Talking about cancer with confidence: evaluation of cancer awareness training for community-based health workers

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Abstract

Aims: To examine the impact of cancer awareness training for community-based health workers on confidence to talk about cancer, and knowledge of cancer risk factors and signs and symptoms.

Methods: Community-based health workers from Sandwell, Birmingham and Solihull were invited to take part in one of 14 one-day training workshops. Trainees completed questionnaires at the beginning of the workshop and were followed up one month later. Confidence in talking about cancer was examined. Knowledge of cancer risk factors and signs and symptoms was assessed. Trainees were asked to rate the usefulness of the workshop, whether they would recommend it to others and whether they had put what they had learnt into practice.

Results: A total of 187 community-based health workers took part in the workshops, and 167 (89%) completed the one-month follow-up. Considerable improvements were observed in confidence to discuss cancer. For example, the proportion of participants reporting feeling 'very confident'/'fairly confident' in discussing signs and symptoms of cancer increased from 32% to 96% ($p < .001$). Substantial improvements in trainees' knowledge were also observed, with 79% of participants correctly identifying 10 out of 11 known risk factors for cancer at one month compared with 21% before training ($p < .001$). Average (unprompted) recall of cancer signs and symptoms also increased from 2.3 (±1.6) to 2.7 (±1.5), ($p = .02$). Most trainees (83%) rated the workshop as 'very useful', and 89% said they would 'definitely' recommend the workshop.

Conclusion: The cancer awareness training was reviewed positively by community-based health workers and led to improvements in confidence to talk about cancer, and knowledge of risk factors and warning signs of cancer. It is hoped that raising awareness among this group will help them to communicate and drive behaviour change in the at-risk populations with whom they work.

INTRODUCTION

In the last four decades, cancer survival rates in the United Kingdom have increased substantially.[1] However, survival rates still lag behind those of some comparable countries worldwide.[2] One method of improving cancer outcomes is through earlier diagnosis. For the most part, patients with early stage cancers fare much better than those diagnosed at a later stage.[3] Improving the knowledge of early warning signs among the general population could help to encourage earlier presentation and therefore go some way towards promoting earlier diagnosis. Over 40% of cancers in the United Kingdom are linked to lifestyle and environmental risk factors,[4] but a large proportion of adults in England do not meet recommendations for health behaviours. For example, data from the Health Survey for England showed that only 59% of

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adults (aged 19 years and over) meet physical activity guidelines,[5] and that for adults who drink alcohol, over half regularly drink above the recommended levels (56% of men, 52% of women).[6]

Populations with lower socioeconomic status (SES) and some ethnic minority groups are known to have particularly low awareness of signs and symptoms of cancer and risk factors.[7] They are also less likely to take part in cancer screening programmes.[8,9] Furthermore, these groups tend to have poorer access to health information which exacerbates inequalities in awareness and health outcomes.[10] These groups, particularly those who experience language barriers, are more likely to rely on interpersonal sources of health information. Most public health organisations employ a range of community-based staff (e.g. nurses, health trainers/champions, stop smoking specialists, and physical activity and weight management coordinators) who engage with the public on an individual basis and have a role in encouraging health behaviour change.[11] These staff members are well placed to disseminate key messages about cancer, but because it is not the focus of their role, they are not always equipped with sufficient knowledge to do so.

A recent study of frontline National Health Service (NHS) health and social care staff found that although cancer awareness was generally good, there were notable knowledge gaps related to cancer prevention. Only 50% of those surveyed knew that drinking more than one unit of alcohol (one-third of a pint of beer, alcohol by volume (ABV) 5%–6% or half a standard (175 mL) glass of red wine ABV 12%) per day was a risk factor for cancer; less than half (43%) recognised the link with fruit and vegetable intake and just 41% were aware that being physically inactive increased cancer risk.[12] This represents a missed opportunity for promoting cancer awareness and health behaviour change among community-based staff and the communities they engage with, and indicates that targeted education and training of these staff could be beneficial.

