

Determining the Cut Off Score of the Healthy Lifestyle Screening Tool among High School Students

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Background: Several lifestyle factors such as not smoking, drinking alcohol in moderation, eating healthily, regular exercise, and maintaining a normal weight have been known to play an important role in optimal health. A screening tool that has a standardized score that indicates healthy or risky lifestyle behaviors is needed for health promotion. However, such a tool that focuses on lifestyle behaviors have not incorporated scores to summarize the results. The purpose of this study is to develop the cut-off points of the Healthy Lifestyle Screening tool.

Methods: Data collection in this study was done from 198 Filipino high school students utilizing the Healthy Lifestyle Screening Tool.

Results: Receiver Operating Curve (ROC) results indicated cut-off score of 98 to separate into low and high score groups. The mean scores for all subcomponents were significantly different in between two groups. The general population fell in the high score category with a mean total score of 105.61 in which 81.31% were categorized in the high score group and 18.61% in the low score group. Subjects in general obtained low mean scores in specific subscale components such as rest (2.46) water (2.66) and exercise (2.78).

Conclusion: Increasing the total score by working on low scoring components will be beneficial in achieving a healthy lifestyle. This study reinforced the importance of holistic approach regarding health and well-being among high school students.

Key Words: Health promotion, Healthy lifestyle, Lifestyle assessment, Philippines, Screening tool, Total score

INTRODUCTION

Major health problems such as chronic and non-communicable diseases are associated with lifestyle. Several lifestyle

factors such as not smoking, drinking alcohol in moderation, eating healthily, regular exercise, and maintaining a normal weight have been known to play an important role in optimal health [1-9]. Many tools were published to help health-care professionals to use in promoting lifestyle changes and provide measurable information [10-13].

A lifestyle screening tool with a substantial score may prove meaningful to health promotion as it could be effectively communicated and be documented. Most of the medical information is provided in a measurable format and the lifestyle information will be well accepted when it is presented as a score that can be compared with the standard numbers. The changes of this score would indicate risk, prompt changes, express possible health benefits drawing

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the patient and clinician to those aspects that are in need of modification [14]. Similar to blood pressure and blood sugar measurements that have a specific normal and abnormal range, a quantitative data that represents lifestyle provides an opportunity to assess, gauge and measure improvements. Although lifestyle behavior screening is not considered a diagnosis or a medical condition, the score will give a standardized comparison of the status of a patient's lifestyle behaviors from visit to visit.

Questions about lifestyle are to be included in the medical evaluation process and systematically administered. Patients will be aware where they are at and encourage them to initiate lifestyle modifications [15-17]. This effort also makes goal setting easier and more organized for both professionals and patients. Having a score that quantifies a person's lifestyle behaviors motivates patients to work towards improvement of the score. Lifestyle assessment that is done in a systematic manner may aid in conveniently evaluating results and comparing previous scores to the present ones [18]. In this method, clinicians may effectively consult with patients basing on quantified data and not merely on feeling or estimation.

Existing scoring and assessment questionnaires focus on the more commonly discussed lifestyle aspects such as nutrition, physical activity, healthy weight [8] alcohol [19] and drug intake [20]. Some tools have been tailored specifically for young adolescents [13] and others have been for certain chronic conditions such as diabetes or metabolic syndrome [21-24]. There has not been a combined screening procedure that is comprehensive, integrated, and systematic with regard to instructions, time frames, risk behaviors, response formats, and scoring procedures [8].

A screening tool that has a standardized score that indicates healthy or risky lifestyle behaviors is needed for health promotion. However, such a tool that focuses on lifestyle behaviors have not incorporated scores to summarize the results. Recently, the Healthy Lifestyle Screening Tool was developed and it that has included various aspects of lifestyle and assessment results with a score that indicates healthy or risky lifestyle behaviors needed for health promotion [25]. In this tool, the total score is calculated and this score is presented to the patient and can be recorded. However, the score used from this tool was not validated.

The score for lifestyle is to give guidelines to professionals and also give feedback to the clients. Similar method was used by WHO where they used a specific method to suggest the score to compare with previously published the score to measure addiction. In the Alcohol Smoking and Substance Involvement Screening Test (ASSIST), there are three risk level categories which are low, moderate and high having the cut off scores correspondingly [20]. The cut off score presented in that tool is critical in self-awareness of their addiction status and as well as initiating brief intervention right after the test is completed. This same method can be applied to the healthy lifestyle to calculate the cut off score that represents if the person is practicing a healthy lifestyle.

