PUBLIC KNOWLEDGE OF THE LINK BETWEEN OBESITY AND CANCER

SEPTEMBER 2016

CANCER RESEARCH UK

REFERENCE

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CANCER RESEARCH UK

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http://www.cancerresearchuk.org/

FOREWORD

I am pleased to introduce this report assessing public knowledge of health conditions associated with overweight and obesity, particularly exploring levels of cancer awareness among the UK population.

Cancer is linked to a range of lifestyle factors, but after smoking, overweight and obesity make the largest contribution to the incidence of cancer in the population and are associated with over 18,000 cancer cases in the UK each year. Being obese or overweight is a risk factor for up to ten types of cancers including those affecting the breast, bowel and oesophagus.

In 2014, 62% of adults in England were overweight, with 26% classified as obese. If trends continue as they are 45% of those in the lowest socioeconomic group and 37% of those in the highest socioeconomic group will be obese by 2035. This will also lead to an estimated 670,000 further cancer cases over the next 20 years.

This report found that only 1 in 4 people in the population are aware of the link between obesity and cancer. Even more worrying is the fact that those living with socio-economic disadvantage are much less likely to be aware of the link than the better off in society.

The Government's recent publication, 'Childhood obesity: a plan for action' has been widely criticised as an inadequate response to one of the UK's most pressing public health problems. Obesity is a complex issue and a multi-faceted approach is needed, including, as this report demonstrates, a need to raise public awareness of obesity as a risk factor for cancer.

It is also vital that gaps in awareness between the highest and lowest social grades are addressed. Public health interventions should combine targeted and tailored messages with broader population-wide approaches to address these social inequalities.

This report was carried out by the Policy Research Centre for Cancer Prevention. The Centre is part of Cancer Research UK's commitment to produce high quality research, building the evidence base to inform policy development on topics relevant to cancer prevention, including obesity.

Professor Frank Kee
Director of the UKCRC Centre of Excellence for Public Health Research (Northern Ireland) and Member of the International Advisory Board for the Cancer Research UK/Bupa Foundation Cancer Prevention Initiative

ACRONYMS

BMI	Body mass index
CAM	Cancer awareness measure
DALYS	Disability-adjusted life-years
NAEDI	National awareness and early diagnosis initiative
NRS	National readership survey
PRCP	Policy Research Centre for Cancer Prevention
HSE	Health Survey for England

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CONTENTS

EXECUTIVE SUMMARY

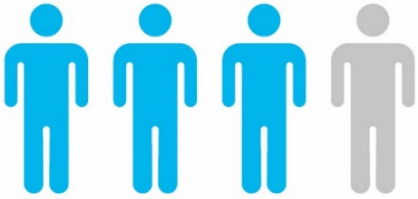
Being overweight and obese is the single biggest preventable cause of cancer after smoking and is estimated to cause 18,100 cancer cases each year in the UK.(1) If current trends of overweight and obesity continued, it will lead to a further 670,000 cancer cases over the next 20 years.(2)

There is considerable evidence to show that being overweight or obese is linked to 10 types of cancers, including two of the most common, breast and bowel, and two of the hardest to treat, pancreatic and oesophageal. However little is known about public awareness of this association.

THREE IN FOUR PEOPLE ARE UNAWARE OF THE LINK BETWEEN OBESITY AND CANCER

AWARENESS OF CANCER LINKED TO OVERWEIGHT AND OBESITY

Around 3 in 4 people did not think cancer could result from being overweight or obese.*



*When asked "Which, if any, health conditions do you think can result from being obese/overweight?"

METHODS

This study was carried out by the Policy Research Centre for Cancer Prevention (PRCP), Cancer Research UK.

The aim was to explore awareness of obesity and health risks, particularly of cancer, factors which influence this. A sample of 3,293 members of the general population completed the online survey.

KEY FINDINGS

- Three in four (75%) were unaware of the link between obesity and cancer when asked an unprompted question.
- Those from the highest social grade* were approximately 50% more likely to mention cancer as being linked to obesity than those from the lowest social grade.

* Social grades are based on the National Readership Survey (NRS) system and use income and profession to group respondents into four grades (from highest to lowest): AB, C1, C2, DE.

