



Original Article

Inclusion of rehabilitation approach in Japanese clinical practice guidelines: a descriptive analysis

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Abstract. [Purpose] To investigate how well rehabilitation is described in Japanese clinical practice guidelines of various diseases or disorders requiring rehabilitation. [Participants and Methods] Clinical practice guidelines were extracted from the MINDS database (Japan Council for Quality Health Care). Japanese clinical practice guidelines of specific diseases or disorders requiring rehabilitation were included. The exclusion criteria were clinical practice guidelines on the procedure, symptoms, and/or medical examination. To select the clinical practice guidelines of diseases or disorders requiring rehabilitation, eight participants evaluated the need for rehabilitation for the disease or disorder through the modified Delphi method. They graded the necessity of rehabilitation from 1 to 9 (1, completely disagree; 9, completely agree). The clinical practice guidelines that had grades 7 or higher as the median were included in the analyses. Systematic reviews were compiled as an indicator of the extent to which rehabilitation is described in clinical practice guidelines. [Results] Forty-four clinical practice guidelines were selected, and 26 (59.1%) included descriptions of rehabilitation. There were 443 existing systematic reviews related to rehabilitation for each disease or disorder enrolled in the present study and 67 (15.1%) systematic reviews quoted in those guidelines. [Conclusion] Rehabilitation was not well described in the clinical practice guidelines of the diseases or disorders that require rehabilitation.

Key words: Evidence practice gap, Evidence based practice, CPGs

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INTRODUCTION

Clinical practice guidelines (CPGs) are defined as: “systematically developed statements to assist practitioner and patient decisions regarding appropriate healthcare for specific clinical circumstances^{1, 2)}. It has been reported that the use of CPGs correlates with improvements in the care process,³⁾ closing the gap between evidence and practice⁴⁾ (evidence-practice gap); however, it has been indicated that the awareness and frequency of CPG usage is lacking within Japanese rehabilitation fields⁵⁾.

Descriptions of rehabilitation can appear in the guidelines in the following two ways: description as a part of a guideline for a specific disease or disorder, or the description in the guideline specializing in rehabilitation. The descriptions of rehabilitation in the disease-specific guideline are important, especially when practitioners other than rehabilitation professionals want to obtain some information about rehabilitation when treating a disease. However, there is no information on whether

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such descriptions about rehabilitation appear in every CPG for which rehabilitation was required.

Despite the importance of rehabilitation for various diseases, the quantity of descriptions about rehabilitation in CPGs is unknown. Knowing the current status of occurrence of rehabilitation in CPGs is necessary to make better CPGs.

The aim of this study was to discover to what extent rehabilitation is described in the CPGs of the diseases for which rehabilitation is necessary.

PARTICIPANTS AND METHODS

A modified Delphi method was used to select the CPGs of diseases or disorders for which rehabilitation was required. For these selected CPGs, descriptions of rehabilitation were evaluated.

The factors that could influence the inclusion of the description of rehabilitation in the CPGs include the amount of research on the diseases in the field of rehabilitation and the occurrence of references and citations of CPGs of physical therapy. Therefore, in this study, the number of systematic reviews in the CPGs and the occurrence of references and citations of CPGs of physical therapy were examined. Extraction of the CPGs for the diseases or disorders for which rehabilitation was required.

The eight participants consisted of two medical doctors (experience of 8 years each), two physical therapists (experience of 8 years and 5 years), two occupational therapists (experience of 6 years and 5 years), and two speech-language therapists (experience of 6 years and 9 years). Inclusion criteria of the participants were as follows: 1) first language is Japanese, 2) over 5 years of clinical experience, 3) clinical experience working in either an acute or convalescent hospital, 4) experience of rehabilitation prescription when participant is a medical doctor. The participants were extracted through a convenience sampling.

