Introduction

Increased incidence and the elevated risk of foodborne illnesses are associated with people receiving chemotherapy treatment for cancer. Chemotherapy patients have an increased risk of foodborne illness due to immunosuppression[1]. Cancer patients are reported to have a five-fold increased risk for development of listeriosis[1].

To minimise the risk of foodborne illness it is important that people receiving chemotherapy treatment consume foods prepared and cooked at home according to food safety recommendations and avoid risk associated food products[2].

It is suggested that limited food safety information is available to people receiving chemotherapy treatment in the UK and data on their food safety knowledge, practices and perceptions is lacking[3]. To date, there has been no review, or evaluation of the availability and adequacy of UK food safety information accessible for chemotherapy patients and family carers.

Purpose

To evaluate the provision of food safety information available to UK chemotherapy patients to assess whether appropriate information and explore the chemotherapy experiences perceived importance of food safety among chemotherapy patient and family carers.

Methods

A mixed methods research approach was utilised to facilitate this study:

• Online food-related patient information resources were obtained from: National Health Service (NHS) chemotherapy providers in England, Scotland and Wales, the Department of Health (DoH) and identified UK cancer charities. Resources were reviewed for the inclusion of food safety information using a content analysis approach.

• In-depth interviews (n=15) were conducted with patients and family carers to establish the food related experiences of patients during treatment.

• Self-complete questionnaires (screened and invited) were completed (n=171) by chemotherapy patients (75%) and family/carers (25%) to determine attitudes towards food safety during chemotherapy treatment and result of receiving health related information. Ethical approval was granted by the Cardiff School of Health Sciences Research and Ethics Committee. Project reference number: DDS-2014-051.

Acknowledgments

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Results

The availability and adequacy of food safety information for chemotherapy patients

Overall, 45 food-related information resources were obtained from 42 of 144 NHS chemotherapy providers’ online patient information resource collections and from three UK cancer charities. All resources were different, no duplicates were identified, thus suggesting that a standardised NHS food safety information resource is not available.

• Less than a third (29%) were specifically food safety focused, the majority (71%) were food-related information resources that included elements of food safety. Although 66% of sources explained why patients are at an increased risk of developing infection during treatment, few (2%) highlighted the importance of food safety to prevent infection.

Food safety awareness during chemotherapy treatment

Interviews with patients and family carers determined that many were aware of the increased risk of infection due to immunosuppression during treatment but may underestimate foodborne risk infection.

“Drug therapy has made my body more susceptible but I had much bigger things to worry about.” (Participant 10)

“Food safety seems to have been given some slight attention. I think that was just given as something to help, but I had much bigger things to worry about.” (Participant 10)

Food safety was of minimal concern compared to being able to cook or eat. Problems associated with chemotherapy side effects were reported including loss of taste, dry mouth, nausea, diarrhoea and cachexia.

The questionnaires determined that the majority of patients (81%) reported being more concerned about diet and nutrition than food safety during treatment.

Less than half reported receiving food safety information during chemotherapy treatment. Significantly greater proportions (p<0.05) than on food safety (49%) during chemotherapy treatment (Figure 5). Neutropenic, blood-related and cancer patients were significantly more likely (p<0.05) of receiving food safety information.

“Not very difficult at all to do and make sure that I put all the right things such as washing, cooking, storage to the end.” (Participant 10)

Food safety was seen as minimal concern compared to being able to cook or eat. Problems associated with chemotherapy side effects were reported including loss of taste, dry mouth, nausea, diarrhoea and cachexia.

“Not very difficult at all to do and make sure that I put all the right things such as washing, cooking, storage to the end.” (Participant 10)

Significantly (p<0.05) more positive among cancer patients than caregivers, and among females than males.

Those that reported they/the person they care for received a transplant, were neutropenic or treated for a blood-related cancer, also had significantly higher (p<0.05) more positive attitudes towards food safety, as those that had reported receiving food safety information.

Take a significant step towards achieving weight management in illness.

Food prepared by others

Although it is recommended that patients should allow ‘when’ to prepare food for themselves during the chemotherapy treatment if they feel ‘too ill’. However only 4% included the importance of food safety for ‘whenever’ preparing food.

Listeriosis risk reducing behaviours

Inclusion of television risk reducing food safety practices were most frequently included in reviewed resources (57%): "Show and steamed foods must be cooked for at least 70 days before opening." 15% referred to adhering to ‘use by’ dates 22% included information of particular risk sources (temperature 0°C – 5°C). 7% informed that ready-to-eat foods should be consumed within two days of opening.

Poterentially unsafe recommendations

No patient included in list of resources, including: “No food at room temperature may be more important than hot food, and can be as nutritious.” (Resource 23)

“Avoid all wet environment.” (Resource 2)

Potentially unsafe practices

Although it is recommended that steamed foods should be consumed within two days of opening. “Steamed and steamed fish must be cooked for at least seven minutes. Must be too hot to touch.” (Resource 23) Providing a cooking time without a cooking temperature is inadequate, and surface contamination and cross-contamination in the thermometer to the least way ensure cooking efficacy.

Significance of study

Completion of this study has identified a need to design and develop a standardised and specifically designed food safety information resource which targets chemotherapy patients and family caregivers to reduce the risk of foodborne infection during chemotherapy treatment and safeguard patient well-being. Failure to implement safe food handling practices may only increase the risk of foodborne infections, but also result in additional health complications delays in treatment and potentially increase patient mortality.

Advise relating to hand hygiene was most frequently included. Practices to reduce the risk of foodborne infections, including a patient orientated care approach, was particularly lacking. This is of particular importance as provision of education that was tailored for neutropenic patients. However, these resources are unlikely to be provided to or accessed by all people receiving chemotherapy treatment.

References