Original Article

Comparing faculty and students perceptions on clinical competency achievement in rehabilitation programs

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Objectives: Clinical competencies are learning outcomes the student should display by the end of the program and competency based instruction measures what participants have learned as opposed to what instructors think they have thought. Objective of this study was to compare student and faculty perceptions of the importance and achievement of clinical competencies in rehabilitation programs.

Method: The survey instrument was a dual-response 5-point Likert-type questionnaire consisting of 29 competencies based on content and skill areas in the management of patient with chronic illnesses. The instrument was administered to all faculty members and final year undergraduate students of three rehabilitation programs including Speech therapy, physiotherapy and occupational therapy.

Results: 45 students and 19 faculty members participated in the study. Overall, most of the students (81%) rated themselves as moderately competent (mean between 2 to 4). Perceived self-efficacy of male students was significantly higher than female students. (p=0.014) Differences between perceived importance and perceived achievement were statistically significant in each subject group. (p=.000).

Discussion: Faculty members and students shared very similar perceptions on the importance & achievement of competencies. Difference between importance and achievement of competencies may suggest a failure in consideration of required competencies or successful implementation of them in the current curriculum.

Keywords: clinical competency, perception, chronic illness, curriculum evaluation, rehabilitation

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Introduction

The concept of "professional competence "is defined as the aptitude to carry out a task or job position effectively and possessing the qualifications required.(1) Both educational institutes and labor organizations are interested in competencies. In an era of professional accountability, there is a need to identify exit competencies expected from graduates. These competencies are learning outcomes the student should display by the end of the program and competency based instruction measures what participants have learned as apposed to what instructors think they have thought.(2)

The concept of curriculum traditionally included two elements-the content or what the student studied, and the examinations, which were designed to assess the extent to which the student had learned the content. It is now accepted that learning outcomes should occupy a key position in curriculum planning and development. Discussion about various components of the curriculum are meaningless unless carried out in the context of learning outcomes. In fact, consideration of the outcomes should be the basis for curriculum development and evaluation. (3)

Ensuring achievement of learning outcomes (clinical competencies) by students is one of the main concerns of educational departments. Different methods are used to gather student achievement data for the purpose of program evaluation. Examining the perceptions of students is a widely used strategy based on the premise that perceptions matter and often influence behaviors.(4) Development of competence requires both an ability in a particular dimension and the perception of this ability. Self-efficacy is defined as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments". (5)

Another important factor in the development and offering of a curriculum is faculty, who will teach the courses .Self-efficacy theory predicts that if faculty members are able to improve students' efficacy beliefs about performing clinical competencies, then students will be better able to maintain their newly learned behaviors in independent clinical practice.(6) Whatever students' efficacy beliefs about performing clinical skills may be, if students minimize or devalue the skills, then those self-efficacy beliefs will not be of much use in motivating them to use the newly learned behaviors.

Most of the content in rehabilitation programs encompasses rehabilitation assessment and interventions for people with chronic illnesses such as brain or spinal cord injury, stroke and for children with special needs. Learning outcomes in these programs requires students to complete functional and environmental assessments in order to evaluate the client's and family's problems, as well as barriers to obtain desired outcome. Lack of research in this area has been obvious in the rehabilitation faculties in Iran. None of these studies attempted to compare the perceptions of both faculty members and students with regard to the delivery of instruction and achievement of programmatic competencies. For the purpose of this study, researchers decided to measure perceptions of students and faculty members about competencies related to management of persons with chronic illnesses. Objectives of this study were to determine the perceptions of undergraduate students toward importance of clinical competencies and their self-efficacy perceptions of those competencies and at the same time, to determine the perceptions of faculty members toward importance of clinical competencies in the curriculum and the extent of achievement of those competencies, and to explore differences and similarities between these two perspectives.

Method

The study consisted of all 27 faculty members and 57 final year undergraduates of three rehabilitation disciplines i.e., Speech therapy, physiotherapy and occupational therapy at the University of Social Welfare and rehabilitation sciencesin Tehran. To be eligible to complete the instrument, students must have completed both clinical and theory courses of the program. Therefore, only final semester senior students were participated in the study.

a list of competencies representing key content and skill areas in the management of patient with chronic illnesses were collected using relevant studies.(7,8) 29 items were identified after several reviews. The validity of each item was evaluated by 15 faculty members for relevance and congruence with overall program outcomes. Two questionnaires containing the same 29 competencies statements were developed to ascertain the perceptions of students and faculty members toward these competencies. The questionnaire contained two separate 5 point Likert-type subscales. One subscale measured students' self-efficacy for each competency and the second subscale assessed the importance of the same competency. The questionnaire applied for faculty members was similar to student's survey except for the demographic data. Subscales in the faculty questionnaire measured perceived importance and perceived achievement of each competency in the program. The overall form of the survey instruments allow for comparison of perceptions across the two subject populations.

