EVALUATION REPORT
GLOBAL HUNGER CRISIS:
CASH 'PLUS' NUTRITION

February 2026
Taiz and Lahj, Yemen
Funded by SCUS TAD Award

Save the Children

CASH FOR NUTRITION

YEMEN

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Acronyms

adjFPC	Finite Population Correction adjustment
BL	Baseline
CU5	Children under 5 (years of age)
CVA	Cash and Voucher Assistance
EL	Endline
ERC	Ethics Review Committee
GAM	Global Acute Malnutrition
HH	Household
IDPs	Internally Displaced Persons
IPC	Integrated Food Security Phase Classification
MAD	Minimum Acceptable Diet
MDD-C	Minimum Dietary Diversity for Children (6–23 months)
MDD-W	Minimum Dietary Diversity for Women (15-49 years)
MENA	Middle East and North Africa
MPCA	Multipurpose Cash Assistance
MUAC	Mid-upper Arm Circumference
MUACZ for Height	MUAC Z-scores for Height
NFIs	Non-food Items
PDM	Post-distribution Monitoring
PLW	Pregnant and Lactating Women
PP	Percentage Point
RF4BN	Resourcing Families for Better Nutrition
rCSI	Reduced Coping Strategies Index
SBCC	Social Behavior Change Communication
SCI	Save the Children International
SCUS	Save the Children USA
TAD	Transformational Anonymous Donor
USD	United States Dollar
WHZ	Weight-for-Height Z-score
WASH	Water, Sanitation, and Hygiene

Executive Summary

Project Background

The combined impact of climate change, conflict and inequality is preventing families from accessing food and threatening children's futures. With 70% of the world's hungry living in conflict zones, conflict is the biggest driver of hunger. In addition, with the number of climate-related disasters tripling in the past 30 years, climate shocks are decimating farming communities and driving displacement, resulting in millions of families not being able to access enough food. Yemen has consistently been the poorest and most food insecure country in the MENA region, with concerning levels of malnutrition, long before the conflict. Currently, nearly half of the population cannot meet the minimum needs of food consumption. Based on the UNICEF 2023 annual report, the national poverty rate in Yemen is around 75%, and over 80% of the country's population struggles to access adequate nutrition, safe drinking water and health services. The latest Integrated Food Security Phase Classification (IPC) conducted in the southern governorates (from October 2023 to February 2024) indicated 4.56 million people experiencing Emergency IPC Phase 4 food insecurity at risk of famine.

Project Overview

Project name: Global Hunger Crisis

Project locations: Taiz and Lahj, Yemen

Study Timeline: January – December 2025

Donor: SCUS TAD

Thematic areas: MPCA (6 monthly transfers) and Nutrition Education

Malnutrition among children in Yemen is also widespread, with many suffering from acute malnutrition (UNICEF, 2023). An estimated 1.3 million pregnant and lactating women (PLW) and 2.2 million children under five need treatment for acute malnutrition[1]. Children under five face alarmingly high rates of malnutrition with 49% suffering from chronic malnutrition, 21% being severely stunted and 17% suffering from wasting[2].

One element of Save the Children's hunger crisis response in Yemen – Resourcing Families for Better Nutrition (RF4BN) or cash 'plus'[3] – aimed to deliver life-saving assistance to conflict-affected and food-insecure families and children in the governorates of Taiz and Lahj through an integrated multipurpose cash, nutrition, and WASH program.

This report provides an evaluation of the implementation of RF4BN in Yemen, assessing 1) the effects of multipurpose cash assistance (MPCA) in conjunction with nutrition-sensitive social and behavior change communication (SBCC) interventions on sustaining recovery among children under the age of five (5) and improving nutritional status of their mothers; and 2) the effects of MPCA and nutrition education on prevention of wasting relapse among children under the age of five (5).

A pilot longitudinal study was conducted to evaluate the *impact of cash assistance in addition to nutrition education on improving maternal and child nutrition outcomes.* This study aimed at answering the following questions:

- ✓ **Cohort 1:** *To what extent can MPCA and nutrition-sensitive social behavior change (SBC) assistance sustain treatment outcomes (recovery) among children under five (CU5)?*
- ✓ **Cohort 2:** *To what extent can MPCA and nutrition-sensitive social behavior change (SBC) assistance prevent (wasting) relapse among children under five (CU5)?*
    - *Has targeting households with wasted children caused any harm? What considerations should be taken to prevent or mitigate associated risks?*

[1] https://www.actionagainsthunger.org/story/after-9-years-of-conflict-yemen-is-still-one-of-the-worlds-worst-humanitarian-crises/
[2] Multiple Indicator Cluster Survey (MICS) 2022-2023
[3] RF4BN in the First 1,000 Days provides a comprehensive approach to reducing maternal and child undernutrition, in particular stunting and wasting, in development and humanitarian contexts. The approach combines regular cash transfers that are designed and implemented to maximize impacts on nutrition, with a contextually informed package of social behavior change communication (SBCC), linkages to basic maternal and child health and nutrition services, and additional context-appropriate, nutrition-specific interventions.

Summary of Findings

The Cash for Nutrition intervention delivered under the RF4BN model in Taiz and Lahj, Yemen, demonstrates that predictable multipurpose cash assistance (MPCA) combined with targeted, contextually tailored Social and Behavior Change Communication (SBCC) can meaningfully improve the nutritional wellbeing of children and their mothers, while strengthening household food security and hygiene practices in one of the most challenging humanitarian environments.

Cohort 1

This study partially addresses the question: "*To what extent can MPCA and nutrition-sensitive social behavior change (SBCC) assistance sustain treatment outcomes (recovery) among children under five (CU5)?*" Households in **Cohort 1** experienced substantial improvements in food security, basic needs coverage, dietary diversity, and hygiene practices over the six-month intervention period. Household food security strengthened considerably, with the average rCSI score decreasing by more than 15 points and the proportion of households in IPC Phase 3 or worse falling from **54.9% at baseline to 9.7% at endline**. These gains were particularly dramatic in Lahj, where nearly all households transitioned from stressed or crisis level food insecurity into IPC Phase 1 (Minimal). Taiz households also demonstrated meaningful reductions in negative coping strategies, although a sizable proportion remained moderately food insecure, reflecting deeper livelihood constraints.

Household capacity to meet basic needs improved sharply. At baseline, more than 60% of households could meet only "some" of their needs, but by endline, **60.9% reported meeting "all or most" needs**, signaling a major shift toward greater stability. Households increasingly prioritized health and hygiene needs and were better able to purchase essential items. Expenditures on nutritious foods such as eggs, lentils, and vegetables rose significantly, indicating enhanced food access and improved dietary choices.

Maternal dietary diversity showed strong gains, with women consuming nearly three additional food groups at endline compared to baseline. The proportion of women meeting minimum dietary diversity increased from **5.8% to 71.8%**, driven by increases in animal source foods, pulses, dairy, fruits, and vegetables. Children's diets improved concurrently: more children met minimum dietary diversity, and consumption of nutrient rich foods increased substantially across governorates. However, a rise in sweet beverage and unhealthy snack consumption indicates the need for continued reinforcement of healthy dietary choices.

Hygiene practices and related knowledge strengthened as well. Caregivers consistently demonstrated improved handwashing practices at high-risk moments such as after handling child stools and before feeding children. Knowledge gains were strongest for fecal oral transmission risk points, although awareness of food related critical moments declined slightly despite continued high practice levels. Overall, households demonstrated improved hygiene capacity, supported by greater water availability, increased access to handwashing facilities, and reduced hygiene related unmet needs.

Across these domains, the findings demonstrate that MPCA combined with SBC supported meaningful improvements in food security, nutrition, care practices, and household wellbeing. While governorate level differences reflect underlying contextual disparities, the overall pattern shows that predictable cash transfers, paired with consistent, practical SBCC, strengthened households' ability to stabilize diets, improve care and hygiene practices, and build resilience against nutrition related risks.

Cohort 2

This study answers the question: "*To what extent can MPCA and nutrition-sensitive social behavior change (SBC) assistance prevent (wasting) relapse among children under five (CU5)?*" A quasi-experimental longitudinal study followed 181 mother–child pairs from baseline to endline, complemented by focus group discussions with caregivers. Children discharged from wasting treatment remained highly vulnerable to relapse, with 46% experiencing acute malnutrition within 90 days of discharge at baseline, highlighting the fragility of recovery without continued support. During the five-month follow-up period, the prevalence of acute malnutrition declined significantly to 21%, alongside substantial reductions in relapse. Children receiving

Cash plus Social and Behavior Change Communication (SBCC) support maintained broadly stable anthropometric status and experienced relatively low relapse prevalence (10%), suggesting that targeted household support during the early recovery period may help sustain post-treatment recovery. Children requiring continued wasting treatment alongside Cash plus SBCC demonstrated greater improvements in weight-related indicators but remained more vulnerable to relapse due to poorer baseline nutritional status. Beyond nutritional outcomes, the programme was associated with improvements in household food security, caregiving practices, and hygiene behaviors. Overall, the findings suggest that the RF4BN model shows promise in supporting sustained recovery and reducing relapse when implemented during the critical post-treatment period and combined with effective wasting treatment in highly food-insecure contexts such as Yemen.

