

Why you should read this article:

- To read about a service evaluation of a clinical foot reflexology service for patients with cancer
- To appreciate the importance of evaluating patients' experience of supportive interventions such as reflexology
- To recognise the beneficial effects of foot reflexology on symptoms associated with cancer and cancer treatments

Patients' experiences of clinical foot reflexology in a hospital cancer service

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Conflict of interest

None declared

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Abstract

Reflexology is a complementary therapy that involves applying alternating gentle and firm pressure to the feet or hands to induce relaxation. In the context of cancer care, reflexology treatment aims to provide symptom relief and improve patients' quality of life. Since 2014 a clinical foot reflexology service has been offered at Dorset County Hospital NHS Foundation Trust cancer service for patients receiving cancer treatments. This article describes the foot reflexology service and the treatment offered. It also reports the findings of a service evaluation that involved a retrospective review of patient combined consent/evaluation forms to identify patient concerns (symptoms), to measure patients' self-reported levels of concern before and after reflexology treatment and to capture patients' experience of the service.

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Keywords

cancer, cancer treatments, clinical, complementary therapies, medicines, outcome measures, patient experience, patient outcomes, professional, signs and symptoms, symptom management

Background

Reflexology involves the application of alternating gentle and firm pressure to mapped areas on the feet that are, according to the theory of this complementary therapy, linked to organs and systems of the body through neural pathways (Tiran and Mackereth 2011). This theory is supported by studies that propose the mechanism of action of reflexology is via dermatomes – an area of skin supplied by sensory neurons that arise from a single dorsal root of a spinal nerve (Lee et al 2008) – and the 'neuromatrix' theory of pain, which involves afferent impulses given by touch and pressure being transmitted faster than pain in the dorsal root of the medulla spinalis that block the transmission of pain (Derbyshire 2000). Other theories of the mechanism of action of reflexology include the positive effects of

therapeutic touch, the activation and altering of fascial structures and placebo effects (Whatley et al 2022).

While the mechanism of action remains a topic of debate (Whatley et al 2022), reflexology is commonly used in cancer care settings as a complementary therapy (Gholamzadeh et al 2019, Blackburn et al 2021). In general, reflexology services in NHS cancer settings are funded and delivered by external providers who monitor the safety, efficacy and quality of such services through service evaluation or audit. Annual reports are produced to inform funders about service uptake and patient experience to provide evidence of value for money. This article reports the findings of a service evaluation of the clinical foot reflexology service delivered in the cancer service at Dorset County Hospital NHS Foundation Trust (DCHFT).

Clinical foot reflexology service

The clinical foot reflexology service at DCHFT cancer service was introduced in November 2014, initially for three hours per week, and is funded by the charity Fortuneswell Cancer Trust. Findings from an internal trust audit in 2015 concluded that for patients receiving cancer treatment, reflexology was a useful therapeutic intervention in relation to reducing patient-perceived levels of stress and anxiety. Additionally, a feasibility study of the service reported beneficial patient-perceived outcomes regarding symptoms, including reduced swelling, improved sensation and increased flexibility in the lower limb (Langstone-Wring and Machin 2018).

By 2019 the service had expanded to provide 20 hours of foot reflexology sessions delivered five mornings per week (Monday-Friday) by two reflexologists with DCHFT honorary contracts. In the first author's (AL-W) experience, and from informal feedback from staff engagement events at which reflexology was offered to staff as a 'taster', service development has been driven by increased patient demand assisted by promotion of its benefits by nursing staff.

The foot reflexology service has been offered to adult oncology patients (aged over 18 years) receiving cancer treatment on Fortuneswell cancer ward and those attending the trust's chemotherapy outpatient unit since its inception. In 2019, the service was expanded to patients receiving outpatient radiotherapy during a three-month pilot project.

