Impact of Hyperhidrosis on Quality of Life and its Assessment

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KEYWORDS

• Hyperhidrosis • Impact • Quality of life • Dermatology Life Quality Index • Hyperhidrosis Disease Severity Scale • Hyperhidrosis Impact Questionnaire • Botulinum toxin • Endoscopic thoracic sympathectomy

KEY POINTS

- Primary focal hyperhidrosis severely affects many aspects of daily life including emotional well-being, interpersonal relationships, leisure activities, personal hygiene, work and productivity, and self-esteem.
- For evaluation of its impact on patients, disease-specific questionnaires, such as the Hyperhidrosis Disease Severity Scale, the Clinical Protocol for Quality of Life, and the comprehensive Hyperhidrosis Impact Questionnaire, have been developed.
- Limitations of hyperhidrosis as a dermatologic condition are commonly measured by the Dermatology Life Quality Index. The 36-item Short Form Health Survey is the most established instrument for recording the impairment of general health-related quality of life in patients with hyperhidrosis.
- Assessment of quality of life in patients with primary focal hyperhidrosis has particularly been used to prove the substantial benefits of endoscopic thoracic sympathectomy and botulinum toxin treatment.

INTRODUCTION

It has been known for a long time that hyperhidrosis is a stigmatizing condition that may severely affect many aspects of daily life including emotional well-being, interpersonal relationships, leisure activities, personal hygiene, work and productivity, and self-esteem. In 1977, Adar and colleagues[1] pointed out that hyperhidrosis caused considerable social, professional, and emotional embarrassment in their patients with primary palmar hyperhidrosis (PPH), and claimed that sympathectomy led to improved quality of life (QoL). The first time the term QoL in context with hyperhidrosis appeared in the heading of a medical publication was in a short comment on therapeutic options in the Swedish medical journal *Läkartidningen*.[2] However, serious efforts to scientifically evaluate the impact of hyperhidrosis on patients lasted until the turn of the century after endoscopic thoracic sympathectomy (ETS) and injections of botulinum toxin were introduced in the therapeutic armamentarium of primary focal hyperhidrosis (PFH).

General limitations caused by PFH include feelings of embarrassment, shame, insecurity, frustration, unhappiness, and depression. Patients often have a low self-esteem and lack of

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self-confidence. Difficulties with social and intimate relationships may lead to reclusiveness and avoidance of social interactions and leisure activities. Individual patients may even perceive suicidal ideation. Moreover, patients may experience functional restraints and may be compelled to adapt their behavior depending on whether axillae, palms, soles, or other sites are involved. For example, patients with primary axillary hyperhidrosis (PAH) spend much time and energy on their personal hygiene, whereas PPH often results in occupational impairment.[3] Further site-related handicaps are summarized in **Box 1**. In addition, PFH markedly increases site-specific risks of cutaneous infection, especially pitted keratolysis, dermatophytosis, and vulgar/plantar warts.[4] The detriments of affected patients may be exacerbated by low awareness of PFH as a treatable medical condition and the little importance given to the patient's complaints by others.

Box 1
Selection of site-specific handicaps caused by PFH

Primary axillary and inguinal hyperhidrosis

- Soaking, staining, and soiling of clothing
- Restriction in the choice of clothing
- Need for frequent showering and change of clothing

Primary palmar hyperhidrosis

- Difficulties in manual activities and in handling objects, such as in writing, drawing, playing musical instruments, knitting, car driving, opening doorknobs, and handling balls in sports
- Dropping of glass objects from hands
- Soiling of paper and artwork
- Avoidance of hand shaking
- Electrical shocks to moist hands in mechanics and electricians
- Corrosion of metal objects
- Need for wiping hands dry

Primary plantar hyperhidrosis

- Soaking, staining, and destruction of shoes
- Difficulties in wearing sandals, slippers, and flip-flops
- Difficulties when walking barefoot
- Need for wearing absorbing socks

Primary craniofacial hyperhidrosis

- Dripping of sweat drops on objects or persons when bent forward
- Soaking of collars
- Need for wiping scalp and face dry

This article gives an overview on attempts to substantiate the various limitations induced by PFH beyond objectively verifiable measurement of sweat production and delineation of the hyperhidrotic area by the Minor iodine starch test. Questionnaires used for evaluation are classified into disease-specific instruments, those devoted to common limitations in dermatologic conditions, and those measuring general health-related QoL or certain aspects of impairment. With few exceptions, QoL assessment in hyperhidrosis has been used to prove the efficacy of therapeutic interventions, such as ETS, botulinum toxin treatment, and more recently oral anticholinergic drugs.

DISEASE-SPECIFIC ASSESSMENT OF QoL

Hyperhidrosis Disease Severity Scale

The Hyperhidrosis Disease Severity Scale (HDSS) is a single-item question allowing 4 gradations of the tolerability of sweating and its interference with daily activities (**Table 1**). This simple, validated diagnostic tool offers a quick way to estimate the impairment of QoL caused by sweating. A score of 3 or 4 indicates severe hyperhidrosis, a score of 2 moderate hyperhidrosis, and a score of 1 absence of hyperhidrosis.

The HDSS was introduced in 2004 to determine the prevalence of hyperhidrosis in the United States from a representative sample of 150,000 households.[5] The overall prevalence of hyperhidrosis was estimated at 2.8% in the general population, the prevalence of axillary hyperhidrosis at 1.4%, and the prevalence of severe axillary hyperhidrosis corresponding with HDSS scores 3 or 4 at 0.5%.

In a large prospective open-label study in 142 Canadian patients with PAH treated with botulinum neurotoxin type A (BoNT/A), HDSS scores

Table 1
The Hyperhidrosis Disease Severity Scale

Question: How Would You Rate the Severity of Your Hyperhidrosis?	Score
My sweating is never noticeable and never interferes with my daily activities	1
My sweating is tolerable but sometimes interferes with my daily activities	2
My sweating is barely tolerable and frequently interferes with my daily activities	3
My sweating is intolerable and always interferes with my daily activities	4