Research on Evaluation of Medical Humanistic Quality of Planning Doctors Based on 360-Degrees

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Abstract:

Objective: To analyze the medical humanistic quality of physicians through 360-degree evaluation method, explore and establish a set of evaluation methods for medical humanities and literacy that suit our country's national conditions, and understand the medical humanities and literacy status of doctors in standardized training. Methods: The questionnaire survey and score calculation method were used to investigate all the physicians in standardized training in 2015 of three Affiliated Hospitals of Chongqing Medical University and analyzed using the 360-degree evaluation method. Results: When analyzed according to different sociological characteristics, it was found that the difference in academic qualifications and whether or not to obtain a medical practitioner qualification do not affect the medical literacy of Physiologists, but different genders, especially females, score higher in medical literacy than men. It shows that gender has a certain influence on the medical humanistic literacy.

Keywords:
360-degree evaluation; medical and humanistic quality; standardized training; doctors in standardized training; medical education

With the change of medical model and the change in demand for social medical services, people not only need physicians to have superb professional skills to treat patients' physical and mental illnesses, but also need physicians to respect humans and humane care for patients, which proposed higher requirements for doctors' medical humanistic literacy\(^1\). In medical education, the standardized training phase is not only a critical stage for the transition from medical students to qualified physicians, but also an important stage for their medical and humanistic qualities. Exploring and establishing a set of evaluation methods for medical humanities and literacy that suit China’s national conditions\(^2\)\(^\text{-}\)\(^3\) to understand the medical and humanistic qualities of doctors in standardized training, which is of positive practical significance to advance the reform of medical humanities education in China and promote the development of medical and humanistic qualities of doctors, to improve the quality of medical services and build a harmonious relationship between doctors and patients.

This study draws on research results from other related subtopics and selects medical ethics, medical psychology, health law, communication skills, empathy, and responsibility as core evaluation indicators. Through expert consultation, a 360-degree evaluation method \(^4\)\(^\text{-}\)\(^6\), a questionnaire surveying the evaluation of medical humanistic qualities of doctors and nurses was developed. Selected teachers, physician colleagues, nurse colleagues, patients, and regulatory physicians themselves as evaluation subjects, and conducted 360-degree evaluation of medical and humanistic literacy to 171 physicians in standardized training in 2015 of three Affiliated Hospitals of Chongqing Medical University. Finally, the correlation between the 360-degree evaluation results and the evaluation results of other subtopics of the OSCE exam in the humanities skills station was analyzed.

The innovations of this research are reflected in the following aspects: First, a 360-degree evaluation method for assessing medical humanistic qualities of doctors is established, and statistical analysis proves its scientificity,
effectiveness, and feasibility. Second, the 360-degree evaluation method is used to analyze the status quo of the doctors' medical humanities quality, and basically obtained some valuable conclusions.

Based on the conclusions of the study, this paper proposes three suggestions for the evaluation of medical humanities literacy of doctors using the 360-degree evaluation method. First, self-assessment is not relevant because of poor correlation in evaluation subjects. Second, the evaluation indicators should behave as far as possible in a more conducive way to be observed and evaluated. Third, in the implementation of the evaluation, the investigator should pay attention to the humanistic care in all aspects, pay attention to ethics and safety, and strengthen investigation and training, and do a good job in investigations.

1 Research sample

The subject of this study was selected among all the physicians in standardized training in 2015 of three Affiliated Hospitals of Chongqing Medical University.

2 Research methods

2.1 Literature research

Through the use of China Knowledge Network, the Third Military Medical University Library and Information Integrated Platform, Internet search engines, etc. to collect all kinds of electronic and paper version of the relevant literature, including standardized training, medical and humanistic qualities and evaluation, especially the relevant data of the 360-degree evaluation method lays the foundation for the study of the topic.

2.2 Expert consultation

Experts were interviewed and consulted, and collected the experts' selection of the research subjects, the designing of 360-degree questionnaires, the selection of evaluation subjects, and the opinions and suggestions for implementing the 360-degree evaluation.

