

Understanding what the public know about their kidneys and what they do

Findings from Ipsos MORI survey – July 2014

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1. Background

Acute kidney injury (AKI), previously known as acute renal failure, is an emerging global healthcare challenge. It is characterised by a sudden decline in kidney function and is rarely caused by physical injury or trauma to the kidneys. Acute kidney injury can occur without symptoms and is detected through a routine blood test. It has many different causes and usually occurs alongside other serious illnesses such as infection or dehydration and is common in patients in hospital. In some cases, certain medications can also affect the kidneys adversely and this can lead to acute kidney injury or add to the severity of acute kidney injury. Acute kidney injury is linked to an increased risk of death or prolonged illness as toxins and fluid collect in the body.

There is a complex link between long term medical conditions (for example diabetes, heart disease, cancer) medication and acute illness which can be further complicated by acute kidney injury. It is estimated that one in five emergency admissions into hospital are associated with acute kidney injury (Wang et al, 2012). Up to 100,000 deaths in hospitals are associated with acute kidney injury and a quarter to a third could potentially be prevented (National Confidential Enquiry into Patient Outcome and Death (NCEPOD) Adding Insult to Injury 2009).

This is not just an issue just for kidney specialists. Kidney doctors and those working in intensive care may look after the most severe cases, but the majority of cases arise and are managed in the community or across all specialities within hospitals (Selby et al, 2012).

The National Institute for Health and Care Effectiveness (NICE) acute kidney injury guidance (published August 2013) highlights that older people with complex health issues and associated illnesses are most at risk. The complication of acute kidney injury to ongoing illness prolongs hospital stays and increases mortality even when the severity of acute kidney injury seems mild. The long term outcomes of acute kidney injury are especially poor for people in this situation. The financial burden upon the NHS is large. NHS Kidney Care estimated that the cost to the NHS per annum is £500 million.

'Think Kidneys' is a national programme led by NHS England in partnership with the UK Renal Registry. The main aim of the Programme is to ensure avoidable harm related to acute kidney injury is prevented in all healthcare settings.

2. Introduction

As part of the work to develop the communications strategy for the Think Kidneys programme a survey was commissioned from Ipsos MORI. The aim of the survey was to give us an understanding of the level of knowledge amongst the general public about their kidneys and what they do. The survey would also provide us with a baseline of information against which we can potentially measure the impact of the programme and, more specifically, any public campaign delivered during the later phase of the programme.

3. The Survey

The survey was carried out between Friday 4 and Monday 14 July 2014. 2,005 residents of Great Britain aged 15+ were questioned in their homes, using a computer assisted system. Participants were asked a series of questions as part of a larger omnibus survey. Included in the survey were multiple choice questions about their knowledge of human kidneys. The resulting data were weighted to known population figures for age, gender, region, socio-economic grade, household tenure, ethnicity and working status.

4. The Questions

Four questions relating to human kidneys and their function were included in the survey. These questions were:

A) Which, if any of the following things do you think your kidneys do?

Please select all that apply

1. Make urine
2. Remove excess fluid from the body
3. Control the body's chemical balance
4. Remove waste
5. Help control blood pressure
6. Help keep bones healthy
7. Help to make red blood cells
8. Control the body's temperature
9. Pump fluid/blood around the body
10. Process medicines
11. Other (specify)

B) Which if any of the following do you think are the biggest dangers to the health of your kidneys?

1. Drinking too much alcohol
2. Dehydration
3. Receiving a physical blow (such as a punch or a kick) to the kidneys
4. Certain ingredients in some medicines
5. Having a diet that is low in vitamins and minerals
6. High cholesterol levels
7. High blood pressure
8. Lack of exercise
9. Not keeping your kidneys warm
10. Eating too much of certain vegetables (such as asparagus or beetroot)
11. Smoking

12. Diabetes
13. Too much salt

C) Have you heard the term “Acute Kidney Injury” before today or not?

1. I have definitely heard of it
2. I think I have heard of it
3. No, I have not heard of it
4. Don’t know

D) Which one, if any of the following, do you think best describes Acute Kidney Injury?