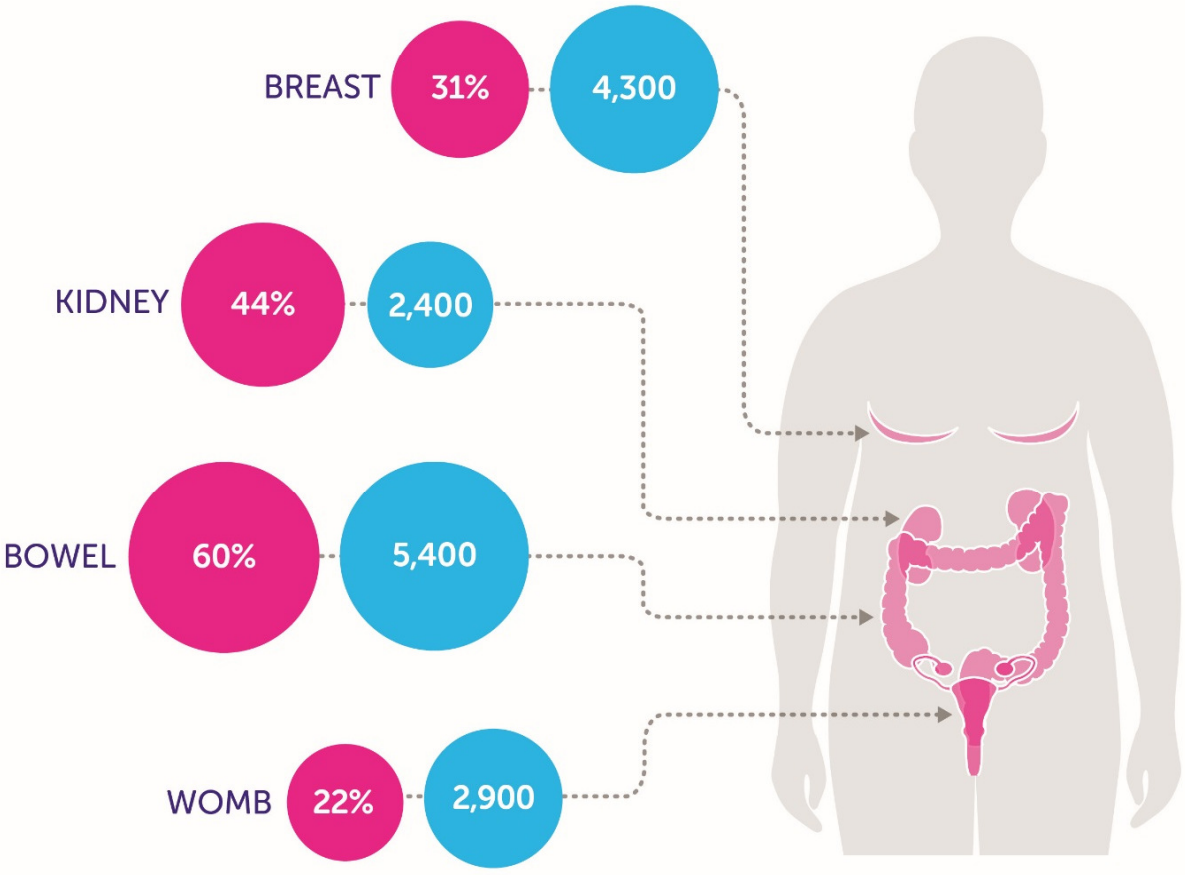
- Men were less likely to list cancer as a health risk than women.
- When asked a prompted question only 58% of the public selected cancer as a condition linked to overweight or obese, where as 94% selected diabetes.
- The public were most aware of cancers relating to organs that are used as part of the digestive system, such as the bowel, liver and pancreas.
- There were poor levels of awareness for other cancer types as being linked to obesity, such as advanced prostate and ovarian cancer.

This study has shown that cancer is not at the forefront of people's minds when thinking about health conditions linked to obesity. Those from the lowest social grade have the lowest levels of cancer awareness, demonstrating the need to increase access to health information across the UK

AWARENESS OF FOUR CANCER TYPES LINKED TO OVERWEIGHT AND OBESITY

% who correctly thought being overweight or obese increased the risk of the following cancers

Number of cases caused by being overweight or obese in the UK each year



POLICY AND PUBLIC HEALTH IMPLICATIONS

Tackling obesity is an integral part of cancer prevention strategies. While obesity is a complex health condition influenced by a range of factors,(3) there remains much that Government can do.

In August 2016 the Government published *Childhood obesity: a plan for action.(4)* While the plan included a levy on the production of sugar-sweetened beverages, it did not address all the factors that contribute to the obesogenic environment. In particular, the exclusion of measures to reduce children's exposure to junk food marketing means that the strategy is at best "partial".

An effective childhood obesity strategy should include:

- Restrictions to the marketing of unhealthy foods
- Fiscal measures
- Reformulation of processed foods

Government has a responsibility to raise awareness of the links between overweight and obesity and health conditions, such as cancer among both the public and healthcare workers.

The concerning low levels of cancer awareness and particularly the gap in levels of knowledge between the highest and lowest social grade is of direct relevance to healthcare professionals, particularly those involved in designing interventions targeted at addressing the issues highlighted in this report.

