

Measuring Patient Response to Clinical Foot Reflexology (CFR) Delivery within a UK National Health Service Cancer Service.

Abbigail Langstone-Wring^a and David Machin^b

^aCancer Service, Williams Avenue, Dorset County Hospital, Dorchester, DT1 2JY

^bDepartment of Cancer Studies and Molecular Medicine, Clinical Sciences Building, University of Leicester, Leicester Royal Infirmary, Leicester LE2 7LX

Correspondence: abigailwring@btinternet.com

Introduction

Reflexology is a complex method of massage that incorporates the application of gentle yet firm pressure to “mapped” areas on the feet thought to link through neural pathways to organs and body systems. Although there is no consensus of its mode of action and no definitive foot ‘map’ it is rated within the top six complementary therapies.(1) Clinical foot reflexology (CFR) is believed to aid circulation and balance the nervous system. It is recognised as an avenue for human touch, can be performed anywhere, requires no special equipment, is non-invasive and does not interfere with patient privacy (2). A House of Lords select committee (3) categorized reflexology as a Group 2 therapy defined as fulfilling an important role in relieving stress and symptoms associated with side effects from cancer treatment despite evidence of its effectiveness being mostly subjective and anecdotal with little credible research support. The possible reasons for this are that practicing reflexologists may lack the appetite, skills or funding opportunities to carry out randomised controlled trials (RCT) (4). However, studies in cancer patients have revealed evidence of reflexology being effective in symptom relief (5), reducing peripheral neuropathy (6), decreasing pain (7), nausea, vomiting and fatigue (8). A hospice audit identified reflexology as helping with relaxation (9), while in end-of-life patients from a general hospital quality of life was improved (10). By 2009 CFR was offered in 62% of NHS Cancer Units (11).

Aim

To investigate the feasibility of integrating CFR into existing cancer services and provide an indication of the magnitude of stress level changes between pre- and post-CFR.

Methods

A prospective clinical study structured to assess the impact of CFR on cancer patients. CFR was delivered on Tuesday mornings, 4 hours for 50 weeks in two localities: a cancer ward and an out-patient chemotherapy clinic. Consenting participants were asked to complete a visual analogue scale (VAS) before and after CFR. The latter included space for comments concerning the CFR received.

Inclusion Criteria: All adult cancer ward in-patients and out-patients attending chemotherapy clinics irrespective of age, gender, type of cancer, chemotherapy cycle or reason for admission to the ward. The reflexologist had no access to patient records and therefore no knowledge of the personal details, or treatment plans.

Exclusion criteria: Patients thought unsuitable for CFR: Those with poor skin quality, such as lower leg ulcers, fungal foot infections, sores or wounds; allergies, such as hypersensitive skin as a result of chemotherapy, medical advice concerning infections.

Treatment Protocol: CFR adhered to the Association of Reflexologists codes (12) and Vocational Training Charity Trust reflexology guidelines (13). Hospital cancer ward and chemotherapy unit standards of patient care, hygiene and safety guidelines followed. Both feet were refreshed using wet wipes and a maximum of 30 mins of CFR delivered. Delivery commenced with the right foot, then the left using a grapeseed oil medium. Aftercare advice was offered as appropriate.

Data Collection: A challenge was to identify a short and efficient method of assessment for use in a busy clinical setting (15). After preliminary use of a recognised questionnaire (14) and a stress thermometer (15), both were found impractical. A simplified, and more user-friendly, VAS was developed comprising a 0-10 scale: 0 indicating 'No Stress' to 10 'Extreme Stress'. Participants circle the number that they feel illustrates their current stress level immediately pre-CFR and

(on a second copy) post-CFR. The second copy included a free-comments section. All data collected was anonymised.

Data Analysis: The mean pre- and post-CFR stress scores, and their mean differences and associated 95% confidence interval were calculated. The individual values are illustrated as histograms (see Figure). Feedback comments were extracted from the VAS, collated and themed.

Ethical Approval: After a clear explanation of CFR (emphasising to patients that if they declined CFR this would not in any way compromise their care), assurances of confidentiality and anonymity and, in line with hospital policy, all participating patients were verbally consented.

