

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Relationship between health literacy and quality of life among cancer survivors in China: a cross-sectional study
AUTHORS	Xia, Juan; Wu, Peng; Deng, Qinglong; Yan, Rui; Yang, Renren; Lv, Binghui; Wang, Jiwei; Yu, Jinming

VERSION 1 – REVIEW

REVIEWER	Dr. Nuworza Kugbey School of Public Health, University of Health and Allied Sciences Ho-Volta Region Ghana
REVIEW RETURNED	27-Apr-2019

GENERAL COMMENTS	<p>Thank you very much for the opportunity to review this manuscript. The topic is an important one but the conceptualization and entire write-up is problematic. Specifically;</p> <ol style="list-style-type: none">1. The methods section in the Abstract is unclear. The exact sample size used for the study was confusing (4610 or 4589?). The authors mentioned social support as one of the covariates, but this was never measured nor analysed.2. INTRODUCTION: The argument presented by the researchers as the basis for the current study is insufficient as there is the need for a stronger rationale to warrant this study. The background lacks critical depth in terms of literature as several studies have documented the impact of HL on QoL among cancer survivors.3. METHODOLOGY: The authors did not provide any information on the specific research design used and the justification. The methodology also requires a lot of language editing.4. The discussion is fairly written but presents no new information.
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VERSION 1 – AUTHOR RESPONSE

Reviewer #1:

The methods section in the Abstract is unclear. The exact sample size used for the study was confusing (4610 or 4589?). The authors mentioned social support as one of the covariates, but this was never measured nor analyzed.

Response:

The method section in Abstract was revised (page 2). Details are as follows:

“Design Cross-sectional observational study in China.

Setting and participants Cross-sectional observational study of 4713 cancer survivors who were older than 18 years and had cancers come from the Shanghai Cancer Rehabilitation Club. Participants were enrolled and completed questionnaires between May and July 2017.

Measurement HL were assessed by 3 established screening questions and QOL evaluated using the simplified Chinese version of the quality-of-life questionnaire-core 30 items (EORTC QLQ-30). All questionnaires were collected through face-to-face interviews or self-administered by literate participants. Participants were excluded if they did not complete at least 1 HL question. Baseline characteristics were compared across levels of HL using χ^2 test for categorical variables and Wilcoxon test for the non-normal continuous variables. Item Response Theory (IRT) was used to evaluate the existing measure of health literacy. Linear regression models and Logistic regression models were used to investigate the association between HL and QOL. SAS 9.4 and MULTILOG 7.03 were applied for analysis.”

The exact sample size used for this study was 4589. Among 4713 cancer survivors surveyed, 4610 responded, and the response rate was 97.81%. After sorting out the valid questionnaires (at least 1 HL question was available in the survey), we totally acquired 4589 valid samples. We revised errors in abstract.

After reviewing the SAS code, the variable of social support was not regarded as a covariate.

INTRODUCTION: The argument presented by the researchers as the basis for the current study is insufficient as there is the need for a stronger rationale to warrant this study. The background lacks critical depth in terms of literature as several studies have documented the impact of HL on Qol among cancer survivors.

Response:

We have added relevant content to the induction (page 3), and highlighted what we changed.

METHODOLOGY: The authors did not provide any information on the specific research design used and the justification. The methodology also requires a lot of language editing.

Response: we have supplemented some details and made language editing (Page 4-5).

The discussion is fairly written but presents no new information.

Response: we have supplement the explanation in part of discussion (Page, Line). Details are as follows:

“Besides that, participants with low HL were more likely than those with adequate HL to have received only some middle school education or less and to have had a little exercise. Meanwhile, the education background and behaviors (alcohol use and physical activity) were all associated with QL. Information needs and understand of the person living with a chronic condition is critical for the optimal management (13). People with higher education levels have a better chance to acquire health information about this kind of disease as well as understand doctors’ advice, and adopt a healthy lifestyle, such as drink less alcohol and exercise regularly. The previous study reported that physical activity contributes to not only physical health but to the emotional, social, cognitive and even the spiritual domain (37). This fit particularly with self-determination theory that is when participants find physical activity could meet needs and contribute to QOL, move up the continuum toward more self-determined motivation. That positive cycle, with PA enhancing QOL, and enhanced QOL motivating participation creates a positive health cycle (38). Meanwhile, recent cohorts study conducted in Hong Kong reported that alcohol reduction to be associated with better mental well-being (39), which may have a positive effect on QOL.”

We appreciate for Editor and Reviewers’ work earnestly, and hope that the correction will meet with approval.

Once again, thank you very much for your comments and suggestions.

VERSION 2 – REVIEW

REVIEWER	Dr. Nuworza Kugbey School of Public Health University of Health and Allied Sciences Ho-Ghana
REVIEW RETURNED	15-Aug-2019

