THE IMPORTANCE OF THE MEDICAL HUMANITIES AMONG ADOLESCENTS: DEVELOPING A MEDICAL HUMANITIES QUESTIONNAIRE

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The purpose in this study was to develop a questionnaire measuring the subjective importance among adolescents of medical humanities issues. Based on a series of literature reviews and expert panel discussions, a questionnaire was created and completed by 460 randomly selected individuals. An exploratory factor analysis and a principal component analysis were conducted. The 19 items in the questionnaire were classified into 5 factors: professionalism, caring and empathy, patient orientation, disclosure of harm, and communication. These 5 factors accounted for 59.19% of the variance. The developed questionnaire was subsequently completed by 258 adolescents enrolled in medical science courses and 268 adolescents enrolled in other courses to see whether or not there was any significant difference between the two groups in their awareness of medical humanities. Results revealed that adolescents enrolled in medical science courses placed greater importance on these issues than did those enrolled in other courses.

Keywords: medical humanities, patient orientation, empathy, professionalism, disclosure of harm.

Since the implementation of national health insurance in Taiwan, hospitals have placed increasing emphasis on finding ways to keep to the budget and to treat the maximum number of patients for the money available (Chung, 2003). This focus on the commercialization of medical care has come at a time when technology and science have become the main components of medical education

1235

(Tai, 2000). With advances in science and technology, medical treatment has been increasingly instrumentalized and datalized, and patients are seen as scientific objects (Huang, 1996; Lin & Huang, 1999; Lin, Khu, Lin, & Chang, 2003). This emphasis on medical science has brought about concerns that the treatment process has become dehumanized and that doctors have forgotten that "medicine is more about restoring peace of mind than curing the disease" (Huang, 1996; Lin & Huang, 1999). The psychological world of each patient is, thus, often overlooked. Medical humanities departments have gradually become involved in medical education in an effort to balance scientific content with humanistic content, and to reintroduce humaneness into medical care (Gull, 2005). The purpose of medical humanities courses is to humanize medical care by having students learn about topics such as pain, suffering, illness, disease, aging, dying, and loss from a humanistic perspective with the intention of creating a more holistic approach to medical care (Hsu, 2005; Macnaughton, 2000).

The purpose in this study was to develop a questionnaire to measure the individual perceptions among adolescents of issues related to medical humanities. The original questionnaire was completed by a randomly selected group of Taiwanese adults, and then the developed questionnaire was completed by students enrolled in medical science courses, and by others who were not enrolled in such courses to establish whether or not there was any significant difference between the two groups in their awareness of these issues.

METHOD

PARTICIPANTS

The face-to-face questionnaire was completed by 460 people chosen randomly from the general public. Eleven questionnaires were invalid because they were returned with missing data. The response rate was 97.61% of available participants ($N = 449$). Among the participants, 58.6% were female ($n = 263$) and 41.4% were male ($n = 186$). The participants ranged in age as follows: 9.4% ($n = 42$) were younger than 20; 22.9% ($n = 103$) were between 21 and 30; 30.3% ($n = 136$) were between 31 and 40; 25.2% ($n = 113$) were between 41 and 50; and 12.2% ($n = 55$) were older than 51. In educational background, 11.4% ($n = 51$) identified themselves as having attended elementary or junior high school only; 22.3% ($n = 100$) had graduated from high school; 28.3% ($n = 127$) had a college degree; 28.9% ($n = 130$) had a university degree; and 9.1% ($n = 41$) had a postgraduate qualification.

THE DEVELOPMENT OF THE QUESTIONNAIRE

After a series of literature reviews and panel discussions, an initial list of 54 items was reduced to 34 items. Answers to the selected questions were

measured on a 5-point Likert scale with scores ranging from 5 = *strongly agree* to 1 = *strongly disagree*. The higher the score the more importance a participant placed on the issues related to medical humanities that were presented in the questionnaire.

The questionnaire was developed in English and then translated into Chinese before being reviewed by two bilingual English teachers. It was then translated back into English by a Taiwanese doctoral student majoring in English. The original and subsequent versions were compared by a native English speaker who has a doctorate in English, and minor modifications were made. The final version was checked by three experts in the medical humanities for content validity, and five university students were selected to help clarify each item to avoid ambiguity. Statistics were calculated using SPSS version 14.0.

RESULTS

FACTOR ANALYSIS

Exploratory factor analysis was conducted to test the construct validity and the internal consistency of the questionnaire using eigenvalues of 1.0 in a principal component analysis and a varimax rotation. An item was retained if it loaded greater than 0.50 on the relevant factor and less than 0.50 on the nonrelevant factor. The initial 34 items were thus reduced to 19 items, and five factors were identified: professionalism, caring and empathy, patient orientation, disclosure of harm, and communication. The five factors retained in the questionnaire accounted for 59.19% of the variance (see Table 1). Factor 1 contained four items related to professionalism accounting for 13.74% of variance. Factor 2 contained five items related to caring and empathy, accounting for 12.68% of variance. Factor 3 contained four items related to patient orientation, accounting for 11.03% of variance. Factor 4 contained three items related to disclosure of harm, accounting for 10.94% of variance. Factor 5 contained three items related to communication, accounting for 10.81% of variance. The eigenvalues of the five factors from the principal component analysis were all greater than one (see Table 1). These results support the unidimensionality of the questionnaire.

