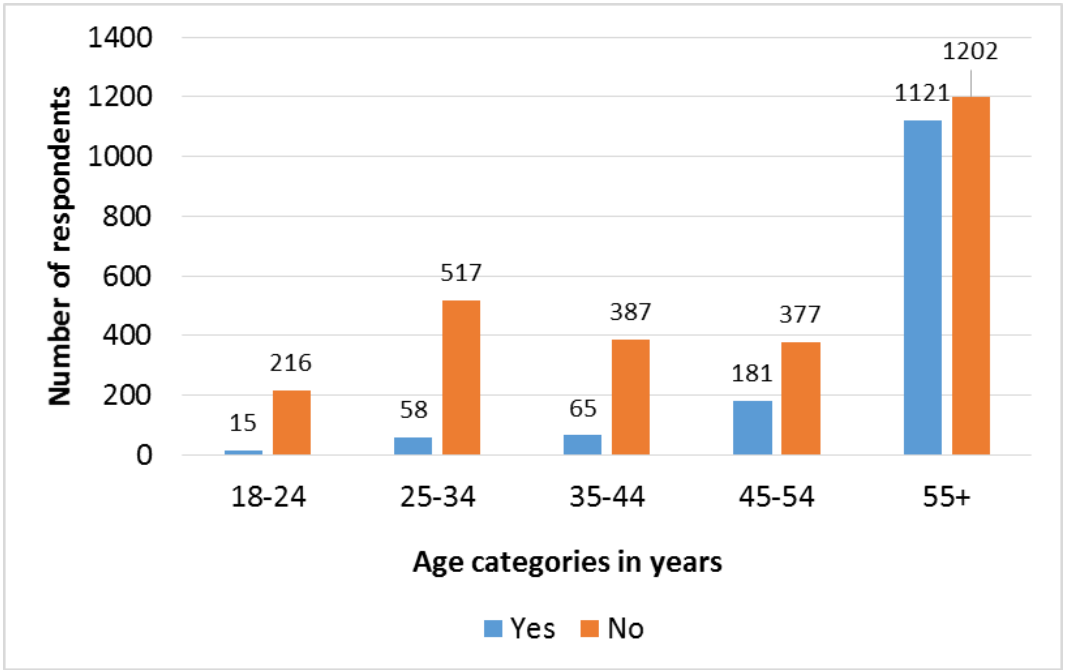
Q10: Responses

Almost two thirds of women, (65%) are unaware of their cholesterol levels.



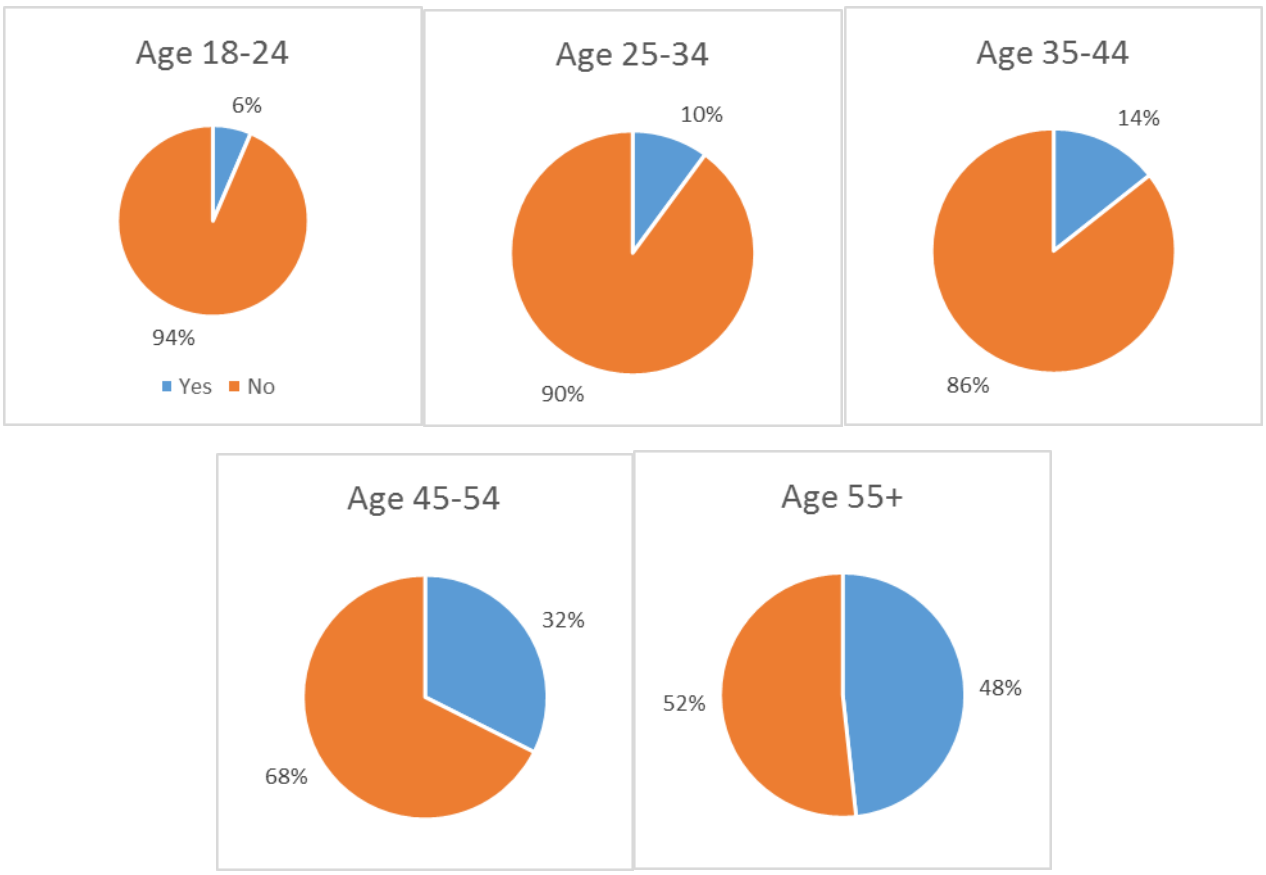
Q10: Responses by age

A higher proportion of women in all age categories were unaware of their cholesterol level compared to those who were aware.



Q10: Breakdown of responses by age

Do you know what your cholesterol levels are? – There is no correct answer for this question

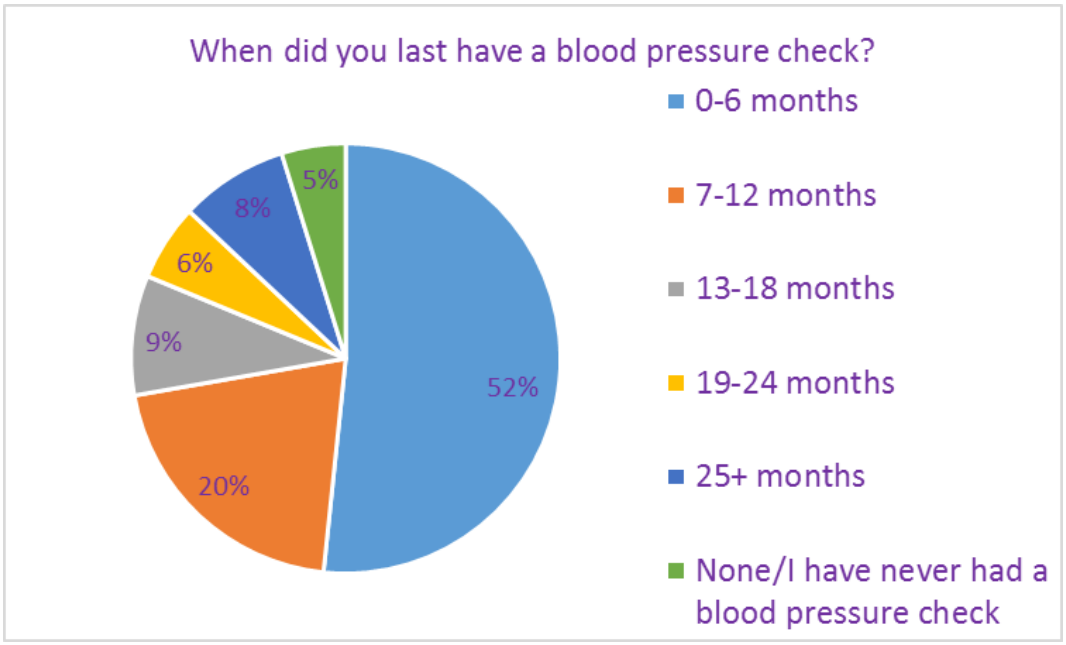


There was an increasing awareness with age of their cholesterol levels however, fewer than 50% of women across all age categories were aware of their cholesterol level.

Q11: When did you last have your blood pressure checked? Please select nearest match in months. – There is no correct answer for this question.

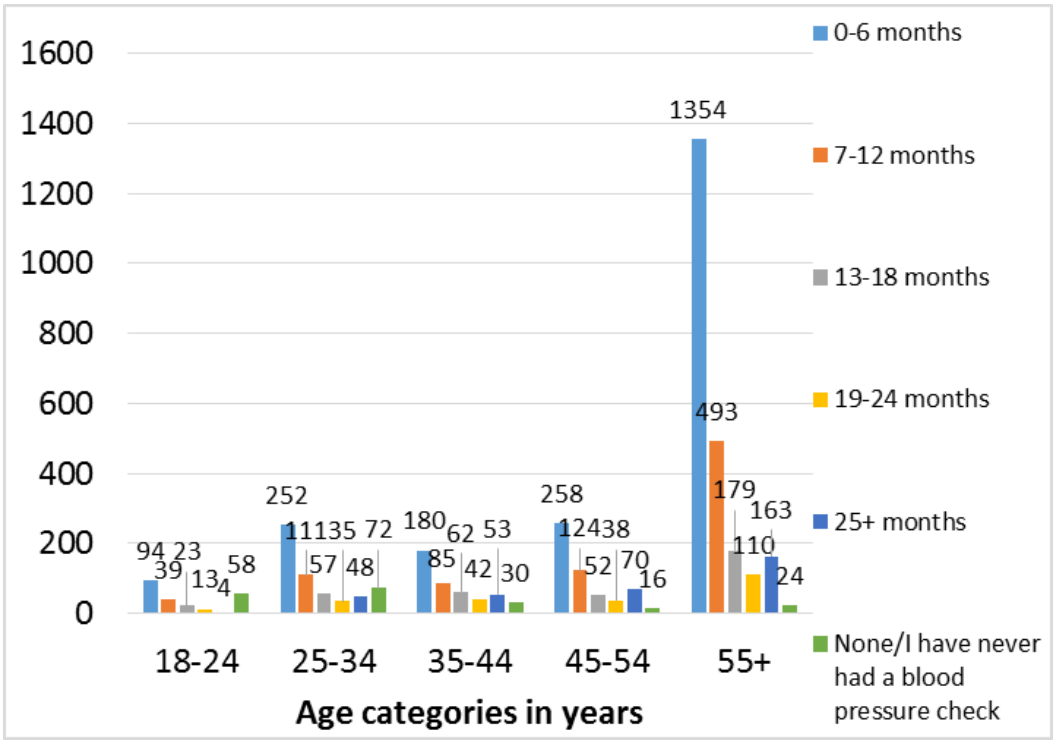
Q11: Responses

Whilst there is no recommended guidance on how often women should get their blood pressure checked, the NHS recommends that healthy adults over age 40 years should undergo an NHS cardiovascular risk assessment every five years. Over half (52%), of respondents have had their blood pressure checked within the last 6 months and a further 20% in 7-12 months.