A small number of studies describe the training of health care workers to promote cancer screening in underserved populations (e.g. Nguyen *et al*.[13] and Maxwell *et al*.[14]), but training was limited to the screening of one cancer and did not cover any education of cancer risk factors and signs and symptoms. One study from Turkey describes a training programme designed to educate midwives about breast self-examination and breast cancer.[15] The authors report improvements in trainees' knowledge of breast cancer symptoms; however, the outcome measures used were not validated. Two US studies describe cancer education training for community health workers who work with ethnic minority communities.[16–17] Gwede *et al*. included only three health advisors and although Kuhnley and Cueva provide data on a larger sample (N = 128), they did not assess cancer knowledge. Soyer and colleagues describe improvements in awareness of breast cancer signs and symptoms, as well as key preventive behaviours, but the study focused on breast cancer and was very small (N = 4).[18]

In 2007, the Cancer Reform Strategy[19] set out a programme of key actions across several areas, including preventing cancer and diagnosing cancer earlier, which aimed to improve cancer outcomes in England. Recognising the importance of public awareness, the strategy recommended that local public health teams prioritise increasing knowledge of cancer risk factors and early warning signs in the general population. Sandwell Primary Care Trust (PCT) identified knowledge gaps in the local population and community-based health staff following a local population Cancer Awareness Measure (CAM) survey and feedback from community teams, respectively. As a result, the PCT asked Cancer Research UK to deliver training for local health workers to ensure they were equipped with the knowledge, skills and confidence to talk to the public about cancer prevention and early diagnosis. This led to the roll-out of a pilot training programme in 2010–2011. The programme aimed to build a sustainable capability within community teams to support the promotion of cancer awareness and help address health inequalities, as part of their ongoing public outreach roles.

Cancer Research UK designed a training workshop to address this need, drawing on previous training developed in Sandwell and Cancer Research UK's experience talking to the public about cancer, including their work on the Cancer Awareness Roadshow.[20] While no specific theory or model informed the development of the programme, the content was reviewed by Cancer Research UK experts to ensure that it was aligned with the evidence base on cancer prevention and early diagnosis.

This study's aims were twofold. First, the study sought to evaluate the impact of the workshop on trainees' confidence to talk about cancer and their knowledge of cancer risk factors and signs and symptoms. Second, the study sought to assess trainees' satisfaction with the workshop and gather their feedback about the training. The findings were used as part of ongoing monitoring and development of the training programme.

METHODS

Community-based health workers and volunteers from Sandwell, Birmingham and Solihull were invited to take part in one of 14 one-day training workshops. Promotion and recruitment was coordinated locally by the then Public Health Lead for the Pan-Birmingham Cancer Network (also Consultant in Public Health Medicine for Sandwell PCT), by contacting key stakeholders within public health and community networks and word of mouth. In some cases, whole teams (e.g. health trainers) were recruited on agreement with line managers. The workshops took place over a period of 14 months so that trainees were able to pick the most convenient training date and location.

On arrival at the workshop, trainees were asked to sign in and provide consent for their data and feedback to be used in the evaluation of the programme. All of the workshops were delivered by two Cancer Research UK staff members who have a background

in nursing and a combined total of over 50 years' experience talking to the public about cancer.

The objectives of the training were to:

1. Inform trainees about key cancer prevention, early detection and screening messages;
2. Equip trainees with the confidence and skills necessary to deliver these messages to the public;
3. Ensure trainees are aware of the importance of signposting appropriately and maintaining boundaries when providing information.

The training was delivered in groups of up to 20 trainees in community settings, for example, community centres, churches, health centres and leisure centres. The workshops were delivered in an informal and interactive way to encourage two-way dialogue and the sharing of experiences. This helped to make the training as relevant, engaging and useful as possible. Role plays, interactive tools (e.g. quizzes and resources such as the NHS Smokefree Health/Wealth wheel) and visual aids (e.g. 'What is a unit' which demonstrates the total units in different glasses of alcohol) were used to help bring the messages to life. See Box 1 for an outline of the training agenda and for more details about the role play.