GENERAL COMMENTS	<p>Thank you very much for the opportunity to review the revised version of this manuscript “Health Literacy and Quality of Life among Cancer Survivors in China”.</p> <p>Overall comment: It was difficult reviewing this manuscript as the authors did not highlight the changes in the revised manuscript. Thus, it was difficult to trace the changes made by the authors. Most of my comments have not been adequately addressed. Below are some specific concerns I believe the authors need to address. I am unsure about the English language editing of the manuscript as there are still several errors in the paper, unless I have received a wrong version. See some specific examples:</p> <p>Strengths and limitations of this study: Third bullet: “Causal inferences could not be allowed due to the cross-sectional design” should be “Causal inferences could not be drawn due to the cross-sectional design employed”</p> <p>Introduction</p> <p>Page 3, paragraph 1, line 4: “Higher levers of HL...” should read “Higher levels of HL...”</p> <p>Page 3, paragraph 3, line 3: “Researches (12-14) conducted among cancer patients were reported that HL was positively related to the QOL”. This sentence does not read well.</p> <p>The last paragraph of the introduction section lacks clarity. The justification for the study and review of relevant literature is still scanty. The last paragraph needs revision to highlight the key gap(s) in literature that the present study sought to address.</p> <p>Methods & Results: There are still some awkward statements throughout the manuscript: e.gs:</p> <ul style="list-style-type: none"> • “For the items were ordered responses, the Graded Response Model (GRM) was used”. • After adjustment for other potentially confounding factors, marriage, years with cancer, and smoking habit were no significant differences. • Cancer survivors with adequate HL were more likely than cancer survivors with low HL to have a high score for a functional scale whereas a low level of symptomatology. <p>What is the justification for this test “Wilcoxon test for the non-normal continuous variables”? I have not seen any computation based on this statistical test. This test is usually used when you are doing a matched sample analysis or collected pre-test and post-test data with a non-continuous outcome. Kindly check.</p> <p>Discussion I am unable to comment on the discussion as I feel that my initial concerns have not been adequately addressed and highlighted.</p>
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VERSION 2 – AUTHOR RESPONSE

Reviewer: #1
Second time

Please state any competing interests or state 'None declared': No competing interests to declare.
Please leave your comments for the authors below
Please see my attachment for comments as I feel that the authors have not adequately addressed my comments to significantly improve the manuscript.

-Strengths and limitations of this study:

Response: "Causal inferences could not be allowed due to the cross-sectional design" revised to "Causal inferences could not be drawn due to the cross-sectional design employed".

-Introduction

Page 3, paragraph 1, line 4: "Higher levers of HL..."

Response: We revised the sentence into "Higher levels of HL..."

Page 3, paragraph 3, line 3: "Researches (12-14) conducted among cancer patients were reported that HL was positively related to the QOL".

Response: We deleted this sentence in the second revision.

The last paragraph of the introduction section lacks clarity.

Response: We separated the introduction of the relationship between QOL and HL based on previous literature and aim of the study into two paragraphs, and made detailed description.

The last paragraph are as follows:

"Therefore, by using a population-based survey, this study aims to evaluate the association between HL and subscales of QOL among sample of cancer survivors (breast, colorectal, lung, stomach, thyroid, and so on) in developing country using this short three-item brief health literacy screening questions, and to find the relationship between survivors' characteristics and QOL. We hypothesize that higher HL levels would be associated with better quality of life. Isolating the independent contribution of HL toward cancer survivors' QOL would have important clinical and public health implications, and it help relieve the conflict between the complexity of cancer care and health deficits, and ultimately improve patients' HRQOL."

-Method & Results

There are still some awkward statements throughout the manuscript:

"For the items were ordered responses, the Graded Response Model (GRM) was used".

Response: Since the item responses are classified into ordered polytomous categories, the Graded Response Model (GRM) was used.

After adjustment for other potentially confounding factors, marriage, years with cancer, and smoking habit were no significant differences.

Response: After adjustment for other potentially confounding factors, there was no significant relationship between QOL and marriage, years with cancer as well as smoking habit.

Cancer survivors with adequate HL were more likely than cancer survivors with low HL to have a high score for a functional scale whereas a low level of symptomatology.

Response: Cancer survivors with adequate HL were more likely to receive higher scores on the functional scale and lower scores on symptom compared to those with low HL.

What is the justification for this test "Wilcoxon test for the non-normal continuous variables"?

Response: The proper statistical method for the non-normal continuous variables was the Wilcoxon rank sum test. We revised "Wilcoxon test" into "Wilcoxon rank sum test".

- Discussion

I am unable to comment on the discussion as I feel that my initial concerns have not been adequately addressed and highlighted.

Response: We revised the discussion as required, and summarized the new findings from our results. Details are as follows. (Page 8, Line 6)

“The result of the study showed that many factors were associated with QOL, including HL score, age, sex, number of chronic disease, alcohol intake, physical activity, district, and BMI among cancer survivors, which almost in line with previous studies (39). Continuous HL score was found to be associated with QOL. The higher of HL scores (indicating limited HL), the lower of QOL (35). Gender was found to be a determinant of QOL and males were more likely have poor QOL compared to females. Study showed that older survivors reported higher QOL, however, there existed some research reported that overall QOL increased with age (40). There was strong association between QOL and chronic disease, and QOL was lower in the presence of survivors with chronic diseases (41). Physical activity was found to be positively associated with QOL. And those living in urban area were more likely to have better QOL than those living in rural area. Survivors with higher BMI had higher overall QOL when controlling for confounders, which was slightly different from some studies conducted among female that reported that higher BMI was associated with QOL (42, 43).

Besides that, the positive relationship between HL and scales of HRQOL were existed regardless of how HL or HRQOL was operationalized (continuous or categorical). Our study showed that cancer survivors with adequate HL had nearly 3 times the odds of having a better QOL than cancer survivors with inadequate HL and the same trend could be found in other functional subscales. In symptom subscales, those with adequate HL were more likely to have slight symptoms compared with those with limited HL. Information needs and understand of the person living with a chronic condition is critical for the optimal management (8). Kim et al. (44) indicated that low health literacy prostate cancer patients may have hindered patient involvement in shared decision-making with a physician. Those who had inadequate HL may have difficulty in understanding medical information given by provider, managing their treatment plan, and adherence to cancer treatment regimens, resulting in exacerbated treatment-related symptoms (35). Whereas, those who had adequate HL have better chance to acquire health information about this kind of disease as well as understand doctors' advice, and adopt a healthy lifestyle, such as drink less alcohol and exercise regularly.”