Brief Report

Paediatric rehabilitation treatment standards: a method for quality assurance in Germany

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Significance for public health

The German pension insurance's rehabilitation treatment standards (RTS) for inpatient rehabilitation of children and adolescents aim at contributing to a comprehensive and evidence-based care in paediatric rehabilitation. As a core element, they comprise evidence-based treatment modules that describe a *good rehabilitation* standard for children diagnosed with bronchial asthma, obesity, or atopic dermatitis. Although the RTS have been developed for the specific context of the German health care system, they may be referred to as a more general starting point regarding the development of health care and quality assurance standards in child/adolescent medical rehabilitative care.

Abstract

Over the last few years, the German Pension Insurance has implemented a new method of quality assurance for inpatient rehabilitation of children and adolescents diagnosed with bronchial asthma, obesity, or atopic dermatitis: the so-called rehabilitation treatment standards (RTS). They aim at promoting a comprehensive and evidence-based care in rehabilitation. Furthermore, they are intended to make the therapeutic processes in medical rehabilitation as well as potential deficits more transparent. The development of RTS was composed of five phases during which current scientific evidence, expert knowledge, and patient expectations were included. Their core element is the specification of evidence-based treatment modules that describe a *good rehabilitation* standard for children diagnosed with bronchial asthma, obesity, or atopic dermatitis. Opportunities and limitations of the RTS as a tool for quality assurance are discussed.

Introduction

In Germany, in 2010 children and adolescents received about 34,000 medical rehabilitations funded by the German Pension Insurance.[1] The usual duration of a paediatric rehabilitation is four (to six) weeks. It is carried out in inpatient medical rehabilitation centres. Usually, children and adolescents are referred due to a chronic disease. The rehabilitative treatment seeks to improve coping and disease management and to foster the adoption of a health-oriented behaviour in both children/adolescents and their parents.

In Germany, most patients in rehabilitation are inpatient. Due to recent increases in chronic diseases of children and adolescents, paediatric rehabilitation has gained significance.[2] Since rehabilitation is a central part of a long-term treatment approach for patients with chronic conditions, its main goal is the improvement of medical conditions while taking physical, psychological and social factors (as determinants of health and illness) into account, drawing on the International Classification of Functioning, Disability and Health (ICF)[3] that serves as a conceptual basis. Thus, medical rehabilitation in Germany not only endeavours to restore health but also focuses on participation in all relevant life domains.

According to the documentation manual of the classification of therapeutic treatments used by the German Pension Insurance,[4] among the specific characteristics of child/adolescent rehabilitation (as contrasted with adult rehabilitation) are a higher number of time-consuming interactions between staff members and patients, the continuous education, and (where required) the inclusion of parents in the treatment process.[5] Other aspects that are also addressed in the framework concept of the German Federal Association of Rehabilitation regarding the rehabilitation of children and adolescents comprise opportunities for children's personal development,[6] the potentially distressing separation from home, parents and friends, and the necessary adaptation to a new environment which is often prolonged for chronically ill children and adolescents.[6] While paediatric rehabilitation in Germany has no standardised structures at present, the German Federal Association of Rehabilitation and the Federation of German Pension Insurance Institutes have issued framework concepts for general recommendations and specific medical indications,[6,7] respectively. Within the field of medical care, it is not uncommon that different concepts and therapeutic approaches exist that deal with the treatment of chronic diseases in children and adolescents. Although this variety may play to the patients' interests and expectations, this inconsistency does not meet the demands of parents, health care providers and practitioners initiating rehabilitative treatment. Therefore, a higher degree of transparency regarding diagnostic and therapeutic services in this area of health care seems necessary for internal and external quality assurance purposes. Therapy guidelines and standards are known to help creating transparency and optimising patient care.[8] They constitute empirically established decision aids that ensure rational acting on the basis of scientific evidence.[9] Regarding the field of paediatric rehabilitation in Germany, there are standards and guidelines developed by the respective medical professional associations for the treatment of obesity, bronchial asthma, diabetes, mucoviscidosis, atopic dermatitis, cancer, heart disease, psychosomatic diseases as well as neurological diseases.[10]