1. Sudden damage to the kidneys that causes them to stop working properly as a complication of another serious illness or dehydration
2. Sudden damage to the kidneys that causes them to stop working properly as the result of a physical blow to the kidneys
3. Damage to the kidneys that happens over time as a result of alcohol abuse
4. Damage to the kidneys that happens over time as a result of poor diet or lack of physical exercise
5. Other [specify]
6. Don’t know

5. The Findings

5.1. Headline findings

- As a massive generalisation, people don’t have a comprehensive understanding of what their kidneys do, how to keep them healthy, or what acute kidney injury is
- Just about half of the population in Great Britain don’t think their kidneys make urine, and you’re more likely to know this if you are older
- Very few people know that kidneys help in the processing of medicines. Only an eighth (12%) of interviewees thought their kidneys had a role in processing medicines.
- More people in the research believe that the kidneys help remove waste from the body than thought they made urine. However, more people thought the kidneys made urine rather than removing excess fluid from the body. While only a quarter (24%) thought that the kidneys helped control the body’s chemical balance.

5.2. Kidney function

Table 5.1. Which, if any of the following things do you think your kidneys do?

	Remove waste	Make Urine	Remove excess fluid from the body	Control the body's chemical balance	Process medicines	Help control blood pressure	Pump fluid/blood around the body	Help to make red blood cells	Control the body's temperature	Help keep bones healthy	Cleans /filters /purifies blood	Other	Don't know
All responses	1208 (60%)	1020 (51%)	705 (35%)	486 (24%)	231 (12%)	193 (10%)	168 (8%)	150 (7%)	75 (4%)	56 (3%)	22 (1%)	19 (1%)	133 (7%)
Working	685 (64%)	572 (54%)	368 (35%)	270 (25%)	142 (13%)	100 (9%)	69 (6%)	79 (7%)	42 (4%)	33 (3%)	11 (1%)	10 (1%)	51 (5%)
In education	72 (53%)	58 (43%)	46 (34%)	35 (25%)	8 (6%)	16 (11%)	8 (6%)	10 (7%)	7 (5%)	1 (1%)	1 (1%)	0 (0%)	16 (12%)
Not working	451 (56%)	390 (49%)	291 (36%)	182 (23%)	81 (10%)	77 (10%)	91 (11%)	60 (7%)	26 (3%)	22 (3%)	10 (1%)	9 (1%)	66 (8%)

- Only 51% of the population know that kidneys make urine (Table 5.1), and of those people 59% are graduates/PhD know this. The older you are, the more likely you are to know kidneys make urine (Figure 5.1)
- Only 12% of participants thought that the kidneys had a role to play in processing medicines (Table 5.1)
- More people believe that the kidneys help remove waste from the body (60%) than thought they made urine (51%). However, more people thought the kidneys made urine rather than removing excess fluid from the body (35%) (Table 5.1).