To obtain a total score, the items in a given subscale were summed and then a mean score was generated for each subscale for each group of respondents.

Cronbach's alpha coefficient was used to assess the internal consistency of the subscales. Data were entered and analyzed in SPSS. Mann-Whitney U and wilcoxon signed Rank were used for testing the significance of differences between groups and subscales.

Result

Response rate was 75% for Students (n=43) and 70% for the faculty (n=19). There were some differences in the nature of the demographic information solicited from the two subject populations.The students ranged in age from 20 to 27, with the largest percentage of them being between 21 to 24(80%).Most of the faculty members were male (79%) and had more than five years experience (68%).

Student perspective

The student's perceived importance scores ranged from 1 to 5 (mean=3.73, Sd= 0.77) and self-efficacy scores ranged from 1 to 5 (mean= 2.86, SD= 0.81). Cronbach's alpha of 97% for perceived importance subscale and 96% for self-efficacy subscale were obtained demonstrating good internal consistency.

Overall, most of the students (81%) rated themselves as moderately competent (mean between 2 to 4). But the difference between male and female students was significant (p=0.014) with more perceived self-efficacy for male students. Students rated themselves as more competent with 10 competencies with a mean score greater than 3. (table 1)

Table 1. Comparing student and faculty members perceptions on achievement of clinical competencies

No.	Competency	Student self-efficacy Mean	±SD	Faculty achievement Mean	±SD
1	professional documenting of client's care	3.40	1.08	2.89	1.28
2	understanding the effect of chronic disorders on the other family members	3.24	1.07	3.05	1.07
3	implementing rehabilitation interventions to empower clients and their families	3.19	0.91	3.16	1.11
4	Listing requirements for clients discharge plan	3.17	1.03	2.61	1.14
5	explaining stress factors of caregivers	3.15	1.06	3.05	1.02
6	applying concepts of rehabilitation when giving rehabilitation services	3.14	0.89	3.37	1.16
7	Relating the effect of the home environment on client's safety and function	3.02	1.04	2.67	1.23
8	Understanding the effect of environmental assessment as a component of care plan	3.02	1.15	2.72	1.32
9	Realizing developmental needs of children with chronic illness	3.00	0.93	3.22	0.80
10	realizing the need for professional appraisal to develop self-improvement	3.00	1.10	3.05	1.12
11	applying professional tools for the functional assessment of the client	2.95	1.18	3.32	1.05
12	describing how rehabilitation car centers work	2.95	1.19	3.16	1.16
13	understanding the impact of chronic illnesses on the health care	2.90	0.90	2.53	1.26
14	understanding disciplinary knowledge of other team members	2.90	1.14	2.74	1.04
15	Listing the skills needed for management of rehabilitation care	2.86	1.17	2.94	1.05
16	supporting caregivers mourning for their loss	2.83	1.10	2.50	1.20
17	understanding coping styles of patients with chronic illness and their family	2.83	1.08	3.00	1.02
18	conducting a home visit	2.83	1.01	3.11	1.13
19	providing specific rehabilitation services for people with cereberovascular accident	2.79	1.07	3.00	1.11
20	understanding the process of rehabilitation management of the client	2.76	1.14	2.94	1.11
21	Implementing an environmental assessment for the client's home	2.71	1.19	2.67	1.37
22	knowing the various costs of chronic illnesses	2.69	1.25	2.95	1.07
23	providing specific rehabilitation services for people with spinal cord injuries	2.69	1.15	2.89	1.07
24	Consulting other team members while giving rehabilitation care	2.69	1.19	2.46	1.33
25	Understanding the impact of health care management on rehabilitation practices	2.60	1.23	3.16	1.11
26	Communication with health organizations to provide care for the clients	2.57	1.06	2.56	1.38
27	describing the effect of financial administration of health care on rehabilitation services	2.48	1.11	2.89	1.10
28	solving ethical/legal Problems in the care of people with chronic illness	2.45	0.99	2.39	1.37
29	Identifying the coverage of client expenses by government and private-funded insurance	2.43	1.23	2.74	1.24

From students perspective they were highly competent in *"professional documenting of client's care"* (mean=3/40 SD=1.08). The lowest perceived self-efficacy of Students was for *"Identifying the coverage of client expenses by government and private-funded insurance"* (mean=2.43, SD=1.12), While they rated the same competency as the less important one(mean=3.46,SD=1/12). They also rated *"understanding the effect of chronic disorder of client on the other family members"* as most important competency (mean=4.14, SD=0.92)

Faculty perspective

Faculty's perceived importance scores ranged from 1 to 5 (mean=3.78, SD= 0.68) and competency achievement scores ranged from 1 to 5 (mean= 2.78, SD= 0.79). Cronbach's alpha was 91% for perceived importance subscale and 92% for perceived achievement subscale.

