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Editor's Comments

On behalf of the Association's committee, I am delighted to welcome you again to the Journal of the Association of Chartered Physiotherapists in Oncology and Palliative Care (ACPOPC).

The ACPOPC Committee were delighted with the positive feedback we received from our inaugural issue, we hope you enjoyed reading it as much as we enjoyed putting it together. Our aims for the journal are to assist our members in sharing good practice and improve their research awareness. We also hope to encourage members to have new opportunities for publishing their work and develop confidence in research skills.

This year's journal brings together some really interesting articles which reflect the diversity of work that our members are involved in. It is really exciting to read about some of the innovative work that is happening in our field. Thinking creatively about the challenges we face in our roles is vital in the current climate and it is great to see physiotherapists at the forefront of this.

If you have been inspired by the articles published in this edition and have identified some of your own work that could be reported we would love to hear from you. Guidelines for writing for the journal can be found on the ACPOPC website (<http://acpopc.csp.org.uk/>) . Please contact me on the address below if you have anything that may be of interest to our members.

We hope you enjoy reading the articles, it would be great to know your thoughts and reflections on the articles, why not get in touch, either by email as below or tweet us @ACPOPC .

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Where are all the men? - A six-month service improvement pilot addressing low engagement of Men with Prostate Cancer into Rehabilitation Services in North East London by a specialist Oncology Physiotherapist

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Abstract

Prostate Cancer is the most common cancer in men and is often linked with a wide range of distressing physical and psychological impairments. North East London has a higher than national average incidence of prostate cancer however, these men are poorly accessing curative and palliative rehabilitation. The aim of this 18-month service improvement project was to engage more men with prostate cancer in North East London into these rehabilitation services. The project was funded by Prostate Cancer UK and was a collaboration between Barts Health NHS Trust and St Joseph's Hospice. The method utilised three separate work streams to engage more men into rehabilitation services:

1. Health and Wellbeing Clinics
2. Individual Physiotherapy Sessions
3. Teaching sessions for clinicians

Across the three interventions a total of 193 men and partners/carers successfully engaged with the project; receiving rehabilitative assessment, treatment or education. Participation in Specialist Physiotherapy rehabilitation correlated with an average 209% increase in individual physical activity levels and a trending cost of £3160 per quality of life adjusted year gained. Significantly, the number of men with advanced prostate cancer participating in out-patient Physiotherapy at St Joseph's Hospice tripled and the number of men who attended the Cancer Transitions programme (within Barts Health NHS Trust) increased by 600%. This represents a significant achievement and indicates evidence to support the provision of Specialist Physiotherapy for men with Prostate Cancer.

Introduction

Prostate cancer is now the most common cancer for men in the UK. More than 41,700 men were diagnosed in the UK in 2011 with areas of London identified as having some of the highest incidence rates nationally (Cancer Research UK 2013). While survival has increased substantially over the last 40 years, prostate cancer is the second highest cause of male cancer death in the UK (Thompson et al 2007).

Evidence indicates that prostate cancer and its various treatments are associated with a wide range of distressing physical and psychological symptoms, including fatigue, lymphoedema, anxiety, depression, hot flushes and impaired mobility which can affect individuals for many years (Macmillan 2011). Sullivan et al (2012) in the Lancet Oncology Commission discussed that the burden of cancer is a major economic expenditure for high income countries and that 'novel, more effective, and less toxic interventions should be explored as a way of improving the effectiveness of cancer care'. Complementing this need is the increasingly strong evidence that physical activity can help prevent and manage symptoms of cancer and its treatment (Rankin and Gracey 2008) and that exercise reduces the risk of prostate cancer disease progression by 57% (Richman et al 2011) and recurrence and mortality by 30% (Kenfield et al 2011).

In 2008 Oncology Physiotherapist Dr Karen Robb scoped and developed a 6-week cancer transitions programme focusing on getting individuals following treatment for cancer back to wellness, exercise, nutrition, emotional well-being, medical management and moving beyond treatment.

The Cancer Transitions programme aimed

to address the cancer rehabilitation issues in East London funded by Tower Hamlet's Public Health. The programme was rigorously evaluated in 2012 (the first of its kind in the UK) and rated highly by participants, promoted changes in lifestyle, particularly increases in physical activity and better dietary habits. However, the gender mix of participants was discouraging, more women took part (80%) and no men with Prostate Cancer completed the course.

This was concerning as the incidence of Prostate Cancer is predicted to rise exponentially in the future (Cancer Research UK 2013). Lintz et al (2003) explained that men having undergone cancer treatment have rehabilitation needs, but hesitate to participate in the services offered. Research is in its early stages regarding how best to engage men into more positive health behaviours (White et al 2011), men appear to have poorer health habits and less interest in healthy lifestyle and often keep their problems to themselves (Pedersen et al 2011).

This evidence is concurrent with findings from our scoping exercise in North East London, which revealed that few men have accessed palliative rehabilitation in East London and zero men have completed the Barts Cancer Transition programme since it started in 2012.

Aim

To address the discrepancy in rehabilitation service uptake by men with prostate cancer, by engaging more men with prostate cancer into rehabilitation services across North East London.

Method

The charity Prostate Cancer UK collaborated with Barts Health and St Joseph's Hospice in

2014 to fund an 18-month pilot project. The service improvement project incorporated 3 rehabilitation interventions with tailored patient related outcome measures and evaluation tools described below:

1. Health and Wellbeing Clinics to provide face to face exercise and health promotion for all men referred via Prostate Cancer clinics.

The National Cancer Survivorship Initiative and London Cancer recommends health and wellbeing clinics (HWBC) to help people get support and education to improve quality of life and healthy behaviours. To address the lack of HWBC's in North East London and improve face to face engagement, education and sign posting to local

services, this project worked in collaboration with Penny Brohn Cancer Care and Prostate Cancer UK to deliver three health and well-being events for men with prostate cancer in North East London.

2. Individual physiotherapy sessions for men with prostate cancer experiencing physical impairment.

The Physiotherapy assessment determined the main physical impairment (which is explained in detail in the Projects 6-month Report) and the individual would have follow up sessions until the symptom had resolved, made manageable or required onward referrals.

Table showing common impairments and the Physiotherapy interventions:

| Problem/Impairment | Physiotherapy Intervention |
|---|---|
| Post-operative urinary incontinence | Pre- operative pelvic floor muscle training Post-operative pelvic floor muscle training |
| Frequency/urgency of urine | Bladder training Hydration advice Urge Suppression techniques |
| Fatigue | Graded exercise training Goal setting Exercise on prescription referral |
| Low level of physical activity | Individualised physical assessment and exercise programme. Graded support Education on evidence |
| Reduced mobility | Individualised exercise programme Referral to onward service |
| Lack of information and access to rehabilitative services | Education in health and wellbeing clinic Signposted to local Rehab services |

Two core outcome measures were used for each patient to extrapolate physiotherapy's impact on quality of life and overall physical activity levels, the outcome measures were then re-assessed 6 months later, the outcome measures are described below:

Quality of Life Outcome Measure- EQ-5D 3L The EQ-5D-3L is a standardised and internationally recognised measure of health outcomes and quality of life which can be used to calculate Quality Adjusted Life Years (QALY) taking into account both the quantity and quality of life generated by healthcare interventions.

The EQ-5D-3L descriptive system comprises of the following 5 dimensions: mobility, self-care, usual activities, pain/discomfort and anxiety/depression. Each dimension has 3 levels: no problems, some problems, extreme problems. **Physical Activity Levels-** The Godin Global Health Score The pilot utilised The Godin Global health score as a

measure of weekly physical activity which was measured at initial assessment, 3 and 6 months.

3. Teaching sessions delivered to clinicians and professionals to improve understanding of side effects and increase uptake of men into appropriate rehabilitative services. The aim was to improve awareness of men's health specific rehabilitation needs and prostate cancer, which was offered to the clinical therapists at Barts Health NHS Trust and St Joseph's hospice as well as to other clinicians and community support services.

Results

During the six-month pilot a total of 193 men and partners/carers successfully engaged with the project; receiving rehabilitative assessment, treatment or education. The results below are divided into the three different interventions:

1. Health and Wellbeing Clinics

Table below showing the three Health and Wellbeing clinics delivered with the number of attendee's and their demographics data:

| | HWBC .1 | HWBC .2 | HWBC .3 |
|------------------|---|---|--|
| | 24 | 15 | 12 |
| Gender | Male = 18 Female = 6 | Male = 12 Female = 3 | Male = 10 Female = 2 |
| Age | 41-50 = 1 51-60 = 8 61-70 = 8 71-80 = 8 81+ = 2 | 51-60 = 3 61-70 = 5 71-80 = 6 81+ = 1 | 41-50 = 0 51-60 = 1 61-70 = 5 71-80 = 5 81+ = 1 |
| Ethnicity | White British = 6 White Irish = 1 White other = 2 Black Caribbean = 9 Black African = 3 Asian Pakistani = 1 Other = 1 Do not wish to state = 1 | White British = 8 Black Caribbean = 3 Black African = 3 Asian Indian = 1 | White British = 5 Black Caribbean = 1 Black African = 4 Other = 2 |

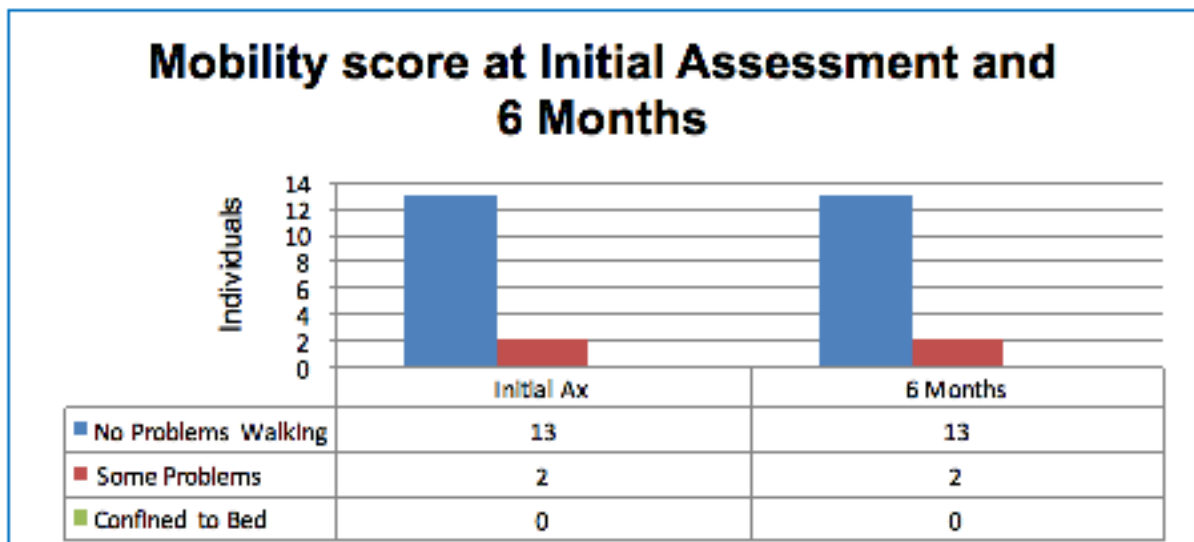
Table below showing questionnaire feedback post HWBC with the percentage of people who ticked somewhat agree, agree or strongly agree:

| Questions | HWBC. | HWBC | HWBC |
|---|-------|------|------|
| | 1 | 2 | 3 |
| 1. Increased knowledge and understanding of impact of prostate cancer diagnosis and treatment (including being more confident to ask questions) | 100% | 93% | 89% |
| 2. Increased awareness of reoccurrence and possible associated symptoms | 100% | 100% | 88% |
| 3. Increased confidence in managing the impact of treatment and the subsequent long term side effects (i.e. fatigue, ED, continence) | 100% | 89% | 100% |
| 4. Increased confidence to make changes towards a healthy lifestyle and understanding the benefits of better physical wellbeing | 100% | 85% | 100% |
| 5. Increase in awareness of other available support services in local community (e.g. signposting to benefit advice and other services) | 88% | 93% | 100% |
| 6. Increased understanding of ways to improve mental wellbeing including managing stress better | 88% | 86% | 80% |
| 7. Increased opportunities for peer support | 83% | 100% | 100% |

