

Application of doctor-patient communication skills in clinical teaching of postgraduates of tumour radiotherapy

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Abstract

Background: To cultivate the doctor-patient communication ability of medical students as the core and explore the new model of clinical communication ability training and evaluation for graduate students majoring in tumour radiotherapy and its application value.

Methods: From January 2018 to June 2019, 60 postgraduates who were interned in the Department of Tumour Radiotherapy in our hospital were selected as the subjects, who were randomly divided into the experimental group (30) and control group (30). The experimental group adopted the Case Based Learning(CBL) teaching mode of introducing doctor-patient communication skills training, and the control group adopted the traditional CBL teaching method. After the teaching, the two groups of students were evaluated, measured and gave feedback on the effect of the teaching through the combination of examination and patient satisfaction questionnaire. The data were statistically analysed by SPSS19.0 software.

Results: The doctor-patient communication skills assessment scale score of the experimental group was better than that of the control group, and the difference was statistically significant ($P<0.05$). Patients' satisfaction in the experimental group was higher than that in the control group ($P<0.05$).

Conclusion: The CBL teaching mode of introducing doctor-patient communication skills training for postgraduates of tumour radiotherapy can increase doctor-patient communication ability and improve patient satisfaction.

Background

With the improvement of people's cultural level, medical development has been transformed from a biomedical model to a biological-psychological-social-medical model. Patients pay more and more attention to their participation in medical activities. Modern doctors must not only have the pure medical skill to relieve the pain for patients but also have good communication skills to understand the psychological needs of patients and provide better service to patients[1-2]. According to the estimates of the International Cancer Research Centre, the number of cancer patients worldwide is increasing at a rate of 3% to 5% every year. Cancer patients are a major disease group. When being diagnosed with a malignant tumour for the first time, patients often experience a stronger emotional shock than any other disease. This requires medical staff to communicate carefully according to the different psychological characteristics of each patient, to help patients establish a correct understanding of the disease. In the tumour radiotherapy department, doctor-patient communication includes not only the communication between the doctor and the patient but also the communication between the doctor and the patient's family. Effective doctor-patient communication is the key to establishing mutual trust between doctors and patients and is an important part of the treatment of cancer patients.

Medical education and talent training is a comprehensive project. Postgraduates cannot have good communication with patients due to their lack of clinical experience in the clinical process. The present

situation is that clinical teaching teachers tend to be more inclined to cultivate the clinical skills of medical students, while they neglect the cultivation of communication and communication skills. The targeted research and education are still blank. Therefore, how to strengthen the training of postgraduate doctor-patient communication skills is the urgent responsibility of current medical education[3-4]. At the same time, how to enhance the patient's treatment confidence by enhancing doctor-patient communication of the postgraduates in tumour radiotherapy and improving the patient's treatment experience and effect is the most important part in the clinical teaching of tumour radiotherapy.

Methods

General Information

From January 2018 to June 2019, 60 postgraduates who were interned in the tumour radiotherapy department in our hospital were selected as the subjects, which were randomly divided into the experimental group and the control group. Among them, 30 students (13 males and 17 females) were in the experimental group, with an average age of 23.00 ± 0.36 years, and 30 students (12 males and 18 females) were in the control group, with an average age of 22.50 ± 1.20 years. Students normal grades in the experimental group and control groups were 88.2 ± 5.5 and 89.0 ± 3.7 , respectively. They were all majors in clinical medicine. All students in this study participated voluntarily. Before the study, all students participated in the questionnaire survey of clinical doctor-patient communication and participated in the whole course of the study. There was no exit halfway. There was no significant difference in general data between the two groups ($P > 0.05$), as shown in Table 1. The two groups of postgraduates were taught by one tumour radiation therapy teacher.

Teaching Methods

Control group (CBL teaching model)

The specific steps of the CBL teaching mode are as follows: 1) Choose a relatively simple and common case of cancer radiotherapy, which is sent to students one month before the course; 2) Before the course, make a brief presentation of the case and ask questions, including the concepts of disease, epidemiology, diagnostic points, radiotherapy methods, etc.; 3) Postgraduate students will ask questions and think based on the questions prepared in advance, and the professional teachers will give appropriate guidance; and 4) 3 days after class, summarize and answer the questions for the case. The professional teacher will ask questions and correct their mistakes. The control group only taught clinical expertise according to the traditional CBL teaching model and did not involve doctor-patient communication training.