2.3 Questionnaire survey

Literature survey found that there is currently no questionnaire of 360-degree evaluation of medical humanities literacy, through the stage research results of the Health and Planning Commission project, as well as pre-survey to collect the surveyer's opinions and suggestions, after the consultation and modification of experts to form a formal questionnaire, Use the official 360-degree evaluation questionnaire to collect the required medical and humanistic literacy information.

2.4 Statistical analysis

Questionnaire data entry and statistics graph editing all adopted Microsoft office excel 2010. All data are analyzed by SPSS18.0. For the 360-degree evaluation results, the following methods were used for statistical analysis. ① Descriptive statistics: Measurement data were expressed as mean 4-standard deviation, and the count data was described as the frequency distribution (or percentage) according to the gender, education, and unit status of the surveyed subjects. ② Difference test: Two-way ANOVA was used to test the total score of the 360-degree evaluation according to the three different units of the surveyed subjects. At the same time, the LSD method was used to double-check the data between the two groups. ③ Correlation test. Pearson correlation test was conducted on the scores of the teachers who taught them, the scores of the doctors colleagues, the scores of the nurse colleagues, the scores of the patients, and the scores of the doctors in standardized training. The correlation between OSCE exam scores in the humanities skills and 360-degree evaluation results and the scores among them were analyzed using Pearson's correlation analysis. ④ Two-way ANOVA was used to test the differences among the scores of different groups in each evaluation index. At the same time, the LSD method was used to compare the data of each group.

3 Results and Discussion

3.1 Analysis of Evaluation Results

Although there are currently no similar or related questionnaires on medical humanities literacy, the test of reliability and validity shows that the questionnaires designed on the basis of pre-surveys and expert consultations have a good reliability and validity.

In the analysis of personal data, it was found that the self-score of the No. 16 doctor was much higher than his
score rated by the others, which was almost all very low. Analyze the possible reasons: others’ comment could screen out the doctors who have low medical and humanistic qualities. The self-evaluation of doctors is not accurate.

When analyzed according to different sociological characteristics, it was found that differences in academic qualifications and whether or not to obtain a qualification as a practicing physician do not affect the medical and humanistic attainments of Physiotherapists. However, different genders, especially females, have higher scores in medical humanities than males, indicating that gender has a certain influence on the level of medical and humanistic literacy. Analysis of the possible reasons: women are more emotional than men, having more delicate feelings, there is a certain gender role in humanistic care. At the same time, it also shows that the education of medical humanities and literacy does not have a significant impact on medical and humanistic qualities. The current qualifications authentication methods cannot effectively distinguish medical and humanistic qualities.

From the perspective of different evaluation subjects, it is found that although the scores of different types of evaluation subject items are different, the scores on the doctor-patient relationship item are all the lowest. This is consistent with the current situation that there is a tight doctor-patient relationship, and the mutual trust is not strong. Through the comparison and correlation analysis of the results of others’ evaluation and his self-assessment, it was found that the results of his evaluation were significantly higher than the results of self-evaluation. The correlation of others’ evaluation results was good, and self-evaluation had almost no correlation with others’ evaluation. The good correlations of others’ evaluation results show that the valuation subject is scientific, reasonable, and effective. In the analysis of evaluation indicators, it was found that the scores of the five indicators of medical ethics, medical psychology, health law, empathy and responsibility were all higher in consistency and higher than the self-evaluation score, but in the indicators of communication ability, The teacher has the lowest score, which is mainly influenced by the subjective factors of each evaluation subject.

The correlation analysis found that the test scores of the OSCE humanities skills test in the same physicians were significantly correlated with the 360-degree evaluation results, indicating that both evaluation methods can effectively measure medical humanities literacy.

