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The effects of nursing students' approaches to team work on their attitudes towards patient safety

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Abstract

This study was conducted to find out the effects of nursing students' approaches to team work on their attitudes towards patient safety. The present study has a descriptive, correlational and cross-sectional design. The study was conducted with students studying in the nursing department at Health Sciences Faculty of a university between 22.04.2021 and 05.05.2021. A total of 212 students who volunteered to participate in the study were included in the study as a result of this. The data were collected by using 'Student Descriptive Information Form', 'Attitude Scale for Teamwork (ASTW)' and 'Questionnaire Form to Determine Nursing Students' Attitudes towards Patient Safety (QDAPS)' prepared by the researchers. Percentage calculation, Kruskal–Wallis test, Mann–Whitney *U* test, Spearman's correlational test and Cronbach's alpha coefficient were used to evaluate the data. It was found that 75% of the nursing students in the study were female, 25% were male, the settlement where 41% lived the most was province, 56.1% had received training about patient safety and 31.6% of those who had received training thought their training was sufficient. Of the students who had received clinical training, 17.5% faced medical errors during training, 33.6% of these students reported the cause of error as lack of communication, 15.9% thought medical errors resulted from careless work and excessive workload, 49.5% thought medical errors resulted from nurses and 70.3% were prone to teamwork. In the study, ASTW total mean score was found as 119.97 ± 12.6 . It was found that the 'leadership' subscale had the highest mean score (27.47 ± 3.37), while 'mutual support' subscale had the lowest mean score (17.48 ± 3.34). QDAPS total mean score of the students was found as 91.41 ± 5.09 . When the relationship between ASTW and QDAPS was examined, a statistically significant, positive and weak association was found (Spearman's *r*: 0.348; $p < 0.01$). No statistically significant difference was found between students' ASTW total mean scores and sociodemographic features ($p > 0.05$). However, total QDAPS mean scores of nursing students who were more prone to teamwork, those who loved their profession, those who had health problems and those who had received clinical training were statistically significant and high ($p < 0.05$). In the study, team work and patient safety attitude total mean scores of

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nursing students were found to be high. In addition, it was found that as mean scores of team work increased and attitudes towards patient safety became more positive. Inclusion of patient safety and team work training in the curriculum in preventing medical errors may contribute to ensuring patient safety.

Keywords: Nursing, nursing students, patient, patient safety, teamwork

1. Introduction

Patient safety is one of the most important indicators of qualified healthcare service. All the measures taken by healthcare institutions and the professionals working in these institutions in order to prevent the harm that individuals may be exposed to during the delivery of healthcare services are within the scope of patient safety [1]. Increasing complexity of healthcare services, changing health needs and rapid developments in health technology bring along risks for service providers and service recipients [2]. Despite efforts to prevent these risks, it is estimated that problems related with international patient safety are the third leading cause of death in developed countries and annually 10%–25% of hospitalised patients are exposed to preventable medical errors [3], [4].

Due to the multiplicity and diversity of their functions and since they are with patients all the time, nurses are frequently exposed to problems related with patient safety. Minimising medical errors that threaten patient safety and nurses' being able to protect themselves against laws seem to be possible only by knowing the sources and areas of error [5]. It is reported that medical errors in healthcare are caused by deficiencies in non-technical skills, such as communication and cooperation, which are important components of teamwork, rather than technical skills [6]. In this context, it can be said that effective teamwork and effective communication are important in maintaining patient care safely and creating a patient safety culture [7].

Increasing nursing students' awareness about patient safety culture and team work during their education will contribute to increasing the quality of care they provide after graduation and decreasing medical errors [8]. When the literature was reviewed, studies were found in which nursing students' attitudes towards team work and patient safety were examined. However, no studies were found which examined the effects of nursing students' approaches towards team work on patient safety in national and international literature.

1.1. Objective of the study

This study was conducted to find out the effects of nursing students' approaches to team work on their attitudes towards patient safety. In this study, answers to the following questions were sought:

- What are the sociodemographic characteristics of nursing students?
- What are the attitudes of nursing students towards team work and patient safety?
- What are the factors affecting teamwork and patient safety attitudes of nursing students?
- Is there a correlation between nursing students' approaches to teamwork and their attitudes towards patient safety?