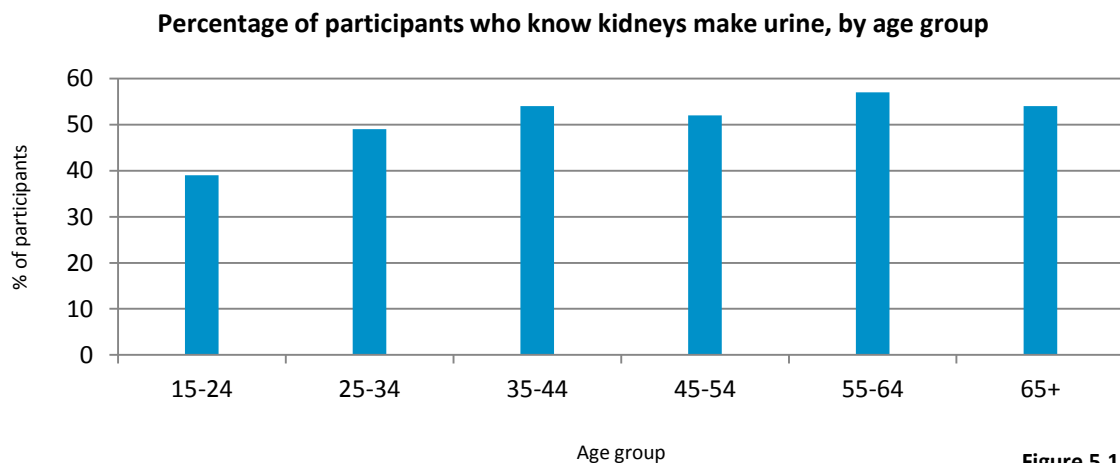


Figure 5.1

- Only a quarter (24%) thought that the kidneys helped control the body's chemical balance (Table 5.1)
- Nearly one in 10 participants (8%) thought the kidneys pumped blood and fluids around the body (Table 5.1)
- Very few participants (3%) thought they had a role in maintaining the health of bones (Table 5.1)
- One in 14 participants (7%) do not know what the kidneys do (Table 5.1)

5.3. Dangers to kidney health

Table 5.2. Which, if any of the following do you think are the biggest dangers to the health of your kidneys?

	Drinking too much alcohol	Dehydration	Receiving a physical blow	Certain ingredients in some medicines	Having a diet that is low in vitamins and minerals	High cholesterol levels	High blood pressure	Lack of exercise	Not keeping your kidneys warm	Eating too much of certain vegetables	Smoking	Diabetes	Too much salt	Other	Don't know
All responses	1362 (68%)	1067 (53%)	694 (35%)	444 (22%)	343 (17%)	335 (17%)	331 (17%)	258 (13%)	94 (5%)	50 (3%)	19 (1%)	6*	3*	41 (2%)	91 (5%)
GCS/O- LV/CSE/NVQ 12	409 (67%)	321 (52%)	199 (33%)	116 (19%)	99 (16%)	117 (19%)	94 (15%)	75 (12%)	27 (4%)	20 (3%)	4 (1%)	3 (1%)	1*	13 (2%)	26 (4%)
A-LVL or EQUIV	250 (72%)	198 (57%)	122 (35%)	78 (23%)	68 (19%)	58 (17%)	59 (17%)	39 (11%)	12 (3%)	7 (2%)	0 (0%)	0 (0%)	0 (0%)	3*	17 (5%)
DEGR/MAST/ PHD	367 (67%)	337 (61%)	229 (41%)	168 (30%)	104 (19%)	75 (14%)	108 (20%)	87 (16%)	32 (6%)	9 (2%)	3 (1%)	0 (0%)	1*	11 (2%)	11 (2%)
NO FORML QUAL	195 (67%)	110 (38%)	61 (21%)	37 (13%)	32 (11%)	45 (15%)	34 (12%)	29 (10%)	9 (3%)	7 (2%)	5 (2%)	2 (1%)	1*	6 (2%)	28 (10%)

* small base

- Over two-thirds (68%) of the population think that too much alcohol damages kidneys (Table 5.2). This is more likely to be believed by younger or older people (Figure 5.2. NB Kidney function is not likely to be affected by the consumption of too much alcohol, although other organs can be affected detrimentally and over-consumption is of course bad for health generally).
- You are more likely to think that alcohol causes harm to kidneys if you live in the north east or west of England, Scotland or Wales (84% of participants in Wales thought alcohol is a danger to kidney health compared to 60% in London)
- There is good understanding that dehydration can have a serious effect on your kidneys' health (53%). People in higher social classes are almost twice as likely to know this (68%) than those from lower social classes (35%). The better educated you are the more likely you will know this (61% of those with degree/Masters/PHD compared to 38% of those with no formal qualification, Table 5.2). Londoners are the least likely to know this (43% in London compared with 72% in Wales)
- Less than a quarter of the population (22%) think that ingredients in medicines present a problem to kidney health. You are more likely to know this if living in Wales or the south-west of England
- Lack of exercise or poor diet are seen as more likely to cause harm by participants aged between 15 and 44, than those over 45 (Figure 5.2)
- Only 1% of participants thought that smoking endangers the health of kidneys (Table 5.2)
- 35% of participants believe a physical blow endangers the health of kidneys
- 5% of participants did not know what endangers the health of kidneys (Table 5.2). The highest group of participants being under 34 years of age (Figure 5.2)

