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Maternal and Child Malnutrition in Pakistan: A Provincial Analysis of Current Evidence, Trends, Health Implications, and Policy Imperatives

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ABSTRACT

Maternal and child malnutrition remains one of the most critical public health and development challenges in Pakistan, with far-reaching implications for child survival, maternal health, cognitive development, educational attainment, labor productivity, and long-term economic growth. This report examines the current status, provincial 5disparities, health implications, determinants, and policy responses related to maternal and child malnutrition in Pakistan using evidence from the National Nutrition Survey (NNS 2018), Pakistan Demographic and Health Survey (PDHS 2017–18), Integrated Food Security Phase Classification (IPC 2025), UNICEF, WHO, and recent peer-reviewed literature. The available evidence indicates that Pakistan continues to face a substantial nutrition burden, with high levels of stunting, wasting, underweight status, anemia, micronutrient deficiencies, and low birth weight. Provincial analysis reveals that Balochistan experiences the highest burden of chronic malnutrition, while Sindh records the most severe acute malnutrition profile, particularly in terms of wasting and underweight children. The Newly Merged Districts of Khyber Pakhtunkhwa remain highly vulnerable because of displacement, food insecurity, and limited health infrastructure, whereas Punjab contributes substantially to the national burden because of its large population size. The report further shows that malnutrition is shaped by poverty, food insecurity, low maternal education, poor sanitation, inadequate healthcare access, gender inequality, and climate-related shocks. Addressing these challenges requires coordinated, multisectoral action involving health, nutrition, agriculture, education, water and sanitation, social protection, and climate resilience systems. Strengthening maternal nutrition services, expanding community-based nutrition programs, improving food security, and enhancing provincial nutrition surveillance are essential for achieving national nutrition targets and the Sustainable Development Goals.

Introduction

Maternal and child malnutrition remains one of the most significant public health and development challenges worldwide. Despite substantial improvements in healthcare, food systems, and socioeconomic development, millions of women and children continue to suffer from undernutrition, micronutrient deficiencies, overweight, and obesity. According to the World Health Organization (WHO, 2024), malnutrition contributes substantially to child mortality and continues to undermine human capital development, economic productivity, and sustainable growth, particularly in low- and middle-income countries.

Maternal and child nutrition occupies a central position within global health and development agendas because nutritional deprivation during pregnancy and early childhood has profound and long-lasting consequences. Having adequate nutrition in the developmental years, starting from conception through early childhood, matters a lot for physical growth that is on track, for thinking and learning, for the immune system to work properly, and even for productivity later. Because of this, efforts to improve nutritional results have turned into a main priority in the Sustainable Development Goals, the SDGs, which focus on ending hunger, supporting good health, and advancing human development.

Pakistan stays one of the countries that is hit the hardest by maternal and child malnutrition across South Asia. Even now, persistent poverty, food insecurity, not enough dietary variety , poor sanitation, limited access to health care, gender inequality, and climate related shocks keep dragging nutritional outcomes down. In the National Nutrition Survey (NNS) 2018, it says roughly 40.2% of kids under five are stunted, 17.7% are wasted, and 28.9% are underweight. On top of that, childhood anemia influences more than half of children in Pakistan, and large shares of women in reproductive age struggle with anemia as well as micronutrient deficiencies.

Pakistan's nutrition story was marked by notable provincial mismatches, as if you can really see it across regions. Balochistan faces the heaviest burden of long-term chronic malnutrition, while Sindh shows the most severe pattern when it comes to acute malnutrition. The Newly Merged Districts in Khyber Pakhtunkhwa still look especially exposed, mainly due to displacement, unstable food access, and rather thin healthcare infrastructure. These kind of regional gaps underline that we will need targeted, context-aware nutrition actions, not just generic programs that fit everyone.

Given the magnitude of the problem, and its effect on public health plus socioeconomic development, this report looks into what is happening right now, how it differs across provinces, and then what it does to health outcomes the main drivers behind it and the kinds of policy responses that are being used. In addition, it points out the strategic policy directions needed in order to improve nutritional conditions and speed up progress toward national as well as global nutrition targets.

Malnutrition refers to deficiencies, excesses, or imbalances in the intake of energy and nutrients required for optimal growth, development, and health. According to the World Health Organization (WHO, 2024), malnutrition encompasses undernutrition, micronutrient deficiencies, overweight, and obesity. Among children, undernutrition is commonly measured through indicators such as stunting, wasting, and underweight status, whereas maternal nutrition is assessed using body mass index (BMI), anemia prevalence, and micronutrient status.

