Original Research

Knowledge, attitudes and practices on healthy lifestyle related behaviours among trainees of youth training centres in Sri Lanka

Dilini Mataraarachchi*, PVSC Vithana, Ayesha Lokubalasooriya, Chamanthi Jayasundera, Suranutha Anton, Chithramalee de Silva

Family Health Bureau, Ministry of Health, Sri Lanka

*Correspondence: dilmatara84@gmail.com https://orcid.org/0000-0001-6529-7472

DOI: https://doi.org/10.4038/jccpsl.v28i4.8520

Received on 22 Mar 2022
Accepted on 11 Nov 2022

Abstract

Introduction: The adolescent and youth health module has been introduced to the youth training centres in 2017.

Objectives: To assess the knowledge, attitudes and practices on healthy lifestyle-related behaviours including healthy eating practices, physical activity and substance misuse among youth trainees attached to youth training centres in Sri Lanka

Methods: A descriptive cross-sectional study was carried out among a sample of 425 youth trainees aged 15-29 years from six youth training centres selected using simple random sampling technique, using a pre-tested self-administered questionnaire. Scoring system was developed for measuring knowledge, attitude and practices on healthy behaviour and percentage scores were presented with median and inter quartile range (IQR). Associated factors for accepted levels were identified using Chi-squared Test or Fisher's Exact Test.

Results: All 425 participants responded. Majority (n=365; 85.9%) were Sinhalese, while 355 (83.6%) were Buddhists. Mean age was 18.6 years (SD=1.82). Most (n=344; 80.9%) were living in their own homes. Median percentage scores for knowledge, attitudes and practices on healthy lifestyle-related behaviours were 65.2 (IQR: 52.2, 69.6), 33.3 (25.0, 50.0) and 58.5 (48.1, 66.0), respectively. A majority, 80.7% (n=243) had an acceptable level of knowledge and 72.7% (n=309) an acceptable level of practice. Only 16.0% (n=68) had accepted level of attitudes. Youth trainee's ethnicity, religion, age, education level and participation in the youth health module training were significantly related to their knowledge in healthy lifestyle-related behaviour ($p<0.05$). However, none of these were significantly associated with trainee's attitudes on healthy behaviours although a significantly higher percentage of older youth were found to have healthy attitudes towards healthy behaviour.

Conclusions & Recommendations: It is recommended to revise the training module, focusing more on attitudinal change with regards to the healthy lifestyle related behaviours. Delivery of the youth health module in both Sinhala and Tamil languages needs to be looked into.

Keywords: *youth, youth training centres, healthy lifestyle-related behaviours*

Introduction

Adolescence is a transition period in human life where a child is subjected to various physical, mental and social changes that will help him reach a healthy adulthood. Hormonal and neuronal changes that occur during this time make an adolescent child more prone to risky health behaviours, such as unhealthy dietary habits, smoking, substance abuse, initiation of various chronic diseases, early sexual exposure and unprotected sexual intercourse (1). The damage that occurs during this time can have a dangerous impact on the life of an individual. Therefore, addressing the needs of youth has to be among the country's priorities.

One fifth of the Sri Lankan population comprises young persons aged 10-24 years (2). Even though the literacy rate among Sri Lankan youth is over 95%, health threats such as unhealthy dietary practices, reduced physical activity, addiction to alcohol, smoke and other substances are found to be common among Sri Lankan youth (3-4). The Global School-based Survey suggests that alcohol use, smoking, smokeless tobacco and other illegal substance abuse remains a major concern among school children in Sri Lanka (5), while the National Youth Health Survey indicates that lifestyle of many Sri Lankan female youths is sedentary, where approximately 44% spend five or more days a week in front of screen and only 50% know about the concept of body mass index (BMI). Also, the current evidence suggests that urban school children are used to taking energy drinks and vitamins without any medical prescription (6), and that only 20% engage in physical activity and 12% are current alcohol users while only 43% have overall good knowledge on healthy behaviours and 2.7% prevalence of illegal substance (5).