Children's dietary diversity increased sharply, demonstrating improved access to and consumption of nutrient dense foods. The proportion of children meeting minimum dietary diversity rose by 47.6 percentage points between baseline and endline. Consumption of diverse food groups—including animal source foods, legumes, dairy, fruits, and vegetables—expanded across both governorates. Focus group discussions revealed that caregivers attributed these improvements to clearer feeding priorities, better understanding of nutrition messages, and enhanced ability to purchase a wider range of foods using MPCA.

Household food security improved dramatically during the six-month intervention. Food Consumption Scores shifted almost universally into the acceptable range, rising from only 1.6% of households at baseline to 93.4% at endline. Households reported an increased ability to meet their basic needs while reducing dependence on harmful coping strategies. These improvements suggest that predictable, monthly cash assistance significantly eased financial pressures and enabled families to prioritize food purchases despite ongoing economic instability.

Improvements were also observed across water, sanitation, and hygiene (WASH) indicators. Access to water rose by 37 percentage points, and more households were able to collect water within 30 minutes, aligning with global accessibility standards. Access to handwashing facilities with soap and water increased by 21 percentage points, reflecting strengthened hygiene capacities.

Caregiver knowledge and practices strengthened in parallel with improvements in children's nutrition and household food security. Caregivers demonstrated better understanding of feeding practices, hygiene behaviors, and the nutritional needs of children. Qualitative findings highlighted that SBC messages were clear, practical, and reinforced across touchpoints, enabling caregivers to integrate new practices into daily routines. Many caregivers described feeling more capable of feeding their children higher quality diets, managing illness, and maintaining hygiene, noting tangible improvements in children's health and reduced frequency of illness.

Community perceptions of the program were generally positive. Caregivers reported broad acceptance of the intervention and clear understanding of targeting criteria, with minimal tensions observed within communities. They frequently described the MPCA as easing the burdens of daily survival, enabling purchases of foods and essential hygiene supplies that had previously been unaffordable. These perspectives underscore not only the relevance of the program but also its perceived fairness, transparency, and value to participating households.

Recommendations

Cohort 1

The following recommendations are proposed when considering the provision of CVA to achieve nutrition outcomes that may be relevant to the country of intervention (Yemen) and beyond:

- ✓ **Integrate SBCC with CVA at Scale:** Expand the combined cash and nutrition education model to ensure that households not only have resources to purchase food but also the knowledge to make informed dietary choices.
- ✓ **Increase Access to Health and WASH Services:** Pair cash transfers with improved access to essential health services, clean water, and sanitation facilities to reduce disease burden and reinforce nutrition gains.

- ✓ **Strengthen Maternal Knowledge and Behavior Change:** Develop targeted SBCC strategies focusing on complementary feeding practices, dietary diversity standards, and hygiene behaviors to close gaps between knowledge and the adoption of recommended practices as identified in the evaluation.
- ✓ **Introduce Flexible and Secure Payment Mechanisms:** Consider – whenever feasible - bank-based transfers to reduce travel burdens and improve safety, as participants highlighted challenges with distance and timing of distribution.
- ✓ **Future Research:** Future studies should incorporate longitudinal anthropometric measurements for children discharged from treatment programs to directly assess sustained recovery and relapse prevention. This will strengthen evidence on the effectiveness of cash plus SBCC interventions in maintaining treatment gains.

Cohort 2

The following recommendations apply when considering the use of cash plus to support children after their successful discharge from acute malnutrition treatment programme. They aim to protect the recovery window and sustain recovery by integrating financial support with wasting treatment, prioritizing high-risk children early post-discharge period, and addressing the underlying determinants of malnutrition in Yemen or similar contexts.

- ✓ **Integrate the RF4BN model (Cash Plus SBCC) within broader CMAM programming to protect early post-treatment recovery window and reduce relapse risk.** Cash Plus SBCC support should be provided for at least 3–6 months following treatment discharge, the period identified as having the highest vulnerability to relapse, while efforts are made to transition households toward longer-term solutions that strengthen food security and resilience.
- ✓ **Strengthen post-treatment follow-up systems:** Improve linkages between CMAM, cash assistance, health services, and SBC, and systematically track discharge dates, treatment history, and early signs of relapse.
- ✓ **Reinforce WASH integration:** Link cash and SBC more strongly with hygiene behaviors and support low-cost household WASH improvements where operationally feasible.
- ✓ **Improve monitoring and data systems:** Strengthen data collection on treatment timelines, relapse, and include periodic post-intervention follow-ups to assess sustained outcomes.
- ✓ **Examine wider wellbeing outcomes:** Include caregiver mental health, intra-household food allocation, decision-making power, and health-seeking behaviors in future studies.
- ✓ **Future Research:** Conduct comparative and longitudinal research to strengthen causal evidence on the role of RF4BN (Cash Plus SBCC) in sustaining post-treatment recovery and preventing relapse. Future studies should include appropriate comparison groups—such as children receiving CMAM alone, Cash Plus SBCC alone, combination of both and standard post-treatment follow-up—to better isolate the contribution of cash assistance and behavior change interventions to recovery outcomes.
- ✓ The programme team should study the repeated relapse cases identified among the Cash Plus SBBC with wasting treatment group to understand more about the compounding vulnerabilities at various levels (household, health system and care etc.) to inform better programming in future.

Introduction & Project Background

Yemen has consistently been the poorest and most food insecure country in the MENA region, with concerning levels of malnutrition, long before the conflict. Food insecurity continues to be a major issue, limiting access to adequate nutrition, with pockets of the country experiencing extreme hunger. According to Yemen Multi-Indicators Cluster Survey 2022-2023 (MICS-6), approximately three-fourths (75%) of the households are experiencing moderate or severe food insecurity. Globally, Yemen has extremely high child malnutrition rate, driven by a weakened economy, limited financial resources, rising food prices, insufficient food consumption, protracted large-scale displacement, infectious diseases, and conflict. According to MICS-6, nearly half of the children (48.6%) aged 6-59 months in Yemen has been suffering from chronic malnutrition (stunting), 16.9% moderately or severely wasted (SAM/MAM), while 41% are underweight. As such, 2.7 million pregnant and lactating women (PLW) and five million children under five needed life-saving humanitarian nutrition interventions, contributing to the reduction of anemia and promoting proper fetal development.

The latest Integrated Food Security Phase Classification (IPC) conducted in the southern governorates (from October 2023 to February 2024) indicated 4.56 million people experiencing Emergency IPC 4 food insecurity at risk of famine. 75% of the household populations experienced food insecurity in the last 12 months[4]. Many families facing acute food insecurity adopt negative coping mechanisms, including parents skipping meals, early marriage for girls and engaging their children in dangerous forms of labor.

Conflict has severely damaged healthcare infrastructure, leaving many, especially in rural areas, without essential services. High maternal and infant mortality rates persist due to limited access to skilled birth attendants, inadequate prenatal care, and this dearth of essential maternal and newborn care services (WHO, 2023). Shortages of qualified personnel, medical supplies, and proper sanitation facilities are also impacting the entire healthcare system. The collapse of the healthcare system has led to a precipitous decline in immunization coverage, leaving children vulnerable to preventable diseases.

Malnutrition among children in Yemen is also widespread, with many suffering from acute malnutrition (UNICEF, 2023). An estimated 1.3 million pregnant and lactating women (PLWs) and 2.2 million children under five need treatment for acute malnutrition. Children under five face alarmingly high rates of malnutrition[5]49% suffering from chronic malnutrition, and 21% being severely stunted[6]. Additionally, 17% are moderately or severely wasted or acutely malnourished, while 41% are underweight.

Yemen is also one of the most water-stressed countries in the world. According to the Humanitarian Needs Overview 2024, prolonged droughts, depleting groundwater, climate change, and decreasing rainfall have left 80% struggling to access safe water. Additionally, WASH systems and services throughout the country have suffered from damage and underdevelopment, resulting in 17.4 million people in need of WASH assistance in 2024, and has forced many vulnerable households to use unsafe water sources. Only 22% of rural population and 46% of urban population have access to partially functioning public water networks. The WASH Cluster reports that 55% of the population lack improved water sources, while 167 districts need sanitation support; 45% lack soap, and 60% leave waste in public areas. Population displacement and lost livelihoods have led communities to negative WASH coping mechanisms. The challenges of accessing WASH and health facilities are greater for PLW, adolescent girls, young children, older people, and persons with disabilities due to social norms, or the lack of inclusive WASH infrastructure.[7]

If children and families have access to basic needs and high-quality health and nutrition services, then maternal and child morbidity and mortality will decrease, and wellbeing will improve. Therefore, Save the Children's hunger crisis response in

[4] YEMEN MICS MULTIPLE INDICATOR CLUSTER SURVEY | UNICEF Yemen

[6] Multiple Indicator Cluster Survey (MICS) 2022-2023
[7] Yemen_HNO_2024.pdf

CASH FOR NUTRITION

YEMEN

Yemen – Resourcing Families for Better Nutrition (RF4BN) or cash 'plus'[8] – aimed to deliver life-saving assistance to conflict-affected and food-insecure families and children in the governorates of Taiz and Lahj through an integrated multipurpose cash, nutrition, and WASH program.

