PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Treading carefully: a qualitative ethnographic study of the clinical, social and educational uses of exercise electrocardiograms in evaluating stable chest pain.
AUTHORS	H Cramer, M Evans, K Featherstone, R Johnson, M J Zaman, A Timmis, H Hemingway and G Feder

VERSION 1 - REVIEW

REVIEWER	Steven Allender Senior Researcher Department of Public Health University of Oxford (UK) Associate Professor WHO Collaborating Centre for Obesity Prevention Deakin University Geelong Waterfront Campus (Australia)
REVIEW RETURNED	14/11/2011

THE STUDY	There are not statistical methods required for this study.
GENERAL COMMENTS	Thank you for the opportunity to review this paper in which the authors evaluated functions of the exercise electrocardiogram (ECG) against the context of NICE guidelines recommending exercise ECG should not be used for the diagnosis or exclusion of stable angina. Data were collected from three rapid chest pain clinics including 89 consultation observations and 30 interviews with patients or clinicians. The topic is an important one as the exercise ECG has been an established test for stable chest pain. The use of an ethnographic approach to examining the role of the ECG is unusual and would be challenging for at least some of the readership of the BMJ Open. On the converse the approach will provide insight that might not usually be obtained. It is not clear how the sample was determined or whether observation of 3 consultations without any supporting interview data from a London hospital is really meaningful to this study. The approach to data collection and management appears sound. The results indicate that the (dated) technology of the treadmill provides a clear prompt for discussion and medicalises the issue of chest pain both for the patient and the practitioner. It also provides a clear interaction with technology to reassure the patient that the diagnosis is accurate and either confirms their fears or provides reassurance. As the authors hint in the introduction this type of research can open a discussion about relationships of power and roles and legitimacy. This is particularly interesting as NICE have

	removed the legitimacy of the tool (treadmill and ECG) yet it is used as a centrepiece to demonstrate authority and expertise. This would be worthy of greater thought in future work and could be pointed to in this paper. The points about the significant role the machinery makes in replicating and validating symptoms are important and represent a contribution to the debate.

REVIEWER	Nicky Britten, Professor of Applied Health Care Research, Peninsula College of Medicine and Dentistry, University of Exeter, UK. I have no competing interests.
REVIEW RETURNED	29/11/2011

THE STUDY	The first sentence of the discussion describes the sample as 'patients with new onset stable chest pain' which is the first mention of this inclusion criterion (unless I have missed it). This information should be included in the methods section. The concept of 'outcomes' in qualitative research is rather different to its meaning in quantitative research. My own view is that the relevant outcome in this paper is the actual usage of the ECG test: it's the answer to the question 'How is the exercise ECG test actually used in clinical practice?' On page 11 in the discussion section, the authors state that 'we knew what participants did as well as said'. This is an important point, given how easy it is for any of us to say one thing and do another. Did the analysis include any comparison of the interview and observation data, and if so, were any notable differences identified? If the authors are claiming this as a strength of their study, readers needs to know more about it.
RESULTS & CONCLUSIONS	My own personal preference would be to embed the quotations in the text, so that they appear close to the points they support. However I accept that the Journal may have a different policy for the reporting of qualitative research. I would like to see a clearer indication of the source of the data for each quotation, given that some interviews and consultations were audio recorded, and some were not. Quotation marks should only be used for verbatim quotes (ie from audio recorded data), and not for quotations which were not recorded. The quotations should be labelled to identify the data source (Interview or Observation; audio Recording or observers' Notes). This could be done using letters (I and O, R and N for example) and would not take up much extra space. I find the first quote in Box 4 difficult to understand.
GENERAL COMMENTS	(I have repeated some earlier comments here as they do not seem to have been saved). The first sentence of the discussion describes the sample as 'patients with new onset stable chest pain' which is the first mention of this inclusion criterion (apart from the title). This information should be included in the methods section. The concept of 'outcomes' in qualitative research is rather different

	to its meaning in quantitative research. My own view is that the relevant outcome in this paper is the actual usage of the ECG test: it's the answer to the question 'How is the exercise ECG test actually used in clinical practice?' On page 11 in the discussion section, the authors state that 'we knew what participants did as well as said'. This is an important point, given how easy it is for any of us to say one thing and do another. Did the analysis include any comparison of the interview and observation data, and if so, were any notable differences identified? If the authors are claiming this as a strength of their study, readers needs to know more about it. This paper makes a valuable contribution to the understanding of everyday clinical practice beyond the reach of guidelines. Even though the study was conducted in a small number of clinics, there is a more general message here about the use of technology in actual practice, and the potential wider benefits of the exercise ECG test.

VERSION 1 – AUTHOR RESPONSE

Reviewer: Steven Allender
Senior Researcher
Department of Public Health
University of Oxford (UK) AND
Associate Professor
WHO Collaborating Centre for Obesity Prevention
Deakin University Geelong Waterfront Campus (Australia)

Thank you for the opportunity to review this paper in which the authors evaluated functions of the exercise electrocardiogram (ECG) against the context of NICE guidelines recommending exercise ECG should not be used for the diagnosis or exclusion of stable angina. Data were collected from three rapid chest pain clinics including 89 consultation observations and 30 interviews with patients or clinicians.

The topic is an important one as the exercise ECG has been an established test for stable chest pain. The use of an ethnographic approach to examining the role of the ECG is unusual and would be challenging for at least some of the readership of the BMJ Open. On the converse the approach will provide insight that might not usually be obtained.

It is not clear how the sample was determined or whether observation of 3 consultations without any supporting interview data from a London hospital is really meaningful to this study.

