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Assessing health science students' attitudes towards persons with disabilities in Turkey.

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Abstract

Purpose: The aim of this research was to determine attitudes towards persons with disabilities among prospective health care professionals.
Materials and Methods: Attitudes were measured using the Attitudes towards Persons with Disabilities Inventory developed in Turkey, which consists of 43 statements. Participants were 273 undergraduate students from a health sciences faculty in Turkish university via stratified sampling. We examined associations between Attitudes towards Persons with Disabilities Inventory scores and socio-demographics variables.
Results: The students generally had positive attitudes towards persons with disabilities. The most positive attitudes were among students from lower-income families (M=198.5, SD=3.5 Significance Level=0.05). Students from the Physiotherapy and Rehabilitation and the Social Work departments had more positive attitudes.
Conclusions: The findings indicate a need to revise the curricula of departments to prepare students to effectively work with persons with disabilities.

Keywords: Disability, Persons with disability, Attitudes towards persons with disabilities inventory, Health sciences faculties.

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Introduction

Disability is common worldwide [1]. Negative attitudes towards persons with disabilities (PWD) are a problem in many countries [2-4]; in some communities, people even believe that disability is a punishment by God and is caused by evil spirits [4]. PWD experience difficulties meeting their basic needs, acquiring housing [5], realizing their human rights in the physical environment, participating in social life, and accessing education and health services.

Attitudes towards PWD have changed over the years. Attitude measurement techniques have also changed, becoming increasingly complicated both theoretically and technically [6]. According to Antonak and Livneh [6], to investigate attitudes towards PWD, researchers should focus on sociodemographic variables such as age, gender, educational level and profession, and situational variables, such as social context and family dynamics.

Previous research shows that service providers' perceptions of service users are an important aspect of human service provision (in fields such as education, health, and protection) [4,7-9]. The perspectives of individuals who work in the health field, which are based on the medical model, may have negative influences on the services offered to PWD [10]. However, health professionals who have more experience working with PWD and who receive training may develop more positive attitudes towards PWD. For example, Sahin et al. [11] showed that training about PWD had a positive impact on health care students' attitudes towards PWD.

In Turkey, the first comprehensive research on this subject was carried out in 2002 by the Prime Ministry Administration for Disabled People. This research revealed that 12.29% of the total population in Turkey (almost 78 million people) [12] was disabled [13]. However, detailed statistical data on this subject are lacking and many universities, opposition parties, and organizations for PWD argue that the number of PWD in Turkey is greater than represented in the official statistics [14]. Despite this lack of clarity, many studies have revealed the problems that PWD face. PWD experience problems with education [15], health [16], employment [17], rehabilitation [18], vocational training, work-life participation [19], difficulties in accessing the physical environment [20,21], and social exclusion [14,22,23].

Bezmez et al. [24] have identified serious problems in Turkey in understanding the rights of PWD within the scope of citizenship, and the formation of integrative policy and services in this area. Perception of disability in Turkey is

characterized by the medical model of disability. Therefore, professionals working with PWD, such as doctors and educators, develop their attitudes within the framework of the medical model, which results in discrimination and exclusion [25,26].

Rakap et al. [27] found that teachers possessed slightly negative attitudes towards the inclusion of students with disabilities into regular education classrooms and found that only 35% of teachers were willing to include students with learning difficulties in their classrooms. A related study that compared medical and nursing students' attitudes towards PWD showed that although medical students had more interactions with PWD, they had more negative attitudes towards PWD than nursing students [28].

The perceptions of health care professionals who directly work with PWD affect the quality of services [29]. Studies have shown that although social workers [8], health care professionals [30,31], educators [32], and students [4,33-35] have more positive attitudes towards disability regarding equal rights and social reintegration, they are still having difficulties in developing a direct relationship with PWD. Moreover, perceptions of disability are related to several socio-demographic variables, such as age, gender, educational background, marital status, and having a family member with disability [33,36, 37].

There is limited research in Turkey on perceptions and attitudes towards disability among professionals who have direct contact with PWD [37-39]. A common finding in these studies is that professionals generally have a positive attitude towards PWD but show negative attitudes when in direct contact with PWD. The few studies conducted among students in health care departments report similar findings [36,40].