First, for the diseases for which rehabilitation was required, all available Japanese CPGs for specific diseases or disorders were extracted from the Minds webpage⁶⁾ operated by the Japan Council for Quality Health Care Department of EBM and Guidelines [Accessed: 11th September 2016]. The CPGs available on the Minds webpage were determined to have reached a certain level of quality through the Appraisal of Guidelines for Research & Evaluation II (Agree II)^{7, 8)} by experts on developing Japanese guidelines⁹⁾. Inclusion criteria of the guidelines were as follows: 1) a Japanese CPG, 2) written in Japanese, 3) a disease-specific guideline. Exclusion criteria were as follows: 1) guideline specializing in rehabilitation, 2) guideline on procedure, 3) guideline on medical examination, 4) guideline on the symptoms, 5) only the publication summary of the true guideline such as “a guide book” or/and “collection of evidences” was present.

Second, the importance of rehabilitation for each disease or disorder in the extracted CPGs was evaluated. Two evaluation rounds were carried out based on the Delphi method (RAND corporation) reported by Fitch et al¹⁰⁾. The importance of rehabilitation was evaluated from one to nine grades (1: do not agree at all, 9: completely agree). During the first evaluation round, each participant of eight medical professionals independently evaluated the CPGs and determined a score. Afterwards, the participants discussed the results through emails with all the subject's scores exposed. Finally, the second evaluation round was conducted and a final decision was made based on the scores of the eight participants. Diseases or disorders with a median score of >7 were subjected to subsequent evaluations of the CPGs.

After extracting the CPGs, systematic reviews were compiled as an indicator of the extent to which rehabilitation is described in CPGs. The occurrence of descriptions of rehabilitation and the number of the systematic reviews, and the occurrence of references for the Japanese Guidelines for the Physical Therapy⁹⁾ were evaluated for the extracted CPGs. The occurrence of the descriptions of rehabilitation was defined as follows: 1) any descriptions about rehabilitation in clinical questions (CQs), chapters, sections, and recommendations in the CPG, 2) any references for other CPGs specializing in rehabilitation of the disease or disorder. Regarding the CQ, it was considered as a CQ format when it was clearly stated as a CQ or in a question format^{7, 11, 12)}.

The number of systematic reviews of rehabilitation was evaluated in the following manner: 1) at which level (CQ, chapter, section) a systematic review was performed, 2) the number of references of existing systematic reviews of rehabilitation for the disease or disorder, 3) the number of references for existing systematic reviews in the CPGs.

The number of existing systematic reviews related to rehabilitation for each disease or disorder enrolled in the present study was investigated in the following manner. We searched for systematic reviews published between January 1st, 1960 and October 18th, 2016 using a combination of the search terms “disease name”, “rehabilitation” and their synonyms. Inclusion criteria of the systemic review articles were: 1) written in Japanese or English, 2) related to rehabilitation for diseases in the CPGs, 3) published before the search period of the systematic reviews of the CPGs.

The occurrence of references and citations from the Japanese Guidelines for the Physical Therapy in the extracted CPGs was also confirmed.

Extraction of the occurrence of the description of rehabilitation, the systematic reviews related to the rehabilitation in the CPGs, and the occurrence of references for the Japanese Guidelines for the Physical Therapy was independently carried out by two research members (SF, MK). When there was a disagreement between the two, a discussion ensued until an agreement was reached, then a consensus was formed.

Among CPGs of diseases that required rehabilitation, the proportion that included rehabilitation descriptions were accurately calculated. Further, the number of existing systematic reviews that were related to rehabilitation for each disease or disorder enrolled in the present study within the period of the systematic review conducted in the guidelines and examined whether they are quoted in the guidelines.

This study was conducted with a confirmation that it does not correspond to researches involving human subjects as stated in the Declaration of Helsinki, along with the Ethical Guidelines for Medical and Health Research Involving Human Subjects of the Japanese the Ministry of Health, Labour and Welfare.

RESULTS

Out of 218 (204 diseases) CPGs extracted, 149 (147 diseases) satisfied the selection criteria. Medical experts evaluated the necessity of rehabilitation for each disease and 48 diseases had a median score >7, 17 diseases had a median between 4–7 and 84 diseases had a median between 1–4. Finally, 44 (42 diseases) CPGs were enrolled for evaluation (Fig. 1).

