Syndromes of bodily distress or functional somatic syndromes - where are we heading?

Lecture on occasion of receiving the Alison Creed Award 2017

Prof. Per Fink
MD, PhD, Dr.Med.Sc.
Overview

• The Concept - history

• BDS and Health anxiety

• Consequences

• Treatment - organisation of care
The Research Clinic for Functional Disorders (est. 1999)

• The Head and Heart Centre, Aarhus University Hospital

• Catchment area ~ 1.5-3 million people

• Patients referred from primary care physicians and hospital wards

• Multidisciplinary team, around 30-40 clinicians/researchers

• Involved in approx. 20 ongoing research projects

• Training of medical and psychology students, GPs and other doctors, psychologists, social workers etc.
Definition of functional disorders

• **Functional disorders:** Disorders where the individual is experiencing symptoms affecting the daily functioning or quality of life and where the symptoms cannot be better explained by other physical disease or psychiatric disorder.

• **Health anxiety:** Is characterised by the patient being excessively worried about his or her health and is tormented by thoughts about illness that are hard to stop.

• **Others**
Frequency of somatic symptoms in the Danish population (2-week period)

Ekholm O et al. Health and mortality in Denmark 2005 & the development since 1987
Incidence and etiology of the 10 most common symptoms

3-year follow-up

Organic cause: 16%
Psychological cause: 10%
Unknown: 74%

- Chest pain
- Fatigue
- Dizziness
- Headache
- Edema
- Back pain
- Dyspnea
- Insomnia
- Abdominal pain
- Numbness

Kroenke & Mangelsdorff 1989

The Research Clinic for Functional Disorders and Psychosomatics
Medically unexplained = mental

The psychiatrists, psychologists or psychosomatic doctors:

- You need psychological behavioural characteristics or symptoms to include a diagnosis in the psychiatric classification
- How should we argue for psychological treatment if there are no emotional/behavioural symptoms?

The functional somatic syndrome – the pain physicians’ position:

- Functional somatic syndromes and pain disorder is in no way a mental disorder
- Because the BDS concept is developed by psychiatrists, it is a mental disorder
SPECIAL ARTICLE

Should general psychiatry ignore somatization and hypochondriasis?

Francis Creed

Manchester Royal Infirmary, Oxford Road, Manchester M13 9WL, UK

This paper examines the tendency for general psychiatry to ignore somatization and hypochondriasis. These disorders are rarely included in national surveys of mental health and are not usually regarded as a concern of general psychiatrists; yet primary care doctors and
History & classification
2000 B.C. Egyptian papyrus rolls. First description of hysteria

Hippocrates The wandering womb

Possession by demons

Galen & Soranus Seminal retention

St. Augustine Possession by devil or demons due to committed sins

Reflex theory

1750

Von Haller, Whyte

1800

Freud & Breuer

Perley & Guze

Psychology

Mental disorder

Organic brain disorder and functional

Somatoform disorder

Bodily distress syndrome or disorder (BDS), research criteria

Somatoform disorders and disorder, MUS

1890

Psychoanalysis

St. Augustine and exorcism

1900

Freud & Breuer

1850

Briquet's syndrome

1980

Bodily distress disorder ICD-11; Bodily stress disorder ICD-11 primary care

2013

DSM-V

ICD-11

1950

Organic brain disorder and functional

1980

Psychoanalysis

1960

Reflex theory

1900

Possession by devil or demons

1850

Possession by demons due to committed sins

1800

Possession by demons

1750

Hippocrates The wandering womb

2000

Perley & Guze

Freud & Breuer

St. Augustine
<table>
<thead>
<tr>
<th>Specialty</th>
<th>Diagnoses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gastroenterology</td>
<td>Irritable bowel syndrome (IBS), non-ulcer dyspepsia</td>
</tr>
<tr>
<td>Gynaecology</td>
<td>Pelvic arthropathy, premenstrual syndrome, chronic pelvic pain</td>
</tr>
<tr>
<td>Rheumatology</td>
<td>Fibromyalgia, lower back pain</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Atypical or non-cardiac chest pain, syndrome-X</td>
</tr>
<tr>
<td>Respiratory medicine</td>
<td>Hyperventilation syndrome</td>
</tr>
<tr>
<td>Infectious diseases</td>
<td>Chronic fatigue syndrome (CFS, ME)</td>
</tr>
<tr>
<td>Neurology</td>
<td>Tension headache, non-epileptic seizure</td>
</tr>
<tr>
<td>Dentistry</td>
<td>Temporomandibular joint dysfunction, atypical facial pain</td>
</tr>
<tr>
<td>Ear, nose and throat</td>
<td>Globus syndrome</td>
</tr>
<tr>
<td>Allergy</td>
<td>Multiple chemical sensitivity (MCS)</td>
</tr>
<tr>
<td>?</td>
<td>Electricity hypersensitivity</td>
</tr>
<tr>
<td>?</td>
<td>Infrasound hypersensitivity</td>
</tr>
<tr>
<td>Orthopaedics</td>
<td>WAD – Whiplash ass. disorder</td>
</tr>
<tr>
<td>Anaesthesiology</td>
<td>Chronic benign pain syndrome</td>
</tr>
<tr>
<td>Psychiatry</td>
<td>Somatoform disorders, Neurastenia, Dissociative (conversion)</td>
</tr>
</tbody>
</table>
"The existence of specific somatic syndromes is largely an artefact of medical spezialization"

Wessely S et al., Lancet 1999
A 26-year-old female suffers from multiple symptoms.

She has been diagnosed with Fibromyalgia and Chronic Fatigue Syndrome, and other diagnoses have been considered.

She has been through all possible examinations, even the most advanced ones, which are only used for research purposes at the university hospitals, but no organic cause has been found.

The patient has an alarm in her home as well as various facilities for disabled persons, and she receives visits from the district nurses.