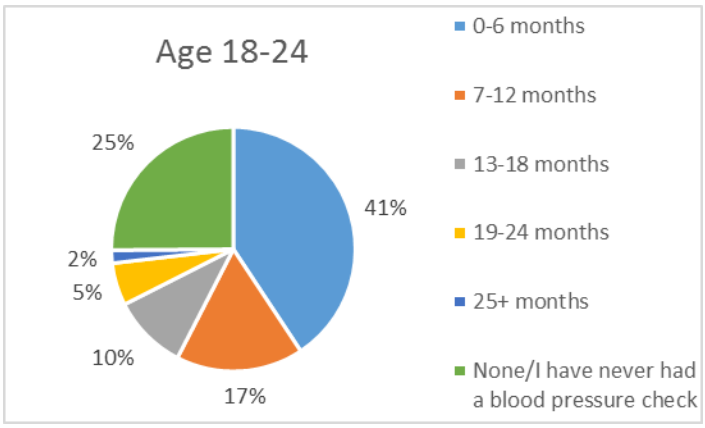
Q11: Responses by age

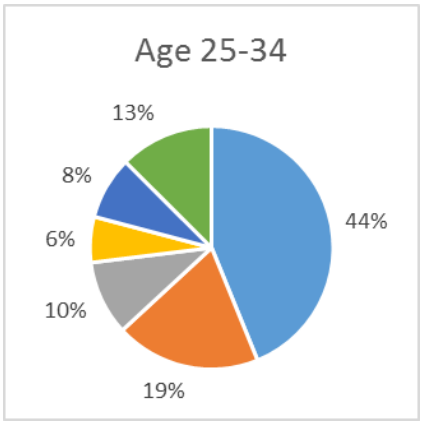
The highest proportion of respondents across all age groups had had their blood pressure checked within the last 6 months with the highest proportion of respondents that had never had their blood pressure checked being in the age 18-24 and age 25-34 categories.

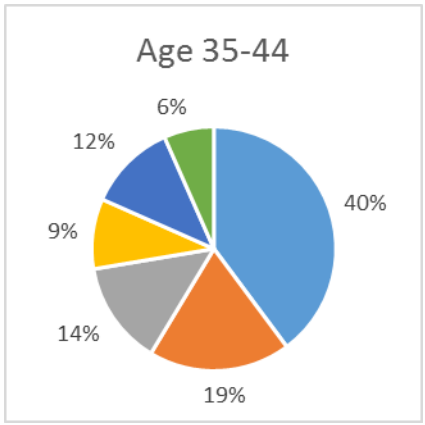


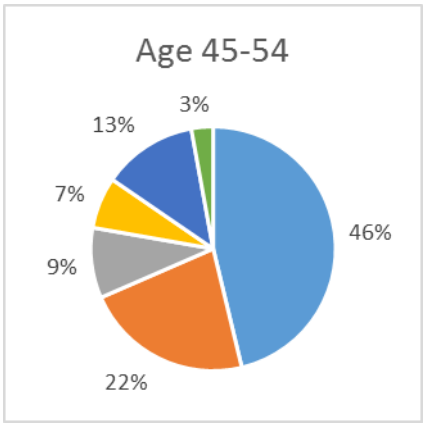
Q11: Breakdown of responses by age

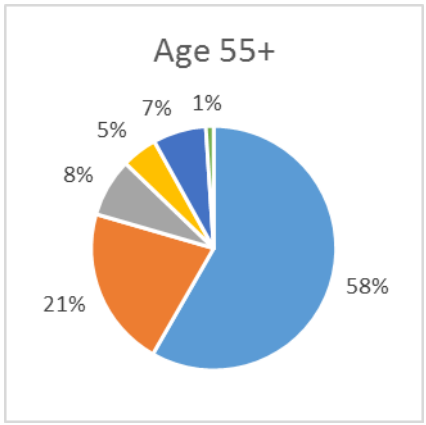
When did you last have your blood pressure checked? Please select nearest match in months. – There is no correct answer for this question









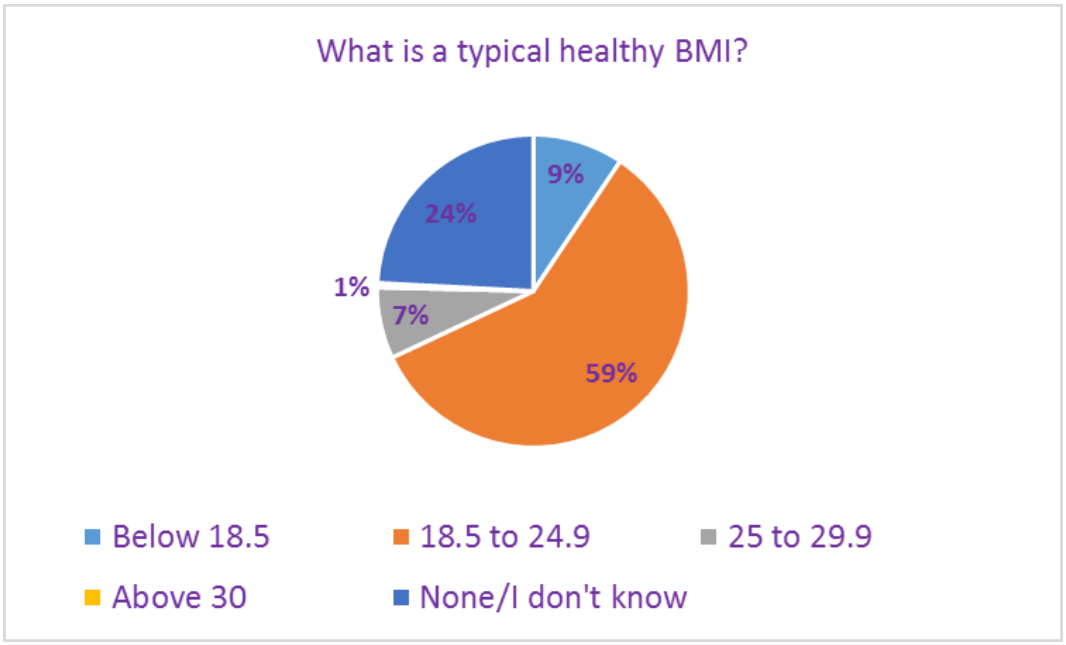


The proportion of women in all age categories except for age 35-44 that had had a blood pressure check within the last six months increased with age. However, fewer than three in five of women, (58%) in the age 55+ category had had their blood pressure checked within the last 6 months and less than 50% of women in all other age categories had had one in the last six months.

Q12: What do you believe a typically healthy BMI (body Mass Index) to be? – Correct answer: 18.5 - 24.9

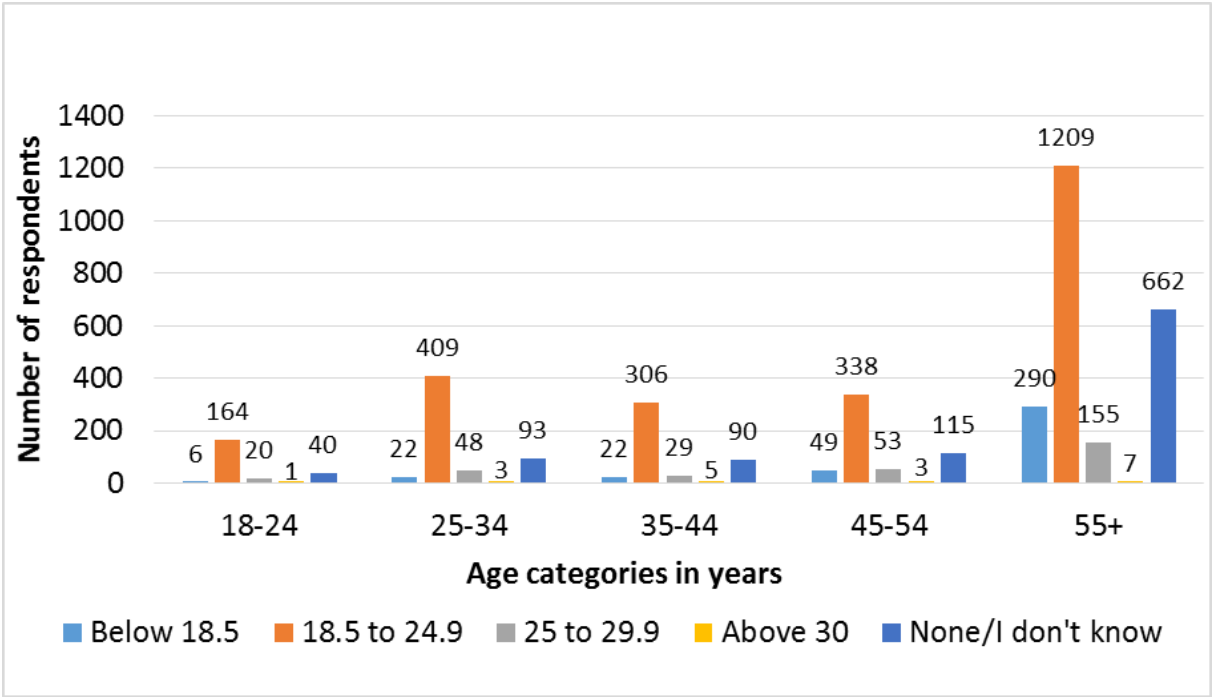
Q12: Responses

Body Mass Index, (BMI) is a calculation of weight in kilograms to height in metres squared. Almost three in five (59%) of respondents were aware of what a healthy BMI should be whilst almost one in four, (24%) answered none/'I don't know'.



