

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Lifestyles and determinants of perceived health in Italian grown-up/adult congenital heart patients: A cross-sectional and pan-national survey
AUTHORS	Dellafiore, Federica; Caruso, Rosario; Arrigoni, Cristina; Flocco, Serena; Giamberti, Alessandro; Chessa, Massimo

VERSION 1 – REVIEW

REVIEWER	Ari Cedars University of Texas Southwestern Medical Center, Dallas Texas USA
REVIEW RETURNED	14-May-2019

GENERAL COMMENTS	<p>In their manuscript "Lifestyles and determinants of perceived health in Italian Grown-up/Adult congenital heart patients: A national survey" Dellafiore et al investigate self reported health behaviors using a modified version of what appears to be a standardized health behavior questionnaire used in Italy and self-reported physical and mental health status using the SF-12 in a population of patients recruited from what appears to be the national patient advocacy group for Italy the AICCA. The authors compare their results to published data for the general population in Italy, and investigate variables predictive of worse physical or mental health status using dichotomized scores for each of these two variables. While the topic investigated and the questions asked are both timely and fundamentally important, there are multiple limitations to both the methodology and presentation which limit enthusiasm.</p> <p>Introduction: Clearly states the relevant background and makes a good argument for the importance of the proposed research.</p> <p>Methods: The population is fundamentally biased. The authors surveyed members of the national patient advocacy organization. It is very unlikely that this group of individuals is representative of the general ACHD population in Italy. To the contrary they are very likely to be "activated" patients, more involved in their health care and more vigilant about adhering to healthy behaviors. As one of the outcomes investigated in this manuscript is health behaviors, the generalizability of the conclusions derived is suspect. This is not mentioned in the limitations section or addressed in the discussion. The data is useful, but only with these stipulations clearly stated and addressed. The development of the health behavior questionnaire which was created "ad hoc" by a "multi-disciplinary panel of experts" is very poorly characterized. Was this a totally new questionnaire? How closely was it based on the Italian National Institute of Public Health questionnaire that presumably is validated? Were there totally new questions or wording used? If anything more than a basic item reordering and</p>
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	<p>selection/elimination was performed, I'm not sure that the questionnaire results are necessarily reliable without proper validation. Subjecting 6 patients to what sounds like cognitive debriefing of the questionnaire would not likely meet this threshold. More description of the derivation and validity of this questionnaire is needed. Statistical analysis seems standard and is adequately described and appropriate.</p> <p>Results: Easy to understand and straightforward. There appears to be a mistake in the OR reported in the text versus in the table for the impact of age on perceived mental health (1.7 in the text, 1.017 in the text just adjacent and in the table).</p> <p>Discussion: The discussion fails to address some of the more interesting findings in the study. Namely it fails to discuss why the authors believe there is a correlation between use of various drugs and perceived physical health status, which is very important and potentially actionable. The authors seem to want to say sicker individuals were more likely to be using medications and as such had lower reported physical health status. Has this been demonstrated previously? What about being on more medications impacts reported physical health status? Side effects of the drugs? Perception that an individual is "doing worse" because they require more therapy? The limitations section is not complete as outlined above.</p> <p>Presentation: The language is very poor and requires review by a fluent English speaker. It at times impeded capacity to comprehend the manuscript. Tables are clear and easy to understand.</p>
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REVIEWER	Jamie Jackson Nationwide Children's Hospital, USA
REVIEW RETURNED	04-Jun-2019

GENERAL COMMENTS	<p>Dr. Dellafiore and colleagues in the manuscript entitled "Lifestyles and determinants of perceived health in Italian Grown-up/Adult congenital heart patients: A national survey" described self-reported health behaviors and perceived health status among 626 adult congenital heart disease (ACHD) survivors in Italy using a list of patients through the Italian Association of GUCH/ACHD (AICCA). Authors aimed to identify rates of health behavior engagement and the factors associated with inadequate perceptions of health, which is a worthwhile objective. The number of participants in the current study is impressive. Addressing several methodological concerns would facilitate the conclusions drawn by the results of the current study.</p> <p>1) Authors converted scores on the SF-12 into dichotomous distinctions of "adequate" and "inadequate" health perceptions, citing a non-peer reviewed report by the Utah Department of Health. Authors are encouraged to provide rationale for why dichotomizing the PCS and MCS from the SF-12 was used for addressing the study aims (versus leaving the PCS and MCS as continuous). Additionally, the authors are encouraged to provide additional information as to why a report from the Utah Department of Health was selected?</p> <p>2) In the statistical analysis plan, authors described performing univariate analysis between the sub-groups as defined by the sociodemographic characteristics. The results of these univariate analyses are not listed in the results section. This information is</p>
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	<p>critical given that the univariate analyses were used to determine which variables were included in the logistic regressions.</p> <p>3) Authors are requested to clarify if there was any missing data from the 626 respondents (e.g., partially completed survey, etc.)? If so, how was missing data handled (e.g., mean imputation, etc.)?</p> <p>4) Authors state on page 9 that this study “intercepts the most critical determinants associated to poorer physical and mental health.” Authors are encouraged to reword this conclusion to better fit the nature and limitations of the data, such as “potentially important determinants of poorer physical and emotional health were identified.”</p> <p>5) Authors stated on page 5 “Once obtain satisfactory indices of content validity, the questionnaire was preliminarily tested in a small group...” Could the authors please clarify what is meant by “satisfactory indices of content validity”?</p> <p>6) Authors stated on page 7 that the “independent variables were entered into the model simultaneously to control for each other.” Would a more appropriate description be “to examine the relative unique contribution of each variable on perception of health”? Seems as though the intent of these variables was not serve as controls (or nuisance variables), but rather as important predictors.</p> <p>7) In Table 2, the addition of ranges for continuous variables may provide some additional information for readers. Additionally, the inclusion of BMI categories may be helpful (e.g., normal weight, overweight, obese).</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewer 1	
<p>In their manuscript "Lifestyles and determinants of perceived health in Italian Grown-up/Adult congenital heart patients: A national survey" Dellafiore et al investigate self reported health behaviors using a modified version of what appears to be a standardized health behavior questionnaire used in Italy and self-reported physical and mental health status using the SF-12 in a population of patients recruited from what appears to be the national patient advocacy group for Italy the AICCA. The authors compare their results to published data for the general population in Italy, and investigate variables predictive of worse physical or mental health status using dichotomized scores for each of these two variables. While the topic investigated and the questions asked are both timely and fundamentally important, there are multiple</p>	<p>Thanks for your review of our manuscript. We worked to follow your comments throughout the manuscript to improve the overall work presentation.</p>

