Original Article

Covid-19 Awareness Levels and the Application of Protective and Preventive Measures in Young Adolescents: An Overview Two Years Later

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Abstract

Background: The Covid-19 pandemic has had a significant impact on global health, with young adolescents being a particularly vulnerable population. Understanding their awareness levels and adherence to preventive and protective measures is crucial in mitigating the spread of the virus.
Objective: This study is aimed to determine the Covid-19 awareness levels and application of preventive and protective measures in young adolescents.
Methodology: This descriptive study included participants who were in the 18-24 age group. The data is collected using the online survey platform Google forms. Sociodemographic features survey form and Covid-19 Awareness Scale were used in the collection of data. All students in the 18-24 age group, which agreed to participate in the study, were included regardless of the condition of obstacles and chronic illnesses. Ethics committee approval (Approval number: E.97443) and institutional permission (Permission number: E.97848) were obtained from the university where the study was conducted.
Results: Among 74.3% of the young adolescents participating in the study were women, 7.3% have chronic illnesses and as the most common chronic disease Type II Diabetes Mellitus was found to be 86.7%. 91.9% of the participants had vaccinated, 29.3% had previously infected by Covid-19, and 20.2% of the participants had lost at least one of their relatives to Covid-19. The study revealed that women, first-year grade students, Covid-19 vaccinated individuals, those who had been infected with Covid-19 or had a family member infected, and those who had lost any of their relatives had higher levels of Covid-19 awareness.
Conclusion: The results of the study show that Covid-19 awareness in young adolescents is moderate. It is thought that increasing awareness of young adolescents about Covid-19 improves protective health behaviors and affects the risk perception of the disease.

Keywords: Awareness, COVID-19, nursing, prevention, adolescent.

Introduction

Covid-19 is a disease that entered to health science literature for the first time with the diagnosis of "unknown pneumonia" in China towards the middle of December 2019 (Yang et al., 2020). The disease was declared as a pandemic by the World Health Organization (WHO) on March 11, 2020 due to a very rapid spread (World Health Organization, 2020).

As of May 30, 2024, the data announced by WHO has shown that this disease caused 775 million cases and 7 million deaths worldwide (World Health Organization, 2024).

According to Turkey Health Ministry report, the number of cases reached 17.1 million and the number of deaths rose 101.5 thousand between 14-27 November 2022 (Republic of Turkiye Ministry of Health, 2022). In the

process following the declaration of the pandemic, some practices were implemented in Turkey as well as in the whole world, such as quarantine practices, curfews, social isolation measures, pending of schools, transition to distance education, etc. within the scope of combating the epidemic. During the COVID-19 pandemic, young adolescents with chronic diseases have become more vulnerable due to the heightened risk of infection and the potential exacerbation of their illnesses. Restricted access to health services has disrupted regular check-ups and treatments, complicating the management of their health conditions. Additionally, social isolation measures have limited their social interactions, contributing to increased psychological problems such as loneliness and depression (Meade, 2021; Logan, 2022).

In some reports, the negative effects of the disease on individuals were considered, and preventive measures to combat the disease were documented (Lennart, 2000). In the realm of infectious diseases, the perception of alert status has been reported to play a crucial role in determining whether individuals engage in high-risk behaviors or adopt preventive measures (Adedeji et al., 2009). It is stated that increased awareness of risk perception related to the disease during the COVID-19 epidemic led to greater adoption of pandemic practices. Individuals with a high risk perception are more likely to exhibit preventive health behaviors and adapt to the disease process due to their desire to avoid danger (Mukhtar, 2020). Due to the short incubation period of Covid-19, the emergence of different types of symptoms in an average of 5-14 days, and being highly contagious, it is very important for young adolescents to have a high awareness of transmission and protection (Jangra et al., 2021). In addition, a high level of awareness and compliance with disease processes are of vital importance in the control of crisis situations in terms of public health (Storr et al., 2017). Studies have shown that awareness is an important factor that increases self-efficacy (Soysa & Wilcomb, 2015). Conversano et al. (2020), reports that self-efficacy facilitates coping with many distressing situations and mental problems that occur during epidemic periods (Conversano et al., 2020). The Covid-19 pandemic has created many behavioral

changes in people. Most people are washing their hands more often, even after the pandemic has ended. It is not clear whether these behaviors have become permanent.