To identify patients who may benefit from foot reflexology, the reflexologists visit the ward and outpatient units daily and discuss with a senior member of staff which patients might be suitable for treatment. Patients with the following issues are generally considered unsuitable for foot reflexology treatment:

- » Patients with open wounds, ulcers or sores on the lower legs or feet.
- » Patients with a recent diagnosis of deep vein thrombosis and who are not receiving associated medicine.
- » Patients with a skin rash or allergy of unknown origin.
- » Patients in isolation.
- » Patients with cognitive impairment.
- » Patients with suspected spinal fractures.
- » Patients who are excluded from receiving reflexology treatment on clinical or medical advice.

The reflexologists talk to the patients identified as suitable for foot reflexology and explain what the treatment entails. Patients are also offered an information leaflet.

Combined consent/evaluation form

Patients who agree to have a foot reflexology treatment session are given a combined consent/evaluation form which provides evidence of consent and is used as a data collection tool. Patients fill out a new consent/evaluation form for each reflexology treatment as their symptoms often change throughout their cancer treatment.

The consent part of the form states that by completing the form patients are consenting to their information being stored and used for research purposes, staff training and service development. To ensure anonymity, patients are asked to initial rather than sign the form and neither their NHS number nor hospital number is recorded.

The evaluation part of the form is adapted from the Measure Yourself Concerns and Wellbeing (MYCaW) tool (Paterson et al 2007). Patients fill out the evaluation section of the form before and after each reflexology treatment and the data are entered at a later point onto a software spreadsheet by one of the reflexologists. The data are used in annual reports that are prepared for the funding charity, the DCHFT chief executive, cancer service management and staff to inform them about service quality, service uptake and patient satisfaction and to provide evidence of value for money.

Foot reflexology treatment method

The ethos of foot reflexology is to encourage a deep sense of relaxation. The length of each treatment is adjusted to meet individual patients' needs, but usually the maximum time per session is 20 minutes. Footwear is removed and the patient's feet are refreshed with disposable wet wipes. Grapeseed oil is then applied to the patient's feet to facilitate smooth delivery of the reflexology treatment.

An adapted sequence of reflexology massage movements is carried out, starting with the right foot then moving on to the left. The adapted sequence follows the Federation of Holistic Therapists Vocational Training Charitable Trust Reflexology Manual level 3 guidelines (Cressy 2006). Due to the complexities and frailty of some patients in this condition-specific group, a more even pressure is applied over the feet rather than organ-specific pressure. The sequence was standardised by the reflexologists to ensure continuity of treatment delivery for all patients across all sites.

Aim

The aim of the service evaluation was to evaluate the foot reflexology service offered

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at DCHFT from the patients' perspectives.

The objectives were to:

- » Identify patients' main concerns (symptoms) and measure their level of concern before and after a reflexology treatment session.
- » Capture patients' experience of:
 - The clinical foot reflexology service.
 - The beneficial effect of reflexology treatment on symptoms.
 - The therapeutic effect of reflexology treatment.
- » Ascertain the effectiveness of the combined consent/evaluation form as a method of data collection.

Method

A retrospective review of combined consent/evaluation forms completed between 1 January 2019 and 1 January 2020 was undertaken by the first author. These forms included those completed during a pilot project (12 August 2019 to 31 December 2019) that trialled delivery of the foot reflexology service to patients receiving outpatient radiotherapy treatment.

Data collection tool

DCHFT guidance on the foot reflexology service states that all patients should be able to measure symptom improvement following reflexology based on a comparison of level of concern scores before and after treatment. As previously mentioned, the form used to obtain consent and capture evaluation data relating to the reflexology treatment is an adapted version of the MYCaW tool. The MYCaW tool was originally developed by Paterson et al (2007) as an individualised method of evaluating outcomes in cancer support care, including complementary therapies. It is a validated and reliable patient-centred questionnaire that allows patients with cancer to identify and quantify the severity of their 'concerns' and 'well-being' (Paterson et al 2007, Jolliffe et al 2015).

The combined consent/evaluation form used by the DCHFT foot reflexology service has undergone a number of revisions since initial implementation of the service, based on patient feedback. The version of the form used during this service evaluation period provided space for consent (patient and reflexologist initials) and identification of the delivery site (Fortuneswell ward, chemotherapy unit, radiotherapy outpatient department).

