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

<table>
<thead>
<tr>
<th>TITLE (PROVISIONAL)</th>
<th>Accuracy in Self-Reported Health Literacy Screening: A Difference between Men and Women in Taiwan</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTHORS</td>
<td>Lee, Shoou-Yih; Tsai, Tzu-I; Tsai, Yi-Wen</td>
</tr>
</tbody>
</table>

VERSION 1 - REVIEW

<table>
<thead>
<tr>
<th>REVIEWER</th>
<th>van Geest, Jonathan</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Kent State University</td>
</tr>
<tr>
<td>REVIEW RETURNED</td>
<td>10-Apr-2013</td>
</tr>
</tbody>
</table>

GENERAL COMMENTS

General comments:

The article is well-written and timely, as evidence increasingly supports the clinical identification of patients at risk due to health literacy. Moreover, we are also seeing use of practical assessment tools now available that can be completed in the clinical setting, such as those employed in the present study. The questions posed by the authors are suitable and the methods utilized in their analyses are both appropriate and well defined. Their review of the literature is excellent and up-to-date. Finally, the conclusions drawn from the analyses are appropriate, with limitations clearly stated. The authors also bring a much valued international perspective to the subject matter.

Minor Discretionary Revisions:

Introduction (3rd paragraph, 2nd sentence): Implications go beyond simply self-report of reading level. The authors might consider some indication about the nature of report on system navigation, as this is also the subject of other single item screening instruments employed.

Methods (1st Paragraph): Recommend that the authors include text in the last sentence indicating that the MHLS is validated in the target population.

Methods (4th Paragraph on NHRI Survey): Regarding questions asking participants to report their ability to comprehend health information, the recommendation is that text be included indicating that the authors will address in detail below.

Discussion: One recommendation is that the authors address the distinction between literacy and health literacy. Although related, they remain conceptually (and institutionally) distinct. Implications, especially related to patient willingness to be screened (discussed in text) may also be important.

Discussion (3rd paragraph): One additional interpretation related to
patient willingness to be screened is that, at least in one study, screening was conducted using more of a task-based assessment. This may have spared patients having to demonstrate poor reading skills to the examiner, thus potentially reducing shame and/or an unwillingness to be screened. This may also have implications for tendency to over-report. Given that the present study utilizes the reading option, as opposed to the navigation option (in terms of brief HL screening questions), the authors might consider potential impacts of the nature of assessment instruments on under- or over-report.

Minor Essential Revisions: None Identified
Major Compulsory Revisions: None Identified

REVIEWER
Peerson, Anita
Southern Inland Health Initiative, Department of Health
REVIEW RETURNED 16-Aug-2013

THE STUDY

Thankyou for the opportunity to review this paper.

The field of gender differences in health literacy has not been well addressed either in gender studies nor in health literacy research. It is good to see a paper addressing this issue, and from Taiwan.

Suggest that the country Taiwan is part of the paper's title as well as stated more clearly in the abstract (eg. design) - helpful for readers

The paper would benefit from considerable editing by a persons with editorial skills and English is a first language, to help improve the quality of the paper and make it more readable for international readers.

The abstract needs to be written more clearly, with more details of the study sampling (including % of men and women) - how many women and men were in the sample - this is important given the study addresses gender

I suggest there is a stronger emphasis and discussion of the literature on gender and health literacy in the introduction of this paper - to strengthen it and provide the context for this study

Need to indicate the score scale of questions (score: 1-5) on page 8 line 15

the time to completed both the initial interview and the MHLS needs to be stated

I cannot comment on the statistics provided as this is not an area of my expertise, and advise that an experienced statistician review the paper.

the conclusion/discussion section needs to be consider that the results are applicable to a Taiwan context and cannot be generalised to other countries due to a mix of gender and cross-cultural factors. This also needs to be stated in the conclusion section of the abstract.

My rationale, is that there is yet no agreement (internationally) that screening patients' health literacy in the clinical setting is valuable.
Therefore, health professionals must develop new communication strategies/tools to enhance the health literacy of patients, and thus improve patient health outcomes.

In addition, in the final paragraph, the importance of gender and health literacy in health care needs to be restated, as well as being a consideration in how health professionals communicate with women and men, due to gender differences.

**VERSION 1 – AUTHOR RESPONSE**

**General comments:**
The article is well-written and timely, as evidence increasingly supports the clinical identification of patients at risk due to health literacy. Moreover, we are also seeing use of practical assessment tools now available that can be completed in the clinical setting, such as those employed in the present study. The questions posed by the authors are suitable and the methods utilized in their analyses are both appropriate and well defined. Their review of the literature is excellent and up-to-date. Finally, the conclusions drawn from the analyses are appropriate, with limitations clearly stated. The authors also bring a much valued international perspective to the subject matter.

Response: Thank you for the positive feedback. We believe the study makes new contributions to the health literacy literature.

**Minor Discretionary Revisions:**

**Introduction (3rd paragraph, 2nd sentence):** Implications go beyond simply self-report of reading level. The authors might consider some indication about the nature of report on system navigation, as this is also the subject of other single item screening instruments employed.

