

IRIS Cancer Partnership



A Systematic Literature Review of the Evidence Relating to Massage for People Living with Cancer

A Report by Anne Douglas

May 2013

Acknowledgements

The Iris Cancer Partnership gratefully acknowledges the help it received in this research project both from the voluntary input of Iris members past and present, and the contributions of those external to Iris. In particular, we would like to acknowledge the invaluable help and support of Gayle MacDonald of the Peregrine Institute.

1. Introduction

Background

Iris Cancer Partnership is a Scottish Charity set up in 2010 to advance and inform the use of massage for people with cancer. Central to the charity is the development of an educational programme to support the development of Iris massage therapists. Iris also works to identify gaps within current services and opportunities for the development of Iris Massage Services. Iris has many partner organisations including the NHS, other voluntary sector groups and the educational sector. The Iris team consists of a wide range of individuals including those with experience of cancer, health professionals including nurses, medics and managers, massage therapists, fundraisers, researchers, industry sector professionals and educationalists.

Iris recognises the need to establish the current evidence base for massage in people with cancer, to support its work. It plans to develop a series of information resources for the general public, health professionals and massage therapists, based on this evidence and has therefore undertaken a systematic review of the current literature. This report sets out the results of the literature review.

Purpose

The aim of the study was to undertake a systematic review of the most recent research evidence. The report is intended as a rigorous attempt to objectively review the research evidence on the efficacy of massage for people living with cancer rather than to present an academic treatise. The review has been undertaken with the emphasis on discerning findings which will be of practical benefit to the general public, health professionals and massage therapists.

Study method

The study took the form of a literature review based on the results of a search to meet the criteria as set out in section 2 below.

The study addressed the following aspects of recent research

- The research methods used
- The types of cancer included in research
- The massage methods included
- The evidence on benefits and effectiveness of massage for people living with cancer
- Any evidence of adverse effects of massage therapy

2. Study method

A set of search criteria was identified for the Literature Review and from this, Napier University Librarian provided a search with the criteria as summarised below:

- English language
- Dates- 2005 to 2012
- Papers that relate to massage and touch in people with cancer
- Papers that relate to massage and touch in relating to palliative care
- Papers that include outcome measures and an evaluation component
- Papers that utilise either cohort studies, experimental designs, randomised controlled trials or systematic reviews
- Papers that report qualitative findings will provide background and further data

In addition, the Librarian was given a list of academic sources to search and a list of 13 search terms (Appendix 1). The search yielded 122 published documents for which abstracts were then obtained. (Appendix 2 of the study report lists the identified texts.)

The Researcher carried out an initial review of all abstracts to select those relevant for inclusion in the study. At that stage the following were excluded

- any documents identified as not being research reports (e.g. abstracts or discursive articles)

- texts published pre 2007 (this refinement was made to ensure that the research would be considered recent in 2013 as well as the fact that many of the studies included references to the earlier research.)

3. Findings

The original total of 122 texts was reduced to 56 publications when the refined exclusion criteria were applied. Table 2, which appears as Appendix 3, sets out the Publications that were reviewed for the study. Although all of these texts were reviewed, a total of 13 had to be excluded from the results as, on examination, they did not meet the research criteria.

These publications were reviewed and categorised as follows:

Date of publication

The study publication dates ranged from 2007 to 2012. Eighteen of the studies were dated 2010 or later.

Research Methods used

To a certain extent, the search criteria dictated the research techniques found as it specified that only papers that utilised either cohort studies, experimental designs, randomised controlled trials or systematic reviews be included as well as papers that reported qualitative findings.

- 16 of the publications reported on Randomised Control Trials and 2 on Non-Randomised Control Trials
- 5 publications used Literature Reviews
- 9 Pilot/Feasibility Studies
- 7 publications covered pre and post treatment evaluation studies
- 1 post message postal survey
- 6 publications were issues/review based
- 4 were described as Qualitative

(The total number of different study types does not equate to the sum of the types as the research method categories are not mutually exclusive.)

Size of study

The total number of participants in each of the studies was not always given; indeed for some of the publications, such as literature reviews, it was not applicable. Where a figure was provided, the study sizes varied greatly with the smallest having only 8 participants and the largest with 348 participants.