Our diagnosis in the discharge letter; Somatization disorder

Our research diagnosis; Bodily distress syndrome; multi-organ type: BDS
26-year-old woman complaining about ...

**General symptoms**
- Dizziness
- Fatigue
- General discomfort
- Headache
- Trouble concentrating
- Trouble remembering

**Gastro-intestinal symptoms**
- Nausea
- Sometimes vomiting
- Abdominal tension or heavy sensations
- Burning sensation in the chest or upper epigastrium
- Abdominal pain or bloating
- Diarrhoea

**Nervous/musculoskeletal symptoms**
- Pain in the joints
- Muscular pain
- Moving pain
- Back, arm or leg pain
- Numbness
- Disturbances of skin sensation
- Feeling of weakness

**Symptoms from heart and lungs**
- Breathlessness without exertion
- Wheezing
- Palpitations
- Chest pain
- Hot or cold sweats

---

**Departments**

- **Dept. of Infectious Diseases**
  - Chronic Fatigue Syndrome
- **Dept. of Gastroenterology**
  - IBS (Irritable bowel syndrome)
- **Dept. of Rheumatology**
  - Fibromyalgia
- **Dept. of Cardiology**
  - Atypical chest pain

Which diagnosis?

- DSM-IV & ICD-10: Somatization disorder?
  - but no emotional symptoms
  - these patients can not identify themselves with the diagnosis description in the DSM-IV or ICD-10
- ICD-10: A functional somatic syndrome diagnosis?
  - Which one? Fulfils criteria for multiple
- DSM-V: No diagnosis fits
  - Somatic symptom disorder requires health anxiety or diagnosable behavioural symptoms which she does not have
- ICD-11: Bodily distress disorder (draft)
  - the patients will not be able to identify themselves with the diagnosis as currently drafted
- ICD-11: Bodily stress disorder, primary care (draft)
  - May fit but a separate system that will not become a part of ICD-11
Functional somatic syndromes and disorders - common factors

• The common basis is that:
  – the diagnoses are solely based on the patients’ reports on subjective complaints
  – no true biomarkers or paraclinical tests can objectively verify the diagnoses
  – the complaints are mainly unspecific symptoms that are common in the general population

Fink P. J Psychosom Res, 2017
se dansk udgave på næste slide
Per Klausen Fink; 18/09/2015
How do we construct and validate diagnoses in conditions without biomedical findings or tests?
Clinical utility - the DSM-V
Consensus-driven

<table>
<thead>
<tr>
<th>Clinical utility</th>
<th>Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is it used?</td>
<td></td>
</tr>
<tr>
<td>Is it acceptable to users?</td>
<td></td>
</tr>
<tr>
<td>Is it easy to use?</td>
<td></td>
</tr>
<tr>
<td>Is it used correctly?</td>
<td></td>
</tr>
<tr>
<td>Does it improve clinical outcome?</td>
<td></td>
</tr>
<tr>
<td>Does it enhance communication?</td>
<td></td>
</tr>
<tr>
<td>- with patients</td>
<td></td>
</tr>
<tr>
<td>- across medical specialities</td>
<td></td>
</tr>
<tr>
<td>Does it assist in conceptualising?</td>
<td></td>
</tr>
</tbody>
</table>

Adapted from First et al. (2004)
Methodological framework - validation of clinical syndromes

- Identify and describe the syndrome
- Demonstrate boundaries between related syndromes and from normality
- Establish a distinct course or outcome
- Establish a distinct treatment response
- Establish that the syndrome 'breeds true'
- Identify biological correlates

The patients must be sampled from representative populations
Results should be confirmed in cross-validation studies
Patients must be assessed by an appropriate method

Institute of Medicine:

Chronic fatigue syndrome should be replaced by Systemic exertion intolerance disease

- Serious physical disease
- No mental disorder!
- Citing assumed biological mechanisms
- Not citing the literature regarding well-documented psychological illness mechanisms and mediators of treatment response

- Letter: problems with consensus-driven diagnoses
- Answer: “misunderstanding and dismissiveness of clinicians…”

CFS/ME - Systemic exertion intolerance disease (SEID)
Functional disorders and syndromes

• Diagnostic constructs based on 3-4 different principles:
  – Symptoms or symptom count
  – Phenotype - symptom pattern/illness picture
  – Psychological and behavioural characteristics
  – Assumed aetiology (i.e. Central Sensitivity Syndrome) or illness attribution ("Blame-X syndrome")
### Table 1.2 Symptom clusters or factors in patients presenting with bodily distress

<table>
<thead>
<tr>
<th>Study</th>
<th>Assessment instrument</th>
<th>n</th>
<th>Setting</th>
<th>Symptom cluster</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simon et al. (1996) (8)</td>
<td>CIDI</td>
<td>NA</td>
<td>Primary care</td>
<td>Gastrointestinal +</td>
</tr>
<tr>
<td>Liu et al. (1997) (45)</td>
<td>DIS</td>
<td>3000</td>
<td>General population</td>
<td>Musculoskeletal/pain +</td>
</tr>
<tr>
<td>Robbins et al. (1997) (46)</td>
<td>CIDI, DIS</td>
<td>686</td>
<td>Internal medicine</td>
<td>Cardiopulmonary +</td>
</tr>
<tr>
<td>Gara et al. (1998) (44)</td>
<td>SCAN</td>
<td>1456</td>
<td>General population</td>
<td>Fatigue/ general -</td>
</tr>
<tr>
<td>Fink et al. (2007) (7)</td>
<td>CIDI, PHQ-15</td>
<td>978</td>
<td>General population</td>
<td>Neurological +</td>
</tr>
<tr>
<td>Rosmaelen et al. (2011) (47)</td>
<td>PHQ-15</td>
<td>964</td>
<td>Primary care, primary care</td>
<td>Urogenital (-)</td>
</tr>
<tr>
<td>Kroenke et al. (1998) (48)</td>
<td>PHQ-15</td>
<td>1000</td>
<td>General population</td>
<td>Headache -</td>
</tr>
<tr>
<td>Lee et al. (2011)(49)</td>
<td>PHQ-15</td>
<td>3014</td>
<td>Primary care</td>
<td></td>
</tr>
<tr>
<td>Whitthöfft et al. (2012) (55)</td>
<td>PHQ-15</td>
<td>414</td>
<td>Primary care, primary care</td>
<td></td>
</tr>
</tbody>
</table>

**Symptom cluster**

- **Gastrointestinal**: +
- **Musculoskeletal/pain**: +
- **Cardiopulmonary**: +
- **Fatigue/ general**: +
- **Headache**: -

CIDI, Composite International Diagnostic Interview; DIS, Diagnostic Interview Schedule; SCAN, Schedules for Clinical Assessment in Neuropsychiatry; PHQ, Patient Health Questionnaire.