Trainees were given packs at the end of the workshop that included the full range of Cancer Research UK's awareness leaflets and handouts to reinforce key themes from the training. They were also given details for where to get more information, including links to relevant sections of Cancer Research UK's website for the latest evidence. This included cancer statistics (e.g. incidence, prevalence, mortality), information about risk factors and signs and symptoms, information for patients, Cancer Research UK publications and the Cancer Awareness Roadshow pages.[20]

MEASURES

Trainees completed written questionnaires at the beginning of the training workshop and were telephoned one month later by an independent research agency ('Outlook Research Ltd') who delivered the same questionnaire and asked trainees for their feedback about the workshop. All data were anonymised and could not be linked back to individual trainees.

Previous training

Trainees were asked whether they had ever had any cancer awareness training in the past (Yes/No).

Confidence

Trainees were asked 'how confident are you about approaching people to discuss: 1) cancer in general, 2) signs and symptoms of cancer, 3) cancer risk factors, and, 4) NHS Cancer Screening Programmes'. Response options included 'very confident', 'fairly confident', 'not very confident' and 'not at all confident'. These items were based on those used in the cancer specific CAMs (e.g. Power *et al*.[21]).

Knowledge

Participants were presented with a mixture of well-established cancer risk factors (using items from the CAM)[22] and 'media myths' (factors that have been linked to cancer development in the media but where the balance of evidence at the time indicated a link was actually unlikely). These items were included to assess the effectiveness of the 'media myth' section of the workshop (see Box 1). Participants were asked to rate how much they agreed that each could increase a person's chance of developing cancer. Responses were on a 5-point Likert scale from 'strongly disagree' to 'strongly agree'. Knowledge of cancer signs and symptoms were examined with the open question 'There are many warning signs and symptoms of cancer. Please name as many as you can think of'.

Workshop evaluation

At one-month follow-up, trainees were asked to rate the usefulness of the training (4-point Likert scale from 'very useful' to 'not at all useful'), to say whether they would recommend the workshop to colleagues (4-point Likert scale from 'yes definitely' to 'no, definitely not') and whether they had used the training in their everyday work (Yes/No) and to provide an indication of how many people they had shared the information with. Trainees were also invited to comment on what they perceived to be the most useful elements of the programme and suggest areas for improvement.

ANALYSIS

Data were analysed using SPSS 18. Participants were not given unique identification codes, and therefore baseline and one-month follow-up responses could not be linked and were treated as separate samples. Descriptive data were generated for all items and, where possible, comparisons were made between responses at baseline and one-month follow-up responses.

The four items examining confidence in talking about cancer were dichotomised ('fairly'/'very confident' vs 'not very'/'not at all confident'). Responses to knowledge of cancer risk factor items were also dichotomised as correct ('agree'/'strongly agree' for genuine items and 'disagree'/'strongly disagree' for media myths) or incorrect. For the unprompted item assessing knowledge of warning signs, a score of 1 was given for each valid warning sign or symptom mentioned (based on those listed in the CAM). Scores were then added together to give a total score for unprompted awareness (with a maximum score of 9).