This also demonstrates the need for:

- Tailored and targeted interventions
- Population-level interventions that will help support people to make positive changes.(5)

INTRODUCTION

BACKGROUND

Being overweight or obese is the single biggest preventable cause of cancer after smoking and is linked to 18,100 cases of cancer each year in the UK, which is approximately 5% of all cancer cases.(1) Overweight and obesity can cause up to ten types of cancer(6) (Figure 1), with the largest number of weight-linked cases in the UK being breast, bowel and womb.(1) In addition to cancer, evidence also shows obesity to be a risk factor for diabetes, coronary heart disease, stroke and other health conditions.(7) Globally in 2010 obesity and overweight were estimated to be responsible for 3.4 million deaths, 3.9% of years of life lost and 3.8% of disability-adjusted life-years (DALYs).(8)

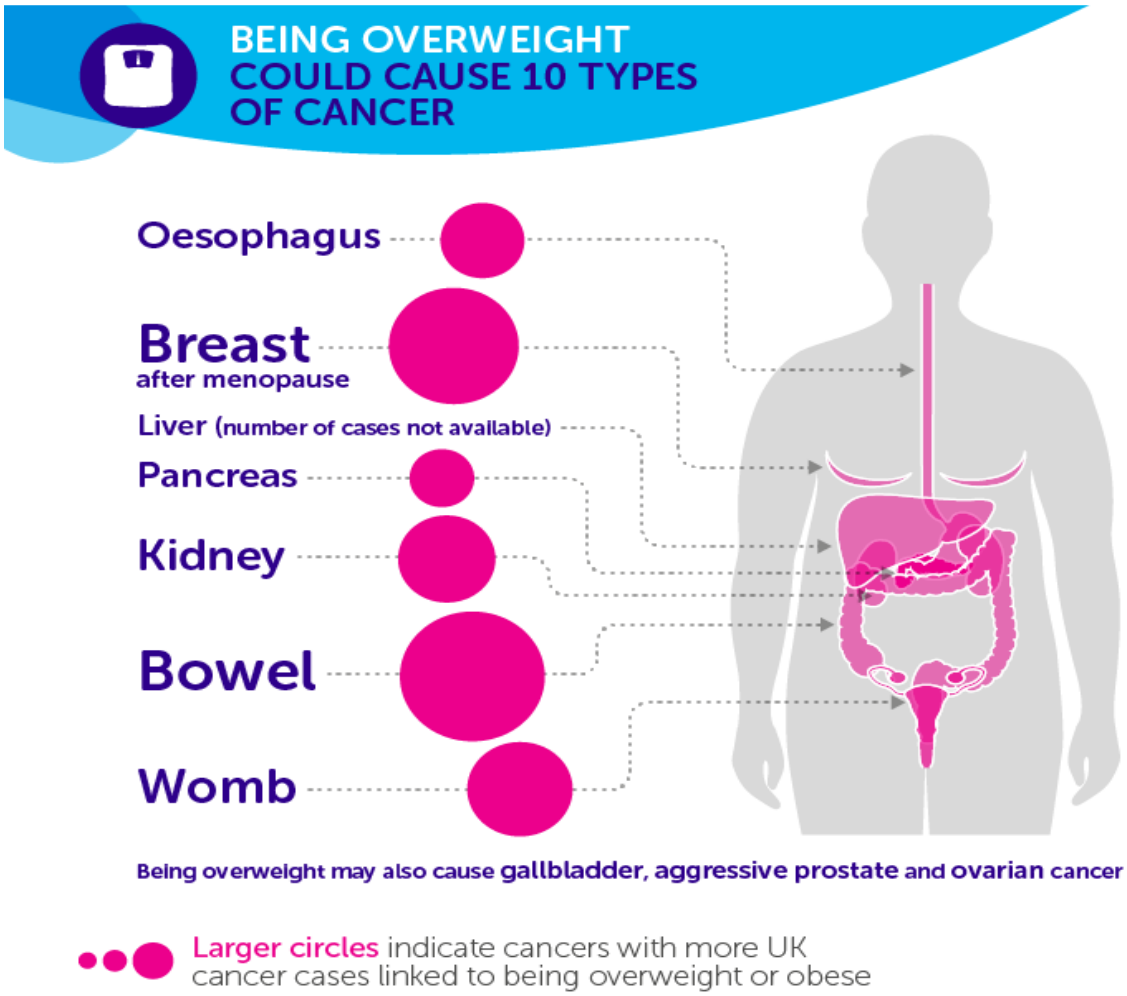


FIGURE 1 CANCERS CAUSED BY OVERWEIGHT AND OBESITY

In 2014, 61.7% of adults in England were overweight or obese, with 25.6% classified as obese.(9) A recent modelling study (2015) carried out by Cancer Research UK and the UK Health Forum estimated that if current trends of overweight and obesity continued, it will lead to a further 670,000 cancer cases over the next 20 years.(2) Furthermore, these obesity levels are disproportionally affecting people of a lower social grade with 45% of people in the lowest income quintile predicted to be obese by 2035 as compared to 37% in the highest quintile.(2)

In order to combat the rising impact of obesity on the health of the nation, a multi-faceted approach is needed. There have been a number of reports reviewing the evidence for different policy interventions to address the problem of obesity.(10-12) All conclude that it is a complex, systemic issue with no 'silver bullet', but instead a wide-ranging programme of action is required that incorporates approaches used in tobacco control including fiscal measures (e.g pricing policy) food advertising (restrictions on marketing and promotions, and reformulation amongst many other policy measures. In August 2016, the UK Government published a plan aimed specifically at tackling childhood obesity, *Childhood obesity: a plan for action*(4). Having previously promised a "game-changing strategy", the Government's plan is at best "partial", with the striking omission of any reference to tackling the influence of junk food marketing. By failing to take a comprehensive approach to the causes of the obesity epidemic, the government has missed an opportunity to make a substantial difference to the lives of Britain's children.