Experimental group (The CBL teaching mode of introducing doctor-patient communication skills training)

Based on the CBL teaching mode, the experimental group conducted special training and teaching of doctor-patient communication—1) Teaching of Classroom Theory from Clinical Practical Cases; 2)

Training communication methods. Teachers should inform students of common communication skills and explain and demonstrate from real cases of medical disputes and hospital emergencies to fully motivate students to actively communicate; 3) Under the guidance of the teacher, students will repeat the scenario simulation with the standardized patient(SP) and practice doctor-patient communication after the diagnosis of a malignant tumour and before radiotherapy and provide one-on-one guidance at the bedside on the ward. The teaching content is based on the SEGUE Framework scale(SEGUE), which includes 5 stages: from the doctor's preparation stage for consultation to the communication with the patient, that is, information collection, information giving and understanding of the patient, and then to the end of the consultation. The teaching focus of the experimental group was to let the students learn to understand the patient's changes in condition and basic demands, then give feedback to the patient's demands, and finally develop mutual trust with patients.

Evaluation Method of Teaching Effect

Teacher Grading

Clinical examinations were divided into theoretical examinations and operational examinations. Examinations were conducted one week after the graduate student had completed teaching. All questions were randomly selected by computer and scoring of operational exams by the same clinician. The evaluation of doctor-patient communication skills was to randomly match 60 students by computer, to videotape the communication between medical students and patients, and obtain evaluation from by the same tumour radiotherapy physician, according to the SEGUE scale. The scale includes 5 dimensions: communication initiation, information collection, information giving, understanding of patients, and end of communication. The total score of the scale is 25 points. Scoring criteria: communication content items (items 1–4, 6–11, 16–18, 20, 21, 24 and 25 of the scale)—points were given as soon as they appear once and communication skills items (items 5, 12–15, 19, 22 and 23 of the scale)—no points were awarded as long as they were not done once. The higher the score was, the better the student's communication skills.

Student Self-evaluation

One week after the course, a questionnaire survey was conducted for each group of students. The content of the questionnaire includes five items, which including the improvement of self-communication ability, the improvement of analytical ability, the solution of the doctor-patient relationship problem, the satisfaction with the teaching mode and the increased confidence in working in the medical(including 20 small items, with a total of 50 points).

Patient score

After the training, satisfaction questionnaires were conducted on the patients who were interviewed by the two groups of students. Patient satisfaction (0-10 points): 3-5 points are dissatisfied, 6-8 points are more satisfied and 9-10 points are satisfied.

Statistical Methods

Statistical analysis was performed using SPSS 19.0 software, measurement data were expressed as ($\bar{x}\pm s$), t test was used, and $P < 0.05$ was considered statistically significant.

Results

Comparison of Doctor-Patient Relationship Evaluation before and after the Research

Before and after the research, the degree of evaluation of the doctor-patient relationship between the postgraduates in the experimental group and the control group was not statistically significant ($P > 0.05$), as shown in Table 2, Figure 1-2.

Postgraduates Consider the Factors that Cause Tension in the Doctor-Patient Relationship

Before the research, the two groups of postgraduates believed that there was no statistically significant difference in the proportion of various factors that caused tension between doctors and patients ($P > 0.05$). After the research, the experimental group thought that the proportion of medical and nursing factors affecting doctor-patient relationship was significantly higher than that before the same group ($P < 0.05$), and the rest had no statistical significance ($P > 0.05$), as shown in Table 3, Figure 3-4.

Theory Exam and Operation Exam

In the two groups of clinical assessments, the theoretical test scores of the experimental group were higher than the control group, but the difference was not statistically significant ($P > 0.05$). The operational test scores of the experimental group were lower than the control group, and the difference was also not statistically significant, as shown in Table 4.

Evaluation of Doctor-Patient Communication Skills

There was no significant difference in the total score of the SEGUE scale score between the two groups before the research. The score of the control group was slightly improved before and after teaching, but the difference was not statistically significant ($P > 0.05$). The total score of the experimental group increased after teaching, compared with the control group, the difference was statistically significant ($P < 0.001$), as shown in Table 5.