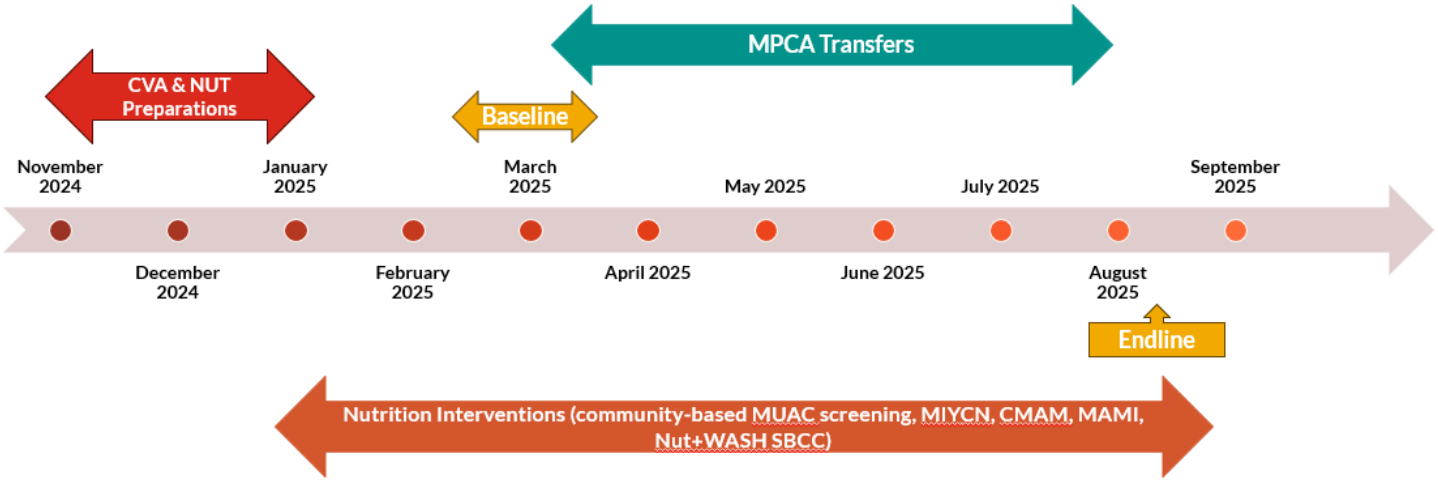
RF4BN Implementation

In Yemen, SC implemented RF4BN, funded by SCUS TAD in the governorates of Lahj and Taiz. The RF4BN in the First 1,000 Days provides a comprehensive approach to reducing maternal and child undernutrition, in particular stunting and wasting, in development and humanitarian contexts (Save the Children, 2018). The approach combines cash transfers that are designed and implemented to maximize impacts on nutrition, with a contextually informed package of social behavior change communication (SBCC). In Yemen, RF4BN interventions complement curative services for wasting (ie CMAM) with linkages to basic maternal and child health services.

In Taiz and Lahj, Yemen, two distinct cohorts were designed to address critical gaps in the continuum of malnutrition care. The intervention for each cohort combined Multipurpose Cash Assistance (MPCA) with a tailored package of nutrition-specific and nutrition-sensitive SBCC, contextualized to the severe constraints of Yemen's humanitarian crisis.

Cohort 1 was designed with a preventive focus, targeting households with children under five who were identified as at high risk of acute malnutrition but who had not recently undergone treatment. The objective was to evaluate the potential of cash and counseling to avert the onset of wasting in a food-insecure and shock-prone environment. Each eligible household received six consecutive monthly unconditional cash transfers, averaging 150 USD (242,000 YER), providing families with the flexibility to address their most pressing needs. The accompanying SBCC messaging was focused on preventive nutrition and health practices, emphasizing maternal diet, allocation of nutritious foods within the household, and early detection of malnutrition signs, alongside core WASH and care-seeking behaviors.

Figure 1 *Cohort 1 Implementation and Research Timeline*



Cohort 2 targeted households with children under five who had been discharged as "cured" from treatment for Severe or Moderate Acute Malnutrition (SAM/MAM) during the past 90 days prior to the addition of MPCA. The intervention aimed to test whether sustained economic support, paired with nutrition education, could prevent relapse and solidify recovery. These households received the same scale and duration of MPCA—six monthly transfers of equivalent value. This MPCA was integrated with a structured SBCC component that focused on sustaining positive feeding practices, including continued dietary diversity, appropriate infant and young child feeding (IYCF), and hygiene behaviors. The program also facilitated

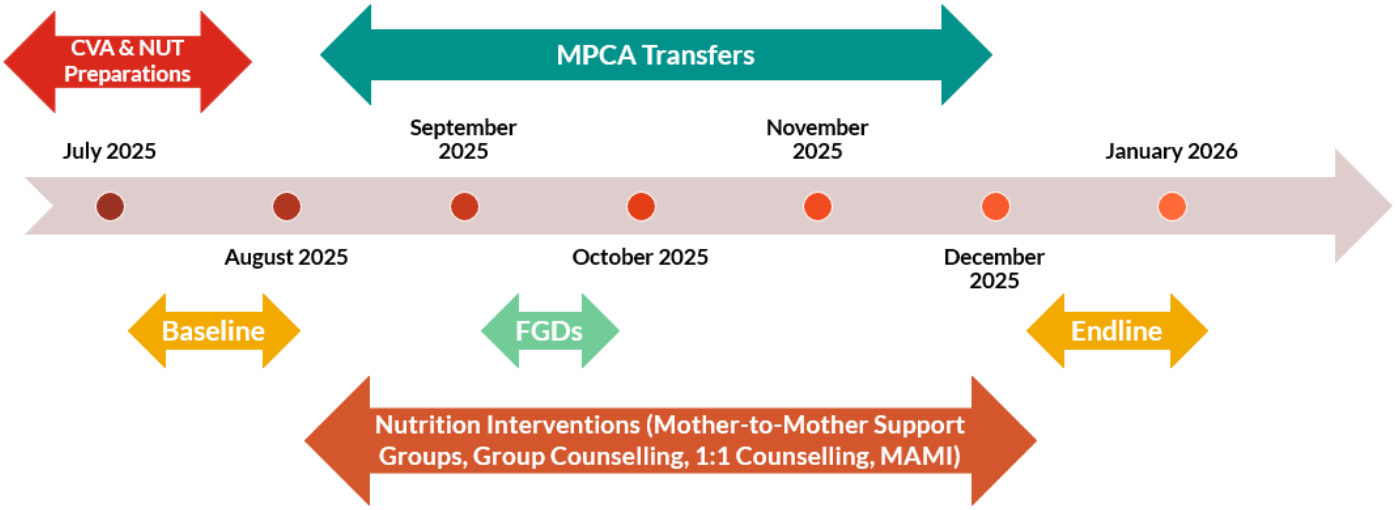
[8] RF4BN combines cash transfers with a contextually informed package of SBCC, linkages to basic maternal and child health and nutrition services, and additional context-appropriate, nutrition-specific interventions.

linkages to health and WASH services where access is permitted, creating a "cash-plus" model designed to protect nutritional gains in the vulnerable post-treatment period. Children who were identified with SAM or MAM after enrollment into the cohort at the baseline were referred back to the wasting treatment program and readmitted for treatment.

For both cohorts, the SBCC efforts were delivered through community-based channels, including health workers, community volunteers, and awareness sessions, aiming to transform knowledge into practice. The MPCA was primarily distributed via mobile teams or bank transfers, where feasible, though operational challenges related to access and security influenced delivery mechanisms.

In this study, each cohort was assessed twice—once at the baseline or before the start of the intervention and again at endline or after the last/sixth cash transfer.

Figure 2 *Cohort 2 Implementation and Research Timeline*



Evaluation Background & Scope

Evidence Gaps

Acute malnutrition affects millions of children under five (CU5) and pregnant and lactating women (PLW) globally, especially in humanitarian settings. CU5 are especially vulnerable to the impacts of food insecurity due to increased nutritional needs during this critical period of child development; and food insecure children have heightened risk of acute malnutrition (also referred to as wasting throughout this paper), morbidity and mortality (Doocy et al., 2020).

Cash and Vouchers Assistance (CVA), also known as cash transfers, is increasingly used to address household food security and nutrition in humanitarian settings. However, the evidence on the effectiveness and cost-effectiveness of various combinations and components of these interventions for prevention of wasting, especially when being implemented in such complex and fragile settings, needs further study (Doocy & Tappis, 2017).

CVA has proven to be cost-effective for improving food security, especially as mobile and direct bank transfer mechanisms can help reduce logistical costs, making cash a viable option even in challenging humanitarian contexts (Tappis & Doocy, 2018). When combined with education or behavior change support, cash transfers can further enhance food security and dietary intake outcomes by enabling recipients to make informed choices about their food needs (Trenouth et al., 2023). However, this existing evidence is largely positive on intermediate outcomes such as food security and dietary diversity of individuals, but it is mixed when it comes to nutrition outcomes such as prevention of acute malnutrition in humanitarian settings (Woodward et al., 2018). Given these knowledge gaps, the need for additional research to assess the impact of various cash and 'cash plus' interventions in humanitarian settings have been emphasized. As such, building on existing evidence, the present study explores the effects of cash 'plus' or RF4BN in Yemen.

Evaluation Purpose & Questions

A quasi-experimental longitudinal study[9] was conducted to assess the effectiveness of cash plus nutrition in sustaining treatment outcomes and preventing relapse of wasting among children under 5. This study explored the following questions:

- ✓ **Cohort 1:** To what extent can MPCA and nutrition-sensitive social behavior change (SBC) assistance *sustain treatment outcomes (recovery)* among children under five (CU5)?
- ✓ **Cohort 2:** To what extent can MPCA and nutrition-sensitive social behavior change (SBC) assistance *prevent (wasting) relapse* among children under five (CU5)?
    - Has targeting households with children who are wasted caused any harm? What considerations should be taken to prevent or mitigate associated risks?

