

# Pharmacists' Attitudes and Emotional Reactions Toward Mentally Handicapped Patients: Implications for Providing Pharmaceutical Care

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This study used a mail survey to examine 1,000 pharmacists' attitudes and emotional reactions toward mentally handicapped patients. A total of 388 pharmacists participated in the study with a 41.0 percent response rate. Overall, pharmacists were found to have slightly positive basic attitudes toward these patients on the following four aspects: effect on family, place or value and acceptance in society, quality of life, and independence and autonomy. They also had slightly positive overall attitudes and emotional reactions. Additionally, younger pharmacists and pharmacists who had prior experience with mentally handicapped people were more likely to have positive basic attitudes and emotional reactions than their counterparts. The results of this study support the development of educational programs which provide pharmacists with enlightening information regarding mentally handicapped patients.

## INTRODUCTION

A study has shown that many people have little knowledge or experience with individuals challenged by various physical and/or mental handicaps. People are usually unsure of how to communicate with such individuals and hold some negative attitudes toward them(1). Based on Adler's *et al.* findings, measures of people's attitudes and opinions can be used as predictors of their future behaviors(2). It can be hypothesized that prior social contact, knowledge, and experience with mentally handicapped people also affect pharmacists' attitudes and emotional reactions toward their patients challenged with handicaps. Studies indicate that health professionals who have greater professional contact and less social distance from handicapped people demonstrate higher levels of understanding and caring in their interactions with them(3). Because pharmacists' attitudes and behaviors can be crucial determinants in successfully providing quality pharmaceutical care to such patients, it is important that we are able to gauge how they feel about these patients.

The pharmacist has an extremely important role to play in health care provision to mentally handicapped individuals, in particular. A large number of these patients,

like many older patients, often use several types of drugs at a given time. These medications, ranging from anticonvulsant to antidepressant drugs, taken in conjunction with the handicapped patients' largely sedentary and restricted lifestyle, produce many negative side effects and symptoms(4). For example, the use of anticonvulsants, particularly harmful in long term use, can lead to the depletion of folic acid and other elements necessary for bone growth; lithium therapy can interfere with thyroid function. Oftentimes the medications administered to mentally handicapped individuals are unnecessary and inappropriately used(4). The pharmacist, as the health care professional most knowledgeable about medications and their proper usage, can lend a great deal of effort to improve health care services to mentally challenged patients. Pharmacists can provide better service to handicapped patients if they have positive attitudes toward these patients. Many studies have shown that social contact between handicapped and non-handicapped people can improve relationship, attitude, and understanding of both parties(5-15). Such improvement can aid health care providers to show empathy and select an appropriate approach to provide services to their patients.

Although there are studies that investigate the public, students, and some health professionals' attitudes toward mentally handicapped people, specific data on pharmacists' and pharmacy students' attitudes toward these patients are still limited. This study serves as an exploratory study to measure pharmacists' attitudes and emotional reactions toward mentally handicapped individuals. If pharmacists are found to have largely negative attitudes toward these patients, an educational program needs to be designed and developed to provide pharmacists with enlightening information regarding mentally handicapped patients.

## OBJECTIVES AND HYPOTHESES

The objective of this study was to examine pharmacists' attitudes and emotional reactions toward mentally handicapped patients. In addition, the relationship of certain demographic and other related variables to attitudes and emotional reactions was examined. Based on previous studies(5-15), two hypotheses were tested in this study as follows:

- H1:** Pharmacists who have prior experience with mentally handicapped people are more likely to have favorable attitudes toward them than pharmacists who have no experience.
- H2:** Pharmacists who have prior experience with mentally handicapped people are more likely to have positive emotional reactions toward them than pharmacists who have no experience.