Unhealthy lifestyle of school children and youth would affect the health of the country's future workforce that would lead to major socio-economical downside in the decades to come. Hence, improving their knowledge and attitudes on healthy behaviour is an identified need in the country. Across the world, various interventions have been designed and conducted targeting high school adolescents to improve their healthy lifestyle behaviour. An interventional trial carried out among high school adolescents in the United States proved the effectiveness of a cognitive, behavioural skill building intervention with 20 minutes physical activity that was introduced in to the health course in improving the health outcomes of the adolescents (7). Another study carried out among adolescents in high schools in the Philippines suggested the importance of school-based interventions in improving the healthy lifestyle behaviour among youth (8).

With the intention of developing a skill-full young generation in Sri Lanka, Ministry of Youth Affairs has introduced the concept of youth training centres all over the island. These centres are functioning under the National Youth Service Council and National Youth Corps, Sri Lanka. The centres give training to youth aged 15-29 years. The Family Health Bureau identified these centres as a successful platform to implement health interventions to address the health needs of the youth in the country. The adolescent and youth health module was introduced to the youth training curriculum in the year 2017 with the aim of improving the knowledge, attitudes and practices of young trainees to safeguard their health and well-being. Training of the youth instructors on youth health module was carried out by the experts attached to the Family Health Bureau. The present study was carried out in youth training centres, at which the youth health module has been incorporated into the youth training curriculum. The study assessed the youth trainee's knowledge, attitudes, and practices on healthy dietary practices, physical activity, and substance misuse.

Methods

A descriptive cross-sectional study was carried out during 2019-2020 period among 425 youth trainees aged 15-29 years attached to the youth training institutes. Sample size was calculated (9) as for a descriptive cross-sectional study, with the anticipated proportion of youth with adequate knowledge on healthy behaviours taken as 50% and 10% non-response rate. The final sample size was calculated as

425.

The study was carried out in selected youth training centres in Sri Lanka, where the youth health module has been incorporated into the training curriculum. Study subjects were selected out of 49 centres of Youth Corps and National Youth Service Council which are functioning under the Ministry of Youth Affairs, Sri Lanka and 53 National Youth Service Council Centres that operate under the purview of the Ministry of Youth Affairs and Skill Development, using simple random sampling technique. From a list of all centres, using computer generated random numbers, ten centres were selected and from each centre, an equal number of eligible study subjects were randomly selected. Youth trainees in the age group of 15-29 years, who have been following a training course in youth training centres for six months to one-year duration were included in the study.

Data collection was done using a self-administered questionnaire, which was developed after an extensive literature review and opinion from experts in relevant fields. The questionnaire included sections to assess youth trainee's knowledge on diet and nutrients, physical activity, tobacco, alcohol consumption and sleep, and their attitudes and practices related to healthy lifestyle related behaviours. It was initially developed in English language and later translated to Sinhala and Tamil languages and pre-tested among 35 youth in the same age group selected from the community. Modified Delphi technique was performed among six experts to ensure content and consensual validity of the questionnaire. The experts were requested to score each item for its clarity, relevance, essentiality, and sufficiency of the number of items to measure a particular dimension (10). The experts were asked to identify deficient areas and forward their suggestions to improve the questionnaire. All the composite scales in the questionnaire had an internal consistency of >0.7, indicating its satisfactory reliability. The test-retest reliability for ten selected categorical variables was assessed among a sample of youth using Cohen's Kappa co-efficient, which was >0.75 indicating satisfactory agreement between the test and retest responses.

Data analysis

Data were analysed using Statistical Package for Social Sciences (SPSS) version 21. A scoring system was developed with expert opinion to determine knowledge, attitudes and practices of healthy lifestyle behaviour, and classified into 'satisfactory' and 'unsatisfactory' based on 50% as cut-off. Between group comparisons were assessed using Chi-Square test and Fisher's Exact test at significant level of 5%.