*Confirmatory analyses of 3 and 4 factor models previously reported by Kroenke et al. and Fink et al.* 

*General population.* 

*Primary care.* 

*Somatic anxiety*
Bodily distress syndrome = BDS, suggested diagnostic criteria

1. Types
   - Multi-organ type >=3 symptoms from 3-4 organ systems
   - Single-organ type >=3 symptoms from 1-2 organ systems
2. The symptoms are distressing or cause substantial distress
3. Relevant differential diagnoses have been ruled out
4. Duration > 6 mdr. (ICD-11 PC)

<table>
<thead>
<tr>
<th>No</th>
<th>Yes</th>
<th>Organ systems</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>≥ 3 <strong>Cardiopulmonary /autonomic arousal</strong>&lt;br&gt;Palpitations, heart pounding, precordial discomfort, breathlessness without exertion, hyperventilation, hot or cold sweats, trembling or shaking, dry mouth, churning in stomach, &quot;butterflies&quot;, flushing or blushing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>≥ 3 <strong>Gastrointestinal arousal</strong>&lt;br&gt;Frequent loose bowel movements, abdominal pains, feeling bloated, full of gas, distended, heavy in the stomach, regurgitations, constipation, nausea, vomiting, burning sensation in chest or epigastrium</td>
</tr>
<tr>
<td></td>
<td></td>
<td>≥ 3 <strong>Musculoskeletal tension</strong>&lt;br&gt;Pains in arms or legs, muscular aches or pains, feelings of paresis or localized weakness, back ache, pain moving from one place to another, unpleasant numbness or tingling sensations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>≥ 3 <strong>General symptoms</strong>&lt;br&gt;Concentration difficulties, impairment of memory, fatigue, headache, dizziness</td>
</tr>
</tbody>
</table>

Fink P et al. Psychosomatic Medicine, 2007
ICD-11 Primary Care draft
Implications for new classification

- Bodily distress syndrome
  - Severe (multi-organ system type)
  - Moderate (single-organ system type)
    - CP type
    - GI type (incl. IBS)
    - MS type (incl. Fibromyalgia)
    - General symptoms type (incl. CFS/ME)
- Health anxiety
- Others

Fink P & Schröder A. J Psychosom Res, 2010
Bodily distress syndrome: a diagnostic category with specific criteria covering the illness phenomenon

Schröder & Fink, Psychiatr Clin North Am, 2011

Fink P. & Schröder A. J Psychosom Res, 2010
Central sensitization can be defined as an amplification of neural signaling within the CNS. When the response is prolonged, central sensitization becomes a pathological state characterized by a dysfunctional response to different and normally non-noxious stimuli that can manifest itself as pain hypersensitivity.

Woolf C J. Pain, 2011
Wallace DJ & Clauw DJ. Fibromyalgia and other pain syndromes, 2005
Functional disorders and syndromes

- Diagnostic constructs based on 3-4 different principles:
  - Symptoms or symptom count
  - Symptom pattern/illness picture
  - Psychological and behavioural characteristics
  - Assumed aetiology (i.e. Central Sensitivity Syndrome) or illness attribution ("Blame –X syndrome")
Psycho-behavioural factors

- Illness worrying, health anxiety
- Excessive time and energy spent on symptoms or health concerns
- Fear avoidance
- Symptom amplification
- Catastrophizing
- Dysfunctional illness behaviour
- Illness beliefs/illness perception
- Emotional regulation
- Avoidance behaviour
- Attachment style
- Personality traits
  - Neurotism, negative affectivity
- Anxiety & depression

Rief W et al. The Euronet-SOMA recommendations (The Euronet-SOMA Group). Under revision
Validating Psychological Classification Criteria in the Context of Somatoform Disorders: A One- and Four-Year Follow-Up.

Klaus K, Rief W, Brähler E, Martin A, Glaesmer H, Mewes R.
Functional disorders and syndromes

- Diagnostic constructs based on 3-4 different principles:
  - Symptoms or symptom count
  - Psychological and behavioural characteristics
  - Symptom pattern/illness picture
  - Assumed aetiology (i.e. Central Sensitivity Syndrome) or illness attribution ("Blame-X syndrome")
MCS definition (one of many).
An example

"MCS is characterized by various somatic symptoms, which cannot be explained organically but are attributed to the influences of toxic environmental chemicals in low, usually harmless doses."

Bornschein et al. J Internal Medicine, 2001
"Blame-X" syndrome

• Outbreak of symptoms of functional somatic syndromes among a group of people who are allegedly exposed to a toxic stimulus.

• If stimulus X is suspected or blamed as the cause, it is frequently cited in the title of the outbreak.

• Stimulus X may then receive wide publicity in the media, legislation intended to provide care and compensation for the victims, and litigation aimed at punishing the producers.

Feinstein, J Clin Epidem, 2001
Bodily distress - a spectrum

- Normal physiological reaction
- Temporary symptoms
- Mild bodily distress
- Severe bodily distress

The healthcare system is contacted

Symptoms & complaints

Multiple symptoms
Multisomatoform disorder

Bodily distress syndrome
- Functional somatic syndrome
- Somatoform disorders
Video BDS
Health / Illness anxiety
Points:

Health anxiety is relatively easy to diagnose.