The aim of this research was to assess the attitudes of undergraduate students from a health sciences faculty who are likely to work with PWD professionally in different settings.

Methods

Sample

This research was conducted in the Faculty of Health Sciences of the University of Ankara, Turkey. The institution is a private university that charges tuition fees, but also has a percentage of scholarship students in each department. Ethical review and study permission were gained from the University Social Sciences Ethics Committee.

The Faculty of Health Sciences has six departments: Nutrition and Dietetics, Physiotherapy and Rehabilitation, Nursing, Healthcare Management, Social Work, and Sport Sciences. There are 856 students in the faculty. Participants of the study were selected using stratified sampling, based on the student population of each department. Out of a total of 856 students, 273 were selected for participation. Data were collected from 268 students who agreed to participate in the research.

Instruments

The researchers collected the data on the main university campus. The data collection process took 3 months. The researchers explained the study to participants, who then completed the questionnaires. Data were gathered using the following two instruments.

Socio-demographic questionnaire: This questionnaire was developed by the researchers and included questions about age, sex, year of study (1^{st}, 2^{nd}, 3^{rd}, or 4^{th} year), parental educational level (primary, elementary, high school graduate, bachelor, master's or doctorate level), parental income level (very low, low, middle, high, very high; based on the students' subjective reports), having a rural or urban background, having a family member with disability, and living with that family member.

Attitudes towards persons with disabilities inventory: There is a lack of accurate statistics about the population of PWD in Turkey. Moreover, policymakers and related professionals lack knowledge about the general behaviour of communities towards PWD. The Attitudes towards Persons with Disabilities Inventory (APDI) was specially developed to investigate societal attitudes towards PWD in Turkey. The APDI was developed and validated by Kaner et al. [41] in a study conducted in 79 cities in Turkey. They targeted 3,485 households and 4,144 non-disabled persons over 18 years, a representative sample of the population in Turkey. They found a Cronbach's alpha of .88, indicating that the test is a reliable measure of attitudes towards PWD.

The APDI is a 5-point Likert-type scale comprising 43 statements about persons with disabilities. The respondents answer picking one of the options as following, "strongly agree" (5), "agree" (4), "undecided" (3), "disagree" (2) "strongly disagree" (1), in order to specify to what extent they agree or disagree to the statement included in each item. Negative items in the inventory are rated by inverting them. The lowest possible score is 43 and the highest possible score is 215; a high score in the APDI means positive attitudes towards persons with disabilities. The APDI consists of six subscales. These subscales have been tested and found to be valid in several studies; for example, Dasbas et al. [42], Colak and Cetin [37], Sahin and Guldenoglu [11], and Cavusoglu et al. [40]. The studies by Sahin and Guldenoglu [11] and Cavusoglu et al. [40] used the APDI with students. The APDI subscales and examples of items are as follows:

1) Educational environment: This subscale consists of three items [1,5,39] related to participants' ideas of how PWD should be educated; for example, "Children with disabilities should receive education at their homes only" [1].

2) Interpersonal relationships: This subscale consists of nine items [2,10,14,25,29,32,35,38,41] related to participants' attitudes about communicating with PWD; for example, "I do not hesitate to work at a job providing health, education, care and rehabilitation services for persons with disabilities" [41]. and "I do not feel any uneasiness to be on the same table with a disabled person during meal" [2].

3) Working life: This subscale consists of nine items [4,6,8,28,33,34,40,42,43] assessing participant's attitudes about the integration of PWD into working life; for example, "Persons with disabilities are able to be as productive as non-disabled persons" and "Even if there is no legal obligation, employers should hire persons with disabilities" [4,34].

4) Family life: This subscale consists of three items [7,16,18] related to participants' attitudes about the effect of PWD on their families; for example, "Persons with disabilities are burden on shoulder of their families" [18].

5) Personal characteristics: This subscale consists of seven items [9,11,17,20,22,23,37] expressing participant's beliefs about the personal characteristics of PWD; for example, "Persons with disabilities do usually be moan constantly" [9] and "Persons with disabilities are angry and aggressive persons" [37].