The study covers the following domains:

- Children's dietary diversity
- Maternal dietary diversity
- Maternal nutrition and WASH knowledge and practice
- Household food security: ability to meet their basic needs, reliance on negative coping strategies in the absence of food or money

In **Cohort 1**, all participants received monthly MPCA transfers (averaging 150 USD / 242,000 YER) for six (6) consecutive months and nutrition[10]. In **Cohort 2,** all participants received monthly MPCA transfers (averaging 150 USD / 242,000 YER) for six (6) consecutive months and nutrition activities. Children identified with SAM or MAM after enrollment were referred to wasting treatment services while continuing to receive monthly MPCA transfers and SBC nutrition activities.

Methodology & Limitations

Data Collection

Sampling Methodology & Sample Size

The following 'comparative for proportion' formula was used to calculate sample size. A sample of the households were surveyed at baseline (0 months) and endline (6 months). Since our total reach was only 1,400 households and our sample size (812) was greater than 5% of our total population (target), we adjusted for finite population, **resulting in a final sample size of 500 for two-stage cluster sampling methodology.**

- **Cohort 1: Total sample size (two-stage cluster sampling): 500 HHs with children at-risk of malnutrition**
    - **250 per governorate**
    - **Sampling interval to select HH for baseline:** 1400/500 = 2.8
        - Randomly selected every 3rd household that is enrolled to interview
- **Cohort 2: Total sample size (SRS): 220 HHs with children discharged from wasting treatment**
    - 101 or 46% in Lahj and 119 in Taiz
    - **Sampling interval to select HH for baseline:** 680/220 = 3.1
        - Randomly selected every 3rd household that is enrolled to interview

[9] Non-panel for cohort 1 and panel for cohort 2.
[10] SBCC messaging focused on preventive nutrition and health practices, emphasizing maternal diet, allocation of nutritious foods within the household, and early detection of malnutrition signs, alongside core WASH and care-seeking behaviors.

Table 1 *Sample Size Calculation for Comparative Analysis*

Indicator	% of HHs with acceptable FCS Cohort 1	% of HHs with IPC Phase 3+ rCSI Cohort 2	MDD-C Cohort 1	MDD-C Cohort 2
P1	0.4	0.55[11]	0.5	0.02[12]
P2	0.5	0.45	0.6	0.12
CL	95	95	95	95
Power (always use .8)	0.8	0.8	0.8	0.8
DE (use 1 for one-stage sampling, use 2 for two-stage sampling)	2	2	2	2
Ind. or HH indicator	HH	HH	Ind	Ind
Non-resp./Attrition	10	5	10	5
Final size	**678**	**649***	**812***	**200**
adjFPC	**---**	**427**	**500**	**---**

Data Collection Tools

The **Cohort 1** household questionnaire collected the following data:

- Demographics
  - Adults: age, gender, head of household status
  - Children: age, gender
- HH Economic & Food Security Status
  - Ability to meet basic needs
  - Reliance of negative coping strategies in the absence of money or food
- Maternal and Child Nutrition
  - Child's dietary diversity
  - Mother's dietary diversity

The PDM monitored the households' satisfaction with cash assistance; difficulty accessing the assistance, including fraud; household utilization of cash; and cash decision-makers in the household.

The **Cohort 2** questionnaire collected the following data:

- Child age, gender
- Child anthropometrics: weight, height, Middle-upper Arm Circumference (MUAC), Weight-for-Height Z-score (WHZ), and MUAC for Height Z-score (MUACZ for Height)
- Maternal Knowledge of Hygiene and Child Feeding Practices
- Household Food Security

Data Analysis

Baseline and Endline data were compiled into a single dataset and analyzed in Stata version 18. Exploratory data analysis was performed, examining descriptive statistics such as means and standard deviations for numerical variables and counts and percentages for participant descriptive characteristics and categorical variables of interest (ability to cover basic needs, rCSI, etc.) at each time point and by governorate. Any outliers were checked for accuracy and corrected or omitted as needed, and

[11] Source: TAD/Yemen Baseline 2025 (rCSI IPC Phase 3 or worse = 55%)
[12] Source: TAD/Yemen Baseline 2025 (MDD-C = 2%)

participants lost-to-follow-up at the Endline were coded as missing at this timepoint. Primary participant characteristics were explored at baseline, and outcomes of interest were examined at baseline and endline.

To examine the effect of cash on outcomes of interest at endline, independent t-tests for equality of means were performed at each timepoint. T-tests were also performed at baseline to account for any significant differences in outcomes prior to the intervention. Variance Ratio Tests were performed to assess equality of variances, and either equal variance t-tests or unequal variance t-tests were performed, as appropriate. A significance[13] level of 0.05 is considered.

Lastly, three (3) rounds of post-distribution monitoring (PDM) surveys were analyzed (using Excel) and are included in this report. The CVA recipients were asked about their overall experience participating in the intervention; difficulty accessing the cash assistance, including fraud; how the cash was spent; how much was spent on basic needs, as prioritized by the household; and who in the household decided how the cash ought to be spent.

Cohort 2

Baseline and Endline data were compiled into a single dataset and analyzed in Stata version 18. Participants lost-to-follow-up at Endline were omitted from the analysis in line with the panel study methodology. Exploratory data analysis was performed, examining descriptive statistics such as means and standard deviations for numerical variables and counts and percentages for participant descriptive characteristics and categorical variables of interest (prevalence of SAM/MAM, prevalence of wasting relapse, MDD-C, FCS, etc.) at each time point and by governorate. Any outliers were checked for accuracy and corrected or omitted as needed.

To examine the effect of cash on outcomes of interest at endline, paired baseline–endline analyses (McNamer's t-test) among the same children, enabling assessment of within-child change over time. Anthropometric data, MUAC, and standardized z-scores (WHZ, WAZ and HAZ) were used to determine changes in child nutritional status and prevalence of wasting relapse during the intervention period. A significance level of 0.05 is considered.

Additionally, six (6) focus group discussions (FGDs) were conducted with 41 caregivers (28 mothers, 13 fathers) of children in the study across both governorates. Thematic analysis[14] was used to analyze and identify recurring patterns and themes related to caregivers' perception of the intervention design, targeting and selection, community dynamics, and child illness and caregiver health-seeking behaviors.

Ethics & Accountability

Research Ethics

The researchers ensured an ethical approach throughout the life of the study, adhering to SC's Child Safeguarding Policy and Code of Conduct, and adapting global ethical guidelines for evaluation. **The principles of "best interests" and "do no harm" were applied when determining how and when to engage children directly as part of this research.** When planning to engage children, the country office ensured that:

- ✓ Participation was voluntary and with the informed consent of children's caregivers.
- ✓ Child-friendly methods were used.
- ✓ Participation was inclusive (girls, boys, children with disabilities, etc. are included).
- ✓ Enumerators were trained in SC's child rights, safeguarding, participation, and referral procedures.
- ✓ Feedback mechanisms were put in place to ensure safeguarding and confidentiality throughout the study.

Informed consent and permission for the child to participate in the anthropometric assessments were obtained from the parents/caregivers. Consent from parents/caregivers was also taken for their participation.

The study was submitted to SC's Ethics Review Committee (ERC) and granted ethics approval prior to data collection (SC-EEG-FY2025-16). SC requires ethical approval, which is required for all human participant evidence generating activities conducted by or supported by SC for the purpose of creating generalizable knowledge.

[13] Statistical significance is the likelihood that a relationship between two or more variables is real and is not random/due to chance.
[14] Braun & Clarke's Framework (link)

Limitations

As with all evaluations, there are limitations to this work. Some known limitations of data collection, research methodology, and evaluation results are as follows:

Cohort 1

- ✓ Lack of anthropometric data limited evidence of sustained (acute malnutrition) treatment outcomes (recovery) among children under five because anthropometric data were missing.
- ✓ Lack of qualitative data limited the researchers to further explore and provide insight into the second cohort's findings.
- ✓ The findings are not generalizable to all individuals in Taiz and Lahj, but rather they reflect the experiences of households/caregivers and children who received cash and nutrition assistance from SC through this program.
- ✓ The caregiver data is based on respondent self-report, and thus, may be subject to recall or desirability bias.

Cohort 2

- ✓ The analysis follows a causal-consistency framework but lacks a control group; observed changes cannot be attributed exclusively to the intervention. Attribution is further complicated given simultaneous enrollment in wasting treatment and the MPCA+ Nutrition Programming
- ✓ Relapse definitions depend on accurate recall and measurement of post-discharge status within specified timeframes, which may lead to under- or over-estimation.
- ✓ The caregiver data is based on respondent self-report, and thus, may be subject to recall or desirability bias.

These limitations do not weaken the internal coherence of the findings but should inform cautious interpretation and responsible use of results.

FINDINGS: COHORT 1

Demographic Data & Respondent Characteristics

At baseline (BL), there were 499 caregivers and 335 children under 5 (CU5) and at endline (EL), there were 373 caregivers and 300 CU5. Participant characteristics (both caregivers and child) are shown in *Table 2*. Overall, about half of the children were female and half male (53% and 47% respectively). The mother's average age was 28 years.