Faculty members rated 13 competencies as the most important competencies with a mean greater than 4 (table 2)

Table 2. Comparing faculty members and students perceptions on importance of clinical competencies

No.	Competency	Faculty importance Mean	±SD	Student importance Mean	±SD
1	applying concepts of rehabilitation when giving rehabilitation services	4.53	0.51	3.90	0.95
2	professional documenting of client's care	4.53	0.77	3.86	0.95
3	applying professional tools for the functional assessment of the client	4.47	0.69	3.95	1.01
4	conducting a home visit	4.22	0.87	3.78	0.96
5	understanding disciplinary knowledge of other team members	4.21	0.85	3.81	0.99
6	understanding the impact of chronic illnesses on the health care	4.21	0.71	3.74	0.93
7	Implementing rehabilitation interventions to empower clients and their families	4.21	0.85	3.83	1.1
8	understanding the process of rehabilitation management of the client	4.21	0.71	3.60	1.03
9	Consulting other team members when giving rehabilitation care	4.19	1.16	3.93	1.02
10	realizing the need for professional appraisal to develop self-improvement .	4.16	0.89	3.69	1.11
11	Understanding the impact of health care management on rehabilitation practices	4.05	0.78	3.64	1.16
12	Realizing developmental needs of children with chronic illness	4.00	0.97	3.93	1.13
13	understanding the effect of chronic disorders on the other family members	4.00	0.57	4.14	0.26
14	understanding coping styles of patients with chronic illness and their family	3.95	0.84	3.71	1.11
15	explaining stress factors of caregivers	3.95	0.84	3.56	1.11
16	providing specific rehabilitation services for people with cereberovascular accident	3.94	1.11	3.83	1.08
17	describing the effect of financial administration of health care on rehabilitation services	3.84	1.01	3.57	1.21
18	Identifying the coverage of client expenses by government and private-funded insurance	3.68	0.94	3.46	1.12
19	Implementing an environmental assessment for the client's home	3.67	1.18	3.67	1.11
20	Relating the effect of the home environment on client's safety and function	3.67	1.08	3.71	1.16
21	Understanding the effect of environmental assessment as a component of care plan	3.67	1.13	3.67	1.24
22	knowing the various costs of chronic illnesses	3.63	0.89	3.76	1.14
23	describing how rehabilitation care centers work	3.63	0.76	3.83	1.05
24	Communication with health organizations to provide care for the clients	3.56	0.92	3.57	1.06
25	providing specific rehabilitation services for people with spinal cord injuries	3.44	1.14	4.00	1.23
26	Listing the skills needed for management of rehabilitation care	3.41	0.71	3.83	0..96
27	Listing requirements for clients discharge plan	3.39	1.09	3.71	1.15
28	solving ethical/legal Problems in the care of people with chronic illness	3.33	1.45	3.50	1019
29	supporting caregivers who mourn for their loss	3.11	1.32	3.57	1.17

Most of the faculty members (95%) rated the competency *"applying concepts of rehabilitation when giving rehabilitation services"* as important or very important(mean=4.53, SD=0.51).The same competency rated as the most achieved one(mean= 3.53, SD=1.05) in the program.

While from faculty's perspective *"supporting caregivers who mourn for their loss"*rated as the least important competency (mean=3.11,SD=1.09), they believed the program has been least successful in achieving *"solving ethical/legal Problems in the care of people with chronic illness"*(mean=2.39, SD=1.37)

Differences between faculty and student perceptions

Differences between perceived importance and perceived achievement were statistically significant in each subject group. (p=.000)

No significant difference was found between different disciplines from both students and faculties perspectives.

Differences between perceived importance of competencies between students and faculty members was not statistically meaningful except for one competency *"professional documenting of client's care"* which perceived as more important by faculty members. (P=.003) Also, no significant differences were found in obtained scores between students and faculty on their perceptions of achievement of competencies.