Out of 44 CPGs, 26 (59.1%) had at least a description of rehabilitation either in the CQ, chapter, section, or recommendation. The number (percentage) of descriptions for each part was 23 (52.3%), 21 (47.7%), 15 (34.1%), and 25 (56.2%) in CQ, chapter, section, and recommendation, respectively. Fourteen (31.8%) CPGs included a description of rehabilitation in all of four parts and the names of diseases or disorders were amyotrophic lateral sclerosis, anterior cruciate ligament injury, hallux valgus, oral cancer, muscular dystrophy, femoral neck/trochanteric fracture, rheumatoid arthritis, lumbar pain, distal radius fracture, Parkinson’s disease, dysphagia, dysarthria, lateral epicondylitis, and neuropathy. The number of CPGs with information on rehabilitation-specific CPGs was 0 (0%).

The occurrence of the description of rehabilitation, the number of systematic reviews within the extracted CPGs, and the relevance between the two are shown in Table 1. Among the extracted CPGs, 26 had a description related to rehabilitation; 15 did not.

The number of existing systematic reviews related to rehabilitation for each disease or disorder enrolled for the present study within the period of the systematic review conducted in the guidelines was 443, and the number of systematic reviews quoted in those guidelines was 67 (15.1%).

No reference or citation of CPGs of physical therapy was found within the extracted CPGs.

DISCUSSION

This study revealed that over 40% of CPGs for diseases or disorders for which rehabilitation is required had no descriptions of rehabilitation. Further, only 15% of quoted systematic reviews related to rehabilitation for each disease or disorder enrolled for the present study were within the period of the systematic review conducted in the guidelines.

The CPGs give recommendations on clinical decision-makings for important patient outcomes. Since the CPGs included in the present study were for the diseases or disorders for which rehabilitation is required, activities of daily living and quality of life, i.e. important outcomes of rehabilitation^{13–16}, should be included in the CPGs. Therefore, it was surprising that the CPGs did not include descriptions of rehabilitation. Psychiatrists can prescribe rehabilitation programs for patients at appropriate times as the physicians other than the psychiatrists may not have enough rehabilitation knowledge. A lack of description of rehabilitation in CPGs, as well as the lack of knowledge of rehabilitation in the physicians, may prevent the patients from receiving appropriate rehabilitative interventions. Several factors might be related to this lack of appearance of rehabilitation in CPGs.

First, rehabilitation professionals such as psychiatrists and physical/occupational/speech-language therapists may not be well-represented as the creators of CPGs. For example, the evaluation of CPGs related to Japanese rehabilitation by using the Appraisal of Guidelines for Research and Evaluation (AGREE) instrument revealed inadequacy in stakeholder involvement¹⁷. Ideally, experts for the diseases or disorders from various fields should contribute to the creation of CPGs.

The number of existing systematic reviews about rehabilitation for each disease or disorder was investigated in the present study. The numbers of systematic reviews about rehabilitation were relatively large (>50) in some diseases such as stroke, lumbar pain, and rheumatoid arthritis.

However, even when the number of systematic reviews was high, CPGs with no description of rehabilitation still exist. This could be due to rehabilitation professionals not being involved in the creation of CPGs.

On the other hand, there were diseases with a small number of systematic reviews (17 diseases ≤5 systematic reviews) or no reviews at all (17 diseases). It is very reasonable to avoid describing rehabilitation when the number of articles with randomized-controlled trial and resultant systematic reviews is very few. This study suggests that there is still a lack of evidence for the diseases and disorders for which rehabilitation is important and rehabilitation for the diseases and disorders may not be well established. Surprisingly, there were no links between disease-specific CPGs and guidelines specializing in reha-

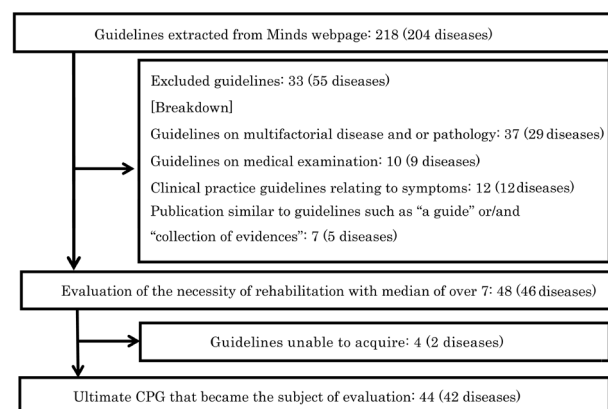


Fig. 1. Flowchart of the extraction process of clinical practice guidelines.