Studies have shown a lack in primary healthcare clinicians in being able to deliver adequate health education on lifestyle behaviors [17]. Some hindrances to health education is the use of medical jargon, not being able to adequately assess for comprehension, not being able to break down instructions and information into specific steps and lack of time to do so. Additionally, other barriers are when clinician and patient are not able to summarize and focus on key points or goals. Moreover, having graphs, visual aids and pictures may aid to enhance understanding of patients including numerical information that gives a gauge and measurement for them [26].

The HLST can be done in less than 15 minutes and also be completed during the waiting time to meet a professional. Then the score can be used for professionals to systematically approach and based on the cut off score, it can give professionals a decision-making guideline to spend more time on lifestyle. Giving the proper feedback is important in awareness of their lifestyle and behavior. It is important to give their score. But it is more critical to give the standard number to compare with their score.

In this research, we used the HLST because this tool addresses various lifestyle behaviors and it includes questionnaires of behavior and environment that can be summed up in one score. This tool also gives assessment procedures to customers to directly calculate the result. However, the reliable and scientific data were not provided for the number and its comparable number were not published previously. The purpose of this study is to develop the cut-off

points of the Healthy Lifestyle Screening tool.

MATERIALS AND METHODS

The participants from Sta. Lucia high school included 198 eighth (N = 104) and tenth (N = 94) graders, of whom 59 students were males 30% and 139 were females 70%. The average age of the participants was 15 years (\pm one year).

This study was approved by the Division Superintendent for the high school and the selection of these settings are based on the recognition of the ASEAN Training Center for Preventive Drug Education (ATCPDE) as well as approved by the head of the institutions. Respondents were fully informed about the purposes of the study and given the letter of consent. Ethical consent for the study was granted by the Sahmyook University Institutional Review Board on April 17, 2018 with approval number (IRB No. 2-7001793-AB-N-012018031HR).

1. Data collection

Data gathering took place in Sta. Lucia High School. In cooperation with the school guidance staff, the data collection was organized during a designated session during the day. With every two participants answering the Healthy Lifestyle Screen screening tool, there was one staff who guided them accordingly and assisted them with the details and procedure. Approximately, 15 minutes was the average completion time for each participant. After the screening, a brief interpretation of each individual's scores was done.

2. Variables and measurement

This study utilized the Healthy Lifestyle Screening Tool (HLST). Data were collected through questionnaires concerning socio-demographic variables such as age, gender, year level, family income status, people living with and also, variables concerning the lifestyle behaviors including dietary habits, smoking, drinking, physical activity, and electronic use were also examined. The HLST is a 36-item assessment developed by Korean researchers and professors Cheong Kim and Kyung-Ah Kang [25]. This tool is designed to be administered by health professionals, health practitioners, and health workers to an individual coming from a setting that can be based upon a school or

community. The HLST was notably designed to be culturally neutral and can be adapted across a variety of cultures to assess for the following areas of lifestyle: sunlight exposure, water consumption, air or ventilation, rest, exercise, nutrition, temperance, trust and physical condition.

The HLST obtains information from clients regarding their daily life activities in the last 7 days according to different areas of lifestyle including some health biomarkers. It can be determined through a Likert-scale ranging from strongly agree or everyday (6-7 days), agree or often (4-5 days), rarely or disagree (2-3 days), and strong disagree or never (0-1 day). The scores range from 36-144, 36 being the lowest score and 144 as the highest score.

3. Cut off score determination

In this study, we have aimed to determine an initial cut off score for the Healthy Lifestyle Screening Tool that would categorize the subjects into groups determining if an individual or a particular population manifests a need to change their lifestyle behaviors to be able to achieve optimal health.

To determine the initial cut off score for this population, the Receiver Operating Characteristic Curve (ROC) was utilized. ROC curve analysis displays the relation between the sensitivity (true positives) and the inverse of the specificity (true negatives) at each value along a dimensional screening scale as it pertains to differentiating two groups of interest (e.g. Low Score group and High Score group). The perceived health status was used as the diagnostic variable for the calculation of the ROC.

4. Statistical analysis

To determine the initial cut off score for this population, we utilized the Receiver Operating Characteristic Curve (ROC) [27] Descriptive analyses was used to calculate the means, standard deviation (SD), and frequencies. In addition, normal curve distribution was utilized to determine the significance of the Healthy Lifestyle Screening Tool which gives important information about the trait being measured and determines the limits of scores that include a given percentage of cases. The Shapiro-Wilk Test was used to determined the normality of the test scores obtained from respondents [28]. To determine whether there is a statistically

significant difference between the means of the components between the Low Score group and the High Score group, Independent T-test was used. Statistical analyses were performed using the SPSS 23 of Windows Statistical Software.