2. Material and methods

2.1. Place and time of the research

This study has a descriptive, correlational and cross-sectional design. The study was conducted between 01.05.2021 and 01.06.2021 with the participation of students studying in the nursing department at the Faculty of Health Sciences of a university.

2.2. Population and sample research

The population of the study consists of 423 students studying in the nursing department at the Faculty of Health Sciences of a university. The sample was not chosen in the study and it was aimed to reach the whole population. The study was completed with 212 students who agreed to participate.

2.3. Tools of data collection

Three forms were used in the study as data collection tools.

2.3.1. Student sociodemographic information form

The form consists of 22 questions on students' sociodemographic characteristics (age, gender, marital status etc.) and their views on patient safety and teamwork.

2.3.2. Questionnaire form to determine patient safety attitudes of students (PSAQ)

The form was developed by the researchers in line with the literature to determine students' attitudes towards patient safety. It consists of 33 items where participants are expected to respond as 'Agree/Neutral/Disagree'.

2.3.3. Team steps–Teamwork Attitudes Questionnaire (T-TAQ)

The questionnaire was developed by Baker et al. [9]. Its Turkish validity and reliability study was conducted by Yardimci et al. [10]. This questionnaire has five subscales as team structure (6 items), leadership (6 items), situation monitoring (6 items), mutual support (5 items) and communication (5 items). The scale has 28 items. The items in the scale are in the form of a 5-point Likert scale. The minimum possible score from the questionnaire is 28, while the maximum possible score is 140. An increase in score indicates that the attitudes of the participants towards teamwork characteristics also increase. In the original scale, Cronbach's alpha reliability coefficients of the subscales (team structure, leadership, situation monitoring, mutual support and communication) were found as 0.70, 0.81, 0.83, 0.70 and 0.74, respectively, while in the Turkish adaptation study, Cronbach's alpha reliability coefficients of the subscales were found as 0.78, 0.89, 0.82, 0.70 and 0.79, respectively [10]. In the present study, Cronbach's alpha reliability coefficients of the subscales were found as 0.81, 0.88, 0.82, 0.52 and 0.79, respectively. In this study, Cronbach's alpha reliability coefficient of the Teamwork Attitude Scale was found to be 0.913, while Cronbach's alpha reliability coefficient of the sub-dimensions was found to be 0.80, 0.88, 0.82, 0.52 and 0.79, respectively.

2.4. Data collection

The form and questionnaires were applied to the students after ethics committee and institution permission was obtained.

2.5. Data analysis

The data obtained in the study were analysed with Statistical Package for the Social Sciences 21 programme. Frequency, percentage, arithmetic mean and standard deviation were used in data assessment. Normality distribution of the data was tested with Kolmogorov–Smirnov test and non-parametric tests were used since significance values were lower than 0.05. Of the non-parametric tests, Mann–Whitney *U* test was used in the comparison of two independent samples, while Kruskal–Wallis test was used in the comparison of more than two independent groups and Spearman's correlation coefficients were used for correlation analyses.

3. Results

A total of 212 students participated in the study. Mean age of the students was 21.17 ± 2.09 years. In the study, it was found that 75% of the nursing students were female and 25% were male, 98.6% were single, 42.5% were fourth-year students, the settlement unit where 41% had lived the longest was a city, 62.7% were living with their families, 71.7% loved their profession, 83% chose their profession willingly, 12.7% wanted to quit their profession and 95.8% did not have any health problems (Table 1).

In the study, it was found that 66.5% of the students considered themselves self-sufficient about patient safety, 56.1% had received training on patient safety, 31.6% of those who had received training thought this training was sufficient, 17.5% of the students who received clinical training encountered medical errors during training, 33.7% of these students reported the cause of error as lack of communication, 15.9% of the students thought medical errors occurred due to careless work and too much workload, 49.5% thought they occurred due to nurses and 70.3% of the students were prone to teamwork (Table 1).