In the experimental group, communication start; information collection; understanding of the patient and communication ends, the individual scores of the four dimensions were improved after training, and the differences were statistically significant ($P < 0.05$). There was no significant difference in the scores of information giving, as shown in Table 6.

Student Self-Assessment Survey

The student self-assessment survey includes self-communication ability, solving doctor-patient relationship problem and the degree of satisfaction with the teaching mode, the scores in the experimental group were higher than that in the control group, but the difference was not statistically significant, as shown in Table 7.

Patient satisfaction score

The patient satisfaction survey of the two groups of postgraduates was shown in Figure 5, which can be seen that the satisfaction of the experimental group is higher than that of the control group, and the dissatisfaction of the control group is higher than that of the experimental group.

Discussion

In recent years, with the obvious increase in the incidence and mortality of tumours, malignant tumours have become a major disease that seriously threatens human health. Cancer patients and their families often endure the torture of the disease, pain of treatment, and high cost of medical treatment. However, they must face heavy blows, such as tumour recurrence, metastasis, and disease progression, which often cause great psychological pressure[5]. On the one hand, due to the lack of understanding of malignant tumours, patients have a strong psychological dependence on doctors. On the other hand, because the therapeutic effect of radiotherapy often fails to meet their psychological expectations, they also have a distrust of doctors. Effective communication can significantly reduce the occurrence of doctor-patient contradictions, and because of the particularity of its disease, the tumour radiotherapy department has different characteristics in communication from other departments. Effective doctor-patient communication should include two aspects: communication with the patient and communication with families of patients[6]. Existing research has proved that psychological support, surgery, chemotherapy and other treatment methods have equal importance in the clinical treatment and rehabilitation of cancer[7]. Therefore, it is very important to strengthen the communication between doctors and patients for the diagnosis- and treatment-related issues that patients are most concerned about and fully inform patients and their families about changes in disease and prognosis. Giving proper psychological support is essential to the doctor-patient relationship and to ensure that examinations and treatments run smoothly.

Many medical students who have just begun clinical practice cannot change their roles as clinicians when facing patients and their families. It is often difficult to fully understand, analyse, and judge the disease during the process of diagnosis and treatment for patients, and even the knowledge of hard textbooks, thus affecting the diagnosis and treatment of patients. In clinical work, the front-line medical workers are often young resident doctors, so the cultivation of their doctor-patient communication skills during the postgraduate internship period is very important. Good doctor-patient communication can help to establish sufficient trust between doctors and patients, especially in patients with oncology radiotherapy. Anxiety is manifested in all stages of the patient's disease. If the treatment is only symptomatic and ignores the patient's psychological needs, it may aggravate the condition and seriously

affect the quality of life and survival of the patient[8]. Therefore, good communication between doctors and patients can ease the patient's anxiety, make the patient treat the disease more actively, and improve the quality of life of patients with advanced cancer[9-10].

The CBL teaching method uses clinical cases, allows students analyse problems proactively, study literature and use group discussions to ask and solve clinical problems, thereby promoting students' ability to develop clinical thinking. However, the current medical environment requires medical students not only learn to treat but also need to learn to communicate with patients[11-12]. This article compares the two teaching methods. The SEGUE scale is used as an evaluation method before and after teaching. The results showed that the SEGUE scale score of the experimental group trained on doctor-patient communication skills was higher than the control group, and the difference was statistically significant($P < 0.05$). In addition, there were no significant differences in the operational tests and theoretical tests between the two groups, which means that the addition of additional doctor-patient communication training will not significantly change the students' theoretical operation ability. The experimental group achieved significant improvements in start of communication, collection of information, understanding of patients, and end of communication by repeating scenario simulations with standardized patients($P < 0.05$). There was no significant improvement in information giving, which is related to the relative lack of theoretical knowledge structure and clinical experience of medical students. Traditional theory teaching is knowledge-centred and teacher-led. All students in the classroom are required to accept the same theoretical knowledge and teaching process. Students rarely have the opportunity to discuss and give feedback. Through the doctor-patient communication scenario simulation and using the SEGUE scale as evaluation, medical students will continuously accumulate practical experience in doctor-patient communication, which is more conducive to improving communication skills.

