

PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

TITLE (PROVISIONAL)	Comparisons of body mass index, waist circumference, waist-to-height ratio and a body shape index (ABSI) in predicting high blood pressure among Malaysian adolescents: a cross-sectional study
AUTHORS	Tee, Joyce; Gan, Wan Ying; Lim, Poh Ying

VERSION 1 – REVIEW

REVIEWER	Roya Kelishadi Isfahan University of Medical Sciences
REVIEW RETURNED	22-Jul-2019

GENERAL COMMENTS	<ul style="list-style-type: none">-The rationale of the study is questionable; many previous studies have been conducted in the pediatric population. Do the authors suggest that the novelty is because of the population studied? In such case, the sample size is too small for such study.-The introduction is a repetition of well-established facts.-The discussion is weak.-More interpretation of the findings is necessary.-The study limitations are not complete.-The conclusion is too vague.-The key message is too strong for such a small study.-The English writing needs to be improved.
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REVIEWER	Diego Giulliano Destro Christofaro São Paulo State University (Unesp), School of Technology and Sciences, Presidente Prudente, Brazil.
REVIEW RETURNED	20-Aug-2019

GENERAL COMMENTS	<p>General Comment: This study has an interesting theme, but some aspects need to be better clarified throughout the manuscript.</p> <p>Comment: Despite the interesting theme, in the introduction the authors lack to point out the innovative aspects of the present study. What will this study provide of novelty?</p> <p>“Up to date, very few studies performed ROC analysis and compared several anthropometric indices in Asian adolescent populations”.</p> <p>Comment: This should not be the strongest justification. Authors should mention where this study goes compared to what has already been published in the literature.</p> <p>“The probability proportionate to size was used as the sampling method, in which two government secondary schools in Selangor state were randomly selected. Adolescents who had medical</p>
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	<p>conditions (e.g. sleep disorders, diabetes, thyroid disease and CVDs), neurological or psychiatric disorders (e.g. autism spectrum disorders, anxiety and depression), learning disabilities or developmental delays were excluded from the study” Comment: How many adolescents were excluded for these reasons? Please insert this information.</p> <p>Comment: In the methods the authors should insert a sample size calculation showing that it has sufficient predictive power to subsidize the observed results.</p> <p>Comment: Was the blood pressure device used in this study validated for the young population?</p> <p>Comment: In the results section, insert the confidence interval in sensitivity and specificity analysis.</p> <p>Comment: In the present study the authors provide the option of working with the 90th and 95th percentiles. However, it needs to be further discussed which of these percentiles would be the best to work with. For health professionals, which would be the most recommended? How could this help his clinical practice?</p> <p>Comment: In the discussion the authors mention that WHtR is the best anthropometric index to identify blood pressure, but no analysis was found in the manuscript comparing WHtR ROC curves with the other anthropometric indices analyzed in this study. This analysis should be included in the results as well as discussed in the discussion section.</p> <p>Comment: What are the innovative aspects of this study? This should be included in the discussion.</p> <p>Comment: What are the practical applications of this study?</p>
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REVIEWER	Jun Ma Institute of Child and Adolescent Health, Peking University Health Science Center
REVIEW RETURNED	26-Sep-2019

GENERAL COMMENTS	<p>The study conducted by Tee and colleagues discussed the performance of four anthropometric index on predicting high blood pressure among Malaysian adolescents. The topic has been discussed widely for a long time, however, it's still worthwhile for further confirmation in different populations. The manuscript was well organized. However, I've got a few points in need of improvement.</p> <p>(1) The abbreviation of ABSI should appear in the title, since it refers to a specific index.</p> <p>(2) In Table 3, I strongly recommend that the authors go a step further, to compare the AUCs with a reference group. It helps to identify whether the differences in AUC values are actually statistically significant.</p>
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VERSION 1 – AUTHOR RESPONSE

	REVIEWER 1
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1.	The rationale of the study is questionable; many previous studies have been conducted in the pediatric population. Do the authors suggest that the novelty is because of the population studied? In such case, the sample size is too small for such study.
2.	The introduction is a repetition of well-established facts.
3.	The discussion is weak.
4.	More interpretation of the findings is necessary.
5.	The study limitations are not complete.
6.	The conclusion is too vague.
7.	The key message is too strong for such a small study.
8.	The English writing needs to be improved.
	REVIEWER 2
1.	Despite the interesting theme, in the introduction the authors lack to point out the innovative aspects of the present study. What will this study provide of novelty?
2.	Authors should mention where this study goes compared to what has already been published in the literature.
3.	How many adolescents were excluded for these reasons? Please insert this information.
4.	In the methods the authors should insert a sample size calculation showing that it has sufficient predictive power to subsidize the observed results.
5.	Was the blood pressure device used in this study validated for the young population?
6.	In the results section, insert the confidence interval in sensitivity and specificity analysis.
7.	In the present study the authors provide the option of working with the 90th and 95th percentiles. However, it needs to be further discussed which of these percentiles would be the best to work with. For health professionals, which would be the most recommended?
8.	In the discussion the authors mention that WHtR is the best anthropometric index to identify blood pressure, but no analysis was found in the manuscript comparing WHtR ROC curves with the other anthropometric indices analyzed in this study. This analysis should be included in the results as well as discussed in the discussion section.
9.	What are the innovative aspects of this study? This should be included in the discussion.
10.	What are the practical applications of this study?
	REVIEWER 3
1.	The abbreviation of ABSI should appear in the title, since it refers to a specific index.

2.	In Table 3, I strongly recommend that the authors go a step further, to compare the AUCs with a reference group. It helps to identify whether the differences in AUC values are actually statistically significant.
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VERSION 2 – REVIEW

REVIEWER	Diego Giulliano Destro Christofaro São Paulo State University (UNESP), Brazil
REVIEW RETURNED	03-Dec-2019

GENERAL COMMENTS	Dear Editor, the authors answered my questions point by point and made improvements to the text of the article. Compared to the previous version, the article increased its quality. So I am in favor of accepting the manuscript.
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REVIEWER	Jun Ma Institute of Child and Adolescent Health, Peking University
REVIEW RETURNED	09-Dec-2019

GENERAL COMMENTS	The authors have made proper revision according to previous advices. From my point of view, it is acceptable for publication.
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