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Breast activity and healthy eating after diagnosis 3

Submission date 08/01/2015	**Recruitment status** No longer recruiting	[X] Prospectively registered [X] Protocol [_] Statistical analysis plan [X] Results [_] Individual participant data
Registration date 12/01/2015	**Overall study status** Completed	
Last Edited 07/08/2025	**Condition category** Cancer	

Plain English summary of protocol

Background and study aims
Many breast cancer patients are above an ideal weight, with high body fat and low muscle stores. Many patients gain fat and lose muscle during chemotherapy, and too much fat and low muscle stores can make chemotherapy less effective and increase its side effects. The aim of this study is to test the potential beneficial effects of a calorie-restricted diet and resistance exercise on breast cancer patients scheduled to receive chemotherapy. Resistance exercise is also known as strength training, and is performed to increase muscle and bone strength.

Who can participate?
Patients aged over 18 with breast cancer who are scheduled to receive chemotherapy or up to Day 15 or first cycle.

What does the study involve?
Participants are randomly allocated to one of two groups. One group follows a diet and exercise programme which includes a calorie-restricted diet and resistance training 3 times per week. The other group do resistance (strength) training 3 times per week. Both groups are asked to follow these programmes during their current course of chemotherapy, and are phoned by the study researchers every 3 weeks during the study to check their progress and provide further advice and support. Research nurses in the treatment centre review patients at each chemotherapy treatment and assess weight and any side effects of the chemotherapy. The following outcomes are assessed: time to disease progression, chemotherapy toxicity, quality of life, fatigue, change in weight, waist circumference, fat and muscle mass.

What are the possible benefits and risks of participating?
Healthy eating and exercise advice is not a routine part of standard breast cancer treatment. All participants will be encouraged to eat healthily and lead a healthy active lifestyle during their chemotherapy treatment. Following this advice may prevent weight gain or promote slow weight loss, which may improve your treatment outcomes and wellbeing. The plans may also reduce side effects of chemotherapy. The recommended diet and exercise programmes have been designed by expert cancer dietitians and exercise specialists and are known to be safe for breast cancer patients. The test diet will meet all nutritional needs. All participants will be offered individualised advice on diet and exercise at the end of the study. Participants will be

contributing to scientific knowledge about the benefits of diet and exercise after breast cancer diagnosis. This will help us to develop a well-researched programme which may benefit future breast cancer patients.

Where is the study run from?
1. Manchester University NHS Foundation Trust
2. The Christie NHS Foundation Trust
3. Leighton Hospital
4. The Royal Liverpool University Hospital
5. Clatterbridge Hospital
6. Macclesfield District General Hospital
7. North Manchester General Hospital
8. Royal Oldham Hospital
9. Royal Stoke University Hospital
10. Tameside General Hospital
11. Royal Albert Edward Infirmary
12. Royal Devon and Exeter Hospital

When is the study starting and how long is it expected to run for?
February 2015 to April 2023

Who is funding the study?
Anticancer Fund (Belgium)

Who is the main contact?
Michelle Harvie, michelle.harvie@manchester.ac.uk

Contact information

Type(s)
Scientific

Contact name
Dr Michelle Harvie

Contact details
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Additional identifiers

EudraCT/CTIS number

IRAS number

ClinicalTrials.gov number

Secondary identifying numbers
18070

Study information

Scientific Title
A randomised phase II trial of intermittent energy restriction and resistance exercise in women receiving chemotherapy for advanced breast cancer

Acronym
B-AHEAD3

Study objectives
Current Hypothesis as of 01/03/2018:
This randomised trial will test the potential beneficial effects of a calorie restricted diet and resistance exercise compared to a resistance exercise programme on disease progression amongst 134 metastatic breast cancer patients scheduled to receive chemotherapy

Previous Hypothesis:
This randomised trial will test the potential beneficial effects of a calorie restricted diet and resistance exercise compared to a resistance exercise programme on disease progression amongst 134 metastatic breast cancer patients scheduled to receive paclitaxel or capecitabine chemotherapy.

This is a randomised phase II screening trial. If the results from this diet and exercise weight loss intervention are positive we will look to perform a national phase III study.

Ethics approval required
Old ethics approval format

Ethics approval(s)
North West - Greater Manchester West Research Ethics Committee, 10/12/2014, ref: 14/NW /1396

Study design
Randomised; Interventional; Design type: Treatment

Primary study design
Interventional

Secondary study design
Randomised controlled trial

Study setting(s)
Other

Study type(s)

Treatment

Participant information sheet
Not available in web format, please use the contact details below to request a patient information sheet

Health condition(s) or problem(s) studied
Breast cancer

Interventions
Group 1: Diet and exercise. This group have an individual session with the trial dietitian and are asked to follow our 5:2 calorie restricted diet tailored to their needs and preferences. This group will also have an individual session with the trial physiotherapist or exercise specialist to teach them the resistance exercise which they will be asked to do three times a week. Resistance exercise is also known as strength training, and it is performed to increase the strength and mass of muscles, bone strength.