Due to the complexity and specificity of malignant tumour disease itself, tumour radiotherapy often has mild or severe adverse reactions. Postgraduate students of tumour radiotherapy must make correct judgements and treatments and truthfully inform patients and family members about the treatment programmes and what will happen after the disease develops to ensure that cancer patients fully understand the diagnosis and treatment plan. Postgraduate students need to accurately, timely and effectively inform about the disease, provide necessary psychological counselling for patients and their families, which can effectively alleviate the patient's panic and make them trust doctors more, and promote healthy development of the doctor-patient relationship. Studies have evaluated anxiety and depression in women with breast cancer one year after diagnosis, and those who were satisfied with the initial disease notification were significantly less anxious and depressed than those who were dissatisfied[13]. Therefore, in the clinical teaching process, the timing and skills of informing are particularly important for medical students who have just entered the hospital to work. The Fukuoka Declaration states: "Such as medical technology, the doctor-patient communication ability of a doctor is also a doctor-level performance. Doctor-patient communication skills are an important indicator of a doctor's success." Good communication skills are essential clinical skills for an excellent clinician[14]. Therefore, in clinical teaching, it is necessary to step out of the traditional concept of education,

strengthen the training of doctor-patient communication and communication skills, and strengthen the cultivation of language arts for medical students, which is an inevitable requirement in the new era and new environment[15-16].

Doctors should emphasize the importance of humane care in medical practice and fully understand the psychological needs of patients, give guidance when patients are confused, give attention when patients are helpless, encourage them when discouraged, and give comfort when they are anxious[17]. Through communication and exchanges to conduct psychological interaction, finally achieve mutual understanding and cooperation between doctors and patients[18]. Starting from the patient's psychological needs. The respect and care for patients is the core of the clinical communication education between doctors and patients and the guarantee of building a harmonious doctor-patient relationship[19].

Conclusion

In summary, for postgraduates in the tumour radiotherapy department, strengthening the specialized training of doctor-patient communication is an important link in today's medical education. This will definitely help the postgraduates of tumour radiotherapy to cope with future medical work more easily, create a harmonious doctor-patient relationship, and establish a good image for the hospital.

Declarations

Ethics approval and consent to participate

This article was approved by Ethics Committee of Harbin Medical University Cancer Hospital. Written informed consent was obtained from all participants and the study was conducted according to the bylaws of the institution. We abide by all ethical considerations and keep the patients' personal information confidential.

Consent to publication

Not applicable

Availability of data and material

All data and materials are fully available without restriction.

Competing interests

Author Guohui Liu declares that she has no conflict of interest. Author Feng Liu declares that he has no conflict of interest. Author Chunbo Wang declares that he has no conflict of interest. Author Tian Lan declares that she has no conflict of interest. Author Mingyan E declares that she has no conflict of interest.

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The fund project was applied by the first author, so the role the funder in our study is the first author.

Authors' contributions

GH L participated in drafted and finalized the manuscript.

F L **substantial contributions to the conception and design of the work.**

CB W **acquisition, analysis, and interpretation of data for the work.**

T L responsible for the language modification of the paper

MY E responsible for the guidance and proofreading of the paper

All authors have contributed significantly, and that all authors read and approved the final manuscript.

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Abbreviations

CBL Case Based Learning

SEGUE SEGUE Framework

SP Standardized Patient

References

- [1] Anne Simmenroth-Nayda, Stephanie Heinemann, Catharina Nolte, Thomas Fischer, Wolfgang Himmel. Psychometric properties of the Calgary Cambridge guides to assess communication skills of undergraduate medical students. *Int J Med Educ*, 2014, 5:212-218.
- [2] Jiong Tu, Ge Kang, Jiudi Zhong, Yu Cheng. [Outpatient communication patterns in a cancer hospital in China: A qualitative study of doctor–patient encounters](#). *Health Expect*. 2019 Jun; 22(3): 594–603.
- [3] F. Fischer, S. Helmer, A. Rogge, J. I. Arraras, A. Buchholz, A. Hannawa, M. Horneber, A. Kiss, M. Rose, W. Söllner, B. Stein, J. Weis, P. Schofield, C. M. Witt. Outcomes and outcome measures used in evaluation of

communication training in oncology – a systematic literature review, an expert workshop, and recommendations for future research. *BMC Cancer*. 2019; 19: 808.