6) Competency-independent living: This subscale consists of 12 items [3,12,13,15,19,21,24,26,27,30,31,36] assessing participants' ideas about the competencies and abilities of PWD to maintain their lives independently; for example, "Persons with disabilities are able to make decision on the way of their lives as non-disabled persons." [3], "Persons with disabilities are able to be good parents" [12], and "Persons with disabilities are able to be successful persons in life as nondisabled persons are" [31].

Analysis

We used item-total correlations, Cronbach's alpha coefficient, and confirmatory factor analysis to examine the validity and reliability of the data. We first examined the descriptive statistics (M, SD, and frequency [%]) for the continuous data. The variables were evaluated after checking normality and homogeneity of variances using the Shapiro-Wilk test and Levene's test. The independent two-sample t test (Student's t test) was used to compare two groups, but the Mann-Whitney U test was used when the prerequisites were not met. One-way analysis of variance and Tukey's HSD test, which is a multiple comparison test, were used to compare three or more groups, and the Kruskal-Wallis test and the Bonferroni-Dunn test, which is a multiple comparison test, were used when the prerequisites were not met. The relationship between two continuous variables was evaluated using Pearson's correlation coefficient, but the Spearman correlation coefficient was used when the parametric test prerequisites were not met. The significance levels were set at alpha=0.05 and alpha=0.01. We used SPSS version 17 (SPSS Inc., Chicago, IL).

As the population with which the APDI was originally developed differed from our sample, we examined the reliability and validity of the APDI to check its suitability for use with university students.

Results

Cronbach's alpha reliability coefficients were satisfactory for all six subscales Table 1 shows the Cronbach's alphas.

The APDI measured 53.33% of the variance. In the social sciences, it is sufficient that the total variance explained is not less than 50%. The Kaiser-Meyer-Olkin sampling adequacy statistic was greater than 0.50, which indicates adequate sampling. Bartlett's test of sphericity tests the suitability of data for factor analysis. The higher this value, the more suitable the data set is for factor analysis. Bartlett's test of sphericity was less than .05 (.001), indicating that the data were suitable for factor analysis. Overall, the factor analysis results indicated that the APDI had construct validity. The factor loadings indicate that the questions were validly distributed among the pre-determined six factors (Table 2).

Table 1. *Reliability coefficients for the attitudes towards persons with disabilities inventory (apdi) and its subscales.*

Subscale	Number of items	Cronbach's α
Educational Environment	3	0.625
Interpersonal Relationships	9	0.826
Working Life	9	0.649
Family Life	3	0.508
Personal Characteristics	7	0.791
Competency-Independent Living	12	0.864
APDI total	43	0.891

Table 2. *Attitudes towards persons with disabilities inventory (APDI) factor loadings and t scale factor analysis.*

Item	Interpersonal Relationships (1)	Working Life (2)	Personal Characteristics (3)	Competency-Independent Living (4)	Family Life (5)	Educational Environment (6)
1						.694

2	.853					
3				.821		
4		.617				
5						.542
6		.761				
7					.824	
8		.698				
9			.535			
10	.794					
11			.614			
12				.879		
13				.594		
14	.636					
15				.744		
16					.679	
17			.953			
18					.802	
19				.707		
20			.590			
21				.996		
22			.811			
23			.732			
24				.809		
25	.694					
26				.729		
27				.892		
28		.714				
29	.763					
30				.824		
31				.581		
32	.717					
33		.570				
34		.720				
35	.705					
36				.793		
37			.816			
38	.779					
39						.877

40			.786	
41	.770			
42			.763	
43			.614	
Factor	The sum of squares of factor loadings as a result of quartimax rotation			
	Total	Variance explained (%)	Cumulative variance (%)	
1	13.734	31.940	31.940	
2	3.097	7.202	39.142	
3	2.014	4.683	43.826	
4	1.516	3.526	47.352	
5	1.381	3.212	50.564	
6	1.193	2.775	53.339	

Demographics

A total of 268 students participated in the study. The mean of age was 21.96 years. Most of the students were female (210, 78.36%). Almost all (81.82%) had spent most of their lives in urban areas. Regarding parents' educational background, there were more university graduate fathers (48.88%) than mothers (34.70%). Most of the mothers are unemployed (50%), the number of students whose parents are civil servants is almost equal (21%). 23% of participants were studying in Physiotherapy and Rehabilitation department, 21% of participants were studying in social work and approximately same number of students was studying in Nutrition and Dietetics department. Levels of income were mostly at the middle (32%) and higher levels (62.3%). A total of 76 students (28.36%) had a family member with disability (28.36%). Of these students, nine lived in the same house as the family member with a disability.