Maternal nutrition plays a crucial role in determining pregnancy outcomes and child health. If the mother eats well before and during pregnancy, the fetus can grow properly, the birth is more likely to be healthy, and the baby's development gets a steadier start. On the other hand, when maternal intake is too low, there can be higher odds of low birth weight, going into labor too early, neonatal mortality too, and even problems with later cognitive progress. Black et al. (2013) also pointed out that both maternal and child undernutrition still counts as a big part of disease burden and death rates in low-and middle-income countries.

Child malnutrition is still a big global health problem. Stunting rather mirrors chronic nutritional deprivation, and it goes along with weaker cognitive development, less educational progress, and lower productivity later in life. Wasting on the other hand is acute malnutrition and it substantially raises the chance of child mortality. Victora et al., (2021) also said that early childhood nutritional shortages could end up with lifelong effects on health, learning, and economic results.

The determinants of malnutrition are somewhat multidimensional, as if they include inadequate dietary intake, disease burden, household food insecurity, poor maternal care, limited healthcare access, inadequate water and sanitation services, poverty, and gender inequality. Maternal education tends to come up as one of the most consistent predictors for a child's nutritional status, while climate related shocks like floods and droughts are increasingly feeding into food insecurity and nutritional vulnerability, in other words, they add extra pressure on households.

Pakistan still seems to carry one of the highest burdens when it comes to maternal and child malnutrition across South Asia. The National Nutrition Survey 2018 showed persistently high figures for stunting, wasting, underweight status, anemia, and

several micronutrient deficiencies in children. At the same time there are big regional differences too, which hints that nutritional outcomes aren't random; they are much tied to poverty levels, the strength of healthcare services, educational attainment, and food security conditions. Overall, what the literature keeps pointing to is that malnutrition cannot be fixed with just one type of effort. Instead, it likely needs integrated multisectoral action, spanning healthcare plus education, agriculture, social protection, water and sanitation, and climate resilience related interventions.

Health Implications of Maternal and Child Malnutrition

Maternal and child malnutrition has profound consequences for health, human development, and economic productivity. What happens is the harmful effects can start during pregnancy and they may keep going across the whole life span, and then it feeds this intergenerational cycle of weak health and persistent poverty. As Black et al., (2013) points out, undernutrition stays among the main drivers of child sickness and death in low and middle income countries

Maternal malnutrition significantly increases the risk of anemia, pregnancy complications, low birth weight, preterm delivery, and neonatal mortality. Women experiencing nutritional deficiencies during pregnancy are also more vulnerable to infections, reduced physical capacity, and adverse reproductive outcomes. Victora et al., (2021) emphasized that maternal nutritional status is a critical determinant of fetal growth, birth outcomes, and long-term child development.

Childhood malnutrition adversely affects physical growth, cognitive development, and educational achievement. Stunting, a manifestation of chronic undernutrition, is associated with impaired learning capacity and reduced productivity in adulthood, while wasting substantially increases the risk of childhood morbidity and mortality. According to UNICEF, WHO, and World Bank (2023), children suffering from chronic and acute malnutrition are more likely to experience developmental delays and poor health outcomes throughout their lives.

Micronutrient shortfalls, especially iron, vitamin A, and zinc, can really wear down the immune system and make people more likely to catch infectious diseases. The World Health Organization, (2024) said anemia plus micronutrient deficiencies still sit among the most widespread nutrition problems worldwide for women and children, and it's especially noticeable in South Asia and Sub-Saharan Africa.

Beyond the health consequences, malnutrition brings with it notable social and economic costs, sort of, in a way that keeps compounding over time. Children who were affected by malnutrition often end up with lower educational outcomes, and later on, they may have diminished earning ability, generally reduced income prospects. On a countrywide level, a weakened workforce productivity, plus higher healthcare spending, can drive major economic losses. The Global Nutrition Report, by Development Initiatives, 2024, points out those nations carrying a heavy burden of malnutrition face substantial economic losses because of less human-capital buildup and slower labor productivity. Therefore, in practice, investments in maternal and child nutrition should be treated as essential inputs for public health, economic development, and long term sustainable growth, not as something optional.

Existing Policies and Nutrition Programs in Pakistan

Recognizing the substantial burden of malnutrition, the Government of Pakistan, in collaboration with international development partners, has implemented several nutrition-specific and nutrition-sensitive interventions aimed at improving maternal and child health outcomes. The overall idea is to deal with the big burden of malnutrition and to help strengthen maternal and child health results. In practice, these efforts aim at both the immediate pressures and the deeper root issues behind malnutrition, sort of by using coordinated multisectoral ways of doing things.