[4] Hyo Hyun Yoo, Sein Shin, Jun-Ki Lee. [Effects of medical communication curriculum on perceptions of Korean medical school students](#). *Korean J Med Educ*. 2018 Dec; 30(4): 317–326

[5] Ourania Govina, Eugenia Vlachou, Ioannis Kalemikerakis, Demetrios Papageorgiou, Anna Kavga, Theocharis Konstantinidis. Factors Associated with Anxiety and Depression among Family Caregivers of Patients Undergoing Palliative Radiotherapy. *Asia Pac J Oncol Nurs*. 2019 Jul-Sep; 6(3): 283–291.

[6] Paul Holyoke, Barry Stephenson. [Organization-level principles and practices to support spiritual care at the end of life: a qualitative study](#). *BMC Palliat Care*. 2017; 16: 24

[7] Zohreh Khoshnood, Mahlegha Dehghan, Sedigheh Iranmanesh, Masoud Rayyani. [Informational Needs of Patients with Cancer: A Qualitative Content Analysis](#). *Asian Pac J Cancer Prev*. 2019; 20(2): 557–562.

[8] R. Constance Wiener, Christopher Waters, Joan Doris, Daniel W. McNeil. [Comparison of Dental Students' Self-Evaluation and Faculty Evaluation of Communication Skills During a Standardized Patient Exercise](#). *J Dent Educ*. 2018 Oct; 82(10): 1043–1050.

[9] Sriram Yennurajalingam, Supakarn Tayjasanant, Dave Balachandran, Nikhil S. Padhye, Janet L. Williams, Diane D. Liu, Susan Frisbee-Hume, Eduardo Bruera. Association between daytime activity, fatigue, sleep, anxiety, depression, and symptom burden in advanced cancer patients: a preliminary report. *J Palliat Med*, 2016, 19(8):849-856.

[10] Giovanni Ostuzzi, Faith Matcham, Sarah Dauchy, Corrado Barbui, Matthew Hotopf. [Antidepressants for the treatment of depression in people with cancer](#). *Cochrane Database Syst Rev*. 2018 Apr; 2018(4): CD011006.

[11] Murphy S, Imam B, MacIntyre DL. Standardized patients versus volunteer patients for physical therapy Students' interviewing practice: a pilot study. *Physiother Can*. 2015;67:378–84.

[12] Carroll AJ, Tchangalova N, Harrington EG. Flipping one-shot library instruction: using Canvas and Pecha Kucha for peer teaching. *J Med Libr Assoc*. 2016 Apr;104(2):125–30.

[13] A. Frisell, J. Lagergren, J. de Boniface. [National study of the impact of patient information and involvement in decision-making on immediate breast reconstruction rates](#). *Br J Surg*. 2016 Nov; 103(12): 1640–1648.

[14] Aitini E, Martignoni G, Labianca R, Italian Group for the study of Digestive Tract C. Communication models for doctor-patient relationships. *J Cancer Educ*. 2014;29:211–2.

- [15] Tu J, Kang G, Zhong J, Cheng Y. Outpatient communication patterns in a cancer hospital in China: a qualitative study of doctor-patient encounters. *Health Expect.* 2019;22(3):594–603.
- [16] Hu W, Song Y, Zhong X, Feng J, Wang P, et al. Improving doctor-patient communication: content validity examination of a novel urinary system-simulating physical model. *Patient Prefer Adherence.* 2016;10:2519–29.
- [17] Henry SG, Holmboe ES, Frankel RM. Evidence-based competencies for improving communication skills in graduate medical education: a review with suggestions for implementation. *Med Teach.* 2013;35(5):395–403.
- [18] Wuensch A, Tang L, Goelz T, Zhang Y, Stubenrauch S, et al. Breaking bad news in China—the dilemma of patients' autonomy and traditional norms. A first communication skills training for Chinese oncologists and caretakers. *Psychooncology.* 2013;22:1192–5.
- [19] Jiangjie Sun, Liping Zhang, Ruochuan Sun, Yuanyuan Jiang, Xiuyun Chen, Chengsen He, Jiuchang Wei. [Exploring the influence of resiliency on physician trust in patients: An empirical study of Chinese incidents.](#) *PLoS One.* 2018; 13(12): e0207394