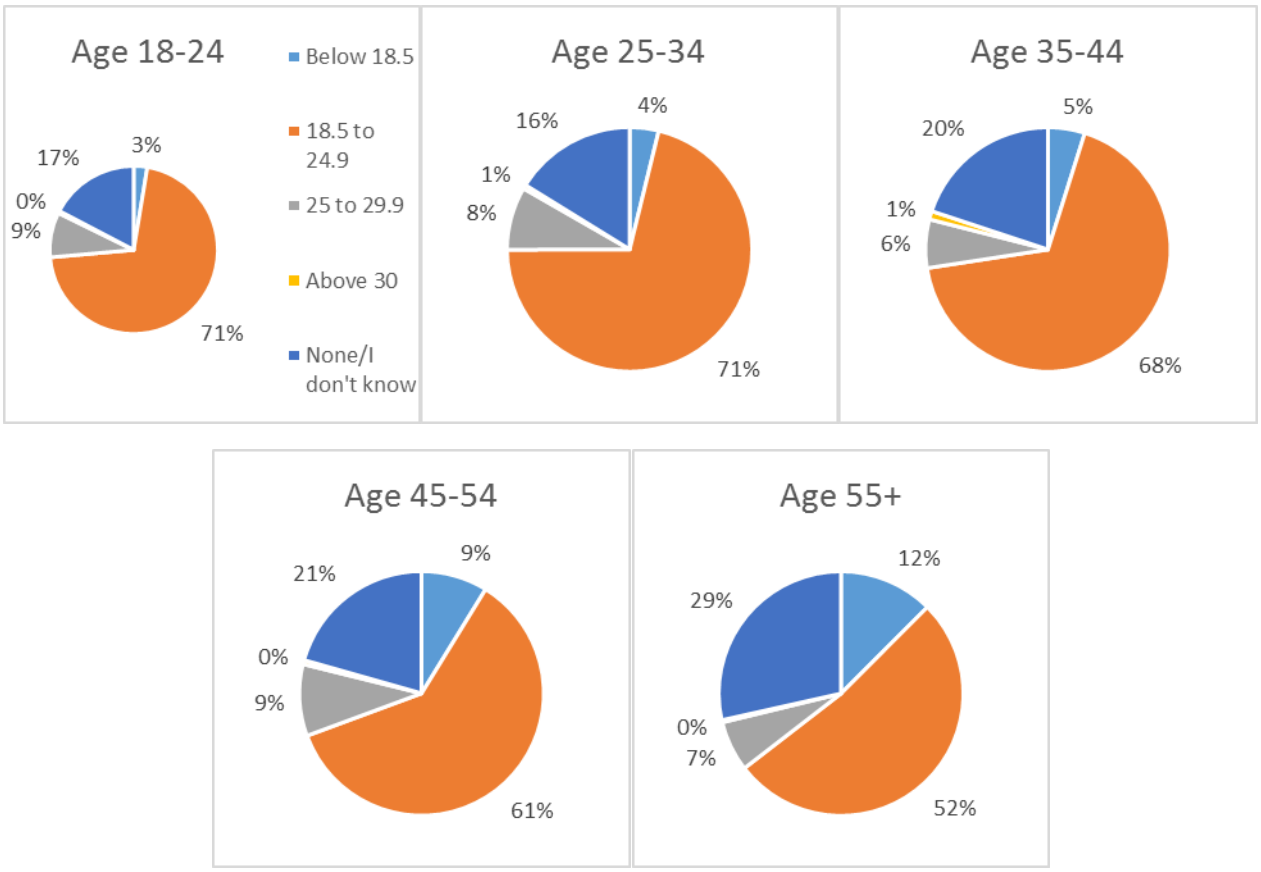
Q12: Responses by age

The majority of respondents answered correctly with the second most popular response being none/'I don't know' across all age categories.



Q12: Breakdown of responses by age

What do you believe a typically healthy BMI (body Mass Index) to be? – Correct answer: 18.5 - 24.9

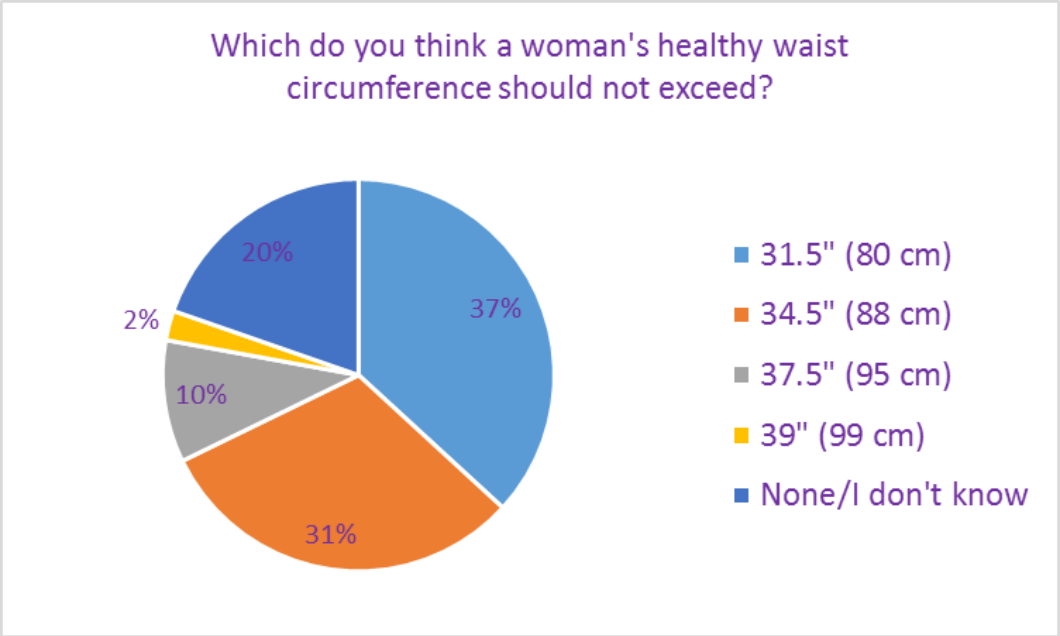


There was a decreasing level of awareness as age increased of what a healthy BMI (body mass index) should be.

Q13: From the following options, which do you think a woman's healthy waist circumference should not exceed? 31.5" (80 cm), 34.5" (88 cm), 37.5" (95 cm), 39" (99 cm), none/I don't know? – Correct answer: 31.5 inches (80cm).

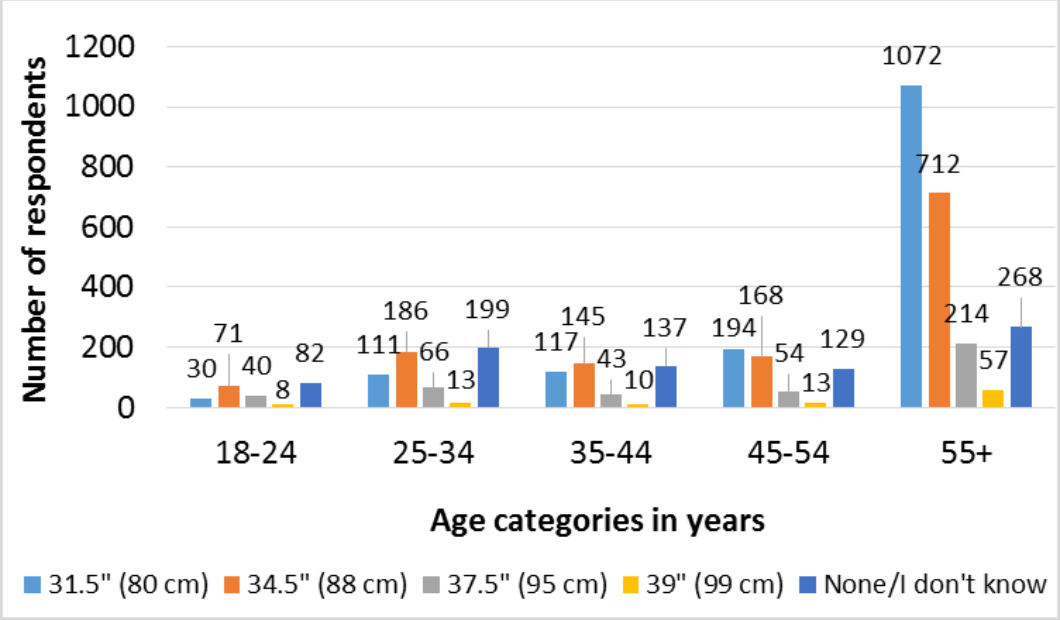
Q13: Responses

Over one third of respondents (37%), correctly answered what a healthy woman's waist measurement should be.



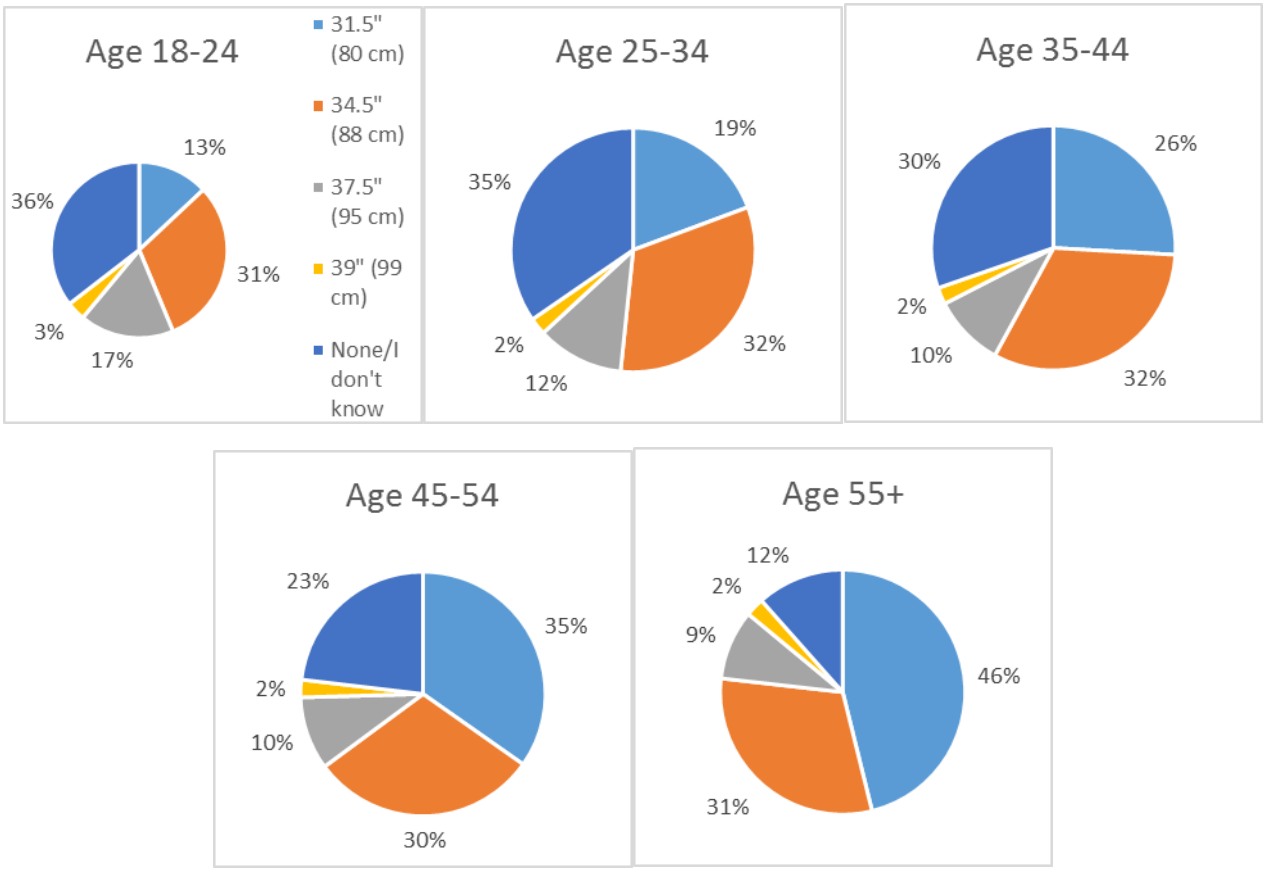
Q13: Responses by age

The highest proportion of women age over 45 were aware of what a woman's healthy waist measurement should be with the highest proportion of responses in all other age categories being none or 'I don't know'.