<p>limitations to both the methodology and presentation which limit enthusiasm.</p> <p>Introduction: Clearly states the relevant background and makes a good argument for the importance of the proposed research.</p>	
<p>Methods: The population is fundamentally biased. The authors surveyed members of the national patient advocacy organization. It is very unlikely that this group of individuals is representative of the general ACHD population in Italy. To the contrary they are very likely to be "activated" patients, more involved in their health care and more vigilant about adhering to healthy behaviors. As one of the outcomes investigated in this manuscript is health behaviors, the generalizability of the conclusions derived is suspect. This is not mentioned in the limitations section or addressed in the discussion. The data is useful, but only with these stipulations clearly stated and addressed.</p>	<p>Thank you for this interesting comment. We have emended discussion/limitation paragraph to clearly state this point.</p> <p>Despite it is very unlikely that a group of individuals from a patient advocacy organisation is representative of the general population, in Italy AICCA is actually an important network of real-world patients, not only a network of activated patients, but a network of real-world patients (more information about AICCA are available here: Campioni G et al. (2010) The role of patient associations; the Italian experience. <i>Pediatr Med Chir.</i> 2010 Nov-Dec;32(6):309-11. PMID: 21462457).</p> <p>In fact, in AICCA holds the contacts of the majority of patients from many hubs for CHD treatment in Italy. During the hospitalization, the majority of patients gave to the same AICCA the consent to be contacted and to be listed in the association mailing list. However, not all the patients that are listed in AICCA could be considered activated patients, as not all the patients actually participate in an active manner to the associative initiatives, even if their contacts are listed in the repository of the association.</p>
<p>The development of the health behavior questionnaire which was created "ad hoc" by a "multi-disciplinary panel of experts" is very poorly characterized. Was this a totally new questionnaire? How closely was it based on the Italian National Institute of Public Health questionnaire that presumably is validated? Were there totally new questions or wording used? If anything more than a basic item reordering and selection/elimination was performed, I'm not sure that the questionnaire results are necessarily reliable without proper validation. Subjecting 6 patients to what sounds like cognitive debriefing of the questionnaire would not likely meet this threshold. More description of the derivation and validity of this questionnaire is needed.</p>	<p>Thank you for highlighting this weakness. We have emended the validation section in the methods to address this comment and to provide a clear description of the validity process.</p>

<p>Statistical analysis seems standard and is adequately described and appropriate.</p>	<p>Thank you for having appreciated our approach.</p>
<p>Results: Easy to understand and straightforward. There appears to be a mistake in the OR reported in the text versus in the table for the impact of age on perceived mental health (1.7 in the text, 1.017 in the text just adjacent and in the table).</p>	<p>Thank you for highlighting this typos. We have done the correction in the text.</p>
<p>Discussion: The discussion fails to address some of the more interesting findings in the study. Namely it fails to discuss why the authors believe there is a correlation between use of various drugs and perceived physical health status, which is very important and potentially actionable. The authors seem to want to say sicker individuals were more likely to be using medications and as such had lower reported physical health status. Has this been demonstrated previously? What about being on more medications impacts reported physical health status? Side effects of the drugs? Perception that an individual is "doing worse" because they require more therapy? The limitations section is not complete as outlined above.</p>	<p>Thank you for this point. We have importantly emended the discussion, following your indications.</p>
<p>Presentation: The language is very poor and requires review by a fluent English speaker. It at times impeded capacity to comprehend the manuscript. Tables are clear and easy to understand.</p>	<p>As per the editorial request, we asked to a professional copyediting service to review the English throughout the manuscript.</p>
<p>Reviewer 2</p>	
<p>Dr. Dellafiore and colleagues in the manuscript entitled "Lifestyles and determinants of perceived health in Italian Grown-up/Adult congenital heart patients: A national survey" described self-reported health behaviors and perceived health status among 626 adult congenital heart disease (ACHD) survivors in Italy using a list of patients through the Italian Association of GUCH/ACHD (AICCA). Authors aimed to identify rates of health behavior engagement and the factors associated with inadequate perceptions of health, which is a worthwhile objective. The number of participants in the current study is impressive. Addressing several methodological concerns would facilitate</p>	<p>Thank you for your careful review and for the comments.</p>