Table 1. Distribution of sociodemographic and professional characteristics of nursing students (N = 212)

	Mean \pm SD	Range
Age	21.169 \pm 2.094	18–31
Characteristics	<i>n</i>	%
Gender		
Female	159	75
Male	53	25
Marital status		
Married	3	1.4
Single	209	98.6
Year of study		
First year	67	31.6
Second year	32	15.1
Third year	23	10.8
Fourth year	90	42.5
The settlement unit where you lived the longest		
City	87	41
Town	73	34.4
Village	52	24.5
Place of residence		
With my family in a house	133	62.7
Alone in a house	9	4.2
With friends in a house	15	7.1
With a relative	3	1.4
In state dormitory	52	24.5
The state of loving the profession		
Yes	152	71.7
Neutral	53	25
No	7	3.3
The state of considering to change the profession		
Yes	27	12.7
No	185	87.3
The state of choosing the profession willingly		
Yes	176	83
No	36	17

The state of having health problem		
Yes	9	4.2
No	203	95.8
The state of having received training on patient safety		
Yes	119	56.1
No	93	43.9
The state of considering the training received sufficient in those who have received training on patient safety		
Yes	67	31.6
No	52	24.5
The level of considering self-sufficient about patient safety		
Sufficient	38	17.9
Partly sufficient	141	66.5
Insufficient	33	15.6
The state of having received clinical practice training		
Yes	116	54.7
No	96	45.3
The state of having witnessed any event to threaten patient safety in those who have received clinical practice training		
Yes	37	17.5
No	81	38.2
The occupational group with the most medical errors		
Physicians	63	29.7
Nurses	105	49.5
Midwives	5	2.4
All healthcare professionals	25	11.8
Other	14	6.6
The state of considering teamwork important		
Yes	211	99.5
No	1	0.5
The state of being prone to working individually or as a team		
Individually	63	29.7
As a team	149	70.3

In the study, the mean score of the questionnaire form developed to determine patient safety attitudes of students was found as 91.41 ± 5.09 , while the mean score of T-TAQ was found as 119.97 ± 12.6 . When the subscales' mean scores were examined, mean score of 'team structure' subscale was found as 25.72 ± 3.64 , mean score of 'leadership' subscale was found as 27.47 ± 3.37 , mean score of 'situation monitoring' subscale was found as 27.12 ± 2.90 , mean score of 'mutual support' subscale was found as 17.48 ± 3.34 and mean score of 'communication' subscale was found as 22.17 ± 2.76 (Table 2).

Table 2. Total and subscale mean scores and median scores of PSAQ of students and T-TAQ (N = 212)

Questionnaires and subscales	N	Min	Max	Mean \pm SD
Team structure subscale score	212	10	30	25.722 ± 3.642
Leadership subscale score	212	12	30	27.476 ± 3.373
Situation monitoring subscale score	212	12	30	27.123 ± 2.899
Mutual support subscale score	212	11	25	17.481 ± 3.337

Communication subscale score	212	10	25	22.170 ± 2.762
TAQ total score	212	63	140	119.972 ± 12.624
PSAQ of students total score	212	53	104	91.410 ± 5.095

Min: Minimum; Max: Maximum; SD: Standard deviation.

In the study, no significant difference was found between mean T-TAQ total score and students' sociodemographic characteristics ($p > 0.05$). However, mean PSAQ total scores of the nursing students who were more prone to teamwork ($U = 3,775.500$, $p = 0.024$), those who loved their profession ($X^2 = 9.969$, $p = 0.007$), those who had health problems (529.000 , $p = 0.032$) and those who had received clinical training ($U = 4,422.000$, $p = 0.010$) were found to be statistically significant and high ($p < 0.05$) (Table 3).

Table 3. Comparison of nursing students' sociodemographic and professional characteristics with their PSAQ and T-TAQ and subscales mean scores