The Pakistan Multi-Sectoral Nutrition Strategy 2022–2026 serves as the primary policy framework for improving nutritional outcomes nationwide. This strategy highlights maternal nutrition, infant and young child feeding practices, micronutrient supplementation, food fortification, and community based nutrition interventions. At the same time, it keeps pushing for cooperation across health, agriculture, education, water and sanitation, and social protection sectors (Government of Pakistan, 2022)

The Benazir Nashonuma Programme represents one of Pakistan's most significant nutrition-sensitive social protection effort, in a way. It is implemented under the Benazir Income Support Programme (BISP), and it gives conditional cash transfers plus nutritional counseling, alongside growth monitoring support, mainly for pregnant women and mothers with young children, aiming to curb stunting and raise maternal nutrition quality (BISP, 2024).

Lady Health Worker (LHW) Programme which still keeps a very central part in delivering primary healthcare together with nutrition services right at the community level. Through household outreach, Lady Health Workers do a lot of promotion

around mother and child wellbeing, breastfeeding routines, immunization, and general nutrition awareness, especially in rural and other underserved locations (Ministry of National Health Services, 2023).

Pakistan has also taken on Community Management of Acute Malnutrition CMAM programmes, to find and deal with children who are suffering from severe acute malnutrition. You know these interventions have gotten more and more meaningful especially in disaster prone and food insecure areas, like Sindh, Balochistan and KP-NMD. On top of that, UNICEF, WHO, WFP, FAO and the World Bank still back Pakistan through nutrition surveillance, emergency nutrition response efforts, food security initiatives, and also health system strengthening actions (UNICEF, 2024; WHO, 2024).

Despite these efforts, progress toward national and global nutrition targets still seems a bit not enough, like there is no real momentum. Strengthening the way institutions coordinate, expanding community services that are more close to people, raising nutrition financing , and improving programme monitoring will end up being key things needed in order to speed up better results for maternal and child nutrition outcomes .

Table 1: Provincial Child Malnutrition Comparison (Stunting, Wasting & Underweight)

Table 1 presents a comparative assessment of child malnutrition indicators across provinces and regions of Pakistan, highlighting significant disparities in nutritional outcomes

Province / Region	Stunting (%)	Wasting (%)	Underweight (%)	Severity
Balochistan	49.4	20.3	31.0	Critical
Sindh	40.4	28.1	41.3	Critical
KP-NMD (Ex-FATA)	42.0	24.6	29.0	Critical
Khyber Pakhtunkhwa	37.3	16.6	23.1	High
Punjab	33.0	19.3	23.5	Moderate
Gilgit-Baltistan	32.0	9.4	21.0	Moderate
AJK	37.0	11.0	25.0	High
Islamabad (ICT)	32.6	12.1	18.5	Moderate

Source: National Nutrition Survey (2018), UNICEF Pakistan (2024), WHO Pakistan Nutrition Profile (2024)

Table 1 indicates that Balochistan has the highest burden of chronic malnutrition, as reflected by stunting, while Sindh records the highest levels of wasting and underweight children. KP-NMD also remains a critical region because acute malnutrition is intensified by displacement, limited health infrastructure, and food insecurity. Although Punjab shows comparatively lower prevalence rates, its large population means that it contributes substantially to the national absolute burden of malnutrition.

Province-Wise Challenges and Strategic Responses

Although malnutrition remains a nationwide concern, the nature and severity of nutritional challenges vary considerably across provinces. Consequently, policy interventions must be tailored to regional contexts rather than relying solely on uniform national approaches.

Table 2: Province-wise Malnutrition Challenges and Strategic Responses in Pakistan