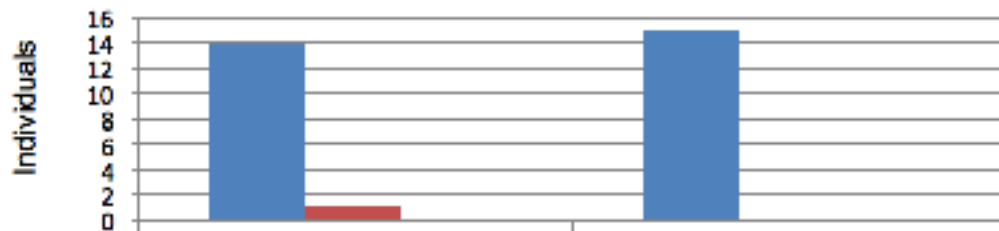
2. Individual Physiotherapy sessions

Quality of Life Outcome Measure- EQ-5D 3L

The charts below show the five quality of life indicators taken during the first Physiotherapy assessment and compared with six months post initial assessment:

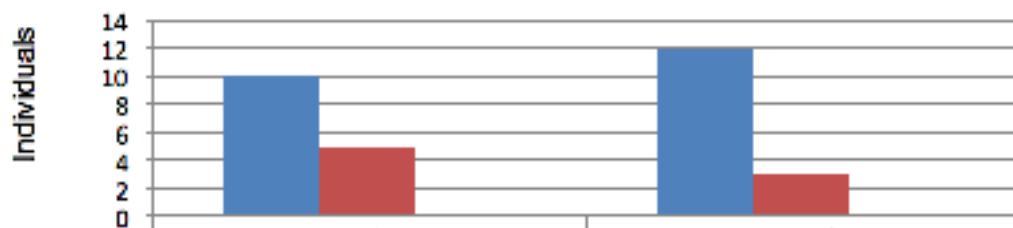


Self-care score at Initial Assessment and 6 Months



| | Initial Ax | 6 Months |
|---------------------|------------|----------|
| No Problems Walking | 14 | 15 |
| Some Problems | 1 | 0 |
| Confined to Bed | 0 | 0 |

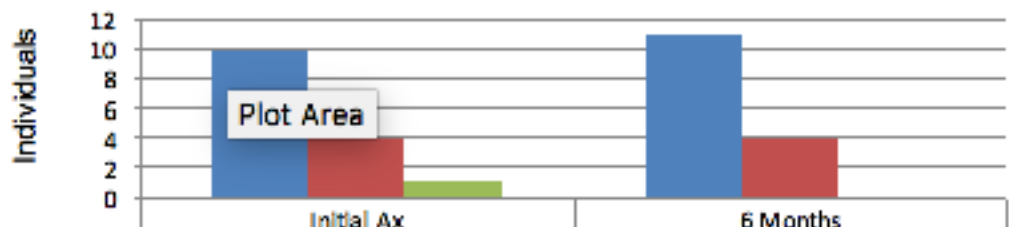
Activity score at Initial Assessment and 6 Months



| | Initial Ax | 6 Months |
|---------------------|------------|----------|
| No Problems Walking | 10 | 12 |
| Some Problems | 5 | 3 |
| Confined to Bed | 0 | 0 |

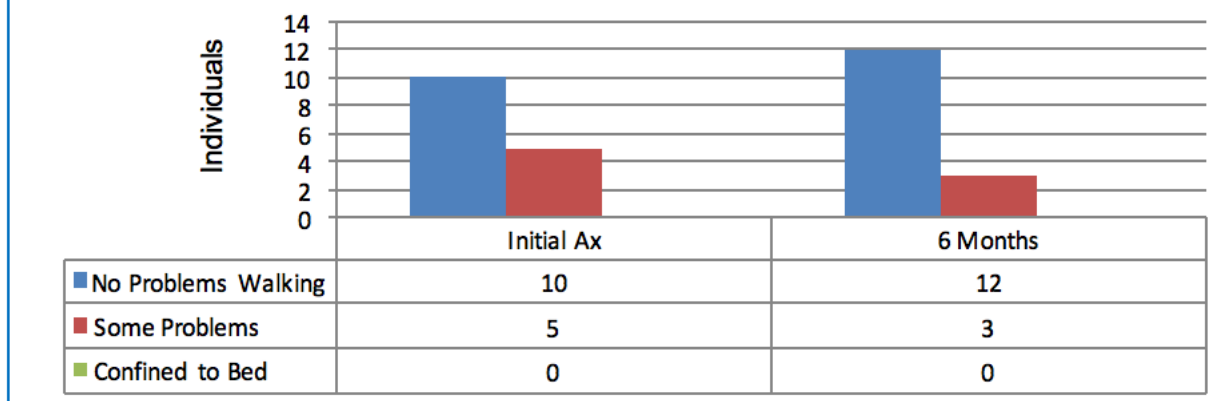
Data Table

Pain score at Initial Assessment and 6 Months



| | Initial Ax | 6 Months |
|---------------------|------------|----------|
| No Problems Walking | 10 | 11 |
| Some Problems | 4 | 4 |
| Confined to Bed | 1 | 0 |

Anxiety score at Initial Assessment and 6 Months



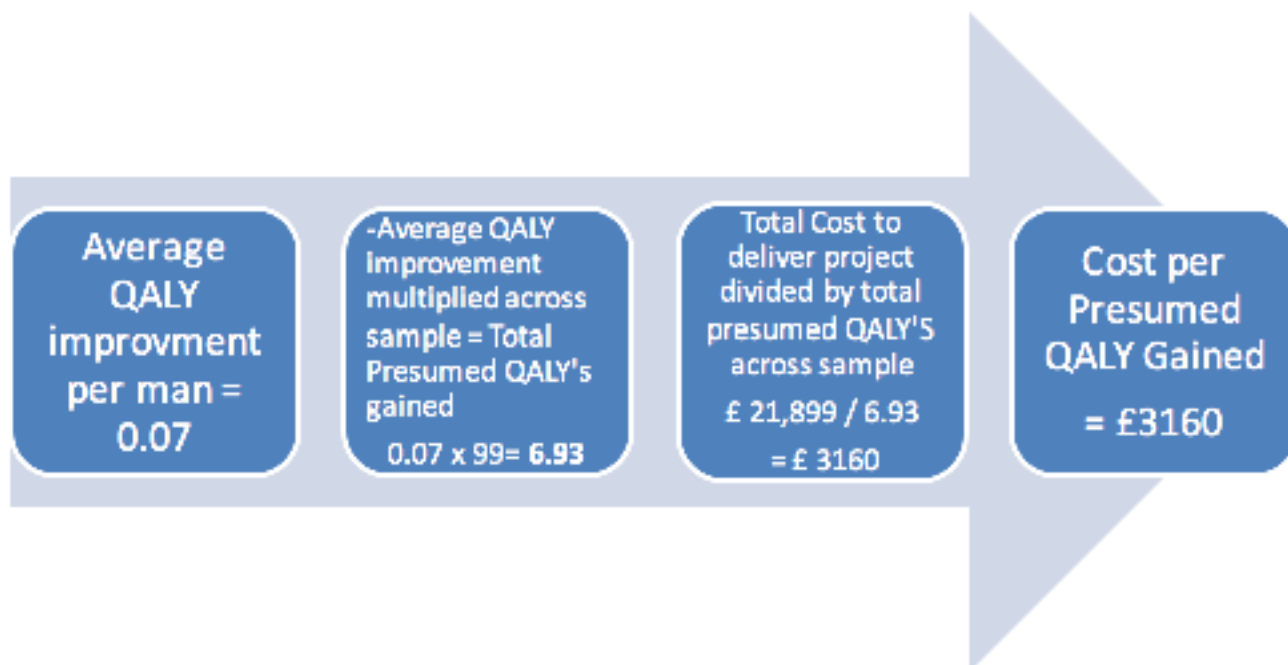
Sample Size

The project had a sample of 99 men who have completed an initial EQ-5D 3L assessment, 49 of those men have repeated the outcome measure at three months and 15 men have completed at six months after Physiotherapy intervention.

Cost-Analysis Ratio

The full calculations are available in the appendix and further description can be found in the projects six-month report.

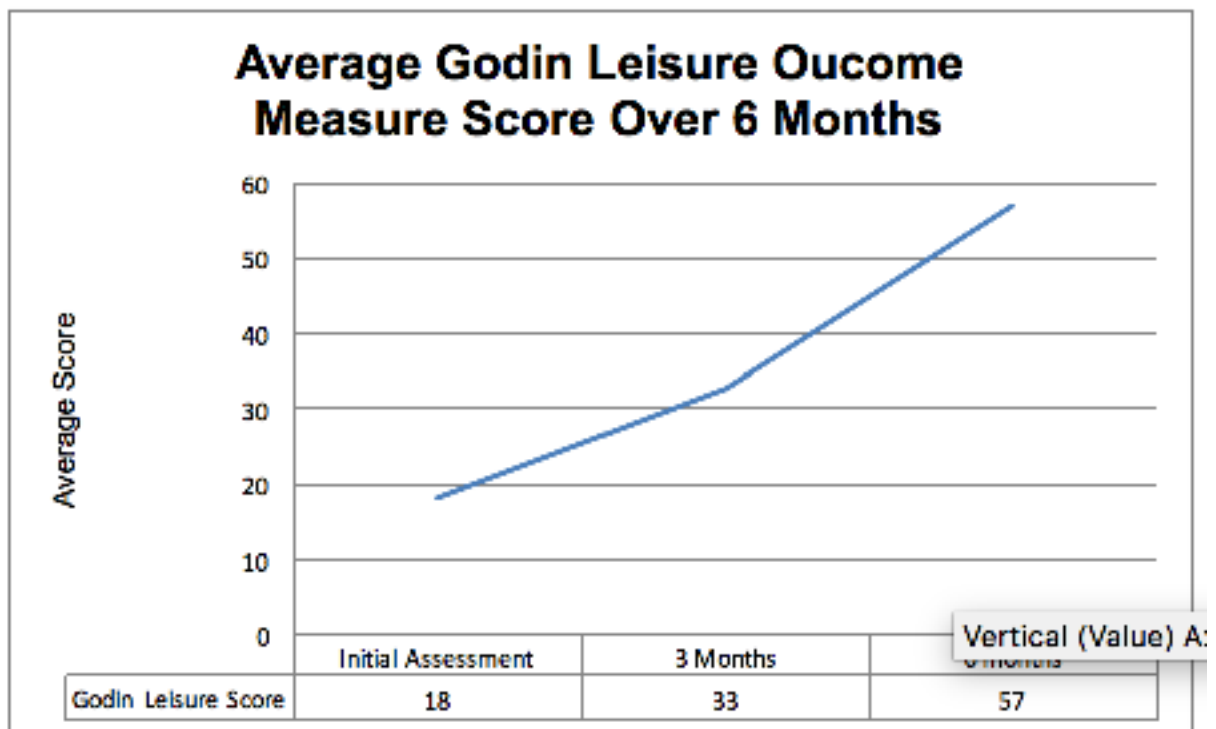
Diagram showing Specialist Physiotherapy service costs divided by how many complete QALY's generated and then generalised across the sample:



Physical Activity Levels- The Godin Global Health Score

The Pilot utilised The Godin Global health score as a measure of weekly physical activity which was measured at initial, 3 and 6 months as shown below:

Graph below showing overall improvement in Physical Activity six months Post Physiotherapy Intervention:



Individual physical activity increased by 209% six months after face to face session with the specialist prostate cancer physiotherapist.