Table 1. Occurrence of rehabilitation and number of systematic review in CPGs

Name of the disease or disorder	Name of the guideline	Appearance of description on rehabilitation in CPGs (Present: 1 Absent: 0)	Number of systematic review within the period of CPGs	Number of systematic review in relation to rehabilitation within the period of CPGs	Proportion percentage of the number of the systematic review in relation to rehabilitation within the period of CPGs
Nonalcoholic fatty liver disease/Nonalcoholic steatohepatitis	Evidence-based clinical practice guidelines for nonalcoholic fatty liver disease/nonalcoholic steatohepatitis	0	1	0	0%
Hallux valgus	Japanese orthopedic association (JOA) clinical practice guideline on the management of hallux valgus	1	0	0	0%
Guillain-Barre syndrome	Practice guideline for Guillain-Barre syndrome and Fisher syndrome 2013	1	1	0	0%
Amyotrophic lateral sclerosis	Practical guideline for amyotrophic lateral sclerosis (ALS) 2013	1	7	0	0%
Cervical posterior longitudinal ligament ossification	Clinical practice guideline for cervical posterior longitudinal ligament ossification 2011	0	0	0	0%
Hypertension	Guidelines for the management of hypertension 2014	1	5	0	0%
Decubitus	Clinical practice guideline for decubitus	0	0	0	0%
Spinal cord injury and neurogenic bladder	Clinical guideline of spinal cord injury and neurogenic bladder	0	0	0	0%
Fibromyalgia	Clinical practice guideline for fibromyalgia 2013	1	17	1	6%
Bipolar disorder	Bipolar disorder 2012	0	1	0	0%
Multiple sclerosis	Clinical practice guideline for multiple sclerosis 2010	0	7	0	0%
Idiopathic normal pressure hydrocephalous	Clinical practice guideline for idiopathic normal pressure hydrocephalous second edition	1	0	0	0%
Hip osteoarthritis	Clinical practice guideline for hip osteoarthritis 2016	1	10	1	10%
Lumbar spinal canal stenosis	Clinical practice guideline for lumbar spinal canal stenosis 2011	1	1	1	100%
Achilles tendon rupture	Clinical practice guideline for achilles tendon rupture	1	0	0	0%
Temporomandibular joint disorder	Primary treatment of temporomandibular disorders: The Japanese Society for the temporomandibular joint evidence-based clinical practice guidelines 3	0	1	1	100%
Muscular dystrophy	Clinical practice guideline for Duchenne muscular dystrophy	1	7	0	0%
Cervical spondylotic myelopathy	Clinical practice guideline for cervical spondylotic myelopathy 2015	1	0	0	0%
Chronic kidney disease (CKD)	Evidence-based clinical practice guideline for CKD	1	0	0	0%
Kidney cancer	Clinical practice guideline for kidney cancer 2011	0	0	0	0%
The ingesting/swallowing disorder, dysphagia, dysarthria	Clinical practice guideline for dysphagia 2012 –ambulatory correspondence in otorhinolaryngology–	1	23	2	9%
Anterior cruciate ligament (ACL) injury	Clinical practice guideline for anterior cruciate ligament (ACL) injury 2012	1	1	1	100%