RELIABILITY

The Cronbach's alpha (α) was used to test the internal reliability of the questions within each factor. The Cronbach's α for the entire questionnaire was 0.83, indicating that the questions in each factor had a fairly satisfactory reliability in assessing the subjective importance of the five identified factors in the medical humanities. Table 1 contains internal consistency values along with the rotated factor loadings for the questionnaire. The final version of the questionnaire is set out in the Appendix.

TABLE 1

ROTATED FACTOR LOADING AND CRONBACH'S α FOR THE MEDICAL HUMANITIES QUESTIONNAIRE

Item	Factor 1: Professionalism	Factor 2: Caring and empathy	Factor 3: Patient orientation	Factor 4: Disclosure of harm	Factor 5: Communication
39	.758				
38	.665				
46	.664				
40	.586				
2		.679			
5		.660			
1		.630			
4		.619			
6		.542			
49			.652		
54			.638		
48			.608		
16			.603		
30				.776	
29				.698	
31				.627	
23					.765
22					.732
24					.664
Cronbach's α	.77	.76	.64	.76	.73
Eigenvalue	6.59	1.33	1.23	1.10	1.003
% of variance	13.743	12.679	11.025	1.940	1.805

Notes: Overall α = .83; total variance explained = 59.19%.

MEAN ITEM SCORES AND STANDARD DEVIATIONS

Mean item scores and standard deviations for the questions are shown in Table 2. The highest scores were recorded in Factor 3, patient orientation, indicating that participants felt that medical professionals should be patient oriented. Relatively high scores were recorded in Factor 1, professionalism, Factor 5, communication, and Factor 2, caring and empathy. The lowest scores, indicating less importance to participants, were recorded in Factor 4, disclosure of harm.

TABLE 2
MEAN ITEM SCORES AND STANDARD DEVIATIONS FOR THE MEDICAL HUMANITIES QUESTIONNAIRE

	M	SD
Factor 1		
Professionalism	4.39	.54
38	4.46	.67
39	4.37	.69
40	4.35	.75
46	4.00	.71
Factor 2		
Caring and empathy	4.38	.47
1	4.34	.69
2	4.38	.64
4	4.42	.64
5	4.42	.64
6	4.35	.69
Factor 3		
Patient orientation	4.42	.47
16	4.22	.83
48	4.43	.66
49	4.50	.58
54	4.51	.61
Factor 4		
Disclosure of harm	4.25	.59
29	4.23	.73
30	4.23	.73
31	4.29	.68
Factor 5		
Communication	4.39	.55
22	4.43	.67
23	4.37	.70
24	4.39	.70

CORRELATION ANALYSIS

The Pearson correlation coefficient between any two factors was also calculated and is presented in Table 3. There was a significant correlation for all calculations, $p < .01$ between any two groups. The highest correlation coefficient among the scores was between Factor 1, professionalism, and Factor 4, disclosure of harm. The lowest correlation coefficient was found between Factor 3, patient orientation, and Factor 5, communication ($r = .44$; $p < .01$). These findings are consistent with the internal consistency data.

TABLE 3
CORRELATION ANALYSES FOR MEDICAL HUMANITIES QUESTIONNAIRE SUBSCALES

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Factor 1	1	.52	.48	.55	.51
Factor 2	.00**	1	.49	.49	.52
Factor 3	.00**	.00**	1	.49	.44
Factor 4	.00**	.00**	.00**	1	.51
Factor 5	.00**	.00**	.00**	.00**	1

Note: The value above the "1" is the correlation coefficient; the value below the "1" is the *p* value.
** *p* < .01.

Having completed an examination for validity and reliability, the factored items were then used for a formal questionnaire (see the Appendix).

EMPIRICAL STUDY USING THE MEDICAL HUMANITIES QUESTIONNAIRE AMONG ADOLESCENTS

The formal questionnaire was used to investigate whether or not there was any significant difference in the subjective importance of professionalism, caring and empathy, patient orientation, disclosure of harm, and communication. The participants were 258 individuals randomly selected from among adolescents enrolled in medical science courses and 268 adolescents randomly selected from among individuals enrolled in courses other than medical science. Age, gender, and school were not taken into consideration.