## METHODS

### Experimental Plan

This study was conducted between June 1995 and March 1996. It was divided into three phases (planning, implementation, and evaluation). During the planning phase, a questionnaire was developed using study instruments by Nursey *et al.*(3) and Beh-Pajoooh(13). It also was pre-tested with pharmacy faculty members at the College of Pharmacy. Their feedback and comments were used to modify the questionnaire. The implementation phase began with the purchase of a mailing list of 5,000 pharmacists nationwide. This mailing list was obtained from Medical Marketing Service Incorporated and programmed to randomly select 1,000 retail pharmacists from every zip code in the United States. In the first mailing, a cover letter, the final version of the questionnaire, and a pre-addressed postage-paid envelope were mailed to all subjects in the study. A deadline was set for the respondents to return the questionnaires. Each subject was assigned a four-digit identification number for follow-up. Those who returned the questionnaires and those who wished not to complete the questionnaires were checked off from the mailing list. Returned mailings with forwarding addresses were relabeled and mailed out a second time. Approximately two weeks after the deadline, a second cover letter and another questionnaire were mailed to those subjects who had not responded to the first mailing.

The PC-SAS (Personal Computer-Statistical Analysis Software) was used to perform data analyses(16). Owing to multiple tests, Bonferroni was used to adjust the P value and an alpha level of 0.005 (0.05/10) was chosen as the level of significance for the study. Frequencies, means, and standard deviations were computed for all continuous variables. To test the two study hypotheses, Mests were used to determine the differences in the mean attitude score (H1) and the mean

emotional reaction score (H2) between pharmacists who had prior experience with mentally handicapped people and pharmacists who had no experience.

### Study Instrument

In this study, mentally handicapped individuals were defined as those people who are mentally retarded or living with severe mental disabilities(3). The questionnaire was comprised of four parts. Part one contained 49 items focusing on Nursey *et al.*'s(3) four aspects of a mentally challenged person's life. This section investigated pharmacists' four basic attitudes regarding 12 items on the effect on family, 13 items on the place or value and acceptance in society, 13 items on the quality of life, and 11 items on the independence and autonomy(3). Participants were asked to respond to the series of questions by indicating their level of agreement and/or disagreement on a continuous five-point scale, ranging from strongly disagree (1) to strongly agree (5).

In part two of the questionnaire, the Attitude Scale (AS) by Beh-Pajoooh's(13) was used to measure both overall positive (15 items) and overall negative attitudes (13 items) toward severely handicapped patients. To compute the overall attitude score for each subject on the AS, a score of +2 was given to 'strongly agree' and a score of +1 was given to 'agree' on attitude items that show favorable attitudes. A score of -2 was given to 'strongly disagree' and a score of -1 was given to 'disagree' on attitude items that show unfavorable attitudes. The scoring was reversed for the items presenting negative attitudes. The overall attitude score for each subject was then summed. According to this, the possible overall attitude scores varied from -56 (the most negative attitude) to +56 (the most positive attitude).

Part three of the study used the Emotional Reaction Scale (ERS) which was previously used by Beh-Pajoooh(13). The ERS contained four items for measuring positive emotional reactions and four items for measuring negative emotional reactions. The same procedure was used to compute the overall emotional reaction score for each subject on the ERS. A score of +1 was given to 'yes' and a score of -1 was given to 'no' answers for the four positive items. Conversely, a score of -1 was given to 'yes' and a score of +1 was given to 'no' answers for the four negative items. The overall emotional reaction score for each subject was then computed. Based on this, the possible overall emotional reaction scores ranged from -8 (the most negative emotional reaction) to +8 (the most positive emotional reaction). It was noted that a score of zero (0) was given to any neutral answers (don't know or undecided) for both the Attitude Scale and the Emotional Reaction Scale. Finally, part four of the questionnaire contained questions related to demographic variables (gender, age, ethnic group, marital status, highest degree, and year of license), practice setting, level of educational preparation and training, and prior experience with mentally handicapped people.

