

Determining the stigmatisation and discrimination tendency of university students about HIV/AIDS in health-related departments

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Abstract

This study was planned to determine the stigmatisation and discrimination tendencies of university students studying in health-related departments regarding Human immunodeficiency virus/ acquired immune deficiency syndrom (HIV/AIDS). This research was carried out with the participation of 221 students studying at the Vocational School of Health Services and Faculty of Health Sciences of a university between 17.05.2021 and 24.05.2021 and willing to participate in the research. In the study, data were collected using a 36-item questionnaire, which determines students' sociodemographic characteristics, knowledge and attitudes towards HIV/AIDS, and AIDS Knowledge Scale and AIDS Attitude Scale. Percentage calculation, Kolmogorov–Smirnov, Pearson's correlation coefficient, t-test, analysis of variance, Tukey's test and Cronbach's alpha coefficient were used to evaluate the data. It was observed that the AIDS Knowledge and AIDS Attitude Scale scores differed according to some characteristics of the students ($p < 0.05$).

Keywords: AIDS, discrimination, HIV, stigmatisation.

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Introduction

Human immunodeficiency virus (HIV) and acquired immune deficiency syndrome (AIDS) is an important health problem that affects the whole society in terms of its complications and risk of transmission [11]. The perception that HIV/AIDS was seen mostly in homosexuals when it appeared first caused these individuals to be stigmatised.

Stigmatisation is an experience added to individuals in addition to the disease and it causes social isolation, more limited life chances and delayed help-seeking behaviour in patients. In Turkey and in the world, prejudice against the disease, fear, stigmatisation and discrimination are common along with HIV/AIDS prevalence. HIV/AIDS affects individuals not only with the negative physiological consequences it causes, but also through prejudice, discrimination and negative moral judgments about individual's sexual preferences and creates emotional, behavioural and psychosocial effects in individuals [1], [4]. Stigmatisation and discrimination that develop due to HIV/AIDS can result in loss of role status, impaired personal communication and interaction, workplace isolation and social isolation for the individual. Having insufficient or incorrect information about HIV/AIDS, transmission ways of the disease and perceiving the disease as a terminal disease may increase the severity of stigmatisation. It is also reported that prejudice and stigmatisation about HIV/AIDS affects individuals' receiving healthcare service, prevents individuals from reporting the disease and the social fear that results increase the prevalence of the disease [5].

Studies have shown that HIV/AIDS is one of the most stigmatised disease groups in the healthcare delivery system. Studies conducted in the field of health show that the process that starts with non-compliance to care and treatment results in rejection of treatment [8], [7]. Feelings of guilt and shame that occur in individuals due to stigmatisation lead to negative individual and social consequences by getting ahead of the treatment.

Individuals who refer to the healthcare delivery system for treatment interact with healthcare professionals at every stage. For this reason, it is very important to find out the stigmatisation and discrimination tendencies towards HIV/AIDS in students studying at departments related to health and to determine the necessary strategies in terms of the fact that the disease affects social consequences with its care and treatment. Therefore, in order to find out students' stigmatisation and discrimination tendencies towards HIV/AIDS and to develop appropriate strategies in line with the results obtained, there is a need for researches which show the differences between student groups who are studying at faculties, colleges and vocational schools of health services providing education in the field of health and also the results and information obtained from these studies. It is thought that the results obtained from the present study will be useful in developing educational activities and strategies to prevent stigmatisation, while preparing associate and undergraduate education curricula and the content of departments and programmes.

1.1. Objective of the study

This study was planned as a descriptive and cross-sectional study to find out the HIV/AIDS-related stigmatisation and discrimination tendencies of students studying at departments related to health in the Vocational School of Health Services and Faculty of Health Sciences of a university. Answers were sought to the following questions:

- What are the HIV/AIDS-related stigmatisation and discrimination tendencies of students studying in departments related with health?
- What are the sociodemographic characteristics affecting HIV/AIDS-related information and attitudes of students?

2. Material and Methods

2.1. Place and time of the research

This descriptive, correlational and cross-sectional study was carried out between 17.05.2021 and 24.05.2021 with the participation of university students studying at the Vocational School of Health Services and Faculty of Health Sciences of a university.

2.2. Population and sample of the research

The study was conducted with the participation of 221 students who were in their fourth year at nursing and midwifery departments in the Faculty of Health Sciences of a university and in the second year at first and emergency aid, anaesthesia and medical imaging techniques programmes in the Vocational School of Health Services of the same university within the related dates. Students who volunteered to participate were included in the study. The dependent variable of the study was students' HIV/AIDS-related stigmatisation and discrimination tendencies. The independent variables of the study were students' sociodemographic characteristics.

