Subjective health complaints, sensitization, and sustained cognitive activation (stress)

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Received 6 June 2002; accepted 9 December 2002

Abstract

Introduction: This review argues that “subjective health complaints” is a better and neutral term for “unexplained medical symptoms.” The most common complaints are musculoskeletal pain, gastrointestinal complaints and “pseudoneurology” (tiredness, sleep problems, fatigue, and mood changes). These complaints are common in the general population, but for some these complaints reach a level that requires care and assistance. Theoretical assumptions: We suggest that these complaints are based on sensations from what in most people are normal physiological processes. In some individuals these sensations become intolerable. In some cases it may signal somatic disease, in most cases not. Cases without somatic disease, or with minimal somatic findings, occur under diagnoses like burnout, epidemic fatigue, multiple chemical sensitivity, chronic musculoskeletal pain, chronic low back pain, chronic fatigue syndrome, and fibromyalgia. These complaints are particularly common in individuals with low coping and high levels of helplessness and hopelessness. Conclusion: The psychobiological mechanisms for this is suggested to be sensitization in neural loops maintained by sustained attention and arousal.

Keywords: Coping; Musculoskeletal complaints; Review; Somatization; Stress; Subjective health complaints

Introduction

ICD 10 defines somatization as presentations of “symptoms” with persistent requests for examinations. Negative findings and reassurances that there is no physical basis for the complaints have little or no effect [1]. The most common complaints are muscle pain, “pseudoneurology” (DSM IV; tiredness, sleep problems, fatigue, and mood changes), and vague and unspecific gastrointestinal problems. These complaints are also very common in the general population. Most people do not seek medical assistance or advice for this, but for some such complaints are major concerns with a major impact on quality of life. Sudden onsets may signal serious somatic disease; usually, this is not the case.

In a recent survey of 1240 individuals from the Norwegian population 96% reported that they had experienced at least one type of complaint during the preceding 30 days. Musculoskeletal pain was reported by 80%, pseudoneurological complaints by 65%, and gastrointestinal problems by 60%. However, as expected in this normal population, when asked for substantial complaints the prevalence was moderate; only 13% reported substantial musculoskeletal complaints, 5% “pseudoneurological” complaints, and 4% gastrointestinal complaints [2]. A similar panorama of subjective complaints was found in a stratified sample of 4000 subjects, 1000 from each Nordic country (Denmark, Finland, Norway, and Sweden) [3], and in a large self-report investigation of 4000 Norwegian employees [4].

Most of us do not seek medical assistance for these complaints. However, the conditions are still the most frequent sources of long-term sickness compensation, permanent inability to work, and the most frequent reason for encounter and for repeated visits in general practice [3]. The medical establishment has never tackled these conditions satisfactorily. General medical examination, laboratory tests, and referrals to specialists do not reveal any pathological findings in most cases. General practitioners feel inadequate in their care of muscle pain patients [5]. The patients are dissatisfied with the care they receive [6] and seek assistance from nonprofessionals and a flourishing health market.

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Symptoms or complaints?

These complaints are also referred to as “unexplained symptoms” [7]. We prefer the term complaints, avoiding the assumption of a disease that may lead the patient and the doctor astray. On the other hand, complaints are real phenomena for the patient. Pain is painful, fatigue is tiring, and a lousy mood is lousy. The term does not offer any diagnosis or clues to causality. It is, simply, a neutral, behavioristic statement—the individual is complaining.

The syndrome of muscle pain, fatigue, mood changes, and gastrointestinal problems is not a new condition. There are clinical descriptions from as early as 1790 [8]. It has been referred to as hysteria, asthenia, and many other labels [8,9]. Modern diagnoses are fatigue, burnout, stress, environmental disease, radiation disease, multiple chemical sensitivity, food intolerance, irritable bowel syndrome, post-viral syndrome, yuppie flu, amalgamism, and vital exhaustion [8,9]. A driving force for the appearance of new labels is the need for “rational” explanations for common complaints, creating a market for fancy names and therapeutic shortcuts. There is no reason to believe that all these terms represent that many different conditions. However, whether this is one general condition (“old wine in new bottles” [10]), or a smaller number of distinctly different conditions, is a matter of debate [9].

Is this one state or several states with high comorbidity? When pronounced, the complaints qualify as somatization disorder within the DSM IV classification system for mental disorders [11]. When less pronounced, they may qualify as undifferentiated somatoform disorder. However, this is valid only for a small percentage of the patients treated by the general medical practitioner. Most of us have the complaints, but they do not really bother us. The DSM IV classifications, therefore, seem to represent only the tip of the iceberg.

Sensitization and its psychobiological basis

There seem to be no sharp lines between what is a completely normal phenomenon, ignored by most people, and crippling conditions that require support, treatment, and can lead to disability [2] (see Fig. 1). We suggest that these complaints are based on sensations from what usually are normal physiological processes. When, why, and in whom do these “normal” or common complaints turn into intolerable conditions?

We suggest that sensitization is the psychobiological mechanism explaining the individual differences in tolerance and acceptance of common health complaints. The simplest form of plasticity in nervous systems is that repeated stimulation may lead to habituation (decreased response) or sensitization (increased response). Sensitization has been widely observed across the phylogenetic scale, from mollusks and worms to fish and to humans.

Sensitization processes may be present at multiple levels in the organism: at the cellular level (e.g., Refs. [12–14]), at the psychological level (e.g., Refs. [15,16]), and at the interpersonal level [17]. Limbic structures show a decreased threshold for epileptic seizures upon repeated subconvulsive stimulation (“kindling,” [18]). Finally, at higher levels sensitization covers increased attention and cognitive bias [17].

The mechanism of plasticity within spinal nociceptive circuits is particularly important for our argument. Peripheral as well as central sensitization is well established for fibromyalgia patients [19]. It was proposed some years ago that pain arising from muscles, for instance in the fibromyalgia patient, starts with sensitization in the peripheral nociceptors and subsequently leads to sensitization in central nociceptive systems [20,21]. Long-term potentiation has been demonstrated for nociceptive pathways in the superficial dorsal horn of the spinal cord [13].

Sensitization has also been suggested as the underlying mechanism for other subjective health complaints reaching a level not tolerated by the patient. Irritable bowel and functional dyspepsia patients have been reported to have a lower threshold for sensations from the gut [22–24]. Chemical intolerance has been attributed to limbic and mesolimbic sensitization [25,26]. Sensitization of central nervous loops has also been suggested as an explanatory concept for comorbid psychiatric disorders in somatization patients like major depression, panic disorder, mania, phobic disorder, and anxiety [9]. All these conditions may depend on kindling of limbic structures [25]. According to this hypothesis, subconvulsive kindling of limbic structures [18] may explain why some subjects get more sensitive than others do to a variety of stimuli. This could
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