1. **Supplementary Methods**
   1. **Coding criteria for the 16 symptom categories**

Firstly, symptoms of documented organic causation were excluded. Then, symptoms were counted into the appropriate category if they fulfilled the criteria listed below. Almost all patients were easily startled, complained of poor sleep quality and had a fine tremor when their arms were outstretched; these symptoms were thus not included in the symptom categories for the analysis of group differences.

**Hyperkinetic movements**

Include: Shaking, tremor, jerky movements, choreic movements, also motor tics

Do not include:

* movements (frequently myoclonus) that were exclusively brought on by passive movement during neurological examination (this was present in the vast majority of patients with functional paralysis)
* fine-grained tremor of outstretched hands only (very common, non-specific sign of arousal)

**Visual disturbances**

Include: Diplopia, complete or partial blindness, black spots (scotoma), shadows in front of eyes

**Auditory disturbances**

Include: Complete/partial deafness, tinnitus, auditory pseudo-hallucinations

**Motor disturbances**

Include: motor disturbances other than hyperkinetic movements, e.g. paralysis, paresis, ataxia, abasia

**Somato-sensory disturbances**

Include: Somato-sensory disturbances, including anaesthesias, analgesias, paraesthesias

Exclude: Body hallucinations

**Speech**

Include: Speech disturbances, e.g. stutter, aphonia

**Fits**

Include: all suspected non-epileptic seizures

Exclude: Syncopes/ suspected pseudosyncopes

**Anxiety/Mood disorder**

Include: depression, mania, anxiety symptoms including generalised anxiety and hypochondriasis

Exclude: phobias

**Pain**

Include: all localised or generalised pain

Exclude: headache (rate under somatic symptoms)

**Catatonia**

Include: stupor, repetitive movements, echolalia, echopraxia, catalepsy

**Somatic symptoms**

Include: somatic symptoms affecting various organ systems, e.g. gastrointestinal, genito-urinary or cardiovascular (further specified in Table 3)

**Gastrointestinal:** e.g. indigestion, stomach ache, diarrhoea, nausea

**Headache**

**Dizziness**

**Cardiovascular:** e.g. chest pain, shortness of breath, palpitations

**Loss of energy:** fatigue

**Cognitive disturbances:** all subjective cognitive complaints

**Weakness:** experienced generalized motor weakness

**Fainting,** includingsuspected pseudosyncopes

**Genito-urinary:** e.g. frequency of urine, urgency

**Psychotic symptoms**

Include: hallucinations, ego-disturbances, delusions

Exclude: pseudo-hallucinations, illusions, overvalued ideas

**Strange bodily sensations**

Include: all bodily sensations that are peculiar in character but recognised as ‘imaginary’ and not imposed by an external power, commonly described in very much detail e.g. bands around body, feeling that head is shrinking, ants crawling up the spine, machines in brain

Exclude: body hallucinations, paraesthesias, hypochondriacal concerns

**Dissociative states**

Include: transient states of altered consciousness, sometimes with reliving of past experiences, also fugues

Exclude: seizures with motor activity (code under “Fits”)

**Phobias**

Include all specific phobias, social phobia and agoraphobia

**Obsessive compulsive symptoms**

Include: all obsessions and/or compulsions

Exclude: psychotic ideas (code under “Psychotic symptoms”)

* 1. **Changes in the approach compared to a previous analysis confined to the military records**

Whereas in the previous paper on military admissions (Linden & Jones, 2014) a maximum of symptoms from 4 different symptom categories could be rated, in the current paper symptoms from 6 different symptom categories could be accounted for (6 categories were enough to document all symptoms that were present in each patient).

The current paper aimed at documenting all functional symptoms in the civilian and military populations and also documenting more subtle functional presentations (such as shadows in front of eyes in visual disturbances etc). Furthermore, the current study distinguished between different somatic symptom categories. The same strict criteria were used for civilian and military admissions.

For the present paper, the author read all case files from the First World War. This study included the previously analysed military records. While going through all case records again it became apparent that several cases that had previously not been categorised as military (and therefore not been included in the military sample) were actually military admissions (on the cover pages, the civilian occupation was mentioned and it became only apparent later in the record that functional symptoms had been triggered while on (active) military service).

Linden SC,Jones E. ‘Shell shock’ Revisited: An Examination of the Case Records of the National Hospital in London. *Med Hist* 2014; 58(4),519-45.