2.3. Data collection tools

In the study, the data were collected by using a student information form including 36 questions, AIDS Information Scale and AIDS Attitude Scale. The student information form was developed by the researcher by reviewing the related literature. The form included a total of 36 questions about students' sociodemographic (age, gender, school, department, parents' educational status and occupation, marital status, socioeconomic status, family type, place of residence, the state of having any health problems) characteristics and HIV/AIDS-related characteristics (the state of having sufficient information about sexually transmitting diseases, the state of knowing individuals diagnosed with HIV/AIDS, the state of knowing the ways HIV/AIDS transmits and the ways to protect from HIV/AIDS, where individuals got the information about HIV/AIDS, the state of stigmatising and reasons for stigmatising individuals with HIV/AIDS, the state of being uneasy about HIV/AIDS diagnosed individuals around and the factor/s that affect HIV/AIDS-related stigmatisation tendencies of students).

2.3.1. AIDS Knowledge Scale

The AIDS Knowledge Scale was developed by Aydemir et al. [2]. The scale has 21 items and 3 factors as ways of transmission (7 items, e.g., eating from the same plate with the AIDS patient can transmit the disease), general knowledge and protection (9 items, e.g., monogamy helps to protect from AIDS) and treatment (5 items, e.g., AIDS has a vaccine). Response options are evaluated within the range of 0–1 as 'correct', 'undecided' and 'incorrect'. The responses are scored as 'Correct (1)', 'Incorrect (0)' and 'Undecided (0)'. In the scale, items 4, 5, 7, 9, 10, 12, 13, 14, 15, 16, 17 and 19 are reversely coded. High scores from the scale show high AIDS knowledge level.

2.3.2. AIDS Attitude Scale

The AIDS Attitude Scale was developed by Aydemir et al. [2]. This scale consists of 17 items and 2 factors as negative attitude towards people with AIDS (12 items, e.g., I would object to my child's marrying an AIDS patient) and stigma towards people with AIDS (5 items, e.g., being an AIDS patient is something to be ashamed of). The scale is a 5-point Likert scale, response options of which are evaluated within 1–5. The responses are scored as 'Strongly agree (5)', 'Agree (4)', 'No idea (3)', 'Disagree (2)' and 'Strongly disagree (1)'. The items 1, 4, 5, 6, 7, 8, 9, 12, 13, 15, 16 and 17 are reversely coded. A high score from this test shows positive attitude.

2.4. Data collection

The ethical standards of the Declaration of Helsinki were followed in this study. Permission to use AIDS Knowledge and AIDS Attitude Scales used in the study was obtained through email. The data were collected from the students by the researcher during their practice trainings and informed consent was taken from the students. After all the students who participated in the study were informed about the study, they were given the information form and AIDS Knowledge and AIDS Attitude Scales. The students were explained that they would make the decision to participate in the study, their names would not be written on the survey form and the data collected from this study would be used only within the scope of the study. The data collection process was completed in about a week.

2.5. Data analysis

Statistical analysis of the data collected from the students included in the study was made by using SPSS 26 package programme in computer environment. One-way analysis of variance (ANOVA), *t*-test and Tukey's test were used in the analysis of data that were normally distributed. The results were presented as frequency, percentage, mean and standard deviation. Level of significance was considered as $p < 0.05$.

3. Results

A total of 221 students participated in this study. It was found that 72.4% of the students were female, 27.6% were male, 58.4% were students at the Faculty of Health Sciences, 31.7% were nursing students, 57.9% were in their fourth year, 41.2% were Anatolian High School students, mothers of 28.5% were primary school graduates, fathers of 27.6% were high school graduates, mothers of 68.8% were housewives, fathers of 23.1% were retired, 66.1% had nuclear family, 40.3% had democratic family structure, 41.6% had lived in a city the longest, 60.2% were currently staying in a dormitory, 48.9% had income equal to expense, 91.0% did not have any health problems and mean age was found as 21.7 ± 1.8 years (Table 1).