In this study, Social Cognitive Theory (SCT) served as the foundational framework. SCT highlights the importance of observational learning, social influences, and self-efficacy in behavior modification (Bandura, 1986). The study examined how adolescents' awareness and behaviors are influenced by various parameters.

This study aims to determine whether COVID-19 awareness and adherence to protective and preventive measures persist among young adolescents even two years after the pandemic. In this respect, it addresses a gap in the literature regarding the post-pandemic period.

Materials and Methods

Purpose of Study: This study aimed to examine the levels of Covid-19 awareness and the implementation of protective and preventive measures among young adolescents two years after the onset of the pandemic.

Study Hypotheses

H_1: Caught in Covid-19 has an effect on the level of awareness.

H_2: Having a family member infected with Covid-19 is effective on the level of awareness of young adolescents

H_3: The sub-dimensions of the scale are effective on the total score of the Covid-19 Awareness Scale.

Study Questions

• What is the extent of Covid-19 awareness among young adolescents two years after the onset of the pandemic?

• What is the current status of young adolescents' adherence to protective and preventive measures two years after the pandemic began?

Study Design: This study was structured as a descriptive cross-sectional investigation, and the paper adheres to the guidelines outlined in the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) statement (Cuschieri, 2019). Given the benefits of enhanced data collection, time efficiency, and cost-effectiveness, a

descriptive cross-sectional design was chosen to involve a wider range of participants.

Population and Sample: WHO defined adolescents as individuals between the ages of 10-19 (Singh et al., 2019). According to the age definition adopted by the contract on children's rights, individuals under the age of 18 are stated as children (United Nations, 1989). In a report published in 2018 by the United Nations Children's Fund (UNICEF), those in the 10-24 age group were defined as "young" and the period between the ages of 15-24 is "youth". This definition is widely used by WHO and other organizations to indicate the age of adolescents and young people (UNICEF, 2018). Although these terms are sometimes used in place of each other, "adolescence", which started at the age of 12, or "years of youth", which continued until the age of 30, has been a period in which the studies are intensified (World Health Organization, 2011). The population of the study consists of 2933 associate degree students studying at a public university and agreeing to participate in the study. At the end of the study, the sample size was calculated with 0.95 effect size, 0.95 universe representation power and 0.001 type 1 error margin by using the OpenEPI Version 3 program. According to these data, the minimum sample size should be 542 in total. However, 731 participants who met the inclusion criteria were included in the study. In addition, according to literature the number of participants required to make structural equality modeling (SEM) analysis should be in the range of 200-500 (Kline, 2015).

Inclusion Criteria: All students in the 18-24 age group, which agreed to participate in the study, were included regardless of the condition of obstacles and chronic illnesses. The participants eligible to respond to the inquiries and who willingly volunteered to partake in the research were chosen by the researchers utilizing the convenience sampling method. This method entails selecting individuals who are readily available and accessible, often based on their proximity or ease of recruitment, rather than through random selection or a structured sampling procedure.

Data Collection: The data were collected using Google forms, an online survey platform between 21 February-5 March 2023.

Prepared data collection forms were sent to participants via smartphone applications such as WhatsApp®, Telegram®. It was estimated that it would take approximately 10 minutes to complete all of the survey forms. Sociodemographic features survey form and Covid-19 Awareness Scale were used in the collection of data.

Sociodemographic Features Survey Form (SFSF) : SFSF prepared by the researchers includes a total of 20 questions including socio-demographic characteristics (age, gender, grade, presence of chronic disease, caught in Covid-19 state and vaccination status, etc.) (Ding et al., 2020).

