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Construction of Competency Model for Graduates Majoring in Rehabilitation Medicine and Physiotherapy

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Abstract

Introduction Competency Model refers to the combination of Competency factors required for a specific role, namely the Competency structure combining outstanding performance for the position. In recent years, job Competency has been promoted to a very important height in the cultivation of medical students. We will take competence as the model to explore how to adapt to the late start, rapid development and many needs of the status quo, to train high-quality rehabilitation medicine and physiotherapy postgraduate talents. Methods The research object was rehabilitation physicians. Using the method of literature, expert interview, questionnaire, statistics and logic analysis and other research methods, prepare a list of the rehabilitation physician competence strength, build rehabilitation physician competence model, analysis of medicine and physical therapy rehabilitation competency status quo of postgraduate, and then puts forward the subject overall training goal and each student's personal cultivation scheme. Results There are four qualifications in all. There were ability to communicate, empathy and compassion, knowledge and skills, and tress tolerance. Discussion The construction of the competency model provides a framework and guidance for the training and career planning and development of subsequent rehabilitation, but it is still necessary to further build the measurement questionnaire, refine the items and hierarchical behavior description to make it more targeted and operational.

Keywords

Competency model; Graduates; Rehabilitation Medicine and Physiotherapy.

1. Introduction

Rehabilitation medicine and physiotherapy is a medical applied discipline that studies the recovery of patients and disabled persons with functional disorders. It requires rehabilitation physicians to take measures such as prevention, diagnosis, evaluation, treatment and rehabilitation training, so as to make the patients recover to the maximum extent as soon as possible and give full play to the functions of the residual parts of the body. Rehabilitation doctors should have the ability of rehabilitation evaluation, rehabilitation treatment, rehabilitation guidance, rehabilitation propaganda and education on the basis of mastering routine clinical medical diagnosis and treatment. Have the ability to understand the psychological, physical and functional disorders of the disabled and other rehabilitation objects; Have the ability to understand the community environment and utilize the rehabilitation resources in the community.

Competency Model refers to the combination of Competency elements required to undertake a particular role, that is, the Competency structure combining outstanding performance for the position [1]. The competency model usually includes three elements, namely the name of competency, the definition of competency and the level of behavior indicators. Since the

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concept of competency was put forward in the 1970s, the post competency model has been successfully applied to the construction of core competitiveness of enterprises and the cultivation of talents in educational institutions [2].

In recent years, in the training of medical students, post competence has been promoted to a very important height [3]. For example, nursing major has done a lot of exploration in the field of talent training program combining with post competence. As an emerging field of education, rehabilitation medicine lacks teachers, professional experience and relevant schooling conditions. How to adapt to the current situation of late start, rapid development and many demands, and cultivate high-quality talents has become an important topic for the development of rehabilitation medicine and rehabilitation education.

2. Methods

Competency is to point to to a work with outstanding achievement is apart from the ordinary one in deeper level of personal characteristics [4], it can be a motive, characteristics, self cognition, attitudes, or values, a domain knowledge and cognitive or behavioral skills, that any can be reliable measurement or count and can distinguish between good and significant characteristic of the general performance of the individual.

The Competency Model refers to the sum of competencies required to make up each job. A complete competency model usually contains one or more groups, and each group contains several competency characteristics, and each competency characteristic has a descriptive definition and 3-5 level behavior description or specific behavior that can show this ability in the work. Competency features have three important characteristics: (1) it is closely related to job performance, and can even predict the future performance of employees; (2) It is dynamic and related to the task situation; (3) Being able to distinguish between outstanding performers and average performers.

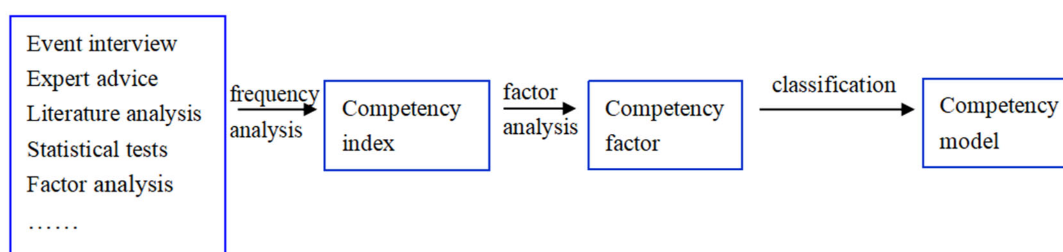

Figure 1. Building flow chart of rehabilitation physician competency model

2.1. Literature Method and Expert Consultation

Based on Hay Group's Basic Competency Dictionary and combined with the post characteristics of rehabilitation physicians, literature method was adopted to construct the Checklist of Rehabilitation Physicians' Competency Characteristics; And the method of expert consultation is used to select the competency word base.