Table 1. Distributions by demographic characteristics (N = 221)

| Characteristic | n | % |
|--|-----|------|
| Age (Mean \pm S.D = 21.72 \pm 1.839) | | |
| 19-21 years | 111 | 50.2 |
| 22 years and older | 110 | 49.8 |
| Gender | | |
| Female | 160 | 72.4 |
| Male | 61 | 27.6 |
| Marital status | | |
| Single | 218 | 98.6 |
| Married | 3 | 1.4 |
| Attended school | | |
| Vocational School of Health Services | 92 | 41.6 |
| Faculty of Health Sciences | 129 | 58.4 |
| Department | | |
| First and emergency aid | 34 | 15.4 |
| Anaesthesia | 37 | 16.7 |
| Medical imaging | 21 | 9.5 |
| Nursing | 70 | 31.7 |
| Midwifery | 59 | 26.7 |
| Grade level | | |

| | | |
|--|-----|------|
| First class | 1 | 0.5 |
| Second class | 92 | 41.6 |
| Fourth class | 128 | 57.9 |
| Graduated high school | | |
| Science High School | 5 | 2.3 |
| Anatolian High School | 91 | 41.2 |
| Multi-programming Anatolian High School | 27 | 12.2 |
| Social Science High School | 2 | 0.9 |
| Vocational and Technical Anatolian High School | 75 | 33.9 |
| Anatolian Imam Hatip High School | 1 | 0.5 |
| Foreign Language Intensive High School | 12 | 5.4 |
| Normal High School | 8 | 3.6 |
| Mother Education Level | | |
| Illiterate | 33 | 14.9 |
| Literate | 18 | 8.1 |
| Primary School | 63 | 28.5 |
| Secondary School | 50 | 22.6 |
| High School | 48 | 21.7 |
| University | 9 | 4.1 |
| Mother's Profession | | |
| Housewife | 152 | 68.8 |
| Government employee | 17 | 7.7 |
| Retired | 27 | 12.2 |
| Worker | 13 | 5.9 |
| Farmer | 8 | 3.6 |
| Deceased | 4 | 1.8 |
| Father's profession | | |
| Government employee | 49 | 22.2 |
| Worker | 37 | 16.7 |
| Farmer | 25 | 11.3 |
| Self-employment | 48 | 21.7 |
| Unemployed | 5 | 2.3 |
| Deceased | 6 | 2.7 |
| Family type | | |
| Extended family | 75 | 33.9 |
| Nuclear type | 146 | 66.1 |
| Family structure | | |
| Democratic family | 89 | 40.3 |
| Oppressive and authoritarian family | 23 | 10.4 |
| Overprotective family | 57 | 25.8 |
| Extremely indulgent family | 37 | 16.7 |
| Perfectionist family | 4 | 1.8 |
| Unrelated family | 7 | 3.2 |
| Inconsistent family | 4 | 1.8 |
| Longest lived place | | |
| Province | 92 | 41.6 |
| District | 83 | 37.6 |
| Village | 46 | 20.8 |
| Family incomes status | | |
| Income less than expenses | 75 | 33.9 |

| | | |
|--------------------------------------|-----|------|
| Income equal to expense | 108 | 48.9 |
| Income more than expenses | 38 | 17.2 |
| Current place staying | | |
| At home with family | 32 | 14.5 |
| Alone at home | 27 | 12.2 |
| At home with friends | 27 | 12.2 |
| Next to relatives | 2 | 0.9 |
| Dormitory | 133 | 60.2 |
| The state of having a health problem | | |
| Yes | 20 | 9.0 |
| No | 201 | 91.0 |
| Health problems | | |
| Rhythm disorder | 4 | 25.0 |
| Renal cyst | 1 | 6.3 |
| Hashimoto's thyroiditis | 4 | 25.0 |
| Irreversible bowel syndrome | 1 | 6.3 |
| Asthma | 3 | 18.8 |
| Migraine with aura | 2 | 12.5 |
| Chronic renal failure | 1 | 6.3 |

^a: In this question, four people who stated that they had a health problem did not specify the details of the health problem.

It was found that 78.3% of the students did not have any contagious disease, 91.0% did not know anyone with a sexually transmitted disease, 92.8% did not have any sexually transmitted disease in the family, none of the students had sexually transmitted diseases, 81.9% had sufficient knowledge to protect from sexually transmitted diseases, 55.2% had been vaccinated to protect from sexually transmitted diseases, 88.7% did not know anyone diagnosed with HIV/AIDS, 94.1% knew about the ways HIV/AIDS transmitted, 91.0% knew about the ways to protect from HIV/AIDS, education was the source of knowledge for 49.7%, 78.7% did not show stigmatising behaviours towards individuals with HIV/AIDS, 63.8% thought the reason for showing stigmatising attitudes was social prejudices, 63.3% felt uneasy about having HIV/AIDS diagnosed individuals around and 74.7% thought individuals with HIV/AIDS were stigmatised (Table 2).