Table 2 *Participant Characteristics at BL and EL*

	Lahj		Taiz	
	Baseline	**Endline**	**Baseline**	**Endline**
Household	263	147	236	226
HH Size (Mean)	7	7	7	8
# of children 0-23 months	83	25	93	125
# of children 6-23 months	83	25	93	112
Child Age (Mean), months	15	16	15	14
Child Age (Min, Max), months	7,22	8,23	7,23	1,23
# of Mothers/Caregivers	263	147	236	226
Mother's age (Mean), years	28	29	28	27

Household Food Security

Independent-samples t-tests showed that the average composite reduced Coping Strategies Index (rCSI) score was significantly lower at endline than at baseline (mean difference=15.3 points; 95% CI: 14.0–16.5; p<0.001). This indicates that, overall, **reliance on negative coping strategies declined sharply**, with **average rCSI scores falling by more than 15 points between baseline and** endline across both governorates.

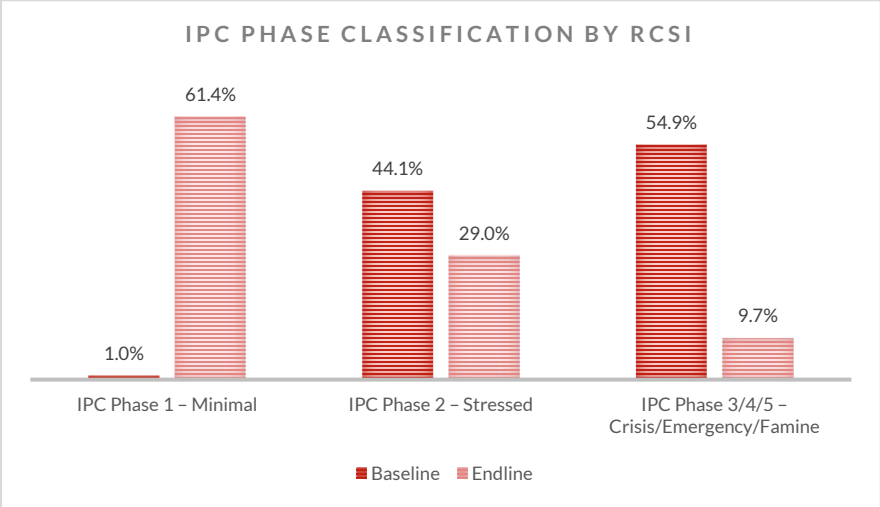
Table 3 and Figure 2 clearly show that the proportion of households exhibiting characteristics consistent with the Integrated Food Security Phase Classification (IPC)[15] Phase 3 or worse decreased by **45.2 percentage points (pp)** from baseline to endline. Ordinal logistic regression showed a significant improvement in rCSI IPC classification between baseline and endline. Endline households had substantially lower odds of being in higher rCSI severity categories compared to baseline households (OR=0.04, 95% CI: 0.02–0.05, p<0.001).

Table 3 *Proportion of households exhibiting characteristics consistent with each IPC Phase at BL and EL*

IPC Classification by rCSI	Baseline	Endline	% Point Change (pp)
IPC Phase 1 – Minimal	1.0%	61.4%	60.4
IPC Phase 2 – Stressed	44.1%	29.0%	-15.1
IPC Phase 3/4/5 – Crisis/Emergency/Famine	54.9%	9.7%	-45.2

[15] The Integrated Food Security Phase Classification (IPC) is a common global scale for classifying the severity and magnitude of food insecurity and malnutrition. The IPC is used as the international standard for classifying food insecurity and malnutrition.

Figure 3 *Proportion of HHs exhibiting characteristics consistent with each IPC Phase (by rCSI) at BL and EL*

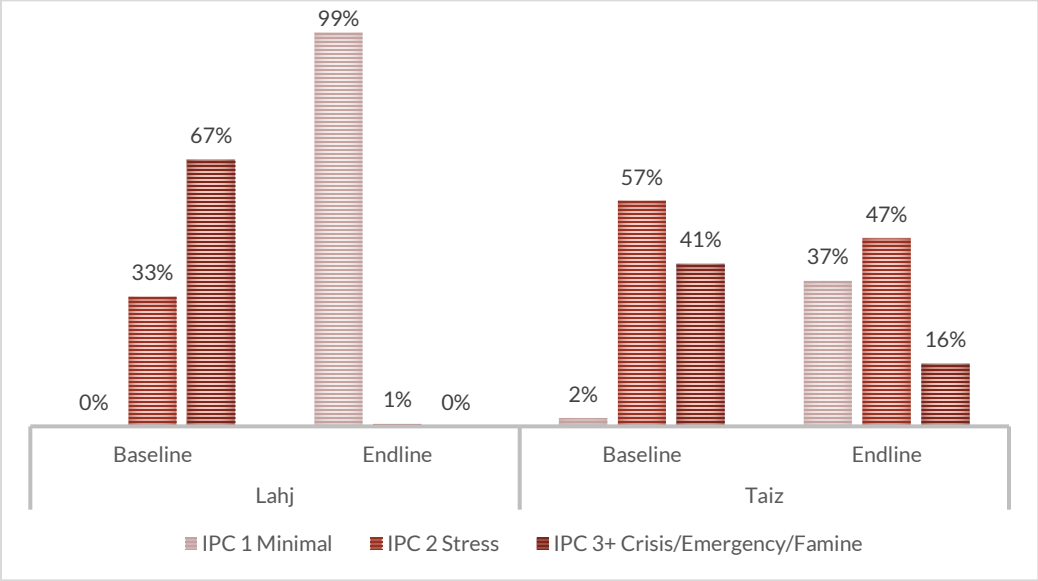


Substantial reductions in food insecurity across both Lahj and Taiz are observed, with Lahj showing the most significant improvements *(Figure 3)*. At baseline, all households in **Lahj** exhibited rCSI characteristics consistent with IPC Phase 2 or worse, with **two-thirds (67%) in IPC Phase 2 (Stressed) and one-third (33%) in IPC Phase 3+ (Crisis/Emergency/Famine).** By endline, this profile shifted almost entirely to IPC Phase 1 (Minimal), with **99% of households no longer exhibiting stress- or crisis-level** food insecurity. This complete reversal suggests that MPCA 'plus' intervention in Lahj moved the entire sample population out of acute food insecurity.

Taiz also demonstrates meaningful progress, though the shift is less pronounced than in Lahj. At baseline, nearly all households **(98%) exhibited rCSI characteristics consistent with IPC Phase 2 or worse—57% in IPC Phase 2 and 41% in IPC Phase 3+**. By endline, the **proportion of households in IPC Phase 2 or worse decreased by 35 percentage points to 63%.** About 37% of households shifted to IPC Phase 1, while half (47%) remained in Phase 2 and 16% in Phase 3+. While Taiz saw a meaningful improvement, a sizable proportion continues to face moderate to severe food insecurity, highlighting ongoing vulnerability and the need for sustained support.

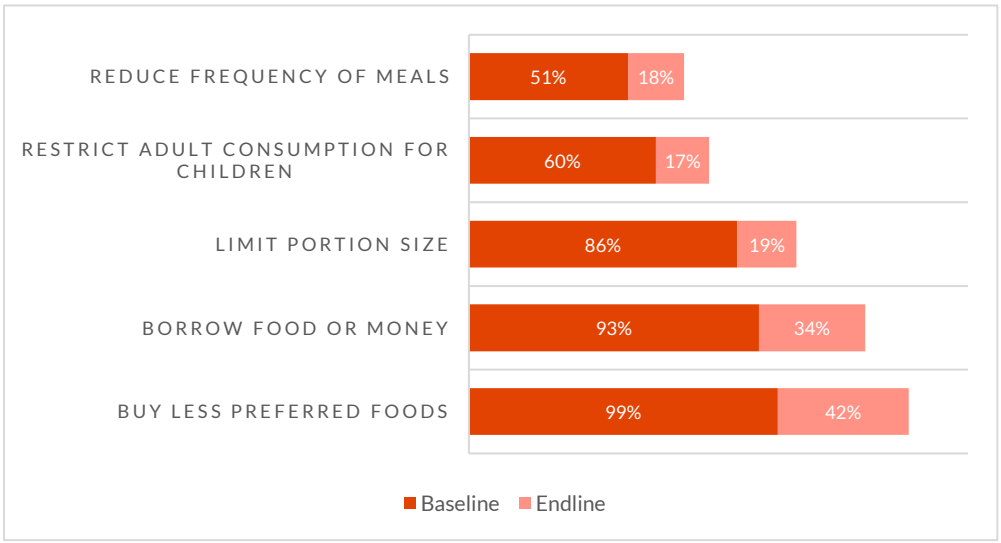
The significant difference in food security outcomes between Lahj and Taiz stems from the distinct profiles of their populations and how each interacted with seasonal cycles and the cash assistance. In **Lahj**, where households are more likely to be settled with some productive assets, the MPCA arrived during the harvest period. This allowed families to use cash to invest, save, or buy food at lower seasonal prices, creating a powerful synergy that propelled nearly all households out of acute food insecurity. In **Taiz**, however, a large, displaced population lacking land, livestock, or stable livelihoods sources used the cash almost entirely for immediate survival by spending it on food and other basic needs. For these households, seasonal harvests offer little direct benefit, and the MPCA functioned as essential but temporary consumption support. It reduced the severity of crisis but could not address the deeper lack of productive assets, resulting in more modest gains and persistent vulnerability. This shows that while cash universally alleviates hunger, its ability to move households toward sustained food security depends greatly on underlying livelihoods and displacement contexts