1. **Supplementary Results**
   1. **Sociodemographic Data**

There was a statistically significant age difference between groups (F (2,9) = 86.5, p <.001). Scheffe post-hoc tests showed that all group differences were significant (P<.001). Most military patients (all male) were single (61.5%). The majority of civilian men were married or widowed (65.4%), which is a lower rate than expected from population data from the 1911 Census (in the age group of 35-45-year-old males 80.6% were married). About a third of civilian female patients with functional disorders were married (32.7%); this rate is considerably lower than the 1911 Census rate (63.2% of women in the age group 25-35 were married) (Great Britain. General Register, 1917).

Length of stay differed significantly between groups (F (2.9) = 7.8, p <.001), with shorter length of stay for civilian males as compared to soldiers (p =.001) and female civilians (p=.003), but no significant difference between soldiers and female civilians (p=.967).

1. **Supplementary Tables**

Table S1: Diagnostic labels for soldiers, male and female civilians

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Diagnostic labels | Soldiers  N=436 | Male civilians  N=153 | Female Civilians  N=321 | Chi-square  p | Post-hoc tests | | |
| **S/M** | **S/F** | **M/F** |
| Neurasthenia | 71 (16.3%) | 56 (36.6%) | 115 (35.8%) | 45.601  p<.001 | 27.642 p=<.001 | 38.092 p=<.001 | 0.027  p=.869 |
| Hysteria | 67 (15.4%) | 8 (5.2%) | 69 (21.5%) | 20.714  p<.001 | 10.476 p=.001 | 4.711  p=.030 | 20.150 p<.001 |
| Functional Disorder | 142 (32.6%) | 24 (15.7%) | 52 (16.2%) | 34.099  p=<.001 | 15.949 p<.001 | 25.992 p<.001 | 0.020  p=.887 |
| Neurosis | 62 (14.2%) | 24 (15.7%) | 41 (12.8%) | 0.781  p=.677 |  |  |  |
| Psychasthenia | 6 (1.4%) | 10 (6.5%) | 7 (2.2%) | 12.481  p=.002 | 11.410  p=.001 | 0.709  p=.400 | 5.684  P=.017 |
| Traumatic neurosis/  hysteria/neurasthenia | 14 (3.2%) | 10 (6.5%) | 5 (1.6%) | 8.325  p=.016 |  |  |  |
| Shell Shock | 31 (7.1%) |  |  | NA |  |  |  |
| Psychiatric diagnosis٭ | 15 (3.4%) | 13 (8.5%) | 15 (4.7%) | 6.435  p=.040 |  |  |  |
| Reflex nervous disorder | 2 (0.5%) | 0 (0%) | 0 (0%) | NA |  |  |  |
| Malingering | 2 (0.5%) | 0 (0%) | 0 (0%) | NA |  |  |  |
| No diagnostic judgement٭٭ | 13 (3.0%) | 2 (1.3%) | 3 (0.9%) | 3.272  p=.195 |  |  |  |
| Organic diagnosis٭٭٭ | 11 (2.5%) | 6 (3.9%) | 13 (4.0%) | 1.577  p=.454 |  |  |  |

٭ E.g., dementia praecox, periodic insanity, mania.

٭٭ Descriptive, symptoms without diagnostic label (e.g., tremor).

٭٭٭ Organic diagnosis (e.g., paralysis agitans, disseminated sclerosis) without evidence for organic illness, symptoms clearly functional.

Table S2: Triggers for adult patients with functional neurological disorders (FNDs); n=668