Table 2. Distribution of characteristics of sexually transmitted diseases

| Characteristics | n | % |
|---|-----|-------|
| Previously contagious disease | | |
| Yes | 48 | 21.7 |
| No | 173 | 78.3 |
| Having a sexually transmitted disease around | | |
| Yes | 20 | 9.0 |
| No | 201 | 91.0 |
| Having a sexually transmitted disease in the family | | |
| Yes | 16 | 7.2 |
| No | 205 | 92.8 |
| Having a sexually transmitted disease | | |
| Yes | 0 | 0 |
| No | 221 | 100.0 |
| Sufficient information to prevent sexually transmitted diseases | | |
| Yes | 181 | 81.9 |
| No | 40 | 18.1 |
| Vaccination for protection from sexually transmitted diseases | | |
| Yes | 122 | 55.2 |

| | | |
|--|-----|-------|
| No | 99 | 44.8 |
| Vaccine made (<i>n</i> = 122) | | |
| Hepatit B Asisi | 122 | 100.0 |
| Being an individual diagnosed with HIV/AIDS | | |
| Yes | 25 | 11.3 |
| No | 196 | 88.7 |
| Knowing the transmission ways of HIV/AIDS | | |
| Yes | 208 | 94.1 |
| Knowing HIV/AIDS prevention methods | | |
| Yes | 201 | 91.0 |
| No | 20 | 9.0 |
| Source for information on HIV/AIDS | | |
| Family | 19 | 8.6 |
| Friends | 3 | 1.4 |
| Health personnel | 39 | 17.6 |
| Education | 109 | 49.3 |
| Congress/ Symposium | 19 | 8.6 |
| Media | 7 | 3.2 |
| Social media | 25 | 11.3 |
| Exhibiting stigmatising and discriminatory attitudes to individuals with HIV/AIDS | | |
| Yes | 47 | 21.3 |
| No | 174 | 78.7 |
| ^a Reason for exhibiting stigmatising and discriminatory attitude (<i>n</i> = 47) | | |
| Having inaccurate or insufficient information about HIV/AIDS | 9 | 19.1 |
| Not knowing the ways to prevent HIV/AIDS | 14 | 29.8 |
| Not knowing the transmission ways of HIV/AIDS | 17 | 36.2 |
| Seeing HIV/AIDS as a deadly disease | 25 | 53.2 |
| Personal prejudices | 26 | 55.3 |
| Social prejudices | 30 | 63.8 |
| Family upbringing | 26 | 55.3 |
| Cultural values | 21 | 44.7 |
| Media | 1 | 2.1 |
| Anxiety about having people diagnosed with HIV(+)/AIDS | | |
| Yes | 140 | 63.3 |
| No | 81 | 36.7 |
| ^a Cause of concern (<i>n</i> = 140) | | |
| Having inaccurate or insufficient information about HIV/AIDS | 16 | 11.4 |
| Not knowing the ways to prevent HIV/AIDS | 18 | 12.9 |
| Not knowing the transmission ways of HIV/AIDS | 20 | 14.3 |
| Seeing HIV/AIDS as a deadly disease | 43 | 30.7 |
| Personal prejudices | 54 | 38.6 |
| Social prejudices | 34 | 24.3 |
| Family upbringing | 30 | 21.4 |
| Cultural values | 39 | 27.9 |
| Media | 13 | 9.3 |
| Social media | 9 | 6.4 |
| Thinking that individuals with HIV(+)/AIDS are stigmatised | | |
| Yes | 165 | 74.7 |
| No | 56 | 25.3 |
| ^a The reason for stigmatisation of individuals with HIV(+)/AIDS (<i>n</i> = 165) | | |

| | | |
|--|-----|------|
| Having inaccurate or insufficient information about HIV/AIDS | 109 | 66.1 |
| Not knowing the ways to prevent HIV/AIDS | 70 | 42.4 |
| Not knowing the transmission ways of HIV/AIDS | 59 | 35.8 |
| Seeing HIV/AIDS as a deadly disease | 84 | 50.9 |
| Personal prejudices | 72 | 43.6 |
| Social prejudices | 72 | 43.6 |
| Family upbringing | 39 | 23.6 |
| Cultural values | 62 | 37.6 |
| Media | 14 | 8.5 |
| Social media | 33 | 20.0 |

^aIn these questions, the participants were able to mark more than one option.

In the study, the AIDS Knowledge Scale mean score of students was found as 11.4 ± 3.4 , while their transmission factor mean score was 2.5 ± 2.1 , their protection factor mean score was 6.4 ± 1.7 and their treatment factor mean score was 2.3 ± 1.5 . The AIDS Attitude Scale mean score of students was found as 55.3 ± 10.4 , while their negative attitude factor mean score was 36.1 ± 8.5 and their stigma factor mean score was 19.1 ± 4.2 (Table 3). Significant positive correlation ($r = 0.230$) was found between AIDS Knowledge Scale and AIDS Attitude Scale scores in our study (Table 4). This result shows that students with high AIDS knowledge level have more positive attitude towards AIDS.

