Assessment of a Website Aimed at Providing Information on Mental Health to Secondary School Students in Cantho City, Vietnam

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Abstract

Background: The stigmatization of mental health problems is a primary barrier for young people to approach mental health services when they suspect they might have a problem. Instead it is becoming common, especially for youth, to look for information on the Internet. This study explored the responses of secondary school students in Cantho city to the *suckhoetre.vn* website, which aimed to provide information on health and mental health, and to assess its potential relevance, appeal, accessibility, usefulness, and sustainability.

Methods: A cross-sectional study included 643 secondary school students in Cantho city selected by cluster sampling. Students were introduced to the website; after two weeks they were invited to evaluate it using an anonymous questionnaire. The Chi-squared test was used to assess the significance of differences in the distribution of selected sociodemographic characteristics.

Results: Most (98.6%) of the students visited the website in the two-week period, 74% once or twice a week, the others more often, up to once a day. Their activities included reading information (85.8%), seeking help (17.7%), sharing information (15.5%), giving advice to others (11.0%), and chatting or giving comments (9.8%). Most students rated the website very highly in terms of appeal, relevance, accessibility, and usefulness, and wanted to have access to the website in the future. These findings are positive signals to pursue the application of a website on mental health for secondary school students as a contribution to better mental health for adolescents in Cantho city and elsewhere.

Conclusion: A website designed to provide information to secondary school students appeared to be an effective way to provide access to information on the sensitive topic of mental health. The website should be maintained and introduced more widely to students, teachers and parents, with a continuous evaluation of its effectiveness.

Background

Despite the high risk of mental disorders in adolescence, many young people are not receiving appropriate support and guidance from mental health professionals and the community (including family and school); they lack access to health care and education facilities (World Health Organization, 2019b). In recent years it has become commonplace for individuals to seek health information on the Internet. Several websites on mental health in different countries, such as *KidsHealth.org*, *youthbeyondblue.com*, and *tamlydoisong.wordpress.com*, appear to play a significant role in improving understanding of mental health and reducing symptoms of depression (Boydell et al., 2014; Duplaga & Dzida, 2013; Moock, 2014). Most adolescents in urban areas in high-income countries have access to and make use of online information on mental health, especially for disorders regarded as behavioral problems. That young people tend to turn to the Internet suggests that they are willing to seek help, and they might be prepared to cooperate with others having similar mental health problems and contribute to forming peer support networks. With the spread of the Internet, it has been recognized that it can contribute to increasing the

accessibility of health care (Moock, 2014). There have been few reports, however, on combining the Internet with positive psychology for health promotion and reduction of mental health symptoms (Mitchell, Vella-Brodrick, & Klein, 2010).

Vietnam is one of the nations with the most rapidly growing use of the Internet, with a greater development than most other countries in the region. It is reported that approximately 50 million Vietnamese, or half of the population, were connected to the Internet in 2017 and Vietnam's penetration rate (54%) was higher than the world average (46.5%) (EU-Vietnam Business Network, 2018). Two thirds of the Internet users accessed it every day, spending on average about 2 hours 20 minutes on weekdays, less at weekends. Popular places to access the Internet were at home (78%), at work (31%) and in Internet shops or cafés (25%) (Cimigo, 2011).

Previous studies in Vietnam showed that mental health problems in relation to young people should be a major concern for health authorities, schools, communities, and families (Dat Tan Nguyen, 2009; T. H. Nguyen, 2006; Tran, 2007). Of particular relevance to this study were the high levels of depression, anxiety, and suicidal ideation among secondary school students in Cantho city (D. T. Nguyen, C. Dedding, T. T. Pham, P. Wright, & J. Bunders, 2013). However, although the primary health care system in Vietnam is quite strong, primary mental health care - especially for mental health problems in children - is non-existent. Despite some progress, the service environment and response to mental health problems in Vietnam remain largely inadequate. The situation is even worse outside the major cities in remote provinces, which lack mental health services and cannot prevent or treat children's mental health disorders (UNICEF, 2018). Stigma related to mental health is highly prevalent in Vietnam, and is recognized as one of the main factors hindering youth from approaching mental health services (van der Ham, Wright, Van, Doan, & Broerse, 2011).