On the reverse side of the form patients are requested to indicate their age and gender and whether they would recommend

the service to others. They are also asked to identify their concern(s) (symptoms), physiological or psychological or both, and to rate their level of concern on a ten-point scale, ranging from one (low) to ten (high), before and after their reflexology treatment. If a patient enters more than one concern, the first concern and its score is recorded on the software spreadsheet. Additional space is provided for comments about the patient's experience of the reflexology service, the beneficial effects of the reflexology treatment on symptoms and the overall therapeutic effect of the treatment.

Findings

A total of 2,078 consent/evaluation forms were reviewed. This equates to the number of reflexology treatments delivered during the service evaluation period and not the number of individual patients, as patients are asked to fill out a new form each time they have a reflexology session. Of the 2,078 reflexology treatments 1,041 (50%) were delivered in chemotherapy outpatients, 875 (42%) were delivered on Fortuneswell cancer ward and 162 (8%) were delivered in radiotherapy outpatients.

Patient-reported concerns

Patients reported a range of concerns. The most frequently cited was anxiety, followed by pain and swelling (see Figure 1).

Patient-reported level of concern before and after reflexology treatment

Figure 2 illustrates patient-reported level of concern before and after reflexology treatment sessions. The findings show that before the reflexology treatment, levels of concern were rated at the higher end of the scale (6-10) (1,543 [74%] forms) and that after the reflexology treatment levels of concern were rated towards the lower end of the scale (1-5) (1,923 [93%] forms). Only 155 (7%) consent/evaluation forms contained post-treatment levels of concern rated between six and ten. These findings suggest that patients' level of concern reduced following a foot reflexology treatment session.

Patient experience

A total of 1,839 (88%) of the 2,078 consent/evaluation forms contained patient comments, of which 638 (35%) were about patients' experience of the foot reflexology service (Figure 3), 247 (13%) were about the beneficial effects of the reflexology

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treatment on their symptoms (Figure 4) and 954 (52%) were about the therapeutic effect of the reflexology treatment (Figure 5).

Patients' experience of the foot reflexology service

There were no negative comments about the foot reflexology service. Some patient comments were complimentary about the

professionalism, care, compassion and personal approach of the reflexologists. Other comments included the words 'excellent', 'wonderful' and 'helpful' to describe the patient's experience of the service (Figure 3).

Some comments suggested improvements regarding where the reflexology sessions were delivered. For example, some patients

Key points

- Patients with cancer may experience physical and emotional benefits and improved quality of life following reflexology treatment
- Complementary therapies such as reflexology for patients with cancer can provide a unique therapeutic space for relaxation, address patients' physical concerns and offer an opportunity for emotional support
- In this service evaluation, patients' level of concern reduced overall following foot reflexology treatment
- Patients in this service evaluation reported beneficial effects of foot reflexology treatment on a range of symptoms, including pain, swelling and those related to peripheral neuropathy

Figure 1. Patient-reported concerns

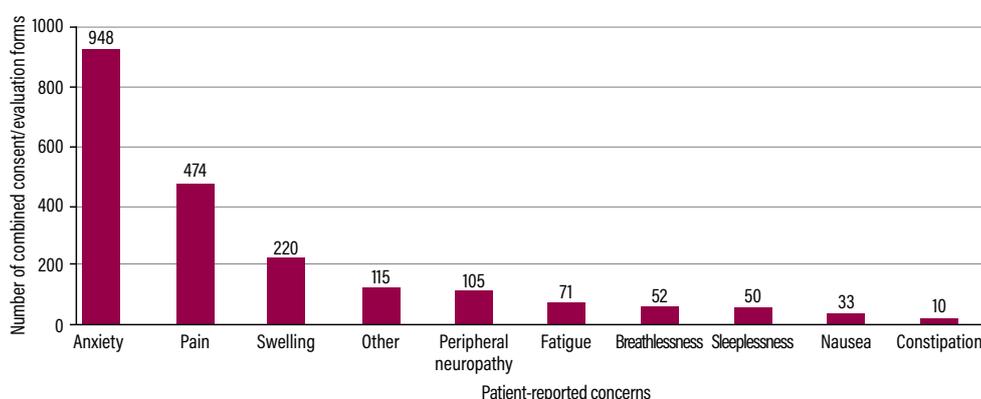


Figure 2. Patient-reported level of concern before and after reflexology treatment session