Our response:
We have added a sentence on how we chose the three hospitals: ‘These three hospitals were selected as contrasting sites in terms of the structure of their clinics, the ethnic diversity of their surrounding population and their engagement with research studies.

We know that the data from hospital C is limited, and we regret this, but the three consultations observed were supported by 5 staff interviews as shown in the table 1 (3 with doctors, 1 with a physiologist and 1 with a technician). We think that the data from hospital C highlighted some crucial contrasts to the other two sites particularly of differences in the structure of the clinic, with technicians rather than doctors supervising the exercise ECGs. We report this in the paper under ‘facilitating

behavioural advice' and reflect on it in the discussion.

The approach to data collection and management appears sound.

The results indicate that the (dated) technology of the treadmill provides a clear prompt for discussion and medicalises the issue of chest pain both for the patient and the practitioner. It also provides a clear interaction with technology to reassure the patient that the diagnosis is accurate and either confirms their fears or provides reassurance. As the authors hint in the introduction this type of research can open a discussion about relationships of power and roles and legitimacy. This is particularly interesting as NICE have removed the legitimacy of the tool (treadmill and ECG) yet it is used as a centrepiece to demonstrate authority and expertise. This would be worthy of greater thought in future work and could be pointed to in this paper.

Our response:
Good point! We have explored this in the discussion as suggested: Most of the clinicians we observed believed that the exercise ECG did contribute to their diagnostic decisions [21] 'and so it is ironic that just as we were observing the exercise ECG at the centre of demonstrating professional authority and expertise, the legitimacy of that tool was being removed by NICE'.

The points about the significant role the machinery makes in replicating and validating symptoms are important and represent a contribution to the debate.

Reviewer: Nicky Britten,
Professor of Applied Health Care Research,
Peninsula College of Medicine and Dentistry,
University of Exeter, UK.

I have no competing interests

The first sentence of the discussion describes the sample as 'patients with new onset stable chest pain' which is the first mention of this inclusion criterion (apart from the title). This information should be included in the methods section.

Our response:
Thank you for pointing out this omission. We have now included it in the methods section: 'A total of 89 consultations between clinicians and patients with new onset stable chest pain were observed (by HC and ME) from July 2009 to June 2010.'

The concept of 'outcomes' in qualitative research is rather different to its meaning in quantitative research. My own view is that the relevant outcome in this paper is the actual usage of the ECG test: it's the answer to the question 'How is the exercise ECG test actually used in clinical practice?'

On page 11 in the discussion section, the authors state that 'we knew what participants did as well as said'. This is an important point, given how easy it is for any of us to say one thing and do another. Did the analysis include any comparison of the interview and observation data, and if so, were any notable differences identified? If the authors are claiming this as a strength of their study, readers needs to know more about it.

Our response:
We have some comparisons between interview and observational data. In the 'Facilitating behavioural advice' section we report that several staff mentioned the importance of giving lifestyle advice in

interviews but did not do so consistently in practice. To emphasise this point further we have added an extra sentence about this in the 'Strengths and limitations' section: 'A strength of our study is its ethnographic design incorporating the observation of patient-clinician consultations and combining these data with interviews: we knew what participants did as well as said. Looking at this gap between what people say they do and what they actually do is especially important when exploring what lies beneath the rhetorical use of technologies to how they are used in everyday practice.'

This paper makes a valuable contribution to the understanding of everyday clinical practice beyond the reach of guidelines. Even though the study was conducted in a small number of clinics, there is a more general message here about the use of technology in actual practice, and the potential wider benefits of the exercise ECG test.

*** Editors**** please also note we have changed the corresponding author of this paper to HC as GF was only inserted when we experienced some prior submission difficulties.

We have also highlighted in the paper a heading at the top of the second page of box 4 'Box 4 continued' as we think this should probably be removed before publication.

VERSION 2 – REVIEW

REVIEWER	Nicky Britten Professor of Applied Health Care Research Peninsula College of Medicine and Dentistry University of Exeter, UK
REVIEW RETURNED	15/12/2011

GENERAL COMMENTS	My previous comments about the difference between handwritten notes and audiorecordings were either not passed on to the authors, or were ignored. I still think that it is important for the reader to know the difference, and this is very easily done. I also think it is worth being explicit about which quotes come from interviews rather than observations.

VERSION 2 – AUTHOR RESPONSE

Reviewer: Nicky Britten
Professor of Applied Health Care Research
Peninsula College of Medicine and Dentistry
University of Exeter, UK

My previous comments about the difference between handwritten notes and audiorecordings were either not passed on to the authors, or were ignored. I still think that it is important for the reader to know the difference, and this is very easily done. I also think it is worth being explicit about which quotes come from interviews rather than observations.

From the managing editor:
I apologise for our oversight - one paragraph of Dr Britten's review (referred to above) was not forwarded to you. It is included below:

My own personal preference would be to embed the quotations in the text, so that they appear close

to the points they support. However I accept that the Journal may have a different policy for the reporting of qualitative research. I would like to see a clearer indication of the source of the data for each quotation, given that some interviews and consultations were audio recorded, and some were not. Quotation marks should only be used for verbatim quotes (ie from audio recorded data), and not for quotations which were not recorded. The quotations should be labelled to identify the data source (Interview or Observation; audio Recording or observers' Notes). This could be done using letters (I and O, R and N for example) and would not take up much extra space. I find the first quote in Box 4 difficult to understand.

Authors' response: Ok, yes, we unfortunately didn't initially see these comments, but the need for this extra information has now been addressed as suggested.

All changes to the text have been highlighted in green. An error was also found in a patient's id number in box 3 and this has also been corrected and highlighted.

Please note, the highlighting for the previous revisions and changes has been removed so only the latest revisions are now prominent.