Figure 4 *Proportion of HHs exhibiting characteristics consistent with each IPC Phase at BL and EL by Governorate*



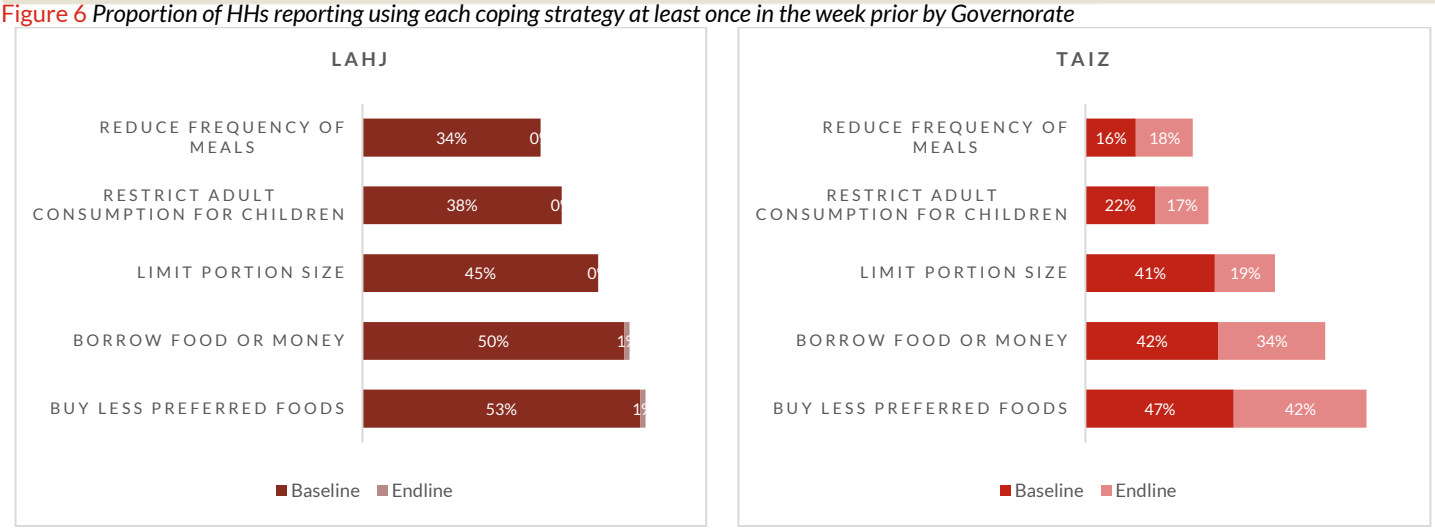
Across both governorates, the use of food-related coping strategies shows clear improvements in household food security. At baseline, households widely relied on negative strategies such as *buying less preferred foods* (99%), *borrowing food or money* (93%), *limiting portion size* (86%), *restricting adult consumption for children* (60%), *and reducing the frequency of meals* (51%). By endline, less than half of all households reporting using these strategies, indicating a significant reduction in food-related stress behaviors and improvement in household food access.

Figure 5 *Proportions of HHs reporting using each coping strategy at least once a week prior at BL and EL*



In **Lahj**, improvements are both meaningful and comprehensive *(Figure 6)*. At baseline, households widely relied on negative strategies in the week prior to being interviewed such as *buying less preferred foods* (53%), *borrowing food or money* (50%), *limiting portion size* (45%), *restricting adult consumption to prioritize children* (38%), *and reducing the frequency of meals* (34%). By endline, all or nearly all the households no longer rely on these coping strategies, consistent with all of the household shifting entirely to IPC Phase 1 (minimal) in *Figure 4* above.

Figure 6 *Proportion of HHs reporting using each coping strategy at least once in the week prior by Governorate*



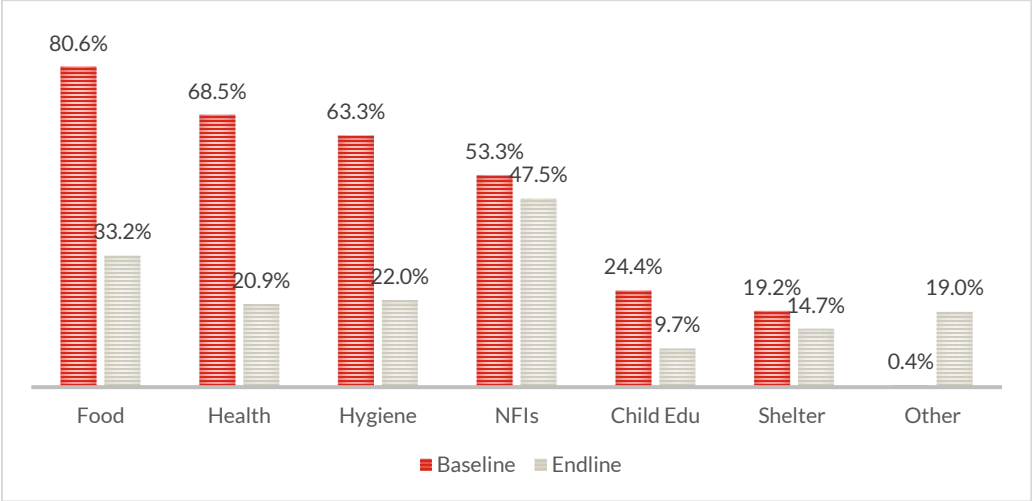
Taiz also demonstrates meaningful, though more modest, gains *(Figure 6)*. In Taiz, the coping strategy patterns reflect partial but uneven improvements. Some negative strategies decreased substantially: *limiting portion sizes* fell from 41% at baseline to 19% at endline, *restricting adult consumption to prioritize children* declined from 22% to 17%, and *borrowing food or money* dropped from 42% to 34%. One strategy—*reducing meal frequency*—increased slightly from 16% to 18%. Overall, the Taiz findings indicate that while many households experienced relief, a considerable proportion continue to rely on stress-level coping mechanisms, consistent with the remaining share of households in IPC Phase 2 and Phase 3+ in *Figure 4* above.

Significant reduction of negative coping strategies at endline is supported by all measures (i.e., average rCSI score, frequency distribution of rCSI categories, categorical shift of IPC phases based on rCSI scores), and ordinal logistic regression also confirms that reduced coping strategies have significantly shifted towards lower severity at endline compared to baseline.

Household Basic Needs

The persistence of food as a priority for nearly all households throughout the life of the project indicates that food security remains central to household decision-making, even as conditions improve *(Figure 7)*. The increased prioritization of health and hygiene at EL suggests a shift from immediate survival toward well-being, prevention, and dignity-related needs, which is often observed as households' food security stabilizes. The decline in non-food items (NFIs) and education as priority needs likely reflects a partial satisfaction of acute NFI gaps and/or households reallocating attention toward health-related needs. This does not necessarily imply that education or NFI are no longer constrained, but rather that relative urgency has shifted.

Figure 7 *Proportion of households unable to meet basic needs at BL and EL*

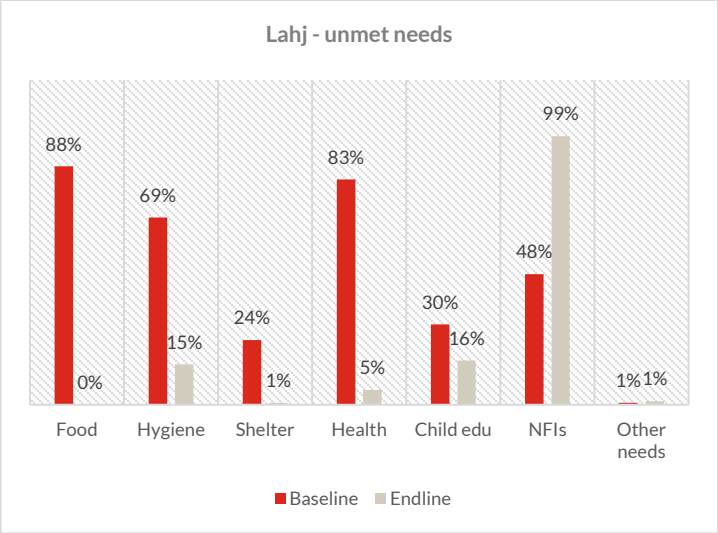


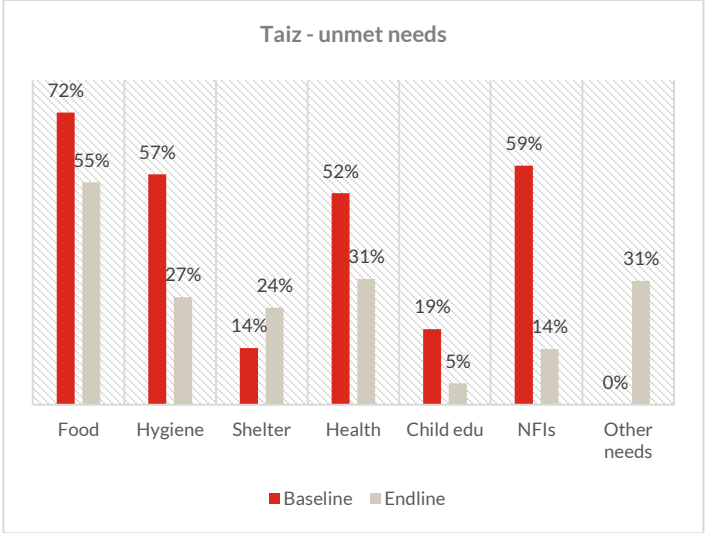
The unmet needs[16] data for **Lahj** shows dramatic improvements across nearly all sectors between baseline and endline, indicating a substantial reduction in household deprivation *(Figure 8)*. At baseline, a high proportion of households reported unmet needs in essential sectors—**88% for food, 69% for hygiene, 24% for shelter, 83% for health, and 30% for child education**. **By endline**, these needs had fallen sharply: **food needs dropped to 0%, hygiene to 15%, shelter to 1%, health to 5%, and child education to 16%.** However, one exception is **household NFIs**, where unmet needs **increased significantly from 48% at baseline to 99% at endline**. While the MPCA improved food security and essential needs, NFI gaps widened—potentially reflecting deteriorating contextual changes, inflation, or shifts in humanitarian support that did not prioritize NFIs.

