Original Article

Knowledge and Attitude Regarding Risk Factors of Cardiovascular Diseases among Adolescent Students of a School in Kathmandu Metropolitan City

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ABSTRACT

Introduction: Cardiovascular diseases (CVDs) are the leading cause of death worldwide. Awareness and a positive attitude toward risk factors of cardiovascular diseases in adolescence is necessary. Unable to prevent risk factors among adolescents may result in burden of cardiovascular disease-related problems. This study aimed to find out the knowledge and attitude regarding risk factors of cardiovascular diseases.

Methods: A cross sectional research design was used. A total 166 adolescent students of 11th grade studying in South Western Higher Secondary School were included with the non-probability purposive sampling technique. The study was carried out during 5th -13th March 2019. Data was collected by a self-administered structured questionnaire. Descriptive statistics was used for data analysis.

Results: The study showed that the age of the respondents ranged from 16-19 years with a mean age in years (M = 16.78± SD = 0.80*)*. More than half (57.8%) of the respondents had a fair level of knowledge on risk factors of CVDs followed by good (22.3%) and poor (19.9%) level of knowledge. Only 34.3% of the respondents had a positive attitude whereas a nominal number of respondents (12.7%) had a negative attitude toward risk factors of CVDs.

Conclusion: Knowledge on risk factors of CVDs among adolescents is low. Less than one-third of the adolescents have a positive attitude whereas less than one fourth have negative attitude toward risk factors of CVDs. It is necessary to plan and implement awareness programs for raising knowledge, fostering a positive attitude toward risk factors of CVDs, and forming healthy habits.

Keywords: Adolescent, attitude, cardiovascular diseases risk factors, knowledge

INTRODUCTION

Cardiovascular diseases (CVDs) such as coronary heart disease and stroke are the leading cause of death globally.[1, 2] Adolescence is an important phase of development of future lifestyle behaviours.[2, 3] Around 90% of disease burden due to CVDs are attributed to tobacco use, alcohol use, unhealthy diet, insufficient physical activity, hypertension, and obesity. This disease burden can be prevented by adopting a healthy lifestyle. In Nepal, research findings showed that less than 50% of adolescents adopted an unhealthy lifestyle such as physical inactivity, unhealthy diet, harmful use of alcohol and tobacco use etc. [4,11-14] Inability to prevent CVD risk factors among adolescents may result in a future adult CVDs epidemic in developing countries.[1, 4-11]

A cross-sectional study conducted among 783 adolescents aged 15-19 in higher secondary schools of Lekhnath Metropolitan City, only 11% had a good level of knowledge and 71.9% had a cardiovascular risk-seeking attitude.[11] Life style related risk factors are increasing among adolescents in developing countries. Risk factors such as unhealthy dietary habit, physical inactivity etc. are developed during adolescence period continue to adulthood have a negative impact on health and associated with CVDs later in life. Knowledge and attitude on risk actors of CVDs among adolescents may be a matter of serious concern. In Nepal, there was dearth of information on knowledge and attitude on risk factors of CVDs among adolescents. Therefore, this study aimed to find out knowledge and attitude regarding risk factors of CVDs among adolescents.

METHODS

A cross- sectional study was conducted to find out the knowledge and attitude regarding risk factors of cardiovascular diseases among 16-19 years old adolescent students studying in South Western Higher Secondary School, located Kathmandu Metropolitan City ward no 3, Basundhara during 5th -13th March 2019. After calculating the sample size, required one hundred and sixty-six samples were selected using purposive sampling from grade 11 who were willing to participate in the study were included. Ethical approval was taken from the Institutional Review Committee of Institute of Medicine, Maharajgunj, Kathmandu (IRC Approval No.310/075/076,Dec10, 2018). Prior data co

llection approval from school administration was obtained. Informed written consent and assent consent was obtained. All the tools were developed by the researcher based on review of literature. Total eleven statements were used to identify the knowledge on risk factors of CVDs, which was further categorized based on Bloom's taxonomy.[11] If respondents responded more than 75% of statements correctly, it is categorized as a good level of knowledge (>8 correct responses), followed by fair level at 50-75% (6-8 correct responses) and poor level at less than 50% (<6 correct responses).