Table 3. Descriptive statistics for AIDS Knowledge Scale and AIDS Attitude Scale

| | Mean | S.D | Minutes | Max |
|----------------------|-------|--------|---------|-----|
| AIDS Knowledge Scale | 11.40 | 3.401 | 5 | 19 |
| Infection | 2.52 | 2.125 | 0 | 7 |
| Protection | 6.49 | 1.723 | 2 | 9 |
| Treatment | 2.38 | 1.538 | 0 | 5 |
| AIDS Attitude Scale | 55.34 | 10.464 | 25 | 80 |
| Negative attitude | 36.19 | 8.550 | 12 | 56 |
| Stigma | 19.14 | 4.217 | 11 | 25 |

Table 4. Examining the relationships between AIDS Knowledge Scale and AIDS Attitude Scale scores

| | AIDS Attitude Scale | |
|----------------------|---------------------|---------|
| AIDS Knowledge Scale | <i>r</i> | 0.230 |
| | <i>p</i> | 0.001** |

r: Pearson's Correlation Coefficient.

***: $p < 0.001$.

It was found that scale scores differed in terms of some characteristics of students; it was also found that students whose mothers' education level was literate ($F = 3.472, p = 0.005$) and those whose fathers' education level was literate ($F = 5.517, p < 0.001$) had higher AIDS Knowledge Scale total score, while students whose mothers' education level was secondary education ($F = 4.975, p < 0.001$) and those whose fathers' education level was secondary education ($F = 5.258, p < 0.001$) had higher AIDS Attitude Scale total score (Table 5).

Table 5. Examination of the differences in scale scores by demographic characteristic

| | AIDS knowledge mean \pm S.D. | AIDS attitude mean \pm S.D. |
|--------------------|--------------------------------|-------------------------------|
| Age | | |
| 19-21 years | 11.30 \pm 3.243 | 55.12 \pm 11.818 |
| 22 years and older | 11.50 \pm 3.565 | 55.56 \pm 8.941 |
| <i>t;p</i> | -0.442;0.659 | -0.317;0.752 |

| | | |
|--|------------------|-------------------|
| Gender | | |
| Female | 11.26 ± 3.322 | 56.69 ± 10.277 |
| Male | 11.77 ± 3.603 | 51.80 ± 10.198 |
| <i>t;p</i> | -1.005;0.316 | 3.165;0.002** |
| Attended school | | |
| Vocational School of Health Services | 12.19 ± 3.505 | 54.21 ± 9.727 |
| Faculty of Health Sciences | 10.84 ± 3.223 | 56.15 ± 10.925 |
| <i>t;p</i> | 2.954;0.003** | -1.362;0.175 |
| Department | | |
| First and emergency aid | 12.29 ± 3.580 | 53.68 ± 9.741 |
| Anaesthesia | 12.41 ± 3.419 | 55.41 ± 9.864 |
| Medical Imaging | 11.62 ± 3.640 | 52.95 ± 9.693 |
| Nursing | 11.19 ± 3.355 | 55.76 ± 10.851 |
| Midwifery | 10.42 ± 3.035 | 56.61 ± 11.086 |
| <i>F;p</i> | 2.790;0.027* | 0.730;0.572 |
| | Difference:2-5 | |
| Grade level | | |
| Second class | 12.19 ± 3.505 | 54.21 ± 9.727 |
| Fourth class | 10.85 ± 3.231 | 56.09 ± 10.945 |
| <i>t;p</i> | 2.913;0.004** | -1.315;0.190 |
| Graduated high school | | |
| Anatolian High School | 11.59 ± 3.748 | 55.55 ± 10.136 |
| Multi-programming Anatolian High School | 11.74 ± 3.369 | 54.04 ± 8.074 |
| Vocational and Technical Anatolian High School | 11.28 ± 3.074 | 55.87 ± 12.109 |
| Foreign Language Intensive High School | 11.92 ± 2.746 | 54.92 ± 2.875 |
| Other High Schools | 9.88 ± 3.222 | 54.19 ± 11.862 |
| <i>F;p</i> | 1.039;0.388 | 0.212;0.932 |
| Mother education level | | |
| Illiterate | 11.67 ± 3.603 | 49.64 ± 7.940 |
| Literate | 12.56 ± 4.133 | 54.67 ± 7.113 |
| Primary School | 12.30 ± 3.196 | 55.35 ± 8.952 |
| Secondary School | 11.12 ± 3.657 | 60.50 ± 12.179 |
| High School | 9.90 ± 2.692 | 54.60 ± 11.641 |
| University | 11.33 ± 1.581 | 52.78 ± 3.632 |
| <i>F;p</i> | 3.472;0.005** | 4.975;0.000*** |
| | Difference:5-2.3 | Difference:4-1.5 |
| Mother's profession | | |
| Housewife | 11.48 ± 3.441 | 54.82 ± 11.232 |
| Government employee | 11.18 ± 1.468 | 62.35 ± 7.416 |
| Retired | 11.33 ± 4.188 | 51.89 ± 7.261 |
| Worker | 12.08 ± 3.57 | 54.85 ± 5.886 |
| <i>F;p</i> | 0.190;0.903 | 3.730;0.012* |
| | | Difference: 2-1.3 |
| Father's education level | | |
| Illiterate | 8.50 ± 2.415 | 44.70 ± 9.178 |
| Literate | 14.05 ± 2.818 | 56.16 ± 2.410 |
| Primary school | 11.56 ± 3.692 | 52.67 ± 10.447 |
| Secondary school | 10.45 ± 3.123 | 60.20 ± 11.135 |
| High school | 11.20 ± 3.395 | 54.85 ± 7.563 |
| University | 12.18 ± 2.937 | 55.26 ± 13.212 |