Q13: Breakdown of responses by age

From the following options, which do you think a woman's healthy waist circumference should not exceed? 31.5" (80 cm), 34.5" (88 cm), 37.5" (95 cm), 39" (99 cm), none/I don't know? – Correct answer: 31.5 inches (80cm)

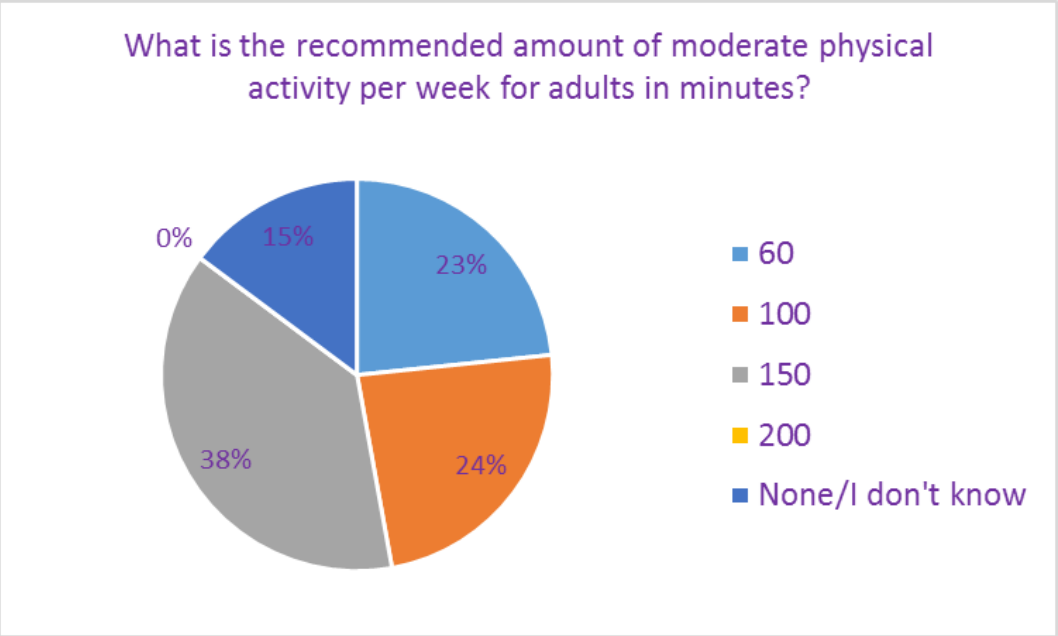


There was an increasing awareness of what a woman's healthy waist circumference should be with age across all age categories with a corresponding decrease in none/'I don't know' responses with age.

Q14: On average, the recommended weekly amount of moderate physical activity for an adult in minutes is: 60, 100, 150, 200, none/I don't know? – Correct answer: 150 minutes

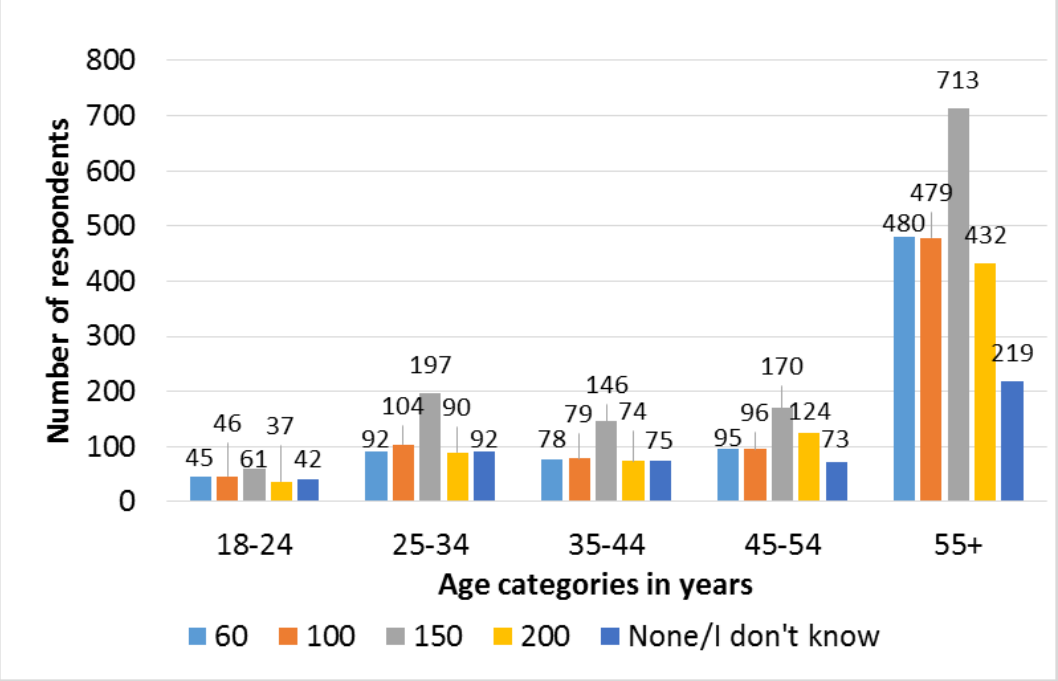
Q14: Responses

Moderate intensity physical activity is defined as any activity that raises your heart rate and gets you slightly warm and out of breath. Over one third (38%) of women responded correctly.



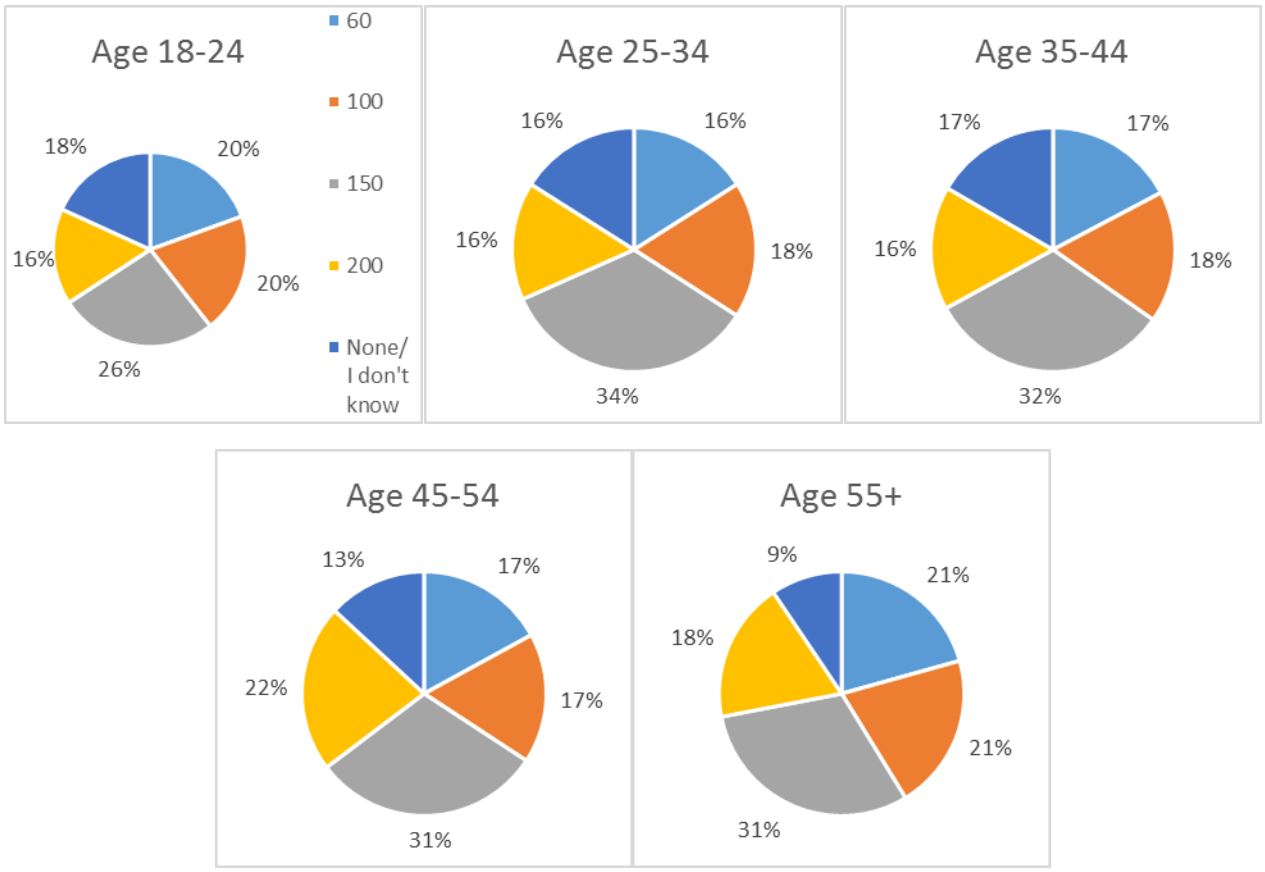
Q14: Responses by age

The highest proportion of responses gave the correct answer across all age groups, with a similar proportion of responses indicating 60 minutes and 100 minutes across all age groups.