	Team structure	Leadership	Situation monitoring	Mutual support	Communication	TAQ	PSAQ of students
Gender							
Female	25.78 ± 3.543	27.73 ± 3.222	27.309 ± 2.86	17.258 ± 3.213	22.46 ± 2.76	120.535 ± 12.166	91.642 ± 4.672
Male	25.548 ± 3.955	26.717 ± 3.723	26.567 ± 2.972	18.151 ± 3.635	21.302 ± 2.607	118.284 ± 13.896	90.717 ± 6.194
Mann-Whitney U	4,132.500	3,616.500	3,601.500	3,566.500	3,011.500	3,842.000	4,001.500
p	0.833	0.108	0.108	0.092	0.002*	0.337	0.581
Marital status							
Married	21.334 ± 0.578	25 ± 3	25.667 ± 2.517	15.334 ± 1.528	21 ± 2	108.334 ± 5.86	86.667 ± 6.659
Single	25.785 ± 3.63	27.512 ± 3.372	27.144 ± 2.904	17.512 ± 3.348	22.187 ± 2.772	120.139 ± 12.624	91.479 ± 5.058
Mann-Whitney U	63.500	141.000	191.000	183.500	198.500	123.000	125.000
p	0.017*	0.089	0.238	0.215	0.269	0.071	0.072
Year of study							
First year	25.388 ± 3.433	27.418 ± 3.394	27.463 ± 2.765	17.731 ± 3.264	22.254 ± 2.83	120.254 ± 12.013	90.642 ± 4.447
Second year	26.375 ± 2.791	28.594 ± 1.881	27.344 ± 2.548	17.938 ± 3.282	22.594 ± 2.241	122.844 ± 9.719	91.219 ± 5.363
Third year	26.478 ± 3.102	28 ± 2.923	27.652 ± 2.902	16.913 ± 2.729	22.522 ± 2.428	121.565 ± 11.184	91.87 ± 5.595
Fourth year	25.544 ± 4.147	26.989 ± 3.785	26.656 ± 3.084	17.278 ± 3.557	21.867 ± 2.957	118.333 ± 14.163	91.933 ± 5.323
Kruskal-Wallis	2.362	5.179	3.989	2.342	1.946	2.097	5.749
p	0.501	0.159	0.263	0.504	0.584	0.553	0.124
The settlement unit where you lived the longest							
City	25.771 ±	27.564 ±	27.046 ±	17.61 ±	22.023 ± 2.637	120.012 ±	91.242 ±

	3.527	3.309	2.812	3.552		12.706	6.301
Town	25.795 ± 3.986	27.261 ± 3.567	27.11 ± 3.2	17.411 ± 3.383	22.274 ± 3.043	119.85 ± 13.936	92.302 ± 3.651
Village	25.539 ± 3.381	27.635 ± 3.249	27.27 ± 2.636	17.366 ± 2.931	22.27 ± 2.591	120.077 ± 10.628	90.443 ± 4.417
Kruskal–Wallis	0.635	0.201	0.243	0.028	1.232	0.370	5.382
<i>p</i>	0.728	0.904	0.886	0.986	0.540	0.831	0.068

Place of residence							
With my family in a house	26.083 ± 3.29	27.873 ± 2.948	27.504 ± 2.685	17.692 ± 3.237	22.331 ± 2.531	121.482 ± 11.16	91.166 ± 4.793
Alone in a house	26.556 ± 2.789	26.889 ± 2.421	26 ± 2.45	16.778 ± 4.494	22 ± 2.237	118.223 ± 10.023	93.112 ± 3.06
With friends in a house	25.8 ± 5.227	27.334 ± 4.609	27.334 ± 3.288	19.067 ± 4.543	22.134 ± 3.796	121.667 ± 18.886	87.934 ± 10.396
With a relative	24.334 ± 0.578	29.667 ± 0.578	29.667 ± 0.578	16.667 ± 2.082	24.334 ± 1.155	124.667 ± 1.528	93.667 ± 2.082
In a state dormitory	24.712 ± 4.065	26.481 ± 4.008	26.135 ± 3.194	16.654 ± 2.876	21.674 ± 3.098	115.654 ± 13.986	92.616 ± 3.261
Kruskal–Wallis	5.991	7.404	14.653	6.058	4.761	8.082	6.503
<i>p</i>	0.200	0.116	0.005*	0.195	0.313	0.089	0.165
The state of loving the profession							
Yes	25.685 ± 3.435	27.579 ± 3.07	27.224 ± 2.562	17.125 ± 3.268	22.283 ± 2.698	119.895 ± 11.457	91.593 ± 5.597
Neutral	25.944 ± 4.186	27.208 ± 4.083	27 ± 3.47	18.491 ± 3.372	22.114 ± 2.881	120.755 ± 15.138	91.34 ± 3.403
No	24.858 ± 4.06	27.286 ± 4.192	25.858 ± 4.88	17.572 ± 3.458	20.143 ± 2.854	115.715 ± 16.978	88 ± 3.163
Kruskal–Wallis	1.435	0.077	0.204	7.527	4.717	1.622	9.969
<i>p</i>	0.488	0.962	0.903	0.023*	0.095	0.444	0.007*
The state of considering changing the profession							
Yes	26.445 ± 3.227	27.556 ± 3.906	27.445 ± 3.167	19.038 ± 3.448	22.075 ± 2.417	122.556 ± 12.945	91.556 ± 3.946
No	25.617 ± 3.695	27.465 ± 3.301	27.076 ± 2.864	17.255 ± 3.268	22.184 ± 2.815	119.595 ± 12.568	91.39 ± 5.251
Mann–Whitney <i>U</i>	2,193.500	2,180.000	2,224.500	1,687.500	2,342.500	2,053.000	2,488.500
<i>p</i>	0.304	0.267	0.352	0.006*	0.598	0.135	0.976
The state of choosing the profession willingly							
Yes	25.768 ± 3.528	27.603 ± 3.25	27.211 ± 2.792	17.449 ± 3.34	22.25 ± 2.738	120.279 ± 12.339	91.478 ± 5.311
No	25.5 ± 4.206	26.862 ± 3.915	26.695 ± 3.388	17.639 ± 3.365	21.778 ± 2.89	118.473 ± 14.026	91.084 ± 3.917
Mann–Whitney <i>U</i>	3,158.500	2,870.500	3,014.500	2,970.000	2,883.000	3,030.500	2,790.000