Where figures were quoted, the largest grouping of studies had between 21 and 50 participants (17 studies);

Three studies had less than 20 participants;

Five had more than 50 and less than 101;

and Five¹ had between 102 and 348

¹ Includes one study with, "more than 100 participants" rather than a number.

Type of cancer included in the research

The single largest group represented in the study was that of people with breast cancer. This category accounted for 15 of the studies. Sixteen of the studies covered participants from groups of people with different types of cancer. Five studies defined participants as Palliative Care or End of Life. People with metastasised bone pain were included in 2 of the studies, children with cancer in 2, brain tumour patients in 1, stem cell transplant patients in 1 and HTU patients in 1. The remaining studies did not specify a cancer type for participants.

The massage methods included

The studies reported on research using a range of massage procedures. Only one study combined massage with core stability exercises and one considered Manual Lymphatic Drainage. The remaining studies included full body massage; hand and /or foot massage; seated massage; and aromatherapy massage.

The evidence on benefits and effectiveness of massage for people living with cancer

The findings from the review on the benefits and effectiveness of massage for people living with cancer have been grouped into themes and reported below.

Themes

The reference numbers (in brackets) link to those used for referencing texts in the Study Database Result Tables

1. Decrease in Anxiety

Findings related to decreased anxiety were reported in a substantial number of Publications, these included examples from across the study types.

- Immediate decrease (15)
- Evidence of reduced anxiety (30) (35) (59) (81) (82) (83) (107) (111) (118)
- Consistent benefit for anxiety and depression clinical trials (20) (66) (75) (118)

2. Reduced Mood Disturbance

A significant number of the studies found improvements in mood as a result of massage. This heading included examples such as of decreased anger and reduced depression as well as improved mood state.

- Mood disturbance improved to similar values to healthy women (3) (74)
- Evidence of reduced depression (20) (35) (54)

- Improved mood state (35) (60) (67) (75)
- Anger decreased (20) (54) (74) (75)
- Listlessness reduced (74)

3. Wellbeing

Improved wellbeing included a range of findings relating to expression of how people felt better as a result of massage.

- Experience of dignity and Freedom (5)
- Improved wellbeing (20) (63)
- General feeling of wellness (93)
- Physical discomfort (27)
- Reduced emotional discomfort (27)
- Existential respite with release from illness (24)
- An experience of thoughtful attention (24)
- A sensation of complete tranquillity (24)
- Improved Quality of Life (71) (107)

4. Pain reduction

Reduction in pain as a result of massage was reported in ten of the publications, 3 of these were literature reviews and the other seven were reports of control trials and pilot/feasibility studies:

- Evidence of pain reduction lasting up to 18 hours (35)
- Evidence for reduced pain (20) (27) (30) (59) (60) (67) (74) (82)

5. Stress

Stress is increasingly recognised as important to health and several of the publications reported evidence for reduction in stress levels as a result of massage.

- Reduced stress (20) (30) (63) (75) (83) (93) (106)
- Reduced cortisol levels (75)

6. Decrease in Fatigue

Evidence of decrease in fatigue as a result of massage was reported:

- Fatigue decrease suggested a medium clinically improved change (3)
- Fatigue (20) (27) (74) (75) (93)
- Tiredness (54)

7. Help with Coping

This category grouped together findings that related to people's feelings of adequacy in being able to cope with specific symptoms or the effects of having cancer in a more general sense.

- Programme helped with coping with cancer related symptoms (3)
- Some reduced severity of physical symptoms (20)
- Distraction from a frightening experience (8)
- Turning a negative into a positive (8)
- Confirmation of caring (8)
- Improved ability to think clearly (93)
- Improvement to specific concerns of brain tumour patients (63)

8. Relaxation

This category included both general feelings of relaxation as well as studies that looked specifically at the effects on muscles.

- Increase in relaxation (30)
- Sense of relaxation (8) (93)
- Reduced muscle tension (30) (93)
- Muscle relaxation (60)

9. Lowered Nausea

Three publications found evidence for reduced nausea as a result of massage:

- Women undergoing chemo for breast cancer (7)
- Assistance with nausea and vomiting (111)
- Self reported decrease (107)

10. Sleep

Three of the reports, one with patients with bone mets and two with people with breast cancer, found evidence of improved sleep.

