

The effects of simulated classes on occupational therapy students

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教師である高次脳機能障害者が行う模擬授業へ作業療法学生が参加した際の効果

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要約

日本の作業療法では、高次脳機能障害者である教師の職業復帰のために多数の模擬学生を用いた模擬授業を行った報告はない。36名の4年生の作業療法学科学生を対象に、高次脳機能障害の理解度・興味について調査した。患者は、くも膜下出血後の注意・記憶障害、遂行機能障害の50歳男性の中学校教師である。作業療法で、教師という現職への復帰のために、当該学生が模擬中学生として参加した7回の模擬授業を実施した。分析方法は、作業療法学科学生の高次脳機能障害の理解度・興味に関する変化について、模擬授業実施前後でウィルコクソン検定にて分析した。その結果、作業療法学科学生は、注意・記憶・遂行機能障害の症状を直接観察することで高次脳機能障害のイメージを高められ、理解を深められた。さらには、高次脳機能障害への興味が高まり、作業療法の役割の理解が深まった。正規の時間内での授業ではなかったが、このような形態での教授法の継続に賛同が得られた。OSCEで用いられるような模擬患者ではなく実際の患者と接し、学生自身が患者の職業復帰のための練習に必須の役割を演じた。このような貴重な経験を重ねたことには意義があり、効果的な指導法であると考えられた。

Key words

simulated class, teacher, vocational rehabilitation, cognitive dysfunction, occupational therapy education in Japan

1. Introduction

There are no reports about teachers' vocational rehabilitation which is practiced by using many simulated students in Japanese occupational therapy (OT). Usually a simulated class is composed of some occupational therapists or other professions in vocational rehabilitation. Also, there are very few opportunities for OT students to come in contact with real patients except clinical practices.

In this research, both the opportunities to have a junior high school teacher rehabilitated using simulated classes and to have OT students see a real cognitive disabled patient through attending simulated classes as junior high school students was achieved.

2. What is a simulated class?

If a teacher had a stroke and became cognitively disabled, he should rehabilitate vocationally step by step in hospital or go to hospital as an outpatient. During his vocational rehabilitation process, practical exercises are required. It is true that there are no real students in a general hospital, but there are many university students in a university hospital. The occupational therapist who works in a university hospital can offer an occupational environment where the patient, who is a teacher, can perform a simulated class. Simulated classes were composed of the teacher

and university students who participated as junior high school students. After his lecture, the OT students fed back to him their comments in every class. It is thought that carrying out simulated classes can become useful for the patient's rehabilitation and also leads the students to an understanding of the patient's features.

3. Purpose

By participating in the simulated classes which the patient with cognitive dysfunction carried out, educational changes of the occupational therapy students concerning understanding cognitive dysfunctions could be recognized. Therefore, the effects which simulated classes brought for the OT students can be reported by checking their changes of comprehension and interest of cognitive dysfunction, comprehension of OT's role in cognitive dysfunction and continuation of this type of teaching method.

4. Patient and methods

The patient in this study was a 50 year-old male junior high school teacher. He had attention deficit, memory disturbance and executive dysfunction after subarachnoid haemorrhage (Figure 1). He had been to hospital in order to take OT as an outpatient from four months after onset, and he was able to return to work after 1 year and 7 months. He suffered from memory disturbances and it was necessary for him to employ compensatory techniques. Nonetheless, he had to leave his job after a year because of his memory disturbance. Subsequently, he participated in OT in cooperation with his employer. Therapy involved a job

coach and simulated classes.

For the teacher's vocational rehabilitation, simulated classes were carried out 7 times by OT students who participated as simulated junior high school students from 5 years and 4 months after onset. As a result of the therapy, he was able to return to work 6 years and 2 months after onset.

Participants in this study were 36 students. They were fourth grade students of Ibaraki Prefectural University, a former affiliation of the author. The research was performed just before their graduation.