What people think are dangers to the health of kidneys, by age group

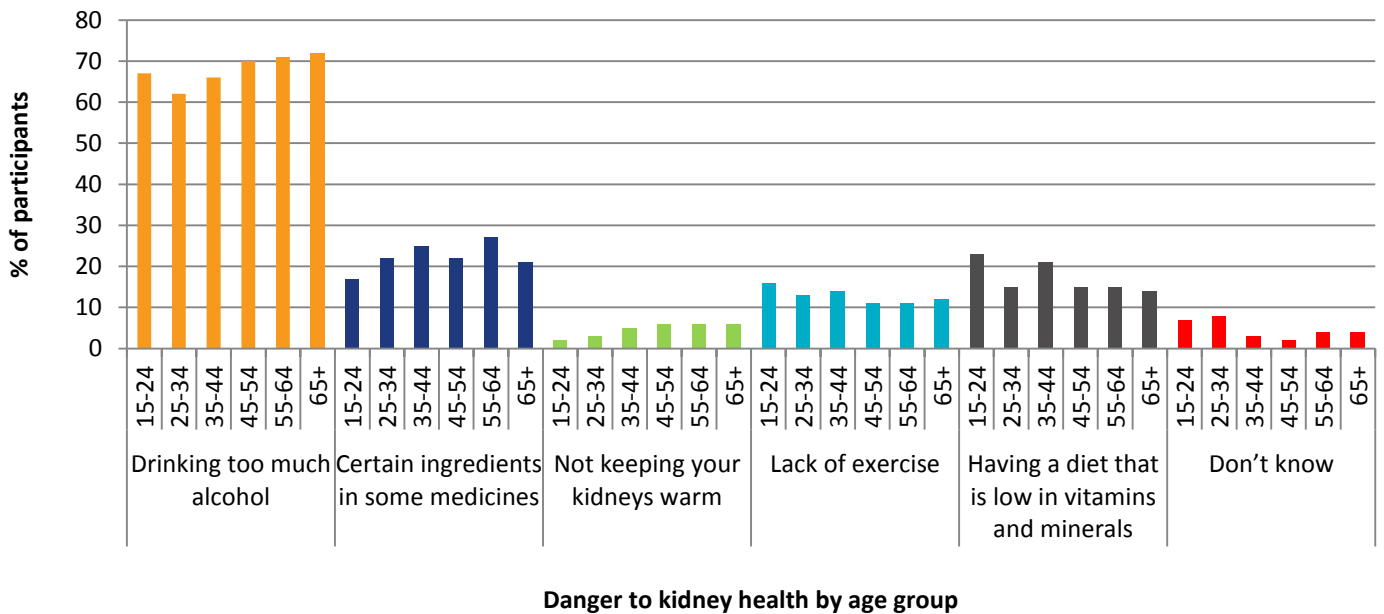


Figure 5.2

5.4. What, if anything do people know about AKI?

- 15% of interviewees said they had definitely heard of it, 16% thought they had heard of it – which means 31% of interviewees were aware of AKI. This doesn't necessarily mean that they got the definition correct. 68% had not heard of AKI and 1% didn't know whether they had heard of it (Figure 5.3)
- Awareness of AKI is affected little by age, social grade or education

- Wales was the location with the highest percentage of people who had definitely heard of it – at 24%. Londoners were the least likely participants to have heard of it – at 9%

Have you heard the term "Acute Kidney Injury" before today, or not?