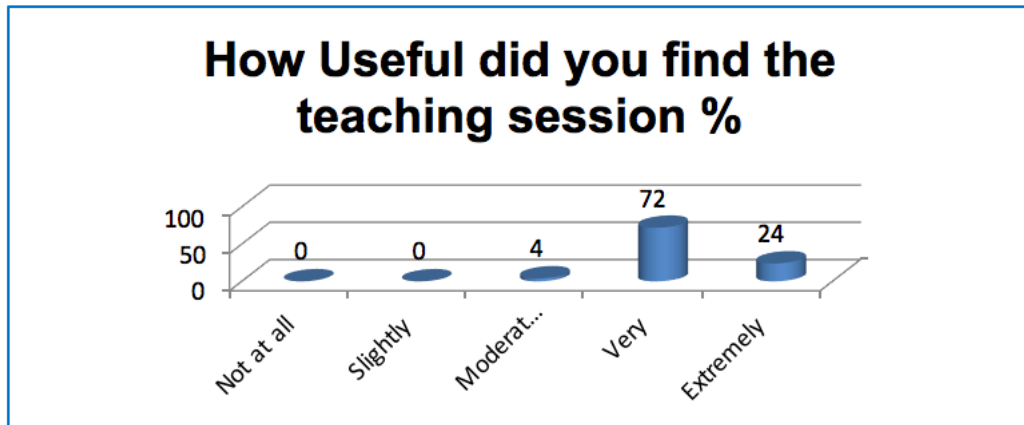
2. Teaching/Education sessions to clinicians and professionals. During the project the specialist prostate physiotherapist facilitated

six teaching sessions to 77 clinicians who come into therapeutic contact with men with prostate cancer within their role. Each session highlighted a lack of professional knowledge and awareness around the importance of rehabilitation and exercise.

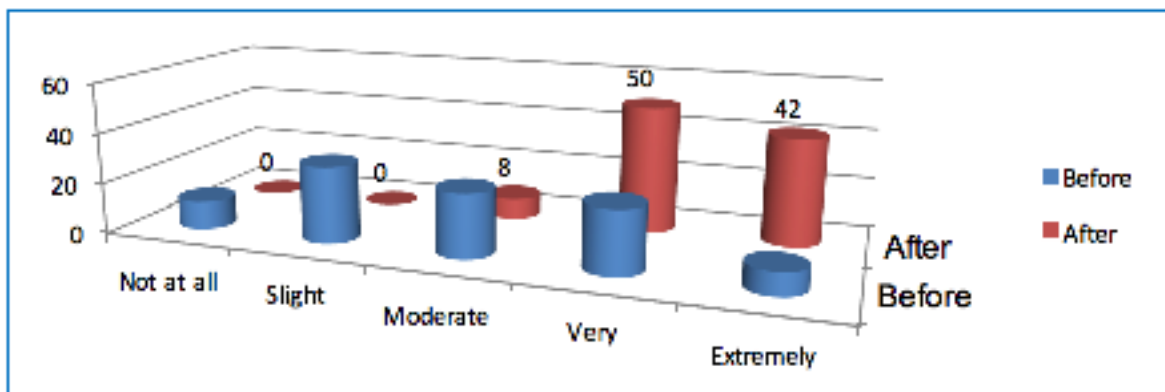
Table showing number of attendance and completed feedback:

| | Teaching Session | | | | | | Total |
|---|------------------|----|----|----|----|----|-----------|
| | 1. | 2. | 3. | 4. | 5. | 6. | |
| Number of attendees to education sessions | 9 | 15 | 14 | 8 | 16 | 15 | 77 |
| Number of attendees who completed online feedback survey | 6 | 5 | 3 | 3 | 11 | 4 | 32 |

Graph showing self-rated impact of the teaching session on individual attendees:



Graph showing self-Rated Awareness of the Rehabilitative needs of men with Prostate Cancer before and after the teaching:



Individual Qualitative Feedback from Teaching sessions

"Very useful session to highlight unmet needs of men with prostate cancer and raise awareness of what we have to offer as physios"

"Well put together presentation, giving background to the project. and useful information about needs of this group"

"Very interesting and a great initiative to help our patients with prostate cancer"

Impact on Referrals/Attendance to Rehabilitation Services in North East London: Significantly, the number of men with advanced prostate cancer participating or referred to out-patient Physiotherapy at St Joseph's Hospice tripled and six men after Prostate Cancer treatment completed the cancer transitions programme due to this service improvement project.

Discussion and Conclusion

193 men and partners/carers successfully engaged with the project; receiving rehabilitative assessment, treatment or education. This represents a significant achievement as engaging men to participate in rehabilitation programmes were the primary issue challenging the project.

Across the three Health and wellbeing clinics delivered to 51 individuals there was a high percentage (minimum 83%) of self-reported improved knowledge and awareness of symptoms and how to manage them and particularly an increased awareness (84%) on available community support services. This could have contributed to the subsequent increased number of men accessing palliative rehabilitation and the Cancer Transitions group.

The six teaching sessions to 77 clinicians who came into therapeutic contact with men with prostate cancer within their role, highlighted a lack of professional knowledge and awareness around the importance of rehabilitation and exercise for men with prostate cancer. Sessions were positively reviewed and showed a significant improvement in clinicians' self-reported knowledge and awareness of symptoms and how to manage them (minimum 83%) and an increased awareness of available rehabilitation and community support services (minimum 82%). The education of professionals has been key to raising awareness of men's rehabilitation needs and supporting onward referral to appropriate rehabilitation services.

Participation in Specialist Physiotherapy rehabilitation correlated with an average 209% increase in individual physical activity and a trending cost of £3160 per quality of life adjusted year gained. The National Institute for Health and Care Guidance (NICE) (2013) recommends considering interventions costing the NHS between £20,000 and £30,000 per Quality Adjusted Life Year (QALY) gained cost effective. The predicted cost/impact of the specialist prostate cancer Physiotherapist is £3160 per Quality Adjusted Life Year gained. Consequently, very cost efficient when evaluated against the NICE (2013) guidance.

Because this sample of 15 men (from a cohort of 99) were not specifically selected to represent the sample, this number has been used to generalise the impact of Physiotherapy on all of the men who are undertaking the intervention and already have a baseline EQ-5D-3L.

Extrapolating this value into future years is more difficult without further research because you have to take into account life expectancy, and how people's health conditions would change as time passes both with and without the intervention. The other main weakness with the analysis is that you cannot be certain that all the benefit exhibited in the improved EQ-5D scores comes from individual Physiotherapy intervention. To achieve this certainty, you would need to look at a control group, which would require further research.

This service improvement project reinforces the requirement of a Specialist Physiotherapist that men with prostate cancer at any stage can access within North East London NHS services. When bench marking against other specialist Oncology Trusts men with prostate cancer have access to a specialist oncology physiotherapist, therefore a key finding and recommendation from this report is the recognition and launch of this role within Barts Health NHS Trust. Findings from the Prostate Cancer Rehabil-

itation pilot project are resoundingly positive. The programme has been evaluated through the use of outcome measures and subjective feedback to assess acceptability and effectiveness of rehabilitations interventions for men with prostate cancer. The pilot project indicates that the physical impairments caused by prostate cancer and its treatments, benefit from specialist physiotherapy and has engaged men into rehabilitation services available but previously poorly accessed.

Acknowledgements

This project was a collaboration between St Joseph's Hospice and Barts Health NHS Trust and the Project was funded by Prostate Cancer UK.

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Appendix

Quality of Life- EQ-5D- 3L: Findings and Cost Analysis of Improved Quality of Life Indicators

Time-Trade-Off (TTO) is a tool used in health economics to help determine the quality of life of a patient or group. The baseline TTO is the number of years out of ten in good health an individual would choose to live versus ten years in poor health. This number is often used in turn to calculate quality-adjusted life years or QALYs

from the EQ-5D.

Using the individual data sets from the 15 men with initial and six-month EQ-5D-3L data, a table was populated showing the associated TTO. The difference between initial and 6 months is then averaged to find the average improvement across this sample (which is 0.07).

Generally the National Institute for Health and Care Guidance recommends considering interventions costing the NHS between £20,000 and £30,000 per QALY gained cost effective. As recommended the average improvement across this sample (which is 0.07) should then multiplied by £30,000 to get the £ value of this QALY for one man (results in table below = £2,108.00).

This implication across the health economy can then be multiplied by the number of men in the sample (15 x £2,108.00) to calculate the QALY's across the sample (equals £31,620).