<i>p</i>	0.977	0.356	0.642	0.552	0.389	0.682	0.257
The state of having a health problem							
Yes	25.223 ± 4.025	26.445 ± 4.305	25.667 ± 3.775	16.556 ± 2.243	21.667 ± 3.317	115.556 ± 15.962	94 ± 1.582
No	25.744 ± 3.634	27.523 ± 3.333	27.188 ± 2.849	17.523 ± 3.375	22.193 ± 2.743	120.168 ± 12.469	91.296 ± 5.168
Mann–Whitney <i>U</i>	831.500	788.000	667.500	767.500	840.000	788.500	529.000
<i>p</i>	0.647	0.468	0.165	0.414	0.679	0.487	0.032*
The state of having received training on patient safety							
Yes	25.715 ± 3.616	27.522 ± 3.1	27.143 ± 2.976	17.706 ± 3.453	22.421 ± 2.612	120.505 ± 12.594	91.984 ± 4.435
No	25.732 ± 3.696	27.42 ± 3.711	27.097 ± 2.814	17.194 ± 3.177	21.85 ± 2.927	119.291 ± 12.699	90.678 ± 5.776
Mann–Whitney <i>U</i>	5,473.000	5,363.000	5,411.500	5,096.500	4,944.000	5,171.000	4,748.000
<i>p</i>	0.891	0.689	0.780	0.321	0.178	0.413	0.075
The state of considering self-sufficient about patient safety							
Sufficient	25.264 ± 4.131	27.316 ± 3.394	27.053 ± 2.876	17.658 ± 3.78	22.079 ± 2.765	119.369 ± 14.126	90.764 ± 7.183
Partly sufficient	26 ± 3.626	27.618 ± 3.349	27.291 ± 2.898	17.398 ± 3.398	22.355 ± 2.719	120.66 ± 12.559	91.681 ± 4.342
Insufficient	25.061 ± 3.031	27.061 ± 3.518	26.485 ± 2.928	17.637 ± 2.511	21.485 ± 2.917	117.728 ± 11.061	91 ± 5.298
Kruskal–Wallis	3.913	1.480	2.717	0.631	3.123	3.021	0.605
<i>p</i>	0.141	0.477	0.257	0.729	0.210	0.221	0.739
The state of having received clinical practice training							
Yes	25.828 ± 3.687	27.414 ± 3.295	27.026 ± 2.912	17.449 ± 3.525	22.13 ± 2.643	119.845 ± 12.671	92.397 ± 3.378
No	25.594 ± 3.603	27.553 ± 3.482	27.24 ± 2.894	17.521 ± 3.112	22.219 ± 2.914	120.125 ± 12.632	90.219 ± 6.421
Mann–Whitney <i>U</i>	5,299.500	5,402.000	5,232.000	5,309.000	5,262.500	5,426.500	4,422.000