Table 1. Continued

Name of the disease or disorder	Name of the guideline	Appearance of description on rehabilitation in CPGs (Present: 1 Absent: 0)	Number of systematic review within the period of CPGs	Number of systematic review in relation to rehabilitation within the period of CPGs	Proportion percentage of the number of the systematic review in relation to rehabilitation within the period of CPGs
Femoral neck/trochanter fracture	Japanese guidelines for the treatment of hip fractures in the elderly second edition	1	5	1	20%
Head and neck carcinoma	Clinical practice guideline for head and neck carcinoma 2013	1	7	0	0%
Breast cancer	Evidence-based clinical practice guideline for breast cancer (I) treatment 2015	1	27	1	0%
Stroke	Japanese guidelines for the management of stroke 2015, second edition	1	202	32	16%
Lumbar vertebrae herniated disk	Clinical practice guideline for lumbar vertebrae herniated disk	0	0	0	0%
Lymphedema	Clinical practice guideline for lymphedema 2014	1	16	1	6%
Hereditary colon cancer	Clinical practice guideline for hereditary colon cancer 2012	0	0	0	0%
Liver cancer	Evidence-based clinical practice guideline for liver cancer 2013	0	0	0	0%
Rheumatoid arthritis	Clinical practice guideline for rheumatoid arthritis 2014	1	24	3	13%
Lateral humeral epicondylitis	The Japanese guideline for management of lateral epicondylitis	1	1	0	0%
Oral cancer	Evidence-based clinical practice guideline for oral cancer 2013	1	0	0	0%
Myasthenia gravis	Clinical practice guideline for myasthenia gravis 2014	0	2	0	0%
Prostate cancer	Clinical practice guideline for prostate cancer 2012	0	0	0	0%
Colorectal cancer	Japanese society for cancer of the colon and rectum (JSCCR) guidelines 2014 for treatment of colorectal cancer (For medical doctor)	0	1	0	0%
Neuropathy	Practical guideline for chronic inflammatory demyelinating polyradiculoneuropathy (CIDP) and multifocal motor neuropathy (MMN) 2013	1	7	1	14%
Parkinson's disease	Clinical practice guideline for Parkinson's disease 2011	1	10	4	40%
Lumbar pain	Clinical practice guideline for lumbar pain 2012	1	51	15	29%
Distal radius fracture	Clinical practice guideline for distal radius fracture 2012	1	0	0	0%
Pneumonia	Clinical practice guideline for nursing and healthcare-associated pneumonia (NHCAP)	0	6	0	0%
Fisher's syndrome	Clinical practice guideline of Guillain-Barre syndrome and Fisher syndrome 2013	0	0	0	0%

CPGs: Clinical Practice Guidelines.

bilitation. For example, there were guidelines published by the Japanese Physical Therapy Association as of September 2017. Of these, guidelines for dorsal pain, lumbar disc herniation, anterior cruciate ligament injury, scapulo-humeral peri-arthritis, orthroarthritis of the knee, stroke, spinal cord injury, Parkinson's disease, cerebral palsy, diabetes, myocardial infarction, chronic obstructive pulmonary disease, and physical weakness (geriatric) were for the same diseases or disorders of the CPGs in the present study, such as lumbar disc herniation, orthroarthritis of the knee, stroke, spinal cord injury, and Parkinson's disease. It is strongly recommended to include these guidelines as references in the CPGs to guide readers to the appropriate information about rehabilitation, especially when descriptions of the rehabilitation are lacking.

There are a few limitations in this study. The selection of diseases or disorders for which rehabilitation is required had been conducted through the modified Delphi method with the participants collected by convenience sampling. Therefore, caution must be considered when considering whether the participants represented rehabilitation professionals in Japan. The generalizability of the results to other countries is limited. This study focused on Japanese CPGs and it is known that professionals in Japan in the field of rehabilitation show relatively low awareness of the utility and knowledge of CPGs compared to those from foreign countries⁵). Future studies on CPGs in other countries will explore the differences between countries on these issues.

Again, in this study, several systematic reviews were compiled as an indicator of the extent to which rehabilitation is described in CPGs. By compiling the number of systematic reviews, there is a possibility of observing how much research is done in each field¹⁸). However, it should be noted that this does not cover interventional studies or observational studies.

This study revealed for the first time that rehabilitation is not well-described in the CPGs of diseases or disorders in which rehabilitation is required. To improve CPGs, it might be important to establish more scientific evidence of rehabilitation, in addition to the adoption of appropriate CPG-making procedures.

Funding and Conflict of interest

There are no funding and conflict of interests to declare.

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