

## Original Article

# Nursing Students' Attitudes towards People with Disabilities

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### Abstract

**Background:** Disability is a common health issue and health professionals' attitudes towards people with disabilities are of great importance.

**Aim:** To explore attitudes of nursing students towards people with disabilities.

**Method:** The sample consisted of 368 nursing students (189 students enrolled in the first semester and 179 students enrolled in the 7th semester) in the Faculty of Nursing, University of West Attica in Greece. This sample was a convenience one. Attitudes toward persons with disabilities were evaluated with the Multidimensional Attitudes Scale toward Persons with Disabilities (MAS) and the Attitudes Towards Disabled Person Scale (ATDPS).

**Results:** The sample consisted of 85.2% female and 14.7% male. Results revealed that 68.8% and 68.7% had no prior experience with a person with disabilities in first and seventh semester, respectively. In regard to ATDP scale, the total score was higher in nurses students in the 7th semester, indicating that students had more positive attitudes compared to the first semester ( $p=0.048$ ). On the contrary, regarding to MAS scale, the total score was higher in nurses students in the 7th semester, compared to the first semester, indicating that students had more negative attitudes ( $p=0.001$ ).

**Conclusions:** Promising education of nurse students will significantly increase acceptance of persons with disabilities and facilitate their inclusion in society.

**Key-words:** disabilities, nursing students, attitudes, perceptions

## Introduction

Disability is a common health issue in both developed and developing countries (World Health Organization, 2011; Marella et al, 2015; Islam et al, 2016). Recent estimates have shown that more than 1 billion individuals are living with some form of disability worldwide, of whom nearly 93 million are children (World Health Organization, 2011). Global prevalence of disability is expected to be increased in the following decades mainly due to the growing ageing population (Marella et al, 2015; Islam et al, 2016), the increased risk of disability in elderly people and the global rise in chronic diseases (Lutz & Bowers, 2003; Zheng et al, 2011; Marella et al, 2015; Islam et al, 2016).

Conceptualisation of disability involves several definitions, however the two main perspectives that form this concept are the level of individuals' functional status and the civil and social rights (Zheng et al, 2011; Marella et al, 2015; Islam et al, 2016). Another commonly held view describes disability as the result of interaction between persons with impairment and the barriers (attitudinal or environmental) that limits their living in everyday life to its' full potential (Lutz & Bowers, 2003; Zheng et al, 2011; Marella et al, 2015; Islam et al, 2016).

Attitudes towards disability seem to vary globally since are being shaped by people's culture and current policies. Interestingly, attitudes are not strongly associated with the financial resources of each country but with the sense of social responsibility for providing equal opportunities to all society members (Lutz & Bowers, 2003; Hughes et al, 2012; Francis & Silvers, 2016). In spite of considerable recent advances in minimizing misperception of different types of disability, persons still experience various challenges such as inequalities in life opportunities, limited access to education or to health care and generally poor accommodation of their needs. Positive societal attitudes may eliminate all obstacles and facilitate acceptance of disability by family, friends, and potential employers (Lutz & Bowers, 2003; Au & Man, 2006; World Health Organization, 2011; Zheng et al, 2011; Satchidanand et al, 2012).

The changing landscape drive individuals with disabilities away from a framework where medical treatment is the only demand towards a

model that empowers each dimension of their ability and strength. Achievement of this goal strongly requires withdrawal of societal barriers and any influence from tradition or past beliefs (World Health Organization, 2011; Zheng et al, 2011; Marella et al, 2015; Islam et al, 2016).

Health professionals have the potential to stimulate and guide future efforts to this target. Therefore, it is important to evaluate their attitudes towards persons with disabilities and build an education that may modify the already established wrong behaviors thus facilitating provision of high-quality care.

Several definitions are cited in the literature regarding the term "attitudes" however, this term is complex including beliefs, feelings, values and dispositions towards certain people or situations. The main components of attitudes are: affective, cognitive, and behavioral. The affective component is related to the emotional underpinnings of an attitude, the cognitive to individual's perceptions and finally the behavioral to the individual's behavior in a certain way (Findler, Vilchinsky & Werner, 2007).

**Purpose of the study:** The purpose of this study was to explore attitudes towards persons with disability in undergraduate nurses.