Results

Some patients approached declined CFR but their specific reasons were not recorded although several older patients were reluctant to have their feet touched. From November 2014-October 2015 a total of 289 patients received CFR of whom 18 used the instruments which were later abandoned. Among the remaining 271, 14 (5.2%) patients were unable to complete the assessment (4 too frail, 4 confused, 6 misunderstood the instructions) leaving 257 patients providing data. The majority of patients were female (91.4%) with similar proportions from each patient group (Table).

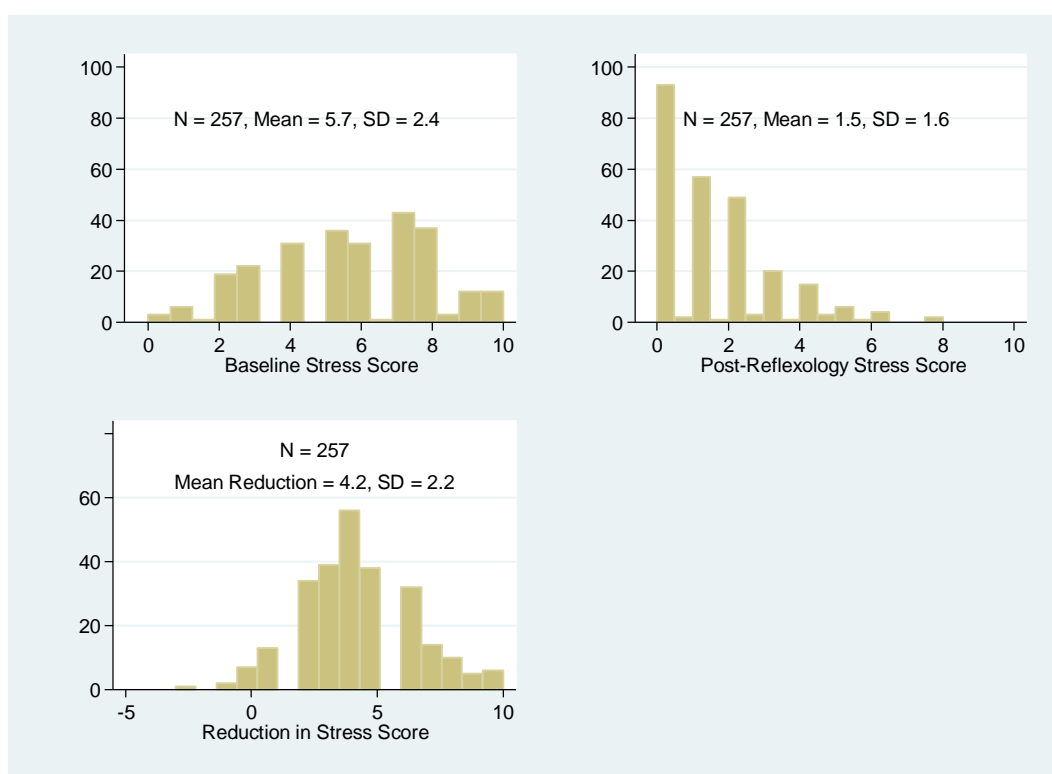
Table Patient type, gender, mean and standard deviation (SD) of stress scores pre and post-CFR, the corresponding mean reduction in stress score, and patient feedback.

		Patient Type		All
		Ward	Out-patient	Patients
Number of patients	<i>n</i>	134	123	257
Gender	Female	126	109	235
	Male	8	14	22
VAS Stress Score				
Pre-Reflexology	Mean	5.86	5.47	5.67
	SD	2.36	2.34	2.34
Post-First Reflexology treatment	Mean	1.71	1.20	1.47
	SD	1.80	1.33	1.61
Reduction in stress score	Mean	4.15	4.26	4.20
	SD	2.42	2.06	2.24
Post-CFR feedback				
Felt relaxed	<i>n</i> (%)	32 (23.9)	55 (44.7)	87 (33.9)
Other favourable comment	<i>n</i> (%)	32 (23.9)	30 (24.4)	62 (24.1)
No feedback	<i>n</i> (%)	70 (52.2)	38 (30.9)	108 (42.0)
Lower limb-to-toe symptom relief				
Reduced Swelling	<i>n</i>	2	1	3
Improved Feeling	<i>n</i>	6	3	9
Increased Flexibility	<i>n</i>	1	1	2
Other symptom relief				
Sleep	<i>n</i>	3	4	7
Tension	<i>n</i>	1	-	1
Headache	<i>n</i>	1	-	1
Pain	<i>n</i>	3	1	4
Nausea	<i>n</i>	-	1	1
Pain & Nausea	<i>n</i>	-	1	1
General experience				