There is limited recent data exploring the extent of the public's knowledge of the link between obesity and cancer. The Cancer Awareness Measure (CAM) survey conducted in 2014 found only 11% of the UK population could recall that being overweight affects a person's chance of developing cancer as opposed to 80% for smoking.(13) However there is no information on awareness in the UK levels since the recent widespread media coverage of the announcement of Government policies such as the soft drink industry levy.

Cancer Research UK is actively finding ways to help people make healthier choices and reduce their cancer risk and already run several initiatives such as the National Awareness and Early Diagnosis Initiative (NAEDI), the Cancer Awareness Roadshow and Be Clear on Cancer Campaigns. A cross-sectional study was undertaken to explore both knowledge of obesity and cancer risk, and the key factors associated with them. This report is the first in a series of three looking at obesity, health knowledge, cancer awareness and the factors that influence these in the UK population.

AIM AND OBJECTIVES

To measure public awareness of the link between obesity and cancer in the UK adult population and explore the factors that influence health knowledge.

A UK-wide survey was carried out to:

- Investigate public knowledge of health conditions linked to overweight and obesity, particularly cancer
- Explore what socio-demographic factors are associated with obesity and cancer awareness
- Describe levels of cancer awareness across the different regions in the UK.

METHODS

SURVEY DEVELOPMENT

The survey tool was based on the questions from an alcohol awareness study conducted by the University of Sheffield and Cancer Research UK and reported in Buykx et al., 2015.(14) Additional items were incorporated from other survey tools(14-18) and adapted where necessary to be relevant to obesity (Appendix 1). Where no existing tools could be found, questions were developed in consultation with colleagues working on obesity policy development in Scotland and tested with the Policy and Information Patient Sounding Board, Cancer Research UK and the Scottish Obesity Network. The survey was designed to be self-administered and completed online. Survey domains can be broken down into:

DEMOGRAPHIC INFORMATION

The market research company who conducted the survey (YouGov) holds demographic information regarding respondents' gender, age, education, geographical location, and household income. YouGov used the National Readership Survey (NRS) system to group the respondents into four social grades: AB, C1, D2, and DE. These classifications are based on income and profession. The highest social grade is group A and the lowest is E. The two highest and two lowest social grades have been grouped together to form AB and DE respectively and C1 and C2 refer to the two middle social grades.

BMI

YouGov hold data on height and therefore respondents were asked to self-report only their weight. Options to answer in kilograms or pounds were provided with a "prefer not to say" option.

CURRENT TOBACCO USE

Respondents were asked their smoking status.(18)

KNOWLEDGE OF HEALTH CONDITIONS LINKED TO OBESITY/ OVERWEIGHT

Respondents were asked to answer in a free text box (unprompted) which health conditions could result from being overweight or obese(14, 15) and then in a separate question asked to select from a list of seven health conditions those they thought were linked to being obese, two of which are not linked to obesity. All respondents were shown a list of 13 types of cancers and asked whether or not these could be caused by obesity, two cancers included (cervical and stomach) do not have strong known associations with obesity.

STAKEHOLDER ENGAGEMENT

The first draft of the survey was developed with guidance from internal teams at Cancer Research UK and Professor Annie Anderson, Professor of Public Health Nutrition, University of Dundee. The Scottish Cancer Prevention Network as well as colleagues working on obesity policy development in Scotland and the Cancer Research UK Policy and Information Patient Sounding Board provided feedback on the questions (e.g clarity, content and style of questions). The questions were refined according to feedback received and a final draft of the survey was agreed with the project team and Professor Annie Anderson.

PILOTING

Prior to launching the survey YouGov pilot tested the survey with 85 people. This showed a low rate of drop outs across all domains and that there were no specific points at which this was occurring. It also showed an average completion time of 14 minutes and that no further amendments were required.

SAMPLING/ RECRUITMENT

Data collection took place 24th February – 8th March 2016 with a sample of 3,293 adults (aged 18+) representative of the UK population (England, Wales Scotland and Northern Ireland) based on age, gender, region and education. Booster samples of 500 were applied in each of the devolved nations.

For quota sampling by region, the following categories were used: England (North East, North West, Yorkshire and the Humber, East Midlands, West Midlands, East of England, London, South East, South West), Wales, Scotland and Northern Ireland.

Members of the YouGov panel were invited to complete the online survey and automated sampling was applied to ensure the quotas for each region were met.

ANALYSIS

Data were analysed using IBM SPSS version 23.

SOCIO-DEMOGRAPHICS

Weights were applied to social grade, region and age interlocked with gender. BMI was self-reported and calculated for each respondent: BMI = weight (kg) / (height (m))^2.