Covid-19 Awareness Scale (CAS): This scale developed by Buyukbese and Dikbas (2021) to determine the awareness of mask, distance and hygiene rules during the Covid-19 pandemic of university students. The scale is of 5 Likert type consisting of 3 sub-dimensions, hygiene (12 items), distance (6 items) and mask (3 items). The answers to the scale questions are scored as "absolutely disagree"-(1), "partially disagree"-(2), "either agree or disagree"-(3), "partially agree"-(4) and "absolutely agree"-(5). When the scores are interpreted, the scores between "21-37.8" are very low awareness, between "37.81-54.81" are the low awareness, the scores between "54.82-71.4" are moderate awareness, between "71.41-88.2" are the high awareness and "88.21-105" are very high awareness. As a result of reliability analysis of the scale, the Cronbach alpha coefficient was 0.90. Alpha values of the lower dimensions were found to be 0.73 for mask, 0.84 for distance and 0.85 for hygiene (Buyukbese & Dikbas, 2021). In this study, the Cronbach alpha coefficient was calculated as 0.87.

Statistical Analysis: The data were analyzed using SPSS 23.0 software. Data were shown as number (n), percent (%), average (middle) and standard deviation (SS). Shapiro-Wilk test and QQ graph was applied for the normality test and the data showed normal distribution (p>0.05). In addition, there was no multi-connection and autocorrelation among the variables in the model. The reliability levels of the scale were tested by examining the Cronbach alfa values. Cronbach Alfa values were seen in sufficient range. Independent t test, Kruskal-Wallis test,

OneWay ANOVA tests were used to evaluate the data. Correlation analysis was performed to test whether caught in Covid-19 has an effect on the level of awareness. Structural Equation Model was made with IBM AMOS V24. The level of significance was determined as $p < 0.05$.

Ethics approval and consent to participate: This study was performed in line with the principles of the Declaration of Helsinki. Before starting the research, ethical approval was obtained from Bingol University Health Sciences Scientific Research and Publication Ethics Committee (Date: 15.02.2023, Decision no: E.97443). The institution permission was acquired from the Bingol University Health Services Vocational School Directorate (Date: 21.02.2023, Decision no: E.97848) A written statement describing the study was included in the data collection form, and young adolescents who agreed to participate in the study after reading the form were included in the study. Moreover, in order to ensure the confidentiality of the personal data collected, the answers data set were copied and stored on a separate computer after the data analysis was completed. The data obtained will be stored for five years in accordance with ethical rules. All participants gave their informed consent prior to their inclusion in the study and that anonymity is preserved.

Results

The results of the study aimed to determine the Covid-19 awareness levels of young adolescents of their application of protective and preventive measures, and to examine the role of Covid-19 transmission on the level of awareness, are summarized below. A 74.3% of the young adolescents participating in the study were female, 82.9% were in the 19-21 age group, and 50.6% were in the 1st year was determined. 59.1% of the participants stayed in dormitory-double rooms, 7.3% had a chronic disease and the most common chronic disease was 86.7% Type II DM (Diabetes Mellitus) and 91.9% of them had Covid-19 vaccination. In addition, 29.3% of young adolescents have had Covid-19 history, 46.2% of those who had the disease were treated in hospital, 56.1% of them had one in their family who had Covid-19, and 20.2% of them had lost their any relative were found. In