Results

In the study, 425 youth trainees participated, giving an overall response rate of 100%. Majority of them were single (1.2%); Sinhalese (85.9%); Buddhist (82.6%); males (51.8%); and in the age group of 15-19 years (70.1%). The mean age of the respondents was 18.6 years (SD=1.8). Over 96% had completed their education up to grade 11, while only 4% were employed part time. Over 50% (n=226) reported a monthly family income of Rs. 20 000 or below and were residing at home (n=344). Almost 92% were following a 6-month course.

With regards to knowledge (Table 1), the majority of participants were knowledgeable on most of the diet related healthy behaviours, except on identifying fish as a good source of iron (5.2%); green leafy vegetables and fruits (36.9%) and butter fruit or lavalu (37.2%) as a good source of vitamin A; and that eating large amounts of red meat could cause bowel cancer (33.2%). The majority knew the physical activity recommendations for a person over 18 years and for adolescents aged 15 years as well as certain benefits of physical exercise. Also, 70.1% correctly disagreed with skipping meals to reduce weight instead of doing physical exercise but only 37.9% knew the parameters of BMI.

With regards to attitudes (Table 2), a considerable proportion (51.1%) believed that it is okay for a boy to take alcohol, since they have no skill to refuse; and agreed with the fact that anyone who really wants to quit smoking can stop smoking (90%).

With regards to behaviour during last week (Table 3),

the majority have taken breakfast on most of the time or always (52.7%), and not taken carbonated drinks (55.0%), fizzy drinks (72.8%), pre-cooked food (70.6%), salty snacks (67.8%) and energy drinks (92.7%). However, only 44.4% did not eat from food outlets. Only 30.5% had engaged in the

recommended level of physical activity, and 26.9% had the recommended level of sleep. The majority had never smoked tobacco (68.9%), taken alcohol (62.7%) or tried cannabis (88.4%).

Median percentage scores for knowledge, attitudes and practices on healthy lifestyle related behaviour were 65.2 (IQR: 52.2-69.6), 33.3 (IQR: 25.0-50.0) and 58.5 (IQR: 48.1-66.0), respectively.

Table 1: Distribution of youth trainees by knowledge on healthy lifestyle related behaviours (N=425)

Knowledge	Aware		Not aware	
	No.	%	No.	%
Bread with dhal is high in carbohydrate	254	59.8	171	40.2
Green leaves are rich in Iron	350	82.4	75	17.6
Fish is a good iron source	22	5.2	403	94.8
Fruits and vegetables are good source of vitamin	171	40.2	254	59.8
Getting variety of fruits is needed for health	308	72.5	117	27.5
Green leafy vegetables and fruits are rich in vitamin A	157	36.9	268	63.1
Citrus fruit contain vitamin C which helps to boost immunity	271	63.8	154	36.2
Butter fruit is a good source of vitamin A	158	37.2	267	62.8
Eating large amount of red meat cause bowel cancers	141	33.2	284	66.8
Young person >18 years (engage in physical activity for 30min/day for 5 days a week)	246	57.9	179	42.1
Adolescent aged 15 years (engage in physical Activity at least for one hour a day)	340	80	85	20
Engaging in regular exercise can improve blood circulation and oxygenation of organs	338	79.5	87	20.5
A single exercise session should last at least 10 minutes for better results	274	64.5	151	35.5
Vigorous exercise will help to build strong bones and muscles	241	56.7	184	43.3
When doing exercise, it is important to be dressed in light cotton cloths	286	67.3	139	32.7
Skipping a meal is a more effective way of reducing weight than doing exercise	127	29.9	298	70.1
Ever heard of body mass index	252	59.3	173	40.7
Know parameters of body mass index	161	37.9	264	62.1
Passive smoking is as dangerous as active smoking	275	64.7	150	35.3
Smoking causes lung cancel	406	95.5	19	4.5
Alcoholism is a known cause for cirrhosis or liver disease	352	82.8	73	17.2
Adults were at two-time higher risk getting addicted for drug than youth of 16 years	99	46.8	226	53.2