Group 2: Exercise. This group will also have an individual session with the trial physiotherapist or exercise specialist to teach them the resistance exercises which they will be asked to do three times a week. They will be given general written dietary advice on healthy eating, coping with the side effects of chemotherapy and food hygiene.

Both groups will be phoned by BAHEAD by 3 researchers every 3 weeks during the study to check their progress and provide further advice and support. Research nurses in the treatment centre will review patients at each chemotherapy treatment and assess weight and any side effects of the chemotherapy.

We will examine the difference between the two groups on:
Time to disease progression, chemotherapy toxicity, quality of life, fatigue, change in weight, waist circumference, fat and muscle mass which we can assess from their routine treatment CT scan.

Intervention Type
Mixed

Primary outcome measure
Progression-free survival (PFS)

Secondary outcome measures
Time to Treatment Failure (TTF) i.e. the time from randomisation to disease progression, death

Overall study start date
01/02/2015

Completion date
30/04/2023

Eligibility

Key inclusion criteria

As of 17/05/2016:
1.Women with histologically confirmed breast cancer
2. Patients with ABC, i.e. locally advanced disease that is not amenable to curative surgical resection or with metastatic disease
3. HER2 positive or negative
4. ER and/or PR positive or negative
5. If ER positive there is no restriction on the number of lines of previous endocrine therapy for ABC
6. Performance status 0 or 1
7. Predicted life expectancy ≥ 3 months
8. BMI ≥24 kg/m2
9. Expressing a wish to lose weight
10. Not already entered or planned to enter a trial of an investigational medicinal product (IMP) for this line of therapy
11. Age >18 (can be pre or post menopausal)
12. Measurable or non-measurable disease by RECIST v1.1
13. Patients with brain or leptomeningeal metastases are eligible as long as all sites have been treated with radiotherapy (+/- surgery) with evidence of disease control at least 8 weeks after the last dose
14. Women in whom further endocrine therapy is planned after chemotherapy are eligible. The treating clinician must state what endocrine therapy is planned before chemotherapy is initiated
15. Women with thyroid dysfunction are eligible provided they are euthyroid and on a stable dose of thyroxine for the last 6 months

Previous:
1. Women with histologically confirmed breast cancer
2. Patients with advanced breast cancer (ABC) i.e. locally advanced disease that is not amenable to curative surgical resection or with metastatic disease
3. Her2 negative by IHC defined as 0/1+ or 2+ with FISH/DDISH/CISH ratio <2.0
4. ER and or PR positive or negative
5 If ER positive there is no restriction on the number of lines of previous endocrine therapy for ABC
6. No more than one line of chemotherapy for locally advanced or metastatic breast cancer. A line of chemotherapy is defined as a treatment given with palliative intent and of at least 4 weeks duration. If chemotherapy was given for less than 4 weeks and stopped due to excess toxicity, with NO evidence of progression either clinically, biochemically or radiologically, then this will not be counted as a line of therapy. If an attempt to downstage a locally advanced tumour with chemotherapy was made in the absence of metastatic breast cancer (MBC), and the tumour operated upon, then this does not count as a line of therapy for ABC. In contrast, if the tumour remained inoperable then this treatment should be included as a line of therapy for ABC.
7. In the opinion of the treating clinician suitable for treatment with ‘full dose’ weekly paclitaxel (8090mg/m2 weekly with no rest weeks) or capecitabine 10001250mg/m2 twice daily for 14 days followed by a rest week.
8. Performance status 0 or 1
9. BMI>25 kg / m 2 and body fat >30% (determined from impedence/ or CT scan) or waist circumference > 80cm
10. Expressing a wish to lose weight
11. Not already entered or planned to enter a trial of an investigational medicinal product (IMP) for this line of therapy
12. Age >18 (can be pre or post menopausal)
13. Measurable or nonmeasurable disease by RECIST v1.1
14. Patients with brain or leptomeningeal metastases are eligible as long as all sites have been

treated with radiotherapy (+/surgery) with evidence of disease control at least 8 weeks after the last dose
15. Women in whom further endocrine therapy is planned after chemotherapy are eligible. The treating clinician must state what endocrine therapy is planned before chemotherapy is initiated.
16. Women with thyroid dysfunction are eligible provided they are euthyroid and on a stable dose of thyroxine for the last 6 months

Participant type(s)
Patient

Age group
Adult

Lower age limit
18 Years

Sex
Female

Target number of participants
Planned Sample Size: 134; UK Sample Size: 134

Total final enrolment
68

Key exclusion criteria
As of 17/05/2016:
1. Physical or psychiatric conditions which may reduce compliance to and the safety of diet or resistance exercise, e.g.
1.1. Serious digestive and/or absorptive problems, including active inflammatory bowel disease.
1.2. Psychiatric disorders or conditions, e.g. history of eating disorders, untreated major depression, psychosis, substance abuse, severe personality disorder.
1.3. Bone metastases at risk of pathological fracture or that would limit resistance exercise through pain in all three areas of the body that are covered by the resistance exercises (upper limbs, trunk and lower limbs). Metastases may be ok if other areas of the body can safely be exercised.
2. Medications affecting adiposity or muscle mass and function and energy intake e.g. continuous daily steroids for longer than 4 weeks (short term steroids with chemotherapy are acceptable)
3. Diabetics on insulin or sulphonylureas (glibenclamide, gliclazide, glimepiride, glipizide, tolbutamide) as they could experience hypoglycaemia on restricted days of the intermittent diet (diabetics treated with diet alone or with any other medication including metformin are eligible)
4. Greater than Day 15 of this course of chemotherapy.
5. Visceral metastases that, in the opinion of the treating clinician, would result in death within 3 months if no response was achieved with this line of chemotherapy
6. Symptomatic or uncontrolled brain or leptomeningeal metastases