CANCER AWARENESS

Answers provided in the free text field (on which health conditions could arise from being overweight or obese) were coded into two variables, 1 if cancer was mentioned and 0 if it was not. The unprompted question was used to find out to what degree cancer was at the forefront of people's minds when thinking about health conditions linked to being overweight and obese.

Univariable logistic regression models were run to examine the relationship between unprompted awareness of the link between obesity and cancer and socio-demographic factors (as well as BMI) (not reported). Factors that were significantly ($p<0.05$) associated with awareness of the link between obesity and cancer at a univariate level were then entered into a multivariable logistic regression, with step-wise elimination of non-significant variables.

The proportion of respondents who identified (for the prompted question) that cancer was linked to obesity was calculated. Gender differences in awareness of the link between each cancer type and obesity were assessed using chi square tests.

Results using weighted data are presented, unless specified.

ETHICAL CONSIDERATIONS

Ethical guidance followed by YouGov was adhered to during this study. At the start of the survey a consent to proceed box was provided which included reassurance about confidentiality, anonymity and the use of the data. Sources of further information and helplines were provided at the end of the survey.

RESULTS

KEY SOCIO-DEMOGRAPHICS

A nationally representative sample (n=3,293) of adults in England, Wales, Scotland and Northern Ireland was obtained and weighted analysis applied to social grade, region and age was interlocked with gender (Table 1). The largest proportion of respondents (40%) were of normal weight (BMI: 18.5 – 25) based on self-reported weight and height. Those in the overweight (BMI: 25 – 30) group comprised 29% of the sample and 20% were obese (BMI: 30+). It is worth noting that 9% of the sample did not provide their weight. The majority (53%) of respondents reported that they had never smoked. Only 11% of the sample smoked daily and 4% smoked occasionally (although not every day).

TABLE 1 SOCIO-DEMOGRAPHIC CHARACTERISTICS

	N = 3293	
	Unweighted Sample N (%)	Weighted Sample N (%)
Gender		
Male	1580 (48)	1604 (48.7)
Female	1713 (52)	1689 (51.3)
Age		
18-39	1006 (30.5)	1202 (36.5)
40 - 59	1274 (38.7)	1126 (34.2)
60+	1013 (30.8)	965 (29.3)
Region of Residence		
North East	89 (2.7)	135 (4.1)
North West	234 (7.1)	362 (11)
Yorkshire & the Humber	173 (5.3)	273 (8.3)
East Midlands	145 (4.4)	237 (7.2)
West Midlands	179 (5.4)	290 (8.8)
East of England	206 (6.3)	306 (9.3)
London	272 (8.3)	428 (13)
South East	294 (8.9)	451 (13.7)

South West	181 (5.5)	280 (8.5)
Wales	503 (15.3)	158 (4.8)
Scotland	513 (15.6)	280 (8.5)
Northern Ireland	504 (15.3)	92 (2.8)
Social grade		
AB – Higher & intermediate managerial, administrative, professional occupations	913 (27.7)	724 (22)
C1 – Supervisory, clerical & junior managerial, administrative, professional occupations	1037 (31.5)	988 (30)
C2 – Skilled manual occupations	538 (16.3)	494 (15)
DE – Semi-skilled & unskilled manual occupations, Unemployed and lowest grade occupations	805 (24.4)	1087 (33)
BMI		
Underweight	75 (2.3)	85 (2.6)
Normal Weight	1244 (37.8)	1327 (40.3)
Overweight	1015 (30.8)	944 (28.7)
Obese	700 (21.3)	648 (19.7)
Not calculated	259 (7.9)	290 (8.8)
Smoking Status		
Never smoked	1676 (50.9)	1754 (53.3)
Used to smoke	1132 (34.4)	1057 (32.1)
Smoke but not daily	117 (3.6)	134 (4.1)
Smoke daily	368 (11.2)	348 (10.6)

KNOWLEDGE OF THE LINK BETWEEN OBESITY AND CANCER

UNPROMPTED AWARENESS

Cancer was not at the forefront of people's minds when thinking about health conditions that are linked to overweight and obesity. Only one in four (25%) listed cancer when asked the unprompted question, 'Which, if any, health conditions do you think can result from being obese/ overweight?'

FIGURE 2 KNOWLEDGE OF THE LINK BETWEEN OBESITY AND CANCER

People from the highest social grade were around 50% more likely to list cancer as a health condition linked to overweight and obesity than those from the lowest social grade (30% vs 22% $p<0.001$) (Appendix 1).

Males compared to females were also less likely to list cancer as a risk than females (24% vs. females_27% $p=0.017$).

PROMPTED AWARENESS

When prompted there was a high level of awareness for obesity being linked to other diseases such as diabetes, heart disease and stroke (94%, 92% and 75% respectively). In comparison, only 58% selected cancer which was the second least selected correct answer after arthritis.

The two health conditions (shingles and flu) not linked to obesity were least selected by the public (Figure 3).