Participants attended simulated classes as junior high school students. They experienced simulated classes from second to fourth grade. The number of times of average participation of the seven simulated classes was 3.71, the minimum was 1, the maximum was 7, and the average participating rate was 53.00%. Each participant checked retrospective questionnaires composed of 8 items using Visual Analogue Scale at final grade. The questionnaire asked about the image of cognitive dysfunction, comprehension of attention deficits, memory disturbance, executive dysfunction, and other cognitive dysfunction, interest in cognitive dysfunction, comprehension of OT's role in cognitive dysfunction, and continuation of this type of teaching method.

4.1 Questionnaire

The contents of the questionnaire are as follows:

- Q1: How many images of cognitive dysfunctions changed by having participated in the simulated class?
 Q2: How many comprehensions of attention deficits changed by having participated in the simulated class?
 Q3: How many comprehensions of memory disturbance changed by having participated in the simulated class?
 Q4: How many comprehensions of executive dysfunction changed by having participated in the simulated class?
 Q5: How many comprehensions of other cognitive dysfunction changed by having participated in the simulated class?
 Q6: How many interests to a cognitive dysfunction changed by having participated in the simulated class?
 Q7: How many understandings about the role of occupational

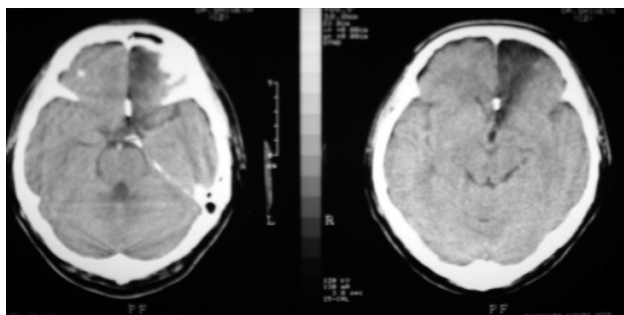


Figure 1: Brain CT of this case (3 months after onset) (Horizontal section)

therapy (or therapist) changed by having participated in the simulated class?

Q8: Although this type of teaching method is extra-curricular education, do you feel better to continue such a method?

4.2 Statistical analyses

A Wilcoxon test was used about these eight questions before and after attending the simulated classes ($p < 0.01$).

5. Results

The following results were found in this study:

- The degrees of achievement in all the questionnaire items after participating in simulated classes exceeded 50% except for comprehension of other cognitive dysfunction (Q5) (Figures 2-9).