The study instrument is shown in Appendix A. For each of these three scales (the four basic attitudes, the Attitude Scale, and the Emotional Reaction Scale), an item analysis was run using Cronbach's Alpha to check the internal consistency reliability. According to Nunnally(17), Cronbach's alpha should be at least 0.70. Using this as a standard, it was found that alphas were acceptable for the Attitude Scale (range = 0.88 to 0.90), Emotional Reaction Scale (range= 0.94 to 0.95), and the three basic attitudes' subscales including the effect on family (ranges= 0.85 to

0.88), independence and autonomy (range= 0.72 to 0.80), and place in society (range= 0.69 to 0.73). However, the quality of life subscales had lower alphas (range= 0.27 to 0.54) compared to the others.

## DISCUSSION OF RESULTS

### Sample Description

Of the 388 pharmacist respondents, most of them were White (90.2 percent), male (68.3 percent), married (80.4 percent), and had a bachelor of science in pharmacy degree (90.2 percent). The mean age was 45.2±13.2 years old and the mean number of years of practice was 20.4±13.2 years old. Almost half of the respondents were primary practicing in independent (47.2 percent) and chain pharmacies (43.6 percent). All respondents represented graduates from 75 Colleges of Pharmacy. The top five highest number of respondents were pharmacists graduated from Massachusetts College of Pharmacy and Allied Health Sciences (3.6 percent), Philadelphia College of Pharmacy and Science (3.1 percent), Ohio State University (3.1 percent), Auburn University (2.6 percent), University of Illinois at Chicago (2.6 percent), and St. Louis College of Pharmacy (2.6 percent).

Other than the demographic information, pharmacist respondents also were asked whether or not they had any prior experience with mentally handicapped patients and whether or not they had received any types of educational preparation and training related to knowledge and interaction with mentally handicapped patients. As a pharmacist, a majority of the respondents (93.6 percent) had experienced at least one contact or interaction with mentally handicapped people. Of these, 3.4 percent of them always (100 percent of time) contacted or interacted with mentally handicapped people, 19.8 percent were seldom (25 percent of time), 24.2 percent were frequently (75 percent of time), and 46.4 percent were sometimes (50 percent of time). When they were pharmacy students, over half of them (52.6 percent) had experienced at least one contact or interaction with mentally handicapped people. Less than one percent (0.3 percent) of these pharmacy students always (100 percent of time) contacted or interacted with mentally handicapped people, 6.7 percent were frequently (75 percent of time), 21.4 percent were seldom (25 percent of time), and 25.5 percent were sometimes (50 percent of time).

Most of the respondents (90.0 percent) indicated that while in pharmacy school their pharmacy schools did not provide any types of educational preparation and training related to mentally handicapped patients. When they were asked to rate their pharmacy educational preparation and training on their knowledge of mentally handicapped patients, the highest number of them rated their knowledge as poor (37.6 percent), followed by average (35.6 percent), very poor (18.6 percent), good (6.2 percent) and excellent (0.8 percent) respectively. In terms of their educational preparation and training on how to appropriately interact with mentally handicapped patients, the highest number of them rated their ability as poor (41.8 percent), followed by average (33.2 percent), very poor (18.0 percent), good (4.6 percent) and excellent (1.5 percent) respectively.

### Pharmacists' Basic Attitudes Toward the Four Aspects of Mentally Handicapped People

In this section, pharmacists were asked to use a continuous five-point scale, ranging from strongly disagree (1) to

**Table I. Pharmacists' basic attitudes toward the effect on family across demographic and other related variables**

Variable	N	Mean±SD <sup>a</sup>	t	P
Gender				
Male	264	3.32±0.67	1.0467	0.2964
Female	121	3.41±0.74		
Marital status				
Single	73	3.23±0.65	1.5855	0.1156
Married	310	3.37±0.70		
Ethnic group				
White	348	3.36±0.68	1.3718	0.1781
Non-White	33	3.19±0.69		
Practice setting				
Independent	182	3.29±0.74	1.8809	0.0608
Chain	168	3.43±0.63		
Degree				
B.S.	348	3.34±0.69	1.4097	0.1669
Graduate	32	3.51±0.67		
Age				
<45 years	200	3.45±0.68	3.0744	0.0023*
45-85 years	183	3.23±0.69		
License year				
<20 years	193	3.43±0.67	2.5950	0.0098
20-63 years	188	3.25±0.70		
As a pharmacist, have you ever contacted or interacted with mentally handicapped people?				
Yes	361	3.37±0.69	2.1726	0.0394
No	23	3.06±0.65		
When you were a pharmacy student, had you ever contacted or interacted with mentally handicapped people?				
Yes	202	3.47±0.68	3.9746	0.0001*
No	181	3.20±0.67		
Did your pharmacy school provide any types of educational training related to mentally handicapped patients?				
Yes	38	3.55±0.60	2.1679	0.0351
No	347	3.32±0.70		