Table below show the raw data form the EQ-5D-3L initial and six month follow up data with the Time Trade Off (TTO) calculation and consequent financial value:

| Individual | EQ-5D-3L Five Dimensions | | | | | TTO | EQ-5D-3L Five Dimensions | | | | | TTO | TTO Difference |
|------------|--------------------------|---|---|---|---|-------|--------------------------|---|---|---|---|------------------------------|--------------------|
| | M | S | A | P | A | | M | S | A | P | A | | |
| 1. | 1 | 1 | 1 | 1 | 2 | 0.848 | 1 | 1 | 1 | 1 | 1 | 1 | 0.152 |
| 3. | 2 | 1 | 2 | 2 | 2 | 0.62 | 2 | 1 | 1 | 1 | 1 | 0.85 | 0.23 |
| 3. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 4. | 1 | 1 | 2 | 1 | 2 | 0.812 | 1 | 1 | 1 | 1 | 2 | 0.848 | 0.036 |
| 5. | 2 | 2 | 2 | 3 | 1 | 0.055 | 2 | 1 | 2 | 2 | 1 | 0.691 | 0.636 |
| 6. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 0.725 | -0.275 |
| 7. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 8. | 1 | 1 | 2 | 2 | 2 | 0.689 | 1 | 1 | 2 | 2 | 2 | 0.689 | 0 |
| 9. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 10. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 11. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 12. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 13. | 1 | 1 | 1 | 2 | 1 | 0.796 | 1 | 1 | 1 | 1 | 1 | 1 | 0.204 |
| 14. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 15. | 1 | 1 | 2 | 2 | 2 | 0.689 | 1 | 1 | 2 | 2 | 1 | 0.76 | 0.071 |
| | | | | | | | | | | | | Total | 1.054 |
| | | | | | | | | | | | | Average | 0.070266667 |
| | | | | | | | | | | | | Individual Savings | £2,108 |
| | | | | | | | | | | | | Savings from data set | £31, 620 |
| | | | | | | | | | | | | Total Sample savings | £208,692 |

Cost-Analysis Ratio

Cost-utility ratios result from the costs of providing the interventions divided by how many complete QALY's are generated by the intervention. Commissioning, compar-

ing and prioritising can then be established based on those interventions that are relatively inexpensive (low cost per QALY) and those that are relatively expensive (high cost per QALY), NICE (2013) considers a cost of £20,000- £30,000 per QALY gained cost-effective.

Table below showing the Project Costing's for 6 months one to one Physiotherapy Service:

| Description of out-going cost | £ Costings Over 6 months |
|---|---|
| 3 days a week clinical Band 7 Physiotherapist | £ 13,800 (1.0 WTE Band 7 £46,000 per annum) |
| 3 days admin support | £ 6400 (1.0 WTE Band 4 £32,00) |
| Out-goings (Courses/IT etc.) | £ 299 |
| In-Kind Costings (supervision/steering groups/free training) | £ 1400 |
| Total | £ 21,899 |

6 Month Pilot project full report available at: http://www.google.com.co/url?sa=t&rcj&q=&esrc=s&source=web&cd=2&ved=0a-hUKEwjql6FtsrLAhUCHx4KHbRAa-IQFggfMAE&url=http%3A%2F%2F-prostatecanceruk.org%2Fmedia%2F2492260%2Fsix-month-pilot-analysis-for-improving-rehabilitation-for-men-with-prostate-cancer.pdf&usg=AFQjCNEeh4j_v7Sla1xzo_PrRQGUswHow&sig2=OZZnSj5TDdf4oBBG-KdMWlw&bvm=bv.117218890,d.dmo

Palliative Care Physiotherapy Quality Improvement Project and Vision

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Background

Palliative care physiotherapy aims to improve patient quality of life, regardless of prognosis, by helping achieve maximum potential of functional ability and independence, or gain relief from distressing symptoms (ACPOPC 1993)

Northumbria Healthcare Trust, palliative care physiotherapy services provide specialist interventions across a large geographical area, with limited cross boundary co-operation. Additional complexities arise due to boundaries with 5 other Health and Social Care providers.

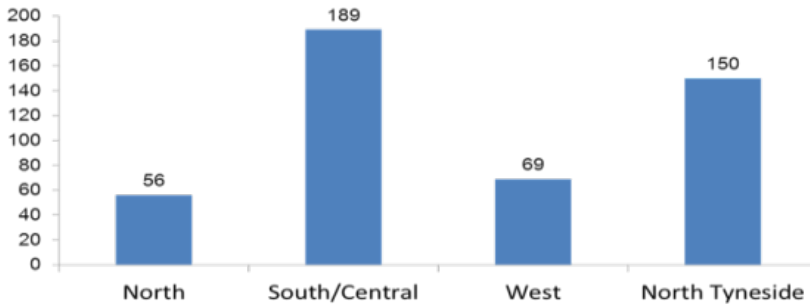
With the acquisition of 2 community trusts by Northumbria, community and hospital services came together to offer palliative care services to a population of around 500,000.

This provided the opportunity for a Quality Improvement Project to develop an all encompassing high quality palliative care physiotherapy service, which could provide an equitable service across community and inpatients.

Process

A retrospective collection of data was undertaken to demonstrate differences between providers. Data included, number of referrals over a one year period. figure 1. Source of referrals, length of time from referral to contact and the reasons for this.

Total Number of Referrals 1 Nov 13 - 31 Oct 14



A development session identified different models of working that may prevent a cohesive service. eg no service cover for each other, differing referral criteria and different standards for patient discharge. An action plan was created to take the project forwards.

Challenges

Management changes leading to limited service development
Capacity and demand issues
Inconsistent service level standards

Outcome

Skills matrix identifying education needs completed.

| | | | |
|---------------------------------|-------------------------------|---|---------------------------------------|
| Clinical educator qualification | Advanced communication | Acupuncture foundation/ Advanced Annual CPD | Level 2 psychological support |
| Sage and Thyme | TENS CPD annually | Inhaler training | Breathlessness management |
| MND annual update | Cognitive Behavioural Therapy | Lymphoedema | In house 3 day palliative care course |
| ACPOPC updates | Mindfulness | Coaching | Lean practitioner |

A daily huddle in one area enhancing multi-professional communication
A regular peer support group
Development of trust-wide referral criteria

1. Patients must live, or are registered with a GP, in Northumberland or North Tyneside

2. Patient has specialist palliative care needs i.e. complex and /or multifactorial symptoms related to their palliative diagnosis

3. Palliative condition is the main reason for referral

4. Patient requires specific specialist intervention for complex symptoms

- Breathlessness management and intervention
- Fatigue
- Pain
- Mobility / exercise related to palliative condition
- Sweats
- Nausea
- Psychological support

5. Specialist palliative physiotherapy advice is required to assist in the management of complex needs

Prioritisation statement and agreed response times currently under discussion. A rota for service cover is in development. On going monitoring of capacity and

demand as parts of the trust are rural and less densely populated than others.

Conclusion

In conducting this project, the team expects to be able to work towards a high quality cohesive service, provide high quality Palliative Care Physiotherapy develop service and staff

Physiotherapy and Occupational Therapy Services for People Living with Cancer: a Single Site Scoping Project.

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Abstract

Aim: To scope physiotherapy and occupational therapy services for people living with cancer in the locality.

Methods: A review of the evidence, mapping of current therapy services accessible to people with cancer, therapy staff cancer education survey, general practice survey, exploration of cancer rehabilitation projects around the country and service user consultations.

Findings: Whilst there is a growing body of evidence to support physiotherapy and occupational therapy rehabilitation for people living with cancer, cancer survivors are not always getting access to the rehabilitation services they require. Non-cancer specialist teams reported limitations in the cancer rehabilitation they are able to provide and availability of specialist cancer therapy services is limited. Cancer education survey results are published separately (Strong et al. 2016). Around one in five patients referred to the cancer specialist therapy in-patient team were admissions attributed to falls or reduced mobility. General practitioners (GPs) reported being unsure of the role of physiotherapy and occupational therapy for people living with cancer. Service users reported care by the cancer specialist therapy team was excellent or very good, but criticism included limited availability. Most service users in wider consultations had never had any contact with physiotherapy or occupational therapy. Common un-met needs reported by service users included weakness, fatigue, lack of exercise, in-ability to get back to usual activities and feeling isolated.

Conclusion: Cancer rehabilitation service improvement in this locality is recommended including development of community cancer rehabilitation services, investment in pre-operative physiotherapy, cancer education for non-cancer specialist therapy staff and promotion of the role of physiotherapy and occupational therapy.

Introduction

It is predicted that soon one in two people in the UK will develop cancer in their lifetime, yet almost half of them will not die from it with the result that the proportion of people in the UK living with a current or past diagnosis of cancer is set to double to four million over the next 20 years (Macmillan Cancer Support 2013). Reports suggest that at least one in four of those living with cancer experience poor health or disability after cancer treatment (Macmillan Cancer Support 2013). The increasingly complex needs of people living with cancer are not being met by current follow-up care (Hughes et al. 2014). Un-met needs after cancer treatment are reported by the Chartered Society of Physiotherapy (CSP) as being around 60% (CSP 2012) and by Elliot et al. (2011) as high as 94%. Elliot et al. (2011) also report that nearly half of cancer survivors have one or more chronic conditions in addition to their cancer which could compound their rehabilitation needs.

Research shows that cancer survivors take more sick leave and are significantly more likely to take early retirement or be unemployed compared with workers without a history of cancer (Silver et al. 2013). The estimated cost to the economy from loss of work due to cancer is estimated to be around £5.3 billion (CSP 2012).

It follows that not only treating cancer, but managing the ill health and disability associated with it is putting healthcare systems under escalating pressure (The Lancet Oncology, 2015) at a time where most NHS providers are in financial deficit. Elliot et al. (2011) report that 17% of cancer survivors visited a doctor (or other health-care professional) ten times or more over a twelve month period versus 4% of healthy participants.

In July 2015, an independent task force published its cancer strategy for England with aims including 'more people having a

positive experience of care and support' and 'more people having a better long-term quality of life' (NHS England 2015, p3). The taskforce called for an acceleration of commissioning and provision of services to support people affected by cancer. The aim is that by 2017, NHS England and partners will review good practice in approaches to reducing and managing long term consequences of cancer treatment in order to produce guidance encouraging spread and adoption of cost effective practices (NHS England 2016, p13). Recommendation 70 of the cancer strategy for England calls for a national review of the cancer rehabilitation workforce and promotion of the role of allied health professionals (AHPs) within multi-disciplinary teams (NHS England 2015, p58).

It is now acknowledged that cancer rehabilitation is everyone's responsibility, not just that of cancer specialist therapists (Chartered Society of Physiotherapy (CSP) & Association of Chartered Physiotherapists in Oncology & Palliative Care (ACPOPC) 2013). People living with cancer may come into contact with a wide range of non-cancer specialist therapists during their cancer journey, including respiratory and general rehabilitation teams on medical and surgical wards, musculoskeletal out-patient physiotherapists and community rehabilitation or intermediate care teams.

The National Institute for Health and Care Excellence (NICE) (2004) proposed a four stage model of cancer rehabilitation outlining how some rehabilitation needs can be met by qualified AHPs who are not cancer specialist (Level 2) whilst others will require a higher level of expertise (Levels 3 or 4). This model was endorsed by the National Cancer Peer Review Programme and National Cancer Action Team (2008).

The aim of this project was to 'scope' physiotherapy and occupational therapy services for people living with cancer in the locality. The primary output was a comprehensive

report (Strong 2016) for service providers and commissioners to support the development of high quality, cost effective physiotherapy and occupational therapy services to meet the needs of all people living with cancer in the locality. This was a multi-faceted project incorporating a number of work-streams for which there is insufficient scope within this article to discuss in detail, however, an overview of methods, key findings and recommendations is outlined below. The project was carried out from November 2014 to December 2015 and was the result of a partnership between Macmillan Cancer Support and Royal Wolverhampton NHS Trust.

Method

The project engaged a variety of stakeholders (see figure 1) including therapy services, cancer services and service users. Project work-streams are summarised in figure 2. Service mapping began by obtaining therapy services workforce data.

A list of therapy teams in the locality was drawn up and team leads identified.

Physiotherapy and occupational therapy team leads were contacted by the project lead and face to face meetings were arranged with either the team lead or their nominated representatives.