Rehabilitation treatment standards of the German Pension Insurance

Treatment should not only be based on clinical expertise but also be

supported by scientific empirical evidence.[11] The German Pension Insurance has acknowledged early the importance of evidence-based rehabilitation treatment standards for of chronically ill patients. In the context of a rehabilitation standards program, it has funded several research projects focusing on the development of rehabilitation treatment standards since 1998.[12] These standards constitute an important element of quality assurance in rehabilitation. While guidelines of medical professional associations address the treatment of individual patients (see above),[10] the rehabilitation treatment standards (RTS) of the German Pension Insurance focus on the processes of rehabilitative treatment in rehabilitation centres. Furthermore, they define the conceptual frame for delivering treatment and/or selecting specific treatment elements (evidence-based treatment modules; ETM) from a range of possible treatments. This means that RTS do not specify treatment recommendations for individual patients. Rather, they contain requirements, based on a number of different modules as to what a comprehensive rehabilitation for patients with a defined disease should comprise. It was one major objective of the RTS development and implementation to establish a solid evidence-based scientific basis for the rehabilitative treatment of children and adolescents. Furthermore, RTS are intended to serve as a means to improve the quality of rehabilitative care (in terms of an appropriate treatment delivered to the respective patient). To date, in the field of paediatric rehabilitation RTS have been developed for the three most prevalent indications in the Pension Insurance's paediatric rehabilitation: bronchial asthma (24.1%), obesity (18.6%), and atopic dermatitis (8.8%).[13] They were specifically developed for the context of rehabilitative treatment of children with the above mentioned conditions. The development of RTS comprises five stages (Table 1). Since all relevant professions involved in rehabilitation were included, a well-founded basis of the resulting recommendations and a broad acceptance can be expected. In the corresponding RTS report,[14,15] a more detailed description of the different work steps regarding the RTS development for children and adolescents diagnosed with bronchial asthma, obesity, or atopic dermatitis is given.

Therapy standards as an element of quality assurance

Up to now, quality assurance programs of the German Pension Insurance in the context of child/adolescent rehabilitation have mainly covered the assessment of structural features of facilities (structure survey), the quality of therapeutic processes *e.g.* by means of analyses of discharge letters (peer review), and patient satisfaction (patient survey) on a systematic basis.[16] Within the area of medical rehabilitation, the newly developed therapeutic standards allow a more comprehensive and systematic quality evaluation of rehabilitative care processes. Unwarranted variability of rehabilitative treatment between rehabilitation centres can be reduced, thereby contributing to an improvement of care for chronically ill patients on a scientific and quality assured basis. For the routine practice in rehabilitation facilities, this implies a stronger emphasis on treatment approaches whose effectiveness is empirically proven. Empirical evaluation of RTS compliance will provide the basis for the evaluation of process quality within rehabilitation centres. As of 2011 all rehabilitation centres treating children with the above mentioned medical conditions receive an annual structured feedback regarding the level of fulfilment of RTS requirements by the German pension insurance as part of routine quality assurance monitoring. To insure RTS relevance and topicality, the standards are currently being revised in an expert consensus process. In this context, the validity of RTS implementation is also being examined.

Evidence-based treatment modules

The description of evidence-based treatment modules (ETM) that compose a comprehensive rehabilitation for children and adolescents diagnosed with bronchial asthma, obesity, or atopic dermatitis are at the centre of the RTS. All therapies involved must be describable by treatments categorised in the Pension Insurance's KTL classification system. In the KTL classification system some treatments performed by physicians are included, however other medical services such as diagnostics, specification of indication, pharmacotherapy and therapy surveillance are not included. For each ETM four criteria are established: i) therapeutic content defining the modules aims and contents; ii) formal definition of the ETM, *i.e.*, frequency and/or duration; iii) list of valid treatment codes according to KTL; iv) minimum percentage of patients requiring the ETM's treatments.

These criteria were developed for two age groups (up to 7 years; 8 years and older), respectively.