Table 2: Distribution of youth trainees by attitudes on healthy lifestyle related behaviours

Attitudes	Strongly agree		Agree		Disagree		Strongly disagree	
	No.	%	No.	%	No.	%	No.	%
Vegetarian diet is a healthy choice (n=402)	55	13.7	145	36.1	148	36.8	54	13.4
It is difficult to find time for recommended time of physical activity (n=405)	46	11.4	125	30.9	209	51.6	25	6.2
It is okay for a boy to take alcohol during his teens but not for girls (n=407)	135	33.2	73	17.9	72	17.7	127	31.2
People starts to take alcohol since they have no skills to refuse (n=407)	93	22.9	167	41.0	113	27.8	34	8.4
If anyone really wants to quit smoking, he/she can stop smoking (n=413)	194	47	179	43.3	37	9.0	3	0.7

Accordingly, 80.7% had satisfactory level of knowledge on healthy lifestyle behaviour, 16% on positive attitudes and 72.7% on practices on healthy lifestyle. Knowledge on healthy lifestyle related behaviour was significantly associated with Sinhalese ethnicity, being a Buddhist, older age, higher education level and participating in the youth health training module, while positive attitudes were significantly related to older age. The trainees' practices on healthy lifestyle related behaviour were significantly related to non-Sinhalese ethnicity, lower family income and older age (Table 4).

Discussion

Majority (80%) of the youth trainees had a satisfactory level of knowledge on healthy lifestyle related behaviours, while 72.7% had accepted level of practices. However, 84% did not have favourable attitudes on healthy behaviour. Further, trainees' knowledge on food and nutrition was not adequate, where many were not aware of the nutritional value of the food they ate. It was also noted that a considerable proportion of young people did not have their breakfast in the morning. Furthermore, nearly one quarter of the youth did not add fruit into their meals regularly. Fast food and carbonated drinks were popular among the youth trainees. Around 60% had not even heard of BMI, while the trainees' knowledge on maintenance of BMI was also not at a satisfactory level.

A cross-sectional survey that was conducted to assess the dietary behaviours among 386 young people aged between 16-24 years, in Southern Sri Lanka also showed that nearly one third of men and more than one fifth of the women consumed fast foods at least three days per week. The same study reported that the dietary behaviour of young men was more likely to be unhealthy compared to young women (4). Data from Global School-based Survey carried out in nine South Asian countries indicated that among 12-15 years-age group, inadequate fruit intake was 42%, while inadequate vegetable intake was 26% (11). Similar to the above finding, 25.5% had never eaten fruits during the last seven days while 65% had had vegetables twice or thrice a day. Further, same study found that weekly fast-food consumption is 57% among the adolescents in this age group while in the present study more than 30% had eaten from outside during the past week. The results indicated the need to improve the content of the topic of food and nutrition in the youth health module.

Despite having a fair knowledge on the consequences of alcohol and smoking, a considerable percentage of the youth had never smoked or consumed alcohol. Moreover, one fifth of the youth trainees had never tried an addictive drug during their lifetime, which

was alarming. A significant proportion of youth trainees in the sample had tried addictive drugs, more than the number that had tried smoking. The finding was supported by a survey carried out by the WHO in 2001, which indicated that over 75% of the youth in South-East Asia have tried over the counter pain killers at some point in their lives (12), whereas the corresponding percentages for beer, cigarettes and wine were 21.7%, 15.6%, and 13%, respectively. Moreover, it was evident that around 78% of the Sri Lankan university students denote self-medication behaviour (13).