|  |  |  |  |
| --- | --- | --- | --- |
| Triggering events | Soldiers  N=356 | Male civilians  N=91 | Female Civilians  N=221 |
| No specific event identified | 85 (23.9%) | 34 (37.4%) | 64 (29.0%) |
| Combat-related٭ | **226 (63.5%)** | **NA** | **NA** |
| Medical illness | **15 (4.2%)** | **10 (11.0%)** | **38 (17.2%)** |
| Accident, no major injury | **11 (3.1%) ٭٭** | **21(23.1%)** | **30 (13.6%)** |
| Work-related stress | **NA** | **7 (7.7%)** | **19 (8.6%)** |
| Pregnancy/birth/miscarriage | NA | NA | 15 (6.8%) |
| Death of relative (not in action) | 1 (0.3%) | 3 (3.3%) | 10 (4.5%) |
| Air raid | 3 (0.8%) | 2 (2.2%) | 9 (4.1%) |
| Medical intervention | 5 (1.4%) | 3 (3.3%) | 3 (1.4%) |
| Marital/relationship problems | 1 (0.3%) | 1 (1.1%) | 6 (2.7%) |
| Caring for ill family member | 0 (0%) | 0 (%) | 11 (5.0%) |
| Uncertainties caused by war | 0 (0%) | 1 (1.1%) | 4 (1.8%) |
| Army life (not front line) | 4 (1.1%) | NA | NA |
| Called up for service | NA | 4 (4.4%) | NA |
| Poison gas exposure | 5 (1.4%) | 1 (1.1%) ٭٭٭ | 0 (0%) |
| Death of relative/friend in action | 0 (0%) | 0 (0%) | 3 (1.4%) |
| Worries about relative at front | 0 (0%) | 0 (0%) | 4 (1.8%) |
| Natural disaster | 0 (0%) | 3 (3.3%) | 1 (0.5%) |
| Caring for dying | NA**٭٭** | 1 (1.1%) | 3 (1.4%) |
| Church service | 0 (0%) | 0 (0%) | 1 (0.5%) |
| Sexual assault | 0 (0%) | 0 (0%) | 0 (0%) |

٭ The category ‘combat-related’ combines cases of soldiers who developed functional symptoms after a shell explosion (n=108), soldiers who were buried (n=51), soldiers who developed symptoms after having witnessed death/dying of comrades (n=20), soldiers who were wounded during combat (n=75), and soldiers who developed symptoms during active combat, with no specific trigger mentioned (n=7). Of the soldiers wounded during battle, all had completely recovered from their physical injuries/wounds when admitted to the National Hospital. 47/75 soldiers (62.7%) had only obtained very minor injuries (superficial shell wounds); 28/75 (37.3%) had major injuries (defined as: requiring operation, perforating gunshot injuries and/or long recovery period [over a month]).

٭٭ Not combat-related.

٭٭٭ Exposure in poison gas factory.

Table S3: Children (<16years), sociodemographic data, triggers, diagnostic labels and symptoms

|  |  |
| --- | --- |
| Children, N=27 |  |
| Age on admission [years] | 11.9 (±2.9) |
| Sex [m/f] | 11/16 |
| Length of stay [days] | 44.3 (±29.1) days |
| Chronicity٭ | 53.8% |
| Treatment  Electrotherapy  Isolation  Physical  Exercise | 8 (29.6%)  4 (14.8%)  11 (40.7%)  7 (25.9%) |
| Treatment result  Cured  Improved  In status quo/worse | 7 (25.9%)  8 (29.6%)  12 (44.4%) |
| Triggering event  No specific event identified  Medical condition  Accident, no major injury  Air raid  Physical abuse  Father returning from front blind  Work-related stress٭  School struck by lightning  Death of father (not in action)  Caned at school  Sexual assault  Overstudy | 8 (29.6%)  4 (14.8%)  3 (11.1%)  4 (14.8%)  1 (3.7%)  1 (3.7%)  1 (3.7%)  1 (3.7%)  1 (3.7%)  1 (3.7%)  1 (3.7%)  1 (3.7%) |
| Diagnostic labels  Hysteria  Functional disorder  Neurosis  Psychiatric diagnosis  No diagnostic judgement  Organic diagnosis  Tics | 12 (44.4%)  4 (14.8%)  2 (7.4%)  1 (3.7%)  2 (7.4%)  1 (3.7%)  5 (18.5%) |
| Symptoms  Hyperkinetic movements  Visual disturbances  Deafness  Motor disturbances  Somato-sensory disturbances  Speech disturbances  Fits  Anxiety/Depression  Pain  Catatonia  Somatic symptoms  Psychotic symptoms  Phobias | 9 (33.3%)  2 (7.4%)  1 (3.7%)  10 (37.0%)  4 (14.8%)  2 (7.4%)  8 (29.6%)  1(3.7%)  8 (29.6%)  1(3.7%)  8 (29.6%)  1(3.7%)  2 (7.4%) |

٭ Working long hours in solicitor’s office.

1. **Supplementary Figure**

Figure S1: Symptom profile for air raid shock compared to other specific triggers; soldiers, male and female civilians, children

1. **Supplementary References**

Great Britain. General Register, O. (1917). Census of England and Wales 1911 : General report with appendices Cd. 8491. XXXV.483. [S.l.]: [s.n.].