<i>p</i>	0.543	0.698	0.443	0.558	0.486	0.750	0.010*
The state of having witnessed any event to threaten patient safety in those who have received clinical practice training							
Yes	25.541 ± 4.247	27.136 ± 4.131	26.622 ± 3.312	17.298 ± 3.741	21.865 ± 2.927	118.46 ± 14.978	93.109 ± 3.117
No	25.754 ± 3.81	27.359 ± 3.238	27.099 ± 2.801	17.396 ± 3.489	22.149 ± 2.794	119.754 ± 12.818	91.568 ± 5.525
Mann–Whitney <i>U</i>	1,473.500	1,467.500	1,368.000	1,477.000	1,398.000	1,497.500	1,250.500
<i>p</i>	0.884	0.851	0.443	0.900	0.555	0.995	0.147
The occupational group with the most medical errors							
Physicians	25.699 ± 3.649	27.54 ± 3.468	27.318 ± 2.862	17.159 ± 3.148	22.381 ± 2.4	120.096 ± 11.73	91.143 ± 4.212
Nurses	25.562 ± 3.522	27.391 ± 3.333	26.981 ± 2.863	17.867 ± 3.437	22.067 ± 2.857	119.867 ± 12.645	91.762 ± 4.372
Midwives	23.4 ± 2.191	26.4 ± 3.578	25.4 ± 3.508	16.6 ± 1.517	21.4 ± 3.508	113.2 ± 12.558	87.2 ± 10.233
All healthcare professionals	25.76 ± 4.295	27.12 ± 3.855	27.12 ± 2.935	16.48 ± 3.071	22.12 ± 3.074	118.6 ± 14.045	91.48 ± 8.447
Other	27.786 ± 3.191	28.858 ± 2.071	27.929 ± 3.15	18.143 ± 4.055	22.358 ± 3.054	125.072 ± 13.759	91.358 ± 3.434
Kruskal–Wallis	9.936	5.228	4.699	3.766	0.528	5.763	4.115
<i>p</i>	0.042*	0.265	0.320	0.439	0.971	0.218	0.391
The state of considering teamwork important							
Yes	25.749 ± 3.63	27.522 ± 3.318	27.166 ± 2.837	17.493 ± 3.341	22.204 ± 2.725	120.133 ± 12.434	91.403 ± 5.106
No	20 ± 0	18 ± 0	18 ± 0	15 ± 0	15 ± 0	86 ± 0	93 ± 0
Mann–Whitney <i>U</i>	10.500	6.000	1.000	49.500	3.500	3.000	89.000
<i>p</i>	0.118	0.091	0.083	0.357	0.091	0.094	0.786

The state of being prone to working individually or as a team

Individually	24.81 ± 4.325	27.159 ± 4.101	26.905 ± 3.402	17.286 ± 3.205	21.81 ± 3.079	117.969 ± 14.888	90.112 ± 6.641
As a team	26.108 ± 3.252	27.611 ± 3.02	27.215 ± 2.665	17.564 ± 3.398	22.323 ± 2.614	120.819 ± 11.486	91.96 ± 4.185
Mann–Whitney <i>U</i>	3,916.500	4,612.000	4,605.500	4,646.500	4,266.500	4,341.000	3,775.500
<i>p</i>	0.055	0.835	0.827	0.908	0.289	0.388	0.024*

When the correlation between T-TAQ and PSAQ was examined, a statistically significant, positive and weak correlation was found (Spearman's *r*: 0.348; *p* < 0.01) (Table 4).

Table 4. The correlation between PSAQ of students and T-TAQ

T-TAQ and subscales	PSAQ	
	Spearman's <i>r</i>	<i>p</i>
Team structure	0.323**	0.000
Leadership	0.319**	0.000
Situation monitoring	0.304**	0.000
Mutual support	0.138*	0.045
Communication	0.242**	0.000
TAQ	0.348**	0.000

Spearman's *r** *p* < 0.05.

** *p* < 0.01.

4. Discussion

Activities to improve patient safety are closely associated with nursing care. Since most of the nursing actions are aimed at providing direct service to people, the slightest mistakes may lead to irreparable consequences. The healthcare system should be reviewed and open and effective communication should be ensured among team members in order to not repeat these mistakes, to identify risks at early stages and to prevent the harm given to patients [11]. The ability to work in harmony that nursing students will gain before they start the profession will contribute to nursing students' being aware of their roles and responsibilities, being in harmony with every member of the healthcare team, increasing the possibility to be in harmony with every member of the healthcare team, decreasing the possibility to make medical errors and, therefore, increasing the quality of care given when students start performing their profession [12], [13]. This study was conducted to find out the effects of nursing students' approaches to team work on their attitudes towards patient safety.