Patients accept the diagnosis and are pleased with the treatment.

A range of well-documented treatment options exist.
Diagnostic criteria for Health anxiety

1) Rumination with thoughts about suffering from an illness
2) a) Worry, preoccupation with or fear of suffering from a serious somatic illness
   b) Bodily preoccupation
3) Suggestibility or auto-suggestibility
4) Preoccupation with health literature
5) Fear of contamination or poisoning
6) Fear of taking medicine

Specific: Mild or severe according to impairment
Lasts more than 2 weeks

- If you think about having a disease or being seriously ill, do you find it difficult to get it off your mind again?
- Are you thinking about it constantly or are you winding yourself up?
Video HA
## Differences between Health anxiety and Bodily distress

<table>
<thead>
<tr>
<th></th>
<th>Health anxiety</th>
<th>Bodily distress disorder/FSS’s/ Somatization disorder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>No difference</td>
<td>75% female</td>
</tr>
<tr>
<td>Social status</td>
<td>As general pop.</td>
<td>Low social status/income</td>
</tr>
<tr>
<td>Illness identity</td>
<td>A mental disorder (well accepted by patients)</td>
<td>Does not fit into mental – non-mental dichotomy</td>
</tr>
<tr>
<td>Disability</td>
<td>+</td>
<td>+++</td>
</tr>
<tr>
<td>Working capacity</td>
<td>Reduced a little</td>
<td>Very much reduced</td>
</tr>
<tr>
<td>Disability pension</td>
<td>As general pop.</td>
<td>Very high risk</td>
</tr>
<tr>
<td>Treatment response</td>
<td>+++</td>
<td>+</td>
</tr>
<tr>
<td>central characteristics</td>
<td>Disturbed by worriers for symptoms/bodily signals and thoughts about illness</td>
<td>Disabled by physical symptoms</td>
</tr>
<tr>
<td>Course</td>
<td>Fluctuating</td>
<td>Persistent</td>
</tr>
<tr>
<td>Physical function</td>
<td>Unaffected</td>
<td>Severely reduced</td>
</tr>
<tr>
<td>Mental health</td>
<td>Affected</td>
<td>Unaffected in mild cases/affected in severe cases</td>
</tr>
<tr>
<td>Avoidance behaviour</td>
<td>May avoid information on illness etc. or are very active information seeking</td>
<td>Avoid physical activities</td>
</tr>
<tr>
<td>Somatic symptom score</td>
<td>Modest</td>
<td>High</td>
</tr>
<tr>
<td>Use of health care</td>
<td>+</td>
<td>+++</td>
</tr>
</tbody>
</table>
When the body says stop

ETIOLOGY
BDS

The Danish Committee for Health Education
Etiology (brief)

Vulnerability:
Biological, psychological and social heritage, social learning, previous illnesses, sexual abuse

Triggering factors:
Infection or other diseases
Physical or psychological trauma, stress or strain
The doctor
"Random" findings at examination

Illness

Chronic illness

Biological factors

- Increased symptom production
- Pathological central processing and modulation of body signals
The Research Clinic for Functional Disorders and Psychosomatics

Unspecific sensitivity to bodily symptoms

Stress

Bodily distress

Autonomic arousal & HPA axis hyperactivity

Cardio-pulmonary arousal

Gastro-intestinal arousal

Musculoskeletal tension

General stress response

Women 6 weeks after sexual assault (n = 83)

Men and women 6 weeks after MVC (n = 948)

Mclean et al, Pain 2014

Ulirsch et al, European J Pain 2013
**Etiology**

(brief)

**Vulnerability:**
Biological, psychological and social heritage, social learning, previous illnesses, sexual abuse

**Triggering factors:**
- Infection or other diseases
- Physical or psychological trauma, stress or strain
- The doctor
- "Random" findings at examination

**Maintaining factors:**
- Dysfunctional beliefs about symptoms and illness
- Dysfunctional illness behaviour
- Hypersensitisation and/or dysfunctional processing of symptoms in the CNS
- The health system
- Social and economical dependence

---

Consequences

- **Persistence** (Budtz-Lilly et al, Gen Hosp. Psych. 2015; Rask MT et al, Gen Hosp Psychiatry 2015)

- Low health-related quality of life

- High use of health care

- Loss of working years due to sick leave and disability pension (Rask MT et al, Gen Hosp Psychiatry 2015)
# Prevalence self-reported functional somatic syndromes in the general Danish population

<table>
<thead>
<tr>
<th>Condition</th>
<th>Males N=3460</th>
<th>Females N=4040</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fibromyalgia</td>
<td>0.2%</td>
<td>1.3%</td>
</tr>
<tr>
<td>IBS</td>
<td>7.6%</td>
<td>15.2%</td>
</tr>
<tr>
<td>CFS/ME</td>
<td>1.1%</td>
<td>1.3%</td>
</tr>
<tr>
<td>MCS</td>
<td>1.2%</td>
<td>3.1%</td>
</tr>
<tr>
<td>WAD</td>
<td>2.1%</td>
<td>3.7%</td>
</tr>
<tr>
<td>One of above</td>
<td>10.0%</td>
<td>16.9%</td>
</tr>
<tr>
<td>Two or more of above</td>
<td>1.1%</td>
<td>3.3%</td>
</tr>
</tbody>
</table>

### Diagnosis stability over time (primary care)

Frequency and percentage of BDS positive patients in 2009 and 2011 (N=1,001)