| | | |
|-------------------------------------|---------------------------|-----------------------------|
| | 5.517;0.000*** | 5.258;0.000*** |
| <i>F;p</i> | Difference:1-6 2-1.4.5 | Difference:1-2.4,5,6 3-4 |
| Father's profession | | |
| Government employee | 10.65 ± 3.106 | 54.16 ± 11.428 |
| Retired | 11.24 ± 3.229 | 51.84 ± 9.201 |
| Worker | 12.30 ± 3.179 | 57.16 ± 7.493 |
| Farmer | 11.44 ± 3.686 | 56.72 ± 18.233 |
| Self employment | 11.06 ± 3.373 | 58.33 ± 5.948 |
| <i>F;p</i> | 1.405;0.234 | 2.987;0.020* |
| | | Difference:2-5 |
| Family type | | |
| Extended family | 10.91 ± 3.334 | 57.91 ± 12.151 |
| Nuclear type | 11.65 ± 3.419 | 54.02 ± 9.252 |
| <i>t;p</i> | -1.545;0.124 | 2.431;0.017* |
| Family structure | | |
| Democratic family | 11.02 ± 3.216 | 58.00 ± 10.745 |
| Oppressive and authoritarian family | 12.83 ± 3.550 | 57.52 ± 8.728 |
| Overprotective family | 11.88 ± 3.541 | 55.21 ± 7.780 |
| Extremely indulgent family | 10.60 ± 3.586 | 48.84 ± 11.531 |
| Other | 11.60 ± 2.613 | 52.73 ± 10.918 |
| <i>F;p</i> | 2.141;0.077 | 5.993;0.000*** |
| | | Difference:4-1.2,3 |
| Longest lived place | | |
| Province | 12.12 ± 3.109 | 55.87 ± 10.788 |
| District | 10.58 ± 3.520 | 56.33 ± 11.642 |
| Village | 11.44 ± 3.481 | 52.50 ± 6.507 |
| <i>F;p</i> | 4.631;0.011* | 2.204;0.113 |
| | Difference:1-2 | |
| Family incomes status | | |
| Income less than expenses | 11.24 ± 3.770 | 52.33 ± 9.090 |
| Income equal to expense | 11.44 ± 3.454 | 56.06 ± 9.550 |
| Income more than expenses | 11.58 ± 2.401 | 59.24 ± 13.661 |
| <i>F;p</i> | 0.144;0.866 | 6.271;0.002** |
| | | Difference:1-2.3 |

t: Independent sample *t*-test; *F*: One-way ANOVA; Difference: Tukey's Test.

*:*p* < 0.05; **:*p* < 0.01; ***:*p* < 0.001.

4. Discussion

In this study, which was conducted to find out HIV/AIDS-related stigmatisation and discrimination tendencies of students studying in health-related departments, it was found that students had a moderate level of AIDS Knowledge Scale and AIDS Attitude Scale scores. It was found that almost all of the students knew about HIV/AIDS transmission ways and the ways to protect from HIV/AIDS; it was found that the source of knowledge about HIV/AIDS was education with 49.3%, followed by healthcare professionals, social media, family, congress/symposium, press and friends and 78.7% did not show stigmatising and discriminative attitudes towards individuals with HIV/AIDS.