The minimum percentage of patients to be treated specifies the minimum proportion of children and adolescents supposed to receive the specified amount of rehabilitative treatments from the ETM. Hence, the minimum percentage serves as a quality indicator by means of which the German Pension Insurance can document and evaluate the treatment delivered in comparison with the requirements specified. The minimum percentage reflects the rehabilitative needs of children and adolescents for specific benefits and treatments resulting from their individual health conditions. The minimum percentages differ

Table 1. Stages of rehabilitation treatment standards development.

Stage	Rehabilitation treatment standards
1	Systematic literature search including existing national and international guidelines on recommendations for evidence-based therapies of particular diseases
2	Preliminary definition of therapeutic modules and comparison with therapeutic services rendered during rehabilitation as specified by the Pension Insurance's classification system KTL. Rehabilitative treatment is documented using KTL codes in the rehabilitation centres' discharge reports and relayed to the Pension Insurance. Evaluation of these data makes it possible to compare the actual health care delivered in each centre with the requirements specified.
3	Patient survey by means of focus groups
4	a) Written expert survey of members of medical professional associations and all relevant professions involved in the rehabilitation process; survey results form the basis for a systematic consensus building process with regard to the selection of modules, their content, and their relevance for rehabilitation b) Development and consenting of a RTS pilot version by an expert committee (experienced rehabilitation clinicians and relevant representatives of respective professional associations)
5	Implementation and evaluation of the RTS pilot version in selected rehabilitation centres

Table 2. Evidence-based treatment modules for bronchial asthma, obesity and atopic dermatitis.

Treatment modules	Bronchial asthma	Obesity	Atopic dermatitis
Exercise training	X	X	X
Activity/exercise-based games	X	X	X
Respiratory therapy	X		
Instruction to inhalation/peak flow	X		
Skin/body care			X
Patient education	X	X	X
Involvement of parents/relatives (≤13 years)	X	X	X
Health education	X	X	X
Nutrition counselling - theory		X	X
Nutrition counselling - practice		X	
Psychological counselling and therapy	X	X	X
Relaxation techniques/training			X
Strengthening of self-perception and skills	X	X	X
Social counselling (incl. social law issues)	X	X	X
Occupational integration support (≥14 years)	X	X	X
Aftercare, academic and social integration	X	X	X

between modules. They are based on estimates by experts who were involved in the RTS development process. Thus, they are supposed to represent the typical range of patients with a specific condition. At the same time, they aim at giving sufficient leeway for taking individual factors into account (*e.g.*, different risk profiles, comorbidity, subjective disease perceptions by children and adolescents or their parents).

The evidence-based treatment modules (ETM) for the relevant diagnoses (*i.e.* bronchial asthma, obesity, and atopic dermatitis) are depicted in Table 2. A more detailed description can be found in DRV (2010). For each diagnosis, specific (*e.g.*, breathing therapy for bronchial asthma) as well as unspecific/generic (*e.g.*, exercise training) therapy modules were identified. *Evidence-based* in this context means that for each module the best available evidence was consulted. Since evaluation studies are not available for each of the ETM, in some cases it had to be resorted to the lowest evidence level available, *i.e.*, expert consensus (*e.g.*, therapy module *reinforcement of self-perception and skills*). Several treatments (*e.g.*, clinical social work or aftercare, academic and social integration) arise from statutory requirements by the Pension Insurance. In particular, it focuses on securing participation in school/education and vocational training.

Discussion and Conclusions

The introduction of rehabilitation treatment standards (RTS) for children and adolescents in Germany comes with both opportunities and shortcomings of this evidence-based procedure for quality assurance that should be discussed.