Although the trainees' knowledge on healthy behaviour was at a satisfactory level, many lacked favourable attitudes towards healthy behaviour. Majority of the youth were not having a favourable attitude about engaging in physical activity or substance abuse. Many of them were with the attitude that it is acceptable for a boy to take alcohol or smoke.

Being a Sinhalese was associated with having a good knowledge in healthy lifestyle behaviour. A probable reason for this observation can be the higher availability of Sinhalese lecturers in youth training centres. Having a school education above grade ten was associated with higher knowledge probably because most of the health related behaviour is being covered during the school curriculum (14). Furthermore, age above 20 was associated with good knowledge, favourable attitudes and practices on healthy lifestyle related behaviour owing to the matured brain matter during this time compared to the below twenty age group (15).

Adding to the above youth trainees' participation in the youth health module was associated with satisfactory knowledge on healthy lifestyle behaviour, although it was not associated with good attitudes or healthy practices. The reason behind this could be that the module is still not adequate to promote attitudes or practices. Hence, further work is needed to be carried out to modify the module to bridge the existing gaps and there is a need to introduce other evidence-based interventions to fill the gap. Moreover, including practical components into the module that might promote healthy behaviour among youth trainees, such as introducing health promotion concept within youth training centres, having youth health clubs and promoting youth health activities with the participation of youth trainees would also help in promoting healthy attitudes and practices among them.

Strengths and weaknesses

The study was conducted in a representative sample of trainees attached to youth training centres in Sri Lanka, which is a major strength of this study. Since the study only included the centres where the youth health training module is incorporated into the curriculum, the findings helped to identify the components needed to be strengthened in the process of improving youth trainees' knowledge, attitudes and practices on healthy lifestyle-related behaviour. Moreover, this helped to find the gaps in the existing training module and facilitate further evolution of the module to bridge the identified gaps. However, collection of data using a self-administered questionnaire may have led to information bias, which was a limitation of the study. Furthermore, the questionnaire used was not a validated one to assess healthy lifestyle behaviour, although it was developed by an expert panel to suit the needs of the study population and pre-tested among a similar group of youth.

Conclusions & Recommendations

Although youth trainees' knowledge on healthy behaviour was acceptable, their attitudes and practices on healthy behaviour required further improvement. Hence, we recommend focussing more on the attitude component during further modification of the adolescent and youth health module and also incorporating additional evidence-based interventions targeting identified gaps. Moreover, Sinhalese trainees' knowledge on healthy lifestyle behaviours was at a higher level compared to other ethnic groups that suggests re-evaluating the successful delivery of the module lectures in all languages. Further research needs to be carried out among the youth instructors to find out their concerns over providing health knowledge to the youth and also to test other evidence-based interventions focusing the identified gaps in attitudes and practices

on healthy lifestyles among youth trainees.

Public Health Implications

- The findings of the study indicated that youth do not have adequate knowledge on certain aspects of healthy behaviours such as food and nutrition.
- Young persons' attitudes on health-related behaviour need to be improved more. Hence, up-grading of the youth health module to include new components that would improve youth knowledge and attitudes on certain identified areas is a requirement.

Author Declarations

Competing interests: The authors declare that that they have no competing interests.

Ethics approval and consent to participate: Ethical clearance was obtained from the Faculty of Medicine, University of Colombo, while administrative clearance was obtained from the Ministry of Youth Affairs and the authorities at youth training centres. Informed written consent was obtained from all the participants.

Funding: *None*

Acknowledgements: The authors acknowledge the support received from the administrators, trainees and the training instructors of the youth training centres to make this work a success.

Author contributions: DM wrote the main manuscript; PVSCV and CDS reviewed the article and made corrections; CW proofread and wrote parts of the article; AL reviewed the literature and proofread; and SA prepared the tables.