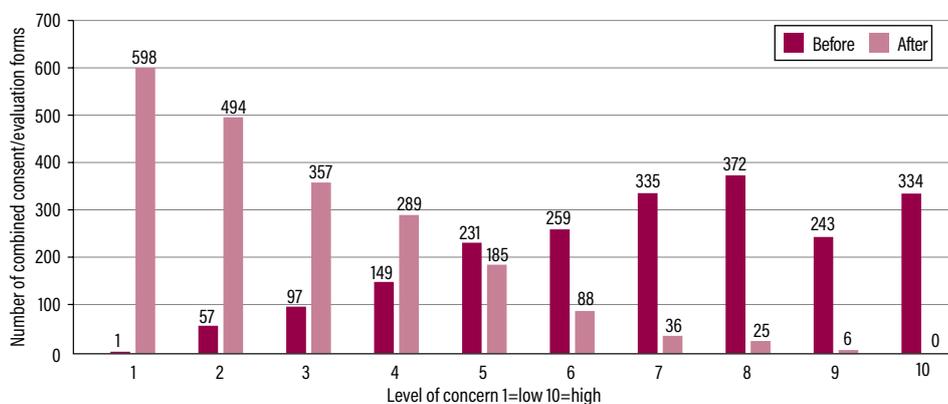
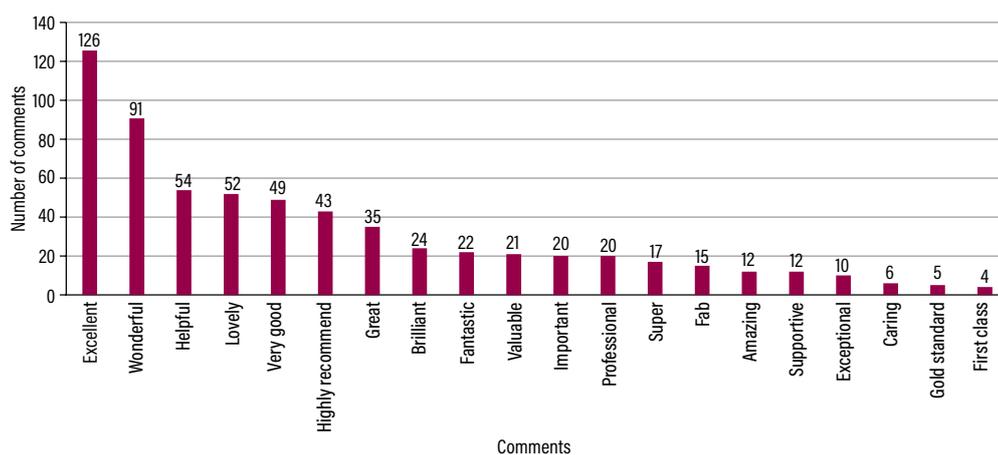


Figure 3. Patient comments on the foot reflexology service



commented on the need for more privacy, particularly in the chemotherapy outpatient unit. In the first author's experience, being able to talk privately to the reflexologist can enhance the patient's experience, but clinical space for delivering reflexology treatment in the chemotherapy outpatient unit is limited. Other comments, particularly from patients undergoing chemotherapy, were about the challenge of accessing the reflexology service, for example when demand outstripped availability of appointments or where those who required hospital transport could not match this to the timing of a reflexology treatment appointment.

Beneficial effects of reflexology treatment on symptoms

Of the 247 (13%) comments on this aspect, 36 (15%) were about the beneficial effects of the reflexology treatment on pain, 32 (13%) on swelling and 24 (10%) on symptoms related to peripheral neuropathy (see Figure 4). There were no comments about worsening of symptoms following reflexology treatment. Although these findings are based on subjective comments rather than empirical evidence, they have value as patient-reported outcome measures (Nelson et al 2015).