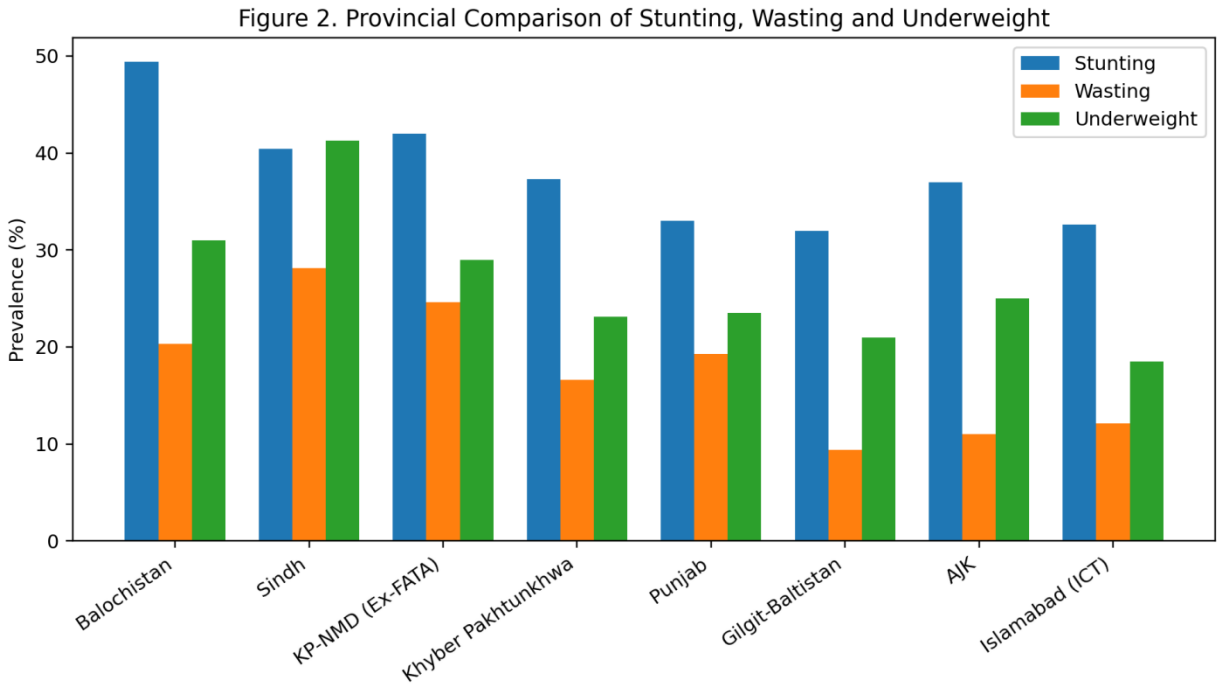
Province/Region	Major Nutrition Challenge	Key Contributing Factors	Strategic Response
Balochistan	Highest stunting (49.4%)	Poverty, food insecurity, poor healthcare access, low maternal education	Expand community nutrition programs, strengthen maternal healthcare, improve food security interventions
Sindh	Highest wasting (28.1%) and underweight (41.3%)	Flood impacts, food insecurity, poor sanitation, limited dietary diversity	Emergency nutrition programs, CMAM expansion, climate-resilient food systems
Khyber Pakhtunkhwa	Moderate stunting and wasting	Rural poverty, healthcare gaps, food insecurity	Improve primary healthcare services and maternal nutrition programs
KP-NMD	Severe acute	Conflict legacy,	Mobile health services, nutrition

	malnutrition	displacement, limited health infrastructure	surveillance, targeted humanitarian assistance
Punjab	Large absolute burden due to population size	Rural inequalities, dietary deficiencies, poverty pockets	Strengthen nutrition-sensitive social protection and maternal-child health services
Gilgit-Baltistan	Geographic isolation	Difficult terrain, limited healthcare access	Expand outreach health services and nutrition education
AJK	Chronic malnutrition pockets	Poverty and healthcare disparities	Community-based nutrition interventions and maternal care programs
Islamabad Capital Territory	Persistent urban malnutrition	Urban poverty and food quality issues	Target vulnerable urban populations through nutrition-sensitive policies

Source: National Nutrition Survey (2018), UNICEF Pakistan (2024), WHO Pakistan Nutrition Profile (2024)

The table demonstrates that while Balochistan and Sindh remain the most severely affected provinces; all regions continue to face significant nutritional challenges requiring localized policy responses. Addressing regional disparities will be essential for achieving national nutrition targets and reducing inequalities in health outcomes.