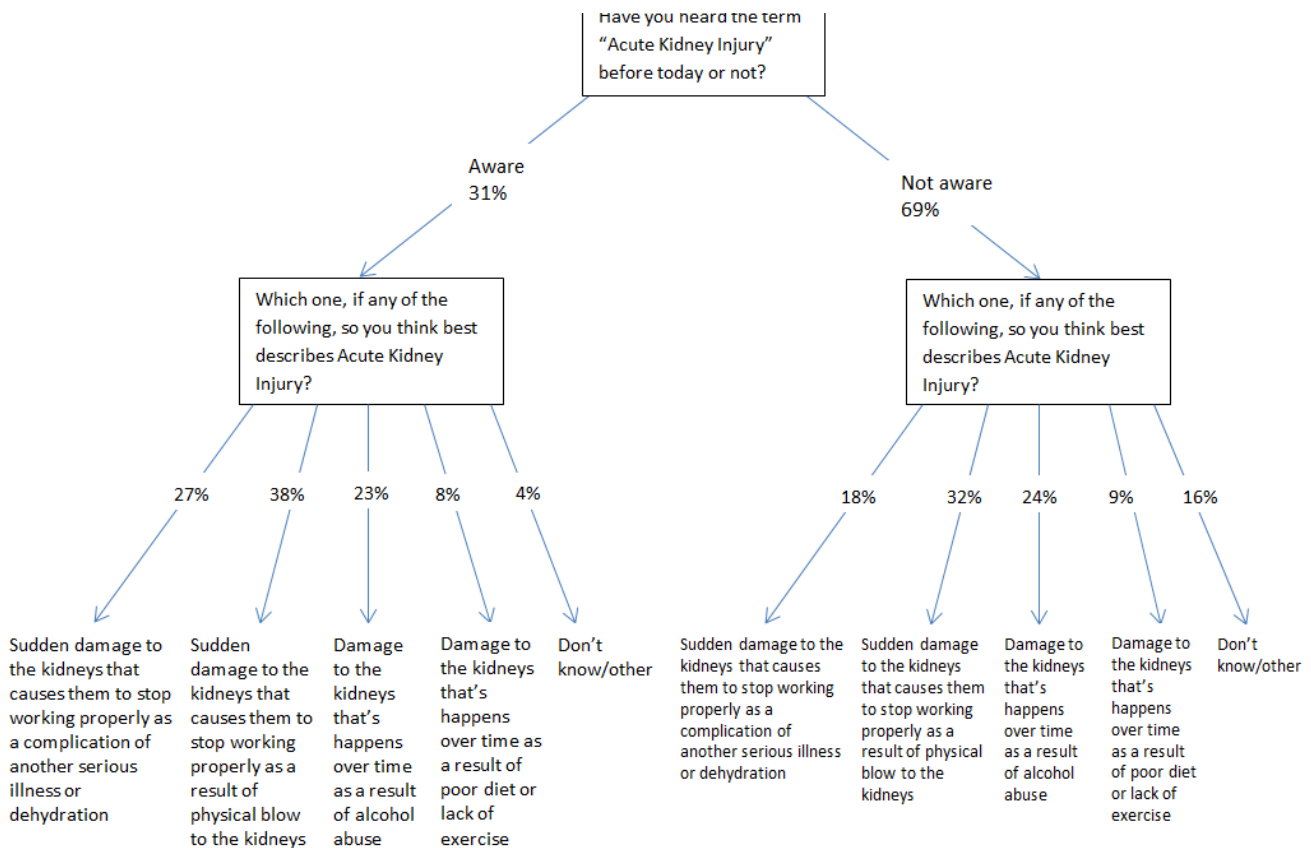
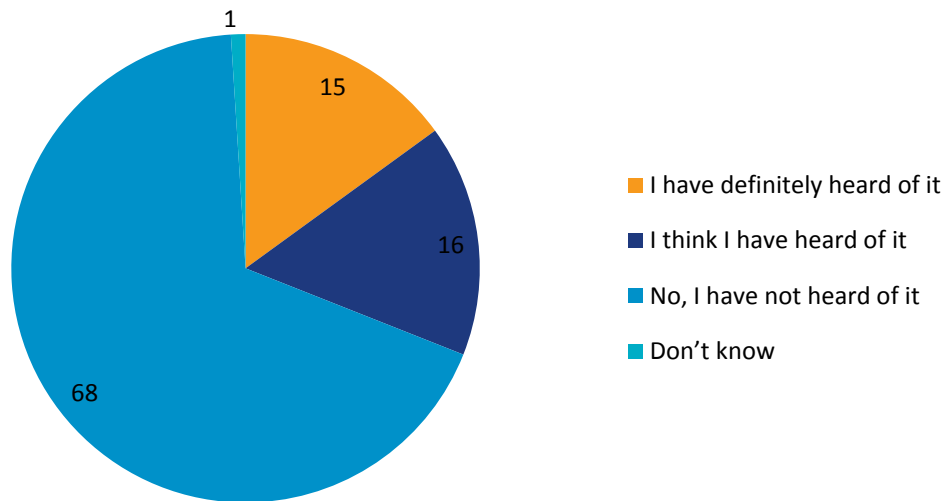