In our previous studies in Vietnam, relevant stakeholders including students, teachers and school health officers had suggested that a web-based information resource on psychology and mental health could be helpful for students (Dat Tan Nguyen, Christine Dedding, Tam Thi Pham, & Joske Bunders, 2013; Dat Tan Nguyen, Christine Dedding, Tam Thi Pham, Pamela Wright, & Joske Bunders, 2013; Dat T. Nguyen, Dedding, Wright, Pham, & Bunders, 2019; Dat Tan Nguyen, Wright, Pham, & Bunders, 2020). In addition, most of the students reported that they would share their private problems and seek help from a website, if one were available.

For these reasons, it is possible that students and adolescents in Vietnam could benefit from access to information about mental health through a website, where they can remain anonymous. Since there was no existing website providing specifically mental health information aimed at that age group, we designed one, with consideration for the characteristics of teenagers and adolescents. The *suckhoetre.vn* (youth health) website has three main sections, providing students with information on health, on health-related skills, and a health check-up. The main contents were designed based on key topics in general health care, sexual orientation, love and relationships, drug and game addictions, reproductive health, nutrition, and skills to cope with stress in life, as mentioned by students, teachers and parents in

previous studies (Dat Tan Nguyen, Dedding, Pham, & Bunders, 2013; Dat Tan Nguyen, Dedding, Pham, Wright, et al., 2013; Dat T. Nguyen et al., 2019; Dat Tan Nguyen et al., 2020). Information in Vietnamese posted on the *suckhoetre.vn* was translated and cited from information in both national and international websites, such as kidshealth.org website (The Nemours Foundation, 2020), Mai Huong Daycare Psychiatric Hospital website (Bệnh Viện Tâm Thần Ban Ngày Mai Hương, 2020), and Depression website (Bệnh Lý Trầm Cảm, 2020). In addition, current health status screening was integrated in the website, including the General Health Questionnaire (Sanchez-Lopez Mdel & Dresch, 2008; Zulkefly & Baharudin, 2010), the CES-D (Radloff, 1977), the Rosenberg self-esteem scale (M. Rosenberg, 1965; Morris Rosenberg, 1989), and the Educational Stress Scale for adolescents (Thai et al., 2012). Information translated into Vietnamese was checked by the researchers for accuracy and by students of Can Tho University of Medicine and Pharmacy for accessibility to young readers. The design and interface of the website were shaped by the researchers in collaboration with students of Can Tho University of Medicine and Pharmacy. The first draft version was piloted with three school health officers and ten students for feedback, to complete the website. It was launched for public use in 2016, with the aim of meeting the needs of secondary school students for information on mental health and psychological wellbeing in Cantho city.

After the website was available, we recruited secondary school students to investigate whether they appreciated the features of the website, and whether it might be a way forward to recommend to education authorities as a tool to improve students' mental health. Until now, the website is still available for public use, but has not had regular updates on the information as it did during the study.

Methods

Study design and population

To assess the effectiveness of the website in providing information on mental health, a cross-sectional study was carried out with 643 secondary school students including 318 boys and 325 girls, mean age: 16.99 years. The students were recruited using random sampling in three stages. Firstly, three schools were selected, including the only specialized school in Cantho city and two of the 23 regular secondary schools, one in an urban and one in a rural district of the city. The regular schools had 61 classes of grades 10 to 12 with an average 35 students per class. Two classes from each grade from 10 to 12 were randomly selected by coding all classes in these grades with a number and using Excel software to select two numbers randomly per grade. The specialized secondary school had 26 classes of grades 10 to 12; three classes from these grades were randomly selected. All students in each selected class were invited to participate. The number of valid completed questionnaires was 643, which is 95.4% of the 674 distributed; the other questionnaires were excluded because they were incomplete. Data collection took place in November 2016.

Data collection

The *suckhoetre.vn* website, its purpose, and the aims of this study were introduced to the students in the selected classes. The students were invited to use the website, then after two weeks, they were asked to complete the questionnaire anonymously.

The questionnaire consisted of five components asking the participants about: (1) demographic information on their age, sex, class, school, means of Internet connection; (2) their access situation (visited the site or not, visiting activities, number of visits during last seven days); (3) their evaluation of the usefulness, relevance, interest, appeal, and accessibility, using a 5- or 7-point Likert scale ranging from “extremely” to “not at all” with a neutral midpoint, and their willingness to maintain access to the website; and (4) whether they did or would introduce the *suckhoetre.vn* website to others. The questionnaire was composed and completed in Vietnamese. An English version is provided in the supplementary file S1.

