

# Thyroid disorders in Brazil

## ABOUT THYROID DISORDERS

**Thyroid hormones are produced by the thyroid gland in the neck, and are essential for normal bodily function.<sup>1</sup> Thyroid disorders occur when there is an imbalance in the production of these hormones. There are two categories:**

**Hypothyroidism: a deficiency of thyroid hormones** due to the thyroid gland producing too little thyroid hormone. Symptoms may include weight gain, fatigue, depression, memory problems, muscle weakness and impaired development in children.<sup>1</sup> Approximately 4–10% of the global population have hypothyroidism.<sup>2</sup>

**Hyperthyroidism: an excess of thyroid hormone** due to an overactive thyroid gland. Symptoms may include sudden weight loss, fatigue, mood swings, rapid heartbeat, increased appetite, muscle weakness, intolerance of heat and enlarged thyroid gland.<sup>1</sup>



**Awareness of these disorders is low, and symptoms are difficult to detect as they can be easily confused with symptoms of other conditions or natural signs of aging.<sup>3</sup> This can cause significant delays to an accurate diagnosis, sometimes up to two years.<sup>4</sup>**

**Thyroid disorders are a public health issue** impacting maternal and child health, non-communicable disease reduction and healthy aging. As a result, thyroid disorders are strongly connected to many of the health Sustainable Development Goals.<sup>5</sup>

**As people age and live with an increasing number of comorbidities, early detection and optimal treatment of thyroid disorders will become essential.** Treatment aims to return the thyroid hormone levels to a normal range, and for hypothyroidism it has also been shown to improve quality of life.<sup>6</sup>

## WHY WE NEED TO ACT NOW

### Thyroid disorders are particularly harmful in certain groups

- Older people with thyroid disorders are at increased risk of morbidity and mortality.<sup>7</sup>
- People with cardiovascular disease (CVD) and thyroid disorders are at increased risk of morbidity or mortality.<sup>8</sup>
- Pregnant women with hypothyroidism are more likely to suffer from obstetric and fetal complications such as impaired fetal cognitive development, preterm birth and pregnancy loss.<sup>9</sup>

### Current screening and identification of thyroid disorders are suboptimal

Late identification of thyroid disorders risks progression to more severe symptoms,<sup>4</sup> which may lead to decreased quality of life.<sup>10</sup> Despite this:

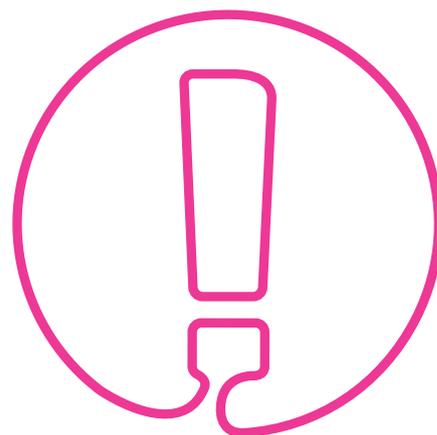
- The risk-based approach currently used may miss 30–55% of pregnant women with hypothyroidism.<sup>11</sup>
- Almost 20% of Latin American physicians do not perform any screening for hypothyroidism in pregnancy, and 10% do not have an overarching strategy for screening.<sup>12</sup>

### Adequate management of thyroid disorders is part of sustainable and integrated care systems

The detection and management of thyroid disorders will take on additional importance in the context of a growing burden of CVD and non-communicable diseases and an aging population.<sup>13</sup> These issues will contribute to higher spending on healthcare,<sup>14</sup> for which many countries are ill prepared.

### Data on thyroid disorders in Latin America are lacking

Information on the health and economic burden of thyroid disease in Latin America is very limited and there is an overreliance on international data. This means that we are likely to underestimate the burden of thyroid disorders.





## WHAT IS HAPPENING IN BRAZIL?

### Key facts about thyroid disorders in Brazil

<b>Epidemiology</b>	Hypothyroidism	7.4% of adults are estimated to have overt hypothyroidism <sup>15</sup>  In people over 65 years old, 5.7% have overt and 6.5% have subclinical hypothyroidism <sup>3</sup>
	Hyperthyroidism	0.7% of adults are estimated to have overt hyperthyroidism <sup>15</sup>  In people over 65 years old, 0.7% have overt and 2.4% have subclinical hyperthyroidism <sup>3</sup>
<b>Policy</b>	Clinical guidelines	National guidelines exist for diagnosis and treatment of hyperthyroidism, <sup>16</sup> hypothyroidism <sup>17</sup> and subclinical hypothyroidism <sup>18</sup>
	National patient or advocacy group	Instituto da Tiróide: <a href="http://www.indatir.org.br">www.indatir.org.br</a>

#### Despite progress in access, unacceptable delays and inequalities persist

Recent improvements in access to healthcare have improved the detection of hypo- and hyperthyroidism.<sup>19</sup> However, delays to diagnosis persist. These are often driven by limited access to healthcare professionals and specialists.<sup>20</sup> Furthermore, factors such as socioeconomic position,<sup>20</sup> gender, geographic location or race can influence whether someone receives a diagnosis or treatment for thyroid disease.<sup>15</sup>

#### Limited medical awareness challenges optimal care for thyroid disorders

The limited number of endocrinologists across Brazil means that the vast majority of people with thyroid disorders are diagnosed and managed by a general practitioner (GP), cardiologist, gynaecologist or internal medicine specialist.<sup>20</sup> Particularly in rural areas, access to endocrinologists is extremely challenging and a GP typically manages thyroid disorders.<sup>20</sup> However, these non-endocrinology specialists can have limited knowledge of how to diagnose or manage thyroid conditions and may not provide guideline-adherent care.<sup>20</sup>

# POLICY RECOMMENDATIONS

Thyroid disorders require a comprehensive integrated policy response. We recommend that decision-makers across Latin America take the following actions:

## 1 Improve the implementation of screening for thyroid disorders:

- Implement aggressive risk-based case finding, with a focus on adults over 60 years old, those with existing CVD and pregnant women.
- Enable primary care physicians to carry out risk-based case finding with clinical protocols and continuing medical education.

