

PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form ([see an example](#)) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below. Some articles will have been accepted based in part or entirely on reviews undertaken for other BMJ Group journals. These will be reproduced where possible.

ARTICLE DETAILS

TITLE (PROVISIONAL)	Why do so few patients with heart failure participate in cardiac rehabilitation? A cross-sectional survey from England, Wales and Northern Ireland
AUTHORS	Hasnain Dalal, Jennifer Wingham, Joanne Palmer, Rod S Taylor, Corrina Petre and Robert Lewin

VERSION 1 - REVIEW

REVIEWER	Alexander M Clark, University of Alberta, Canada. I have no competing interest.
REVIEW RETURNED	12/01/2012

RESULTS & CONCLUSIONS	There seems to be some overlap between the results section and the discussion section. No data should be included in the discussion - rather this section is best devoted to interpreting and extrapolating on the implications of the study.
GENERAL COMMENTS	<p>This is a well written paper that reports a survey that addresses an important public health issue: the participation of people with heart failure (HF) in cardiac rehabilitation). The merits of the study are a national focus, high response rate (for studies using this method) and strong policy implications.</p> <p>The data are interesting and useful.</p> <p>The manuscript could be improved by tightening up the discussion - in particular removing specifics around data to allow the discussion to focus only on interpreting and extrapolating from the data based on previous research.</p>

REVIEWER	Birna Bjarnason No conflict of interest
REVIEW RETURNED	30/01/2012

The reviewer filled out the checklist but made no further comment.

REVIEWER	No conflict of interests Massimo F Piepoli, MD, PhD, FESC, FACC Heart Failure Unit, Cardiac Dept, Guglielmo da Saliceto Hospital, AUSL Piacenza, Piacenza, IT
REVIEW RETURNED	08/02/2012

THE STUDY	Reference list is out of date: for example reference 3 - 5 should be replaced by the most recent guideline 9 and 10
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<p>RESULTS & CONCLUSIONS</p>	<p>- the definition of a cardiac rehab programme is quite broad and unclear in this survey . In fact it is well recognised that a cardiac rehab intervention should not be restricted to a simple exercise prescription only, but education, risk stratification and management, psychological input, drug therapy are all essential components where a multidisciplinary approach is needed (as internationally recognised, eg Working Group on Cardiac Rehabilitation and Exercise Physiology of the European Society of Cardiology. Executive summary of the position paper of the Working Group on Cardiac Rehabilitation and Exercise Physiology of the European Society of Cardiology (ESC): core components of cardiac rehabilitation in chronic heart failure. Eur J Cardiovasc Prev Rehabil. 2005;12(4):321-5.; AACVPR/ACC/AHA 2007 performance measures on cardiac rehabilitation for referral to and delivery of cardiac rehabilitation/secondary prevention services. Circulation. 2007;116:1611–1642). A broad range of intervention should be considered for a personalised intervention, from simple home-based to more complex hospital-based intervention, with more intensive health care involved. In this survey, the cardiac rehab programmes provided seems very limited at a lower level. As a matter of the fact, In the presented data, it was quite peculiar to observe that out of 224 cardiac rehab centers the staffing mix most represented are the secretary and administrators (60-62%), followed by dieticians (51-52%), while physiotherapists / exercise specialists are represented by 36-43% and consultant doctors only by 7%. (Table 3). - In the questionnaires, details on the characteristics and the components of the exercise programme, and rehab programme are requested: the present manuscript is not providing such information. This information is important. .</p>
<p>GENERAL COMMENTS</p>	<p>General Observations In the present work the authors performed a two-step survey: I step to identify centres providing cardiac rehab programmes for heart failure patients all over UK (but Scotland), while in the step II the centres that provided such a service, information about the nature,, content and the limiting factors in HF enrolment. The matter of this kind is currently at issue: although the beneficial effect of a cardiac rehab programme in HF is well recognised (eg AHA, ESC and NICE recommendations), this is still poorly implemented in clinical practice not only in UK, but all over the world. This issue has been the object of recent survey (ECRIS. Cardiac Rehabilitation in Europe: results from the European Cardiac Rehabilitation Inventory Survey. Eur J Cardiovasc Prev Rehabil. 2010;17(4):410-8.) and position papers from ESC. Thus the authors should be congratulated: this survey is very important and it faces an important subject, ie one of the leading challenges in preventive cardiology. The beneficial effect of cardiac rehab has been recently acknowledged by Cochrane meta-analysis. The problem is how to implement this potentially life saving procedure in the clinical practice, how to promote among health care providers its referral, and delivery. Furthermore, to the best of my knowledge, this is the first study who takes into consideration also the barriers to implementation of cardiac rehab in the increasing group of HF with preserved ejection fraction, outlining how also in this syndrome the limitation are equal to the rest of HF population. Few comments, for the authors to consider in their revision process: - the authors rightly underlined that at the end only 17 centres completed stage 2 questionnaires, so therefore this limits the values of this survey, confirming how this</p>