In **Taiz**, **unmet needs also decreased across most sectors**, and the pattern of change is more mixed *(Figure 8)* compared to Lahj. **Food unmet needs fell from 72% to 55%**, indicating improvement but still leaving more than half of households struggling with adequate food access. **Hygiene needs dropped significantly from 57% to 27%; shelter from 24% to 14%; health from 52% to 31%; and child education from 19% to just 5%,** marking notable gains. **NFI unmet needs declined from 59% to 14%,** showing strong improvement in Taiz—contrary to the increase observed in Lahj. However, unlike Lahj, an increase in unmet "other needs" from 0% to 31% is observed, suggesting emerging or previously unreported gaps.

Overall, both governorates experienced substantial reductions in unmet needs, particularly in health, hygiene, and education, reflecting improved access to basic services.

Figure 8 *Proportion of households unable to meet basic needs at BL and EL by Governorate*

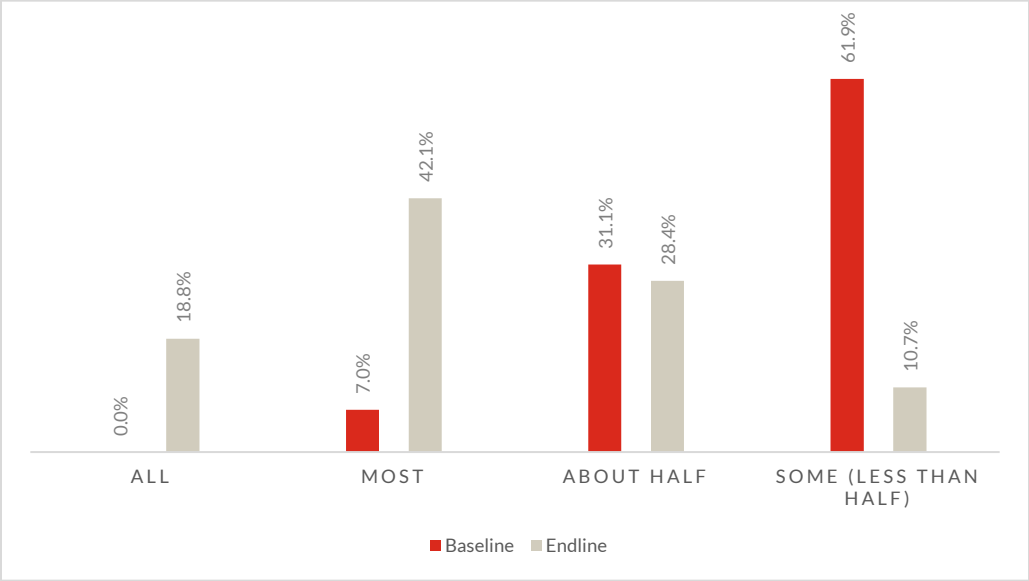




A substantial improvement in household capacity to meet basic needs is observed at the end of the project, with nearly **two-thirds of households (60.9%)** reported being able to meet '**all or most**' of their basic needs *(Figure 9)*. The distribution shifts away from severe deprivation toward partial or near-complete adequacy. The most important change is the collapse of the 'some (less than half)'category, indicating fewer households trapped in deep unmet need. However, this mostly suggests recovery but not full resilience as still fewer than one in three households cannot meet 'all or most' of their priority needs. *Table 5* further highlights a significant increase in household's capacity to purchase nutritious food like eggs, lentils and vegetables – critical sources of protein and micronutrients at EL.

[16] The basic needs indicator measures the percentage of households who report being able to meet 'all/most/half/some/none' of their basic needs, as they define and prioritize them. It uses a standardized scale of quantified responses based on the respondent's own evaluation of their ability to meet their basic needs. **Unmet needs**, therefore, are defined as households who report being unable to meet **'all'** of their basic needs.

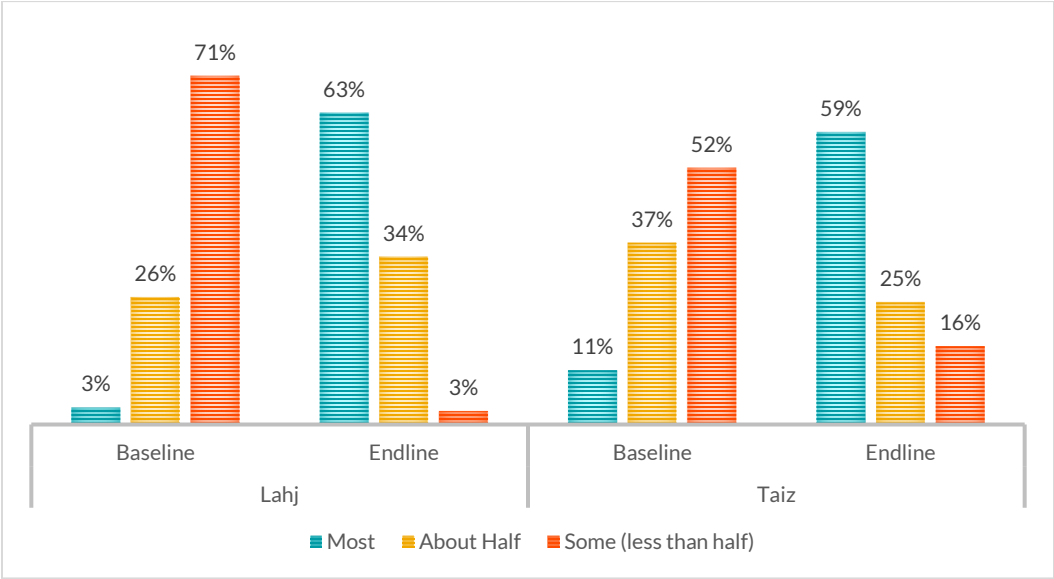
Figure 9 *Households' ability to meet basic needs at BL and EL*



A substantial improvement in households' ability to meet their basic needs in both Lahj and Taiz, with the most dramatic gains observed in Lahj *(Figure 10).* **At baseline in Lahj**, most of the households **(71%) reported being able to meet only 'some' of their basic needs**, while just 3% reported meeting 'most' needs. **By endline**, this pattern reversed completely: **63% of households reported meeting 'most' of their basic needs**, 34% reported meeting about 'half', and only 3% meeting 'some' needs.

Taiz also experienced notable progress, though starting from a slightly higher economic insecurity at baseline *(Figure 10).* Initially, more than half **(52%) of households reported being able to meet only 'some' of their basic needs**, 37% met about 'half', and 11% met 'most'. By endline, **the proportion meeting 'most' of their basic needs rose sharply to 59%** (a 48-pp increase). Meanwhile, those meeting only 'some' decreased to 16%, and those meeting about 'half' fell to 25%. Although improvements were not as substantial as in Lahj, the endline findings still reflect a major positive shift toward greater household stability and improved capacity to cover essential needs.

Figure 10 *Households' ability to meet basic needs at BL and EL by Governorate*



These gains are further confirmed by the PDM data, which show how the cash assistance was used by households. The MPCA was used primarily to address households' highest priority needs—consistently food, hygiene, and health—demonstrating strong and improving appropriateness over time *(Table 4)*. Overall, expenditure patterns indicate that cash assistance enabled households to meet immediate needs with flexibility and choice while highlighting areas where complementary assistance may be required.