Tables

Table 1 General Information of the Experimental Group and the Control Group(n)

Factor	Experimental Group	Control Group
Gender		
Boys	13	12
Girls	17	18
Age(year)		
<20	0	1
20-25	29	27
>25	1	2
Grade		
First Grade	18	16
Second Grade	10	8
Third grade	2	6
Usual score	88.2±5.5	89.0±3.7

Table 2 Comparison of Doctor-patient Relationship Evaluation before and after Research

[n(%)]

Group	Factor	Harmonious	Nervous	Not nervous	Unknown
Experimental Group	Before Research	13(43.3)	11(36.7)	5(16.7)	1(3.3)
	After Research	10(33.3)	13(43.3)	7(23.3)	0(0.0)
	χ^2	1.042	0.071	0.250	0.344
	P	0.307	0.790	0.617	0.558
Control Group	Before Research	14(46.7)	9(30.0)	5(16.7)	2(6.7)
	After Research	10(33.3)	14(46.7)	5(16.7)	1(3.3)
	χ^2	2.059	2.667	0.378	0.679
	P	0.151	0.102	0.539	0.410
	χ^2 /P(Comparison between groups before study)	0.162/0.687	0.384/0.642	0.071/0.790	0.547/0.562
	χ^2 /P(Comparison between groups after study)	0.174/0.639	0.545/0.514	0.250/0.617	0.665/0.574

Table 3 Postgraduates Consider the Factors that Cause Tension in the Doctor-patient relationship before and after Research [n(%)]

Group	Factor	Before Research	After Research	χ^2	P
Experimental Group	Doctor nurse factor	6(20.0)	12(40.0)	4.7919	0.029
	Patients factors	7(23.3)	5(16.7)	0.585	0.444
	Social media	8(26.7)	7(23.3)	0.103	1.001
	Other social factors	9(30.0)	6(20.0)	1.268	0.260
Control Group	Doctor nurse factor	7(23.3)	7(23.3)	0.524	0.453
	Patients factors	7(23.3)	8(26.7)	0.254	0.635
	Social media	7(23.3)	7(23.3)	0.219	0.640
	Other social factors	9(30.0)	8(26.7)	0.345	0.154

Table 4 Comparison of Theoretical and Operational Test cores[($\bar{x}\pm s$), scores]

Group	Numbers	Experimental Group	Control Group	t	P
Theory Exam	30	90.1 \pm 7.3	87.6 \pm 9.8	1.206	0.237
Operation Exam	30	88.3 \pm 6.1	89.9 \pm 4.8	-1.816	0.080

Table 5 Comparison of SEGUE Scale scores between the Experimental Group and the Control Group[($\bar{x}\pm s$), scores]

Group	Experimental Group(n=30)	Control Group(n=30)	t	P
Before Research	14.40 \pm 1.50	14.43 \pm 1.74	0.80	0.936
After Research	17.10 \pm 1.45	15.6- \pm 1.48	3.94	<0.001

Table 6 Comparison of SEGUE Scale scores before and after Training in the Experimental Group

Factor	Before Research	After Research	t	P
Total score	14.40 \pm 1.48	17.10 \pm 1.45	6.72	<0.001
Communication start	3.96 \pm 0.97	4.36 \pm 0.71	2.894	0.004
Information collection	5.30 \pm 0.70	5.87 \pm 0.68	2.89	0.007
Information giving	2.50 \pm 0.63	2.83 \pm 0.95	1.78	0.086
Understanding of the patient	3.18 \pm 0.80	3.49 \pm 0.65	2.60	0.010
Communication ends	1.33 \pm 0.48	1.67 \pm 0.48	2.41	0.023

Table 7 The Self-assessment Survey scores of the Experimental Group and Control Group [($\bar{x}\pm s$), scores]

Factor	Experimental Group	Control Group
Self-communication ability	6.16±0.31	7.25±0.44
Solving doctor-patient relationship problem	6.20±0.60	7.32±0.33
The degree of satisfaction with the teaching mode	7.83±0.54	7.68±0.51