RESULTS

Characteristics of the participants are summarized in Table 1. The total participants consisted of 139 females (70%) and 59 males (30%). The participants had a mean age of 15 years with 74.2% of them living with both parents. 60.9% of the population responded as “satisfied” in the lifestyle satisfaction scale whereas 50% responded “good” for the happiness rating scale. As for the health status, 71.4% perceived that they are in “good” health.

The overall mean total score (N = 105.61) of the respondents (N = 198) with lowest score of 33 and highest score of 144. The optimal cut-off point as shown in Table 2, was a HLST total score of 97.5 from the ROC curve which we rounded off to a score of 98. At this point, sensi-

tivity was 0.88, specificity was 0.2, and classification accuracy was 91. This cut-off score yielded 100% true-positives, 16.2% false-positives, and 0% false-negatives.

Table 3 compared the general characteristics of partic-

Table 1. Sociodemographic and health-related characteristics of the respondents (N = 198)

Characteristics	Frequency	Percentage (%)	Mean
Gender			
Male	59	29.80	
Female	139	70.20	
Age (yr)			15
Year level			
8 th grade	104	52.3	
10 th grade	94	47.2	
Life satisfaction (5 scales)			1.75
Domestic status (8 scales)			1
Happiness rate (5 scales)			1.59
Diagnostics (perceived health status)			1.02
Healthy lifestyle	193	97.47	
Poor lifestyle	5	2.53	

Table 2. Prediction parameters for healthy lifestyle screening tool total score (N = 198)

Cut off score	Sensitivity	Specificity	Positive predictive power	Negative predictive power	Classification accuracy
98	0.88	0.2	0.86	0.1	0.91

Sensitivity: true positives/(true positives + false negatives), Specificity: true negatives/(true negatives + false positives), Positive predictive power: true positives/(true positives + false positives), Negative predictive power: true negatives/(true negatives + false negatives), Classification accuracy: (true positives + true negatives)/(true positives + true negatives + false positives + false negatives).

Table 3. Comparison of high score and low groups based on general characteristics

Descriptive	Low Score Group: 98-			High Score Group: 99+			Sig.
	Frequency	%	Mean	Frequency	%	Mean	
Male	9	24.3		50	31.1		
Female	28	75.7		111	68.9		
8 th grade	13	35.1		91	56.5		
10 th grade	24	64.9		70	43.5		
Age (yr)			15.19			14.48	
13-15	20	24.3		114	70.8		
16-19	17	45.9		47	29.2		
Life satisfaction			2.05			1.67	0.002
Domestic status			1.49			1.56	0.702
Happiness rate			1.69			1.57	0.267
Health status			2.19			1.52	0.001
Weight (kg)			47.2			50.56	0.694
Height (cm)			155.1			153.6	0.386

Table 4. Mean scores in each HLST (Healthy Lifestyle Screening Tool) question item