These measurements were done for each item from the three main sections of the website: health, skills, and health check-up, to identify which information was most relevant to the students, and which information the students most liked or disliked.

In addition to the data obtained from the questionnaires, we consulted the website’s own data after it had been up for one year, to find out whether it was still being used.

Statistical analysis

Data were entered into and analyzed by SPSS software 18.0. Data are presented as means $\pm$ standard deviation (SD) and analyzed descriptively to determine the demographic characteristics of the study population. The Chi-squared test (χ^2) was used to assess the significance of differences in the distribution of selected sociodemographic characteristics. All tests were 2-tailed and a p-value of < 0.05 was considered statistically significant.

Results

Socio-demographic characteristics of the sample

Completed questionnaires were submitted by 643 secondary school students, with a mean age of 16.99 years, ranging from 16 to 20 years. The numbers of boys and girls were close to equal. The number of students from the two regular schools was higher than from the one specialized school. The percentages of students from grades 10, 11 and 12 were 35.9%, 31.1%, and 32.8%, respectively.

Table 1
Socio-demographic characteristics of the sample

Characteristics	Total		Boys		Girls		P
	n	%	N	%	n	%	
Total	643	100	318	49.5	325	50.5	
Age (mean $\pm$ SD)	16.99 $\pm$ 0.86		17.03 $\pm$ 0.89		16.96 $\pm$ 0.83		0.341 ^a
Age group							0.042^b
16	228	35,5	114	35.85	114	35.08	
17	203	31,6	87	27.36	116	35.69	
18–20	212	32,9	117	36.79	95	29.23	
Type of school							0.208 ^b
Specialized	211	32.8	99	31.1	112	34.5	
Regular	432	67.2	219	68.9	213	65.5	
Grade							0.027^b
10	231	35,9	116	36.5	115	35.4	
11	201	31,3	85	26.7	116	35.7	
12	211	32,8	117	36.8	94	28.9	

^a *t*-test was used to compare differences in mean of age according to sex.

^b χ^2 was used to compare differences in age groups, types of school and grades according to sex.

Almost all of the students (99.2%) had access to devices for an Internet connection. The mobile phone was the most popular way to access the Internet, used by nearly two thirds of the students. Nearly half used a laptop, about one third a computer and around one fifth used an iPad.

Usage of the suckhoetre.vn website

After receiving information about *suckhoetre.vn*, nearly all of the students visited the website within the first two weeks after its launch. Their main activity on the website was reading information, but 10–20% of students also used it for seeking help, sharing information, giving advice to others, and chatting or giving comments (Table 2).

Most of the activities were similar among the students. However, the percentage of students from regular schools seeking help was significantly higher than among students from the specialized schools. Sharing information on the website was more common among boys than among girls.

Table 2
Main activities on *suckhoetre.vn* website within two weeks of its launch

Reported Activity	Total % (n)	Sex		p ^a	School		p ^a
		Male % (n)	Female % (n)		Specialized % (n)	Regular % (n)	
Not visited yet	1.4 (9)	1.6 (5)	1.2 (4)	0.487	1.9 (4)	1.2 (5)	0.487
Visited	98.6 (634)	98.4 (313)	98.8 (321)		98.1 (207)	98.8 (427)	
Read information	85.8 (544)	84.0 (263)	87.5 (281)	0.124	88.9 (184)	84.3 (360)	0.075
Search for help	17.7 (112)	20.1 (63)	15.3 (49)	0.067	11.6 (24)	20.6 (88)	0.003*
Share information	15.5 (98)	18.5 (58)	12.5 (40)	0.022*	15.0 (31)	15.7 (67)	0.457
Give advice	11.0 (70)	12.1 (38)	10.0 (32)	0.228	11.1 (23)	11.0 (47)	0.533
Chat/Comment	9.8 (62)	10.5 (33)	9.0 (29)	0.307	12.1 (25)	8.7 (37)	0.113
Other	1.4 (9)	1.3 (4)	1.6 (5)	0.516	2.4 (5)	0.9 (4)	0.133

^a χ^2 was used to compare differences in accessing and activities on the website according to sex and types of school.

* $p < 0.05$

In the week preceding their completing the questionnaire, more than 75% of the students had visited the website once or twice, while fewer than 10% had visited it more often than that. No significant differences were noted between boys and girls or between specialized and regular schools in the frequency of visiting the website in that week ($p > 0.05$).