RESULTS

A total of 187 community-based health workers and volunteers completed the cancer awareness training workshops. The majority of trainees were female (79%), but there was a good range of ages and ethnicities represented (see Table 1). Most trainees were health trainers (31%) and members of healthy lifestyles teams (16%). Trainees also included Healthy Community Collaborative volunteers (8%), other volunteers (10%), community health

Box 1[a] Content of cancer awareness training workshop

What is cancer (~20 min)[b]	Basic introduction to cancer including sessions on what cancer is, how cancer develops, how many cancers there are and how common cancer is. Structured discussion explored trainees' beliefs and attitudes surrounding the disease.
Cancer awareness and public health (~60 min)	Introduction to key messages around lifestyle and cancer. Covered the impact the trainees can have within their communities by raising awareness.
Media myths and attitudes (~15 min)	Explored and addressed common misconceptions about cancer risk factors, the role of the media, people's attitudes and fears related to cancer and the importance of using reliable health information.
Key messages on risk factors (~45–60 min)	Discussion of current evidence around cancer risk factors using interactive resources (e.g. DVDs), group discussion and feedback on real-life scenarios to show approaches and opportunities to start a conversation about key messages.
Cancer screening (~30 min)	Information about the NHS Cancer Screening Programmes. DVDs and samples of screening kits used to give trainees a better understanding and the confidence to discuss the programmes.
Signs and symptoms (~30 min)	Covered information about the importance of early diagnosis and explored barriers to this. Included discussion around common signs and symptoms, messaging on knowing your body and ways to encourage people to go to their GP about any unusual or persistent changes to their body.
Putting it all into practice (~90 min)	Interactive session to put everything from previous sessions into practice with role play and audience participation. Role plays involved trainees taking the part of either a member of the public or a health worker and were based on real-life scenarios and conversations previously experienced by the trainers. The trainers demonstrated some role plays first before asking attendees to have a go.
What to say (~15 min)	How to have difficult conversations – reinforcing the importance of being aware of the boundaries of their role in providing advice and information and helping to identify available services to direct people to. Included tips on reflective listening when talking to someone about cancer and the key messages (as above).

GP: general practitioner.
[a]Box 1 represents the content of the cancer awareness workshops delivered in 2010–2011. The programme has since evolved into a number of different training workshops to meet the needs of different trainee groups, for example, community pharmacists, and in response to ongoing feedback and insights gained from the trainees during the workshops (cruk.org/talkcancer).
[b]Timings are estimates and varied depending on the needs of each group.

network workers (3%), district/practice nurses (2%) and learning disability workers (2%). All workshop trainees completed the baseline survey (N = 187) and 167 completed the one-month follow-up (89%). Most trainees (82%) reported that they had not previously received any cancer awareness training.

Confidence in talking about cancer

Substantial improvements in trainees' confidence in talking about cancer were observed between baseline and one-month follow-up. The proportion of participants who reported feeling 'very confident'/'fairly confident' in discussing cancer in general increased from 47% to 95%, signs and symptoms of cancer increased from 32% to 96%, risk factors increased from 48% to 95% and the NHS Cancer Screening Programmes increased from 35% to 94%.

Knowledge of cancer risk factors

Before the workshop, most trainees were aware that smoking and passive smoking are associated with cancer risk (94% and 91%, respectively), but knowledge of other cancer risk factors was lower. Knowledge was significantly higher across all established risk factors one month after completion of training (see Table 2), with 79% of participants correctly identifying 10 out of 11 known risk factors for cancer at one month compared with 21% before training. The 'media myths' section was less effective. Although there were improvements in awareness that mobile phones were unlikely to be linked to increased risk, the majority of trainees still believed living near power lines could increase a person's risk of developing cancer.

Table 1 Trainee demographics (at baseline)

Demographics, % (*n*)	***N* = 187**
Gender	
Male	19.3 (36)
Female	78.6 (147)
Not stated	2.1 (4)
Age (years)	
<24	10.2 (19)
25–34	30.5 (57)
35–44	23.0 (43)
45–54	15.0 (28)
55–64	14.4 (27)
65+	4.8 (9)
Not stated	2.1 (4)
Ethnicity	
White	60.4 (113)
Indian	13.4 (25)
Pakistani	9.6 (18)
Black Caribbean	4.3 (8)
Black African	3.2 (6)
Other Black	0.5 (1)
Other Asian	3.2 (6)
Mixed	2.1 (4)
Not stated	3.2 (6)
Role	
Health trainer	30.5 (57)
Healthy lifestyle team worker	16.0 (30)
Health Community Collaborative volunteer	7.5 (14)
Other volunteer	9.6 (18)
Community health network worker	3.2 (6)
District/practice nurse	1.6 (3)
Learning disability worker	2.1 (4)
Previous cancer awareness training	
Yes	17.6 (33)
No	81.3 (152)
Not stated	1.1 (2)