## Methods

**Participants and study design:** The study population consisted of students in the Faculty of Nursing, University of West Attica in Greece. The sample was divided into two groups. A convenience sample was used. One group consisted of 179 participants attending the seventh semester of whom 60 students attended the course "Nursing Rehabilitation" and the other group consisted of 189 participants attending the first semester. It is noteworthy that the course "Nursing Rehabilitation" includes knowledge about legislation, types of disability and nursing responsibilities when providing care to individuals with disabilities.

**Data collection and Instruments:** Data collection was performed by the completion of a questionnaire developed by the researchers so as to fully serve the purposes of the study and it took about 15-20 minutes to administer. This self-report questionnaire was anonymously and voluntarily completed by the students in the end of their semester studies. More in detail, the questionnaire consisted of the following 3 parts:

a) **Demographic characteristics** (age, gender), prior experience with disability person and attendance of the course-lesson “Nursing Rehabilitation”.

b) **The Multidimensional Attitudes Scale toward Persons with Disabilities (MAS)** in order to assess students' attitudes towards disabilities. The original scale is comprised totally 34 items in three dimensions: affect (16 items), cognition (10 items), and behavior (8 items). More in detail, the dimension "affect" is related with emotions that may arise from the interaction with disabled individuals, the dimension “cognition” includes particular thoughts and finally the dimension “behavior” factor includes behaviors that one may demonstrate after the interaction with a disabled-one (Yuker, Block & Young, 1970). The responders complete a five-point Likert scale, ranging from 1 (very much) until 5 (not at all). High scores indicate negative attitudes towards persons with disabilities whereas lower scores indicated more positive attitudes. The scale in Greek population had a good validity and reliability. More specifically, the dimension "affect" had Cronbach's  $\alpha$  0.90, the dimension “cognition” had Cronbach's  $\alpha$  0.9, the dimension “behavior” had Cronbach's  $\alpha$  0.83 while one more dimension was shown (calm) with Cronbach's  $\alpha$  0.884.

c) **The Attitudes Towards Disabled Person Scale (ATDPS)** which has been the most commonly used instrument for the measurement of attitudes toward persons with disabilities. Additionally, to the MAS, this questionnaire was used in order to evaluate the nursing-student attitudes through different scales, as to investigate multiple dimensions. The 20 ATDPS items in a 6 -point Likert type scale having a range from +3 (agree very much) to -3 (disagree very much). The score range is from 0 to 120 with higher scores to present positive attitudes toward disabled (Yuker, Block & Young, 1970). In our study, the ATDPS form O was used, which has been shown to have good internal consistency and reliability. Cronbach's  $\alpha$  coefficient for a Greek study was found 0.80 (Matziou et al, 2009).

**Ethical issues:** The study was approved by the Committee of the Faculty where the study was conducted. The first researcher explained to the patients the complete process and the purposes of this study. All students participated only after they had given their written consent. Data collection guaranteed anonymity and confidentiality.

**Statistical analysis:** Data are expressed as mean $\pm$ SD for demographic characteristics and mean (95%CI) for MANOVA model for continuous variables and as percentages for categorical data. The Kolmogorov-Smirnov test was utilized for normality analysis of the parameters. The comparison of ATDPS total score and MAS subscales in respect of undergraduate semester study (1<sup>st</sup> vs 7<sup>th</sup>) were performed using the MANOVA model (Multivariate analysis of variance). All assumptions of MANOVA model (correlation between dependent variables, normality, between group homogeneity of variance and homogeneity between variance-covariance matrices) were examined.

All tests are two-sided, statistical significance was set at  $p < 0,05$ . All analyses were carried out using the statistical package SPSS 21 (Statistical Package for the Social Sciences , SPSS Inc., Chicago, Ill. , USA ).

## Results

Characteristics of students are shown in table 1. The mean age for the first semester was  $21.15\pm 5.9$  years, while for the 7th semester was  $23.60\pm 5.1$  years ( $p < 0.0005$ ). As for gender, there was no statistically significant difference between the two semesters. The experience with disabled persons was the same in both groups. About one-third of the 7th semester students had selected to attend the course of Nursing Rehabilitation Nursing taught in this semester. We present the descriptives statistics of subscales of questionnaires at Table 2. The examination of the skewness values in Table 2 shows that the items are normally distributed. Skewness is a measure of asymmetry. It can be seen that skewness values range between -0.424 and 0.734. Since all values had skewness lower  $\pm 1$ , we can proceed to MANOVA analysis. Next step was to check the magnitude of correlation between the dependent variables. There should be reasonable correlation between the dependent variables (positive correlation should not exceed 0.80, negative correlation should not exceed  $r = -0.40$ ). The correlations were within acceptable limits for MANOVA outcomes. Then, we examined the between groups homogeneity of variance using the Levene's test and homogeneity of variance covariance matrices using the Box's M test. Table 3 shows that we have homogeneity of variance covariance matrices because the significance is greater than