Questions	Total population N = 198 (100%)		Low score group (36-98)		High score group (99-144)		Significance
	Mean	SD	n = 37 (18.69%)		n = 161 (81.31%)		
			Mean	SD	Mean	SD	p-value*
Total score	105.61	7.88	93.86	4.04	108.32	5.77	
Sunlight	2.95	0.84	2.73	0.45	3.00	0.42	0.001
1. I go outside for the sun at least 10 minutes a day.			2.86	0.91	3.04	0.82	0.242
2. I use a sun protection (suntan, shade, hat, etc.) properly.			2.29	0.74	2.14	0.86	0.478
3. When sleeping at night, it is dark and there is no light.			3.10	1.18	3.41	0.86	0.053
4. I work in a place where the amount of sunlight is good.			2.67	0.74	3.13	0.74	0.001
Water	2.66	0.70	2.41	0.34	2.72	0.34	0.000
5. I drink 8 glasses of water daily.			2.83	0.72	3.45	0.61	0.000
6. I have easy access to clean, drinkable water.			3.40	0.83	3.76	0.49	0.000
7. I drink water during the meals.			1.32	0.57	1.26	0.58	0.531
8. I drink caffeinated drinks (coffee, tea, supplements, energy drinks, etc.).			2.10	0.93	2.39	0.91	0.094
Air	3.12	0.83	2.86	0.40	3.18	0.44	0.000
9. I do deep breathing throughout the day			2.81	0.90	3.21	0.76	0.012
10. I open the window for fresh air daily.			3.18	0.84	3.44	0.71	0.069
11. I am in an area with polluted air.			2.86	0.14	2.95	0.07	0.363
12. I smoke or exposed to second-hand smoking.			3.02	0.95	3.50	0.77	0.001
Rest	2.46	0.86	2.08	0.50	2.55	0.47	0.000
13. I sleep for 7 to 8 hours.			2.13	0.78	2.80	0.78	0.000
14. I use electronic devices after midnight.			1.94	0.88	2.18	0.98	0.263
15. I stay on a regular healthy sleep-wake pattern.			2.13	0.67	2.75	0.81	0.000
16. I feel sluggish and tired most of the time.			2.10	0.73	2.46	0.86	0.014
Exercise	2.78	0.82	2.39	0.39	2.87	0.43	0.000
17. I exercise for more than 30 minutes every day.			1.83	0.79	2.46	0.83	0.000
18. I usually sweat when I exercise.			2.91	0.79	3.28	0.79	0.024
19. I enjoy physical activity whenever I have time.			2.62	0.86	3.33	0.76	0.000
20. When I work, I stay in one position for a long period of time.			2.18	0.81	2.41	0.80	0.233
Nutrition	3.18	0.73	2.72	0.35	3.28	0.42	0.000
21. I eat a healthy breakfast			2.67	0.74	3.37	0.65	0.000
22. I eat meals regularly.			3.27	0.73	3.59	0.64	0.02
23. I eat food slowly and chew it well			2.89	0.73	3.34	0.76	0.001
24. I eat a balanced diet.			2.05	0.46	2.83	0.78	0.000
Temperance	2.99	0.81	2.69	0.50	3.06	0.47	0.000
25. I do not overeat.			2.08	0.82	2.72	0.89	0.000
26. I drink alcohol.			3.70	0.70	3.78	0.57	0.578
27. I get angered and/or annoyed easily.			2.32	0.97	2.80	0.87	0.003
28. I easily fall into temptation.			2.67	0.88	2.94	0.83	0.178

Table 4. Continued

Questions	Total population N = 198 (100%)		Low score group (36-98)		High score group (99-144)		Significance p-value*
	Mean	SD	n = 37 (18.69%)		n = 161 (81.31%)		
			Mean	SD	Mean	SD	
Trust	3.35	0.67	2.99	0.43	3.43	0.38	0.000
29. I generally trust people.			2.46	0.73	2.97	0.82	0.001
30. I am hopeful about the future.			3.29	0.70	3.60	0.58	0.01
31. I feel trusted by my family and friends.			3.16	0.68	3.67	0.53	0.000
32. I am satisfied with my daily life.			3.02	0.79	3.48	0.61	0.000
Physical condition	2.88	0.81	2.56	0.51	2.96	0.43	0.000
33. There has been little change in my weight over the past year.			2.86	0.94	3.10	0.77	0.102
34. I did not catch a cold or flu for one year.			1.81	0.73	2.26	0.88	0.008
35. My blood pressure and blood sugar are in the normal range.			2.64	1.08	3.46	0.67	0.000
36. I do bowel movements at least once a day.			2.91	0.64	3.02	0.78	0.44

*p < 0.05.

Participants in the two groups. Life Satisfaction was higher in the Low Score group (2.05) compared to the High Score group (1.67) with a significance of $p < 0.002$. Although not statistically significant, Happiness Rate of Low Score Group (1.69) is also higher than the High Score Group (1.57). Perceived Health Status is also higher in the Low Score Group (2.19) than the High Group (1.52) with a significance of $p < 0.001$.

A total of 37 (18.69%) reported having low scores while 161 (81.31%) were under the high score category shown in Table 4. The HLST has 9 subscale components which are sunlight, water, air, rest, exercise, nutrition, temperance, trust and health each component has 4 questions items in each subscale with a total of 36 questions. The independent t-test shows significant differences in the means of all the components upon comparing the low and high score groups ($p < 0.001$).