Q14: Breakdown of responses by age

On average, the recommended weekly amount of moderate physical activity for an adult in minutes is: 60, 100, 150, 200, none/I don't know? – Correct answer: 150 minutes

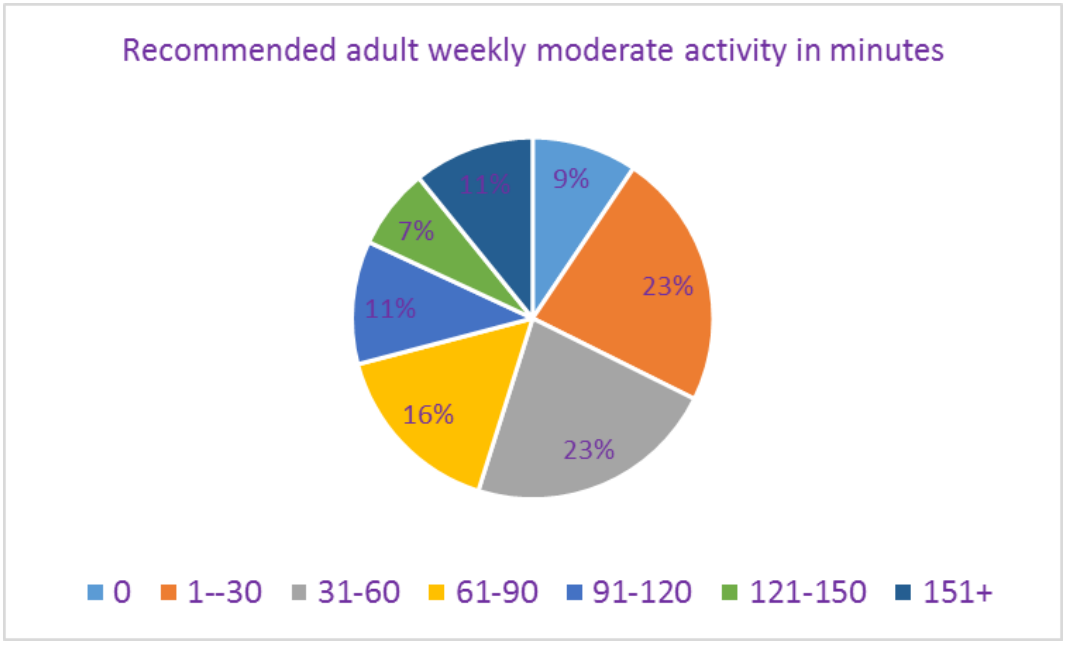


Less than one third of women in all age categories except age 25-34 group (34%) were aware of the adult weekly recommended amount of physical activity. There was a fairly consistent proportion of responses to each answer in all age groups.

Q15: How much moderate intensity, raises heart rate, feeling slightly warmer, exercise or physical activity do you typically do in an average week: 0, 1-30, 31-60, 61-90, 91-120, 121-150, 151+? Please select nearest match in minutes. – There is no correct answer for this question

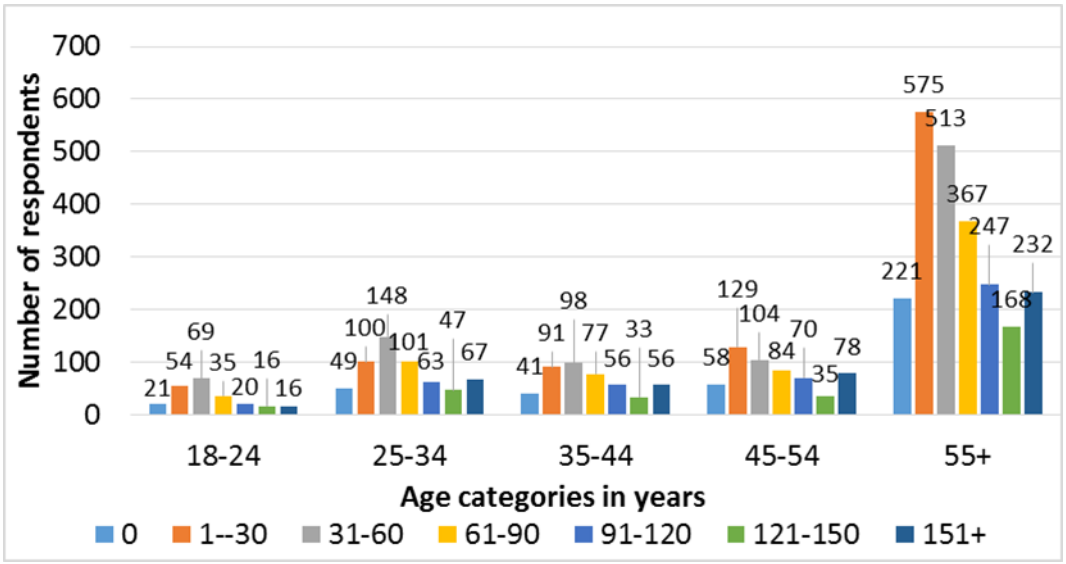
Q15: Responses

The majority of participants do not participate in the recommended level of 150 minutes of physical activity per week with only 11% of women meeting these guidelines. Almost one in ten, (9%) of respondents do not participate in any physical activity with less than half of women that do participate, (46%) taking no more than 60 minutes per week.



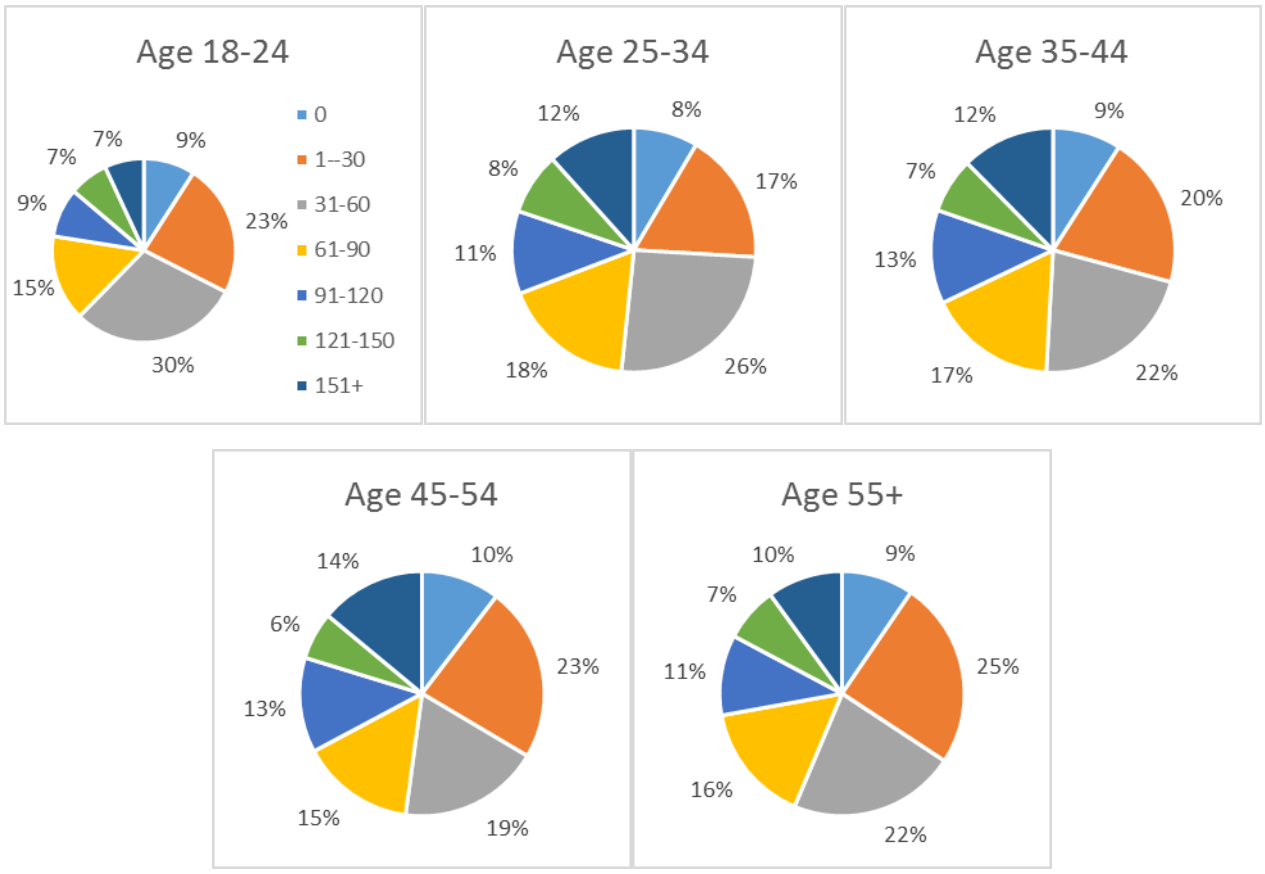
Q15: Responses by age

The majority of respondents across all age groups reported taking part in no more than 60 minutes of physical activity per week. The highest proportion of respondents in the age 18-24, age 25-34 and 35-44 categories reported 31-60 minutes of physical activity per week with the highest proportion in the age 45-54 and age 55+ groups reporting 1-30 minutes



Q15: Breakdown of responses by age

How much moderate intensity (raises heart rate, feeling slightly warmer) exercise or physical activity do you typically do in an average week: 0, 1-30, 31-60, 61-90, 91-120, 121-150, 151+? Please select nearest match in minutes. – There is no correct answer for this question

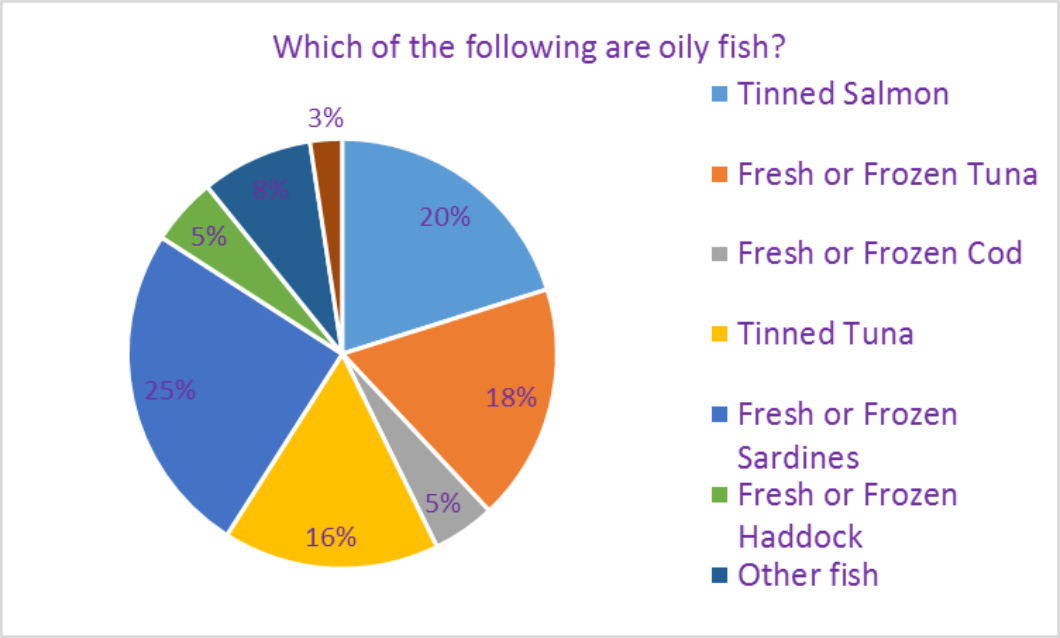


Almost one in ten respondents in all age categories reported taking no physical activity with the highest proportion of women reporting participating in the recommended 150 minutes per week, (14%) in the age 45-54 category.