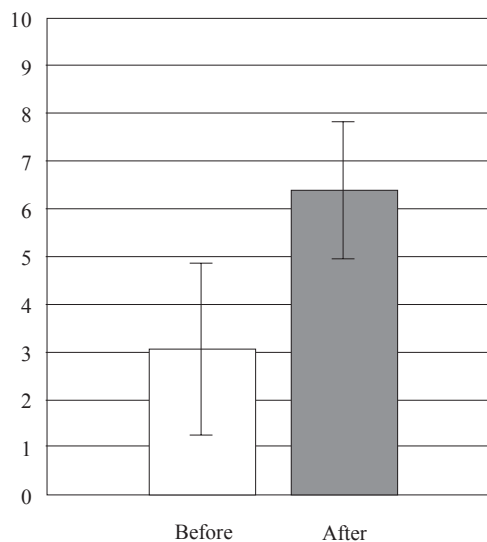


Figure 2: Image of cognitive dysfunction

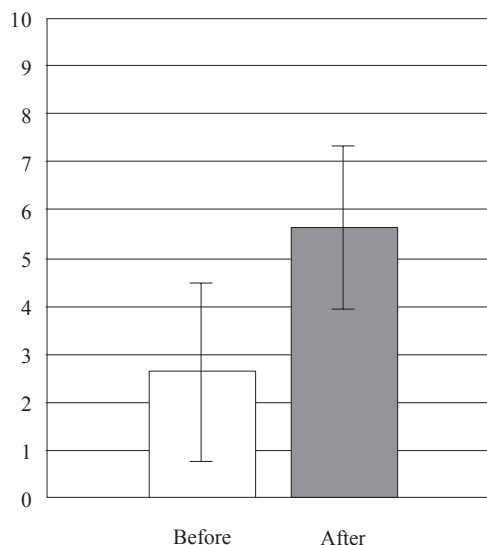


Figure 3: Comprehension of attention deficits

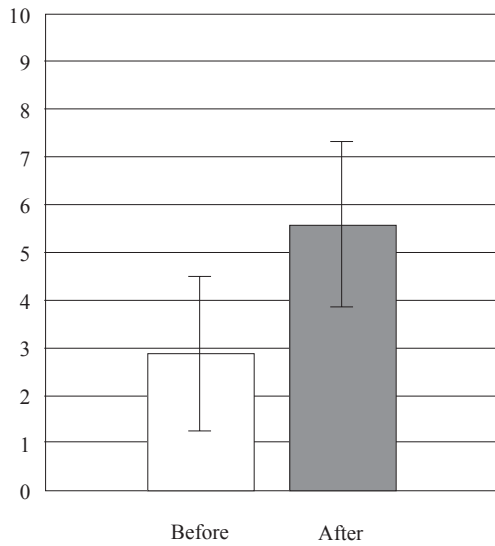


Figure 4: Comprehension of memory disturbance

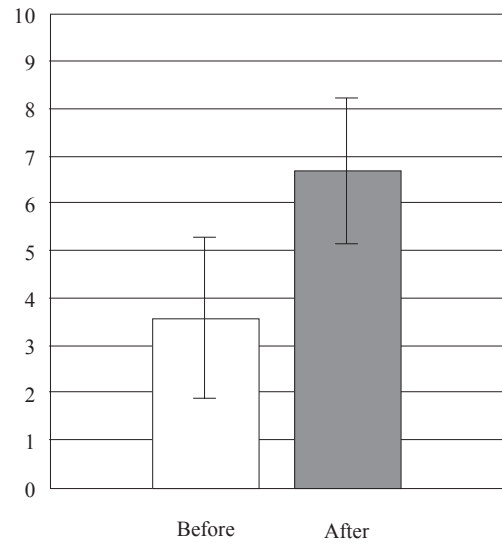


Figure 7: Interest in cognitive dysfunction

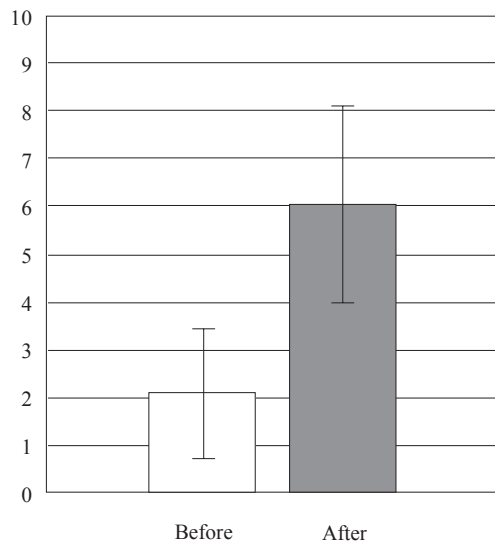


Figure 5: Comprehension of executive dysfunction

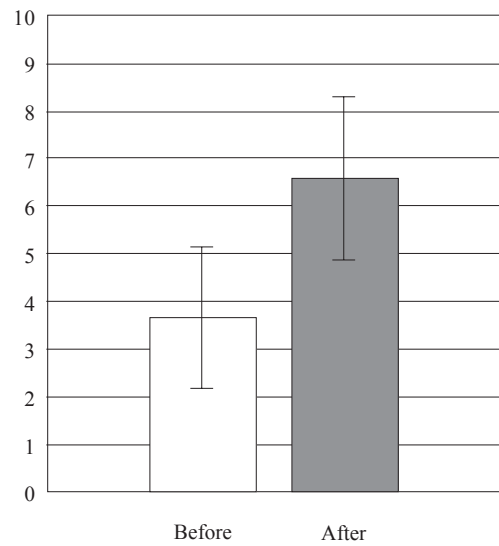


Figure 8: Comprehension of OT's role in cognitive dysfunction

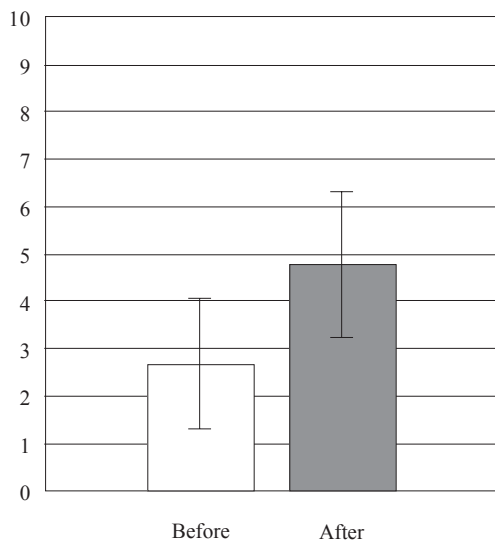


Figure 6: Comprehension of other cognitive dysfunction

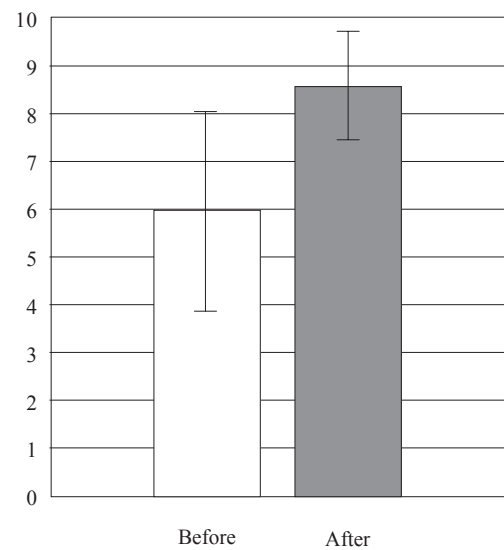


Figure 9: Continuation of this type of teaching method

- There were two participants without change in comprehension of other cognitive dysfunction (Q5) and continuation of the teaching method (Q8), respectively. As for Q8, the two participants felt perfectly good before participating in simulated classes. Except for the above four ones, for all 32 participants' improvements were accepted in all the questionnaire items (Figures 2-9).
- The image and comprehension of cognitive dysfunction significantly increased and deepened because of observing the patient's attention deficit, memory disturbance, other cognitive dysfunction and executive dysfunction (Figures 3-6).
- Due to attending the simulated classes, the students' interest in cognitive dysfunction significantly increased and their understanding of the role of occupational therapy (therapist) significantly deepened (Figures 7, 8).
- Continuation of the teaching method in such extra-curricular education was approved although it was not a regular class (Figure 9).

6. Discussion

