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BETWEEN LACK AND EXCESS – TRAJECTORIES OF CHILD  
MALNUTRITION IN CONTEMPORARY ROMANIA

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**Abstract:** *Child malnutrition remains a persistent public health and food security concern in Romania, reflecting persistent social and economic inequalities. This paper analyses malnutrition evolution among children under 5 years of age, over the period 2000–2022, based on modeled estimates published by FAOSTAT. The study focuses on two key indicators: stunting and overweight. The results show a significant reduction in the prevalence of stunting (from 13.5% in 2000 to 7.8% in 2022), the almost complete disappearance of wasting after 2002, and a marked decrease in overweight after the peak period of 2007–2010. These trajectories indicate considerable progress, but also persistent challenges – particularly with regard to chronic undernutrition and the simultaneous coexistence of nutritional deficiencies and excesses. The results are discussed in the context of socio-economic transition, health policy reforms, and food accessibility. The paper argues that child malnutrition in Romania today reflects a “double burden” of food imbalance, driven by structural inequalities and fragmented policy responses. An integrated approach, focused on equity, is needed to ensure the right of all children in Romania to adequate and nutritious food.*

**Key words:** *Romania, child malnutrition, stunting, wasting, overweight, food security, health inequality.*

## INTRODUCTION

Malnutrition in childhood remains one of the most pressing indicators of social injustice and unequal access to essential resources. In Romania, a country shaped by rapid political, economic, and social transformations in the last three decades, child malnutrition has taken on complex and evolving forms [9,11,18]. While overt hunger and acute food deprivation have declined, subtler and often overlooked forms of nutritional imbalance continue to affect large segments of the population - especially children under five.

Understanding malnutrition in Romania today requires moving beyond simplistic notions of scarcity and recognizing the interplay of multiple, often contradictory trends [12,17]. Children may be stunted not only by insufficient food but also by poor-quality diets, limited healthcare, and unequal opportunities for development [2,3,4]. At the same time, the rise in childhood overweight, even as undernutrition persists, points to a “double burden” of malnutrition - where both deprivation and excess exist within the same households, communities, or even individuals [14,16].

This paper explores the evolution of child malnutrition in Romania between 2000 and 2022, drawing on modeled data provided by FAOSTAT [7]. The analysis centers on two critical indicators: stunting and overweight. These indicators offer a window into the deep and sometimes paradoxical transformations of Romanian society, where structural vulnerabilities intersect with shifting dietary patterns, urbanization, migration, and uneven policy efforts [1,5,10].

By tracing the trajectories of child malnutrition in this context, the study aims to reveal not only progress but also the enduring gaps in equity and access to adequate nutrition [13,15]. Addressing these challenges requires integrated strategies that center children’s rights, prioritize long-term health, and bridge the divide between food

abundance and food justice [6,8].

## MATERIALS AND METHODS

This study employs a mixed-method approach, combining a structured literature review with a longitudinal analysis of modeled estimates on child malnutrition in Romania, covering the period from 2000 to 2022. The research focuses on two key nutritional indicators: stunting (low height-for-age) and overweight, with particular attention to the rising prevalence of childhood overweight.

To provide a robust conceptual and empirical foundation, a comprehensive review of the academic literature was conducted. This included peer-reviewed articles indexed in Web of Science (WoS) and Google Scholar, along with institutional reports and official datasets from international organizations such as the Food and Agriculture Organization (FAO), the World Health Organization (WHO), and UNICEF. Relevant Romanian national policy documents and academic studies were also included. The literature review allowed for a clearer understanding of the theoretical frameworks related to child malnutrition, the implications of socio-economic inequalities, and regional trends observed in Central and Eastern Europe.

For the empirical analysis, data were sourced from FAOSTAT's "Nutrition Indicators" module. This platform offers standardized, internationally harmonized estimates constructed through modeling techniques that integrate national surveys, household data, anthropometric measures, and demographic projections. These modeled data are especially useful in contexts like Romania, where regular national surveys on child nutrition have not been systematically conducted over the entire study period.