## 2 Ensure regular thyroid hormone checks for pregnant women and those planning to become pregnant:

- Strengthen monitoring of thyroid disorders among women.
- Include thyroid hormone tests as part of routine tests for pregnant women.
- Establish country-specific diagnostic reference values for pregnant women.

## 3 Raise awareness of the links between thyroid disorders and CVD:

- Raise awareness of thyroid disorders among people with CVD, cardiologists and GPs.
- Support cardiologists to test for suboptimal thyroid function.

## 4 Regularly monitor population-wide iodine and sodium intake levels:

- Monitor the population-level iodine and sodium intake and optimize salt iodization levels accordingly.



## References

1. Wallace RB, Stone MB. 2003. *Medicare coverage of routine screening for thyroid dysfunction*. Washington DC: National Academies Press
2. Udovcic M, Pena RH, Patham B, et al. 2017. Hypothyroidism and the Heart. *Methodist Debakey Cardiovasc J* 13(2): 55-59
3. Benseñor IM, Goulart AC, Lotufo PA, et al. 2011. Prevalence of thyroid disorders among older people: results from the São Paulo Ageing & Health Study. *Cad Saude Publica* 27: 155-61
4. InSites Consulting. 2017. *Hypothyroidism late-stage diagnosis: mapping out the journey and opportunities to shorten the process*. Internal Merck resource: InSites Consulting
5. World Health Organization. 2018. SDG 3: Ensure healthy lives and promote wellbeing for all at all ages. Available from: <https://www.who.int/sdg/targets/en/> [Accessed 28/05/19]
6. dos Santos Vigário P, Vaisman F, Coeli CM, et al. 2013. Inadequate levothyroxine replacement for primary hypothyroidism is associated with poor health-related quality of life—a Brazilian multicentre study. *Endocrine* 44(2): 434-40
7. Mitrou P, Raptis SA, Dimitriadis G. 2011. Thyroid disease in older people. *Maturitas* 70(1): 5-9
8. Gencer B, Collet T-H, Virgini V, et al. 2013. Subclinical thyroid dysfunction and cardiovascular outcomes among prospective cohort studies. *Endocr Metab Immune Disord Drug Targets* 13(1): 4-12
9. Reid SM, Middleton P, Cossich MC, et al. 2013. Interventions for clinical and subclinical hypothyroidism pre-pregnancy and during pregnancy. *Cochrane Database Syst Rev* (5): 10.1002/14651858.CD007752.pub3
10. Bianchi GP, Zaccheroni V, Solaroli E, et al. 2004. Health-related quality of life in patients with thyroid disorders. *Qual Life Res* 13(1): 45-54
11. Aghajanian P, Spencer CA, Wilson ML, et al. 2016. Evaluation of risk-factor-based screening for thyroid peroxidase antibody positivity in pregnancy. *Clin Endocrinol (Oxf)* 84(3): 417-22
12. Medeiros MFdS, Cerqueira TldO, Silva Junior JC, et al. 2014. An international survey of screening and management of hypothyroidism during pregnancy in Latin America. *Arq Bras Endocrinol Metabol* 58(9): 906-11
13. Anauati MV, Galiani S, Weinschelbaum F. 2015. The rise of noncommunicable diseases in Latin America and the Caribbean: challenges for public health policies. *Lat Am Econ Rev* 24(1): 11
14. Organisation for Economic Co-operation and Development (OECD). 2019. *Society at a Glance 2019: OECD Social Indicators*. Paris, France: OECD Publishing
15. Olmos RD, Figueiredo RCd, Aquino EM, et al. 2015. Gender, race and socioeconomic influence on diagnosis and treatment of thyroid disorders in the Brazilian Longitudinal Study of Adult Health (ELSA-Brasil). *Braz J Med Biol Res* 48: 751-58
16. Maia AL, Scheffel RS, Meyer EL, et al. 2013. The Brazilian consensus for the diagnosis and treatment of hyperthyroidism: recommendations by the Thyroid Department of the Brazilian Society of Endocrinology and Metabolism. *Arq Bras Endocrinol Metabol* 57(3): 205-32
17. Brenta G, Vaisman M, Sgarbi JA, et al. 2013. Clinical practice guidelines for the management of hypothyroidism. *Arq Bras Endocrinol Metabol* 57(4): 265-91
18. Sgarbi JA, Teixeira PF, Maciel LM, et al. 2013. The Brazilian consensus for the clinical approach and treatment of subclinical hypothyroidism in adults: recommendations of the thyroid Department of the Brazilian Society of Endocrinology and Metabolism. *Arq Bras Endocrinol Metabol* 57(3): 166-83
19. Lotufo PA. 2016. Thyroid disorders in Brazil: time for action. *Sao Paulo Med J* 134: 277-79
20. de Marca Seidel K. 2019. Interview with Sara Marques at The Health Policy Partnership [Telephone]. 20/05/19