Knowledge of signs and symptoms of cancer

Data were available for 141 trainees at baseline and 139 at follow-up. Within this group, clear improvements were observed in knowledge of some of the common signs and symptoms of cancer, notably bowel or bladder change (33% of trainees mentioned this at baseline and 54% mentioned it at one month) and change in appearance of a mole (16% at baseline and 28% at one month) (see Table 3).

Usefulness of training

At one month, 83% of trainees rated the workshop as 'very useful', 89% said they would 'definitely' recommend the workshop to colleagues and 68% said they had already used the skills they learnt from the workshop. On average, these trainees reported discussing what they had learnt with 38 others since the workshop.

The overall evaluation of the workshop was positive, particularly in relation to improving confidence in discussing cancer. Trainees reported that the role plays were especially useful.

The most frequent recommendation for improvement was to provide more information about local networks and agencies that provide support and advice for lifestyle change.

DISCUSSION

This evaluation demonstrated clear improvements in trainees' knowledge of cancer risk factors and signs and symptoms, and in their confidence to talk about cancer after completing a cancer awareness training workshop.

Prior to the workshop, there were notable gaps in trainees' knowledge of cancer risk factors (in accordance with previous literature[11,12]), highlighting the need for such training among frontline community-based health workers and volunteers. For example, less than half of trainees were aware that drinking more than one unit of alcohol per day, eating less than five servings of fruit and

Table 2 Awareness of cancer risk factors and 'media myths'

Cancer risk factors and 'media myths'	Baseline, % correct (*n*) (*N* = 187)	1 month, % correct (*n*) (*N* = 167)	Change (%)
Smoking any cigarettes at all	94 (175)	100 (167)	+6
Exposure to another person's cigarette smoke	91 (170)	99 (165)	+8
Being overweight (BMI over 25)	70 (130)	93 (156)	+23
Getting sunburnt more than once as a child	63 (117)	98 (163)	+35
Having a close relative with cancer	65 (122)	86 (144)	+21
Less than 30 min activity 5 times a week	48 (89)	83 (139)	+35
Being over 70 years old	47 (88)	82 (137)	+35
Eating red or processed meat once a day or more	44 (82)	81 (136)	+37
Eating less than five fruit and vegetables a day	43 (81)	80 (134)	+37
Drinking more than 1 unit of alcohol a day	40 (75)	90 (151)	+50
Infection with HPV	35 (65)	64 (107)	+29
Living near power lines[a]	18 (34)	19 (34)	+1
Using a mobile phone[a]	28 (52)	43 (72)	+15

BMI: body mass index; HPV: human papillomavirus.
[a]'Media myths' – the scientific evidence shows a link with cancer to be unlikely.

Table 3 Knowledge of common signs and symptoms at initial and one-month follow-up

	Baseline, % (*n*) (*N* = 141)	1 month (*N* = 139)
Lump/swelling	62.0 (87)	60.4 (84)
Weight loss	32.6 (46)	33.1 (46)
Bowel/bladder changes	31.9 (45)	54.0 (75)
Pain	29.1 (41)	32.4 (45)
Persistent cough or hoarseness	24.8 (35)	25.2 (35)
Unexplained bleeding	24.1 (34)	27.3 (38)
Changes to appearance of a mole	16.3 (23)	28.1 (39)
Sores that won't heal	1.4 (2)	6.5 (9)
Difficulty swallowing	1.4 (2)	1.4 (2)