issue is still underestimated in clinical practice

- the definition of a cardiac rehab programme is quite broad and unclear in this survey . In fact it is well recognised that a cardiac rehab intervention should not be restricted to a simple exercise prescription only, but education, risk stratification and management, psychological input, drug therapy are all essential components where a multidisciplinary approach is needed (as internationally recognised, eg Working Group on Cardiac Rehabilitation and Exercise Physiology of the European Society of Cardiology. Executive summary of the position paper of the Working Group on Cardiac Rehabilitation and Exercise Physiology of the European Society of Cardiology (ESC): core components of cardiac rehabilitation in chronic heart failure. Eur J Cardiovasc Prev Rehabil. 2005;12(4):321-5.; AACVPR/ACC/AHA 2007 performance measures on cardiac rehabilitation for referral to and delivery of cardiac rehabilitation/secondary prevention services. Circulation. 2007;116:1611 – 1642). A broad range of intervention should be considered for a personalized intervention, from simple home-based to more complex hospital-based intervention, with more intensive health care involved. In this survey, the cardiac rehab programmes provided seems very limited at a lower level. As a matter of the fact, In

the presented data, it was quite peculiar to observe that out of 224 cardiac rehab centers the staffing mix most represented are the secretary and administrators (60-62%), followed by dieticians (51-52%), while physiotherapists / exercise specialists are represented by 36-43% and consultant doctors only by 7%. (Table 3).

- In the questionnaires, details on the characteristics and the components of the exercise programme, and rehab programme are requested: the present manuscript is not providing such information. This information is important. .
- This is mainly a UK based survey: this must be specified also in the title.
- The presentation of the results is sometimes confusing, such as for example the percentage of date is not clear to which absolute numbers it refers Minor points

Intro

- Reference list is out of date: for example reference 3 - 5 should be replaced by the most recent guideline 9 and 10
- Evidence from meta-analysis shows that cardiac rehab improves also survival and hospitalisation (ExtraMatch, BMJ 2004)
- the statement that" the guideline provide no specific details ... about how and where these CR services would be best delivered and healthcare staff involved in frontline CR services ..." shows a lack of a uptodate knowledge of the recent documents [AACVPR/ACC/AHA 2007 performance measures on cardiac rehabilitation for referral to and delivery of cardiac rehabilitation/secondary prevention services. Circulation. 2007;116:1611–1642] and ESC [Secondary prevention through cardiac rehabilitation: from knowledge to implementation. A position paper from the Cardiac Rehabilitation Section of the European Association of Cardiovascular Prevention and Rehabilitation. Eur J Cardiovasc Prev Rehabil. 2010 Feb;17(1):1-17.]

Mehtods

- survey of all services providing phase III rehab: please specify what do you mean by phase III since there is no uniform consensus on its definition

Results

- as said above, it is a little bit confusing the presentation of % values: please specify each time the absolute figures

VERSION 1 – AUTHOR RESPONSE

We would like to thank you and reviewers for your helpful comments.

We have edited the discussion section to reflect the comments made by Professor Clark and have added additional references that help to put our findings in the context of previous research.