Previous:
1. Physical or psychiatric conditions which may reduce compliance to and the safety of diet or resistance exercise eg. serious digestive and/or absorptive problems, including active inflammatory bowel disease.

2. Psychiatric disorders or conditions, e.g. history of eating disorders, untreated major depression, psychosis, substance abuse, severe personality disorder.
3. Bone metastases at risk of pathological fracture or that would limit resistance exercise through pain.
4. Medications affecting adiposity or muscle mass and function and energy intake e.g. continuous daily steroids for longer than 4 weeks (short term steroids with chemotherapy are acceptable)
5. Diabetics on insulin or sulphonylureas (glibenclamide, gliclazide, glimepiride, glipizide, tolbutamide) as they could experience hypoglycaemia on restricted days of the intermittent diet (diabetics treated with diet alone or with any other medication including metformin are eligible)
6. Already commenced this course of first or second line chemotherapy
7. Visceral metastases that, in the opinion of the treating clinician, would result in death within 3 months if no response were achieved with this line of chemotherapy
8. Patients relapsing within 12 months of adjuvant/neoadjuvant chemotherapy
9. Symptomatic or uncontrolled brain or Leptomeningeal metastases

Date of first enrolment
01/05/2015

Date of final enrolment
31/03/2021

Locations

Countries of recruitment
England

United Kingdom

Study participating centre
The Nightingale Centre
Manchester University NHS Foundation Trust
Wythenshawe Hospital
Southmoor Road
Manchester
United Kingdom
M23 9LT

Study participating centre
The Christie NHS Foundation Trust
Wilmslow Rd
Manchester
United Kingdom
M20 4BX

Study participating centre
Leighton Hospital
Middlewich Rd
Crewe
United Kingdom
CW1 4QJ

Study participating centre
The Royal Liverpool University Hospital
Prescot St
Liverpool
United Kingdom
L7 8XP

Study participating centre
Clatterbridge Hospital
Clatterbridge Rd
Bebington
Birkenhead
Wirral
United Kingdom
CH63 4JY

Study participating centre
Macclesfield District General Hospital
Victoria Rd
Macclesfield
United Kingdom
SK10 3BL

Study participating centre
North Manchester General Hospital
Delaunays Rd
Crumpsall
Manchester
United Kingdom
M8 5RB

Study participating centre
Royal Oldham Hospital
Rochdale Rd

Oldham
United Kingdom
OL1 2JH

Study participating centre
Royal Stoke University Hospital
Newcastle Rd
Stoke-on-Trent
United Kingdom
ST4 6QG

Study participating centre
Tameside General Hospital
Fountain St
Ashton-under-Lyne
United Kingdom
OL6 9RW

Study participating centre
Royal Albert Edward Infirmary
Wigan Ln
Wigan
United Kingdom
WN1 2NN

Study participating centre
Royal Devon and Exeter Hospital
Barrack Rd
Exeter
United Kingdom
EX2 5DW

Sponsor information

Organisation
Manchester University NHS Foundation Trust

Sponsor details

Wythenshawe Hospital
Manchester University NHS Foundation Trust
Southmoor Road
Manchester
England
United Kingdom
M23 9LT

Sponsor type
Hospital/treatment centre

ROR
https://ror.org/00he80998

Funder(s)

Funder type
Charity

Funder Name
Anticancer Fund (Belgium)

Results and Publications

Publication and dissemination plan
Planned submission to a high-impact peer-reviewed journal

Intention to publish date
30/12/2023

Individual participant data (IPD) sharing plan
Current IPD sharing statement as of 06/04/2023:
The datasets generated during and/or analysed during the current study are/will be available upon request from Michelle Harvie (michelle.harvie@manchester.ac.uk) within reasonable request if covered by study approvals and patient consents and approved by Trial Steering Committee and Data Management Committee. Toxicity and body composition data available after study publication for 5 years.

Previous IPD sharing statement:
The datasets generated during and/or analysed during the current study are/will be available upon request from Mary Harvie (michelle.harvie@manchester.ac.uk) within reasonable request if covered by study approvals and patient consents and approved by Trial Steering Committee and Data Management Committee. Toxicity and body composition data available after study publication for 5 years.

IPD sharing plan summary

Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Protocol file	version 7.0	02/10/2018	04/10/2022	No	No
HRA research summary			28/06/2023	No	No
Results article		31/07/2025	07/08/2025	Yes	No