First, it is not clear to what extent the existing international scientific evidence can be translated and generalised to the German rehabilitation system (with its highly differentiated structure and its predominance of inpatient medical rehabilitation). Most of the relevant treatment studies in the area of child/adolescent therapy were conducted in outpatient non-rehabilitative care settings and not within the German health care system. Moreover, the area of application of the RTS refers to medical rehabilitation of children and adolescents having an initial diagnosis of bronchial asthma, obesity, or atopic dermatitis. Comorbidity and secondary disorders that have to be addressed as well during the course of medical rehabilitation are by definition not part of the RTS. Following admission to the rehabilitation centre it has to be determined which diagnoses and limitations of activities and participation affect a patient's participation the most and should thus be addressed in medical rehabilitation. Rehabilitation treatment standards serve as decision aids for health care professionals in rehabilitation that help to design rehabilitative treatment concepts for defined groups of patients. Evidence-based treatment modules as a whole specify the framework for an evidence-based medical rehabilitation. Consequently, the selection of particular treatments from the ETM should accommodate the individual needs of paediatric patients as well as the individual rehabilitation goals agreed upon. Thus, treatment elements that go beyond the scope of RTS may (and even have to) be provided, too (*e.g.* in case of comorbidity). Different risk profiles, specific problems of various groups of patients, gender aspects, and children's and their parents' subjective disease concepts represent other potentially relevant criteria that should also be included in a joint decision-making process of health care professionals and patients.

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References

1. Deutsche Rentenversicherung Bund. Positionspapier der gesetzlichen Rentenversicherung zur Kinder- und Jugendlichenrehabilitation. Berlin: Deutsche Rentenversicherung Bund; 2012. [Regulation in German].
2. Van Cleave J, Gortmaker SL, Perrin JM. Dynamics of obesity and chronic health conditions among children and youth. JAMA 2010;303:623-30.
3. WHO. International classification of functioning, disability and health (ICF). Available from: http://www.who.int/classifications/icf/icf_more/en/ Accessed on: August 2104.
4. Deutsche Rentenversicherung DRV. Klassifikation therapeutischer Leistungen in der medizinischen Rehabilitation (KTL) Ausgabe. Berlin: Druckerei Buck; 2006. [Regulation in German].
5. Bundesversicherungsanstalt für Angestellte. KTL – Dokumentationsanleitung für die Anwendung in der Kinder-Rehabilitation. Berlin: Bundesversicherungsanstalt für Angestellte. 2002. [Regulation in German].
6. Bundesarbeitsgemeinschaft für Rehabilitation BAR. Gemeinsames Rahmenkonzept der Gesetzlichen Krankenkassen und der Gesetzlichen Rentenversicherung für die Durchführung stationärer medizinischer Leistungen der Vorsorge und Rehabilitation für Kinder und Jugendliche. Frankfurt: BAR; 2008.
7. Verband Deutscher Rentenversicherungsträger. Konzept zur stationären Rehabilitation von Kindern und Jugendlichen bei der Indikation Neurodermitis Constitutionalis. 1998
8. Woolf SH, Grol R, Hutchinson A, et al. Clinical guidelines: potential benefits, limitations, and harms of clinical guidelines. BMJ 1999;318:527-30.
9. Field MJ, Lohr KN. Clinical practice guidelines. Directions for a new program. Washington DC: National Academy Press; 1990.
10. Arbeitsgemeinschaft der wissenschaftlichen medizinischen Fachgesellschaften AWMF. Wissenschaftlich begründete Leitlinien für Diagnostik und Therapie. 2006. [Regulation in German].
11. The AGREE collaboration. Appraisal of guidelines for research and evaluation Instrument. 2001. Available from: http://apps.who.int/rhl/agreeinstrumentfinal.pdf
12. Brüggemann S, Korsukéwitz C. Leitlinien in der Rehabilitation: Einschränkung der Therapiefreiheit oder Grundlage für bessere Ergebnisse? Rehabilitation 2004;43:304-11.
13. Deutsche Rentenversicherung Bund. Statistik Rehabilitation 2006, Rehabilitation für Kinder und Jugendliche (Sonderauswertung). [Regulation in German].
14. Deutsche Rentenversicherung DRV. Reha-Therapiestandards für Kinder und Jugendliche mit Asthma bronchiale, Adipositas und Neurodermitis-Pilotversion. 2010. [Regulation in German].
15. Deutsche Rentenversicherung. Reha-Therapiestandards für Kinder und Jugendliche mit Asthma bronchiale, Adipositas und Neurodermitis-Report Deutsche Rentenversicherung Bund: Berlin; in press. [Regulation in German].
16. Deutsche Rentenversicherung Bund. Reha-Bericht 2012. Berlin, DRV-Bund; 2012. [Regulation in German].