this study, the awareness of young adolescents to prevent the transmission of Covid-19 was also examined, and 43.6% had awareness to prevent transmission (Table 1). When the mean scores of the Covid-19 Awareness Scale were compared according to gender, women's sub-dimension and CAS scale total mean score were higher. Similarly, the mean scores of young adolescents in the 19-21 age group and 1st year students were higher. Young adolescents with chronic diseases and who reside with their families had a higher average in terms of all scale sub-dimensions and scale total scores. Young adolescents with chronic respiratory diseases such as asthma and COPD (Chronic Obstructive Pulmonary Disease), who have had the Covid-19 vaccine, who have had Covid-19 before, or who have a deceased family member due to Covid-19 had higher mean score was observed. Participants who were aware of measures to prevent Covid-19 transmission had higher mean scores on the Covid-19 Awareness Scale (CAS) (Paying attention to prevent Covid-19 transmission, Table 1). The relationship between Covid-19 transmission and the level of awareness of the subjects was evaluated based on the total scores of the scale and the mean awareness scores of those who were infected with Covid themselves or their relatives were found to be higher. Analyzing the average total scores on the CAS, it was observed that participants demonstrated a moderate level of awareness regarding Covid-19 (Table 2). In the data analyzed with IBM AMOS V24, measurement models of dimensions were evaluated as a first step. In the model created with structural equation, the effect of Covid experience on the change in total and subscale mean scores was revealed. The first fit index examined to test model fit is CMIN/DF. CMIN/DF tests the significance of the difference between the observed covariance matrix and the estimated covariance matrix (Bagozzi & Heatherton, 1994). A non-significant CMIN/DF value indicates that there is no significant difference between the observed covariance matrix and the estimated covariance matrix and therefore the model is fit (Tabachnick & Fidell, 2007). On the other hand, since the CMIN/DF value is highly sensitive to the sample size, the CMIN/DF value is mostly significant when working with

large samples. Apart from CMIN/DF, many different fit indices are used to test model fit. Root Mean Square Error of Approximation (RMSEA), Goodness of Fit Index (GFI) are among the fit indices used to evaluate model fit in SEM studies. The fit values in the measurement models were within the desired limits were found. The fit index values of the measurement model (A-CMIN/DF=1.360; A-RMSEA=0.041, A-GFI=0.957, p=0.000; B-CMIN/DF=1.186, B-RMSEA=0.029, B-GFI=0.968, p=0.000) and all path coefficients were found to be statistically significant. Three hypotheses were examined in the structural model. H_1: Caught in Covid-19 has an effect on the level of awareness. H_2: Having a family member infected with Covid-19 is effective on the level of awareness of young adolescents. H_3: The sub-dimensions of the scale are effective on the total score of the Covid-19 Awareness Scale. According to the results obtained in the constructed structural model, the models were compatible, and the model fit index value was within the desired limits. The path coefficient between structural equation modeling and caught in Covid-19 status was found to be statistically significant. Therefore, hypotheses H_1, H_2 and H_3 were confirmed (Figure 1). When the relationship between himself/herself or one of his/her family members caught in Covid-19 and the mean score of the Covid-19 Awareness Scale was examined, there was a positive and significant relationship was determined (Table 3).

Discussion

The level of knowledge and awareness is crucial in preventing epidemics and reducing the rate of spread. The results of this study have shown that the awareness of individuals who are very careful about preventing the transmission of Covid-19 is also high. It is thought that as the level of awareness increases, the tendency to develop preventive health behavior will also increase. The study conducted by Haliwa et al. (2020), was reported that the level of awareness positively affects the tendency to develop preventive health behaviors towards Covid-19 (Haliwa et al., 2020). Similarly, Renner et al. (2008), stated that increased awareness has positive health consequences (Renner et al., 2008). Considering that 9.77% of Turkey's

population consists of students in the young adolescent group, it is thought that high awareness of Covid-19, and also future pandemics and isolated breakouts of specific viruses, will be important in the management of the transmission of these diseases (Eren, 2022). During the Covid-19 pandemic, studies conducted with young adolescents revealed that their awareness of Covid-19 varied (Xiao et al., 2020). Specifically, Xiao et al. (2020) found that 43.7% of medical students had accurate information about the Covid-19 outbreak. The study reported that more than 90% of the students knew that they should follow preventive social distance measures, wearing masks, washing hands regularly, avoiding unnecessary crowded environments, keeping their rooms clean and ventilating (Xiao et al., 2020). A study expressed that students studying in the field of health sciences have a higher awareness of Covid-19. This result is due to the inclusion of educational curricula on infectious diseases, which are related to general health and aim to prevent diseases, in the courses of the students (Eren, 2022). The fact that women have a higher awareness of Covid-19 in the study was found to be compatible with the literature. Kim et al. (2022), mentioned the role of gender in awareness of an infectious disease. According to study, while men were more aware of the risk of a virus outbreak before Covid-19, women were more aware of the risk after the epidemic (Kim et al., 2022). Results of a Korean study showed that women are more concerned about Covid-19 than men and have higher awareness of the Covid-19 pandemic (Ko et al., 2021). A study suggests that grade of student affects the awareness of Covid-19 (Eren, 2022). The fact that the scale sub-dimension and scale total mean scores of the 1st year students were higher than the students in the other grades it was compatible with the literature. Eren (2022) in his study to determine the awareness of Covid-19 in university students, reported that the awareness levels of 1st year students were high. This result may be related to the fact that face-to-face learning started at the data collection time and it was thought that it helped to increase attention to hygiene in 1st year students who entered the university for the first time after the end of distance education (Eren, 2022).