APDI total and subscale scores

The students generally had positive attitudes towards PWD. The total mean APDI score was 181.53 (SD ± 22.61; min=78; max=260). No statistically significant relationship was found between the sociodemographic characteristics of age, gender, having a rural or urban background, father's educational level, students' grade, and total APDI score and the scores on the subscales educational environment, interpersonal relationships, working life, personal characteristics, family life and competency-independent living. However, a statistically significant relationship was found between competency-independent living scores and mother's educational background (p=0.047). Students having a mother with the highest educational level (master's degree and/or doctorate) had the lowest score (indicating negative attitudes) regarding the competency of PWD to live an independent life (M=43.7, SD=12.01).

No statistically significant relationship was found between father's job and Educational Environment, Interpersonal Relationships, Working Life, Personal Characteristics, Family Life and Competency-Independent Living subscales. However, a statistically significant relationship was found between Total APDI Scores and father's job (p=0.038). The most positive general attitude was among students whose father's job were retired (M=186.95, SD=20.10) and the most negative attitude was among the unemployed father's children (M=175.75, SD=29.71).

Level of income was significantly related to total APDI score (p=0.042) and to Interpersonal Relationships subscale scores (p=0.039). The most positive general attitude was among students from lower-income families (M=198.5, SD=3.5) and the most negative attitude was among the highest-income group (M=165.23, SD=39.7). The lower-income group also had more positive attitudes to interpersonal relationships with PWD (M=44.50, SD=5.8) and the highest income group (M=35.46, SD=11.4) had the most negative attitudes.

No statistically significant relationship was found between grade and total ATPDI score and the scores achieved in its sub-dimensions such as educational environment, interpersonal relationships, working life, personal characteristics, and competency-independent living.

No statistically significant relationship was found between student department and working life and personal characteristics subscale scores. However, there was a statistically significant relationship between department and APDI total score (p=0.004) and scores on the subscales educational environment (p=0.031), Interpersonal Relationships (p=0.014), and Competency-Independent Living (p=0.001). Students from the physiotherapy and rehabilitation department had the highest total and subscale scores, and therefore the most positive attitudes, followed by students from the social work department. The lowest scores for both total score and subscale scores were for students from the healthcare management department, with the exception of the Interpersonal Relationships subscale, on which nursing students scored lowest. There was no statistically significant

relationship between having a family member with disability and total APDI score and subscale score.

Discussion

The aim of this research was to determine the attitudes of Turkish health sciences undergraduate students to PWD. We found that participants generally had positive attitudes towards PWD. Research on the general population in Turkey reports a mean total APDI score of 167.91 (SD=18.57), whereas we found a mean APDI score of 181.53 (SD=22.61) in this study. The higher mean for our sample indicates that participants had more positive attitudes towards PWD than the general population.

We found no association between APDI scores and age and gender. As some departments we sampled had few male students (i.e., Nursing, Nutrition and Dietetics, and Social Work), our sample was mostly female; therefore, it was not possible to make a true comparison between females and males. There was a similar lack of variability for age; as the participants were undergraduates, the age range was narrow.

However, the results indicate a significant relationship between mother's educational background and scores on the Competency-Independent Living subscale of the APDI. It is noteworthy that there was a significant relationship between scores on this subscale and mother's educational background, but not between subscale scores and father's educational background. This may be explained by Turkish cultural factors, especially patterns of childrearing. In Turkey, mothers play the dominant role in childrearing [43] and therefore have a greater influence on the formation of children's attitudes in several areas of life. Disability may be regarded as one of these areas. Those students whose mothers were primary school graduates or held master's or doctorate degrees scored lower on the Competency-Independent Living subscale than students whose mothers had other educational backgrounds. This finding may be explained by the increased awareness of lack of services and integrative policies for PWD as educational level increases. It could also stem from participants' lifestyles. These participants must pay tuition fees to get a university place. This finding differs from results of a previous study of the general population in Turkey, which found more positive attitudes in the more highly educated group, and are in contrast with other findings in the literature. For example, research on teachers' attitudes towards PWD by Colak and Cetin [37] and Parasuram [44] showed that teachers with master's degrees have more positive attitudes towards PWD than teachers with bachelor's degrees.