The prevalence of stunting and overweight among children under five was analyzed using descriptive statistical tools. Changes over time were evaluated through the calculation of percentage differences and absolute variation across the 22-year period. Line graphs were employed to visually represent trends and highlight key turning points or anomalies. This visualization supported a better understanding of the temporal dynamics and the co-existence of different forms of malnutrition.

Special attention was given to the interpretation of trends within their broader socio-political and economic context. For instance, periods of rising overweight were examined in relation to shifts in dietary behavior, food marketing, and changes in household income or consumption patterns. Similarly, persistent levels of stunting were analyzed through the lens of structural inequalities, healthcare access, and rural-urban disparities.

By integrating empirical data with critical analysis of the literature, this methodology supports a comprehensive understanding of the dual burden of malnutrition in Romania today.

## RESEARCH RESULTS

### 1. Results – Stunting trends among children under five (2000–2022)

Between 2000 and 2022, Romania experienced a gradual and consistent decline in the prevalence of stunting among children under five years of age. The percentage dropped from 13.5% in 2000 to 7.7% in 2022, marking an absolute reduction of 5.8 percentage points, equivalent to a relative decrease of over 43% over the 22-year period. (Table 1)

Table 1.

**Dynamics of the percentage of children under 5 years of age who are stunted**

Year	Percentage of children under 5 years of age who are stunted
2000	13.5
2001	13.4
2002	13.2
2003	12.9
2004	12.5
2005	12.2
2006	11.9
2007	11.5
2008	11
2009	10.5
2010	10.1
2011	9.6
2012	9.3
2013	9.0
2014	8.8
2015	8.7
2016	8.6
2017	8.4
2018	8.3
2019	8.2
2020	8.0
2021	7.8
2022	7.7

Source: FAOSTAT, 2025[7]

The trend, while steadily declining, can be divided into three distinct phases:

- **Initial Slow Decline (2000–2006)**

In the first phase, from 2000 (13.5%) to 2006 (11.9%), the decrease was relatively modest, with an average annual reduction of around 0.26 percentage points per year. This period coincides with the post-transition economic recovery, but also with continued disparities in healthcare access, particularly in rural areas.

- **Accelerated Progress (2007–2011)**

Between 2007 and 2011, the pace of decline accelerated. The stunting rate dropped from 11.5% to 9.6%, a more notable change within a relatively short timeframe. This may reflect the impact of EU accession (2007), increased funding for maternal and child health programs, and improvements in sanitation and food safety infrastructure. However, this progress also occurred in parallel with the 2007–2008 financial crisis, suggesting that structural reforms may have outweighed economic stressors.

- **Stabilization and Continued Decline (2012–2022)**

From 2012 onward, the rate continued to decline at a slower, but stable pace—from 9.3% in 2012 to 7.7% in 2022. The most significant changes occurred before 2018, while the last 5 years show marginal annual improvements of 0.1–0.2 percentage points. This plateau could suggest that the "low-hanging fruits" of malnutrition reduction were already addressed, and remaining cases are linked to more deep-rooted socio-economic disparities, particularly affecting marginalized communities.

While the overall reduction in stunting prevalence is a clear sign of progress, the persistent rate of 7.7% in 2022 still raises concern. Stunting is not merely a biological outcome, it reflects systemic inequities in nutrition, maternal care, and early-life development. In a high-income EU country, this rate underscores the presence of pockets of chronic undernutrition linked to poverty, lack of access to services, and food insecurity.

The decreasing trend demonstrates that national policy interventions, EU integration, and broader socio-economic development have had a positive effect. However, the decelerating rate of reduction in recent years suggests that further gains will require targeted, equity-focused strategies—particularly in rural areas, Roma communities, and among low-income families.