Figures

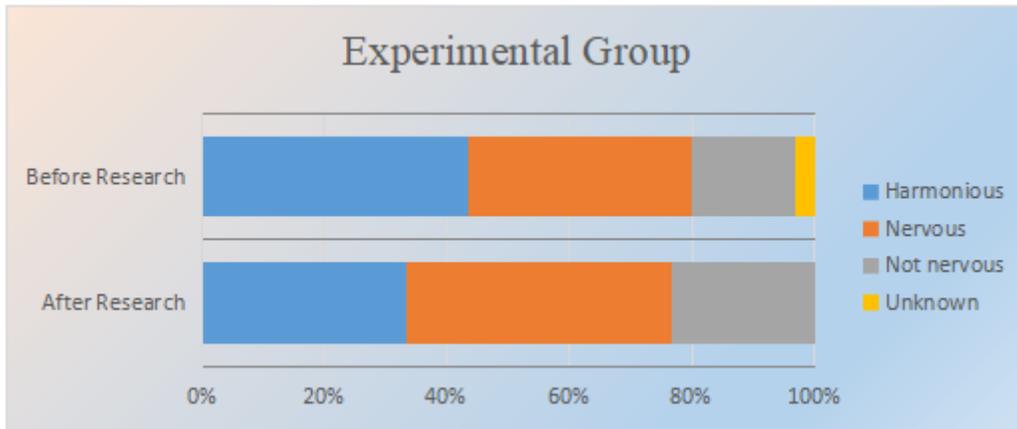


Figure 1

Comparison of Doctor-patient Relationship Evaluation before and after Research in the Experimental Group.

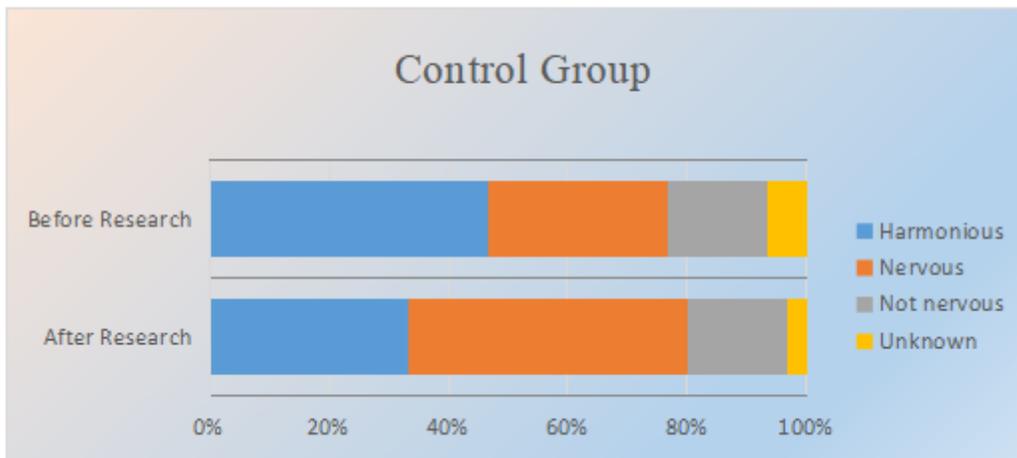


Figure 2

Comparison of Doctor-patient Relationship Evaluation before and after Research in the Control Group.

