

Personal research paper about health
An alternative view on some common health issues

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Glossary

AD Alzheimer's disease. 8

DI diabetes insipidus. 11

MVV Maximum voided volume. 10

NPi Nocturnal Polyuria index. 10

NUV Nocturnal urinary volume. 10

QoL Quality of Life. 10

Chapter 1

Neurodegenerative diseases

1.1 Alzheimer

In this part the studies on AD (Alzheimer's Disease) are discussed.

1.1.1 What is Alzheimer's disease?

Chapter 2

Sleep disorders

2.1 Nocturia

In this part the studies on nocturia are discussed.

2.1.1 What is nocturia?

Waking at night to void is known as nocturia. It is a common condition experienced by both male and female with profound impact on patient's health, QoL (Quality of Life) and economic condition. Nocturia is perceived as a symptom of many disorders. VN, G et al. (2016) Mathers, Roth, von Rundstedt and Degener (2013) The underlying pathophysiologic process of nocturia comprises four main conditions.

1. Global polyuria
2. Nocturnal polyuria
3. Nocturnal urine overproduction
4. Decreased nocturnal bladder capacity

2.1.2 Impact of nocturia

Nocturia causes sleep fragmentation and disruption and may result in daytime sleepiness, tiredness, mood changes and cognitive dysfunction with poor concentration and performance. Jin and Moon (2008)

The lack of sleep caused by excessive nighttime voiding leads to lower energy levels (vitality), impaired work-related productivity, and reduced QoL. Nocturia also has been known to be linked to a heightened risk for traffic accidents, morbidity, mortality, and significant health costs to both the patient and the physician. Kobelt G1 (2003)

2.1.3 Assessment of nocturia

The formula for calculating NP_i (Nocturnal Polyuria index) is NUV (Nocturnal urinary volume) divided by 24-h urine volume.

The formula for calculating nocturnal index is NUV divided by MVV (Maximum voided volume).

The formula for calculating nocturnal bladder capacity index is
(nocturnal index - 1) - (#nightly voids)

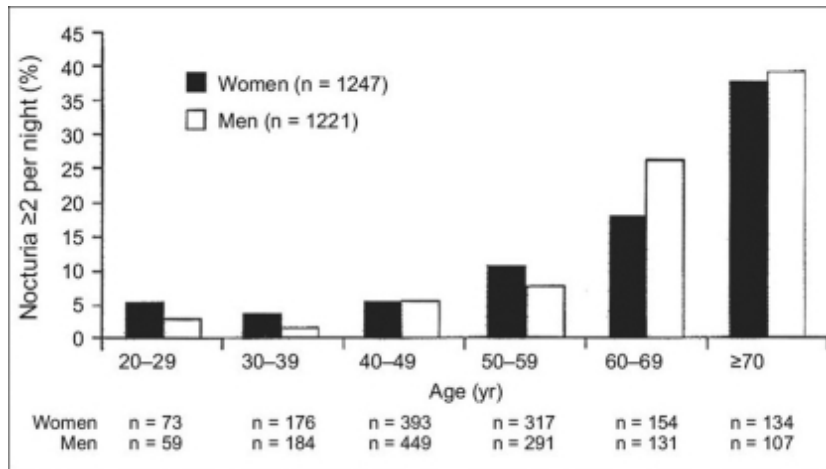


Figure 2.1: Algorithm for investigating nocturia

2.1.4 Global polyuria

Polyuria is a continuous overproduction of urine not limited to sleep hours and defined as 24-h urine output of more than 40 ml/kg. Polyuria is associated with increased urinary frequency during both daytime and nighttime. The most common causes are DI (Diabetes Insipidus), diabetes mellitus and primary thirst disorders.

DI the less common form of diabetes is a water balance disorder. The inappropriate excretion of urine may lead to polydipsia (thirst disorder). In people with DI the pituitary gland produces a normal amount of antidiuretic hormone but the kidneys do not respond appropriately to it. Diagnosis is made by overnight water deprivation to determine whether the urine becomes more concentrated. If the first morning void is not highly concentrated, DI is diagnosed. If the water deprivation test is normal in a person experiencing polyuria, the diagnosis is a thirst disorder. Weiss JP (2002)

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