## **2. Results – Overweight trends among children under five (2000–2022)**

The prevalence of overweight among Romanian children under the age of five shows a distinct inverted U-shaped trajectory between 2000 and 2022. Starting at 8.8% in 2000, the percentage rose steadily to reach a peak of 10% in 2005–2006, before entering a prolonged phase of decline, reaching 4.5% in both 2021 and 2022. This reflects a total reduction of 5.5 percentage points, or a relative decline of nearly 55% over the observed period. We can distinguish three main phases in the evolution of childhood overweight:

### **- Rising trend and peak (2000–2006)**

From 2000 to 2006, the prevalence of overweight increased from 8.8% to 10%. This upward trend reflects the **early effects of dietary transition** in post-communist Romania: increased access to calorie-dense, ultra-processed foods, rising urbanization, and a decline in traditional food patterns. Aggressive food marketing, limited parental nutrition education, and reduced physical activity may have contributed to this surge in childhood overweight.

### **- Gradual decline and policy response (2007–2014)**

Starting in 2007, a progressive decline in overweight prevalence is observed, reaching 6.8% by 2014. This period coincides with Romania's integration into EU nutrition and public health frameworks, where school meal standards, food labeling regulations, and awareness campaigns began to shape healthier behaviors. The decline may also reflect increased access to fresh produce, better food safety, and modest improvements in maternal and child healthcare.

### **- Acceleration of the decline (2015–2022)**

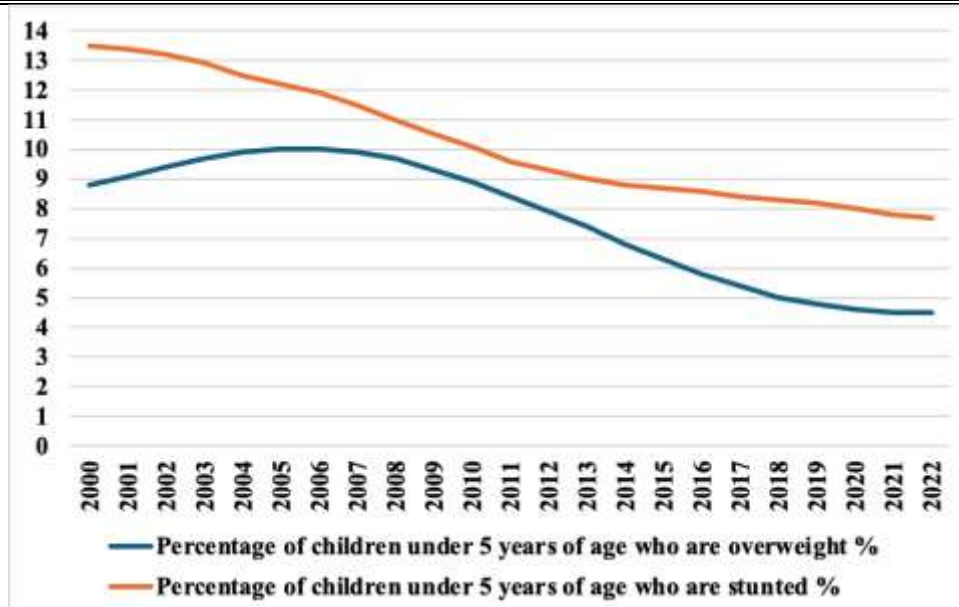
The most rapid decline occurred between 2015 and 2022, when the percentage dropped from 6.3% to 4.5%. This period may reflect both improved dietary awareness and wider availability of diversified foods, especially in urban centers. However, it may also mask growing inequalities, as overweight children in disadvantaged communities may be underdiagnosed or less visible in national averages.

The steady decline in overweight is a positive public health achievement, suggesting that national and EU-aligned strategies had measurable impact. However, the continued existence of overweight, even at 4.5%, among very young children points to unresolved behavioral, educational, and socio-economic gaps.