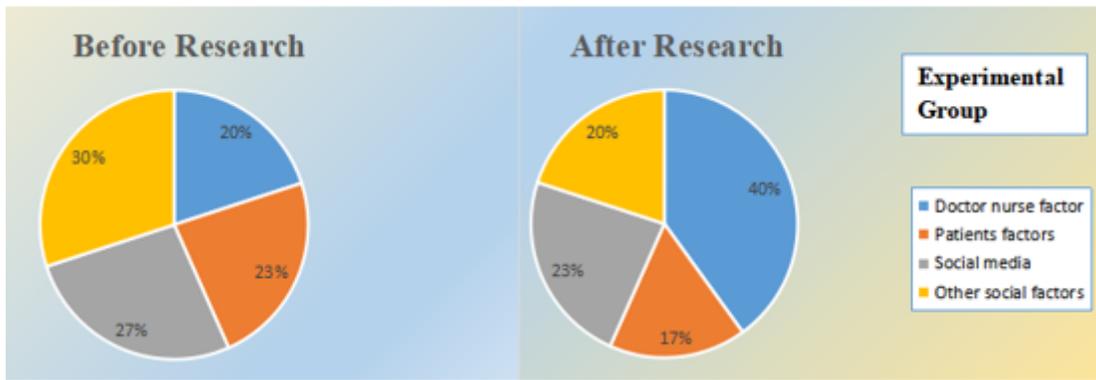


Figure 3

Postgraduates Consider the Factors that Cause Tension in the Doctor-patient Relationship(Experimental Group)

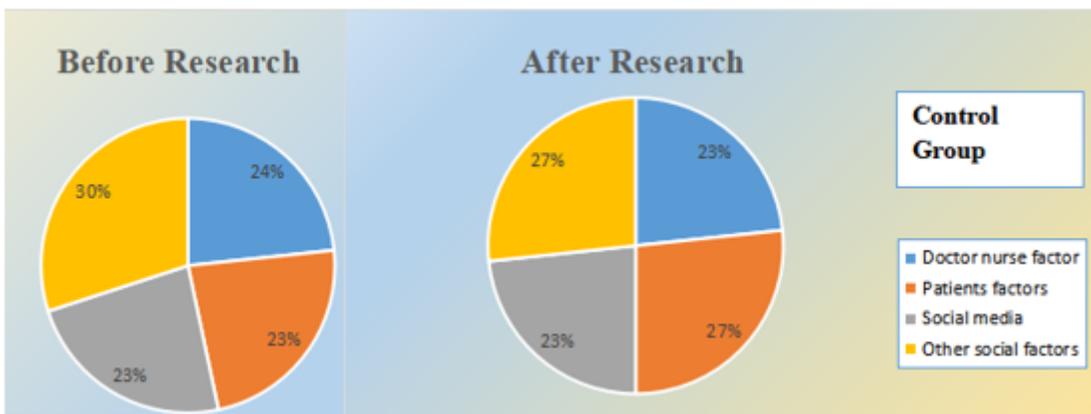


Figure 4

Postgraduates Consider the Factors that Cause Tension in the Doctor-patient Relationship(Control Group)

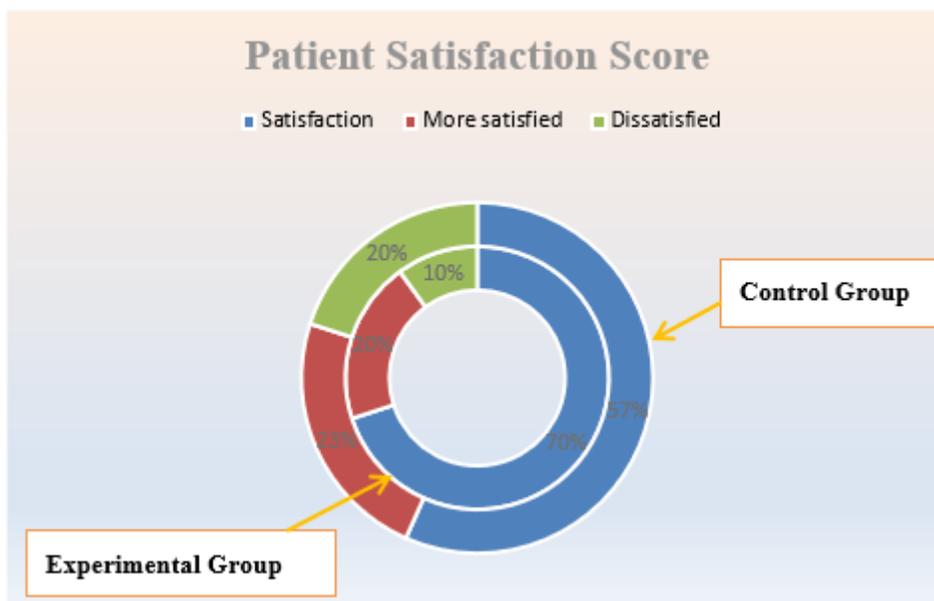


Figure 5

The Patient Satisfaction Survey of the two Groups