- improved quality (60) (93) (107)

11. Immunity

Two of the publications noted evidence for improved immunity as a result of massage:

- Immunological state ameliorated (55)
- Increase in secretion of antimicrobial peptides (83)

The first of these is a study involving aromatherapy with breast cancer patients and the second was a control trial using leg massage on patients with a mix of cancer types.

12. Muscle Strength

Improved muscle strength was noted as a benefit of massage in one of the studies and this study combined massage and core stability but reduced muscle tension and muscle relaxation was reported in a further 2 studies (mentioned under the relaxation heading):

- Significant and clinically improved muscle strength, (maintained effects in improved mood and strength, although slightly reduced, after 6 months using DVD support) (3)

13. Constipation

Only one of the studies reported on this aspect.

- Constipation lowered (71)

14. Negative effects of massage

Many of the publications did not address the issue of possible negative effects of massage.

- Lack of adverse effects associated with massage (35)
- No adverse effects of massage therapy in cancer patients (20) (59) (106)
- No evidence of spread of cancer cells (74) (82)

15. General

This heading relates to findings that are not about the direct effects of massage on people with cancer, rather they concern lessons or conclusions that have been drawn from the experiences of the researchers involved.

- Consensus that therapists need specialised training in oncology massage (20) (111)
- Discussion of fee for service (30)
- Extended benefits to family (86)
- Builds rapport and improves communication (86)
- Informing Therapists what to expect for clients with cancer (102)

Findings by cancer type

By its very nature, the Literature Review findings are dependent on what types of cancer have been included by the publications, rather than presenting a comprehensive picture of the effects of massage for any or all types of cancer patients.

Working with the available data and recognising its limitations, the themes were also looked at for each of the categories of cancer types defined in the review.

It is worth emphasising that the themes reflect the effects that researchers were seeking to study rather than all possible effects of massage for people living with cancer.

Once again, the numbers in brackets refer to the texts in the data tables that can be found in Appendices 2 and 3 of the report.

Breast Cancer Patients

- Nausea (7,107)
- Fatigue (3,74,75,93,54)
- Muscle strength (3)
- Pain reduction (30,74)
- Immunity (55)
- Anxiety (30,107,66,75)
- Mood Disturbance (3, 54,74,75)
- Stress (30,75,93)
- Relaxation (30,8,93)
- Sleep (93,107)
- Wellness (93,71)
- Help coping (3,8,93)
- No spread of cancer cells (74)

Mixed/Unspecified cancer Patients

- Nausea (111)
- Fatigue (20,27)
- Pain reduction (35,20,27,67,82,83)
- Immunity (83)
- Anxiety (15,35,81,82,83,111,118,20)
- Reduced depression (20,35)
- Mood (35,67,20)
- Stress (20,83)
- Improved wellbeing (5,20,27, 71)
- Reduced physical symptoms (20)
- Constipation (71)
- No negative effects (35,20)
- No spread of cancer cells (82)

Palliative care/End of life

- Wellbeing (24)

Bone mets patients

- Pain reduction (59,60)
- Anxiety (59)
- Mood (60)
- Relaxation (60)
- Sleep (60)
- No negative effects (59)

Brain tumour patients

- Stress (63)
- Improved wellbeing (20)
- Specific concerns of brain tumour (63)

HTU patients

- Stress (106)
- No negative effects (106)

Evidence of adverse effects of massage therapy

This aspect of the literature review has been mentioned in the previous section on evidence relating to findings (subheading 14). Many of the publications did not specifically address the question of adverse effects of massage. This may be because there is now a wider recognition of the understanding of how cancer cells spread both within medical professional and massage therapists. Alternatively, it may reflect the fact that researchers involved in massage for people living with cancer are more knowledgeable and therefore less likely to feel the need to look for and comment upon lack of negative effects.