vegetables a day or taking less than 30 minutes of exercise five days per week can each increase the risk of cancer. One month after training, almost 80% of trainees correctly identified 10 of the 11 well-established risk factors for cancer. Interestingly, there was no change in the belief that living near power lines was a risk factor for cancer (despite it being highlighted as a 'media myth') with over 80% of trainees believing this to be true at baseline and one month. It is possible that the workshop did not allocate enough time to discussing this due to focusing on other 'media myths' (e.g. mobile phones). Further evaluations should explore whether this is the case and the myths section of the workshop adapted as necessary. This could include making the session more interactive and reiterating the key 'take home' points before moving onto the next session.

Results also indicated an improved knowledge of the possible signs and symptoms of cancer, plus average recall of symptoms at one month was higher than the average reported for the British public.[7] Although this is encouraging, the improvement in awareness of signs and symptoms was less pronounced than the observed change in knowledge of cancer risk factors. The workshop included a discussion of the common signs and symptoms of cancer; however, more emphasis was placed on the importance of getting to know your body and what is normal, rather than on remembering specific signs and symptoms, which could explain this discrepancy.

Confidence in discussing cancer improved notably. One month after attending the workshop, over 90% of trainees reported being confident in discussing cancer in general, signs and symptoms, risk factors and the NHS Cancer Screening Programmes. This is significant given that community-based health workers must have confidence to be able to engage with the public on the subject of cancer and communicate health messages effectively.

Encouragingly, the majority of trainees also reported having applied the skills learnt during the workshop in their everyday work, suggesting that the increase in knowledge and confidence also translated into desired action. However, feedback also indicated that trainees would benefit from more information about how they could direct members of the public to relevant local services. This should be considered in the further development of the training programme.

Despite the need for improvement in cancer awareness and knowledge among frontline community-based health workers and volunteers, very few studies have examined interventions or training provision to achieve this.

This is one of only a few studies to describe a cancer awareness training programme and, to our knowledge, the only such study to evaluate its effectiveness using questions from a validated measure of cancer awareness. This study has strengths and weaknesses. Although we have some demographic data about the trainees, we do not know how representative they were of community-based health workers in areas where they were recruited. And while some trainees were required to attend as part of their role (and of these, very few were not able to attend), others volunteered to take part in training. Data were not linked across time points, but the response rate was high with only 11% attrition. There were some missing data on trainees' knowledge of symptoms but, within responders, knowledge at one month post-training demonstrated retention of information over time. The study could have been strengthened by including a longer follow-up and a control group who did not receive training, and ensuring individual data were linked between baseline and follow-up. In addition, further exploration of how trainees applied what they had learnt during training, including observation of trainees in their everyday practice, would have provided a fuller and more objective assessment of impact on subsequent behaviour and helped to demonstrate validity of self-reported behaviour.

Disseminating public health messages through community-based health workers and volunteers is increasingly recognised as an effective strategy for achieving sustained improvements across health behaviours. But equipping workers with adequate knowledge, confidence and skills is essential in ensuring that the information is communicated effectively, accurately and with sensitivity. This study indicates that a one-day workshop could be an effective way of achieving this. Given the paucity of research describing and examining the effectiveness of existing cancer awareness training, this study makes an important contribution to the literature.

We acknowledge that a multi-faceted approach is needed to reach at-risk populations with health information and to drive positive behaviour change.[23] While training local health workers is just one strategy, this article demonstrates the significant contribution it could make to this end.

CONFLICT OF INTEREST

Grimmett was funded by Cancer Research UK as an academic advisor on this project. The work was initiated by Cancer Research UK, analysed by Grimmett and interpreted and verified by all authors. Rendell, George, Kaplan, Kilgour and Power are employed by Cancer Research UK.

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ETHICAL APPROVAL

Ethical approval was not sought as this was service development research and therefore exempt.

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