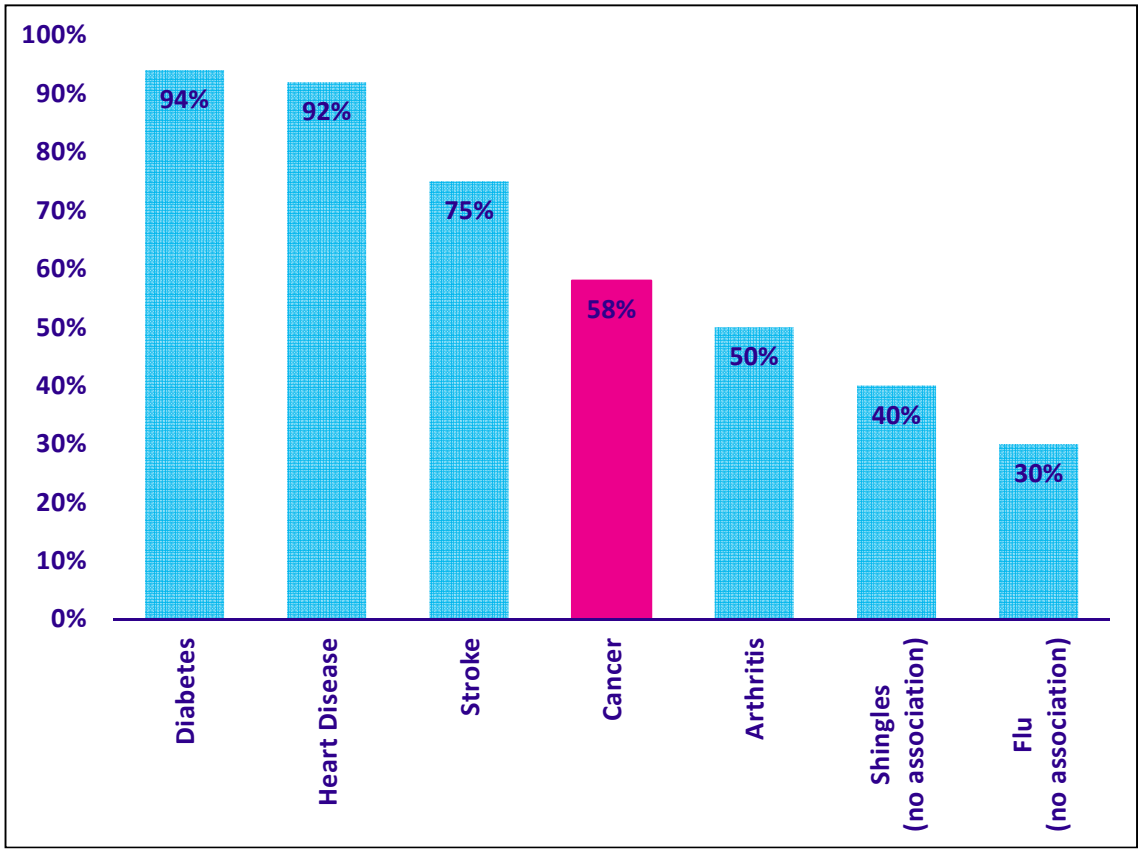


FIGURE 3 PROPORTION WHO BELIEVE HEALTH CONDITION CAN RESULT FROM OVERWEIGHT/OBESITY

AWARENESS OF CANCER TYPES ASSOCIATED WITH OBESITY

Awareness of the association between obesity and cancer was highest for cancers of organs in the digestive system, such as the bowel, liver and pancreas. Cancers not linked to the digestive system, such as breast and advanced prostate cancers were least associated as a risk resulting from obesity (Figure 4).

Women and men were more aware of cancers associated to their own gender, such as breast for women, and advanced prostate for men. In general men had greater knowledge of cancer types linked to overweight and obesity than women (Appendix 2).