None of the studies reported that there was evidence for negative or adverse effects of massage and eight of the studies reported that there was no evidence for this. A number of studies did draw attention to the use of specially trained therapists for massage for people living with cancer within their reports.

4. Study Limitations

- Secondary research method assumed earlier research findings were accurate.

- Lack of consistency (study methods, benefits investigated, sizes, treatments [e.g. aromatherapy only], timescales).
- Results cannot be considered in a cumulative way as several publications have reported on the same studies.
- Research method produced results dependent on what types of cancer have been included by the publications rather than presenting a comprehensive picture of the effects of massage for any cancer patients.
- No weighting can be given to the themes of findings based on different study methods or numbers of study participants
- Only 2 studies included children (therefore we have not commented on massage for children in the report)
- Only 1 study dealt with constipation ⁽⁷¹⁾
- Only 1 study dealt with MLD ⁽¹¹⁹⁾

5. Conclusions

There is a substantial body of recent publications reporting on the effects of massage on people living with Cancer. The publications reported on a range of study types and included research for massage for people with a number of different types of cancer. Lack of consistency amongst study methods and procedures made it difficult to draw quantitative conclusions but a series of beneficial effects of massage can be grouped and reported under themes.

None of the studies reported that there was evidence for negative or adverse effects of massage, indeed, eight of the studies reported that there was no evidence for this. A number of studies did highlight the use of specially trained therapists for massage for people living with cancer within their reports.

Several of the studies commented on the need for specialist training for therapists giving massage for people living with cancer.

The research found that massage can help people suffering from a number of adverse effects and symptoms of cancer and its treatment. For people from a range of different cancer types, it was found that massage can produce benefits related to: Anxiety; Mood disturbance; Wellbeing; Pain; Stress; Fatigue; Help with Coping; Relaxation; Nausea; and Sleep.

6. Recommendations

It would appear that the research evidence on the benefits of massage for people living with cancer is not widely known by all of those with an interest in this field. It is hoped that this research will help to disseminate the current, most up to date, research.

In addition, the research reveals gaps in our knowledge and understanding. For example, little research relating to massage for children living with cancer was found and this may be an area that researchers would wish to consider in the future. Comparison of the effects of different research settings and massage techniques was not addressed in many of the reports and there may be opportunities to research this through the work of the Iris Cancer Partnership.

A number of studies addressed difficulties of research design that may provide a useful guide for any future research projects. Several of the studies identified interesting issues that were not within the remit of this review, such as, the effect of charging for massage; what therapists can expect when working with clients with cancer; and the extension of benefits to wider carers and family.

It is recommended that the Iris Cancer Partnership develops a network for research dissemination amongst cancer and massage practitioners in Scotland. Such a group could use the present report as a starting point for identification of opportunities for dissemination of the benefits of massage for people living with cancer as well as to identify opportunities for research and reporting of future initiatives.

Appendices

1. Original Literature Review data search criteria
2. Table (1) of Identified papers - screening for inclusion/exclusion
3. Table (2) of Selected Publications Reviewed

Appendix 1

Original Literature Review data search academic sources and list of search terms.

Databases used by the Napier University Librarian

AMED

Medline

CINAHL

Cochrane

PsycInfo

Embase

Google Scholar

UK Clinical Research Network Portfolio

UK Clinical Trials Gateway

National Cancer Research Network- Complementary Therapies Development Group

Cancer UK-Complementary and alternative therapy research

Research Council for Complementary Therapy

National Association of Massage and Manipulative Therapists

National Centre for Complementary and Alternative medicine (NCCAM-USA)-

Clinical trials.gov

European Information Centre for Complementary and Alternative Medicine

Search terms used by the librarian

Medline (EBSCO) search strategy

1 (MM "Neoplasms+")

2 (MM "Oncologic Nursing") OR (MM "Oncology Service, Hospital")

3 (MM "Medical Oncology+")

4 cancer* or neoplasm* or oncol*

5 (MM "Palliative Care")

6 (MM "Terminal Care+")

7 palliative care or terminal care

8 end of life

9 S1 or S2 or S3 or S4 or S5 or S6 or S7 or S8

10 (MM "Massage")

11 (MM "Touch")

12 S10 or S11

13 S9 and S12