<sup>a</sup>The possible total basic attitude scores vary from 1 (the most negative basic attitude) to 5 (the most positive basic attitude).

\**P*<0.005.

strongly agree (5), to indicate their agreement and/or disagreement on 49 statements related to the four aspects of mentally handicapped people. These four aspects were the effect on their families (12 statements), the place or value and acceptance of people with mental handicaps in society (13 statements), their quality of life (13 statements), and their right to independence and autonomy (11 statements). The items were combined and the mean score of each aspect was computed from a set of the statements so that each respondent had four mean scores representing his or her basic attitudes toward the four aspects.

Overall, pharmacists in the study had slightly positive basic attitudes toward mentally handicapped people on the four aspects, effect on family (mean=3.31±0.67), place or

**Table II. Pharmacists' basic attitudes toward the place or value and acceptance in society across demographic and other related variables**

Variable	N	Mean±SD <sup>a</sup>	t	P
Gender				
Male	263	3.50±0.40	0.0924	0.9264
Female	121	3.51±0.42		
Marital status				
Single	73	3.40±0.43	2.2532	0.0264
Married	309	3.53±0.39		
Ethnic group				
White	347	3.51±0.40	0.4966	0.6223
Non-White	33	3.47±0.40		
Practice setting				
Independent	181	3.51±0.44	0.1413	0.8877
Chain	168	3.52±0.37		
Degree				
B.S.	348	3.50±0.40	2.1026	0.0425
Graduate	31	3.65±0.38		
Age				
<45 years	199	3.53±0.42	1.2741	0.2034
45-85 years	183	3.48±0.39		
License year				
<20 years	192	3.52±0.40	0.8713	0.3842
20-63 years	188	3.49±0.40		
As a pharmacist, have you ever contacted or interacted with mentally handicapped people?				
Yes	360	3.51±0.40	1.2806	0.2126
No	23	3.38±0.47		
When you were a pharmacy student, had you ever contacted or interacted with mentally handicapped people?				
Yes	202	3.59±0.41	4.1070	0.0001*
No	180	3.42±0.38		
Did your pharmacy school provide any types of educational training related to mentally handicapped patients?				
Yes	38	3.59±0.42	1.2422	0.2206
No	346	3.50±0.40		

<sup>a</sup>The possible total basic attitude scores vary from 1 (the most negative basic attitude) to 5 (the most positive basic attitude).

\*P<0.005.

value and acceptance in society (mean=3.51±0.40), quality of life (mean=3.38±0.30), and independence and autonomy (mean=3.13±0.51). Tables I-IV show pharmacists' responses to these four aspects across demographic and other related variables. According to these, significant differences in the effect on family and quality of life were found between younger (<45 years old) and older (45-85 years old) pharmacists and between pharmacy students who had previously contacted or interacted with mentally handicapped people and those who had not. In both cases, younger pharmacists and pharmacy students who had previously contacted or interacted with mentally handicapped people were more likely to have positive effect on the family and positive quality of life than their counterparts. Additionally, phar-