Table 1. The mean score of the Covid-19 Awareness Scale according to the sociodemographic characteristics of the participants.

Variables	n	%	Hygiene X±SD	p	Distance X±SD	p	Mask X±SD	p	Total X±SD	p
Gender										
Male	188	25.7	30.0±6.3	0.000[a]	16.7±5.2	0.084[a]	7.2±2.1	0.000[a]	54.0±11.1	0.000[a]
Female	543	74.3	32.6±8.8	t=4.326	17.6±6.2	t=1.729	8.2±2.7	t=5.329	58.4±15.6	t=4.211
Age										
19-21 years	606	82.9	30.7±6.9	0.514[a]	17.1±5.5	0.232[a]	7.4±2.3	0.874[a]	55.3±12.2	0.383[a]
22-24 years	125	17.1	30.3±7.8	t=0.654	16.4±5.7	t=1.195	7.5±2.3	t=0.159	54.2±13.7	t=0.872
Grade										
1st year student	361	49.4	30.7±7.5	0.835[a]	17.0±5.7	0.750[a]	7.5±2.3	0.440[a]	55.3±13.2	0.687[a]
2nd year student	370	50.6	30.6±6.7	t=0.208	16.9±5.3	t=0.319	7.4±2.2	t=0.773	54.9±11.8	t=0.403
Co-Residence										
Home-with my family	237	32.4	31.0±7.8	0.377[b]	17.2±6.0	0.866[b]	7.7±2.3	0.483[b]	56.1±13.6	0.474[b]
Home-alone	12	1.6	28.3±3.5		15.7±4.1		7.0±1.5		51.1±7.6	
Home-with my friend/s	47	6.4	28.8±5.7		16.5±4.8		7.1±1.9		52.5±10.4	
Dormitory-single room	4	0.5	27.5±3.8		15.5±4.4		7.2±1.5		50.5±9.5	
Dormitory-double room	431	59.1	30.7±6.9		16.9±5.4		7.4±2.3		55.1±12.1	
Presence of chronic disease										
Yes	53	7.3	31.8±5.3	0.217[a]	17.3±5.0	0.642[a]	7.4±1.9	0.932[a]	56.6±2.3	0.373[a]
No	678	92.7	30.5±7.2	t=1.235	16.9±5.6	t=0.465	7.5±2.3	t=0.085	55.1±.6	t=0.892
Type of chronic disease (n=53)										
COPD	3	5.7	32.6±4.1	0.412[b]	19.5±7.7	0.743[b]	7.3±1.5	0.511[b]	56.6±6.6	0.453[b]
Asthma	2	3.8	42.0±0.0		22.0±0.0		7.5±1.9		73.0±0.0	
Type I DM	2	3.8	31.0±5.6		16.6±2.3		0.0±0.0		56.5±2.1	
Type II DM	46	86.7	31.7±5.3		17.2±5.1		6.0±0.0		56.5±9.8	
Covid-19 vaccination status										
Vaccinated	672	91.9	30.7±7.1	0.432[a]	17.0±5.5	0.681[a]	7.7±2.2	0.361[a]	55.2±12.4	0.645[a]
Not vaccinated	59	8.1	29.9±7.9	t=0.787	16.7±5.6	t=0.411	7.4±2.3	t=0.914	54.4±13.4	t=0.460
Covid-19 vaccination (n=672)										
BioNTech	411	61.2	30.8±7.0		16.9±5.4		7.4±2.3		55.2±12.3	