Students' evaluation of usefulness, relevance, interest, appeal, accessibility, and possibility to maintain access to the website in the future

When asked to evaluate the website, more than two thirds of the students reported that it was very useful or useful; just over half said it was very interesting or interesting; and just under half referred to it as very or quite appealing. The percentage of students responding that the website was not useful, interesting or attractive was very low, always less than 5%, while higher proportions reported being undecided. A significantly higher percentage of boys reported that the website was very appealing than did girls (Table 3).

Table 3
Students' evaluation of usefulness, interest and attractiveness of the *suckhoetre.vn* website

Item	Total % (n)	Sex		p ^a	School		p ^a
		Male % (n)	Female % (n)		Specialized % (n)	Regular % (n)	
Total sample (n)	634	313	321		207	427	
Usefulness				0.554			0.112
Very much	15.8 (100)	16.9 (53)	14.6 (47)		15.0 (31)	16.2 (69)	
Somewhat	54.6 (346)	54.6 (171)	54.5 (175)		60.4 (125)	51.8 (221)	
Undecided	29.0 (184)	27.5 (86)	30.5 (98)		24.6 (51)	31.1 (133)	
Not really	0.6 (4)	1.0 (3)	0.3 (1)		0 (0.0)	0.9 (4)	
Interest				0.740			0.771
Very much	9.2 (59)	11.8 (37)	6.9 (22)		10.1 (21)	8.9 (38)	
Somewhat	43.8 (278)	44.7 (140)	43.0 (138)		43.5 (90)	44.0 (188)	
Undecided	45.6 (289)	41.9 (131)	49.2 (158)		45.9 (95)	45.4 (194)	
Not really	1.1 (7)	1.6 (5)	0.6 (2)		0.5 (1)	1.4 (6)	
Not at all	0.2 (1)	0.0 (0)	0.3 (1)		0.0 (0)	0.2 (1)	
Appeal				0.024*			0.536
Very much	6.6 (42)	9.3 (29)	4.0 (13)		7.2 (15)	6.3 (27)	
Somewhat	40.4 (256)	41.2 (129)	39.6 (127)		41.1 (85)	40.0 (171))	
Undecided	48.1 (305)	43.5 (136)	52.6 (169)		47.8 (99)	48.2 (206))	
Not really	3.9 (25)	4.8 (15)	3.1 (10)		3.9 (8)	4.0 (17)	
Not at all	0.9 (6)	1.3 (4)	0.6 (2)		0.0 (0)	1.4 (6)	

^a χ^2 was used to compare differences in frequency of visiting the website according to sex and types of school.

* p < 0.05

Regarding the content of the website, the health categories included health care, stress, emotions and feelings, depression, relationships, substance abuse and game addiction, nutrition, and reproductive health. The students reported that the topics of health care, stress, and nutrition were most appropriate to them and they also liked these the most. Other topics were of much less interest to most of the students. The least liked section was the one on drugs and game addictions.

The skills section contained tools for learning study skills, soft skills, career skills, handling situations, and protecting; these were considered “very suitable” for their own needs by 30.9% of the respondents. The health check-up section (providing ways to measure stress, depression, and self-esteem) was rated by only 18.3% as appropriate for them (Table 4).

Table 4
The most appropriate, liked and disliked items on the website

Item	Most appropriate % (n)	Most liked % (n)	Most disliked % (n)
Health			
Health care	57.6 (365)	42.3 (272)	2.8 (18)
Stress	41.6 (264)	25.5 (164)	5.0 (32)
Nutrition	33.3 (211)	22.6 (143)	3.0 (19)
Emotion and feeling	19.6 (124)	11.2 (71)	6.0 (38)
Depression	14.0 (89)	9.0 (57)	6.8 (43)
Reproductive health	12.5 (79)	8.8 (56)	10.9 (69)
Relationship	10.1 (64)	4.3 (27)	9.9 (63)
Stimulant drug and game addiction	9.6 (61)	6.9 (44)	21.1 (134)
Skills	30.9 (196)	21.5 (136)	4.3 (27)
Health check-up	18.3 (116)	8.2 (52)	4.6 (29)

A majority of the students thought that the website would appeal to their parents and friends. Furthermore, almost two-thirds felt that the website was very much or somewhat easy to access (Table 5).