Similarly, 10 items scale on attitude on risk factors of CVDs with 3-point Likert responses (i.e., 3 = Agree, 2 = Undecided, and 1 = Disagree) was used. The level of attitude on risk factors of CVDs was categorized based on Yadav and Wagle (2012).[12] If respondents responded >7 positive responses (more than 70%) is categorized as positive attitude, followed by neutral attitude at 5-7 positive responses (50-70%) and negative attitude at <5 positive responses (less than 50%).

The questionnaire was pretested among 17 adolescent students in same school and the data obtained from pretest were excluded from the study. The data were collected using self-administered, structured questionnaire for socio-demographic information and for knowledge on risk factors of CVDs. However, Likert scale was used for measuring attitude regarding risk factors of cardiovascular diseases. Data entry and analysis were carried out using SPSS version 16. Descriptive statistics was used for data analysis.

RESULTS

The study findings revealed that the age of the respondents ranged from 16-19 years with mean±SD 16.78±0.80. The highest percentage (98.2 %) of respondents were living at home. The majority of the respondents were Brahmin and Chhetri (56.0 %), Hindu (78.9%), and had sufficient family income for 12 months and surplus (47.0%). The majority (53%) of respondents received health information from social media as shown in Table 1.The majority of respondents had fair (57.8%), good (22.3 %) and poor (19.9%) level of knowledge on risk factors of CVDs (Table 2).The majority of respondents had knowledge on tobacco use (76.5%), excessive alcohol intake (78.9%), physical inactivity (69.3%), fatty food consumption (61.4%), dyslipidemia (60.2%), high blood pressure (77.1%) and stress (69.3%) as CVDs risk factors. However, 57.8%, 56%, and 51.8% respondents did not have knowledge on high salt intake, diabetes and obesity as CVDs risk factors respectively as shown in Table 3.

Regarding descriptive analysis on the attitude related to risk factors of CVDs (Table 4), 30.1% of respondents agreed that high chance of getting CVDs was related to past and / present health related behaviors. Likewise, 83.8% of respondents agreed that the majority of physically inactive people get CVDs. Similarly, 74.1% of respondents agreed that obesity increases chances of CVDs. Furthermore, 76.5% of respondents agreed that low fruits and vegetables increase chances of CVDs. About 81.4% of respondents agreed that fatty food will increase chances of CVDs. Similarly, 72.3% of respondents agreed that irregular medical checkups will increase chances of CVDs. In addition, 56% of respondents agreed that carbonated drinks cause CVDs. Likewise, the majority of respondents agreed that fast food will increase the chances of CVDs (66.3%); smoking cause CVDs (64.5%); and consumption of excessive alcohol cause CVDs (50.0%). The majority of respondents had neutral (53%) attitude followed by positive (34.3%) and negative attitude towards grading on risk factors of CVDs (Table 5).

Table 1. Socio-demographic Characteristics of the Respondents (n=166)

VAriables	Number	Percentage
Age in Years		
Middle Adolescents (16-17)	69	41.6
Late Adolescents (18-21)	97	58.4
Sex		
Male	86	51.8
Female	80	48.2
Place of Residence		
Home	163	98.2
Hostel	3	1.8
Ethnicity		
Brahmin/ Chhetri	93	56.0
Janajati	72	43.4
Dalit	1	0.6
Religion		
Hinduism	131	78.9
Buddhist	29	17.5
Christianity	6	3.6
Stream		
Science	95	57.2
Management	71	42.8
Family Income (Sufficient for)		
6 months	56	33.7
>6-12 months	32	19.3
>12 months and surplus	78	47.0
Source of Health Information		
Social Media	88	53.0
Television	32	19.3
Teachers/ Family Members/ Friends	15	9.0
Health Personnel	14	8.4
Curriculum Books	13	7.8
Radio	4	2.4

Table 2. Level of Knowledge on Risk Factors of CVDs (n=166)

Level of knowledge	Frequency	Percentage
Poor	33	19.9
Fair	96	57.8
Good	37	22.3

Table 3. Knowledge on risk factors of CVDs of the respondents (n=166)