### 3.2 Analysis of Influencing Factors

As an evaluation method that may be influenced by subjective factors, the results of the 360-degree evaluation mainly depend on such objective factors as the scientific nature of the survey scale, the controllability of the evaluation operation system quality, and the validity of statistical analysis methods, but inevitably, the existence of uncontrollable influences of subjective factors such as the quality of the evaluators themselves and the level of evaluation ability, even play a decisive role in individual cases. According to the experience of the survey and previous literature research, there may be the following factors that affect the evaluation result: ① The attitude of the appraiser. If the respondent's attitude toward the answer is not positive, serious, or even perfunctory, then the accuracy of the evaluation results will be affected. Therefore, when selecting appraisers, they should first consider those who are active and willing to participate in the appraisal. Obviously not serious appraisers should remove their appraisal data. Of course, the actual situation must be taken into consideration during the specific operation. ② The evaluators' familiarity with the evaluatees. If the evaluator don't understand the object, they do not often contact in the job, or the contact time is not long, then the evaluator's appraisal is also invalid and needs to be removed. In the preparation of evaluation questionnaires, attention should be paid to the fact that the assessment descriptions and the emphasis of the corresponding questionnaires should be different because the opinions and evaluations of the various evaluators are different. ③ There is no conflict of interest between the evaluator and the evaluatee. If the evaluator and the evaluatee have interests or conflict, the appraisal results will appear to be significantly higher or lower than others’, affecting the accuracy of the appraisal results. According to foreign reports, when the 360-degree evaluation method is applied to non-performance evaluations, such as classroom teaching evaluation, the evaluation results are more accurate and effective. The main reason is that there is no obvious conflict
between the interests of the evaluator and the evaluate.

4 Research conclusions

This study uses a 360-degree evaluation method to evaluate the medical humanistic qualities of doctors in standardized training. Combined with the evaluation results and analysis, we can draw the following conclusions:

4.1 The 360-degree evaluation method can scientifically and effectively assess the medical humanistic qualities of doctors in standardized training.

SPSS18.0 software was used to analyze the reliability and validity of the 360-degree evaluation results. The test results of Cronbach’s coefficient showed that the reliability and validity were good. Through the use of Pearson correlation analysis method for comparative verification, it was found that the 360-degree evaluation results were significantly related to the OSCE medical humanities station skills test scores. The above research results show that the 360-degree evaluation method used in this study to evaluate the medical humanities quality of doctors in standardized training is scientific, objective, real and effective.

4.2 Only the gender in the sociodemographic characteristics has a certain influence on the medical humanistic quality of doctors in standardized training.

This study selected three socio-demographic characteristics, namely gender, education, and qualifications to analyze the medical and humanistic qualities of doctors in standardized training. Through statistical analysis of these three sociological characteristics, it is found that academic qualifications and qualification certificates have no significant impact on the evaluation results. Only gender has a certain influence, which indicates that the current postgraduate education and qualification examination dose not have a significant role in the promotion of medical and humanistic literacy; gender has a certain influence on the medical humanistic literacy, which is also consistent with the fact that women are more gentle, careful, and thoughtful than men.

4.3 The lack of trust between doctors and patients is the most important issue causing the current doctor-patient relationship.

By sorting observation items of different evaluation subjects, it is found that although the sequence of observation items is not the same, all five types of evaluation subjects, including the doctors themselves, scored the lowest on item 2 (i.e. trust relationship between doctors and patients). This shows that the lack of trust between doctors and patients is the most important issue that causes the current doctor-patient relationship. This is also consistent with the current situation of doctor-patient relationship.

4.4 Others’ evaluation can effectively screen doctors with low medical and humanistic qualities. Self-assessment is not suitable for 360-degree assessment.

The statistical analysis found that others’ evaluation results were relatively consistent and correlated, especially the very few doctors, others’ evaluation results were almost the lowest, indicating that the 360-degree evaluation method can identify and screen doctors with poorly qualified medical humanities. The self-evaluation results did not correlate with others’ evaluation results. This shows that the doctors in standardized training themselves are not suitable to use the 360-degree evaluation method.

References