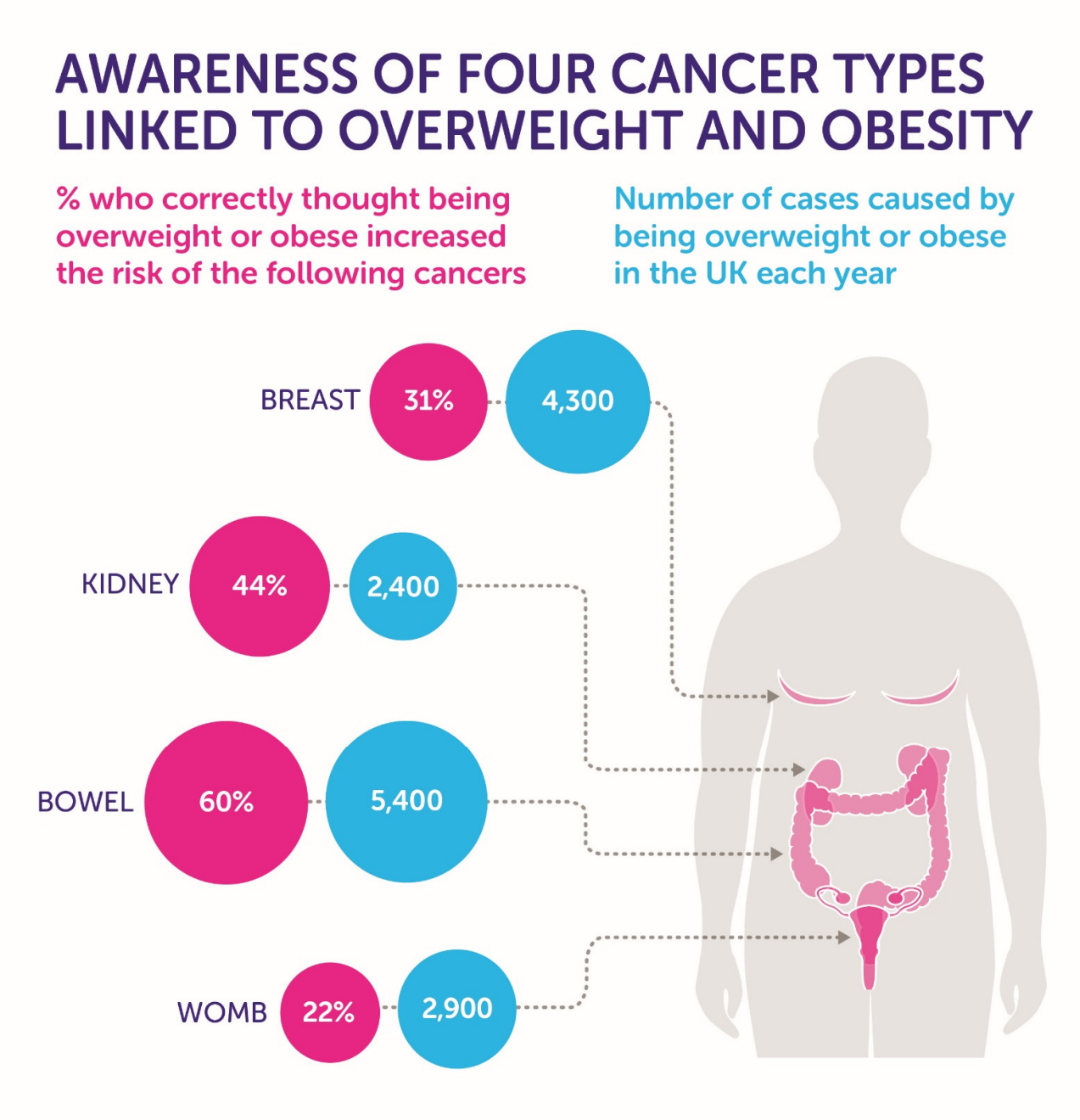


FIGURE 4 PROPORTION WHO BELIEVE RISK OF SPECIFIC CANCER TYPE IS INCREASED BY OVERWEIGHT/OBESITY

DISCUSSION

This study shows that there are low levels of awareness of a link between obesity and cancer amongst the general public. There are, however, high levels of awareness of a link between obesity and other health conditions such as diabetes, heart disease and stroke. In other words cancer is not at the forefront of public minds when thinking about the health risks associated with obesity.

OBESITY AND CANCER AWARENESS

Three in four people (75%) did not list cancer (unprompted) as a health condition that could result from being overweight or obese. Even when prompted, only 58% selected cancer, the second lowest correct response after arthritis. In contrast, 94% of the population selected diabetes as a risk. When comparing these results to the awareness of other risk factors it has been found that unprompted awareness of alcohol and cancer was even lower at only 13%,(14) whereas smoking awareness studies have found a greater than 80% recall of smoking as a risk factor for cancer.(13) This work therefore emphasises the fact that the general population do not immediately associate an increased risk of cancer with being overweight or obese.

The results have shown that there is widespread public uncertainty around which cancer types are linked to obesity. When asked about specific cancer types, the participants linked obesity-related cancers to the digestive system, but not to other cancers, such as the reproductive organs. For example, six in 10 (60%) people were aware that bowel cancer is linked to obesity, however, approximately two in 10 (22%) thought ovarian cancer could be caused by obesity. Additionally, only three in 10 (31%) associated breast cancer with obesity which has the second largest number of cancer cases after bowel cancer.(1) This was also found in in Buykx et al., 2015 where the majority of participants linked alcohol to liver cancer, but very few linked breast cancer to alcohol.(14)

CANCER AWARENESS AND SOCIAL GRADE

Although awareness of the link between obesity and cancer was generally low, the data shows a wide variation in cancer awareness between the highest and lowest social grades, with the highest social grade around 50% more likely to mention cancer as being linked to obesity than the lowest social grade. This indicates that those from the lowest social grades are experiencing barriers to accessing health knowledge and more effort needs to be invested to reduce these. Additionally, health campaigns and other interventions must be targeted to address these gaps in social inequalities.