Therapeutic effect of reflexology treatment

Of the 954 (52%) comments on this aspect, 517 (54%) were about the relaxing effect of reflexology (Figure 5).

Effectiveness of the combined consent/evaluation form

The combined consent/evaluation form was considered by the first author to be an effective method of collecting data, based on

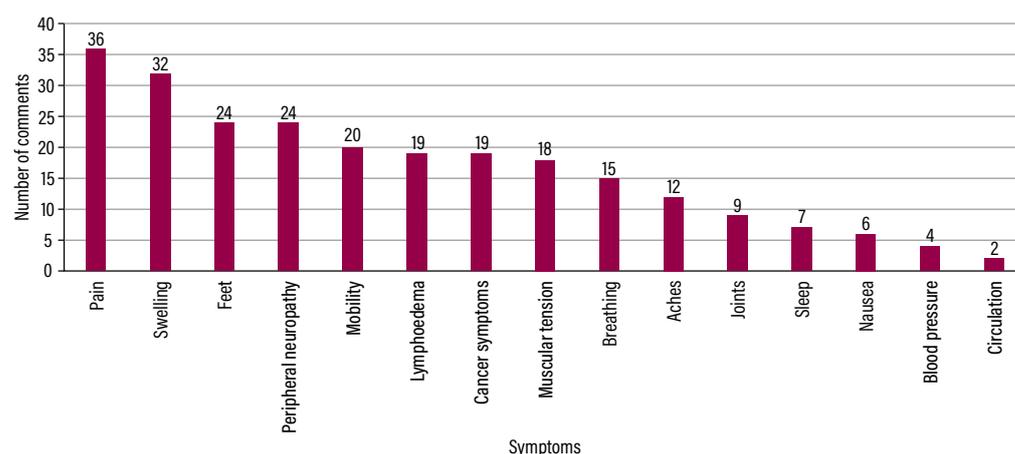
the number of completed forms available for review (2,078). However, the number of forms does not correlate with the total number of treatments delivered during the review period, as some forms were incomplete or unreadable and could not therefore be used in this service evaluation.

In the first author's experience, some patients can find it challenging to complete the consent/evaluation form due to physical issues, such as suboptimal eyesight or grip or cannulation, therefore rendering the form unreadable, while others can find the terminology confusing, particularly the word 'optional' applied to physiological or psychological concerns and the terms 'high/low' in relation to the level of concern scale.

Discussion and recommendations for service improvement

Evidence suggests that patients with cancer may experience physical and emotional benefits and improved quality of life following reflexology treatment (Tsay et al 2008, Wilkinson et al 2008, Wyatt et al 2012). Physiological symptom relief in this patient group is believed to be achieved through reducing symptoms of chemotherapy-induced peripheral neuropathy (Noh and Park 2019), decreasing pain and alleviating anxiety (Grealish et al 2000, Yang 2005, Quattrin et al 2006, Ghazavi et al 2016, Jahani et al 2018, Blackburn et al 2021) and improving sleep and digestive functioning (Elbasan and Bezgin 2018, Rambod et al 2019, Azari et al 2021). Patients in this service evaluation reported beneficial effects of the reflexology treatment on pain, swelling and symptoms of peripheral neuropathy, which supports the findings of previous research.

Figure 4. Patient comments on the beneficial effects of foot reflexology treatment on symptoms



A systematic review of the use of complementary and alternative medicine in oncology reported positive and significant findings regarding symptom improvement following reflexology (Calcagni et al 2019). Meanwhile, a service evaluation of a complementary therapy outpatient service offering aromatherapy, massage, reflexology and Reiki for patients with cancer found that such therapies provided a unique therapeutic space for relaxation, addressed patients' physical concerns and offered an opportunity for emotional support (Charlesworth et al 2018). In this service evaluation, patients commented on the relaxing effects of the reflexology and used words such as 'soothing' and 'comforting' to describe these effects.

Overall, the findings of this service evaluation suggested that the foot reflexology service was received well by patients. The findings were included in the annual report to the funder with a recommendation that the service should continue at the two original sites and should be implemented at the third site (radiotherapy outpatients). This was agreed and funding was secured for the service to be delivered in all three sites.