There were significant relationships between level of income and total APDI score and Interpersonal Relationships subscale scores. Students with the highest level of income had more negative attitudes towards PWD than students in the lowest income group. They were also more hesitant to establish contact with PWD than students in the lowest income group. This may be a result of participants' isolated lifestyle. Kaner et al. [41] have also reported that as, attitudes towards the income level increases PWD become more positive. However there are contradictory findings in the literature about the relationship between income level and attitudes towards PWD. Morin, Rivard, Crocker, Boursier & Caron [45] and Staniland [46] found no association between income level and attitudes towards PWD.

There were significant differences between students across departments. Students in the Physiotherapy and Rehabilitation and Social Work departments had more positive attitudes towards PWD than students in other departments, especially students in the Healthcare Management department. Moreover, when the subscale scores were taken into account, students from these two departments (Physiotherapy and Social Work) had more positive attitudes about the educational environment of PWD, were more positive to establish contact with PWD, and were more optimistic about the competency of PWD.

The literature reports similar findings for social work students' attitudes towards disability. Schwartz & Sivan [47] concluded that students in social work departments have the most positive attitudes compared with students from other departments. Another study of American and Japanese social work students reported that these students have positive attitudes towards PWD [48]. A study conducted on physiotherapy students in Nigeria also found these students to have positive attitudes towards disability [34].

The students in our sample from the Physiotherapy and Rehabilitation and Social Work departments may have had more positive attitudes because these courses incorporate disability issues within their curricula and students gain direct practice opportunities with PWD as part of their internships. Although it is also within the Faculty of Health Sciences, the department of healthcare management has a management/economy basis to the curricula, so these students may have had less knowledge and direct contact with PWD and therefore less awareness about the issue.

No statistically significant relationship was found between other factors (age, gender, having a rural/urban background, father's educational background, student's grade level, and the existence of a family member with disability) and attitudes towards PWD. Research generally indicates that having a family member with disability affects people's attitudes towards disability [36]. However, this was not the case in our study. This may be because of the limited number of students (n=9) living with a family member with disability.

These results should be considered in the light of some limitations. Although we used samples from all departments in the Faculty of Health Sciences, we cannot generalize the findings to all health sciences faculties, or to related university departments in Ankara and/or in Turkey for the following reasons. First, the selected faculty is part of a private university, which requires a high tuition fee, and most of the students (except for those who receive scholarships) pay tuition fees through their families. Therefore, the students of this university may have a different economic and social background than students from state universities. Additionally,

differences among geographical regions are quite distinct in Turkey, and reflect different lifestyles. This may also include attitudes towards disability. This study reflects attitudes in a metropolitan area and it is not appropriate to generalize the results to all health sciences faculties in different regions in Turkey. Moreover, we focused on just one attitude measure, which cannot completely represent people's attitudes to disability. Finally, the APDI scale has not been widely used to assess attitudes to disability. One of the other limitations is the cultural limitations of the APDI. This measure was created for understanding PWD in Turkey. Finally, the sample had little contact with PWD, and contact was primarily with persons with disabilities related to sensory impairment (blindness, deafness).

Departments of health sciences train professionals for human services. These students are likely to work with PWD directly or indirectly in their professional lives. Thus, their attitudes towards disabled people are important. These findings may be used to formulate more appropriate curricula for these professions, by making necessary changes to the perspectives of professionals/students at earlier stages. This may help to increase the quality of services to PWD.

Conclusions

Students from the selected faculty of health sciences generally had positive attitudes towards PWD, with some differences among the departments. The variables affected the attitudes were mother's educational background, family's level of income, and department of the students. Physiotherapy and rehabilitation and social work are the departments whose students have the most positive attitudes towards disabled people. There is a need for future research that is to be conducted with larger sample groups and with different Universities in different geographical areas. Like other studies our research also suggests revision of Curricula of health sciences faculties to increase positive attitudes of the students and the quality of services for PWD [28]. Moreover, in health related faculties, some disability lecture may be provided for students.

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