

# Survey on Skills Education for Physical Therapists in Japan

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ABSTRACT: [Background] Japan has a super aging society, and, thus, the activities of physical therapy should be improved in their qualities, besides the quantities demanded so far, to meet the needs of the times. Therefore, the skills of physical therapists need to be improved. However, in recent years, the techniques and qualifications of physical therapy have deteriorated in Japan. Therefore, good quality education for physical therapists is required before and after graduation. [Purpose] The purpose of the present study was to conduct a survey on attitudes toward physical therapy skills and to help ensure that effective technical education is practiced. [Participation and Methods] Subjects comprised 100 working physical therapists ( $6.54 \pm 3.02$  years) working on-site. Subjects completed a web-based questionnaire, which consisted of nine questions with a multiple-choice, 10-step, and free entry method. [Results] Self scores for palpation and physical therapy skills were low, with means of 3.85 and 3.66 out of 10 points. Regarding the acquisition of physical therapy techniques, 53% of subjects indicated that they were learned at seminar workshops, while 45% stated that a stronger focus on ‘knowledge of basic medicine’ was needed at training schools. Furthermore, 64% responded that they started studying hard in the first year. As a reason, 34% responded “Helplessness and lack of ability”. [Discussion] The present results showed that subjects felt that they lacked knowledge of basic medicine as well as palpation and evaluation skills in self-assessments. Therefore, training school education and the lifelong learning system of the Japanese Physical Therapy Association may be insufficient. [Implications] The results of this survey indicate that basic medical education at training schools and educational opportunities in the first year are important for future physical therapy education.

## [Background]

Japan is a super aging society, and the abilities and roles required of physical therapists (PT) are not only in the medical field, but also in the field of health care, such as the extension of healthy life expectancy, participation in nursing care prevention activities, and industrial PT. The activities of physical therapy should be improved in their qualities, besides the quantities demanded so far, to meet the needs of the times 1).

However, in recent years, the abilities and qualifications of PT in Japan are considered to be inadequate 2). One of the reasons for this is the increase in the number of students enrolled in training schools. The number of students enrolled in training schools, which was less than 4,000 in 1999, increased to 13,635 in 2016 3). Therefore, the development of an appropriate training and education system for new PT, which markedly exceeds the number of experienced PT, is warranted. Furthermore, high-quality PT education in the pre- and postgraduate periods is needed.

In the present study, a survey was conducted on PT techniques to improve the technical education for PT.

## [Methods]

Subjects were PT for musculoskeletal diseases. They were asked to complete a web-based questionnaire (SurveyMonkey). One hundred subjects (average years of experience,  $6.54 \pm 3.02$  years) who agreed with the purpose of the present study after written and oral explanations completed the questionnaire on the designated questionnaire page. The average response time

Table 1. Question items

1	Acquisition of palpation skills (Fig. 1)
2	Elements of own palpation skills (Fig. 2)
3	Acquisition of therapy skills (Fig. 3)
4	How PT skills were learned (Fig. 4)
5	Skills to improve in the workplace (Fig. 5)
6	Minimum instructor-to-student ratio for skills acquisition (Fig. 6)
7	What should have been done during your school days? (Table 2)
8	Changes in approaches to learning as a student and professions (Fig. 7), and reasons and time periods for changes (Table 3)

required to complete the survey was 4 minutes and 8 seconds. The collection period was one year, from December 2017 to December 2018.

The questionnaire involved a multiple-choice, 10-step, and free entry method. The following questions were asked (Table 1): 1. Acquisition of palpation/treatment techniques; 2. How PT skills were learned; 3. Skills to improve in the workplace; 4. Ratio of instructors to students for skills acquisition; 5. What should have been done during your school days? 6. Changes in approaches to learning as a student and profession and the underlying reasons. Each question item was tabulated and averaged. Responses to free entry questions were categorized by keywords.

The present study was conducted with the approval of the Research and Ethics Committee of Nihon Institute of Medical Science (No. 2017027).

## [Results]

The results obtained for the questions listed in Table 1 were as follows.

Figure 1 shows the acquisition of palpation skills at 10 levels. The average was 3.85.