**Table III. Pharmacists' basic attitudes toward the quality of life across demographic and other related variables**

Variable	N	Mean±SD <sup>a</sup>	t	P
Gender				
Male	262	3.37±0.31	0.8293	0.4078
Female	122	3.40±0.30		
Marital status				
Single	73	3.33±0.28	1.5897	0.1146
Married	309	3.39±0.31		
Ethnic group				
White	347	3.38±0.30	0.1397	0.8896
Non-White	33	3.38±0.32		
Practice setting				
Independent	180	3.37±0.33	1.1343	0.2575
Chain	169	3.41±0.28		
Degree				
B.S.	349	3.38±0.30	1.0063	0.3213
Graduate	30	3.44±0.30		
Age				
<45 years	199	3.43±0.29	3.0045	0.0028*
45-85 years	183	3.33±0.31		
License year				
<20 years	192	3.41±0.28	2.1479	0.0324
20-63 years	188	3.35±0.32		
As a pharmacist, have you ever contacted or interacted with mentally handicapped people?				
Yes	360	3.39±0.30	2.1832	0.0391
No	23	3.22±0.38		
When you were a pharmacy student, had you ever contacted or interacted with mentally handicapped people?				
Yes	203	3.44±0.27	4.0328	0.0001*
No	179	3.32±0.33		
Did your pharmacy school provide any types of educational training related to mentally handicapped patients?				
Yes	38	3.43±0.26	1.0480	0.2998
No	346	3.38±0.31		

<sup>a</sup>The possible total basic attitude scores vary from 1 (the most negative basic attitude) to 5 (the most positive basic attitude).

\*P<0.005.

macy students who had prior experience with mentally handicapped people were more likely to have positive place or value and acceptance in society than those who had no experience. Finally, pharmacists who had prior experience with mentally handicapped people were more likely to have positive attitudes toward the rights of the mentally handicapped people's independence and autonomy than those who had no experience.

### Pharmacists' Attitudes and Emotional Reactions toward Mentally Handicapped Patients

Using the Attitude Scale (AS), pharmacists were found to have slightly positive overall attitudes (mean=7.54±1.2.13; range =-56 to +56) on this scale. Table V shows pharmacists'

**Table IV. Pharmacists' basic attitudes toward the independence and autonomy across demographic and other related variables**

Variable	N	Mean±SD <sup>a</sup>	t	P
Gender				
Male	261	3.13±0.51	0.1622	0.8713
Female	121	3.12±0.53		
Marital status				
Single	73	3.14±0.47	0.2425	0.8088
Married	307	3.12±0.52		
Ethnic group				
White	345	3.13±0.51	0.4237	0.6740
Non-White	33	3.09±0.41		
Practice setting				
Independent	179	3.13±0.55	0.6623	0.5082
Chain	168		3.1610.47	
Degree				
B.S.	347	3.12±0.50	2.6839	0.0110
Graduate	30	3.36±0.46		
Age				
<45 years	198	3.17±0.50	1.3234	0.1865
45-85 years	182	3.10±0.52		
License year				
<20 years	191	3.16±0.50	1.0647	0.2877
20-63 years	187	3.10±0.53		
As a pharmacist, have you ever contacted or interacted with mentally handicapped people				
Yes	358	3.15±0.50	3.2009	0.0015*
No	23	2.80±0.61		
When you were a pharmacy student, had you ever contacted or interacted with mentally handicapped people?				
Yes	202	3.19±0.52	2.5248	0.0120
No	178	3.06±0.50		
Did your pharmacy school provide any types of educational training related to mentally handicapped patients?				
Yes	38	3.11±0.48	0.2166	0.8294
No	344	3.13±0.52		

<sup>a</sup>The possible total basic attitude scores vary from 1 (the most negative basic attitude) to 5 (the most positive basic attitude).

