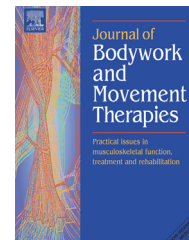


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CONTROLLED, DESCRIPTIVE STUDY

# Bodily symptoms in patients with post traumatic stress disorder: A comparative study of traumatized refugees, Danish war veterans, and healthy controls

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Received 18 May 2016; received in revised form 12 July 2016; accepted 28 July 2016

## KEYWORDS

PTSD;  
Bodily symptoms;  
Assessment

**Summary** *Background:* Post traumatic stress disorder (PTSD) is associated with increased general health symptoms and patients suffer from numerous bodily complaints such as increased pain, increased muscular tension, and restricted breathing.

*Methods and material:* This study applied the Body Awareness Movement Quality and Experience scale (BAS MQ-E) in assessing and comparing bodily symptoms, including movement function, in traumatized refugees (N = 14) and Danish war veterans with PTSD (N = 19) and healthy controls (N = 20).

*Results:* Patients with PTSD had significantly poorer stability, balance, flexibility and coordination in movement, had more muscular tension, more complaints of pain, more restricted breathing, and more limitation in function of daily life than healthy controls.

*Conclusion:* The BAS MQ-E was found to be an applicable and useful measure of bodily symptoms in patients with PTSD. Further research may add to the validity of BAS MQ-E and might be considered in future studies evaluating the efficacy of physiotherapy for patients with PTSD.

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<http://dx.doi.org/10.1016/j.jbmt.2016.08.003>

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## Introduction

Refugees, resettled in Western countries, have a 10 fold higher prevalence of post traumatic stress disorder (PTSD) compared with the general population of the recipient country (Fazel et al., 2005) and PTSD is prevalent in 20–25% of war veterans (Fulton et al., 2015).

PTSD is defined by the *International Classification of Diseases Tenth Revision* (ICD-10) (World Health Organization, 1993) as an anxiety disorder with symptoms divided into three categories: i) re-experiencing, ii) avoidance, and iii) hyperarousal. Re-experiencing comprises intrusive flashbacks, vivid memories or recurring, distressing dreams, psychological distress and physiological reactivity when exposed to reminders. Hyperarousal is the consequence of heightened anxiety and altered arousal, resulting in difficulties in sleeping, problems with concentration, anger management problems, an increased startle response, and hypervigilance. Anxiety is associated with increased muscular tension, impeded, un-free breathing, and changes in psychomotor behavior. A meta-analysis from 2013 revealed that PTSD is associated with greater general health symptoms and greater frequency and severity of pain, and cardio-respiratory and gastrointestinal symptoms (Pacella et al., 2013). In addition, refugees with PTSD often have physical disabilities and chronic pain following specific injuries arising from torture (Buhmann, 2014).

In Denmark patients with PTSD, and in particular refugees with a history of torture, are often referred to physiotherapy for treatment of the physical symptoms of PTSD such as increased pain, increased muscular tension, inability to relax, and a generally poorer physical function. The treatment modality “Basic Body Awareness” is commonly applied in the treatment of movement disorders, pain, and anxiety in patients with severe mental illness, including patients with PTSD (Madsen et al., 2016; Hedlund and Gyllensten, 2010; Gyllensten et al., 2009). In accordance with the theories of Basic Body Awareness Therapy (BBAT) both the Body Awareness Scale (BAS) and theBAS–Health (BAS-H) have been used to assess bodily symptoms and movement functions (Gyllensten, 2003; Gyllensten et al., 2004; Hedlund and Gyllensten, 2010; Nyboe Jacobsen et al., 2006; Roxendal, 1985). Owing to the need for both evidence-based and applicable measures to describe and evaluate bodily symptoms BAS and BAS-H has been further developed in the Body Awareness Movement Quality and Experience (BAS MQ-E) (Gyllensten and Mattsson, 2011). So far, the BAS MQ-E has been found to have adequate validity and inter-rater reliability for patients with prolonged musculoskeletal pain (Sundén et al., 2016; Sundén, 2013) and severe mental illness (Hedlund et al., 2016). Yet, the BAS MQ-E has not previously been applied to patients with PTSD, and it is still unknown whether BAS MQ-E is applicable and useful in describing bodily symptoms in these patients.

## Aim

The primary aim of this study was to compare bodily symptoms in traumatized refugees and Danish war veterans

with PTSD with healthy controls. Further, we aimed to test the validity and applicability of the BAS MQ-E in differentiating between healthy participants and patients with PTSD.

We hypothesized that both Danish war veterans and traumatized refugees with PTSD would have poorer motor function and more bodily complaints than healthy controls. Furthermore, we hypothesized that the BAS MQ-E would be able to distinguish between patients with PTSD and healthy controls.

## Methods and materials

### Study design and study population

This was a controlled, descriptive study. Traumatized refugees and Danish war veterans fulfilling the ICD-10 criteria for PTSD were included. Both groups were recruited from the Clinic of Post Traumatic Stress Disorder and Trans-cultural Psychiatry (CPTP), Aarhus University Hospital, Risskov, Denmark, and all patients were referred to physiotherapeutic treatment. As a healthy comparison group physiotherapy students from the Department of Physiotherapy at University College Northern Denmark were included; these participants were not tested for PTSD. All participants were aged between 20 and 40 years. All participants spoke and understood Danish.

### Measures

Bodily symptoms in all participants were assessed using the BAS MQ-E (Gyllensten and Mattsson, 2011). The BAS MQ-E includes a structured movement test for assessing motor function and movement quality, a structured questionnaire for assessing subjective bodily complaints, and finally qualitative data on the participant’s experience on movement and movement quality. The movement test (BAS-M) is an observation of movements carried out by a skilled professional and the questionnaire and qualitative data reflect the patient’s own views of their abilities and problems.

The BAS-M movement test is structured in three different domains: i) stability in function, including nine different items; ii) coordination and breathing, including eight items; and iii) relation/awareness, including six items. Every item is scored from 0 to 4, with a higher score indicating more impairment of the specific domain. The individual items in the three domains of the movement test are summed to give a calculated mean for each domain. The total BAS MQ is the sum of the three domains divided by three.

The BAS Questionnaire -Experience (BAS-QE) contain two parts: one questionnaire with seven items that can be calculated as quantitative, and one qualitative part. The questionnaire addresses perceptions of the body, muscular tension, pain, limitations in every day life, view of appearance, breathing difficulties and the ability to be physically active. The qualitative data assessment was not considered in the present paper.

BAS MQ-E data were obtained by five experienced physiotherapists, all of whom are trained and certified in

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