Q16: Which of the following do you think counts as oily fish (rich in omega-3 fatty acids): tinned salmon, fresh or frozen tuna, fresh or frozen cod, tinned tuna, fresh or frozen sardines, fresh or frozen haddock, other fish? - Correct answers: tinned salmon, fresh or frozen tuna, fresh or frozen sardines and other fish

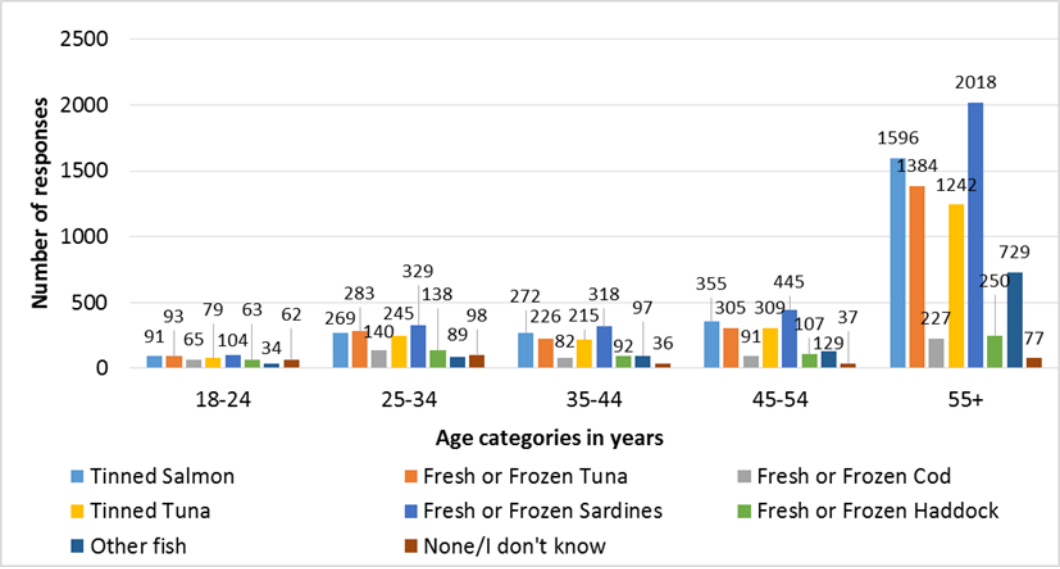
Q16: Responses

'Other fish' was included as an option to include types of oily fish that were not listed as an option. Respondents were asked to tick all that applied. Tinned tuna was incorrectly identified as an oily fish by 16% of respondents, however, only fresh or frozen tuna counts as an oily fish.



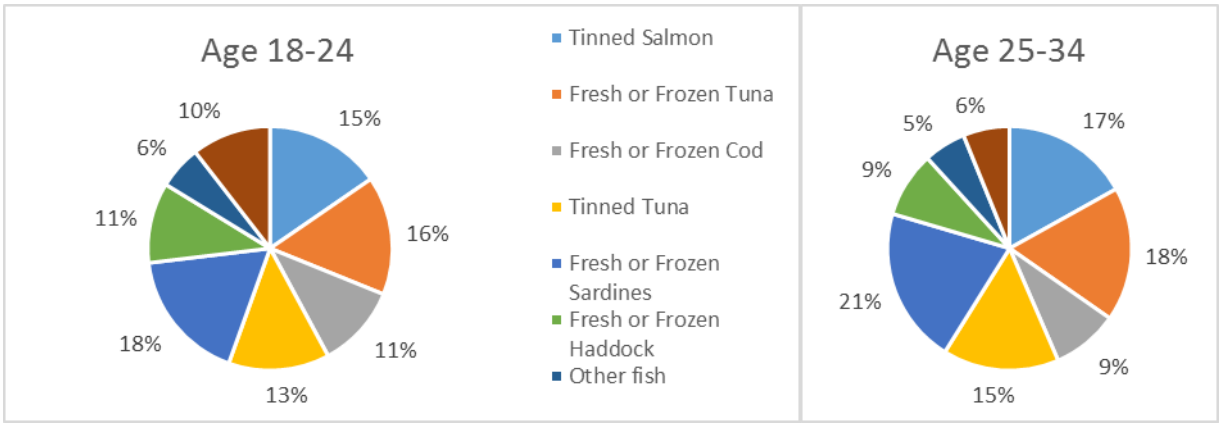
Q16: Responses by age

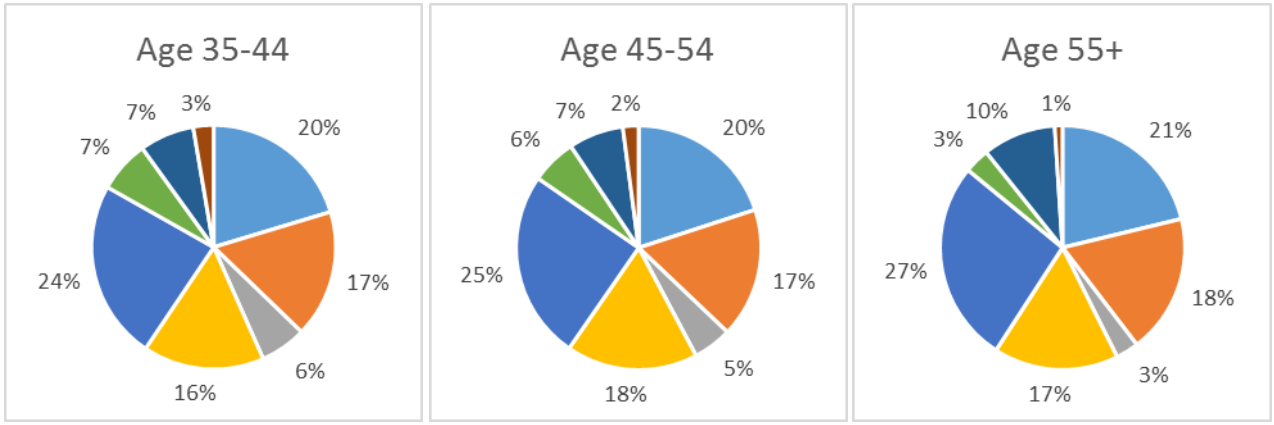
The majority of respondents across all age categories correctly identified that tinned salmon, fresh or frozen tuna and fresh or frozen sardines were classed an oily fish. Tinned tuna was incorrectly identified as an oily fish by 16% of respondents, representing the fourth highest response rate.



Q16: Breakdown of responses by age

Which of the following do you think counts as oily fish (rich in omega-3 fatty acids): tinned salmon, fresh or frozen tuna, fresh or frozen cod, tinned tuna, fresh or frozen sardines, fresh or frozen haddock, other fish? - Correct answers: tinned salmon, fresh or frozen tuna, fresh or frozen sardines and other fish



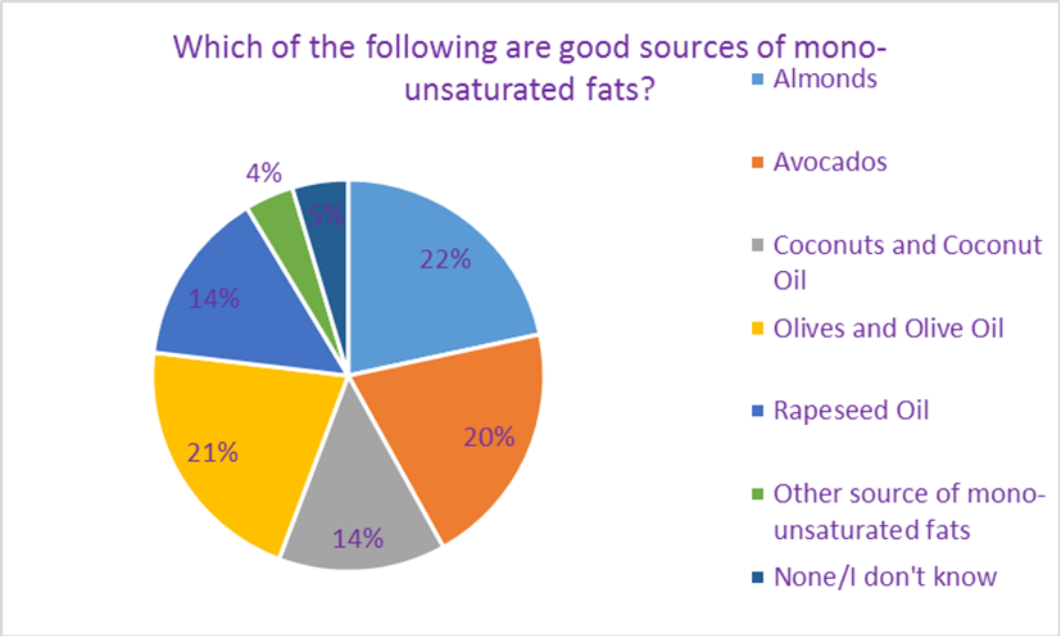


The majority of respondents across all age categories, except the age 18-24 category (49%), correctly identified tinned salmon, fresh or frozen tuna and fresh or frozen sardines counted as an oily fish rich in omega 3 fatty acids. Fresh or frozen sardines was correctly identified by 18-27% of respondents and the most common response across all age categories. Tinned tuna was incorrectly given as the answer by 13-18% of respondents.

Q17: Which of the following is a good source of mono-unsaturated (good) fats: almonds, avocados, coconuts and coconut oil, olives and olive oil, rapeseed oil, other sources of mono-unsaturated fats, none/I don't know? - Correct answers: almonds, avocados, olives and olive oil, rapeseed oil and other sources of mono-unsaturated fats

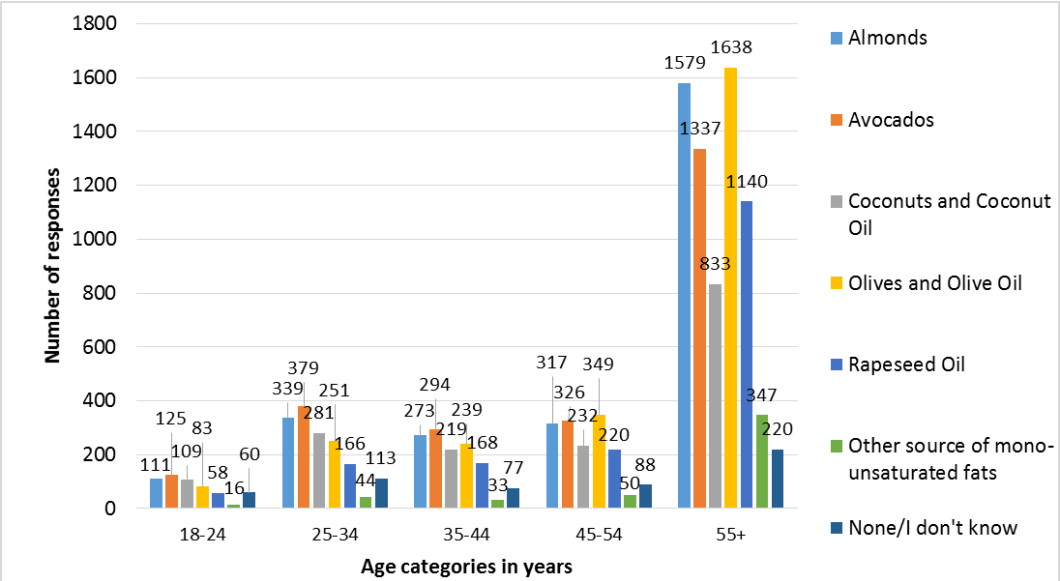
Q17: Responses

'Other sources' was included as an option to include other types of mono-unsaturated fats that were not listed as an option. Respondents were asked to tick all that applied. Coconuts and coconut oil was incorrectly identified by 14% in equal place with the correctly identified, rapeseed oil.