2.2. Behavioral Event Interview

Determine the performance sample criteria, and divide the high performance group and the average performance group; Behavioral event interview method was used to interview the rehabilitation physicians with "Case Interview Protocol" and "Case Interview Outline". Then the interview data are sorted out, the recording is converted into text data, and the text data is encoded, and then the encoded data are analyzed and counted. Then, the competency database

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is modified, supplemented and improved, and the discriminating competency characteristics and benchmark competency characteristics are found out.

2.3. Questionnaire survey

According to the selected competency entries and the description of competency in the text materials, the Questionnaire on the Competency of Rehabilitation Physicians is compiled to conduct a questionnaire survey on rehabilitation doctors.

2.4. Statistical Test

Prediction and exploratory factor analysis were used to process the data of the prediction questionnaire and analyze the internal structure of rehabilitation physicians' competency characteristics; Formal testing and confirmatory factor analysis were conducted to verify the reliability and validity of the model by relevant statistical analysis, and the competency characteristic structural model of rehabilitation physicians was constructed.

3. Results

3.1. Ability to Communicate

The ability to communicate is necessarynot only for a rehabilitation therapist, but also fore very medical personnel. Effective communication improves medical outcomes, safety, patient adherence, patient satisfaction, and provider satisfaction and efficiency [5-14] [6] [7] [8] [9] [10] [11] [12] [13] [14]. The results of a meta-analysis indicate that the odds of patient adherence are 2.16 times higher if a physician communicates effectively [15]. This odds ratio is comparable to that of other important predictors in meta-analytic work (practical social support (3.6) and emotional support (1.83) [16], depression (3.03) [17], and perceptions of disease severity (2.5) [18].

Previous research examining the impact of communication skills training on patient satisfaction has demonstrated modest but inconsistent improvement [19]. A case study by Stein et al. (2005) reported statistically significant improvement in outpatient satisfaction scores, measured with a regional outpatient member/patient satisfaction survey (not CGCAHPS), for four out of six provider cohorts (n ~ 483) who completed an intensive 5-day interactive communication skills course [20]. To date, more complex interventions and/or courses aimed at specific conditions have shown the greatest likelihood of improving patient experience. To our knowledge, this is the first study of a communication skills training intervention implemented for all physicians in a large multi-specialty setting, and which uses CMS' measures of patient experience. The current study demonstrates the capacity for a straightforward and short-term experiential communication skills training to improve provider-specific measures of patient satisfaction for up to 6 months.

As graduate students of rehabilitation medicine and physiotherapy, they will become a rehabilitation physician after graduation. Rehabilitation is a long-term process, which requires patients to maintain a high level of motivation for a long time. This need a good communication between doctors and patients. They need know as more as possible about the patient's family, career, current situation, goals, and give patients positive psychological hints.

3.2. Empathy and Compassion

Empathy and compassion are foundational elements of the practice of medicine and vital cornerstones of high quality health care [21, 22]. They are closely related terms, with empathy defined as the ability to sense, feel, and understand another's emotions, and compassion defined as an emotional response to another's pain or suffering involving an authentic desire to help [23,24]. Both are essential in the care of patients, in that empathy (i.e. understanding of patient suffering) is required to spur compassion (i.e. the emotional response involving action

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aimed at alleviating patient suffering) [25]. As such, in patient care the constructs of empathy and compassion, although distinct, are inextricably linked.

The important role of empathy and compassion in patient recovery has been found in multiple fields of medicine [26]. For example, empathetic and compassionate care is associated with superior patient adherence to prescribed therapies [27]. In addition, empathetic and compassionate care may reduce depression and improve quality of life [28-30] [29] [30]. Further, among oncology patients a compassionate intervention was found to significantly reduce patient anxiety [31].