Good to Fantastic	<i>n</i> (%)	21 (15.7)	33 (26.8)	54 (21.0)
Other positive	<i>n</i>	5	11	16
Thanks for advice	<i>n</i>	1	3	4
General - Thank you	<i>n</i>	1	2	3

The overall mean stress score at first presentation was 5.7 with a standard deviation (SD) 2.4 which had reduced to 1.5 (SD 1.6) following CFR. The mean reduction experienced was 4.2 (95% CI 3.9 to 4.5).

Figure: Distributions of the pre- and post-CFR Stress Score, and the corresponding reduction.



Feedback post-CFR from 149 (58.0%) patients comprised 51.6% and 69.1% from the ward and out-patient groups respectively (Table). One-third (33.9%) reported feeling 'relaxed' although the proportions from the ward (23.9%) and out-patients (44.7%) differed substantially. Lower limb-to-toe improvements in symptom were reported by 14, while 15 reported other symptom relief: the most common of which was 'feeling sleepy'. Phrased in a variety of ways, general comments concerning the experience of 54 (21.0%) patients ranged from Good to Fantastic.

Discussion

The decision to test CFR against cancer patients' perception of their levels of stress was in part due to existing evidence of the impact stress has on the psychological wellbeing of cancer patients and the ability of reflexology to reduce stress, anxiety and enhance wellbeing (16). However, a challenge to the data collection process was sourcing a recognised, simple, quick and easy to use assessment tool. Having experienced problems with existing tools, and to prevent delay, a simple VAS using the two extremes of 0 and 10 was constructed which requires formal validation in future studies. However, response by the patients to this VAS has been positive as the assessment was quick and easy.

The mean patient pre-CFR stress score was 5.67 and differed only marginally between the in-ward and out-patient groups. The majority (80.2%) of patients had scores above 4 which is much higher than the 29.4% recorded in a previous study of 34 cancer patients (17). Post-CFR the mean score was 1.47, albeit a little higher for the ward in-patients. The overall reduction in VAS was 4.2 with only 3 patients showed higher VAS post-CFR and 7 no change.

The most frequent patient comment was 'feeling relaxed' and several reported 'feeling sleepy'. As quality of sleep can be a major factor for cancer patients this outcome can be regarded as positive. These findings reflect evidence that CFR may produce a significant and immediate effect when measuring patient perceptions of relaxation. Patient identified symptom changes affecting the lower limb-to-toe were recorded by 14, three reported reduced swelling and two increased flexibility. Loss of sensation in the feet from nerve damage as a result chemotherapy is a recognised issue affecting many cancer patients. These findings are similar to evidence from a Korean study that showed reflexology was effective in reducing peripheral neuropathy and symptom distress (6). As noted in earlier studies (5, 7, 8), relief of headaches, pain and nausea following CFR were experienced by some.

Patient feedback on their overall experience of the CFR service was positive with the words good to fantastic being expressed. Providing a choice and some flexibility of service are seen as positives from a patient perspective (1). Nevertheless providing flexibility does highlight complex issues of standardisation, replication and transferability. Our study findings were presented to the funder and, together with

positive clinical staff feedback, further funding to expand the service was secured. To date over 1,000 CFR treatments have been delivered and sessions have been secured for 2018.

However, to provide robust and objective evidence of physical symptom change induced by CFR requires a programme of RCTs with physiological and/or biochemical outcomes (1).

Conclusion

CFR has been shown to be a useful intervention for reducing stress and provides symptom relief in patients undergoing cancer treatment. We have demonstrated CFR can be integrated into a busy cancer ward and chemotherapy unit without inhibiting daily routines. The findings provide evidence of CFR activity which needs to be fully evaluated in RCTs.

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