<table>
<thead>
<tr>
<th>Status 2009</th>
<th>BDS-</th>
<th>BDS+</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDS-</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Status 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BDS-</td>
<td>796</td>
<td>93.1%</td>
</tr>
<tr>
<td>BDS+</td>
<td>63</td>
<td>43.2%</td>
</tr>
<tr>
<td>Single-organ</td>
<td>61</td>
<td>45.2%</td>
</tr>
<tr>
<td>Multi-organ</td>
<td>2</td>
<td>18.2%</td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Status 2011</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BDS-</td>
<td>59</td>
<td>6.9%</td>
</tr>
<tr>
<td>BDS+</td>
<td>83</td>
<td>56.8%</td>
</tr>
<tr>
<td>Single-organ</td>
<td>74</td>
<td>54.8%</td>
</tr>
<tr>
<td>Multi-organ</td>
<td>9</td>
<td>81.8%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>All participants</th>
<th>BDS+</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>(95% CI)</td>
<td>n</td>
</tr>
<tr>
<td>Total number of respondents</td>
<td>1001</td>
<td>100%</td>
<td></td>
<td>146</td>
</tr>
<tr>
<td>Mean age (SD, range)</td>
<td>50.3</td>
<td>(16.1, 18–95)</td>
<td>50.6</td>
<td>(13.9, 20–91)</td>
</tr>
<tr>
<td>Sex:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>662</td>
<td>66.1%</td>
<td>(63.1–69.1)</td>
<td>105</td>
</tr>
<tr>
<td>Education:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;10 years</td>
<td>250</td>
<td>25.5%</td>
<td>(22.8–28.3)</td>
<td>54</td>
</tr>
<tr>
<td>10–15 years</td>
<td>503</td>
<td>51.2%</td>
<td>(48.0–54.4)</td>
<td>55</td>
</tr>
<tr>
<td>&gt;15 years</td>
<td>229</td>
<td>23.2%</td>
<td>(20.7–26.1)</td>
<td>31</td>
</tr>
<tr>
<td>Marital status:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Living alone</td>
<td>222</td>
<td>22.2%</td>
<td>(19.7–24.9)</td>
<td>39</td>
</tr>
<tr>
<td>Labor market status:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working</td>
<td>648</td>
<td>64.7%</td>
<td>(61.8–67.8)</td>
<td>73</td>
</tr>
<tr>
<td>Student</td>
<td>37</td>
<td>3.7%</td>
<td>(2.6–5.1)</td>
<td>2</td>
</tr>
<tr>
<td>Unemployed</td>
<td>43</td>
<td>4.3%</td>
<td>(3.1–5.8)</td>
<td>22</td>
</tr>
<tr>
<td>Retirement pension</td>
<td>222</td>
<td>22.8%</td>
<td>(19.7–24.9)</td>
<td>24</td>
</tr>
<tr>
<td>Disability pension</td>
<td>49</td>
<td>4.9%</td>
<td>(3.7–6.4)</td>
<td>25</td>
</tr>
<tr>
<td>Health:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BDS+</td>
<td>146</td>
<td>14.6%</td>
<td>(12.5–16.9)</td>
<td></td>
</tr>
<tr>
<td>Moderate (single organ)</td>
<td>135</td>
<td>13.5%</td>
<td>(11.4–15.8)</td>
<td>135</td>
</tr>
<tr>
<td>Severe (multiorgan)</td>
<td>11</td>
<td>1.1%</td>
<td>(0.5–2.0)</td>
<td>11</td>
</tr>
<tr>
<td>Emotional distress*</td>
<td>350</td>
<td>35.1%</td>
<td>(32.1–38.2)</td>
<td>108</td>
</tr>
<tr>
<td>Drug treatment:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opioids</td>
<td>97</td>
<td>9.7%</td>
<td>(7.9–11.7)</td>
<td>34</td>
</tr>
<tr>
<td>Health care use:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Top 10% attenders*</td>
<td>96</td>
<td>9.6%</td>
<td>(7.8–11.6)</td>
<td>38</td>
</tr>
</tbody>
</table>

* A score of ≥ 6 on the SCL-8. The SCL-8 measures anxiety and depression scores.
* More than 22 contacts to general practice, physiotherapist, chiropractors and specialized outpatient clinics during the year preceding the index consultation.
Bodily distress syndrome (BDS). The FIP study. Labour market drop-out at index consultation in primary care

<table>
<thead>
<tr>
<th>Labour market drop-out</th>
<th>Bodily Distress Syndrome</th>
<th>Control</th>
<th>Pairwise comparisons</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Single-organ type (n=124) (a)</td>
<td>Multi-organ type (n=35) (b)</td>
<td>(n=880) (c)</td>
</tr>
<tr>
<td>Available for labour market</td>
<td>79.0</td>
<td>69.0</td>
<td>92.9</td>
</tr>
<tr>
<td>Partial/full disability pension</td>
<td>17.5</td>
<td>27.6</td>
<td>3.3</td>
</tr>
<tr>
<td>Age retirement pension</td>
<td>3.5</td>
<td>3.5</td>
<td>3.8</td>
</tr>
</tbody>
</table>

Risk of new awards of full or partial disability pension. Ten years of follow-up, primary care. Bodily distress

<table>
<thead>
<tr>
<th>Hazard ratios (95%CI)</th>
<th>Crude</th>
<th>Adjusted*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference group (n=880)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>BDS, single-organ type (n=124)</td>
<td>5.8 (3.6;9.3)</td>
<td>4.9 (2.8 ; 8.4)</td>
</tr>
<tr>
<td>BDS, multi-organ type (n=35)</td>
<td>8.0 (3.8;16.9)</td>
<td>8.7 (3.7 ; 20.7)</td>
</tr>
</tbody>
</table>

*Adjusted: Age, gender, chronic illness, major depressive episode, anxiety disorder and intervention