Risk Factors	Yes	No
	No. (%)	No. (%)
Tobacco user	127(76.5)	39(23.5)
Excessive alcohol intake	131(78.9)	35(21.1)
Physical inactivity	115(69.3)	51(30.7)
Fatty food consumption	102(61.4)	64(38.6)
High salt intake	70(42.2)	96(57.8)
Daily intake low green vegetables and fruits	41(24.7)	125(75.3)
Diabetes	73(44.0)	93(56.0)
Dyslipidemia	100(60.2)	66(39.8)
High Blood pressure	128(77.1)	38(22.9)
Obesity	80(48.2)	86(51.8)
Stress	115(69.3)	51(30.7)

Table 4: Attitude on risk factors of CVDs of the Respondents (n=166)

Statements	Agree	Undecided	Disagree
	No. (%)	No. (%)	No. (%)
High chance of getting CVDs because of past and / or present health related behaviors	50(30.1)	38(22.9)	78(47.0)
Low fruits and vegetables increase the chances of CVDs	127(76.5)	26(15.7)	13(7.8)
Fatty food will increase the chances of CVDs	135(81.4)	15(9.0)	16(9.6)
Irregular medical checkups will increase chances of CVDs	120(72.3)	30(18.1)	16(9.6)
Carbonated drinks cause CVDs	93(56.0)	55(33.1)	18(10.8)
Fast food will increase the chances of CVDs	110(66.3)	33(19.9)	23(13.8)
Smoking causes CVDs	107(64.5)	35(21.1)	24(14.4)
Consumption of excessive alcohol is to invite CVDs	83(50.0)	51(30.7)	32(19.3)

Table 5. Attitude grading on risk factors of CVDs of the respondents (n=166)

Attitude Grading	Frequency	Percentage
Negative: Less than 5 positive responses (<50%)	21	12.7
Neutral: 5-7 positive responses (50-70%)	88	53.0
Positive: More than 7 positive responses (>70%)	57	34.3

DISCUSSION

This study shows that the majority (53%) of respondents' source of information was social media. Similar results were reported by Adhikari et al.[11] that audio-visual aids were the major source (40.5%) of health information.

This study shows that 57.8% of the respondents had fair, 22.3 % good and 19.9% poor knowledge regarding the risk factors of cardiovascular diseases. The findings of the study were similar with previous study conducted in Nepal by Yadav & Wagle.[12]

In response to knowledge on risk factors of CVDs, this study shows about 76.5% tobacco use, 61.4% fatty food consumption, 69.3% physically inactive and 77.1% high blood pressure. The findings of the study were near similar with previous study conducted in Nepal by Adhikari et al.[11] However, a significant percentage of the respondents don't have the correct information about other CVDs risk factors such as about 57.8% salt intake, 56% diabetes, and 51.8% obesity. The findings of the study were nearly similar with previous study done by Adhikari et al.[11]

In response to attitude on risk factors of CVDs, this study shows that about 83.8% physical inactive, 74.1% obesity, 81.4% high fatty food, 64.5% smoking, 50% consumption of excessive alcohol. The findings of the study were congruent with previous studies conducted in Nepal and Yangon by Yadav & Wagle[12] and Kyi et al.[15] This study shows that the majority (76.5%) of the respondents' low fruits and vegetables intake. This result is different from the study conducted by Adhikari et al.[11] This variation in results may be due to different in sample size and setting with previous study.

Likewise, this study shows that the majority (53%) of the respondents had neutral followed by positive (34.3 %) and negative attitude (12.7%) on risk factors of CVDs. Nearly similar results were reported by Yadav & Wagle[12] that 47.9% neutral followed by positive (31.9%), and negative (20%) attitude on risk factors of CVDs.

CONCLUSION

It is concluded that the knowledge and attitude regarding risk factors of CVDs among the adolescent students are low. It is necessary for planning and implementing awareness program that can raise knowledge and develop positive attitude towards CVDs risk factors so that healthy habits can be formed.

LIMITATIONS

The study was conducted at only one higher secondary school in Kathmandu among small sample size. Therefore, the findings of the study might not be generalized.

Conflict of Interest: None

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