0,001. Moreover, we have homogeneity between groups variance for almost all variables (significance > 0.05), but not for MAS-Affects. When we use the univariate outcome, we can addition employ Welch test for that variable. Using the Pillai's Trace, we have a significant

multivariate effect for the combined dependent variables of all questionnaires in respect of the study semester ( $p=0.01$ ). We can proceed with univariate analysis because the correlation was not too high between the dependent variables. Results are presented in Table 4.

**Table 1: Characteristics of the study population**

	1st semester (n=189)	7th semester (n=179)	p-value
Age, mean $\pm$ SD	21.15 $\pm$ 5.9	23.60 $\pm$ 5.1	<0.0005
Gender (male/female )	29 (15.3%)/160(84.7%)	25 (14%)/154 (86%)	0.769
Experience with disabled (no/yes)	130 (68.8%)/59 (31.2%)	123 (68.7%)/56 (31.3%)	1.000
Course of 'Nursing Rehabilitation' ( no/yes)		119 (66.5%)/60 (33.5%)	

**Table 2: Descriptives statistics of total score and subscales of the questionnaires**

	Mean	SD
ATDPS total score	69.22	11.63
MAS total score	79.83	18.69
MAS-Affects	2.21	0.76
MAS-Cognitions	2.22	0.73
MAS-Behavior	2.30	0.77
MAS-Calm	3.45	1.12

**Table 3: Box's M test & Levene test**

		F value	df1	df2	p-value
Levene	ATDPS total score	1.107	1	366	0.293
	MAS-Affects	9.492	1	366	0.002
	MAS-Cognitions	2.144	1	366	0.144
	MAS-Behavior	.027	1	366	0.870
	MAS-Calm	2.429	1	366	0.120
Box's M					0.025

**Table 4: Univariate ANOVA analysis using MANOVA model**

Dependent Variable	Type III	df	Mean	F	Sig.
ATDPS total score	<b>527.02</b>	<b>1</b>	<b>527.02</b>	<b>3.92</b>	0.048
MAS-Affects	<b>7.09</b>	<b>1</b>	<b>7.09</b>	<b>12.60</b>	<b>&lt;0.0005</b>
MAS-Cognitions	<b>2.79</b>	<b>1</b>	<b>2.79</b>	<b>5.29</b>	<b>0.022</b>
MAS-Behavior	<b>1.63</b>	<b>1</b>	<b>1.63</b>	<b>2.77</b>	0.097
MAS-Calm	<b>1.07</b>	<b>1</b>	<b>1.07</b>	<b>.86</b>	0.355

**Table 5: Univariate analysis of the relationship between attitudes toward disability and gender in first and seventh semester**

	Gender	Mean± SD	p-value	Mean± SD	p-value
		<b>First semester</b>		<b>Seventh semester</b>	
ADTP total score	Male	72.38±11.16	<b>0.021</b>	71.76±12.05	0.564
	Female	67.28±10.85		70.24±12.20	
MAS Affects	Male	1.96±0.65	0.287	2.32±0.85	0.835
	Female	2.10±0.67		2.36±0.83	
MAS Cognition	Male	2.13±0.78	0.922	2.40±0.82	0.542
	Female	2.14±0.67		2.30±0.76	
MAS Behaviors	Male	2.10±0.69	0.318	2.50±0.67	0.375
	Female	2.26±0.79		2.35±0.78	
MAS Calm	Male	2.86±1.26	<b>0.007</b>	3.71±0.99	0.310
	Female	3.50±1.13		3.47±1.07	

**Table 6: Comparison between two semesters for MAS subscales and total score of ATDP scale**

	<b>First semester</b>	<b>Seventh semester</b>	<b>p-value</b>
	<b>Mean (95%CI)</b>	<b>Mean (95%CI)</b>	
ATDPS total score	68.06 (66.40-69.72)	70.45 (68.75-72.16)	<b>0.048</b>
MAS-Affects	2.08 (1.97-2.19 )	2.36 (2.25-2.47)	<b>&lt;0.0005</b>
MAS-Cognitions	2.14 (2.04-2.24)	2.31 (2.21-2.42)	<b>0.022</b>
MAS-Behavior	2.24 (2.13-2.35)	2.37 (2.26-2.48)	0.097
MAS-Calm	3.40 (3.24-3.56)	3.51 (3.34-3.67)	0.355

