

Health-related Quality of Life in Hypoparathyroidism

Hypoparathyroidism is an endocrine disease caused by insufficient levels of parathyroid hormone¹

- Common characteristics consistent with hypoparathyroidism include neuromuscular irritability, renal impairment, reduced bone turnover and high bone mineral density, extraskelatal calcifications, cognitive impairment, and reduced health-related quality of life (HRQoL)¹⁻⁷

The burden of hypoparathyroidism negatively impacts HRQoL

Physical and cognitive symptoms are common in individuals with hypoparathyroidism:^{6,8,9}



Fatigue



Cognitive dysfunction



Muscle cramp /spasm



Parasthesia

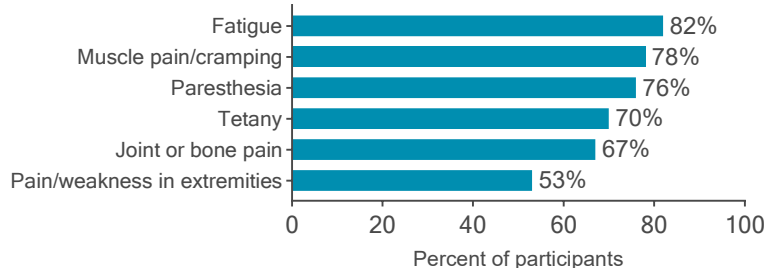


Sleep disturbances

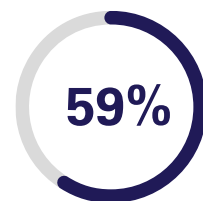
In a survey of 374 adults with hypoparathyroidism, 72% reported experiencing >10 symptoms over a 12-month period, despite management with conventional therapy^{a,9}

Physical, cognitive, and emotional symptoms experienced by greater than 50% of participants

Physical symptoms

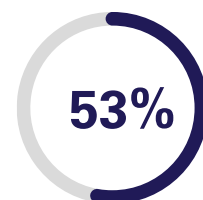
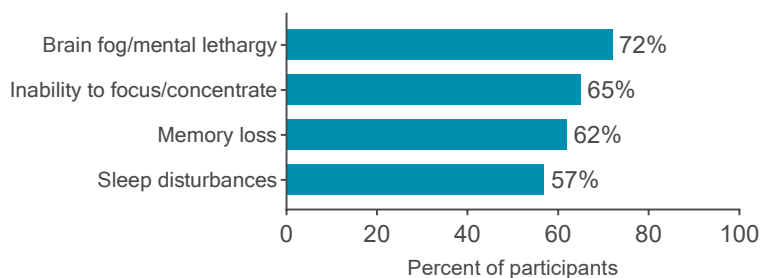


Emotional symptoms



Feeling anxiety, fear, inner unrest

Cognitive symptoms



Feeling sad, down, blue, depressed

Figures adapted from Hadker N, et al⁹. Patients indicated from a checklist the physical, cognitive, and emotional symptoms they experienced in the last 12 months. Qualifying participants were ≥18 years old, diagnosed with hypoparathyroidism for ≥6 months, and U.S. residents

^aCalcium either alone or in combination with other agents (e.g., active vitamin D) was used by 92% of participants

Abbreviations: HRQoL, health-related quality of life

References: 1. Shoback DM, et al. *J Clin Endocrinol Metab.* 2016 Jun;101(6):2300-12; 2. Brandi ML, et al. *J Clin Endocrinol Metab.* 2016 Jun;101(6):2273-83; 3. Khan AA, et al. *Metabolism.* 2025 Oct;171:156335; 4. Mannstadt M, et al. *Nat Rev Dis Primers.* 2017 Aug 31;3:17055; 5. Kontogeorgos G, et al. *Endocr Connect.* 2022 Jan 10;11(1):e210379; 6. Brod M, et al. *Patient.* Apr 2020;13(2):151-162; 7. Rubin MR, et al. *J Endocr Soc.* 2022 Jan 30;6(3):bvac002; 8. Brod M, et al. *Qual Life Res.* Jan 2021;30(1):277-291; 9. Hadker N, et al. *Endocr Pract.* Jul 2014;20(7):671-9

MED-US-2600132 | July 2026

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In a population-based cohort study

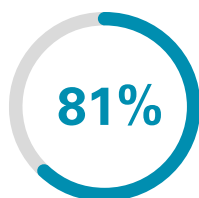
Individuals with hypoparathyroidism had markedly lower HRQoL, irrespective of serum calcium level, as measured by the physical ($P < .001$) and mental ($P < .001$) component scores of the 36-Item Short Form Health Survey (SF-36) as well as the EuroQol-5 Dimensions Visual Analogue Scale (EQ-5D) when compared with an age-matched general population sample¹

Study design

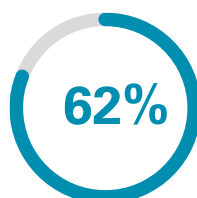
106 individuals with a diagnosis of hypoparathyroidism identified from medical records between 2007-2019 completed HRQoL surveys in 2020, compared with 414 individuals from World Health Organization's MONICA project age-matched general population sample¹

In interviews

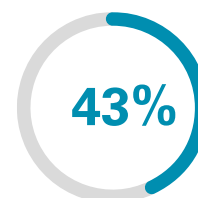
Of 42 individuals with hypoparathyroidism conducted during the development of the Hypoparathyroidism Patient Experience Scale^a (HPES), 98% of individuals with hypoparathyroidism reported reduced functioning and well-being despite management with conventional therapy²⁻⁴



Anxiety



Feeling sad, depressed



Feeling irritable, short tempered

Disease-specific measurements are recommended to evaluate the impact of hypoparathyroidism on HRQoL⁵

2025 ESE Clinical Practice Guidelines recommend treatment for hypoparathyroidism to be personalized and centered on the patient's overall well-being with therapeutic goals that:⁵

- Improve long-term prognosis
- Minimize symptoms of hypocalcemia
- Maintain calcium levels within lower part or slightly below the reference range
- **Optimize quality of life**

The 2025 Best Practice Recommendations therapeutic goals aim to:⁶

- Relieve symptoms while avoiding hypercalcemia and symptomatic hypocalcemia
- Maintain normal urine calcium, serum phosphorus and magnesium
- Preserve renal function, and avoid renal stones and/or nephrocalcinosis
- **Improve quality of life**

^aHPES is a psychometrically validated, disease-specific measure specifically designed to assess the symptoms and impacts associated with hypoparathyroidism

Abbreviations: HPES, Hypoparathyroidism Patient Experience Scale; HRQoL, health-related quality of life; SF-36, 36-Item Short Form Health Survey

References: 1. Kontogeorgos G, et al. *Endocr Connect*. Jan 10 2022;11(1); 2. Brod M, et al. *J Patient Rep Outcomes*. 2021 Aug 10;5(1):70; 3. Brod M, et al. *Qual Life Res*. 2021 Jan;30(1):277-291; 4. Brod M, et al. *Patient*. 2020 Apr;13(2):151-162; 5. Bollerslev J, et al. *Eur J Endocrinol*. 2025; 193(5):G49-G78; 6. Khan A, et al. *Metabolism*. 2025 Oct;171:156335