	N	%	Mean±SD	p / t	Mean±SD	p / t	Mean±SD	p / t	Mean±SD	p / t
Sinovac	261	38.8	30.5±7.1	0.641[a] t=0.466	17.1±5.6	0.689[a] t=0.401	7.5±2.2	0.321[a] t=0.992	55.3±12.6	0.921[a] t=0.100
Covid-19 vaccine dose (n=672)										
m fully vaccinated	598	88.9	31.8±5.2	0.774[b]	17.1±5.0	0.996[b]	7.8±2.1	0.465[b]	56.8±10.1	0.942[b]
I'm not fully vaccinated	74	11.1	30.7±6.9		16.9±5.4		7.3±2.2		55.0±11.9	
Caught in Covid-19										
Yes	214	29.3	30.8±6.8	0.659[a] t=0.950	17.0±5.6	0.996[a] t=0.283	7.5±2.5	0.744[a] t=0.471	55.3±12.0	0.848[a] t=0.579
No	517	70.7	30.5±7.5		17.0±5.5		7.4±2.2		55.1±13.5	
Hospitalization status due to Covid-19 (n=214)										
Yes	99	46.2	31.2±5.9	0.515[a] t=1.322	17.1±5.1	0.830[a] t=0.129	7.4±2.1	0.466[a] t=1.076	55.7±10.8	0.548[a] t=1.008
No	115	53.8	30.6±6.9		16.8±5.3		7.2±2.2		54.7±12.1	
Taking medication due to Covid-19 (n=214)										
Yes	51	23.8	31.8±5.4	0.242[a] t=0.643	17.3±5.0	0.591[a] t=0.654	7.5±1.9	0.425[a] t=0.261	56.7±9.7	0.293[a] t=0.704
No	163	76.2	30.6±6.8		16.8±5.3		7.2±2.2		54.7±12.1	
Status of a family member caught in Covid-19										
Yes	410	56.1	31.8±7.4	0.219[c] F=1.523	17.6±6.1	0.301[c] F=1.202	7.9±2.6	0.364[c] F=1.013	57.4±1.9	0.172[c] F=1.172
No	270	36.9	31.0±7.4		17.2±5.4		7.4±2.3		55.7±0.7	
I do not know	51	7.0	30.3±6.8		16.7±5.5		7.4±2.2		54.5±0.6	
Lost any relative due to Covid-19										
Yes	83	20.2	30.9±5.7	0.870[a] t=0.163	16.6±5.1	0.544[a] t=0.608	7.4±2.1	0.992[a] t=0.010	55.0±10.5	0.861[a] t=0.175
No	327	79.8	30.8±7.3		17.0±5.5		7.4±2.4		55.2±12.7	
Paying attention to prevent Covid-19 transmission										
I pay a lot of attention	53	7.3	39.1±10.2	0.000[b]	20.0±5.1	0.000[b]	9.3±3.1	0.000[b]	68.5±17.8	0.000[b]
I pay attention	137	18.7	32.7±8.3		17.6±6.0		8.0±2.7		58.3±14.4	
I pay a little attention	319	43.6	28.4±5.9		15.6±4.8		7.0±1.9		51.2±10.6	
Sometimes (occasional) I pay attention	197	26.9	31.4±6.5		17.7±5.7		7.5±2.1		56.7±11.7	
I do not pay attention	17	2.3	34.8±9.1		18.7±4.5		9.1±2.4		62.7±14.2	
I never pay attention	8	1.1	33.2±6.8		19.6±5.7		7.8±2.6		60.7±11.5	

SD: Standard deviation, [a]Independent t test, [b]Kruskal-Wallis H test, [c]OneWay ANOVA test, COPD: Chronic Obstructive Pulmonary Disease, DM: Diabetes Mellitus.

Table 2. Participants' Covid-19 Awareness Scale sub-dimension and total mean scores (n=731).