\*P<0.005.

responses on the Attitude Scale across demographic and other related variables. As can be seen in Table V, no significant difference was found in pharmacists' overall attitudes across demographic and other related variables. Table VI shows the frequency and percentage of pharmacists' responses to the items on the Emotional Reaction Scale (ERS). According to Table VI, almost one-fourth of the pharmacists (23.5 percent) admitted that they did not know what to say to a severely mentally handicapped patient when he or she came to fill a prescription at the pharmacy. Also, more than one-fourth of them (29.4 percent) indicated that they did not know how to communicate with severely mentally handicapped patients. Using the emotional reaction scale (ERS), pharmacists were found to have slightly positive emotional reactions (mean=4.92±2.65;

**Table V. Pharmacists' attitudes across demographic and other related variables**

Variable	N	Mean±SD <sup>a</sup>	t	P
Gender				
Male	265	7.32±11.85	0.4493	0.6536
Female	122	7.93±12.77		
Marital status				
Single	73	6.11±10.71	1.1851	0.2383
Married	312	7.81±12.46		
Ethnic group				
White	350	7.28±11.85	0.7136	0.4801
Non-White	33	9.21±15.10		
Practice setting				
Independent	183	6.66±12.60	1.3694	0.1717
Chain	169	8.44±11.82		
Degree				
B.S.	350	7.15±12.05	2.9606	0.0052
Graduate	32	13.13±10.81		
Age				
<45 years	201	9.11±11.91	2.6629	0.0081
45-85 years	184	5.86±12.01		
License year				
<20 years	194	8.64±11.99	1.8038	0.0720
20-63 years	189	6.42±12.11		
As a pharmacist, have you ever contacted or interacted with mentally handicapped people				
Yes	363	7.64±12.14	0.8165	0.4220
No	23	5.48±12.30		
When you were a pharmacy student, had you ever contacted or interacted with mentally handicapped people?				
Yes	204	8.24±12.05	1.2771	0.2023
No	181	6.66±12.21		
Did your pharmacy school provide any types of educational training related to mentally handicapped patients?				
Yes	38	7.92±11.68	0.2252	0.8228
No	349	7.47±12.19		

<sup>a</sup>The possible total attitude scores vary from -56 (the most negative attitude) to +56 (the most positive attitude).

range =-8 to +8) on this scale. Table VII shows pharmacists' responses on the Emotional Reaction Scale across demographic and other related variables. It was found that pharmacists and pharmacy students who had previously contacted or interacted with mentally handicapped people were more likely to have positive interactions or emotional reactions than those who had not.

#### LIMITATIONS

The study had some limitations which should be considered when interpreting the results. Generalization of the results of this study was limited to the selected group of pharmacists participated in the study and the attitudes and emotional reactions as measured by the instruments used in this study. As related to the reliability of the scales used in this study,

**Table VI. Frequency and percentage of pharmacists' responses to the items on the Emotional Reaction Scale (ERS)**

Item	Yes F(%)	No F(%)	Don't know F(%)	Did not answer F(%)
Suppose tomorrow a patient with a severe mental handicap, whom you have never met before, comes and fills a prescription at your pharmacy. would you:				
Know what to say?	276(71.1)	14(3.6)	91(23.5)	7(1.8)
Know how to communicate?	255(65.7)	12(3.1)	114(29.4)	7(1.8)
Feel embarrassed?	16(4.1)	347(89.4)	18(4.6)	7(1.8)
Feel scared?	16(4.1)	345(88.9)	19(4.9)	8(2.1)
Find it a good experience?	215(55.4)	22(5.7)	144(37.1)	7(1.8)
Find it enjoyable?	110(28.4)	64(16.5)	207(53.4)	7(1.8)
Find it tiresome?	26(6.7)	238(61.3)	117(30.2)	7(1.8)
Lose your concentration?	15(3.9)	306(78.9)	60(15.5)	7(1.8)