Group CBT saved health care costs

<table>
<thead>
<tr>
<th></th>
<th>1 year before</th>
<th>Treatment period</th>
<th>1 year after</th>
<th>2 years after</th>
</tr>
</thead>
<tbody>
<tr>
<td>EUC</td>
<td>4106</td>
<td>976</td>
<td>4200</td>
<td>3937</td>
</tr>
<tr>
<td>STreSS</td>
<td>3544</td>
<td>2389</td>
<td>2250</td>
<td>2580</td>
</tr>
</tbody>
</table>

difference (bootstrap, ASL<0.05): no yes (STreSS≥EUC) yes (STreSS≥EUC) yes (STreSS< EUC)
baseline-adjusted difference (estimate): - +1545 -1568 -1133

... from the second year after treatment

Treatment costs in similar studies:

- Multi-centre study in Germany, individual psychodynamic therapy (Sattel et al. BJP 2012): 893 € (Chernyak et al. PLoS One 2014)
Group CBT vs EUC: $\Delta = 10.4$ weeks (95%CI 3.5; 17.4)

Number of weeks where patients and population controls received benefits or were self-supporting

- 41 weeks self-supporting
- 16 weeks self-supporting

Modified from: Schröder et al. J Psychosom Res, 2017
Current treatment of functional disorders
## Bodily Distress Syndrome

<table>
<thead>
<tr>
<th>Assumption</th>
<th>Reality</th>
</tr>
</thead>
<tbody>
<tr>
<td>The patients misinterpret normal physical sensations as indication of severe disease</td>
<td>The case in health anxiety but not in BDS. The patients have their symptoms</td>
</tr>
<tr>
<td>Preoccupation with their physical health and bodily sensations</td>
<td>Suffering from symptoms</td>
</tr>
<tr>
<td>High health care use - frequent attenders</td>
<td>The patients cannot get any help or explanations</td>
</tr>
<tr>
<td></td>
<td>A problem of the health care system</td>
</tr>
<tr>
<td>It is a chronic illness</td>
<td>The same spectrum as in other disorders/diseases</td>
</tr>
<tr>
<td>Unresponsive to therapy</td>
<td>Quite good treatment results even in the chronic group</td>
</tr>
<tr>
<td>The symptoms represent a (disguised) mental disorder</td>
<td>The problem is physical symptoms. It is a distinct disorder of its own</td>
</tr>
</tbody>
</table>

Fink P. Psychosom Res, 2017
Bodily distress - a spectrum

The healthcare system is contacted

Normal physiological reaction
Temporary symptoms
Mild bodily distress
Severe bodily distress

Prevention
General population, doctors etc.
Managed in primary care collaborative care with specialist
Treated in specialised care multidisciplinary team
RCT studies – Research Clinic for Functional Disorders

**BDS multi-organ type**
1. Specialized Treatment for Severe bodily distress Syndrome (STreSS-1). CBT vs. control.

2. Mindfulness therapy for Bodily distress syndrome

3. Imipramine versus placebo for multiple functional somatic syndromes (STreSS-3): a double-blind, randomised study

4. a) ACT in small groups vs. large groups
   b) ACT vs. standard treatment
   Agger J et al. *Under analysis*

**Health anxiety**
5. ACT in groups vs. wait-list
   Eilenberg T. et al *Psychological med 2015*

6. Internet-based treatment of Health anxiety
   Jensen DH. *Under analysis*

**Whiplash (WAD) (our pain clinic)**
7. The effect of an educational video following acute whiplash trauma. A randomised controlled trial
   Petersen MM et al. *Under analysis*

**BDS multi-organ type, adolescents**
8. Acceptance and Commitment group Therapy for adolescents with a range of functional somatic syndromes: randomized trial
   Rask C, Schröder A et al. *Recruiting*

**Post-concussional syndrome** (together with neurological rehabilitation)
9. Early intervention for impairing post-concussional symptoms in adolescents and young adults: randomised trial
   Schröder A, Rask C et al. *Recruiting*
Fractionated specialized clinics

Fink et al. Current state of management and organisation of care in: Medically unexplained symptoms, somatisation and bodily distress: Developing better clinical services. Cambridge University Press 2011
Specialized clinic for Bodily Distress Syndrome including functional somatic syndromes

- Infectious medicine
  - CFS

- Gastroenterology
  - IBS

- Rheumatology
  - Fibromyalgia

- Neurology
  - Headache

- Anaesthesiology
  - Pain

- Others

- General psychiatry
  - Somatoform and related disorder

- Functional disorders / Bodily distress
  - If necessary, separate programs for various syndromes

- Primary care
  - Functional or idiopathich symptoms

Fink et al. Current state of management and organisation of care in: Medically unexplained symptoms, somatisation and bodily distress: Developing better clinical services. Cambridge University Press 2011
Illness severity more important than diagnostic label

Figure: Effect of cognitive-behavioural group treatment in various subgroups

Schröder et al. Lancet Psychiatry 2015
NB: Free download as e-book during this conference!

Can also be purchased at
Aarhus University Press
http://en.unipress.dk/

Price $35
Thank you!
Evidence for antidepressants, aerobic exercise and psychological interventions in different subtypes of bodily distress

<table>
<thead>
<tr>
<th>Symptom profile (BDS subtype) and corresponding functional somatic syndrome or diagnostic label</th>
<th>Type of treatment</th>
<th>GS type Chronic Fatigue Syndrome</th>
<th>MS type Fibromyalgia</th>
<th>GI type Irritable bowel syndrome</th>
<th>CP type Non-cardiac chest pain</th>
<th>Multi-organ type Multiple medically unexplained symptoms and somatization disorder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antidepressants</td>
<td>+</td>
<td>+++</td>
<td>+++</td>
<td>?</td>
<td>++</td>
<td></td>
</tr>
<tr>
<td>Exercise</td>
<td>+++</td>
<td>+++</td>
<td>?</td>
<td>?</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Psychological treatment (mainly CBT)</td>
<td>+++</td>
<td>+++</td>
<td>++</td>
<td>++</td>
<td>+++</td>
<td></td>
</tr>
</tbody>
</table>

Evidence ratings are based on meta-analyses or high-quality randomized controlled trials.