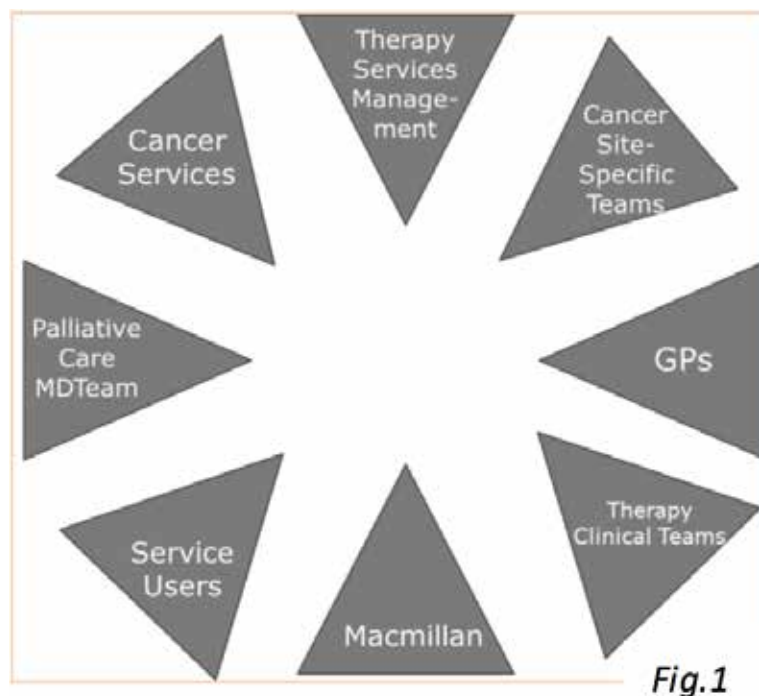


Fig.1

| 2014_15 Therapy Scoping Project Overview | | | | | | |
|---|--|---|---|--|------------------------------------|--|
| Literature Review | Physiotherapy & Occupational Therapy Service & Workforce Mapping | | | | | Consultation |
| A literature review outlining the evidence for physiotherapy and occupational therapy in cancer care. | Therapy workforce Data | Site specific cancer rehabilitation pathway mapping | Semi-structured interviews carried out with all therapy team leads. Teams recorded the proportion of people with a cancer diagnosis in their caseload. | Hospital cancer therapy team service review including reasons for patient admission and unmet rehabilitation needs on discharge. Quality evaluated using a patient experience survey questionnaire. | Cancer training & education survey | Focus groups and semi-structured interviews with service-user representatives. Survey of GPs carried out to seek their opinions on physiotherapy and occupation therapy for people with cancer in the locality. |

Fig. 2

Service mapping data was gathered from semi-structured interviews with team leads or their representatives. Detailed notes were taken during the interviews and key points reflected back to participants for clarification. Summary tables were drawn up identifying inclusion and exclusion criteria for each service and how each currently contributes to cancer rehabilitation. Any service limitations relevant to cancer rehabilitation were out-lined.

Team leads organised gathering data to record what proportion of their team's caseload was people with a cancer diagnosis. Data was collated and analysed by the project lead. Information gathered about relevant services was mapped against the National Cancer Action Team's rehabilitation pathways produced as a result of the Rehabilitation Measures for the Manual for Cancer Services (National Cancer Peer Review Programme- National Cancer Action Team 2008).

The specialist oncology, haematology and palliative care therapy team collected data on reasons for admission to cancer services wards and rehabilitation needs of their caseload on discharge from hospital. Quality of the cancer specialist physiotherapy and occupational therapy service was evaluated using a patient experience survey. An exploratory survey questionnaire to gather views of GPs about cancer rehabilitation was carried out on a convenience sample of those attending the locality general practice team meeting.

Service users were involved with the project in a number of ways, including regular consultation with the local cancer service-user advisory forum (Patient Advisory Cancer Service) and focus groups with cancer site-specific service user groups.

Findings

The literature review provided some good evidence to support physiotherapy and occupational therapy rehabilitation for people

living with or after cancer (National Cancer Action Team and National Cancer Rehabilitation Advisory Board 2012; Macmillan Cancer Support 2012; CSP 2012) but suggested cancer survivors are not always getting access to the rehabilitation services they require (NHS England 2015, p58).

Service mapping found that in this locality, access to specialist cancer physiotherapy and occupational therapy is limited. The cancer specialist physiotherapy team are only resourced to provide a service to in-patients on the cancer services wards at the acute trust with no service to clinics, out-patients or community locations. Access to specialist occupational therapy rehabilitation is available in both acute and community locations but is limited by the small number of staff providing the service. Results of the patient experience survey suggest that service users value all aspects of the specialist service but criticism included limited availability of the therapy staff which can slow rehabilitation progress. Around one in five patients referred to the specialist cancer therapy in-patient team were admissions attributed to conditions such as falls or reduced mobility.

Non-cancer therapy teams reported that an average of 16% of their caseload were people with a cancer diagnosis. There was a wide range in reported incidence with the highest being 40% (in-patient, elderly care rehabilitation). An internal audit by the project lead showed that therapists did not consistently identify cancer as a diagnosis in their patients' history and therefore frequently under-recorded the proportion of their caseload affected by cancer.

Results of the cancer education survey are reported in full in a submitted manuscript pending publication (Strong et al. 2016). Team leaders from non-cancer specialist teams reported limitations on the cancer rehabilitation they are able to provide, largely due to lack of staff cancer knowledge and skills or lack of service resources.

There were many gaps in services highlighted when current therapy services were plotted against cancer rehabilitation pathways and best practice findings from the literature review particularly regarding per-operative physiotherapy services for breast and head and neck cancer.

The majority of cancer survivors currently cannot access vocational rehabilitation services which in this locality are commissioned for people with long term neurological conditions (the service will accept referrals for people with neurological cancers such as primary brain tumours).

There is currently no physiotherapy or occupational therapy involvement with the locality lymphoedema service.

There are currently no exercise services for people living with cancer in the locality. Whilst there is a growing body of evidence for the role of physiotherapy and occupational therapy in symptom control for patients in palliative care, the current hospital specialist therapy team lacks service capacity and skills to provide a substantial contribution to non-pharmacological symptom control. Instead, the focus is on functional rehabilitation and discharge planning. There is a palliative care physiotherapist at the local hospice.

In an informal survey carried out at the locality primary care meeting, GPs reported being unsure of the role of physiotherapy and occupational therapy for people with cancer and unclear on what services are available in their area.

In focus groups and semi-structured interviews, service users reported feeling abandoned after cancer treatment. Most had never had contact with physiotherapy or occupational therapy as part of their cancer journey. Common problems reported included weakness, fatigue, lack of exercise, inability to get back to the activities they wish to do and feeling isolated.

Over the course of the project a range of different channels were used to explore examples of good practice in physiotherapy and occupational therapy cancer rehabilitation and survivorship projects around the country. Many examples of good practice in cancer rehabilitation around the UK were found and included in the project report (Strong 2016).

Discussion

Several key gaps in cancer rehabilitation services were outlined by this project. Around one in five patients referred to the specialist cancer therapy in-patient team were admissions attributed to falls, reduced mobility or other problems which could perhaps have been managed by a community cancer physiotherapy and occupational therapy team if one was available with the potential to reduce costly admissions to hospital.

Therapy teams reported that an average of 16% of the physiotherapy and occupational therapy caseload across all clinical teams in the locality were people with a cancer diagnosis although a significant proportion had never received any training or education about how to adapt their assessments and treatment for people with a cancer diagnosis (Strong et al. 2016). When audited, it was found that therapy staff consistently underestimated the proportion of their caseload that was affected by cancer and frequently missed cancer as a factor in their patients' history.

On completion of the project, a comprehensive report including background, methods, findings and recommendations was submitted to local NHS commissioners and service providers (Strong 2016).

The report included a number of recommendations for cancer rehabilitation service improvement in the locality which are outlined in figure 3.

| Recommendations [adapted from Strong (2016)] | |
|---|---|
| 1 | Development of a business case for a sustainable model of cancer rehabilitation in the locality including an integrated (community and acute) cancer rehabilitation service to provide services in a range of settings for those with complex rehabilitation needs relating to their cancer diagnosis. |
| 2 | A physiotherapy-led exercise group for cancer survivors include a rolling education and self-management programme. |
| 3 | A cancer education programme for all non-cancer specialist physiotherapy and occupational therapy staff in how to effectively tailor their assessment and treatment programmes to the needs of patients with a cancer diagnosis and advanced communications skills training for all staff working with patients with a diagnosis of cancer. |
| 4 | Investment in therapy services within the breast cancer and head and neck cancer surgical pathways, including pre-operative physiotherapy advice and exercise prescription and post-operative physiotherapy follow-up for management of consequences of treatment. |
| 5 | Investment in vocational rehabilitation for cancer survivors (which could be linked with the above 'cancer rehabilitation' service or expansion of the existing vocational rehabilitation service). |
| 6 | Investment in Wolverhampton lymphoedema services to include physiotherapy. |
| 7 | Investment in specialist palliative care physiotherapy and occupational therapy service to contribute to non-pharmacological symptom control and facilitate rapid (end-of-life) discharges from hospital. |
| 8 | Promotion of the role of physiotherapy and occupational therapy for people with cancer to service users, GPs and other front line staff and ensure they are kept informed of what services are available in their area and relevant referral pathways. |
| 9 | Continue involvement of service users at key stages of service development to ensure cancer rehabilitation services in the locality are patient-centred. |

Fig. 3

Royal Wolverhampton NHS Trust and Macmillan Cancer Support have now entered into a second partnership agreement for 2016_17 with the aim of working towards developing a sustainable model of cancer rehabilitation for the locality including exploring potential for a an integrated community and acute cancer rehabilitation service with a combination of AHP staff and support workers to address key gaps in cancer rehabilitation pathways including discharge follow-up, admission prevention and management of consequences of treatment across all tumour sites.

This second phase project also aims to develop a cancer education programme for non-cancer specialist physiotherapy and occupational therapy staff about how to effectively tailor their assessment and treatment programmes to the needs of

people with a cancer diagnosis to enhance the quality of cancer rehabilitation they can provide to those with more basic rehabilitation needs. Service users will continue involvement at key stages of service development to ensure cancer rehabilitation services in the locality are patient-centred and effective.

Conclusion

The findings of this report support the case for cancer rehabilitation service improvement in the project locality including development of community cancer rehabilitation services, investment in pre-operative physiotherapy, cancer education for non-cancer specialist therapy staff and promotion of the role of physiotherapy and occupational therapy for people living with cancer. Cancer rehabilitation service development continues in the locality.

Acknowledgements

This project was the result of a partnership between Royal Wolverhampton NHS Trust and Macmillan Cancer Support funded by Macmillan Cancer Support.

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Development of a Low Impact Exercise Group in an Hospice setting.

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Background

The benefits of exercise are well documented and frequently discussed in the media, across all health settings and in education. How to deliver an exercise programme in a palliative care setting is being explored by Physiotherapists working in Hospices around the country. From anecdotal evidence many hospices favour the circuit training model to provide a safe environment in which to exercise. At ellenor in 2015, with only one Physiotherapist on staff to supervise any exercise class, a seated exercise class was developed as a safe way to monitor a room of adults exercising.