Table 5
Appeal and accessibility of the *suckhoetre.vn* website

Item	Total % (n)	Sex		pa	School		
		Male	Female		Specialized	Regular	pa
		% (n)	% (n)		% (n)	% (n)	
Appeal to parents	79.8 (506)	80.2 (251)	79.4 (255)	0.446	81.2 (168)	79.2 (338)	0.316
Appeal to friends	72.9 (462)	73.8 (231)	72.0 (231)	0.333	71.0 (147)	73.8 (315)	0.261
Accessibility				0.920	0.206		
Very much	15.5 (98)	15.7 (49)	15.3 (49)		14.0 (29)	16.2 (69)	
Somewhat	49.1 (311)	48.2 (151)	49.8 (160)		54.1 (112)	46.6 (199)	
Undecided	32.0 (203)	31.9 (100)	32.1 (103)		27.5 (57)	34.2 (146)	
Not really	2.7 (17)	3.2 (10)	2.2 (7)		3.9 (8)	2.1 (9)	
Not at all	0.8 (5)	1.0 (3)	0.8 (5)		0.5 (1)	0.9 (4)	

^a χ^2 was used to compare differences in appeal and accessibility levels of the website according to sex and types of school.

When the students were asked whether they would like the website to remain operational, nearly all of them (96.5%) said yes. Most (89%) planned to continue visiting the website in the future; most (88.2%) also agreed they would introduce it to family members and friends, and 88.6% said they would introduce the website to families with members who have mental health problems.

In addition to the data from the questionnaires, we checked the data registered by the website one year after its introduction. The website registers the numbers of visits to different items, which revealed that the reproductive health item attracted the highest number of views (850,713), followed by the emotion and feeling section (viewed 442,856 times), and the depression items (viewed 437,252 times). We do not have data on how many people made these visits, nor on who they are, whether they were the target populations in the secondary schools or youth in general or indeed parents or others interested in the health of young people. This data do, however, demonstrate that one year on, the website was still being consulted by many people.

Discussion

Use of the mental health information website by secondary school students

Although mental health problems are common among adolescents, barriers including social stigma prevent them from approaching the health services for information and possibly for assistance (Corrigan, 2004; Schomerus & Angermeyer, 2008; Thornicroft, 2008). In the current context of high Internet use, we investigated whether information provided by a website designed to attract secondary school students would be a good way to provide them with information about this sensitive topic. After we introduced the website *suckhoetre.vn* to selected secondary schools in Cantho city, Vietnam, nearly all of the students visited the site at least once or twice a week, and most of them used the website just to read information, which suggests that this is a good approach to give students relatively easy access to information they need. These findings are in line with a report from Hue city, Vietnam in which both parents and students anticipated that the Internet would be a useful source for obtaining and sharing information for young people in Vietnam (Sobowale, Nguyen, Weiss, Van, & Trung, 2016). Most of the youth in our study population had access to Internet at home and very often on a smartphone, which would provide the confidentiality they need. Previous studies on mental health of secondary school students in Cantho city had produced a recommendation to provide information through the Internet; the present study confirms that it can be effective as a source of information here as it has been elsewhere (Boydell et al., 2014; D. T. Nguyen, C. Dedding, T. T. Pham, & J. Bunders, 2013; D. T. Nguyen, Dedding, Pham, Wright, et al., 2013).

Students in regular schools were significantly more likely to use the website to search for help than students in specialized schools. This may be explained either by different needs among the two types of students, or by different access to information apart from what is available on this website. According to the 2015–2016 school year annual report on academic performance of students from secondary schools in Cantho city by the Department of Education and Training, there were more students with high academic performance rankings in the specialized schools than in the regular schools (97% versus less than 50%) (Can Tho City Department of Education and Training, 2016). Previous research (D. T. Nguyen, Dedding, Pham, Wright, et al., 2013) found that students with lower academic performance were more likely to be at risk of depression, which might prompt them to seek help on the website.

One point arising from the results was that it was more common for boys than for girls to share information on the website ($p < 0.05$). This difference might be a result of differences in mental health issues and needs, or to a difference in willingness to share such information. It may be linked to the difference in personalities and self-esteem between boys and girls (Bailey, Zauszniewski, Heinzer, & Hemstrom-Krainess, 2007) or in patterns of seeking help for psychological disorder (World Health Organization, 2019c). Future website information and programs on mental health should make efforts to integrate gender aspects into their content, to meet the needs of both boys and girls.