TABLE 4
INDEPENDENT *T* TEST RESULTS FOR MHQ

	Group	*M*	*SD*	*t*	*p*	Cohen's *d* (95% CI)
Professionalism	Medical	17.60	2.09	7.01	.000**	.40 (0.22-0.57)
	Nonmedical	16.04	2.96			
Caring and	Medical	20.45	2.48	4.81	.000**	.42 (0.24-0.59)
empathy	Nonmedical	19.15	3.62			
Patient orientation	Medical	17.14	2.00	6.51	.000**	.57 (0.39-0.74)
	Nonmedical	15.74	2.85			
Disclosure of	Medical	13.50	2.40	10.93	.000**	.95 (0.76-1.12)
harm	Nonmedical	11.52	1.70			
Communication	Medical	13.71	1.80	11.11	.000**	.96 (0.78-1.14)
	Nonmedical	11.74	2.26			

Notes: ** *p* < .01.
Medical: Adolescents enrolled in medical science courses: *n* = 258; Nonmedical: Adolescents enrolled in other courses: *n* = 268.

The results of all participants were examined using t tests (see Table 4). In all five factors, the mean scores of the adolescents enrolled in medical science courses were significantly higher than the mean scores of those who were not (p < .01). Using Cohen's d formula, the effect sizes were calculated to indicate the practical significances of the results (see Table 4). Generally, the greater the effect size, the greater the impact of intervention. Cohen (1988) suggested that an effect size between 0.2 and 0.5 is small, an effect size between 0.5 and 0.8 is moderate, and an effect size greater than 0.8 is large. The effect sizes for professionalism and caring and empathy were small. The effect size for patient orientation was moderate. The effect sizes for disclosure of harm and communication were large.

DISCUSSION

The results gained in this study revealed that adolescents enrolled in medical science courses placed greater importance on issues of professionalism, caring and empathy, patient orientation, disclosure of harm, and communication than do those who were not enrolled in medical science courses. In Taiwan, the medical humanities have long been a part of medical science courses, with an emphasis on the need to cure not only the body but also the person, who has feelings, desires, and an individual will (Tai, 2000). In other words, students enrolled in medical science courses are educated to respond humanely to human distress, and to be capable of addressing in a sensitive way questions raised by illness, disability, and bereavement. They have been educated to develop the capacity for empathy, compassion, and sensitivity to respond to the ill health and misfortune of their patients (Pan, Lai, Lin, & Lee, 2004; Smith, Molineux, Rowe, & Larkinson, 2006).

With the implementation of medical humanities courses, such as medical sociology, biomedical ethics, medical psychology, and doctor-patient communication, students enrolled in medical science courses have been encouraged to develop a holistic approach to their patients, as part of their role as medical professionals. Medical humanities courses also teach students how to share and communicate with their patients and colleagues (Robb & Murray, 1992). These students can later apply what they have learned to clinical decision making. It is believed that by being conscious of their social responsibilities of professionalism, caring and empathy, need to communicate well, and so on, medical university graduates will offer more people-oriented treatments (Tai, 2000).

CONCLUSION

My research results demonstrate that the developed questionnaire has high reliability and validity scores. However, although the questionnaire went through

the validity and reliability examination and reached a high internal consistency index (α = 0.83), the research results were based on responses to a 5-point scale. In future, study follow-up interviews could be conducted to investigate further the participants' views on the five factors, or the questionnaire could be administered in different settings using different sample populations to confirm or extend its validity and reliability. In addition, a quasiexperimental design could be used to explore whether or not there could be any significant difference between students enrolled in medical science courses and students who are enrolled in other courses.

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APPENDIX A
THE MEDICAL HUMANITIES QUESTIONNAIRE

Factor 1: Professionalism
1. Medical professionals should provide all the information patients need to make an informed decision about their healthcare, including medical options, possible risks, benefits, and side-effects.
2. Mutual trust and mutual respect are essential in the doctor-patient relationship.
3. Medical professionals should keep strengthening their professional skills in order to provide relevant and up-to-date information to patients.
4. Medical professionals should keep and respect patient privacy; they should not talk about private matters in public.

Factor 2: Caring and empathy
1. Medical professionals should share their understanding with patients.
2. Medical professionals should not harm their patients.
3. Medical professionals should be altruistic; that is, they should consider a patient's happiness and place the well-being of others before their own.
4. Medical professionals should provide patients with appropriate treatment options.
5. Medical professionals should empathize with patients. However, they should keep a reasonable distance to maintain an emotional balance in order not to impede an objective medical diagnosis and treatment.

Factor 3: Patient orientation
1. Before conducting human subject research, medical professionals should let patients know of any adverse side effects of the research.
2. Medical professionals should be equipped with communication skills in order to provide relevant healthcare information and treatment options to patients.
3. Medical professionals should respect a patient's autonomy.
4. Patients have the right to choose whether they want to end their life or keep receiving medical treatment.

Factor 4: Disclosure of harm
1. Medical professionals should listen to and respect patient needs and preferences.
2. When a medical error occurs that may cause a patient harm, medical professionals have an obligation to provide professional and compassionate concern once the error occurs.
3. Medical professionals should develop empathy, appreciation, and sensitivity to differences, such as age, gender, race, class, and culture.

Factor 5: Communication
1. Medical professionals should do their best to answer their patients' questions.
2. Patients and their families have the right to participate in the decision-making process.
3. Medical professionals should keep all communications and records about patient care confidential.