Interestingly, functional magnetic resonance imaging (fMRI) studies have found that when a person experiences empathy the pain centers of the brain are activated [32],whereas when a person focuseson compassion the reward pathways are activated [33]. These data suggest that while experiencing empathy alone may result in negative outcomes for clinicians, integrating compassion training may foster clinician well-being. Despite abundant evidence supporting the importance of compassionate patient care, there is currently evidence to suggest that health care is experiencing a compassion crisis (i.e. an absence of–or inconsistency in–compassionate patient care) [34], in which physicians miss the majority of opportunities to show compassion, instead focusing on narrow biomedical inquiry and explanations.

In this situation, it is particularly important to cultivate empathy and compassion in graduate students of rehabilitation medicine and physiotherapy. This can enhance the humanistic care of future rehabilitation doctors, promote more harmonious doctor-patient relationship and more efficient rehabilitation treatment.

3.3. Knowledge and Skills

The American Association of Medical Colleges (AAMC) includes the domain Knowledge for Practice as one of eight competencies comprising its list of common learner expectations [35]. This competency states, "Demonstrate knowledge of established and evolving biomedical, clinical, epidemiological, and social-behavioral sciences, as well as the application of this knowledge to patient care."

Before the profession of surgeon, hairdressers and tailors assumed the social role of surgery because of their superior operational ability. The statutes of the college up to the sixteenth century allowed for the existence of three kinds of surgeons: those with an academic degree in surgery, physicians who chose or wanted to practice surgery, and people with no academic degree but with a certified path of practical apprenticeship with a master surgeon [36]. But looking more carefully at the actual licenses given to surgical practitioners leads to describing a more complex picture of the practice of surgery in early modern Bologna. Surgical practitioners in fact belonged to five groups: (1) graduate physicians who practiced surgery; (2) practitioners with some measure of academic training, who were trained in surgeons' workshops, but did not have a doctorate; (3) barber-surgeons, trained in workshops, licensed by the college; (4) empiric surgeons specialized through apprenticeship in some kind of procedure—like the extraction of bladder stones—and licensed by the college; (5) the moving and hard-to-grasp mass of empiric surgeons.16 The present work focuses on the first group. Graduate surgeons had to live, and compete with, all the other groups. Sometimes a graduate in medicine decided to practice and write about surgery, and the trajectory of graduate surgeons crossed these loose categories. This suggests that skill is the determining factor in whether a person becomes a doctor in the first place. Today, hundreds of years later, although the demands on doctors continue to increase, the basic knowledge and skills are still the foundation of becoming a good doctor.

Rehabilitation treatment is a very technical work. If graduate students majoring in rehabilitation medicine and physical therapy can not master superb technical skills, they not

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only can not relieve the pain for the patient, the recovery of the body, but can appear rehabilitation injury when they become a clinical Rehabilitation doctor.

3.4. Stress Tolerance

In the interview, it was found that the factors influencing the stress tolerance of rehabilitation therapists mainly include the following: (1) Professional ability, therapists who are confident in their professional ability are not easily frustrated when facing difficulties and setbacks; (2) Personality, cheerful, outgoing and talkative rehabilitation therapists are more likely to actively deal with setbacks. (3) Healthy, physically unhealthy or chronically troubled rehabilitation therapists are prone to negative emotions when encountering setbacks and difficulties. (4) Family harmony, in the face of failure, family understanding and support can often make rehabilitation therapists regain confidence and courage. (5) Working atmosphere, in a harmonious and positive environmentRehabilitation therapists who work in the lower level can often get more professional and psychological support, and it is easier to recover psychologically after encountering setbacks.

4. Discussion

The construction of the competency model provides a framework and guidance for the training and career planning and development of subsequent rehabilitation, but it is still necessary to further build the measurement questionnaire, refine the items and hierarchical behavior description to make it more targeted and operational.

Author Contributions

Conceptualization, Zhen Feng; Data curation, Xing Sun; Formal analysis, Zhen Feng; Funding acquisition, Zhen Feng; Investigation, Zhen Feng; Methodology, Zhen Feng; Project administration, Weiming Sun; Resources, Weiming Sun; Software, Xiaoxiao Wang; Supervision, Xiaoxiao Wang; Validation, Xiaoxiao Wang; Visualization, Zhen Feng; Writing – original draft, Xing Sun; Writing – review & editing, Zhen Feng.

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Conflicts of Interest

The authors declare no conflict of interest.

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