Aim

When considering starting an exercise class the aims were:

1. To provide the opportunity to exercise in a safe environment
2. To improve the fitness of the palliative patient group
3. To promote independence and well being within the palliative patient group
4. To provide an opportunity for carers and the community surrounding the hospice to attend the class and experience hospice services (widening access)
5. To raise the profile of Physiotherapy at ellenor.

Method

The Low Impact Exercise Class began on the 29th September 2015. It runs twice a week on a Tuesday and Thursday at 11am-12pm and is open to anyone who wishes to attend. It is run on a drop in basis in an attempt to make the class as inclusive as possible.

Attendees fill in a single-sheet consent form, which includes their medical history and their personal goal for attending the class.

On every subsequent attendance to the group, participants review their medical history form and either initial to say there are no changes in their medical history, or they update their information accordingly.

The class itself is led by a Physiotherapist and involves seated exercise to music, using a variety of exercises for upper limb, lower limb and posture. This might include using small equipment such as 1/2kg or 1kg weights or bean bags.

The class is offered to people at no cost.

Measurable Data

Base line assessments on their first week of attendance are:

Timed up and go: Time how long it takes to move from sitting to stand, walk 3m, turn round, walk back 3m and return to sitting on chair

This measure is repeated every fourth attendance to the group. It must not be assumed that these are chronological weeks as the group is drop in.

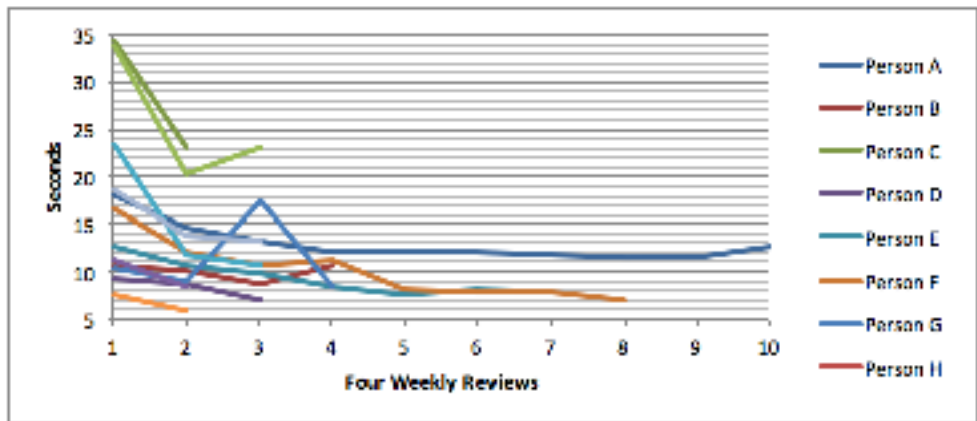
After 6 months a group discussion was facilitated following both Tuesday and Thursdays classes where the members were invited to discuss what they felt was good about the class, what had made them think, and what they felt could be different.

Results

Average attendance is 8 people per class. Since it started, a total of 60 people have attended the class. 13 people have attended for more than 4 sessions and have produced data for analysis.

Timed up and go Data: (NB, all data in seconds)

| Person | Test 1 | Test 2 | Test 3 | Test 4 | Test 5 | Test 6 | Test 7 | Test 8 | Test 9 | Test 10 |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| A | 18 | 14.75 | 13.21 | 12 | 12 | 12.06 | 11.76 | 11.66 | 11.53 | 12.63 |
| B | 10.75 | 10.2 | 8.68 | 10.73 | | | | | | |
| C | 34.31 | 23.11 | | | | | | | | |
| D | 9.45 | 8.86 | 7.08 | | | | | | | |
| E | 12.65 | 10.76 | 9.83 | 8.46 | 7.73 | 8.16 | 7.85 | | | |
| F | 16.63 | 12.11 | 10.78 | 11.21 | 8.1 | 7.95 | 7.9 | 7.15 | | |
| G | 10.55 | 9.13 | 17.56 | 8.34 | | | | | | |
| H | 36.76 | 35.8 | 43.12 | 36.62 | | | | | | |
| I | 33.82 | 20.26 | 22.95 | | | | | | | |
| J | 11.23 | 8.43 | | | | | | | | |
| K | 23.48 | 11.73 | 10.58 | | | | | | | |
| L | 7.51 | 6.08 | | | | | | | | |
| M | 18.6 | 13.91 | 13.24 | | | | | | | |



Healthy elderly usually complete the task in 10 seconds or less.
 In community dwelling frail older adults >14 seconds is associated with high risk of fall.
 In frail older adults >30 seconds is predictive of requiring assistive device for ambulation and being dependant in ADLs.

Discussion feedback:

| | |
|---------------------------|---|
| Good | <p>The class makes exercise fun, "I love it!"</p> <p>It makes doing day to day 'stuff' easier</p> <p>"It's nice to have something to do to keep the body moving, especially when you are in a wheelchair."</p> <p>"It feels comfortable exercising with similar people, gyms are intimidating"</p> <p>Look forward to it/This is what I look forward to</p> <p>Muscle soreness on a Wednesday feels good, "aches and pains that you have earned"</p> <p>"My back doesn't give me as much trouble on the dialysis bed anymore"</p> <p>"I'm not falling as much at home"</p> <p>"Music puts you in the mood to move"</p> <p>"It's made me feel more confident"</p> <p>The gym feels nice.</p> |
| Made me think | <p>Its "all things that you can do indoors which you don't think of doing"</p> <p>"It's helped me learn my limits, before I wouldn't bend down to get things from the fridge, now I do cos I know I can get back up again"</p> <p>I'm more confident</p> <p>It's made me think about trying to do more exercise at home.</p> <p>It's made me more motivated</p> |
| Could be done differently | <p>More people</p> <p>Drinks break during the session</p> <p>Better objective measures for wheelchair users.</p> |

Discussion

The exercise group is now an established part of the hospice service, providing the opportunity to exercise in a safe environment under the guidance of a qualified AHP. Dedicated space has been created on the ward as a 'gym', which has considerably raised the profile of the physiotherapy service.

I started with nothing, except some chairs I found in the hospice shed! In January 2016 I secured a £1,000 grant from Macmillan for gym equipment, to include suitable chairs, notice boards, music speakers, hand weights and a storage trolley.

The data shows that despite being a palliative population, everyone that has taken part has shown some degree of improvement in their walk time. I'm not the only

person monitoring their progress, the participants are always keen to know their walk times too!

Attendees come from a variety of hospice services – particularly Day Therapy, many people attend from a Parkinson's group run by the community neuro rehab team. These attendees are not service users at the hospice – but may well come under our care in the future, and are having a very positive introduction to our services. Some people attend from home, and highlights the need to continue promoting the exercise group to community patients, or possibly it highlights the priorities of the community patients.

It may be that they have their needs for exercise met in other ways. A patient user group would be valuable to consult and inform this service provision. It might also be assumed that the palliative patient population see exercise as irrelevant, unnecessary or unpleasant! Further study is required in this area.

Several attendees are non-ambulatory, therefore are unable to participate in the measurable data. A new outcome measure should be considered for these patients.

A tool to measure wellbeing has not been used so far with this group, although user feedback has been unanimously positive. A good feeling of community has developed amongst both groups: for example at the end of one session an group of 5 attendees swapped recommendations of good places to go for walks, places that were flat and had regular places to sit, encouraging others to try them out. A tool to measure wellbeing and how exercising has benefited peoples day to day life needs exploring to enhance the data.

Conclusion

- The T.U.G results show 100% of participants achieved a quicker walk time on subsequent testing.

- This suggests that participants have achieved an improvement in their gait speed, balance, functional level and therefore the ability to go out.
- Using the T.U.G as a guideline, 4 of attendees have reduced their walk time from >14 seconds to <14 seconds and therefore reduced their risk of falls.
- The shared enjoyment and sense of community within the class is a tangible and significant benefit – although harder to capture.
- The opportunity to reminisce about previous exercise achievements is important,
- For many this is an introduction to the hospice in a positive way.
- The class is popular and growing and has helped raise the profile of Physiotherapy within ellenor.
- The data demonstrates that small service developments can make a big impact on palliative patients and the opportunity to exercise can and should be made available to all patients.

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A case study to explore the theoretical concepts underpinning the use of acupuncture in the management of cancer related fatigue.

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Abstract

This case study presents a 77 year old female presenting with cancer related fatigue. She has a diagnosis of stage 3/4 ovarian cancer. The fatigue is hypothesised to be caused by a combination of chemotherapy, radiotherapy and the burden of advanced disease. The fatigue was described as overwhelming and affecting all activities of daily living and her quality of life therefore physiotherapy assessment was sought to aid the management and treatment of this.

A holistic patient centred approach to treatment was taken. Initial treatment included advice on pacing and prioritisation of activities and prescription of a graded exercise program. Provision of a walking aid to preserve energy consumption and to enable gradual increase in mobility was also provided. Acupuncture was then integrated into the treatment plan.

After 3 sessions of combined treatment the patient reported significant improvement in her fatigue level and improvements in her independence and quality of life. The outcome measure used to measure fatigue was a simple visual analogue scale.

Introduction to the condition

Cancer-related fatigue (CRF) can be defined as a “persistent, subjective sense of tiredness related to cancer and cancer treatment that interferes with usual functioning” (Mock V et al 2000). CRF is unique from the typical tiredness that many individuals experience as a result of their normal daily life in that it is not relieved by rest or sleep, furthermore it does not correspond to the patient’s level of exertion (Glaus et al 1996, Morrow et al 2005). CRF is one of the most

common and complex symptoms experienced by patients with cancer, occurring across the spectrum of malignant disease diagnosis’s. Evidence suggests that fatigue may affect over half of all patients with cancer (Ream et al, 2002).

Clinical studies have focused on understanding factors that contribute to CRF, including the disease itself, treatments received, and a variety of chronic physical or psychological comorbid conditions, such as anaemia, pain, depression, anxiety, cachexia, sleep disturbance, and immobility (Wang 2008) (Figure 1).