+++ strong evidence
++ moderate evidence
+ weak evidence
? no evidence or lack of studies

DSM-V Somatic Symptom Disorder (SSD)

A. One or more somatic symptoms that are distressing or result in significant disruption of daily life

B. Excessive thoughts, feelings, or behaviours related to the somatic symptoms or associated health concerns as manifested by at least one of:

1. Disproportionate and persistent thoughts about the seriousness of one’s symptoms
2. Persistently high level of anxiety about health or symptoms
3. Excessive time and energy devoted to these symptoms or concerns

Specify current severity:
Mild: Only one of the symptoms in criterion B
Moderate: Two or more of the symptoms specified in criterion B
Severe: Moderate + there are multiple somatic complaints (or one very severe somatic symptom)
# Conceptual differences between different diagnostic constructs

<table>
<thead>
<tr>
<th>BDD: Bodily Distress Dis.</th>
<th>SSD: Somatic Symptom Dis.</th>
<th>DSM-V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defined by physical symptom pattern</td>
<td>Defined by emotional and behavioral symptoms /characteristics</td>
<td></td>
</tr>
<tr>
<td>Organic (CNS)-based bodily symptoms</td>
<td>Symptoms of any etiology</td>
<td></td>
</tr>
<tr>
<td>Emotional or behavioral symptoms not necessary for the diagnosis, but are prevalent and may be important for the treatment</td>
<td>Emotional or behavioral symptoms are crucial for the diagnosis</td>
<td></td>
</tr>
<tr>
<td>Medical and psychiatric differential diagnoses have to be excluded</td>
<td>No requirement of exclusion of a medical diagnosis, but of psychiatric differential diagnosis</td>
<td></td>
</tr>
<tr>
<td>Suffering from symptoms of BDS</td>
<td>Suffering from emotional and behavioral trouble related to bodily symptoms or sensations</td>
<td></td>
</tr>
<tr>
<td>Cause unknown but emotional or physical stress and dysfunction in the CNS likely to be involved</td>
<td>Health anxiety, misinterpretation of bodily symptoms (or ??)</td>
<td></td>
</tr>
<tr>
<td>Challenge the mental/physical dichotomy thinking of medicine</td>
<td>A mental disorder</td>
<td></td>
</tr>
<tr>
<td>Based on empirical studies</td>
<td>Consensus-driven</td>
<td></td>
</tr>
</tbody>
</table>
ICD-11-PC 15. BODILY STRESS SYNDROME (BSS) (Shortened)

Draft!

• Presenting Symptoms/Complaints
  • The patient presents with multiple somatic symptoms over time in association with high distress, and accompanied by disability. The symptoms may be influenced by culture and change over time.

• Required symptoms: The patient must have
  • at least 3 persistent symptoms over time attributable to autonomic over-arousal (cardio-respiratory, gastrointestinal, musculoskeletal) or as general symptoms of tiredness and exhaustion
  • The patient’s concern over health expresses itself as excessive time and energy devoted to these symptoms.
  • The symptoms are distressing and/or result in significant disability

• Differential Diagnosis
  • Physical disease with multiple symptoms,
  • Psychiatric disorder with physical symptom presentation
  • Health anxiety if health concerns predominate
  • Conversion disorder the onset is related to a psychological trauma
Treatment - overview

- **Specialised**
  - Drugs
  - Graded exercise therapy (GET)
  - Psychotherapy
    - CBT
    - Mindfulness
    - ACT
    - Others
  - Management
  - Social, including rehabilitation

- **Non-specialised**
  - Primary care
  - Specialised hospital setting and other specialists
  - Dentists
  - Physiotherapist etc.

In graded exercise therapy, it is important to proceed gradually to get challenged without getting strained.
How often is physical disease overlooked? Systematic review

- 22 studies (total N=4244 patients)
- 6 diagnostic evaluation studies (N=1804 patients)
  - Revised diagnosis in patients initially diagnosed with FSS 8.8%
- 16 follow-up studies (N=2440 patients)
  - Revised diagnosis in patients initially diagnosed with FSS 0.5%
- No specific physical diagnosis seemed to be missed systematically.

**Conclusions:** The percentage of underlying somatic diseases in patients previously diagnosed with FSS is relatively small but unneglectable.

Consequences

• Low health-related quality of life

• High use of health care

• Loss of working years due to sick leave, disability pension etc.
Definition of functional disorders

- **Functional disorders**: Disorders where the individual is experiencing symptoms affecting the daily functioning or quality of life, and where the symptoms cannot be better explained by other physical disease or psychiatric disorder.

- **Health anxiety**: Is characterised by the patient being excessively worried about his or her health and is tormented by thoughts about illness that are hard to stop.

- **Others**
Diagnostic criteria
DSM-IV Somatization disorder

- A. Multiple physical complaints with onset before the age of 30

- B. At least:
  1) Four pain symptoms
  2) Two gastrointestinal symptoms
  3) One sexual symptom
  4) One pseudoneurological symptom

- C. Not fully explained by a known, general medical condition
Is BDS/D a mental or a physical disorder?

Functional disorders challenge our usual way of thinking about diseases as either purely physical or psychological. Research indicates that this perception is too plain. In a functional disorder, both physiological and psychosocial factors are at play.
Analysis 2.3. Comparison 2 Psychological therapies versus enhanced care, Outcome 3 Severity of somatic symptoms > 1 year after treatment.