Furthermore, an increase in years of life lost has been observed in lower social grades than higher social grades for behavioural attributable cancer types(19) and Vohra et al., 2015 have also highlighted the link between childhood social grade and increased cancer cases in adulthood.(20) It is therefore essential to address health and social inequalities when trying to reduce the levels of cancer morbidity and mortality, especially among those from more disadvantaged groups who already experience more ill health and worse health outcomes.(21)

STRENGTHS AND LIMITATIONS

This study provides comprehensive and up-to-date evidence on current levels of awareness of the link between obesity and cancer risk in the UK. Care was taken to ensure the sample was nationally representative of the United Kingdom population in terms of age, sex, region of residence and social grade. The levels of obesity, as calculated by self-reported BMI, are lower than that seen in the latest Health Survey for England (HSE) data (20% vs. 26%), although this could be due to nearly one in 10 participants not providing their weight.(9) The figures for smoking are also slightly lower than national averages,(22) which could be attributed to the sampling and methodology used in the study.

There are limitations associated with cross-sectional surveys and it is possible that people who are willing to participate in an online survey differ from the general population in ways that were not captured in this study. Furthermore, this survey used primarily yes/no/don't know response options which did not provide the opportunity to explore the reasons for participant's answers or the meaning they attributed to the questions.

FURTHER WORK

This report marks the first in a series of three reports exploring obesity, health knowledge, cancer awareness and the factors that influence these. Further work will be undertaken to investigate the link between cancer awareness and public support of policies relevant to obesity. A study in Australia has found that greater awareness of alcohol and cancer risk was associated with an increase in support of alcohol policies,(15) and this will be explored for obesity within this dataset. Following this, consumption behaviours and guideline knowledge will also be investigated.

The data presented here clearly demonstrates the need for more to be done to inform the public of the links between obesity and cancer, in particular targeting those in the lower social grades. Being overweight or obese is the single biggest preventable cause of cancer after smoking, and if no action is taken the number of cancer cases associated with obesity will continue to rise. There is no single approach that can be taken to tackle the increasing rates of obesity and a comprehensive package of evidence-based measures is required to make inroads into this growing problem. The current plan from Government to reduce childhood obesity falls short of a comprehensive strategy. Further action is needed in areas such as marketing of unhealthy food products if significant progress in reducing childhood obesity is to be achieved. Alongside this the public must be made aware of and well-informed about the health risks associated with obesity, particularly cancer, in order for them to be open to making positive changes.

APPENDICES

APPENDIX 1 UNPROMPTED CANCER AWARENESS

Gender (n=3293)	n (% aware)	OR (95%)	P Value
men (n=1604)	382 (23.8)	1	
women (n=1690)	455 (26.9)	1.212 (1.035 - 1.421)	0.017
Social Grade(n=3293)			
AB (n=724)	218 (30.1)	1	
C1 (n=988)	285 (28.8)	0.939 (0.761 - 1.159)	0.559
C2 (n=494)	95 (19.2)	0.546 (0.415 - 0.719)	0.001
DE (n=1087)	239 (22.0)	0.645 (0.521 - 0.799)	0.001

APPENDIX 2 AWARENESS OF CANCER TYPE BY GENDER

Cancer Type	**Total n=3293 (%) correct**	**Male n = 1604 (%) correct**	**Female n = 1689 (%) correct**	**P Value**
Bowel	1977 (60.1)	966 (60.3)	1011 (59.9)	0.813
Stomach (no strong evidence)	150 (4.6)	58 (3.6)	92 (5.4)	0.012
Liver	1817 (55.2)	896 (55.9)	921 (54.5)	0.443
Pancreatic	1577 (47.30)	773 (48.2)	784 (46.4)	0.308
Kidney	1458 (44.3)	748 (46.6)	710 (42)	0.008
Gall Bladder	1361 (41.3)	596 (37.2)	765 (34.3)	<0.001
Bladder	1068 (32.4)	575 (35.9)	493 (29.2)	<0.001
Oesophageal	1028 (31.2)	489 (30.5)	539 (31.9)	0.384
Breast	1025 (31.1)	451 (28.1)	574 (34)	<0.001
Advanced prostate	905 (27.5)	492 (30.7)	413 (24.8)	<0.001
Womb	709 (21.5)	340 (21.2)	369 (21.8)	0.663
Ovarian	724 (22)	349 (21.8)	375 (22.2)	0.765
Cervical (no strong evidence)	743 (22.6)	291 (18.2)	452 (26.7)	<0.001

APPENDIX 3 SOURCE OF SURVEY QUESTIONS

Question	Source	Additional notes
Cancer Awareness		
12, 13, 14	CCNSW survey reported in Buykx et al (14, 15)	Shingles and flu were added to check the discriminant validity of questions
15	Cancer Awareness Measure (CAM) (16)	A similar prefix to the CAM was used. Multiple choice options were amended to include cervical and stomach cancer to check the discriminant validity of questions
BMI		
16	Devised by YouGov for this survey	
Smoking		
20 - Question Stem	CCNSW* survey , reported in Buykx et al.(14, 15); NDSHS** (17)	
20 - Question options	Smokefree Britain Survey 2015, ASH***(18)	

* CCNSW survey = Community Survey on Cancer Prevention conducted by the Cancer Council New South Wales 2013

** NDSHS = Australian National Drug Strategy Household Survey, 2011

*** ASH = Action on Smoking and Health

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