The general population showed higher mean scores on the air (3.12), nutrition (3.18) and trust (3.35) components. The components concerning physical condition (2.88), sunlight (2.95) and temperance (2.99) were in the average of total mean scores. On the other hand, low mean scores were found in the rest (2.46), water (2.66) and exercise (2.78) components. Fig. 1 shows that the rest component is the lowest scoring component for both High Score group and Low Score group. And the trust component is the highest

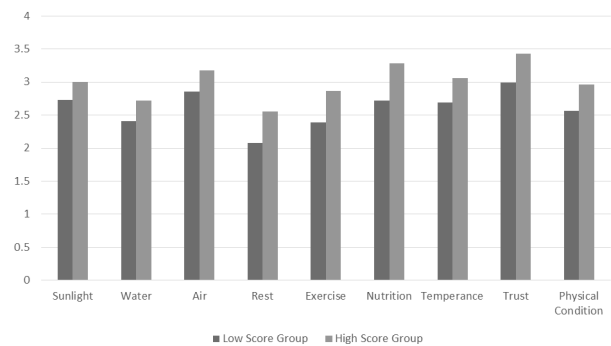


Fig. 1. Score comparison of each components.

scoring component for both groups.

It is also notable that there are questions showing low scores on both low score and high score groups. Such items include using sun protection (HS = 2.41, LS = 2.29), drinking water during meals (HS = 1.26, LS = 1.32), drinking caffeinated drinks (HS = 2.39, LS = 2.10), using electronic devices after midnight (HS = 2.18, UL = 1.94), exercising for more than 30 minutes every day (HS = 2.46, LS = 1.83), staying in one position for a long time (HS = 2.41, LS = 2.18) and not catching a cold or flu for one year (HS = 2.26, LS = 1.81).

Relatively, both groups displayed higher scores in items that concerns having access to clean drinkable water (HS = 3.76, LS = 3.40), opening the windows for fresh air (HS = 3.44, LS = 3.18), eating meals regularly (HS = 3.59, LS

= 3.27), not drinking alcohol (HS = 3.78, LS. 3.70), and being hopeful about the future (HS = 3.60, LS = 3.29).

All of the components scores show significant differences both groups. However, not all questions scores showed significant differences between groups. In nutrition and trust components, all 4 questions were significantly different. For most of the other components, only 2 questions among 4 of them were different between the low score and high score groups.

DISCUSSION

In this study, we determined the initial cut-off score of the Healthy Lifestyle Screening Tool and utilized it to identify the total scores of the lifestyle behaviors in this population which was categorized in two groups, representing those with higher number of healthy behaviors and those with higher number of unhealthy behaviors. Those subjects belonging to the group with lower lifestyle behavior scores would need improvement in their lifestyle, wherein those who belong to the group with higher lifestyle behaviors scores signify that they need encouragement. The cut-off score was set at 98 basing at the result of the ROC analysis.

The total scores obtained using the tool may enable users to do comparisons with other populations. This score may also be used to assess the lifestyles of groups suffering from addiction to enable health care providers to determine lifestyle behaviors that need modification and eventually initiate intervention.

The mean score for all participants is 105.61 and the total mean score is higher than the cut off score. Despite having good scores, a study done in the University of the Philippines reported that young people from these study schools presents the risk behaviors that can predispose the students to an early commencement of NCDs. Young individuals even with those who have confidence about their capability to engage in healthy lifestyle behaviors recognize them as less difficult to perform, and engage in healthier choices and behaviors [29,30]. With this reason, it is important to screen a student with a cut off score to categorize them in a lower score group or a higher score group.

The mean scores for all subcomponents were significantly different in between two groups. The high score group dis-

played higher numbers of healthy lifestyle behaviors being practiced compared to the low score group. These are behaviors such as drinking adequate amounts of water, not smoking or being exposed to second hand smoke, having adequate rest of sleep, exercising for more than 30 minutes every day and eating a healthy breakfast.

The low score group practiced with less healthier lifestyle behaviors such as drinking caffeinated drinks, using electronic gadgets late at night, not being able to exercise at least 30 mins. a day, not eating a healthy breakfast and inability to eat a balanced diet. They are also less hopeful about the future, caught a cold or flu in the past year and more at risk to have abnormal blood pressure and blood sugar ranges. Both groups showed low scores among water, rest and exercise components, however, further research is required to determine if the differences have adequate significance.

A total of 9 hours of sleep is required for a typical adolescent [31]. In 2010, insufficient sleep in adolescents was recognized as a serious health threat. Regarding electronic media use, it was reported by one study that adolescents often have time to watch videos, communicate by text messages and phone, spend time online and switch on their cellphones at night. Those who are smartphone owners tend to switch their lights off later than those without smartphones. This resulted to increased tiredness and fatigue in this age group. Most of studies concerning electronic devices use among adolescents recommend restriction of media use in general [32,33].

