BACKGROUND
Stroke rehabilitation is a multidimensional process designed to facilitate and support the restoration of and/or adaptation to loss of function. In recent decades, there has been an increasing expectation that rehabilitation will be based on evidence. A number of studies indicate that health professionals—among others, physiotherapists (PTs) and occupational therapists (OTs)—are generally positive towards the idea of evidence-based practice (EBP), and agree that EBP is necessary and improves the quality of daily practice. However, despite a positive attitude, knowledge, and skill, many health professionals do not optimally employ research-based evidence to make informed decisions.

Aim The purpose of this study was to investigate characteristics in the implementation of research-based evidence by PTs and OTs in stroke rehabilitation by using the International Classification of Functioning, Disability and Health (ICF) as a conceptual framework.

METHOD
The study was designed as an observational, prospective cohort study and was cross-sectorial, i.e. it included all service levels within Danish stroke rehabilitation. Consecutive patients with a stroke diagnosis who were admitted to the stroke unit at a University Hospital in Denmark between May and December 2012 were enrolled in the study by 13 OTs and PTs. The data generating process took place over a 14-month period (May 2012 – August 2013). PT and OT documentation of assessments and interventions were collected from the medical records of all included patients within the four settings (settings A, B, C and D). Using the ICF as a point of departure, the therapists’ journal notes were analyzed using a qualitative approach with deductive content analysis until saturation was reached.

During the analysis, the therapists’ practice was primarily compared with the recommendations in the new evidence-based Danish National Guidelines for physiotherapy and occupational therapy for adults with acquired brain injuries, including stroke, with the following key foci recommended:

- Training in Personal Activities of Daily Living (PADL), Instrumental Activities of Daily Living (IADL) and leisure activities for people with acquired brain injuries, with a view to improving functional capacity
- To improve functional capacity, the Guidelines recommend offering strength training of upper and lower extremities for people with acquired brain injury
- Fitness training as part of stroke rehabilitation
- Balance training for people who have impaired balance during mobility and while performing ADL (Activities of Daily Living) and leisure activities
- Consideration should be given to offer virtual reality training of the upper extremity for people with acquired brain injury – as long as they have mild to moderate reduction in functional capacity of the upper extremity
- Functional Electrical Stimulation (FES) of the upper extremity for people with acquired brain injury who have moderately to severely reduced muscle strength, although not to those with good muscle function or only mildly reduce muscle strength.

The National Guidelines do not address evidence corresponding with the ICF components Personal and Environmental Factors. In this study, the therapists did not document much regarding assessments, intervention and evaluation relating to the patients’ functioning within these components. The categories identified across all settings were “technologies for personal use”, “mobility and transportation”, and “support and relationships”, e.g., immediate family and the patients’ home conditions, including whether the patient was single or living with family members. As the patients’ medical journals are written by interdisciplinary teams and have a standardized structure, Personal Factors was usually not noted by OTs or PTs, but demographic information is routinely registered during initial contact by a nurse or doctor.

RESULTS
The study included 70 male and 61 female patients, aged 25–99, with a mean age of 72 years. The therapists’ notes in relation to Activity and Participation were analyzed using the ICF checklist. Training in Personal Activities of Daily Living (PADL), Instrumental Activities of Daily Living (IADL) and leisure activities was distinctly addressed in the therapists’ journal notes, and there were both extensive notes and measurements. The results showed notes under all categories within the domain and particular attention was given to the following four categories:

- Communication and specific features of communicating by language, signs and symbols, including receiving and producing messages, carrying on conversations, and using communication devices and techniques.
- Mobility: Training by changing body position or location or transferring from one place to another, carrying, moving or manipulating objects, walking, running or climbing, and using various forms of transportation.
- Self-care: caring for oneself, washing and drying oneself, caring for one’s body and body parts, dressing oneself, eating and drinking, and looking after one’s health.
- Domestic life: carrying out domestic and everyday actions and tasks. Areas of domestic life include acquiring a place to live, food, clothing and other necessities, household cleaning and repairs, caring for personal and other household objects, and assisting others.

In all included settings, the majority of the journal notes related to the patients’ impairments and evaluation of changes within the ICF component Body Functions and Structures. Again, the therapists’ notes were analyzed using the ICF checklist. Almost all domains within this component were considered, with a few exceptions, i.e. functions of the digestive, metabolic and endocrine systems. Training in muscle strength, fitness and balance was clearly and comprehensively addressed. Mental functioning, neuromusculoskeletal and movement-related functions were frequently addressed and the core concern was to assess patients’ functioning in relation to balance, muscle tone and strength. None of the therapists’ notes mentioned Virtual Reality Training or FES.

DISCUSSION
Evidence-based guidelines within stroke rehabilitation aim to bridge the gap in knowledge translation between research findings and current clinical practice. This study shows that the therapists followed multidisciplinary clinical guidelines whose aim was early, targeted and coordinated action, and moreover, that their practice was in line with updated clinical guidelines for their therapeutic practice. The OTs and PTs documented within the ICF components: Body Functions and Structures, Activity and Participation, and Environmental Factors and the main focus was on assessments, interventions and evaluations concerning ADL and muscle strength, fitness and balance in agreement with Danish national guidelines. The contextual factors relating to Personal and Environmental Factors were less documented but still present.

CONCLUSION
Health professionals—among others PTs and OTs—commonly embrace EBP as a concept and framework for securing high quality in rehabilitation, which is understood as a multidimensional and holistic process aiming to enhance activities and participation in society, thus improving quality of life. Findings in this study suggest that OTs and PTs mainly concentrate their practice in stroke rehabilitation within three of the ICF components and with less attention given to contextual factors. Thus, despite being positive, the therapists do not utilize research-based evidence to its full extent. Accordingly, there is a need for further research on ways to promote the implementation of EBP in holistic rehabilitation.