Discussion

This study examines the perceptions of faculty members and students on the importance and achievement of clinical competencies in rehabilitation programs. These two subject populations are critically important to the evaluation and review of a program.

Faculty and students shared very similar perceptions on the achievement of competencies.

From students perspective their self-efficacy level was moderate. The same results can be noted in the perspective of faculty members regarding program's

achievement. Student efficacy beliefs are partly determined by previous successful performances and if these experiences could not afford enough success to lead to a sense of self-efficacy, then the whole process of teaching and learning will be in vein. According to Bandura " the stronger the efficacy beliefs are for learned behaviors, the firmer the commitment students have to use the behaviors".(9)

The significant difference found between total importance and total achievement subscale of competencies from both students and faculty members' views may suggest a failure in consideration of required competencies or successful implementation of them in the current curriculum. No matter what the reason, a curriculum review is needed to consider necessary modifications in the goals or strategies used.

Several previous studies support the result regarding significant difference found between male and female students self-efficacy believes. (10,11,12)

Although faculty members had a favourable perception on importance and achievement of the competency "*applying concepts of rehabilitation when giving rehabilitation services"* in the program , students did not share the same belief. This can be attributed to improper orientation of students toward learning priorities of the program. The same results regarding the difference between higher expectation of faculty and lower self-assessment of students for learning outcomes is reported by Ashoorion & et al. (13)

Nevertheless, the results delivered important data related to areas in which students felt little confidence for certain skills , even when student believed those skills or content were important. For example, although more than 40% of the students had low or very low self-efficacy in the area of "*providing specific rehabilitation services for people with spinal cord injuries*" , most of them believed the mentioned ability was important or very important (76%). Educators should be aware of the overall students' perception of the importance and self-efficacy, in order to meet the needs of their students.

The findings of this study yielded valuable outcomes which can be used dynamically to modify and improve the curriculum of professional programs. Based on findings of this study, conducting a study on the faculty and students' perceptions of all Rehabilitation faculties in the country is suggested for further research. Limitation must be considered in interpreting the results, since students may falsely over or underestimate their competencies.

References

1-Singla P.K., Jain S.R., Rastogi K.M., Competency-based curriculum development ,Retrieved March, 2009 from: http://cce.iisc.ernet.in/nsee/Presentation

2- Harden R M; Crosby J R; Davis M H; Freidman M; AMEE guide no.14: Outcome-based education: Part 5--from competency to meta-competency, *Medical Teacher;* Nov 1999; 21(6), pg. 546

3- Harden R M; Crosby J R; Davis M H,AMEE guide no. 14: Outcome-based education: Part 1--an introduction to outcome-based education, *Medical Teacher;* Jan 1999; 21, 1; pg. 7

4- Savery R.J., Faculty and Student Perceptions of Technology Integration in Teaching, *The Journal of Interactive Online Learning,* Volume 1, Number 2, Fall 2002

5-Bandura,a.,Self-efficacy:The exercise of control. New York: Freeman ,1997

6- Pajares F, Overview of Social Cognitive Theory and of Self-Efficacy, *Emory University* retrieved Dec, 2009 from: http://des.emory.edu/mfp/eff.html

7- Clark M.C.,Owen S.V.,Tholcken M.A., Measuring student perceptions of clinical competence, *Journal of nursing Education*; Dec 2004;pp548-554

8-Mohamady F.,Hossainy M.A., Relationship between students progress and their clinical self-efficacy believes in rehabilitation sciences; unpublished research report, University of Social welfare and rehabilitation,Iran,2008

9-Bandura,A.,Wood.R.E.,Effect of perceived controllability and performance standards on self-regulation of complex decision-making , *Journal of Personality and social psychology*, 1998, 56,805-814

10- Cady PS, Larson LN, The Self-Efficacy of Pharmacy Students in Performing Clinical Tasks, *Journal Of Pharmacy Teaching*, 1995, 4(4), pp17 – 29

11- Stith J S, Buttleld WH, Strube M J, Deusinger S S, Gillespie DF, Personal, Interpersonal, and Organizational Influences on Student Satisfaction With Clinical Education, *Physical Therapy,* 1998,78(6), pp 635-645

12- Moattari M, Fallahzade M., Senior Medical Students' Self Evaluation of their Capability in General Competencies in Shiraz University of Medical Sciences, *Iranian Journal of Medical Education,* 2008 Aut & Win, 7(2): 371-376

13-Ashoorion V.,Emadoleslam M.,Sabri M.,Shams B., Do Interns Achive learning Outcomes up to faculty members'expectation?, Journal of medical Education, fall 2006 10(1),P 47-53