Usefulness, relevance, interest, attractiveness, accessibility, and potential to maintain the *suckhoetre.vn* website

Most of the respondents reported that the website was useful and interesting, confirming that it can be a good source of information for them.

More boys than girls found the website was “very/extremely appealing” (9.3% vs 4.0%), which suggests that gender needs to be considered in the design of the website to broaden its appeal. Previous studies have shown that males are more likely to give “extreme” answers in which they strongly agree or disagree (Sarsons & Xu, 2015). In addition, as mentioned above, boys reported more often that they shared information that they found on the website. This could be a reason for the boys having found the website very appealing.

The topics of health care and psychological and mental health such as stress were considered very appropriate by most of the respondents. In addition, many students agreed that skills including soft skills, career skills, handling situations, and protecting skills were most useful for them. Following this, we suggest that in addition to having access to psychological and mental health information, it would be helpful for schools to provide training in these life skills that could help students to cope with daily stress (Sobowale et al., 2016). Therefore, it is important to take students’ demands into account to provide the information related to health care, psychological and mental health, and skills.

Students also reported that the health check-up content helped them learn about depression, and self-esteem on the website was the most suitable and interesting to them. This result suggests that in addition to providing psychological and mental health information on the website, the health check section on the website can be useful to provide the first suggestion to students on whether they face mental health problems, and that could alert them to search for a diagnosis and early medical treatment.

Limitations

One limitation of this study relates to the sample, which was from senior secondary schools with students aged from 16 to 20 years, so a younger or older student population might have responded differently. This is, however, an age group with high levels of stress in making the transition to adulthood and a high need for good knowledge about mental health, as shown in previous publications ([Center for Behavior Health Statistics and Quality, 2014](#); [World Health Organization, 2019a](#)). The study was undertaken in one large city in the south of Vietnam, which may mean that it is not representative for the whole country, although in the current context of media and the Internet, the youth in different locations share problems and concerns more often than in the past. Another limitation may be that the data was collected by self-reporting using standardized questionnaires. The young respondents’ personality and identity development are still incomplete, which could result in fluctuating self-perceptions ([Schraml, Perski, Grossi, & Simonsson-Sarnecki, 2011](#)) and thus unreliable reporting. The study did not include a way to cross-check on their self-report and their actual visits to the website. The data provide information on the students’ use of the website, but did not attempt to find out about students’ actual mental health problems or how the website might help them to seek help, which is, as described above, not readily available everywhere in the country.

The majority of students believed that the website has the potential to appeal to parents and friends. In addition, many students said that it was easy for them to access. Many said that they hoped that the website would remain active and that they would return to it in the future. Many students said that they would introduce the website to their family, friends, and families of people with mental health problems. The results suggest that the website has high potential to expand its users to different groups in Vietnam. However, this is one of the first studies in Vietnam on using a website to provide information on psychology and mental health; much research remains to be done to establish the long-term usefulness of such a website.

Conclusion

The results of this study suggest that a dedicated website can be a useful source of information on health and mental health for secondary school students in urban Vietnam, and may be an effective way to reach students in other parts of the country and the region. The interest shown by the students in the website reinforces previous recommendations that secondary schools in Vietnam should pay more attention to the mental health of their students. More research would be needed to evaluate the long-term usefulness of the website and whether it is appropriate for different school levels in Vietnam.

Declarations

Ethical approval and consent to participate

Ethical approval for the study was obtained from the Scientific and Technical Committee of the Can Tho University of Medicine and Pharmacy. The purpose of the study was introduced to the students before they were invited to join the study and asked to give their verbal consent. They were informed that they could refuse to answer any questions or stop completing the questionnaire at any time without giving any explanation, and that all the information would remain confidential. Students were not required to attach their name to the questionnaire. A small compensation of 20,000 VND (less than 1.00 USD) in cash was offered to the students after completing the questionnaire.

Consent for publication

Not applicable

Availability of data and materials

The datasets used and analysed during the current study are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

DTN, TTP, and JB jointly produced the idea and the study design. DTN, TTP and PW developed the survey tools. DTN and TTP coordinated the surveys and data collection in the field. Data analysis was done by DTN, TTP and PW. DTN was guided by JB and PW to produce the first draft and all authors contributed to the final version of the manuscript.

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Supplementary

Supplementary file not available with this version