Sub dimensions	X±SD	Min.	Max.
Hygiene	30.6±7.1	12	60
Distance	16.9±5.5	6	30
Mask	7.4±2.3	3	15
Total	55.1±12.5	21	105

X: Arithmetic mean, SD: Standard deviation Min.: Minimum, Max.: Maximum.

Table 3. The relationship between self or a family member caught in Covid-19 and the mean score of the Covid-19 Awareness Scale.

Variables	Hygiene p (r)	Distance p (r)	Mask p (r)	Total p (r)
Oneself caught in Covid-19	0.035 r=0.343	0.010 r=0.777	0.017 r=0.638	0.021 r=0.563
One of the family members caught in Covid-19	0.046 r=0.082	0.037 r=0.122	0.039 r=0.298	0.042 r=0.069

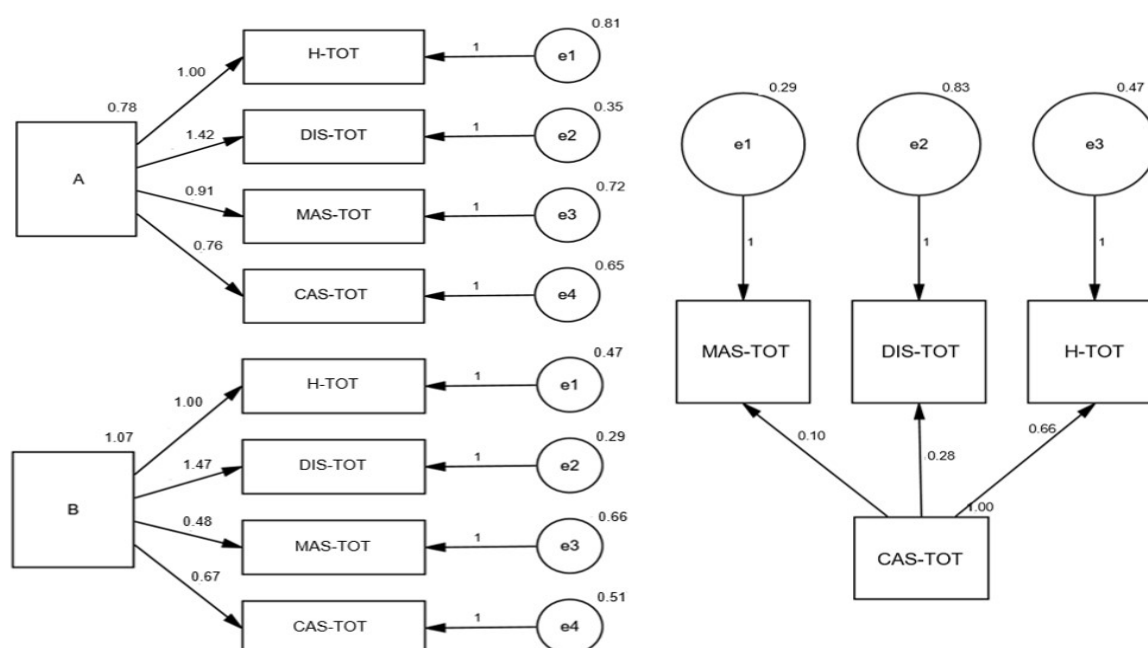r: Pearson correlation coefficient.

Figure 1. Measurement models

A: Oneself caught in Covid-19, B: One of the family members caught in Covid-19, H-TOT: CAS Hygiene sub-dimension, DIS-TOT: CAS Distance sub-dimension, MAS-TOT: CAS Mask sub-dimension, CAS-TOT: CAS total score, CAS: Covid-19 Awareness Scale.

Discussion Cont.

Since chronic diseases require long-term treatment, patients should be more careful about the management of the disease (Khot & Nadkar, 2020). As Covid-19 has a feature that mostly affects the respiratory system, individuals with respiratory system disease should be more sensitive about preventing the disease. Studies argue that people with Covid-19 awareness pay attention to preventive measures such as social distance, isolation, cleaning, hygiene and wearing masks, and they research medical methods to stop the spread of the disease (Chen et al., 2020). This study determined that those with chronic diseases related to the respiratory system (such as COPD and asthma) had a higher awareness of Covid-19.