Figure 5.4

- Of those who said they were aware of AKI, 38% said that it was due to the sudden damage to the kidneys as the result of a physical blow to the kidneys. This is almost the same as those who guessed the definition after saying they weren't aware of AKI (32%) (Figure 5.4)
- One third of all participants (34%) think that AKI is sudden damage to the kidneys as the result of a physical blow (Table 5.3). This belief increases with age. 53% of participants in Wales believed this to be true
- Only one in five (21%) knew or guessed the correct definition of acute kidney injury. These participants are more likely to have a higher education and to be from higher social economic class (ABC1)
- In terms of age, participants over the age of 65 are least likely to know true definition of AKI (17%)
- Nearly one in four (23%) thought AKI was caused by sustained alcohol abuse
- Of those who said they were aware of AKI, only 27% knew what it was, while the percentage that guessed and guessed correctly was 18%

Table 5.3. Which, if any of the following, do you think best describes Acute Kidney Injury?

	Sudden damage to the kidneys that causes them to stop working properly as a complication of another serious illness or dehydration	Sudden damage to the kidneys that causes them to stop working properly as a result of physical blow to the kidneys	Damage to the kidneys that's happens over time as a result of alcohol abuse	Damage to the kidneys that's happens over time as a result of poor diet or lack of exercise	Other	Don't know
All responses	422 (21%)	685 (34%)	468 (23%)	178 (9%)	12 (1%)	227 (11%)
Age Group						
15-24	72 (23%)	86 (27%)	70 (22%)	44 (14%)	2 (1%)	41 (13%)
25-34	66 (20%)	89 (27%)	79 (24%)	44 (13%)	3 (1%)	51 (15%)
35-44	72 (22%)	114 (35%)	73 (23%)	27 (8%)	1 *	34 (11%)
45-54	83 (25%)	130 (39%)	70 (21%)	23 (7%)	0 (0%)	26 (8%)
55-64	60 (22%)	111 (40%)	65 (24%)	13 (5%)	1 *	23 (8%)
65+	70 (17%)	155 (37%)	111 (26%)	26 (6%)	6 (1%)	52 (12%)

* small base

- Two-thirds (66%) incorrectly identified the definition of AKI, and one in 10 (11%) admitted to not knowing
- Of those that guessed incorrectly or said they didn't know, over half (51%) guessed that it was the sudden damage to the kidneys as the result of a physical blow to the kidneys
- Younger people are more likely to believe that AKI is the result of poor diet or lack of exercise (15 to 34 years old from 13% to 14%, while people 35+ the figure was 5% to 8%)
- Participants aged 65+ were more likely to give an incorrect answer (83%) compared to participants aged 14-25 (77%). Londoners were the most likely to say they don't know what best describes AKI (23%), while participants in Scotland were most likely to select the correct definition (28%)
- The more educated participants were more likely to know, or have correctly guessed, that AKI is the sudden damage to the kidneys as a complication of another serious illness or dehydration (lack of water). These participants are more likely to be from a higher social economic class (ABC1)

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- Of those who said they were aware of AKI, 73% did not know the true meaning. Participants over the age of 65 were more likely to respond incorrectly

6. Conclusion

It is clear from analysis of the survey results that public knowledge levels about the normal functioning of the human kidney are low. Kidneys do not appear to be considered by the public as vital organs that need to be considered and kept healthy.

As the drivers to reduce the incidence of acute kidney injury come to prominence in healthcare so the level of understanding of the condition should be raised among the public so that awareness is raised and behaviour changes, resulting in a positive impact. Working with health and care professionals the Think Kidneys programme aims to reduce the harm caused by acute kidney injury, improve the care of patients with acute kidney injury and prevent it from occurring where possible.

If the public, and specifically those most at risk, have an understanding of their kidneys, what they do, and how to keep them healthy which is developed alongside the programme to improve the detection, management and treatment of acute kidney injury among health and care professionals, then the initiative will undoubtedly have a significant impact.