In parallel with the results of the study, in a study conducted by Kurt and Yilmaz [11] to find out the level and sources of knowledge about HIV/AIDS in students of a health school, it was found that almost all of the students (95.2%) had knowledge about HIV/AIDS and the source of knowledge was education received. In a study conducted by Kanal [10] to find out the level of knowledge and

attitudes towards AIDS and the related factors in university students, it was found that source of knowledge about HIV/AIDS was 'school' in 43.6% of the students, and the rate of being informed by 'healthcare professionals' (6.7%) was lower than our study. It is thought that the reason why the source of knowledge about HIV/AIDS differed in studies may be the fact that the faculties, departments and programmes of students included in the sample are different.

The AIDS Knowledge Scale mean score was found as 11.40 ± 3.40 and AIDS Attitude Scale mean score was found as 55.34 ± 10.46 . In parallel with the results of the study, in a study conducted with 619 students from different faculties of a university, AIDS Knowledge Scale mean score was found as 10.85 ± 4.58 and AIDS Attitude Scale mean score was found as 54.70 ± 11.45 [10]. Similarly, in a study conducted with 1,025 students studying in 5 different universities in İzmir, AIDS Knowledge Scale mean score was reported as 12.69 ± 4.10 , while AIDS Attitude Scale mean score was reported as 56.39 ± 11.73 [2]. When the study results are compared, it can be said that AIDS knowledge level of students is moderate in general and they have a moderate level of attitude towards individuals with AIDS.

In this study, it was found that AIDS Knowledge Scale and AIDS Attitude Scale total scores of students differed in terms of some sociodemographic characteristics of students and students studying in the Vocational School of Health Services; those whose parents were literate; those who had lived in a city the longest had high AIDS Knowledge Scale total score; while female students, those whose parents were secondary school graduates; those whose mothers were officers; those whose fathers were self-employed; those who had extended family; those who had democratic family structure; those who had high family income status; those who were staying in a dormitory currently; and those who had health problems had high AIDS Attitude Scale total scores.

In parallel with the results of the study, it was found that the place where individuals lived the longest, department/faculty and parents' level of education affected AIDS knowledge level, in Kanal's [10] study; the place where individuals lived the longest and family income status affected AIDS knowledge level in Gebremedhin et al. [9] study; and family income level affected AIDS knowledge level in Aydemir et al. [2] study. It was found that gender and the place where individuals lived the longest, in Kanal's [10] study, and gender, in Aydemir et al. [2] study, affected AIDS attitude level.

In a study conducted by Atas and Yildirim [3] to find out the HIV/AIDS-related knowledge level and attitudes of dentistry faculty students in two different universities, while university students were found to have low general knowledge level about HIV/AIDS, they showed negative attitude towards HIV/AIDS. Similarly, HIV/AIDS knowledge level was found to be low in Kurt and Yilmaz's [11] study. In a study conducted by Ceylan [6] with nursing students which examined the effects of education given according to peer education model on HIV/AIDS knowledge level and attitude, it was reported that pre-education AIDS Knowledge Scale and AIDS Attitude Scale mean score, which was moderate, increased after education. While HIV/AIDS-related knowledge level and attitudes of university students studying in health-related departments were found to differ in studies; it is thought that this might be due to students' individual, familial, social and cultural values, different faculties and years of study.

When the literature is reviewed, in studies conducted with students studying in health-related departments, similar to the results of our study, it can be seen that students' attitudes and behaviours are not different from the behaviours of the society, and sociodemographic, familial, social and cultural factors are effective about HIV/AIDS-related stigmatisation and discrimination. It is thought that developing empathy, skills and patient approach behaviours during professional practice to develop the awareness of students about HIV/AIDS-related stigmatisation and discrimination will have positive contribution on stigmatisation and discrimination tendency in the pre-graduation process [12].

5. Conclusion

In this study, it was found that students had a moderate level of AIDS Knowledge Scale and AIDS Attitude Scale scores. In line with the results found, it is recommended to organise repeated, comprehensive education facilities and target action plans to increase knowledge, skill and awareness of students in health-related departments about stigmatising individuals with HIV/AIDS. It is thought that increasing the number of scientific studies examining the HIV/AIDS-related stigmatisation and discrimination tendencies of students can enable them to participate in activities to prevent stigmatisation.