In the study, mean score of the questionnaire form developed to measure the attitudes of students towards patient safety was found as 91.41 ± 5.09. Considering that the score that can be obtained from the questionnaire form varies between 33 and 99 and the attitudes of students towards patient safety increase positively as questionnaire total score increases, it was found in this study that nursing students' attitudes towards patient safety were quite high. In parallel with the results of the study, it was found in the studies by Toygar et al. [14] and Demirel et al. [15] that students' views on patient safety were above the medium level [16]–[18]. In a study by Bodur et al. [16], it was found that almost all of the students thought patient safety was important and they stated that it had to be included in

courses or in the curriculum as a separate course. In another study conducted with students, medical errors and patient safety attitudes were found to be at a moderate level [17]. The fact that the students in our study had high attitudes towards patient safety may be due to the fact that patient safety is included in theoretical and clinical education as interventions for risky situations.

In the study, the T-TAQ mean score was found to be very high with 119.97 ± 12.62 out of 140. In parallel with the results of the study, the T-TAQ mean score was found as 114.25 ± 16.66 in Cavusoglu and Alisan's [18] study, as 109.14 ± 19.76 in Birimoglu Okuyan et al.'s [13] study and as 111.65 ± 13.78 in Ozveren et al.'s [19] study and it was reported that nursing students had very high attitudes towards team work. The fact that the students in our study had high attitudes towards teamwork is an important factor that increases quality of patient care.

In this study, it was found that the students got the highest mean score in 'leadership' (27.47 ± 3.37) subscale of T-TAQ, while they got the lowest mean score in 'mutual support' (17.48 ± 3.34) subscale. The results of this study are parallel with the results found in Cavusoglu and Alisan [18] and Ture Yilmaz and Yildirim [20]'s studies. In Celik and Karaca's [21] study, it was found that the participants got the highest score in 'leadership' subscale. These results show that nursing students have high leadership levels, and the 'mutual support' subscale which includes concepts such as cooperation, solidarity and support is an area that should be supported.

When the students' total mean scores of T-TAQ and PSAQ and their sociodemographic characteristics were compared in the study, no significant difference was found between T-TAQ and students' sociodemographic characteristics ($p > 0.05$). When students' total mean PSAQ scores and their socio-demographic characteristics were compared, it was found that total mean PSAQ scores of the students who were prone to teamwork, who loved their profession, who had health problems and who received clinical training were higher. It is thought that students who love their profession will be more willing and more conscious while performing their professional responsibilities and this will in turn affect the quality of care and, therefore, patient safety. In this study, it was found that students who were prone to teamwork had higher attitudes towards patient safety. As a matter of fact, in the literature on this topic, it is emphasised that positive communication among team members will have positive effects on patient safety and patient outcomes [5].

It was found that the students who had received clinical training had significantly higher attitudes towards patient safety than the students who had not. The faculty in which the study was conducted includes a practice of internship. It is thought that spending time with patients in the clinic, having close communication with the team and patients, providing direct care to patients and increasing the level of knowledge have a positive effect on students' attitudes towards patient safety. In the study, it was found that scores from the patient safety attitude questionnaire increased as the year of study increased, although not significantly. This shows that students' knowledge and attitudes on patient safety increase positively as their year of study increases. The study is in parallel with the literature in this respect [22], [23].

A statistically significant, positive and weak correlation was found between T-TAQ and PSAQ total scores in the study. It is a known fact that an effective teamwork increases patient safety [20]. In patient care, the stakeholders, especially nurses and physicians, are responsible for providing a safe patient care and preventing harm to patients [24]. It is stated in literature about patient safety that fewer errors occur when teamwork is strong since the processes become planned and standardised [25].

5. Conclusion

In conclusion, it was found that nursing students had positive attitudes towards patient safety and positive approaches towards teamwork. It was found in the study that students' sociodemographic characteristics did not affect their approaches towards teamwork, while students who were more prone to teamwork, those who loved their profession, those who had health problems and those who

received clinical training had higher attitudes towards patient safety. As a result of the study, statistically significant, positive and weak correlation was found between total T-TAQ and PSAQ scores. Inclusion of patient safety and team work training in the curriculum in preventing medical errors may contribute to ensuring patient safety.

Conflicts of interests

The authors have no conflicts interests to disclose.

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