<p>the conclusions drawn by the results of the current study.</p>	
<p>Authors converted scores on the SF-12 into dichotomous distinctions of “adequate” and “inadequate” health perceptions, citing a non-peer reviewed report by the Utah Department of Health. Authors are encouraged to provide rationale for why dichotomizing the PCS and MCS from the SF-12 was used for addressing the study aims (versus leaving the PCS and MCS as continuous). Additionally, the authors are encouraged to provide additional information as to why a report from the Utah Department of Health was selected?</p>	<p>Many thanks for highlighting that our approach was not clear. For this reason, we emended the text to better describe our approach. Considering that the paragraph of report we had previously cited was based on the study that significantly contributed to validate SF12 in Italian with a general population sample, we cited the original article, also describing the rationale/procedure used to dichotomize the scores.</p>
<p>In the statistical analysis plan, authors described performing univariate analysis between the sub-groups as defined by the sociodemographic characteristics. The results of these univariate analyses are not listed in the results section. This information is critical given that the univariate analyses were used to determine which variables were included in the logistic regressions.</p>	<p>Thank you for noticing this. We added the information of the univariate analysis in the notes of table 2.</p>
<p>Authors are requested to clarify if there was any missing data from the 626 respondents (e.g., partially completed survey, etc.)? If so, how was missing data handled (e.g., mean imputation, etc.)?</p>	<p>Thank you for this point: we had no missing data in the questionnaire as all the questions were mandatory to complete the survey. However, the socio-demographic section allowed the possibility to skip a question, for this reason missing data was manage using pairwise deletions for the analysis.</p>
<p>Authors state on page 9 that this study “intercepts the most critical determinants associated to poorer physical and mental health.” Authors are encouraged to reword this conclusion to better fit the nature and limitations of the data, such as “potentially important determinants of poorer physical and emotional health were identified.”</p>	<p>Thank you for highlighting that this phrase was not fit. We emended the text as indicted.</p>
<p>Authors stated on page 5 “Once obtain satisfactory indices of content validity, the questionnaire was preliminarily tested in a small group...” Could the authors please clarify what is meant by “satisfactory indices of content validity”?</p>	<p>Thank you for this point. As per the comments for the reviewer 1 we have expanded the section dedicated to the content validity.</p>
<p>Authors stated on page 7 that the “independent variables were entered into the model simultaneously to control for each other.” Would</p>	<p>Thank you for this point. We have emended as suggested.</p>

a more appropriate description be “to examine the relative unique contribution of each variable on perception of health”? Seems as though the intent of these variables was not serve as controls (or nuisance variables), but rather as important predictors.	
In Table 2, the addition of ranges for continuous variables may provide some additional information for readers. Additionally, the inclusion of BMI categories may be helpful (e.g., normal weight, overweight, obese).	Thank you for suggesting this (we think your comment is referred to Table 1). We followed your suggestion in emending the table.

VERSION 2 – REVIEW

REVIEWER	Jamie Jackson Nationwide Children's Hospital, USA
REVIEW RETURNED	21-Aug-2019

GENERAL COMMENTS	<p>The authors have address most of the concerns raised by the initial review. A few issues remain, that if addressed, would improve the manuscript for publication.</p> <p>1) Results of the requested univariate analysis were added as a footnote to Table 2. Authors may wish to consider listing these analyses in the Results section, including the statistical values appropriate for chi-squares and t-tests.</p> <p>2) The authors adequately addressed how much missing data was present. However, the addition of these values in Table 2 detracts more than adds. Authors may wish to consider reporting the amount of missing data in the beginning paragraph of the Results section instead.</p> <p>3) Table 1 does not add much value to the manuscript and could be eliminated to save space.</p>
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VERSION 2 – AUTHOR RESPONSE

Reviewer 2	
Results of the requested univariate analysis were added as a footnote to Table 2. Authors may wish to consider listing these analyses in the Results section, including the statistical values appropriate for chi-squares and t-tests.	<p>Thank you again for your review of our manuscript.</p> <p>We shifted the univariate analysis in the results section, as per your comment.</p>
The authors adequately addressed how much missing data was present. However, the addition of these values in Table 2 detracts more than adds. Authors may wish to consider reporting the amount of missing data in the	Thank you for this point. We followed your indication.

beginning paragraph of the Results section instead.	
Table 1 does not add much value to the manuscript and could be eliminated to save space.	We have removed table 1 as per your comment.