**Table VII. Pharmacists' emotional reactions across demographic and other related variables**

Variable	N	Mean±SD <sup>a</sup>	t	P
Gender				
Male	265	5.02±2.58	1.1309	0.2593
Female	122	4.68±2.81		
Marital status				
Single	73	4.66±3.04	0.7918	0.4304
Married	312	4.96±2.56		
Ethnic group				
White	350	4.90±2.64	0.0403	0.9681
Non-White	33	4.88±2.91		
Practice setting				
Independent	183	4.99±2.70	0.0415	0.9669
Chain	169	5.01±2.44		
Degree				
B.S.	350	4.93±2.59	0.0834	0.9340
Graduate	32	4.88±3.35		
Age				
<45 years	201	4.67±2.92	1.8743	0.0617
45-85 years	184	5.17±2.32		
License year				
<20 years	194	4.78±2.72	0.8738	0.3828
20-63 years	189	5.02±2.60		
As a pharmacist, have you ever contacted or interacted with mentally handicapped people?				
Yes	363	5.02±2.53	3.3562	0.0009*
No	23	3.13±3.77		
When you were a pharmacy student, had you ever contacted or interacted with mentally handicapped people?				
Yes	204	5.28±2.44	2.8682	0.0044*
No	181	4.51±2.83		
Did your pharmacy school provide any types of educational training related to mentally handicapped patients?				
Yes	38	5.26±2.08	1.0619	0.2932
No	349	4.87±2.71		

<sup>a</sup>The possible total emotional reaction scores vary from -8 (the most negative emotional reaction) to +8 (the most positive emotional reaction).

\*P<0.005.

it should be noted that the quality of life subscale had a lower internal consistency reliability compared to the others. However, Bernardi(18) suggested that a low Cronbach's alpha did not immediately put the results of the study into question. In addition, Anastasi(19) and Lehmann(20) also found that the reliability of the test instruments could be related to sample heterogeneity. Therefore, cautious interpretation of the results of this study is advised.

#### DISCUSSION AND CONCLUSION

The first hypothesis was rejected. No significant difference was found in pharmacists' attitudes toward mentally handicapped people between pharmacists who had prior experience with mentally handicapped people and pharmacists who had no experience. However, the second hypothesis was accepted. Pharmacists who had prior experience with mentally handicapped people were found to have more positive emotional reactions with mentally handicapped people than pharmacists who had no experience. In other words, pharmacists' prior experience with mentally handicapped people does not affect their attitudes toward these people, but can influence their emotional reactions when providing pharmaceutical care to such patients. Although this study did not investigate how well our current pharmacists are providing pharmaceutical care to mentally handicapped patients, it was found that pharmacists in the study had on average, slightly positive, but not strongly positive attitudes and emotional reactions toward these patients. Also, there was a high number of respondents who never had any types of educational training related to mentally handicapped patients when they were pharmacy students. Finally, the study findings indicated that prior social contact or experience can influence the pharmacists' basic attitudes and emotional reactions toward these patients. Based on these findings, we believed that once more pharmacists have been exposed to or have had social contact or experience with mentally handicapped patients through an educational program such as a clinical rotation, a psychiatric rotation, or a shadowing program at some mental institutions, their experience may influence them to have more positive attitudes and emotional reactions toward these patients. Whether this prior social contact or experience can influence their behaviors to provide a better and high quality of care to this population group is an interesting subject for our future investigation.

In conclusion, pharmacists in this study were found to have slightly positive basic attitudes on the four aspects (effect on family, place or value and acceptance in society, quality of life, and independence and autonomy) related to mentally handicapped people. They also had slightly positive overall attitudes and slightly positive emotional reactions toward mentally handicapped patients. In this study, pharmacists' age and prior experience with mentally handicapped people were the two factors that were associated with their basic attitudes and emotional reactions toward mentally handicapped people. When they were pharmacy students, less than ten percent of them had received any types of educational preparation and training related to mentally handicapped patients. More than half of the pharmacists gave a rating of very poor and poor for their pharmacy educational preparation and training regarding their knowledge (56.2 percent) and appropriate interaction (59.8 percent) with mentally handicapped patients. The results of this study support the development of educational programs which provide pharmacists with enlightening information regarding mentally handicapped patients.

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## APPENDIX A. STUDY INSTRUMENT

**Part One:** Please write one of the numbers from 1 to 5 in the spaces provided using the continuous five-point scale to indicate your level of agreement.