Figure 2 shows the elements of their own

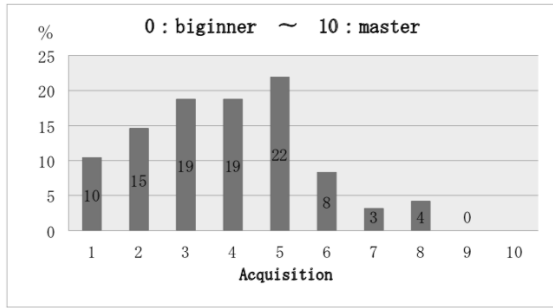


Fig. 1. Question1: Acquisition of palpation skills (Ave3.85)

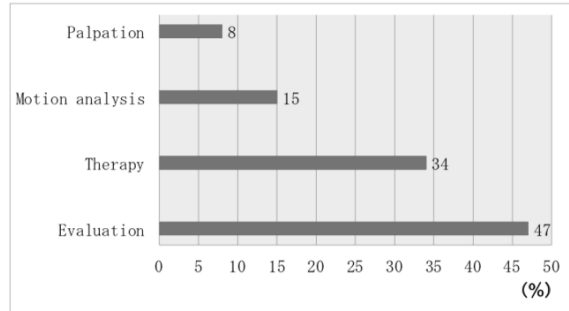


Fig. 5. Question5: Skills to improve in the workplace

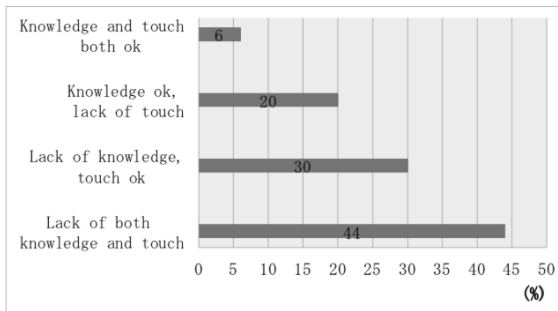


Fig. 2. Question2: Elements of own palpation skills

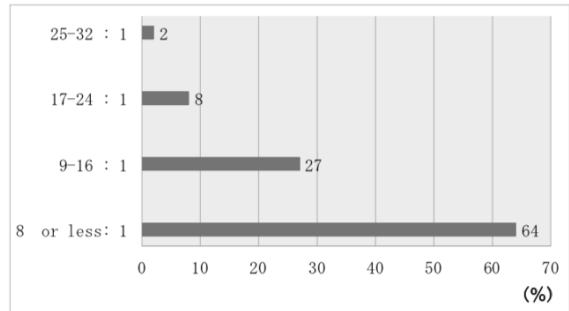


Fig. 6. Question6: Minimum instructor-to-student ratio for skills acquisition

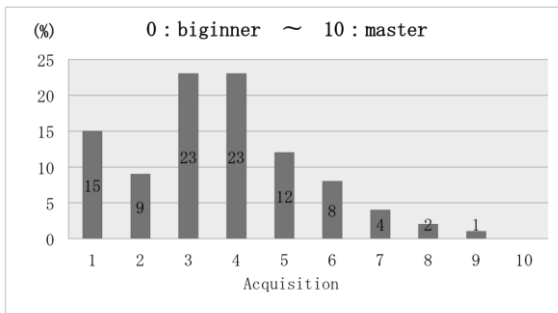


Fig. 3. Question3: Acquisition of therapy skills (Ave3.66)

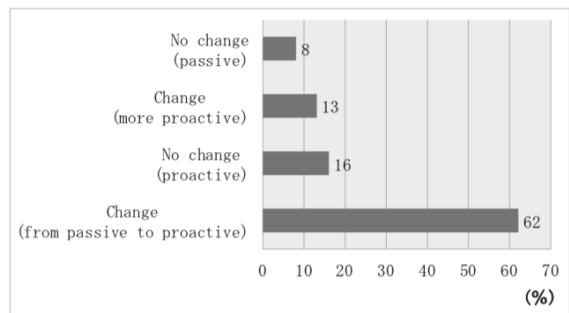


Fig. 7. Question8: Changes in approach to learning at a student and professional

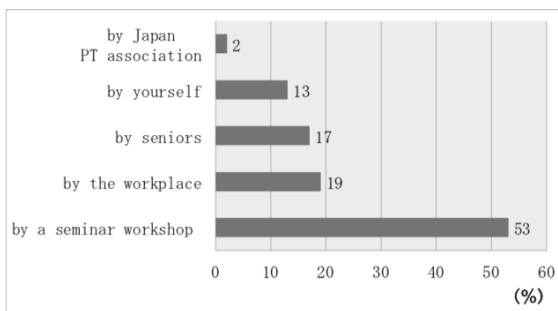


Fig. 4. Question4: How PT skills were learned

Table 2. Question 7: What should have been done during your school days? (n=92)

Item	Number (%)
Knowledge of basic medicine	42 (45.7%)
PT evaluation ability	23 (25.0%)
Palpation	16 (17.4%)
Therapy & handling	7 (7.6%)
Motion analysis	4 (4.3%)
Social courtesy	5 (4.3%)

palpation skills, with 70% of subjects responding that their palpation skills were inadequate.