Response: Although we agree with the reviewer that individuals may also over-report their ability to navigate the health care system, we cannot find empirical evidence in support of the possibility. For fear of over-stating the evidence, we decide not to revise the part of the introduction referred to in the comment.

**Methods (1st Paragraph):** Recommend that the authors include text in the last sentence indicating that the MHLS is validated in the target population.

Response: Following the reviewer’s recommendation, we have revised the sentence to: “The survey was to assess the level of health literacy in Taiwanese adults using a validated instrument, the Mandarin Health Literacy Scale (MHLS).”

**Methods (4th Paragraph on NHRI Survey):** Regarding questions asking participants to report their ability to comprehend health information, the recommendation is that text be included indicating that the authors will address in detail below.

Response: To increase clarify, we change the sentence in the paragraph to: “It also included two sets of questions, described in detail below, that asked participants to report their ability to comprehend health information.”

**Discussion:** One recommendation is that the authors address the distinction between literacy and
health literacy. Although related, they remain conceptually (and institutionally) distinct. Implications, especially related to patient willingness to be screened (discussed in text) may also be important.

Response: We should have been clear in the previous manuscript that the discussion referred to in the reviewer’s comment is specifically about health literacy, rather than literacy. Where appropriate, “literacy” has been changed to “health literacy” in the revision.

Discussion (3rd paragraph): One additional interpretation related to patient willingness to be screened is that, at least in one study, screening was conducted using more of a task-based assessment. This may have spared patients having to demonstrate poor reading skills to the examiner, thus potentially reducing shame and/or an unwillingness to be screened. This may also have implications for tendency to over-report. Given that the present study utilizes the reading option, as opposed to the navigation option (in terms of brief HL screening questions), the authors might consider potential impacts of the nature of assessment instruments on under- or over-report.

Response: The reviewer raises a good point. We have incorporated the explanation and its implication in the revision: “Another possibility is that health literacy screening, at least in one study, was conducted using a task-based assessment. This may have spared patients from having to demonstrate poor reading skills to the examiner, thus increasing the acceptance for screening. To the extent this is true, task-based assessments may avoid over-report and produce more accurate evaluation of patients’ health literacy level.” (page 14)

Point-to-point response to comments by Dr. Anita Peerson

The field of gender differences in health literacy has not been well addressed either in gender studies nor in health literacy research. It is good to see a paper addressing this issue, and from Taiwan.

Response: Thank you for the positive feedback.

Suggest that the country Taiwan is part of the paper's title as well as stated more clearly in the abstract (e.g., design) - helpful for readers.

Response: Following the suggestion, we have changed the title to “Accuracy in Self-Reported Health Literacy Screening: A Difference between Men and Women in Taiwan”. We also indicate in the abstract that the study was conducted in Taiwan.

The paper would benefit from considerable editing by a person with editorial skills and English is a first language, to help improve the quality of the paper and make it more readable for international readers.

Response: The manuscript has been thoroughly edited by a professional editor.

The abstract needs to be written more clearly, with more details of the study sampling (including % of men and women) - how many women and men were in the sample - this is important given the study addresses gender.
Response: More detailed information – e.g., Taiwan as the national context, gender representation in the study sample – is provided in the abstract.

I suggest there is a stronger emphasis and discussion of the literature on gender and health literacy in the introduction of this paper - to strengthen it and provide the context for this study.

Response: We conducted a literature search and found few studies that examined gender and health literacy. Of the studies we found, health literacy was assessed “objectively” using either a reading or comprehension test and the results varied in describing the gender difference in health literacy, after controlling for other demographic factors such as age, ethnicity, and educational attainment (e.g., Gausman & Forman 2002; Gazmararian et al 2006; Kickbusch 2001; von Wagner, Knight, Steptoe, and Wardle 2007). Because those studies have little relevance to self-report of health literacy, we decide not to discuss them in the introduction.


Need to indicate the score scale of questions (score: 1-5) on page 8 line 15.

Response: Information about the score scale of questions is added: “We reverse-coded the responses to the second set of questions (i.e., 1=all of the time, 2=most of the time, 3=some of the time, 4=a little of the time, and 5=none of the time) so that a higher score indicated better ability to comprehend health information.” (page 9).

The time to completed both the initial interview and the MHLS needs to be stated.

Response: The average length of the interview was about 50 minutes. Administration of the MHLS took on average 25 minutes (the remaining questionnaire survey was about 25 minutes). The information is provided on page 8.

I cannot comment on the statistics provided as this is not an area of my expertise, and advise that an experienced statistician review the paper.

Response: A biostatistician colleague has reviewed and found no mistake in the statistical analysis and our interpretation of results.

The conclusion/discussion section needs to consider that the results are applicable to a Taiwan context and cannot be generalised to other countries due to a mix of gender and cross-cultural factors. This also needs to be stated in the conclusion section of the abstract. My rationale, is that
there is yet no agreement (internationally) that screening patients' health literacy in the clinical setting is valuable. Therefore, health professionals must develop new communication strategies/tools to enhance the health literacy of patients, and thus improve patient health outcomes.