More importantly, the simultaneous presence of overweight and stunting in the same population reinforces the concept of a “double burden” of malnutrition. This coexistence reflects an environment where food quantity is not matched by food quality, and where children are simultaneously vulnerable to both excesses and deficiencies.

The data encourage the adoption of integrated, life-course approaches to nutrition—starting with prenatal care and maternal diet, continuing with infant feeding practices, and supported by community-based nutrition education that is tailored to both urban and rural contexts.

Figure 1 reveals two downward trajectories—one for stunting (orange line) and one for overweight (blue line)—but with distinct dynamics and turning points that reflect different underlying drivers of malnutrition in Romania.



**Figure 1. The name of the figure**

*Source: Original by authors after FAOSTAT, 2025[7]*

### 1. Opposite initial directions

At the beginning of the observed period (2000–2006), the two indicators move in opposite directions: while stunting declines slowly from 13.5% to around 11.9%, overweight increases slightly, from 8.8% to 10%. This divergence highlights the early stages of the nutritional transition, where undernutrition remained a legacy of past inequalities, but new forms of malnutrition—linked to overconsumption and poor-quality diets—began to emerge, especially in urban areas and wealthier households.

### 2. Simultaneous decline, different timing

After 2007, both indicators began to decline, but not at the same pace:

- **Stunting** shows a consistent and gradual decrease throughout the period, with no major fluctuations, moving from ~11.5% in 2007 to 7.7% in 2022.
- **Overweight**, on the other hand, follows a more abrupt and rapid decline, especially after 2010, falling from nearly 10% to 4.5% in just over a decade.

This difference in pace suggests that overweight responded more quickly to public health interventions, changes in consumption behavior, and possible improvements in awareness, particularly among educated urban parents. Meanwhile, stunting, being a marker of chronic deprivation, proved more resistant to change, requiring longer-term, structural interventions related to poverty, housing, sanitation, and maternal health.

### 3. Convergence and stabilization

From 2015 onwards, the two indicators began to converge, narrowing the gap between them. By 2022, stunting (7.7%) and overweight (4.5%) still coexist, but at significantly lower levels than two decades earlier.

This convergence may indicate progress toward reducing the double burden of malnutrition, but also signals the emergence of new nutritional vulnerabilities, for example, micronutrient deficiencies or hidden hunger that are not captured in either indicator.

## CONCLUSIONS

The analysis of child malnutrition trends in Romania between 2000 and 2022 reveals significant progress, but also persistent challenges that require renewed attention. The prevalence of both stunting and overweight among children under five has declined considerably over the past two decades. However, the persistence of these two

conditions—though at lower levels—suggests that Romania continues to face a double burden of malnutrition, shaped by structural inequalities and uneven access to essential services.

The reduction in stunting reflects gradual improvements in maternal health, child care, and socioeconomic conditions, particularly following Romania's EU accession. Yet, the fact that nearly 8% of children still suffer from chronic undernutrition points to the unfinished agenda of equity, especially in rural and marginalized communities. Addressing stunting today requires more than general development—it demands targeted interventions, including improved early childhood care, maternal nutrition programs, and better health infrastructure in underserved areas.

In parallel, the decline in overweight - especially after 2010 - indicates that public awareness, regulatory measures, and changes in consumption behavior have yielded positive outcomes. Nevertheless, the coexistence of excess weight with nutritional deficiencies in early childhood suggests the need for more nuanced, quality-oriented food policies, particularly in school environments and for low-income families.

This study highlights the importance of continuously monitoring child nutrition through reliable, disaggregated data and of linking nutritional outcomes with broader social and economic policies. Combatting child malnutrition in all its forms requires an integrated, life-course approach that starts from pregnancy and continues through early childhood and school years.

Ensuring every child's right to adequate nutrition in Romania is not only a matter of health—it is a matter of social justice. Reducing disparities and preventing long-term developmental consequences depends on policies that are inclusive, evidence-based, and guided by the principle of leaving no child behind.

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