The variables ATDPS total score, MAS-Affects and MAS-Cognitions differed significantly in respect of study semester (1st vs 7th) ( $p < 0.05$ ). Moreover, the violation of homogeneity of variance poses no threat to the validity of our results. Univariate analysis revealed that first semester male students had more positive attitudes in ADTP scale and in MAS-Calm

subscale than female students ( $p = 0.021$  and  $p = 0.007$  respectively). On the contrary, there is not statistically significant difference between male and female in seventh semester (Table 5). Concerning the relationship between ATDP/MAS-subcales and student age, marginally non-significant and weak inverse correlation was found between MAS-Cognition

subscale and student age in the first semester ( $r = -0.188$ ). Moreover, there was no significant difference between students who had experience with disabled and had attended the course "Nursing Rehabilitation" compared to those without experience and not attending the course "Nursing Rehabilitation", in both semesters. We summarize all the above results of the comparison between two semesters for all MAS subscales and total score of ATDP scale in Table 6. The mean of the MAS-total score was  $76.61 \pm 17.73$  in the first semester, while in the seventh semester was  $83.23 \pm 19.12$  ( $p < 0.001$ ), indicating more negative attitudes for the senior students. On the other hand, there is non-significant difference between MAS-Cognitions and MAS-Calm concerning the two semesters (Table 6).

### Discussion

In the present study, 68.8% of the participants from first semester and 68.7% from seventh semester had no prior information about people with disabilities. Several explanations may account for this observed poor knowledge. For example, there may still remain a lack of awareness about disability-related issues, though the legislative advances which have been made during last decades to tackle disability discrimination. An alternative suggestion is that some participants may come from rural areas where understanding of disability remains limited. This suggestion is confirmed by Neille & Penn (2015), who indicated disability awareness as a demanding issue in rural areas where marginalization and discrimination continue at an alarming rate. Therefore, is needed great effort across all regions to eliminate negative attitudes or prejudices against persons with disabilities through strategies, policy initiatives and sustainable programmes.

Given that nurses are in the forefront of caring people with disabilities, it is crucial to early develop positive attitudes towards this sensitive group. Nurse-students consist an important population that will in future take decisions about disability, directly or indirectly (Ten Klooster et al, 2009; Scior, 2011; Uysal et al, 2014; Keith, Bennetto & Rogge, 2014; 2015). The results of the present study also revealed no significant association between attitudes and prior experience with a disabled person. This finding contradicts published data by Uysal et al (2014), who exploring 587 undergraduate

nursing students showed that prior knowledge regarding provision of care to people with disabilities within family or social life was a significant factor that shaped positive attitudes. Similarly, ten Klooster et al (2009), supported that having a relative or friend with a physical disability is a parameter which decisively promotes positive attitudes among nurse and no nurse students.

According to the results of the present study, the total score in ATDPS scale was higher in seventh semester. This finding depicts the level of awareness about disability that students acquired during their studies. Possibly, nurses students when entering university may carry the same attitude with society towards disability (Scior, 2011) which is improved during their studies. Moreover, relevant studies showed that undergraduate students have more positive attitudes compared to the general population and more negative compared to medical or other health care students (Tervo et al, 2002; Tervo & Palmer, 2004). Sahin et al (2010) declared that nursing students have less contact with the disabled compared to medical students who are in a closer contact with them and acquire more prior knowledge. Positive attitudes were shown by nursing students at the completion of their senior year after they had followed the chronic illness course (Thompson, Emrich & Moore, 2003).

However, Girli et al (2016) who explored attitudes in 1766 students attending faculty of education and faculty of health showed that the majority of the students were not knowledgeable about legislative regulations regarding people with disabilities. The same researchers who also used ATDP Scale showed that male students, those of low-income and students from villages achieved higher scores in terms of their attitudes towards disability.