Review: Non-pharmacological interventions for somatoform disorders and medically unexplained physical symptoms (MUPS) in adults

Comparison: Psychological therapies versus enhanced care

Outcome: Severity of somatic symptoms > 1 year after treatment

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Psychological interv.</th>
<th>Enhanced care</th>
<th>IV/R</th>
<th>Random, 95% CI</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Cognitive behaviouial therapy versus Enhanced care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schröder 2012 (1)</td>
<td>44 1.3 (0.73)</td>
<td>38 1.65 (0.54)</td>
<td>48.2 %</td>
<td>-0.53 [-0.98, -0.09]</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal (95% CI)</strong></td>
<td><strong>44</strong></td>
<td><strong>38</strong></td>
<td><strong>48.2 %</strong></td>
<td><strong>-0.53 [-0.98, -0.09]</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Heterogeneity: not applicable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Test for overall effect: Z = 2.37 (P = 0.018)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Third-wave cognitive behavioural therapy versus Enhanced care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fjorback 2013 (2)</td>
<td>46 38.7 (18.1)</td>
<td>44 40.7 (16.7)</td>
<td>51.8 %</td>
<td>-0.11 [-0.53, 0.30]</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal (95% CI)</strong></td>
<td><strong>46</strong></td>
<td><strong>44</strong></td>
<td><strong>51.8 %</strong></td>
<td><strong>-0.11 [-0.53, 0.30]</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Heterogeneity: not applicable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Test for overall effect: Z = 0.54 (P = 0.59)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>90</strong></td>
<td><strong>82</strong></td>
<td><strong>100.0 %</strong></td>
<td><strong>-0.32 [-0.73, 0.10]</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Heterogeneity: Tau² = 0.04; Chi² = 1.85, df = 1 (P = 0.17); I² =46%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Test for overall effect: Z = 1.51 (P = 0.13)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Test for subgroup differences: Chi² = 1.85, df = 1 (P = 0.17), I² =46%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Van Dessel N et al. Non-pharmacological interventions for somatoform disorders and medically unexplained physical symptoms (MUPS) in adults
Cochrane Systematic Reviews 2014
Doctor, I feel worn out and unfocused

You just need a break and a change

Why don’t you take a long weekend and go raid England a little..

Treatment
The Danish way
Charcot’s hysteria

1. Sensory disturbances  
   (e.g. hemianesthesias and other sensibility disturbances)

2. Disturbances of the special senses  
   (e.g. narrowing of the visual field and deafness)

3. Motor disturbances  
   (e.g. aphonia, paralysis and general convulsive fits)
Twenty hysterogenic zones as observed in a twenty-year-old patient. *Paris: Proge’s Medical, 1879-80*
Fibromyalgia - Definition

1. History of widespread pain. Pain is considered widespread when present in both sides of the body and above and below the waist.

2. Pain in 11 of 18 tender point sites on digital palpation. Digital palpation should be performed with a force of 4 kg.

ACR criteria (Wolfe et al. A&R 1990)
Freud’s and Breuer’s hysteria

Mental or traumatic hysteria.

A psychological trauma which a person does not react to, but represses, will later manifest as physical symptoms as a defence against acknowledging the repressed.
Diagnostic criteria for Briquet’s syndrome

1. Complicated or dramatic medical history with onset before the age of 35.

2. A minimum of 25 symptoms, for which no medical explanation has been found, from at least 9 out of 10 symptom groups.

Perley & Guze
Diagnostic criteria for Hysteria - Briquet’s Syndrome

Group 1
- Headaches
- Sickly most of life

Group 2
- Blindness
- Paralysis
- Anesthesia
- Aphonia
- Fits or convulsions
- Unconsciousness
- Amnesia
- Deafness
- Hallucinations
- Urinary retention
- Ataxia
- Other conversion symptoms

Group 3
- Fatigue
- Lump in throat
- Fainting spells

Group 4
- Breathing difficulty
- Palpitation
- Anxiety attacks
- Chest pain
- Dizziness

Group 5
- Anorexia
- Weight loss
- Marked fluctuations in weight
- Nausea
- Abdominal bloating
- Food intolerance
- Diarrhea
- Constipation

Group 6
- Abdominal pain
- Vomiting

Group 7
- Dysmenorrhea
- Menstrual irregularity
- Amenorrhea
- Excessive bleeding

Group 8
- Sexual indifference
- Frigidity
- Dyspareunia
- Other sexual difficulties
- Vomiting nine months pregnancy or hospitalized for hyperemesis gravidarum

Group 9
- Back pain
- Joint pain
- Extremity pain

Group 10
- Nervousness
- Fears
- Need to quit working or inability to carry on regular duties because of feeling sick
- Crying easily
- Feeling life is hopeless
- Thinking a good deal about dying
- Wanting to die
- Thinking of suicide
- Suicide attempts

Perley & Guze
Bodily Distress Syndrome

Conclusion

- The construct is empirically based on patients from different clinical settings.
- It is based on the identification of symptom patterns (not symptom count).
- It does not include psychological or behavioural symptoms/criteria.
- Despite this, it includes almost all patients with DSM-IV somatoform disorder characterized by physical symptoms.
- It includes almost all patients with the most common functional somatic syndromes.
- It includes both patients with multiple symptoms and subcategories.
"Because the BDS concept is developed by psychiatrists, it is a mental disorder."

Yunus MB Current Rehumatology Review 2015
Is BDS/D a mental or a physical disorder?

Functional disorders challenge our usual way of thinking about diseases as either purely physical or psychological. Research indicates that this perception is too plain. In a functional disorder, both physiological and psychosocial factors are at play.
ICD-11 Bodily distress Disorder (BDD) (summary)

Psychiatric section

• Bodily distress disorder is characterized by the presence of bodily symptoms;
• - that are distressing to the individual
• - and excessive attention directed toward symptoms manifesting with repeated contact with health care providers.
• If a medical condition is causing or contributing to the symptoms, the degree of attention is clearly excessive in relation to the symptoms or progression.
• Excessive attention is not alleviated by appropriate clinical examination and investigations and appropriate reassurance.
• Bodily symptoms and associated distress are persistent ..... and are associated with significant impairment in personal, family, social, educational, occupational or other important areas of functioning.
• Typically, bodily distress disorder involves multiple bodily symptoms that may vary over time.
• Occasionally there is a single symptom—usually pain or fatigue—that is associated with the other features of the disorder.

The patients are demanding and a problem to the health care system
The patients will not listen to the doctor and do as they are told!