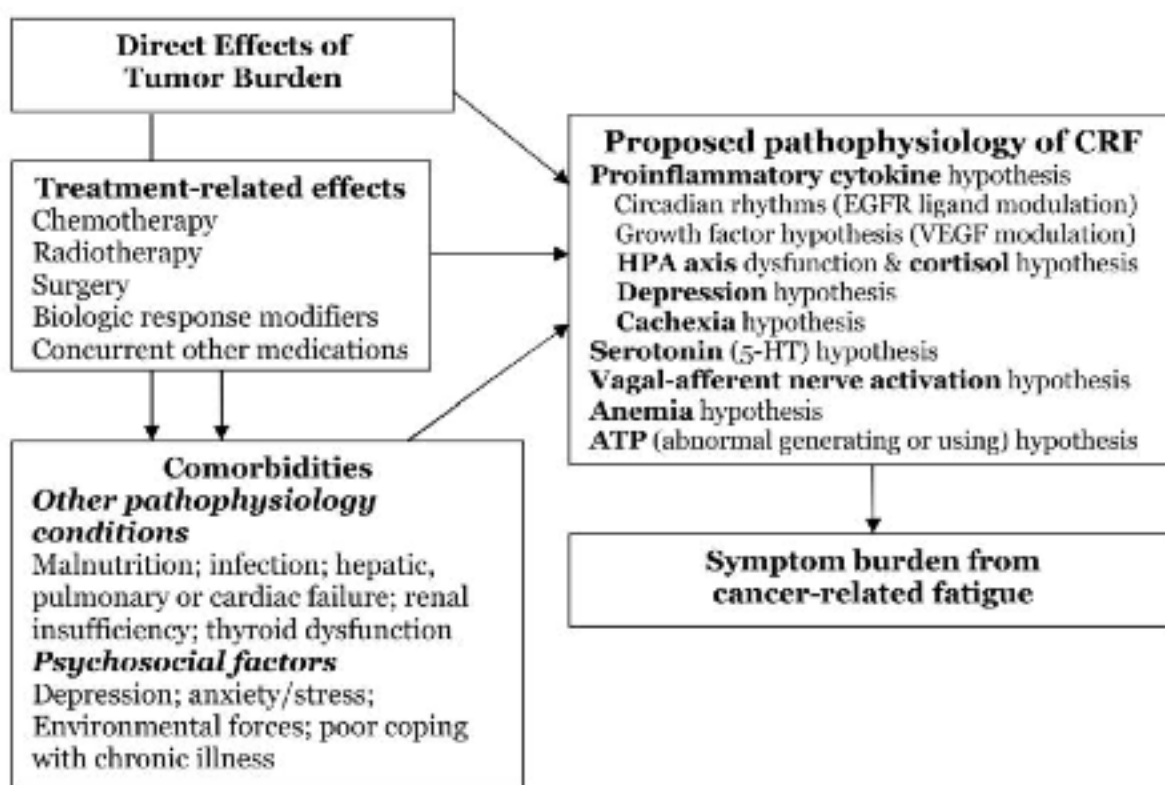


Figure 1: The factors that contribute to cancer related fatigue. (Wang 2008)

Management of fatigue begins with primary oncology team members; the five primary factors known to be associated with fatigue should be assessed: pain, emotional distress, sleep disturbance, anaemia and hypothyroidism.

If the presence of any of these conditions is identified they should be treated in accordance with the recommended guidelines. If none of the primary factors are present or

the fatigue is unresolved, a more comprehensive assessment is indicated, with referral to other professionals as appropriate.

This assessment should include a thorough review of systems, review of medications, assessment of comorbidities, nutritional/metabolic evaluation, and assessment of activity level. Management of fatigue is cause-specific when conditions known to cause fatigue can be identified and treated

(Mock et al. 2000). Research indicates that best practice in the management of fatigue that is not related to one of the primary factors indicates that physical activity interventions, psychosocial interventions, and mind-body interventions may reduce cancer-related fatigue.

Mind body interventions include the use of acupuncture (Bower et al 2014).

Introduction to the case study

A 77 year old female presented to physiotherapy clinic within hospice day care complaining of symptoms of overwhelming fatigue and accompanying breathlessness. She has a diagnosis of stage 3/4 adenocarcinoma of the ovary with widespread peritoneal, diaphragmatic and omental disease with terminal ileum involvement to the pelvic wall.

She was diagnosed in November 2011 following a laparoscopy, this was followed with chemotherapy then further debulking surgery in 2012 followed by chemotherapy.

Her co morbidities include right total hip replacement 2014, hiatus hernia, hypertension and a coronary stent 7 years ago. During her initial assessment she presented with symptoms of overwhelming fatigue that she scored as a 9/10 on a VAS and also breathlessness. She described the fatigue as overwhelming and affecting her quality of life and activities of daily living.

Primary factors for the cause of fatigue had been eliminated; although her haemoglobin was low it was not at a transfusable level therefore was ruled out as a cause of her fatigue by the medical team. Please see appendix 1 for a detailed summary of her subjective and objective assessments. A VAS was used to measure her fatigue level; I chose this simple method as it was a quick, meaningful and easy scale for the patient to use.

Clinical reasoning for diagnosis and the use of Acupuncture:

The findings from my initial assessments were analysed and following liaison with the consultant managing the patient's care and reviewing the relevant literature a diagnosis of cancer related fatigue possibly due to long term effects of chemotherapy, radiotherapy and advanced disease burden was made.

On analysis of the fatigue it was described as not alleviated by rest or sleep and was not proportionate to her activity levels each day. Her fatigue levels had an impact on her ability to carry out all tasks within the day and she was becoming increasingly reliant on her husband. She scored the level of fatigue as a 9/10 on a Visual Analogue Scale (VAS).

The second symptom she described was breathlessness, the patient accounted for this due to her fatigue. However on review of the patient medically it was felt the breathlessness may well be multi factorial including: disease within the diaphragm, deconditioning, anxiety and fatigue.

A combination of treatment techniques were used to ensure a patient centred and a holistic approach. Advice on pacing and adaption of activities was carried out, a four wheel walking rollator was provided to enable the patient to gently increase her walking ability and reduce her breathlessness. Gentle graded rhythmic seated exercises were also provided. A Cochrane review for exercise for cancer related fatigue in adults concluded that aerobic exercise can be regarded as beneficial for reducing fatigue (Cramp et al 2012).

During the patients initial assessment we discussed the use of acupuncture in the management of her fatigue and she was keen to try this, information was provided to the patient regarding acupuncture. The integration of acupuncture begun in the second

physiotherapy treatment session.

Although acupuncture's mechanism of action is still not fully understood, the evidence for the role of acupuncture for supportive care in cancer is increasing. Positive trials exist for the management of various symptoms including: hot flushes, aromatase inhibitor-induced arthralgia, chemotherapy induced nausea and vomiting, and xerostomia (Molassiotis et al 2012). Molassiotis (2012) explains that acupuncture has an effect on inflammatory cytokines, T lymphocytes, and various peptides. Recent results suggest that cytokines and tumour necrosis factor signalling are contributing factors in the development of fatigue. (Bower et al 2014).

The above explanation is one of the hypotheses regarding the cause of cancer related fatigue. This hypothesis is known as the pro inflammatory hypotheses for the cause of CRF. This hypothesises that cytokine dysregulation appears to play a part in cancer related symptom production (Wang 2008). Elevated inflammatory biomarkers (e.g., interleukin [IL]-6 and TNF-) have been shown in studies of persistent fatigue in survivors of breast cancer (Collado-Hidalgo et al 2006).

These cytokines might be associated with a chronic inflammatory process involving the T-cell compartment (Bower et al 2003). Increased vagal stimulation by therapeutic acupuncture may initiate components of the cholinergic anti inflammatory pathway.

This anti inflammatory pathway is driven by the brainstem and hypothalamic activity, which may down suppress synthesis of tumour necrosis factor and other peripheral pro – inflammatory cytokines (Dhond et al 2007).

Further evidence regarding the use of acupuncture in fatigue management includes acupunctures perceived effect on the supra spinal mechanism through stimulation of

C fibres. The higher centres of the supra spinal mechanism that are affected are the pineal and pituitary glands, the hippocampus, the periaqueductal grey matter and the hypothalamus. These centres are stimulated collectively and increase the production of cortisone, endorphins, endogenous opioids, serotonin, oxytocin and melatonin.

These chemicals not only have an analgesic effect they also promote healing, well being, relaxation and sleep (Longbottom 2010). Acupuncture points used within treatment sessions included the use of LI 4 and ST 36 bilaterally. LI 4 and ST 36 were both used due to their perceived effects on stimulating the blood flow to the hypothalamus.

The hypothalamus plays a role in both homeostasis of the body and the release of endorphins, serotonin, oxytocin and melatonin (Longbottom 2010). Hypothalamic activity is also the driver of the cholinergic anti inflammatory pathway (Dhond et al, 2007). ST 36 is said to enhance general energy and Qi metabolism, regulation of overall function, it is also a He Sea point. ST 36 can also help with improved respiratory function (Longbottom, 2010).

In a recent study carried out by Bardy et al (2015) which investigated the use of acupuncture for fatigue in breast cancer they used the points St 36 and LI 4.

Treatment protocol

Two acupuncture treatment sessions were carried out on the patient; further treatments were not possible due to the patient being admitted to hospital.

Each treatment lasted 15 minutes due to patient being frail and a possible strong responder to acupuncture. De Qi was achieved in both sessions at all points used.

The patients VAS for fatigue reduced significantly from 9/10 initially to 6/10 after 1 session of acupuncture. After the first ses-

sion of acupuncture the patient reported no feelings of overwhelming fatigue in the week following treatment. Further treatments were unable to be performed and evaluated due to the patient being admitted to hospital. See appendix 2 for treatment chart. Progression of treatment was planned to encompass some of the other symptoms the patient was having, I was going to layer in the use of LU 7 to help alleviate her breathlessness and GV 20 to lift her mood. Further progressions of treatment planned were the use of auricular needles for self needling.

Discussion

Initial results from treatment were positive and the patient showed a significant decrease in her fatigue score. It is not possible to conclude that this was purely a result of acupuncture as a holistic approach was adopted and the patient was also carrying out other interventions.

Mollasiotosis et al (2012) conducted a randomized controlled trial comparing acupuncture and enhanced usual care for 302 patients with breast cancer. 75 patients were assigned to usual care and 227 patients to acupuncture plus usual care (random assignment of 1:3 respectively). Treatment was delivered by acupuncturists once a week for 6 weeks through needling three pairs of acupoints (ST 36, Sp 6 and LI

4). The usual care group received a booklet with information about fatigue and its management. Patients were screened for fatigue through a single-item 10-point scale (where 0 is not fatigued at all and 10 is extremely fatigued) to identify patients with significant fatigue (i.e., those with score \geq

5), who were then assessed for eligibility to participate in the study. Eligible patients had a diagnosis of stage I, II, or IIIA breast cancer; had completed chemotherapy at least 1 month and up to 5 years previously. This study concluded that women with breast

cancer and CRF reported significant improvements in overall fatigue, physical and mental fatigue, activity, motivation, psychological distress, and all domains of quality of life after 6 weeks of acupuncture.

Positive evidence can be drawn from this trial to assist with the support of the use of acupuncture in this case study in that it concluded that there was a significant improvement in patients fatigue with the use of acupuncture. On critique of this study there were limitations found. The sample group of only women with a diagnosis of breast cancer means that the results from this trial cannot necessarily be fully transferred to both genders and all cancer types.

It is difficult to ascertain if the positive results are purely as a result of the acupuncture as participants also received normal care and fatigue advice. The trial was unblinded therefore participants in the study knew which intervention they were receiving, this may have had some effect on their perceived outcomes. If the trial had of been blinded there would need there to be the provision of "sham" acupuncture for the control group, there are difficulties surrounding the use of "sham" acupuncture in research due to its possible placebo effect.

This study shows limited explanation regarding point selection and the clinical reasoning for the application of acupuncture for fatigue was lacking. The limit in this however seems more due to the lack of trials and evidence in this area and this being one of the only trials currently available in this field.