Response: We agree with the reviewer. As we indicate in the discussion, data for our study came from Taiwan and our results may be cultural specific. Therefore, further investigation is needed to verify our findings in other cultural environments (page 14). We have also added the caution in the discussion section of the abstract: “In Taiwan, screening questions are prone to socially desirable response and may under-identify male patients with inadequate health literacy. Development of a brief and easy-to-use health literacy test may be a more effective approach to health literacy screening in clinical settings. Alternatively, clinicians can verify patient comprehension of health information via the ‘teach back’ or ‘show me’ technique in order to improve communication and patient care. Research is needed to examine if gender differences in self-report of health literacy exist in other countries.”

We also revise the last paragraph of the discussion to incorporate the reviewer’s comment on health literacy screening:

“While instituting health literacy screening to help physicians and other healthcare providers to assess their patients’ limited health literacy may improve health care quality and clinical outcomes, screening questions that are prone to socially desirable response may not meet the intended purpose. Perhaps, a more effective strategy is to develop brief health literacy instruments that are inexpensive and easy to use in clinical settings. Alternatively, health professionals may verify patient comprehension via the “teach back” or “show me” technique. Finally, since there is yet no agreement that screening patients’ health literacy in the clinical setting is valuable, health professionals must develop new communication strategies – strategies that are sensitive to gender differences – in order to improve communication and patient care outcomes.” (page 15)

In addition, in the final paragraph, the importance of gender and health literacy in health care needs to be restated, as well as being a consideration in how health professionals communicate with women and men, due to gender differences.

Response: We have added the emphasis in the paragraph.

The results describing socio-demographic attributes of the study sample need to be moved and placed at the beginning of the results section.

Response: Description of socio-demographic attributes has been moved to the beginning of the results section: “As indicated above, a total of 3,491 adults completed the MHRI health literacy survey. The mean age of participants was 45.6 years. Both gender groups were about equally represented. Sixty-two percent of participants had no more than 12 years of formal education (equivalent to a high school diploma or less).” (page 11)
GENERAL COMMENTS

I note the authors' responses to my comments and the specificity of their focus (ie. gender differences in self-reports of health literacy). I again emphasise the importance of providing i) an overview of the broader gender and health literacy literature (discussions, debates, empirical studies) and ii) findings from population-based studies which reveal gender differences in health literacy (eg. United States, Canada, Britain, Australia, European Union). This material needs to be added to the introduction (even as a sub-section) and again referred to in the discussion/conclusion sections – as will help international readers, so that the study findings reported in this paper will be better understood and also contribute to the evidence base on gender and health literacy, plus strengthen the paper. At the moment, the link between the authors’ focus/this study and this field is limited.

I note the authors have already referred to a paper by Peerson and Saunders 2009 – they may also like to look at the following paper


- Both papers contain an analysis of gender and health literacy issues as well as various useful references referring to studies and/or recent discussions about gender and health literacy (including men) – the overall findings have relevance not only for health service delivery (health professionals and communication with patients) but also social marketing and health promotion initiatives

VERSION 2 – AUTHOR RESPONSE

I note the authors’ responses to my comments and the specificity of their focus (ie. gender differences in self-reports of health literacy). I again emphasise the importance of providing i) an overview of the broader gender and health literacy literature (discussions, debates, empirical studies) and ii) findings from population-based studies which reveal gender differences in health literacy (eg. United States, Canada, Britain, Australia, European Union). This material needs to be added to the introduction (even as a sub-section) and again referred to in the discussion/conclusion sections – as will help international readers, so that the study findings reported in this paper will be better understood and also contribute to the evidence base on gender and health literacy, plus strengthen the paper. At the moment, the link between the authors’ focus/this study and this field is limited.

I note the authors have already referred to a paper by Peerson and Saunders 2009 – they may also like to look at the following paper


- Both papers contain an analysis of gender and health literacy issues as well as various useful references referring to studies and/or recent discussions about gender and health literacy (including men) – the overall findings have relevance not only for health service delivery (health professionals and communication with patients) but also social marketing and health promotion initiatives
Accuracy in self-reported health literacy screening: a difference between men and women in Taiwan
Shou-Yih Daniel Lee, Tzu-I Tsai and Yi-Wen Tsai

BMJ Open 2013 3:
doi: 10.1136/bmjopen-2013-002928

Updated information and services can be found at:
http://bmjopen.bmj.com/content/3/11/e002928

These include:

References
This article cites 46 articles, 4 of which you can access for free at:
http://bmjopen.bmj.com/content/3/11/e002928#BIBL

Open Access
This is an Open Access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 3.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited and the use is non-commercial. See: http://creativecommons.org/licenses/by-nc/3.0/

Email alerting service
Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

Topic Collections
Articles on similar topics can be found in the following collections

Communication (210)
Health services research (1492)
Medical management (227)
Patient-centred medicine (473)

Notes

To request permissions go to:
http://group.bmj.com/group/rights-licensing/permissions

To order reprints go to:
http://journals.bmj.com/cgi/reprintform

To subscribe to BMJ go to:
http://group.bmj.com/subscribe/