References

1. Herting MM, Sowell ER. Puberty66 and structural brain development in humans. *Front Neuroendocrinol* 2017; 44: 122-137. DOI: 10.1016/j.yfrne.2016.12.003.
2. DCS. *Annual Report 2019.* Department of Census and Statistics: Colombo. Available from: http://www.statistics.gov.lk/
3. Talagala IA & Arambepola C. Use of food labels by adolescents to make healthier choices on snacks: A cross-sectional study from Sri Lanka. *BMC Public Health* 2016; 16(1): 1-11. DOI: 10.1186/s12889-016-3422-1
4. Perera B. Dietary behavior among young people in southern Sri Lanka: Implications for sustainable diet. *Int J Fam Community Med* 2017; 1(3): 50-53. DOI: 10.15406/ijfcm.2017.01.00013.
5. Senanayake S, Gunawardena S, Kumbukage M, Wickramasnghe C, Gunawardena N, Lokubalasooriya A, et al. Smoking, alcohol consumption, and illegal substance abuse among adolescents in Sri Lanka: results from Sri Lankan Global School-Based Health Survey 2016. *Adv Public Heal* 2018; 2018: 1-7. DOI: 10.1155/2018/9724176.
6. Thalagala NI, Lokubalasooroya A, Danansuriya M, Godakandage S. National youth survey-2012-13: Health profile and risk behaviors of the Sinhalese, Buddhist unmarried youth stratum. *J Coll Community Physicians Sri Lanka* 2014; 19: 2-10. DOI: 10.4038/jccpsl.v19i2.7575.
7. Melnyk BM, Jacobson D, Kelly S, Belyea M, Shaibi G, Small L, et al. Promoting Healthy Lifestyles in High School Adolescents: A randomized controlled trial. *Am J Prev Med* 2013; 45(4): 407-415. DOI: 10.1016/j.amepre.2013.05.013.
8. Tamanal JM, Kim CH. Promoting healthy lifestyle in high school students: determination of the lifestyle status through the healthy lifestyle screen (HLS) assessment. *J Lifestyle Med* 2020; 10(1): 30-43. DOI: 10.15280/jlm.2020.10.1.30.
9. Lwanga SK, Lemeshow S. *Sample size determination in health studies : a practical manual.* Geneva: World Health Organization, 1991. Available from: https://apps.who.int/iris/handle/10665/40062.
10. Zamanzadeh V, Ghahramanian A, Rassouli M, Abbaszadeh A, Alavi-Majd H, Nikanfar A-R. Design and implementation content validity study: Development of an instrument for measuring patient-centered communication. *J Caring Sci* 2015; 4(2): 165-178. DOI: /10.15171/jcs.2015.017.
11. Shawon MSR, Jahan E, Rouf RR, Hossain FB. Psychological distress and unhealthy dietary behaviours among adolescents aged 12–15 years in nine South-East Asian countries: a secondary analysis of the Global School-Based Health Survey data. *Br J Nutr* 2022; 1-10. DOI: 10.1017/S0007114522002306.
12. Vallath N, Rajagopal MR, Perera S, Khan F, Paudel BD, Tisocki K. Access to pain relief and essential opioids in the WHO South-East Asia Region: challenges in implementing drug reforms. *WHO South-East Asia J public Heal* 2018; 7(2): 67-72. DOI: 10.4103/2224-3151.239416.
13. Subashini N, Udayanga L. Demographic, socio-

economic and other associated risk factors for self-medication behaviour among university students of Sri Lanka: a cross-sectional study. *BMC Public Health* 2020; 20(1): 613.

14. Drake LJ, Peiris R, R. D, Palfreyman A, Ebenezer RM, Lokubalasuriya A, et al. *School Health and Nutrition in Sri Lanka,* 2014; 71. Available from: http://documents.worldbank.org/curated/en/231091468188678045/School-health-and-nutrition-in-Sri-Lanka.

15. Konrad K, Firk C, Uhlhaas PJ. Brain development during adolescence: neuroscientific insights into this developmental period. *Dtsch Arztebl Int* 2013; 110(25): 425-431. DOI: 10.3238/arztebl.2013.0425.