Thomson et al (2015) published a study looking at a retrospective view on patient reported outcomes of 90 patients receiving acupuncture at an integrative oncology clinic between September 2010 and October 2012. The data was collected by a physician acupuncturist. Outcome measures for the study were using a 10 point numerical scale (1 = no problem 10 = as bad as it

can be) before and after each treatment session. The results from the trial showed clinically significant improvements in the use of acupuncture for pain, fatigue, anxiety, physical distress, emotional distress and quality of life. The outcomes of the study are positive in their indications for the use of acupuncture within the oncology setting.

Despite the positive outcomes shown in this study there was no information regarding the number of treatments for each patient, cancer type, age, gender, points used or stage of illness. The results of this study could be better evaluated if more information was provided; it does however seem to show that acupuncture is a useful adjunct in oncology care. The study focuses on patient reported outcomes which are a powerful measure within the oncology setting particularly within palliative care.

The case study presented complex cancer related fatigue which is not a fully understood condition; furthermore acupuncture within the oncology and palliative care setting has limited research. The studies that were researched and evaluated showed positive results in its treatment of CRF and the results from the case study support this limited available evidence.

Limitation

This report discusses a single non-blinded uncontrolled case study. Therefore we cannot draw conclusions for the entire population for cancer related fatigue.

Only two sessions were able to be carried out due to the patient being admitted to hospital therefore there was limited treatment given to the patient.

Acupuncture treatment and the point selection were researched thoroughly however the inexperience of the acupuncturist providing treatment must be appreciated. There is significant lack of research within the field of CRF and even more so into the

use of acupuncture in CRF.

The outcome measure used was subjective; use of a more validated tool may have been of benefit.

Conclusion

The use of acupuncture in the management of CRF alongside conventional physiotherapy resulted in significant improvement in the patient reported level of fatigue. Evidence based practice was used throughout and despite this being very limited in this field I was able to clinically reason my application of points and find supporting evidence in the use of acupuncture.

I feel that the treatment provided was very much holistic and patient centred. I was happy with my acupuncture application and treatment and the patient's initial responses. I was disappointed that I was unable to complete the course of acupuncture due to the patient being admitted to hospital; however I feel that this is a true reflection of the health status of my patients within the hospice setting.

I feel that this case study allows me to appreciate that even if acupuncture can only be provided on a short term basis that it can still provide a positive effect on symptoms that patients within the hospice setting may have, therefore it is still a treatment that should be offered irrespective of the patients prognosis.

In reflection I think I would have perhaps begun to layer up in the second week adding the LU 7 point to assist with breathlessness, however this is a learning experience and my application skills and speed at which to layer will improve as I gather experience.

There is much work to be done on the effectiveness of acupuncture within oncology and palliative care, however studies researched and this case study have shown positive effects that advocate its place.

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Appendices

Appendix 1:

Subjective assessment:

Asked to review patient by Doctor in day care at the hospice, with regards to her breathlessness and fatigue.

Diagnosis

Stage 3/4 papillary adenocarcinoma of the ovary

Widespread peritoneal, diaphragmatic and omental disease.

Treatment

Surgery - defunctioning ileostomy 2011 , and further debulking surgery 2012.

Chemotherapy - 16 cycles

Past medical history
 IHD - MI in 2005
 Coronary stent
 Hypertension
 Right THR 2014
 Hiatus hernia
 Barrats oesophagus

Social and personal history
 Lives with Husband who is also her main carer
 Lives in a house with stairs
 Has 3 Son's in their 50s however they are all busy
 Refused carers previously
 Independent of most ADLs

Patient reports that she is feeling extremely fatigued, she reports that she is breathless following a short distance of mobilising, she describes this as her whole body feeling tired.

On discussion with Patient she describes an overwhelming fatigue and often feels breathless. Patient does not feel breathless when talking or eating only on movement.

Objective assessment:

On walking from the lounge to clinic room short of breath, however oxygen saturations 100% on room air. We discussed various options to address her fatigue and breathlessness including exercise, breathing techniques, acupuncture and aids. We went through controlled breathing techniques, Helena was able to do perform these well and understood how they would help, and

we also discussed use of a fan.
 Fatigue: we discussed gentle graded exercise and we have begun today with 30 seconds seated marching resting for 1 minute and repeating up to 5 times.

Patient agreed to try a walking aid on her walk back to the lounge, used 4 wheel walking aid back to the lounge. We discussed at length breathlessness and anxiety cycle and the feelings of fatigue. Patient keen to try techniques she has learned today and happy for me to order her an outdoor walking aid. Provided with information regarding acupuncture.

Analysis:

Fatigue is the main complaint; Breathlessness appears to accompany the fatigue. Primary factors for fatigue have been ruled out by medical team. Breathlessness appears to relate to the fatigue and seems to be increased with anxiety.

Plan:

Treatment and management plan

- Reduce fatigue
 - Reduce breathlessness
 - Improve independence
 - Improve quality of life and well-being.
 - Encourage graded exercise.
- Acupuncture for fatigue next week.
 - Increase graded exercise if able next week.

Appendix 2:
 Acupuncture Treatment chart.

| Date | Points | Duration | De Qui achieved? |
|------------|-------------|------------|---------------------|
| 14/03/2016 | LI 4, ST 36 | 15 minutes | Yes for both points |
| 21/03/2016 | LI 4, ST 36 | 15 minutes | Yes for both points |

Who goes first?

Compassionate routes toward discussing patient's illness progression and death with them

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Death is so sensitive and potentially distressing that patients and relatives are often reluctant to raise it with professionals. Therefore, it might seem appropriate for healthcare professionals themselves to be the ones to raise it. However, even raising end of life matters risks causing distress and harm. This leads to the question: How can professionals navigate the dilemma of minimising harm whilst also giving people opportunities to discuss prognosis, dying, and end of life care? A group of researchers based at the University of Nottingham and at LOROS hospice recently published a paper about this. Funded by a grant from the Health Foundation, they used a research approach called 'conversation analysis', for which the key data are video-recordings of real life practice. This allowed them to describe in fine detail some strategies used to initiate conversations about dying. Whilst the research focused on consultations involving experienced palliative medicine doctors, there are good reasons to assume that similar communication strategies are used by other professionals.

The team found that doctors neither wait for patients to 'go first' in raising end of life (EoL) matters, nor do they ask or invite patients to talk about EoL. Instead, they take a cautious, elegant, and often step-by-step approach. This involves doctors encouraging patients (and/or relatives) to elaborate on something they have already said. Importantly, doctors do so in ways that allow patients to raise topics relevant to deterioration and dying. For instance, when a patient had reported a problem such as pain, shortness of breath, or low mood, then the doctors invited them to say more: e.g. "And when the pain's bad and you start to feel a bit panicky, can you remember what's going through your mind at that time?". These invitations from doctors are fashioned so as to give people an opportunity to raise, or hint at, end of life matters, but they do not force the issue. That is, the doctors' invitations don't actually suggest or propose EoL as a topic for the conversation. In response, sometimes patients (and/or relatives) volunteer concerns or thoughts relevant to the end of their lives, sometimes they do not. Importantly, the way doctors word their invitations makes it possible for people to respond in terms of matters other than prognosis and dying, without having to directly refuse a professional's invitation to talk about EoL related issues.

The paper also examines how, over the course of some consultations, doctors 'narrow down' their invitations to more strongly encourage people to raise end of life matters. The research found that experienced doctors repeatedly give their patients and patients' relatives opportunities to be the first to introduce dying into the conversation. They tend not to introduce it on the patient's behalf.

In the paper, you can find many examples of what practitioners say, and how patients respond. Readers can also download detailed transcripts of the video-recordings. The paper is free to download at: <http://journals.plos.org/plosone/article/asset?id=10.1371%2Fjournal.pone.0156174>. PDF

(Pino, Parry, Land et al (2016) Engaging terminally ill patients in end of life talk: How experienced palliative medicine doctors navigate the dilemma of promoting discussions about dying. PlosONE 11(5). DOI: 10.1371/journal.pone.0156174)

The research is also making its way into the world of healthcare via a communication training package called 'Real Talk'. Real Talk comprises a DVD with clips from the video-recordings we made at the hospice, alongside learning exercises and evidence summaries. Real Talk is being used to train healthcare staff and trainees in NHS hospitals, and in hospices and universities. For more information about Real Talk, contact: ruth.parry@nottingham.ac.uk or verdis@nottingham.ac.uk

With funding from the National Institute for Health Research, we are beginning a video-based study of palliative care physiotherapy and occupational therapy sessions, this will develop understandings and training about the communication skills involved. For more information, contact wendy.archer@nottingham.ac.uk

Introducing VERDIS-AHP: Video-Based Communication Research with Allied Health Professionals

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Sensitive, effective communication with patients lies at the heart of healthcare and is central to high quality effective care for people nearing the end of life and their companions (Royal College of General Practitioners & Royal College of Nursing 2011, Department of Health 2013). Empathic, honest, but hopeful communication and opportunities to be involved in discussing plans and decisions about future care are highly valued by terminally-ill patients and those who care for them. Moreover, it is clear that one particular element of communication – discussing and making plans about future care – influences place of death, and aggressiveness of care in the final days of life (Wright et al. 2008, Mack et al. 2010). Little is known, however, about precisely how staff can support patients to engage with such sensitive, challenging discussions.

Given contemporary initiatives to enable people nearing the end of their lives to live independently and comfortably for as long as possible (Help the Hospices 2013, Thomas and Paynton 2013), the work that physiotherapists (PTs) and occupational therapists (OTs) contribute to end of life care is increasingly important. Therapists often have protracted, close contact with patients and their companions. Effective therapy involves encouraging patients and their companions to disclose difficulties that are impacting their functioning and lives – a skilled, sensitive communication task (Parry 2004, Eva et al. 2009). The communicative aspects of therapists' work, however, have been little examined and there is still much to be learnt about the actual skills and techniques that specialist allied health professionals and their patients use in discussions of a sensitive and challenging nature.

With funding from the National Institute for Health Research, a team of researchers based at the University of Nottingham are carrying out a video-based study of palliative care physiotherapy and occupational therapy sessions. We are examining the communication that takes place between specialist palliative care OTs/PTs, their patients and their companions. Using the research approach known as 'conversation analysis', we are interested in understanding more precisely and in fine detail how therapists convey – through speech as well as through touch and gesture – empathy, sensitivity and compassion and how they create opportunities for patients and their companions to be involved in making plans and decisions about their care. We

will use this understanding to design and build staff training resources. Our findings will not only add to the growing body of conversation analytic work that has begun to map the communication skills required for effective care in other areas of healthcare (Stivers et al. 2009, Jenkins & Reuber 2014, Pino et al. 2016), but will also contribute specific, evidence-based recommendations about the communication challenges and skills entailed in physiotherapy and occupational therapy care for people with life limiting illnesses and their friends and family members.

Readers can find out more about the VERDIS-AHP study at: <http://www.nottingham.ac.uk/research/groups/ncare/communication-and-decision-making/spotlight-project-1.aspx> or for further information about the research, contact: wendy.archer@nottingham.ac.uk or hs-verdis-ahp@nottingham.ac.uk

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