6. Limitations of the Research

It is difficult to make comparisons since data collection tools and sample groups are different in studies examining HIV/AIDS-related stigmatisation and discrimination tendencies of students studying in health-related departments. It was also difficult, in this study, to make comparisons with other studies in which universities were chosen as samples due to differences in the sample and different data collection tools. Due to the COVID-19 pandemic, the survey forms were given only to fourth-year students at nursing and midwifery departments in the Faculty of Health Sciences and to second-year students at first and emergency aid, anaesthesia and medical imaging techniques programmes in Vocational School of Health Services who were continuing face-to-face education. This is another limitation of the study.

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References

- [1] R. Acaroglu, "Knowledge and attitudes of mariners about AIDS in Turkey," *J. Assoc. Nurses AIDS Care*, vol. 18, no. 1, pp. 48--55, Jan./Feb. 2007, doi: 10.1016/j.jana.2006.11.007.
- [2] N. Aydemir, I. Yakin, and H. S. Arslan, "Developing AIDS knowledge and AIDS attitude scales and assessing their reliability and validity," *Stud. Psychol. Cilt*, vol. 38, no. 1, pp. 73--93, Jun. 2018, doi: 10.26650/SP409425.
- [3] O. Atas and T. T. Yildirim, "Comparison of Ataturk university faculty of dentistry students' knowledge level of AIDS about 20 years of awareness," *Turkiye Klinikleri J. Med. Ethics*, vol. 28, no. 1, pp. 10--18, 2020, doi: 10.5336/mdethic.2019-66367.
- [4] T. Babaoglu, G. Demir, and S. Bicer, "Assessment of the knowledge level of students of department of nursing about HIV/AIDS and attitudes toward it," *Bozok Med. J.*, vol. 8, no. 1, pp. 18--24, 2018. [Online]. Available: <https://dergipark.org.tr/en/pub/bozoktip/issue/36235/408241>
- [5] S. Bulduk, N. Esin, and N. Umut, "The levels of knowledge and sources of information on HIV/AIDS of university health science students," *Nursing Educ. Res. J.*, vol. 9, no. 3, pp. 47--52, 2012. [Online]. Available: https://jag.journalagent.com/kuhead/pdfs/KUHEAD_9_3_47_52.pdf
- [6] E. Ceylan, "Effect of peer education model on nursing students knowledge and attitude towards," Ph.D. dissertation, Fac. Health Sci., HIV/AIDS. Ankara Yildirim Beyazit Univ., Ankara, Turkey, 2020, doi: 10.1016/j.nedt.2021.104808.
- [7] O. Cam and D. A. Dagli, "Quilt, shame and internalized stigmatization in alcohol addicts," *J. Dependence*, vol. 18, no. 4, pp. 145--151, 2017. [Online]. Available: <https://dergipark.org.tr/tr/download/article-file/427277>
- [8] H. Deacon, "Towards a sustainable theory of health-related stigma: Lessons from the HIV/AIDS literature," *J. Community Appl. Soc. Psychol.*, vol. 16, no. 6, pp. 418--425, Nov. 2006, doi: 10.1002/casp.900.

Kaya, G. & Koc, Z. (2021). Determining the stigmatisation and discrimination tendency of university students about HIV/AIDS in health-related department. *New Trends and Issues Proceedings on Advances in Pure and Applied Sciences*. [Online]. 0(13), 022-034.

- [9] S. A. Gebremedhin, W. Youjie, and E. H. Tesfamariam, "Predictors of HIV/AIDS knowledge and attitude among young women of Nigeria and Democratic Republic of Congo: Cross-sectional study," *J. AIDS Clin. Res.*, vol. 8, no. 3, p. 677, 2017, doi: 10.4172/2155-6113.1000677.
- [10] H. E. S. Kanal, "Knowledge levels, attitudes towards AIDS and related factors of first grade students at some faculties of a university in Ankara," Ph.D. dissertation, Ankara Univ., Ankara, Turkey, 2020. [Online]. Available: <https://tez.yok.gov.tr/UlusalTezMerkezi/>
- [11] A. S. Kurt and S. Y. Dereli, "The levels of knowledge and sources of information on HIV/AIDS of university health science students," *J. Educ. Res. Nursing*, vol. 9, no. 3, pp. 47--52, 2012. [Online]. Available: <https://link.gale.com/apps/doc/A419764102/HRCA?u=anon~8c492714&sid=googleScholar&xid=ae4e36b2>
- [12] T. T. Ugurlu et al., "Psychological stigmatization tendency among medical school students: An example of a special study module," *J. DEU Med.*, vol. 34, no. 3, pp. 253--261, 2020, doi: 10.5505/deutfd.2020.86648.