Figure 1. Provincial Comparison of Stunting, Wasting and Underweight



Source: National Nutrition Survey (2018), UNICEF Pakistan (2024), WHO Pakistan Nutrition Profile (2024)

Figure 2 visually demonstrates the uneven distribution of child malnutrition across Pakistan. Balochistan looks like it has the highest stunting rate, so it suggests persistent chronic nutritional deprivation; you know the kind that builds up over time. Meanwhile Sindh has the most worrying acute malnutrition pattern, especially when it comes to wasting and underweight. Taken together, these results back a dual policy approach: for Balochistan aim for long-term chronic malnutrition reduction, and for Sindh as well as KP-NMD push urgent therapeutic nutrition care alongside prevention based nutrition interventions, rather than treating it all as one issue

Future Policy Directions

Dealing with maternal and child malnutrition in Pakistan really needs a mix of integrated, evidence based actions, that work at the same time on the immediate nutritional lack, and also on those wider social economic reasons behind malnutrition,

you know. The next policy focus points below are suggested, so progress can speed up toward our national nutrition targets and the Sustainable Development Goals too.

1. Strengthening Maternal Nutrition Services

Maternal nutrition should still be treated like a national priority, especially as antenatal care services keep being expanded. That means, iron folic acid supplementation, some nutritional counseling, and a set of micronutrient interventions should be continued too. In practice, the most careful focus needs to stay on adolescent girls and women of reproductive age, because they are still very vulnerable to anemia, as well as nutritional gaps (WHO, 2024; Owais et al., 2025).

2. Expanding Early Childhood Nutrition Interventions

Nutrition actions for young children during early childhood need to be pushed further, with breastfeeding promotion included, plus complementary feeding programs. Alongside that, growth monitoring should be handled routinely, and micronutrient supplementation has to be sustained. The literature suggests that investments made in this short but crucial developmental window lead to meaningful health gains and stronger economic outcomes (Victora et al., 2021).

3. Enhancing Food Security and Social Protection

Nutrition sensitive social protection programs, such as the Benazir Nashonuma Programme should be broadened a bit more, so that household food security actually improves and dietary diversity gets a lift for vulnerable groups. In general, conditional cash transfer programs have shown real promise for bettering maternal and child nutritional outcomes too (BISP, 2024).

4. Improving Water, Sanitation, and Hygiene (WASH)

Putting resources into safe drinking water, better sanitation infrastructure, and hygiene promotion matters a lot because infectious diseases still play a big role in causing malnutrition. If WASH interventions are stitched into nutrition policies, child health outcomes can improve quite a lot (UNICEF, 2024).

5. Building Climate-Resilient Nutrition Systems

Climate shocks, with floods, droughts, heatwaves mixed in, are starting to hit Pakistan's food security and nutritional wellbeing more often. That is why building climate resilience across agriculture, food systems, and emergency nutrition programs is crucial, so vulnerable people are not left exposed to the next crises (FAO, 2024).

6. Strengthening Nutrition Governance and Surveillance

Better nutrition surveillance systems, plus regular national nutrition assessments, and more solid coordination across health, agriculture, education, and social protection sectors they all matter, really for evidence-based policymaking. In addition, in the middle of that, good governance and ongoing investment will be critical to reach longer-term gains in maternal and child nutrition (Government of Pakistan, 2022).

Altogether, these policy directions come together like a strategic road map for cutting down malnutrition, upgrading public health outcomes, and building stronger human capital development in Pakistan.

Conclusion

Maternal and child malnutrition is still one of the most pressing public health, and development challenges in Pakistan. Even with some noticeable improvements in a few nutrition indicators, a big share of children keep dealing with stunting, wasting, being underweight, anemia, and micronutrient deficiencies, pretty much at the same time. At the same point, women of reproductive age remain exposed to undernutrition and anemia, and there is the rising load of overweight and obesity that just keeps growing.

The analysis shows there are big differences between provinces when it comes to nutrition results. Balochistan seems to carry the heaviest load of long-term chronic malnutrition. At the same time, Sindh is dealing with the most acute malnutrition crisis, the one that is immediate. Khyber Pakhtunkhwa and the newly merged districts still show high vulnerability, linked to poverty, displacement, and weak healthcare infrastructure. Punjab, although it has comparatively lower prevalence numbers, still adds a lot to the national malnutrition picture because its population is so large, so it does not really disappear.

Addressing these challenges means we need coordinated, multi-sector action that really touches healthcare nutrition, education, agriculture, social protection, water, sanitation, and climate resilience, at the same time. If we do not line those up

properly, a lot of things kind of slip. Strengthening maternal nutrition services, improving food security, broadening social safety nets, and upgrading nutrition surveillance systems will be key if we want to reach the Sustainable Development Goals tied to hunger, health, and well-being. It also takes long-term political commitment and policies that were based on solid evidence; otherwise, the whole plan just will not hold. Pakistan needs that, for a healthier, and frankly more productive, future ahead.

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