The literature reports that having Covid-19 or having a family member or friend with Covid-19 disease raises awareness in people. Ahmad et al. (2022), stated that participants who have a family member or friend who caught Covid-19 gave more accurate answers to the questions directed to them about the disease, and their awareness of disinfection practices was higher. The reason for the difference in the answers given to the questions asked to the participants in the study was stated that having a relative or friend with Covid-19 leads to collecting more information about the disease process, thus improving preventive behaviors related to the prevention of the disease. As a result, healthy individuals and those who have survived the disease are more careful to protect themselves (Ahmad et al., 2022). In this study, the mean scores of the young adolescents who had the disease or a relative who had the disease were found to be relatively high but statistically insignificant. It is thought that this may be a positive result of the vaccines developed against the disease and the awareness-raising activities carried out during the pandemic process. It is also thought that people become awareness in the next two years after the pandemic. Television, social media, newspaper, etc. The frequent demonstration of disease prevention methods on written and visual platforms may have helped to increase people's awareness.

Although Covid-19 is a pandemic disease, there are effective methods to prevent its transmission. In this context, one of the ways to stop the spread of the disease is vaccination. This study determined that 91.9% of the participants had been vaccinated and the scale score averages and awareness of those who had vaccinated were high. In a study conducted with university students reported that students' knowledge and beliefs about Covid-19 affect vaccination rates.

Conclusion: This study demonstrates that awareness of Covid-19 is moderate among young adolescents. Increasing awareness in this demographic improves preventive health behaviors and influences risk perception regarding the disease. Guided by Bandura's social cognitive theory, which emphasizes the role of observational learning, self-efficacy, and social influence on behavior, our research highlights several key insights and suggestions:

Targeted Educational Interventions: Young adolescents should be targeted with information on self-protective measures against Covid-19. These interventions should leverage social cognitive principles by incorporating modeling of positive health behaviors and enhancing adolescents' belief in their ability to effectively implement these behaviors.

Role of Health Professionals: Health professionals, including pediatric nurses, play a crucial role in disseminating accurate, scientific, and evidence-based information. By actively engaging with young adolescents and their caregivers, health professionals can counteract misinformation and reduce negative perceptions associated with pandemics.

Future Research Directions: There is a need for more extensive studies involving larger sample sizes to better understand the factors influencing Covid-19 awareness among young adolescents. Utilizing in-depth interview methods can provide richer data on the cognitive and social factors that shape awareness and behavior. These studies should focus on identifying effective strategies for enhancing self-efficacy and leveraging social influences to promote health-protective behaviors.

In summary, our findings underscore the importance of informed, theory-driven interventions in improving Covid-19

awareness and preventive behaviors among young adolescents.

Limitations: While this study offers valuable insights that can significantly contribute to the literature, several limitations must be acknowledged.

Firstly, the research employed a descriptive-cross-sectional design, which limits the ability to infer causality between variables. Cross-sectional studies, by nature, only capture a single point in time, making it impossible to determine temporal sequences or causal relationships (Levin, 2006). Future studies employing longitudinal or experimental designs are recommended to establish causality and enhance the generalizability of findings.

Secondly, the sample was comprised exclusively of young adolescents from a state university in eastern Turkey. This specific demographic and geographical focus restrict the generalizability of the results to broader populations. Prior research has emphasized that sociodemographic and cultural factors can significantly influence study outcomes (Nair & Adetayo, 2019). Therefore, further research should aim to include more diverse populations across different regions and educational settings to enhance the external validity of the findings.

Despite these limitations, the use of structural equation modeling (SEM) in this study is a notable strength. SEM is a robust statistical technique that allows for the examination of complex relationships among variables and the testing of theoretical models (Kline, 2016). This methodological approach has not been widely applied in similar studies to date, providing a unique contribution to the field by enabling a more comprehensive understanding of the data.

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