The service evaluation also identified some areas for improvement, which are discussed below.

Designated therapeutic space

Fortuneswell cancer ward comprises 17 beds, three isolation rooms and two specialist rooms for patients with neutropenia. Reflexology is delivered to patients who are confined to bed and to those who are able to sit out of bed, but there are few options for providing these patients with a private space for this treatment.

The outpatient chemotherapy unit consists of one large room with eight recliner chairs and two small rooms with three recliner chairs, one room with a bed for patients who are unable to sit and one room with a bed and recliner chair for clinical tasks such as wound dressing. Although a large chemotherapy room can provide patients with companionship and an opportunity to share experiences, some people prefer a more private space for reflexology treatment. At the time of writing, the chemotherapy outpatient unit was about to undergo remodelling which may include space for a complementary therapy room or a shared consultation room.

Meeting demand for appointments

Meeting demand for reflexology appointments is challenging, due in part to the limited funded hours and the number of reflexologists.

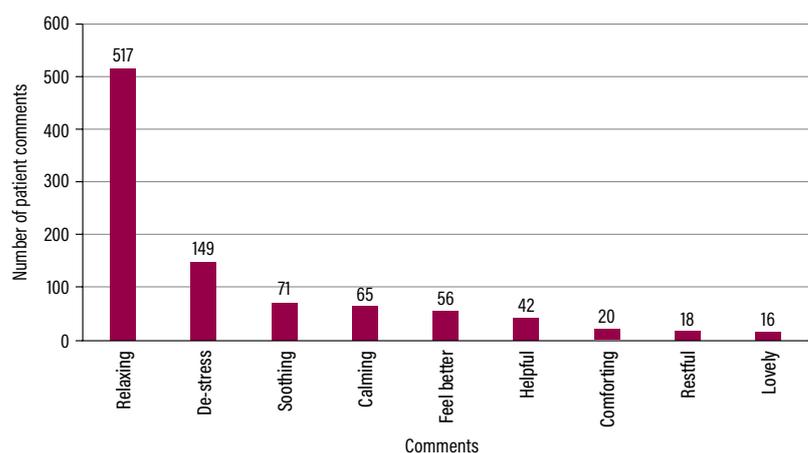
It may be possible for oncology staff to prioritise patients for referral to the reflexologists; for example, patients on Fortuneswell cancer ward who are in acute pain or who are receiving end of life care, or patients attending outpatients who may have a needle phobia or acute symptoms related to chemotherapy or radiotherapy treatment.

Consent/evaluation form

It is important to use a validated data collection tool when conducting a service evaluation but such tools must also meet the needs of the intended patient group. In the first author's experience, patients who receive foot reflexology treatment at DCHFT are often extremely unwell or extremely fatigued, therefore the data collection tool must be short, easy to understand and simple and quick to complete. Consequently, the combined consent/evaluation form has undergone numerous revisions based on patient feedback since the foot reflexology service was first implemented.

Based on the first author's experience of the process of reviewing the consent/evaluation forms for this service evaluation, suggested improvements include simplifying the level of concern scale by using the words 'better/worse' rather than 'low/high' and removing the word 'optional' in relation to physiological or psychological concerns. Additionally, the reflexologist could write patients' verbal scoring and comments on the form on their behalf and add their initials to acknowledge this. These changes could result in fewer incomplete forms and therefore provide a larger amount of data to inform future funding applications and potentially increase funded treatment hours.

Figure 5. Patient comments on therapeutic effect of the foot reflexology treatment



Conclusion

Clinical foot reflexology can offer patients with cancer relief from symptoms associated with their condition or cancer treatment, for example pain, swelling or those related to peripheral neuropathy, reduce their anxiety levels and provide therapeutic effects such as relaxation and comfort. Reflexology and other

complementary therapies are generally funded and delivered by external providers, therefore it is essential to be able to evidence patient outcomes and capture patients' experiences, not only to secure funding but also to learn from patients' experience to continually improve the delivery of such interventions to meet patients' needs.

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