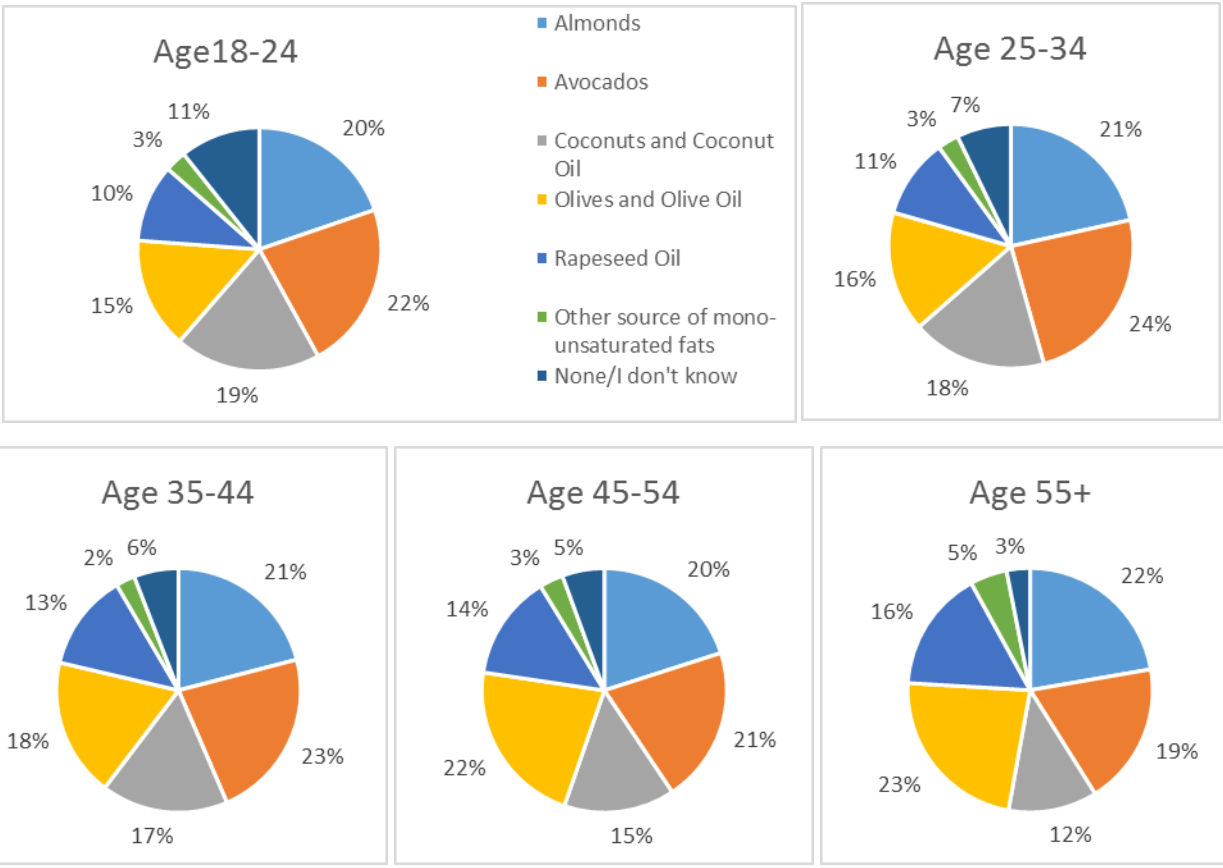
Q17: Responses by age

Coconuts and coconut oil accounted for a high proportion of responses across all age groups with age 18-24 years and 25-34 age groups incorrectly selecting it above olives and olive oil, rapeseed oil and other sources of mon-unsaturated fats.



Q17: Breakdown of responses by age

Which of the following is a good source of mono-unsaturated (good) fats: almonds, avocados, coconuts and coconut oil, olives and olive oil, rapeseed oil, other sources of mono-unsaturated fats, none/I don't know? - Correct answers: almonds, avocados, olives and olive oil, rapeseed oil and other sources of mono-unsaturated fats

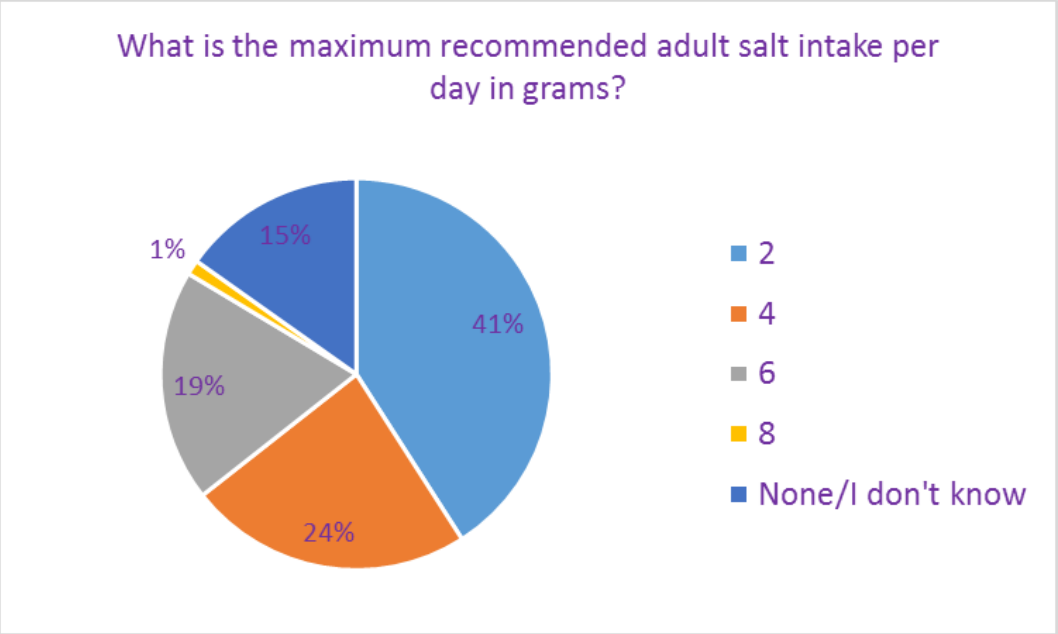


The majority of respondents across all age categories were correct in identifying almonds, avocados, olive and olive oil, rapeseed oils and some other sources of mono-unsaturated fats as good sources of mono-unsaturated fats. There was a decreasing incorrect response to coconuts and coconut oils with age that these were good sources of mono-unsaturated fats.

Q18: For adults, what do you think is the maximum recommended intake of salt per day: 2, 4, 6, 8, none/I don't know? Please select nearest match in grams. – Correct answer: 6 grams

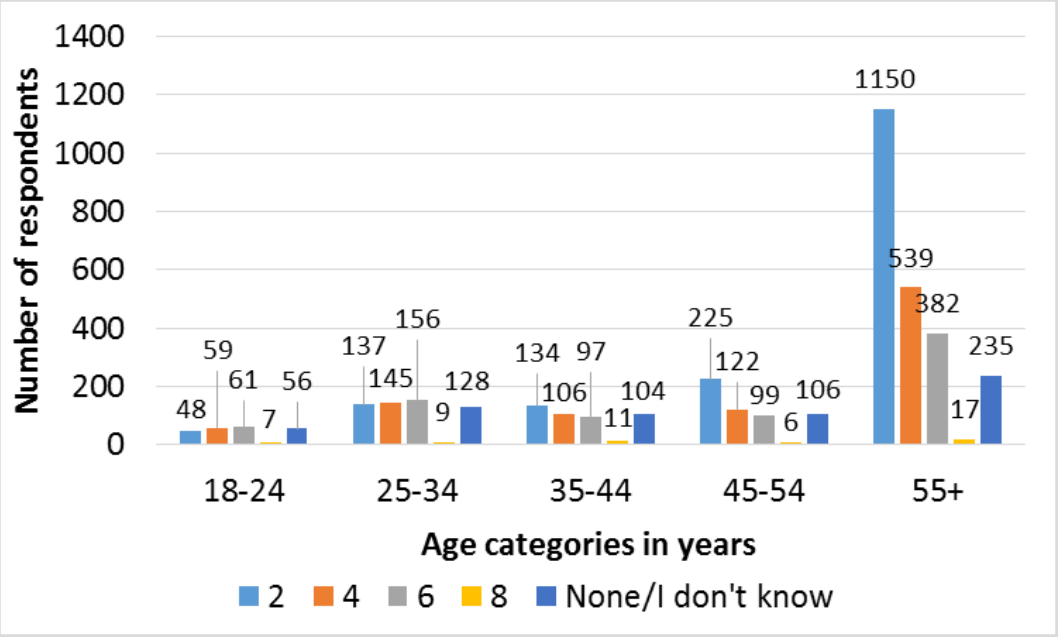
Q18: Responses

Over four in five (81%) of respondents were unaware that the maximum recommended adult intake of salt per day is 6 grams with more than two in five respondents, (41%) incorrectly answering 2 grams and a further 24% incorrectly believing the maximum recommended intake of salt per day to be below 4 grams.