Table 3. Reasons and time periods for “changes” in Question 8 (n=73)

Reason	Number (%)	Timing	Number (%)
Helplessness and lack of ability	25 (34.2%)	Intern	4 (5.6%)
Responsibility to patients	14 (19.2%)	1st year	46 (63.9%)
Emergence of a role model	8 (11.0%)	2nd year	15 (20.8%)
Environmental changes (e.g., work place)	8 (11.0%)	3rd year	6 (8.3%)
Opportunities to educate students	7 (9.6%)	5th year	1 (1.4%)
Participation in seminar workshops	7 (9.6%)		

Figure 3 shows the acquisition of therapy skills at 10 levels. The average was 3.66.

Figure 4 shows how PT skills were acquired; 53% of subjects learned PT skills at seminar workshops, followed by the workplace, and from senior therapists.

Figure 5 shows the results of skills to be improved in the workplace, with approximately 50% of subjects indicating a desire to increase their evaluation ability.

Figure 6 shows the minimum instructor-to-student ratio for skills acquisition. This result also shows the limits of skills education in training school education.

Figure 7 shows changes in approaches to learning as a student and professional; 60% of subjects became active learners in the workplace, whereas approximately 10% were “passive”.

Table 2 shows a summary of answers to Question 7, ‘What should have been done during your school days?’ Approximately 50% of subjects reported a lack of knowledge. Other answers are shown in Table 2.

Table 3 shows the results of subjects who responded ‘There was a change’ to question 8, with 50% citing ‘a lack of ability’ and ‘a sense of responsibility to patients’ as the underlying reasons and the most common time period for this change being in the

first year (63%).

[Discussion]

Among PT with  $6.54 \pm 3.02$  years of experience, the results of Questions 1 and 3 were high at 3.85 and 3.66, respectively, on a 10-point scale (FIG. 1, FIG. 3). The reason for this may be a lack of knowledge and perceived lack of tactile and evaluation skills in the self-assessment (FIG. 2, FIG. 5).

This can be seen in the responses to Question 8 “Changes in the attitudes of learning between school days and today”. Specifically, more than 60% responded “passive to positive changes” after being qualified (FIG. 7). As shown in Table 3, the perceptions by subjects of their own lack of competence and perceived responsibility to patients appeared to change in the first year of becoming a qualified PT. These results suggest that subjects with  $6.54 \pm 3.02$  years of experience have no confidence in acquiring and practicing the techniques of physical therapy, resulting in a low value. Regarding the acquisition of PT skills, the majority of subjects learned these skills through seminar workshops, suggesting that similar to knowledge, education in training schools and the lifelong learning system of the Japanese

Physical Therapy Association are insufficient (FIG. 4). In the results shown in Table 2, nearly 50% of subjects indicated their lack of knowledge of basic medicine as students. Unsurprisingly, we believe that this is a result of recognizing that even if they have enough knowledge to pass the national examinations, they still need to have a deeper knowledge in order to practice effective PT in clinical setting. Many subjects indicated that evaluation and palpation methods were essential. These results suggest a significant gap between training school education and the skills needed in clinical practice. The ratio of one lecturer to 40 students is common in skills education at training schools in Japan.

In 2020, the designated rules for training physical and occupational therapists were revised for new students for the first time in 20 years. Specifically, the current educational contents of physical therapy were improved and the problems in clinical practice were resolved. The results of our survey revealed the need for further improvement in the Japanese curriculum regarding the knowledge of physical therapy and the methods of technical education for PT to play an active role in clinical practice. The need for post-graduate education for PT has been widely reported, and the training of new PT in clinical practice is common 1) 4) 5). Therefore, it is important to provide effective educational opportunities in the early stages of the career of PT, such as post-graduate training in the workplace and participation in training sessions.

JAOMPT was admitted to the IFOMPT in 2008 6). In training sessions held by JAOMPT, a curriculum of lectures on basic medical

knowledge and practical training is implemented in accordance with the educational standards developed by the IFOMT. Responses by more than 60% of subjects to question 8 revealed that the number of students per instructor needs to be less than 8 in order to facilitate the learning of skills (FIG. 6). Therefore, effective education is provided by experienced instructors in JAOMPT's training sessions. Exemplary responses to Question 9 include emergence of a role model (Table 2). Instructors with OMT serve as role models for would-be PT.

The results of this survey suggest that basic medical education at training schools and educational opportunities in the first year are important for future PT education.

This survey had some limitation, such as the lack of detailed demographic information on subjects and specific definitions of knowledge and skills in the questions asked.

Further studies are needed on a larger sample number, with a focus on less experienced PT, such as those in their first year, the relationship between the number of years of experience and responses, and the impact of the revisions to the Japanese designated rules.

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