

# Editorial Note on Anorexia Nervosa

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## Editorial

Anorexia Nervosa (AN) is an eating disorder characterised by a fear of gaining weight and a strong desire to be thin. Physical activity (PA) has long been a contentious issue in AN. In the early stages of the disease, approximately 31% of patients engage in unhealthy PA (uPA) as a weight loss strategy, which increases to up to 80% prior to hospitalisation. In this population, it is frequently the first presenting and last remaining symptom, and participation in uPA after treatment is a relapse predicting eating disorder symptom. Bed rest and exercise restriction has historically been the preferred strategy in AN patients for this reason and to reduce metabolic demand [1].

Bed rest has been shown to have a negative impact on bone health while in the hospital, whereas low-mechanical stimulus (exercise) can prevent bone turnover decline in AN. More importantly, these practises reduce treatment acceptability and create negative perceptions, both of which harm treatment engagement. In general, patients in critical care have an increase in pro-inflammatory cytokines and reactive oxygen species, which leads to muscle proteolysis and promotes muscle mass and strength loss. According to current research, any level of PA that is viable in patients with AN should be preserved throughout all stages of treatment. More specifically, nutritionally supported moderate-to-high intensity strength-based exercise has been shown to improve mental health and physical fitness (PFI) in AN patients without negatively impacting feelings about food or weight recovery [2].

Incorporating exercise has been difficult for health care teams due to a lack of guidelines and knowledge on safe and effective exercise in AN, resulting in lower PA levels. This has contributed to partial PFI recovery, even after weight or BMI restoration [3]. Physical activity behaviours influence PFI, also known as "health status." In AN, PFI health-related components are negatively impacted, including decreased cardiorespiratory (CR) function, muscular fitness, decreased functional mobility—reduced performance in activities of daily living—and altered body composition (i.e., reduced skinfold thicknesses and circumferences at the extremities, low muscle mass, and bone mineral density at various stages of treatment) that persists even after weight and BMI recovery and negatively impacts quality of life.

Subjective tools, such as self-reported questionnaires or interviews, have been shown to over- or under-estimate PA levels in AN patients and healthy populations. In a study conducted during acute treatment that used both subjective (questionnaires) and objective (accelerometers) tools to measure

PA, PA levels obtained from questionnaires were significantly lower than those obtained from accelerometers [4]. The assessment of PA necessitates the use of objective tools; however, no standardised values for healthy PA levels in AN patients exist. Furthermore, uPA has only recently been fully defined, revealing that the nature of the behaviour (qualitative dimension: motives, compulsivity, etc.) rather than intensity or duration alone (quantitative dimension) may be reflective of uPA.

Regardless of PA levels, Sedentary Time (ST) has emerged as an independent factor affecting PFI, all-cause mortality, and cardiovascular disease risk in the general population [5]. Wear time is the amount of time an individual must wear an accelerometer in order to be considered for examination and allows for reliable quantification of PA and ST. Adolescents with ST relative to wear time (percent ST) greater than 69 percent (75 percent, males) have significantly lower PFI regardless of PA levels. As a result, assessing and managing both ST and PA is critical in the development of health-improvement strategies in AN.

## Conflict of Interest

None.

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**How to cite this article:** Mani, Shiva. "Editorial Note on Anorexia Nervosa." *J Health Med Informat* 13 (2022): 407.

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**Received** 05 February, 2022, Manuscript No: jhmi-22-55623; **Editor assigned:** 07 February, 2022, PreQC No: P-55623; **Reviewed:** 10 February, 2022, QC No: Q-55623; **Revised:** 15 February, 2022, Manuscript No: R-55623; **Published:** 20 February, 2022, DOI: 10.37421/jhmi.2022.13.407