Low scores were also found in the water component in which items included are about drinking 8 glasses of water daily, having access to clean drinkable water, drinking water with meals and consumption of caffeinated drinks. While it was reported that a higher number of respondents have an average score to the amount of fluid intake, it is notable that a high number of participants drink caffeinated beverages. Consumption of caffeinated beverages including soft drinks and energy drinks increase through adolescence. Soft drinks were identified as affordable and common energy source for snacks by Filipino children. Ready to drink, instant coffee and tea were noted to be part adolescent lifestyle and dietary changes [34].

The exercise component was also found to have low

scores as technological advancement and modernization continues in developing countries such as the Philippines [5] Habitual sedentary behavior is identified as a novel emerging risk factor for all-cause mortality and there is a pressing necessity to increase activities and reduce prolonged sitting in addition to regular exercise [35].

It is interesting that many out of 36 question items are not significantly different but remarkably, the scores in each component are still significantly different between the low score group and the high score group. To improve the total score, it is important to observe the score of each component that will significantly affect the total score instead of focusing on each question items.

As displayed in the results of this study basing on the Healthy Lifestyle Screening Tool, a minor percentage, 18.69% of the population was categorized in the low score group. However, respondents in the high score group (81.31%) manifested low scores in some components wherein the low score group had low scores as well including rest, exercise and water components. This suggests that despite of having a higher total score, there are specific lifestyle behaviors that may pose and develop as risks or threat to the health of those who are in the high score group. On the other hand, the results also suggest that basing on the total risk score, despite of having one, two or more unhealthy behaviors, an immediate conclusion that a person is living an unhealthy lifestyle cannot be made as a healthy lifestyle is composed of a combination of multiple lifestyle behaviors and choices that needs to be further assessed holistically.

The different lifestyle choices of the participants were also investigated basing on questions scores and comparisons of their total scores. The Healthy Lifestyle Screening Tool was used to screen the participants of the risks that they may have in their present lifestyles may it be identified or unidentified. Such risk evidences are imperative to detect as in the stage of young adulthood modifiable behaviors are usually established and reinforced. The school education and peer support are important in developing positive behaviors and to increase likelihood to be in adherence to multiple healthy lifestyle factors [14,36,37].

In this paper, we posit that increasing the total score by working on low scoring components will be beneficial in

achieving a healthy lifestyle. This population display low scores in three components (rest, water and exercise). Working on the lowest scoring components may increase each component score and eventually the total scores as well. At present, there is no definite tool or standard that measures how healthy the lifestyle of a person is as factors and components included in this tool are not the only factors affecting health. Genetics, environment and psychosocial status of each individual are some things that should also be considered. However, lifestyle factors and behaviors emphasized in the Healthy Lifestyle Screening tool are those that can be modified, improved and corrected in order to prevent foreseeable health problems and diseases.

There were several limitations to this study. The diagnostic variable used for determining the cut off score is based on perceived health status of the participants and not on a diagnostic test as respondents of this study are individuals who are not sick.

This study is limited to the middle school population and needs to include other age groups to further validate the score. Further studies are needed to include the addicted population as a subject. This will expand the use of tools to addiction prevention.

The study was done in the urban public high school students that may not be generalizable to private as well as non-urban students. Our definitions of healthy lifestyle risks did not incorporate all healthy behaviors so other factors might be important and could have confounded our findings. The generalization of our results is hampered by our sampling method; participants were not, selected randomly (convenience sample) and did not represent certain regions of Philippines. However, our sample population was large and quite representative of the high school students at least with respect to age, gender and education.

Only one cut off score is discussed in this research. There are three risk level categories to be determined which are low, moderate and high having the cut off scores in ASSIST. Further study is needed to determine the cut off score for the unhealthy category to enable recommendation for intervention or referral assistance to primary care, medical professional or specialists.

CONCLUSION

This study reinforced the importance of a holistic approach regarding health and well-being and reiterates the importance of essential healthy lifestyle variables that educate and set awareness of health risks among high school students. Improving the total score may be achieved through targeting low scoring components to be improved and corrected and eventually increase the total score. Assessing the lifestyle behaviors of students focuses the attention on a preventive approach to health problems and diseases. The Healthy Lifestyle Screening Tool could determine the health risks present among subjects' lifestyle and initiate early education, correction and modification preventing more serious health problems in the future.

CONFLICTS OF INTERESTS

None to declare.

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