A retrospective questionnaire has been used in other fields such as orthopaedics (Schrader, Obelieniene, Bovim, Surkiene, Mickviciene, Miseviciene, & Sand, 1996) and internal medicine (Hotta, Oyama, Akamatsu, Tomori, Hasebe, Nakamura, Kojima, Suga, Miyabayashi, & Ohta, 2010). The benefit of using a retrospective questionnaire is an effective way to measure self-reported behaviour change (Raidl, Johnson, Gardiner, Denham, Spain, Lanting, Jayo, Liddil, & Barron, 2004).

Therefore, it is possible to effectively find the students' changes by using a retrospective questionnaire method in this study.

It is reported that the use of a job coach is required to treat a patient with executive dysfunction (Burke, Zencius, Wesolowski, & Doubleday, 1991). However, it can be thought that the OT students have played the role of a job coach in a sense, because the OT students played an important part in training the teacher's skill in this study.

Students cannot easily understand cognitive dysfunction because of invisible disabilities. Skilled simulated patients are able to play a part of cognitive dysfunction although they are not perfect. A simulated patient brings effective educational experience to students but it has limited feasibility because of cost (Bowman, Russell, Boekeloo, Rafi, & Rabin, 1992).

This type of teaching method is effective because the classes that the students attended were simulated ones but practiced by a real patient. In order to deepen an understanding of cognitive dysfunction, it can be thought that meeting a real patient is beneficial, even if it was this type of extra-curricular education.

7. Conclusion

In regard to vocational rehabilitation of the cognitively disabled, it is significant for OT students to attend simulated classes

participating as junior high school students. The method of students' attending simulated classes which a real patient practiced is effective in OT education.

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