We have listed our response to Prof Piepoli under his comments :

In the present work the authors performed a two-step survey: 1 step to Few comments, for the authors to consider in their revision process:

- the authors rightly underlined that at the end only 17 centres completed stage 2 questionnaires, so therefore this limits the values of this survey, confirming how this issue is still underestimated in clinical practice
- the definition of a cardiac rehab programme is quite broad and unclear in this survey . In fact it is well recognised that a cardiac rehab intervention should not be restricted to a simple exercise prescription only, but education, risk stratification and management, psychological input, drug therapy are all essential components where a multidisciplinary approach is needed (as internationally recognised, eg Working Group on Cardiac Rehabilitation and Exercise Physiology of the European Society of Cardiology. Executive summary of the position paper of the Working Group on Cardiac Rehabilitation and Exercise Physiology of the European Society of Cardiology (ESC): core components of cardiac rehabilitation in chronic heart failure. *Eur J Cardiovasc Prev Rehabil.* 2005;12(4):321-5.; AACVPR/ACC/AHA 2007 performance measures on cardiac rehabilitation for referral to and delivery of cardiac rehabilitation/secondary prevention services. *Circulation.* 2007;116:1611–1642). A broad range of intervention should be considered for a personalised intervention, from simple home-based to more complex hospital-based intervention, with more intensive health care involved. In this survey, the cardiac rehab programmes provided seems very limited at a lower level.

The methods section clarifies what is meant by Phase III cardiac rehabilitation and we have added a reference to a review article on Cardiac Rehabilitation in the UK which includes its definition which has been added to the introduction of the paper. (Bethell, Lewin, and Dalal)

As a matter of the fact, In the presented data, it was quite peculiar to observe that out of 224 cardiac rehab centers the staffing mix most represented are the secretary and administrators (60-62%), followed by dieticians (51-52%), while physiotherapists / exercise specialists are represented by 36-43% and consultant doctors only by 7%. (Table 3).

We have added a comment in the discussion section to highlight this anomaly and to try and encourage more cardiologists to get involved in their local cardiac rehabilitation service. We have also updated table 3.

- In the questionnaires, details on the characteristics and the components of the exercise programme, and rehab programme are requested: the present manuscript is not providing such information. This information is important.

We got a diverse response from the 17 centres who returned the second questionnaire and it was

difficult to generalise from such a limited sample. However we have added a comment in the result section on the typical kind of exercise training given and as part of data sharing we are happy to make available the spreadsheet with the details of responses we received.

- This is mainly a UK based survey: this must be specified also in the title.

We have amended the title to:

Why do so few patients with heart failure participate in cardiac rehabilitation: a cross-sectional survey from England, Wales and Northern Ireland

- The presentation of the results is sometimes confusing, such as for example the percentage of data is not clear to which absolute numbers it refers

Absolute figures have been included with percentages for all relevant data in the results section.

Minor points

Intro

- Reference list is out of date: for example reference 3 - 5 should be replaced by the most recent guideline 9 and 10

The reference list has been updated.

- Evidence from meta-analysis shows that cardiac rehab improves also survival and hospitalisation (ExtraMatch, BMJ 2004)

This reference has been included and a comment made about survival in patients with systolic heart failure.

- the statement that "the guideline provide no specific details ... about how and where these CR services would be best delivered and healthcare staff involved in frontline CR services ..." shows a lack of a up to date knowledge of the recent documents [AACVPR/ACC/AHA 2007 performance measures on cardiac rehabilitation for referral to and delivery of cardiac rehabilitation/secondary prevention services. Circulation. 2007;116:1611–1642] and ESC [Secondary prevention through cardiac rehabilitation: from knowledge to implementation. A position paper from the Cardiac Rehabilitation Section of the European Association of Cardiovascular Prevention and Rehabilitation. Eur J Cardiovasc Prev Rehabil. 2010 Feb;17(1):1-17.]

These references have now been included and amendment to reflect this has been made in the text.

Methods

- survey of all services providing phase III rehab: please specify what do you mean by phase III since there is no uniform consensus on its definition

We have edited this section to specify what is understood by phase III rehabilitation in the UK and made reference to a recent review of Cardiac Rehabilitation which includes a definition understood by practitioners in the UK. (Bethell, Lewin, and Dalal)

Results

- as said above, it is a little bit confusing the presentation of % values: please specify each time the

absolute figures

- some repetition, eg. para 3, page 10.

Absolute figures have been included with percentages for all relevant data in the results section.

We hope you are satisfied with our changes and are now able to accept our paper for publication.

VERSION 2 – REVIEW

REVIEWER	Birna Bjarnason No conflict of interest
REVIEW RETURNED	22/02/2012

The reviewer completed the checklist but made no further comment.