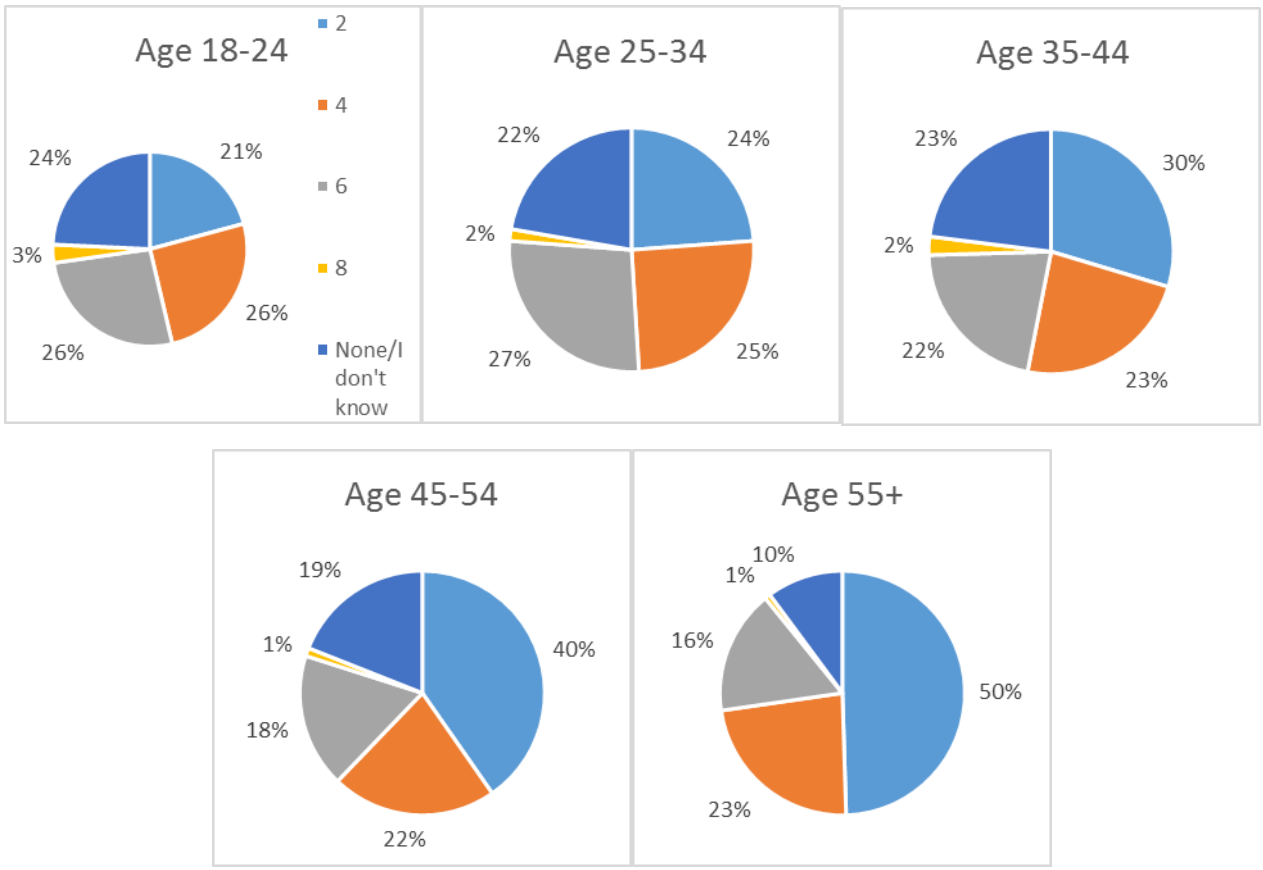
Q18: Responses by age

The highest proportion responded correctly in the lower age categories, age 18-24 years and age 25-34 years, with women in older age categories age 35-44, age 45-54 and age 55+ all choosing the lowest available option of 2 grams.



Q18: Breakdown of responses by age

For adults, what do you think is the maximum recommended intake of salt per day: 2, 4, 6, 8, none/I don't know? Please select nearest match in grams. – Correct answer: 6 grams



More than half of respondents age 35 and over incorrectly believed that the maximum recommended salt intake for adults was below the correct answer of 6 grams and almost half, (49%) of the age 25-34 category. Only in the age 25-34 category was 6grams, (27%) answered in preference to other responses with the same proportion of responses (26%) in the age 18-24 category for 4 grams and 6 grams.

Discussion

Our survey findings indicate that in general, the knowledge of heart health, its risk factors and common misconceptions increases with age. This was true for most questions except for Question 13: What do you believe a typically healthy Body Mass Index (BMI) to be, where the findings were reversed with younger age categories being most knowledgeable and knowledge decreasing as age increased. However, knowledge of the correct answer to Question 14: 'What do you think a woman's healthy waist circumference should not exceed?' paradoxically increased with age.

A pattern of increased or decreased knowledge with age was evident in all but four questions; Question 2: Do you believe the following statement to be true or false? Women with diabetes have a lower risk of coronary heart disease, there was a slight dip in knowledge among age 25-34 category. Similarly, Question 3: Do you think that after the menopause the risk of coronary heart disease in women is increased, decreased or the same? There was again a slight dip in knowledge among age 25-35 category. Question 15: What is the recommended weekly amount of physical activity for an adult in minutes, showed a slight peak in knowledge among age 25-34 age category. Question 19: For adults, what do you think is the maximum recommended intake of salt per day? Knowledge of adult maximum recommended salt intake per day decreased with age. The proportion of women who selected the lowest option and the combined lowest and second lowest options, both incorrect, increased with age.

More than 50% of women in all age categories participate in no more than 60 minutes of exercise each week with age 18-24category reporting the highest proportion of 62%.

Three questions related to women's personal health status and, given that adults age 40-74 years are invited to have an NHS health check every five years; Question 9: When was the last time you had your cholesterol checked? 13% and 34% in age 55+ and age 45-54 categories respectively, had never had their cholesterol levels checked with a further 58% in age 35-44 category. Question 10: Do you know what your cholesterol levels are? Almost one in two age 55+ and one in three age 45-54 categories were unaware of what their cholesterol levels were. This could be explained by women having had a cholesterol check but unable to recall their reading. Question 12: When did you last have your blood pressure checked? More than one in two women across all age categories had not had their blood pressure checked in the last six months. The proportion of women having had their blood pressure checked in the last six months increased with age except in the age 35-44 category, where there is a dip in the proportion of women having had their blood pressure checked. This finding is also replicated when we look at women having had a blood pressure check in the last 12 months.

Recommendations

Heart disease risk is an accumulation of genetic, clinical and lifestyle risk factors over a lifetime and whilst genetic risk cannot be controlled, women can both help to modify clinical risk factors and fully control lifestyle risk factors.

Women have several key transition opportunities that bring them in to contact with health professionals eg, when women seek contraception, when women undertake cervical screening, during or immediately after pregnancy and on other occasions when women attend clinics or visit their GP.

There is a need to raise awareness and educate women about lifestyle risk factors associated with coronary heart disease, such as those relating to physical activity and nutrition. It is recommended that Public Health England introduce policies that mobilise health practitioners to exploit opportunities at early contact touch-points across the lifespan, preferably before age 35. The NHS cervical screening programme, available to women aged 25 to 64 in England would present an ideal opportunity to be marketed as a well-woman check and promote a healthy lifestyle.

Limitations

The survey sample may not be representative of the average female population. Damart's customer base is aimed at women age 40+ which may explain the high proportion of respondents in the upper age 45-54 and 55+ categories.

The survey results did not undergo statistical testing, therefore no confidence levels or significance values are given. Findings can only be offered as an indicator of trends in understanding of CHD amongst the women surveyed.

Some questions refer to recommendations for healthy Caucasian adults, not accounting for cultural differences or co-morbidities.

"None/I don't know" multiple choice responses were asked. It is unclear whether respondents' answers refer to zero, eg grams of salt recommended, or an indication of not knowing.

It was known to participants that HRUK had complied the questions therefore some bias may be present in answers given.

The survey was carried out on-line giving respondents the opportunity to search for correct answers.

Conclusions

Public Health England could do more to promote heart-healthy lifestyles among women, in particular pre-menopausal women, to reduce their risk of coronary heart disease once protective hormones have declined by exploiting early opportunistic contact with women attending other health appointments.

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BHF Statistics (2017) **CVD Statistics – BHF UK Factsheet** available at; file:///C:/Users/vicki/Downloads/bhf-cvd-statistics---uk-factsheet%20(2).pdf [last accessed 6 July 2017)

BMJ Global health (2017) **Sex differences in coronary heart disease and stroke mortality: a global assessment of the effect of ageing between 1980 and 2010** available at; http://gh.bmj.com/content/2/2/e000298 [last accessed 6 July 2017)

NHS (2017) **NHS Health Check** available at; http://www.nhs.uk/Conditions/nhs-health-check/Pages/NHS-Health-Check.aspx [last accessed 6 July 2017)

World Health Organisation (2017) **Chronic diseases and health promotion** available at; http://www.who.int/chp/chronic_disease_report/part1/en/index11.html [last accessed 6 July 2017)

Appendix 1

1. Do you believe the following statement to be true or false? Coronary heart disease is more common in men

True
False
I don't know

2. Do you believe the following statement to be true or false? Women with diabetes have a lower risk of coronary heart disease

True
False
I don't know

3. Do you think that after the menopause the risk of coronary heart disease in women is

Increased
Decreased
I don't know

4. Do you believe the following statement to be true or false? Smoking increases the risk of coronary heart disease

True
False
I don't know

5. Which disease claims more women's lives?

Coronary Heart Disease
Breast Cancer
I don't know

6. Do you believe the following statement to be true or false? A high-fibre diet increases risk of heart disease

True
False
I don't know

7. Which of the following statements is true?

All the risk factors associated with coronary heart disease can be controlled through lifestyle changes
None of the factors associated with coronary heart disease can be controlled through lifestyle changes
Some of the risk factors associated with coronary heart disease can be controlled through lifestyle changes but not others
I don't know

8. What do you think a healthy total cholesterol is considered to be?

Below 5mmol/l
Below 7mmol/l
Below 9mmol/l
I don't know

9. When was the last time you had your cholesterol checked? Please select nearest match in months

0-6
7-12
13-18
19-24
25+
None/NA – I have never had my cholesterol checked

10. Do you know what your cholesterol levels are?

Yes
No

11. When did you last have your blood pressure checked? Please select nearest match in months

0-6
7-12
13-18
19-24
25+
None/NA – I have never had my blood pressure checked

12. What do you believe a typically healthy BMI to be?

Below 18.5
Between 18.5 and 24.9
Between 25 and 29.9
Above 30
None/I don't know

13. From the following options, which do you think a woman's healthy waist circumference should not exceed?

31.5 inches (80 cm)
34.5 inches (88 cm)
37.5 inches (95 cm)
39 inches (99 cm)
None/I don't know

14. On average, the recommended weekly amount of moderate physical activity for an adult in minutes is:

60
100
150
200
None/I don't know

15. How much moderate intensity (raises heart rate, feeling slightly warmer) exercise or physical activity do you typically do in an average week? Please select nearest match in minutes

0
1-30
31-60
61-90

91-120
121-150
151+

16. Which of the following do you think counts as oily fish (rich in omega-3 fatty acids)? (Select all that apply)

Tinned Salmon
Fresh or Frozen Tuna
Fresh or Frozen Cod
Tinned Tuna
Fresh or Frozen Sardines
Fresh or Frozen Haddock
Other Fish
None/NA/I don't know

17. Which of the following is a good source of mono-unsaturated fats (good fats)? (Select all that apply)

Almonds
Avocados
Coconuts and Coconut Oil
Olives and Olive Oil
Rapeseed Oil
Other source of mono-unsaturated fats
None/I don't know

18. For adults, what do you think is the maximum recommended intake of salt per day? Please select nearest match in grams

2
4
6
8
None/I don't know