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Neutral, No Opinion, or Undecided
- 4 = Agree
- 5 = Strongly Agree

### Effect on Family

- \_\_\_ 1. I feel that having a severely mentally handicapped (MH) child is a terrible thing for most families.
- \_\_\_ 2. I feel that having a severely MH child is worse for most parents than having a still-born baby.
- \_\_\_ 3. I feel that having a moderately MH child is worse for most parents than having a still-born baby.
- \_\_\_ 4. I feel that having a moderately MH child is a terrible thing for most families.
- \_\_\_ 5. I feel that having a mildly MH child is worse for most parents than having a still-born baby.
- \_\_\_ 6. I feel that having a mildly MH child is a terrible thing for most families.
- \_\_\_ 7. I believe that having a child with a mental handicap gives parents a special sense of purpose in their lives.
- \_\_\_ 8. I believe that having a MH child has its positive side for most parents.
- \_\_\_ 9. I think that the positive side of having a MH child outweighs the negative side for most parents.
- \_\_\_ 10. I think that it is possible for most parents to love their MH children as much as normal children.
- \_\_\_ 11. I believe that most children with a mental handicap are burdens to their brothers and sisters.
- \_\_\_ 12. I think that having a MH child restricts most families socially.

### Place in Society

- \_\_\_ 13. I feel that most MH people can make other people happy.
- \_\_\_ 14. I feel MH people are unpleasant to look at.
- \_\_\_ 15. I feel that most MH people do not contribute much to society.
- \_\_\_ 16. I think that most MH people are worth as much as normal people.
- \_\_\_ 17. I think that most moderately MH people could do useful jobs in a sheltered work place.
- \_\_\_ 18. I think most MH people look peculiar.
- \_\_\_ 19. I think that most MH people are well accepted by strangers.
- \_\_\_ 20. I think that most severely MH people could do useful jobs in a sheltered work place.
- \_\_\_ 21. I think that it is impossible to hold an interesting conversation with most MH people.
- \_\_\_ 22. I feel that most people with a mental handicap are well accepted by their neighbors and people who know them.
- \_\_\_ 23. I feel that being with MH people brings out the best in most people.
- \_\_\_ 24. I think that some people with a mental handicap do things that are embarrassing in public.
- \_\_\_ 25. I think that most mildly MH people could do useful jobs in a sheltered work place.





Divorced/Separated  
 Other, please specify \_\_\_\_\_

How do you describe yourself?  
 White  Black  Asian  
 Hispanic  American Indian  
 Other, please specify \_\_\_\_\_

What is the one that best describes your primary practice environment?  
 Independent  Chain  
 Other, please specify \_\_\_\_\_

What is the highest degree you have earned?  
 Bachelor degree (B.S.)  
 Master degree (M.S.)  
 Doctoral degree (Ph.D.)  
 Doctor of Pharmacy (Pharm.D.)  
 Other, please specify \_\_\_\_\_

In what year were you born? 19\_\_\_\_

In what year were you first licensed to practice pharmacy?  
19\_\_\_\_

From what College of Pharmacy did you graduate? \_\_\_\_\_

As a pharmacist, have you ever contacted or interacted with mentally handicapped people?  
 Yes  No

If yes, how often (% of time)?  
 Seldom (25%)  Sometimes (50%)  
 Frequently (75%)  Always (100%)

When you were a pharmacy student, had you ever contacted or interacted with mentally handicapped people?  
 Yes  No

If yes, how often (% of time)?  
 Seldom (25%)  Sometimes (50%)  
 Frequently (75%)  Always (100%)

When you were a pharmacy student, did your pharmacy school provide any types of educational training related to mentally handicapped patients?  
 Yes  No

How do you rate your pharmacy educational preparation regarding your knowledge of mentally handicapped patients?  
 Very Poor  Poor  Average  
 Good  Excellent

How do you rate your pharmacy educational preparation regarding how to appropriately interact with mentally handicapped patients?  
 Very Poor  Poor  Average  
 Good  Excellent

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