Irrespective of semester, a need for more education is obvious to all nursing students. According to students' view, it is essential to incorporate a lesson of disability in nursing curricula to enhance their confidence so as to work effectively with these people. An information session in combination with interaction with disability shape more positive attitudes. Equally effective might be providing videos about people with disabilities in different community settings, inviting expert-speakers on the topic and listening to individuals

with disabilities talking about themselves. Given that attitudes are complex, it is important to implement globally accepted curriculum standards that promote behaviour change and reduce prejudice among nurse students (Seccombe, 2007; Tracy & Iacono, 2008; Temple & Mordoch, 2012; Willis & Thurston, 2015; Meyers & Lester, 2016).

Needless to say, people with disabilities dependent on health professionals and frequently consider them closer than their family members. However, this recognized concept of dependency may give rise to serious concerns, especially when persons with disability are viewed as passive recipients being unable to meet their needs. Frequently but not inevitably, communication with disabled people is either poor or inefficient which in conjunction with low quality of health services increase the vicious circle of dependency (Tervo et al, 2002). According to the primary researchers of MAS scale, the higher scores represent more negative attitudes towards persons with disabilities with "cognitive component" to be the most negative attitude (Findler, Vilchinsky & Werner, 2007). In the present study, "calm component" of MAS scale was found to be of highest score. This finding contradicts the results of ATDPS, thus needing further study.

Possibly the high score in calm dimension of MAS scale reflect an underlying conscious or unconscious discomfort at contact with persons with disability. Additionally, more this finding may illustrate the efforts of individuals to overcome their negative automatic responses at direct contact with disabled persons. If this is the case, is emerging on surface an incongruence between external and internal feelings that is easily understood by people with disabilities. Communication apprehension, and prevailing culture of a geographic location may explain up to some extent high scores in calm dimension. Self esteem is another key-element in the effort to remain calm in the context of disability. Interestingly, different conceptions of self-esteem give particular form to communication behaviors. Remain focus on communication itself and treat the individual with the same respect as to all society- members might be an essential step to overcome such difficulties (Magsamen-Conrad, Tetteh & Lee, 2016). Unfamiliarity and embarrassment when in contact with them or anxiety may be only some

of many contributing factors that influence college students' decision to be involved with persons who have disabilities. Finally, and most strikingly, both parts of this relationship need to be calm. Otherwise, individuals with disability may adopt behaviors that produce discomfort and anxiety which constitutes an obstacle in establishing a more intimate relationship (Gaje, Saylor & DeRoma, 2002).

The present study also revealed differences between gender and disability attitudes with men to be more positive. This finding is in line with Girli et al (2016), who reported more positive attitudes for male participants. Despite, there has been invested a great deal of effort in disability understanding, however there is a paucity of research addressing the association between gender and attitudes which has contradictory results (Gaje, Saylor & DeRoma, 2002; Lutz & Bowers, 2003; Hergenrath & Rhodes, 2007; Vilchinsky, Werner & Findler, 2010). Some published data have shown that women express more positive attitudes possibly because providing care is either more close to their nature or more frequent in the complex system of care (Satchidanand et al, 2012; Hergenrath & Rhodes, 2007).<sup>8,32</sup> Specifically more, women have positive attitudes in a workplace context and less positive in the context of dating and marriage.<sup>32</sup> Gender factors that may influence individuals' attitudes needs further research as no gender differences were reported by Tervo et al (2004). However, samples-studied are mostly female and therefore, it is not always possible to make a true comparison between females and males. Based on the finding presented, it is suggested that understanding the role of gender is fundamental to the development of appropriate educational interventions that dispel negative attitudes and desensitize fears.

**Conclusions:** The results showed high scores in ATDP that mean more positive attitudes of students whereas high score in MAS scale mainly in calm dimension that mean less positive attitudes. Implementation of disability awareness will influence the development of positive perceptions among nurse students. People with disabilities need health care that will enable them to live as self-determining individuals. Therefore, it is essential to create an undergraduate curriculum that will enhance skills and attitudes on disability as well as expand knowledge on several themes such as on legal procedures, on

social and political implications and on assistive technology.

**Limitations and future research:** One limitation is that participants were a convenience sample of students in Nursing Faculty in TEI of Athens in Greece. Consequently, it is not representative of all nurse students in Greece, thus limiting the ability of results' generalization as well as limiting regional comparisons. A further limitation of the present study is the cross-sectional design. Longitudinal studies assessing the effects of nursing education and other intervening variables on students' attitudes are necessary to fully understand how disability attitudes are shaped either positively or negatively. Factors influencing students' attitudes toward persons with disabilities merit future research.

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