Table 4 *Proportion of households reporting their basic needs and using MPCA to meet them at BL, PDM, and EL*

% HH Identifying Need as Priority	Baseline	Endline	PDM 1	PDM 2	PDM 3
Food	100.0%	99.5%	100.0%	99.1%	99.5%
Hygiene	73.9%	82.0%	52.3%	75.6%	82.3%
Health	62.7%	7.4%	55.1%	68.2%	78.0%
NFIs	42.9%	24.1%	33.9%	24.4%	44.5%
Child Education	20.2%	9.9%	0.5%	0.0%	0.5%
Shelter	19.6%	19.8%	2.3%	1.8%	3.4%

Table 5 *Proportion of households reporting purchasing various nutritious foods at BL and EL*

Nutritious Foods	Baseline (%, n, 95% CI)	Endline (%, n, 95% CI)	Change (pp)
Eggs	**52.3%,** 261, [47.9-56.7]	**85.5%,** 319, [81.7-88.8]	33.2
Lentils	**33.5%,** 167, [29.4-37.7]	**48.8%,** 182, [43.7-53.9]	15.3
Green vegetables	**23.0%,** 115, [19.5-26.9]	**36.5%,** 136, [31.7-41.4]	13.5
Fruits	**34.3%,** 171, [30.2-38.5]	**32.7%,** 122, [28.1-37.6]	-1.6
Other foods	**21.8%,** 109, [18.4-25.6]	**18.8%,** 70, [15.1-23.0]	-3

Food remained a universal priority for households at both baseline and endline, while prioritization of health and hygiene increased over time. At the same time, households' capacity to meet their basic needs improved markedly, with a large shift away from households meeting less than half of their priority needs toward those meeting most or all needs. Post distribution monitoring data confirmed the use of cash assistance for meeting household priority needs most consistently for food and increasingly for hygiene and health. Unmet food, health, and hygiene needs declined sharply, although shelter, NFIs, and education constraints persisted for some households. Moreover, household's capacity to afford nutritious foods such as eggs, lentils and vegetables also increased substantially at endline. **Overall, the findings indicate substantial improvement in household's ability to meet basic needs.**

Maternal and Child Nutrition

Minimum Dietary Diversity for Women (MDD-W)[17]

Women's dietary diversity was assessed using the FAO Minimum Dietary Diversity for Women (MDD-W), defined as consumption of at least five (5) of ten (10) food groups in the previous 24 hours. Women consumed, on average, three additional food groups at endline compared to baseline, indicating a substantial improvement in diet diversity (mean difference = 2.98 food groups; 95% CI: 2.7–3.2; $p<0.001$). **The proportion of women meeting the minimum threshold – consuming five (5) food groups – increased by 66 percentage points from baseline (5.8%) to endline (71.8%)** (χ^2 (1)=414.5, $p<0.001$) *(Table 6)*. Improvements in minimum dietary diversity were driven by increased consumption of animal-source foods, pulses, fruits, and vegetables, while staple food consumption remained nearly universal *(Figure 6)*. The greater improvement in minimum dietary

[17] MDD-W assesses dietary diversity as a proxy for dietary micronutrient adequacy. This indicator measures whether women of reproductive age (15 to 49 years) have consumed at least five out of ten defined food groups in the previous 24 hours. The higher the proportion of women in the sample reaching this threshold, the higher the chance that women in the population are consuming micronutrient adequate diets.

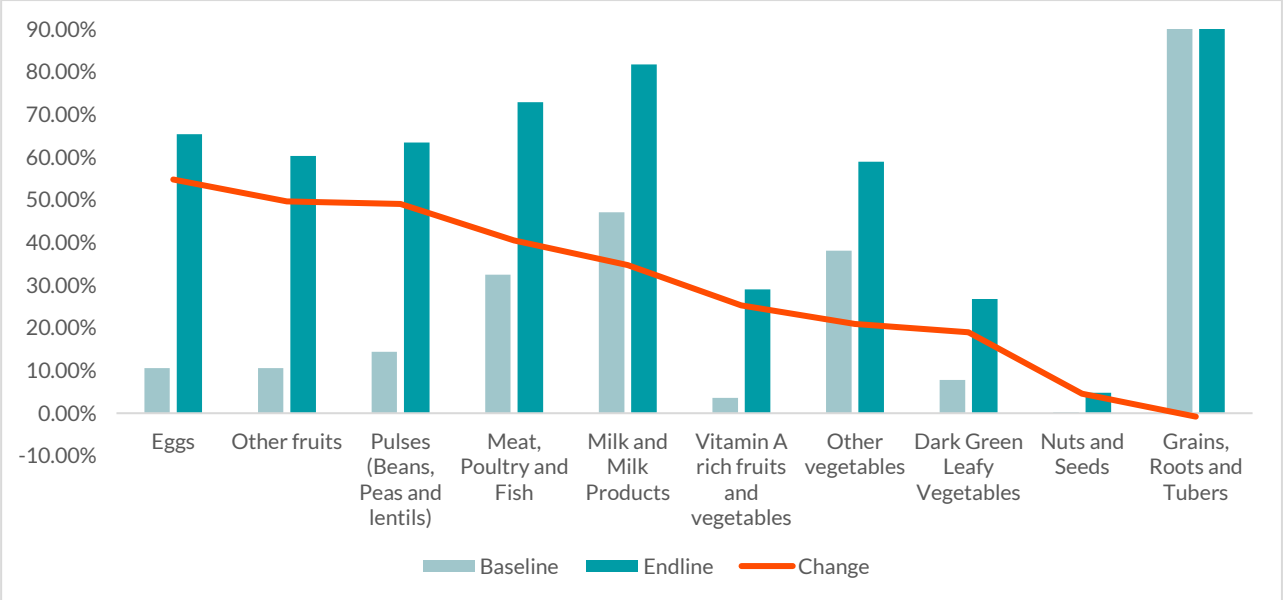
diversity score among women in Lahj compared to Taiz appears to be associated with higher reduction of household food insecurity and negative coping strategies, higher ability to meet basic food needs compared to Taiz where considerable proportion of households are still unable to meet their basic food needs, and suffering from IPC 3+ (16%) and IPC 2 (47%). Overall, women of reproductive age had an improved likelihood of micronutrient adequacy at the endline or post-intervention.

Importantly, MDD-W was also used as a proxy indicator for household food security in this study, as women often prioritize the consumption needs of their families over their own. Therefore, if women are eating well, it is reasonable to assume that the rest of the household is as well.

Table 6 *Summary of Dietary Diversity among women of reproductive age between baseline and endline*

Indicator	Baseline	Endline	Change	p-value
% of Women meeting MDD-5+ food groups (%, 95% CI, n)	**5.8%** (4.0-8.1), 499	**71.8%** (67.1-76.2), 373	66.0%	<0.001
Lahj	**9%**	**90%**		
Taiz	**2%**	**60%**		
MDD-W				
Grains, Roots, and Tubers	100.0%	99.2%	0.8	0.045
Milk and Dairy Products	47.1%	81.8%	34.7	< 0.001
Other vegetables	38.1%	59.0%	20.9	< 0.001
Meat, Poultry, and Fish	32.5%	72.9%	40.4	< 0.001
Pulses (Beans, Peas, Lentils)	14.4%	63.5%	49.1	< 0.001
Eggs	10.6%	65.4%	54.8	< 0.001
Other fruits	10.6%	60.3%	49.7	< 0.001
Dark Green Leafy Vegetables	7.8%	26.8%	19.0	< 0.001
Vitamin A rich fruits & veg	3.6%	29.0%	25.4	< 0.001
Nuts and Seeds	0.2%	4.8%	4.6	< 0.001

Figure 11 *Each food group consumed by women at BL and EL, percentage point (pp) change at EL*



Minimum Dietary Diversity of Children (MDD-C)[18]

Children's dietary diversity was assessed using the WHO and UNICEF Minimum Dietary Diversity for Children (MDD-C) indicator, defined as children 6–23 months of age who consumed foods and beverages from at least five (5) out of eight (8) defined food groups during the previous day. Between BL and EL, **marked gains were observed in continuation of breastfeeding, and a significant increase in dietary diversity among children aged 6–23 months** *(Figure 12).* Consumption of animal-source foods (meat, fish, and dairy products), plant-source protein (legumes, nuts and seeds), and vitamin A-rich fruits and vegetables **increased substantially** *(Figure 13)* – indicating a meaningful increase in children's minimum dietary diversity. However, the concurrent rise in consumption of sweet beverages and unhealthy foods highlights emerging diet quality risks and underscores the need for continued behaviour change communication alongside access-enabling interventions.

Figure 12 *Proportion of children (6-23 months) meeting minimum dietary diversity by governorate*

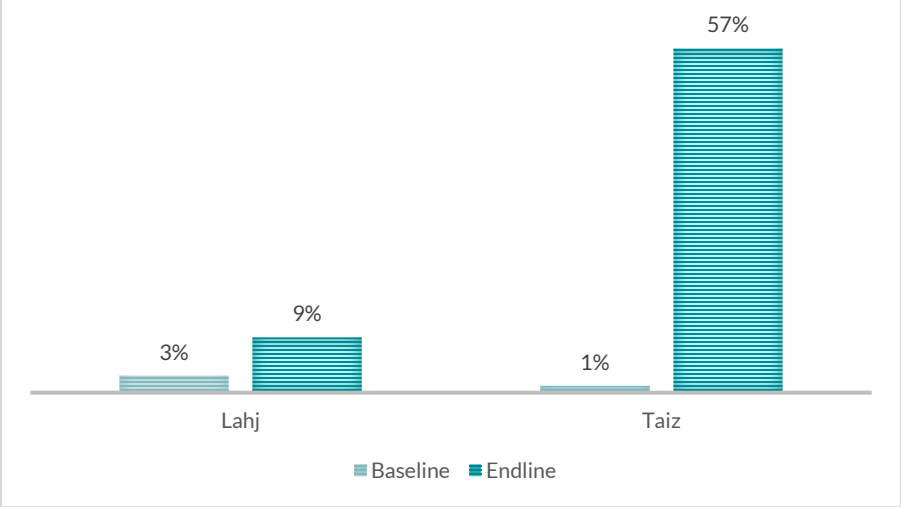
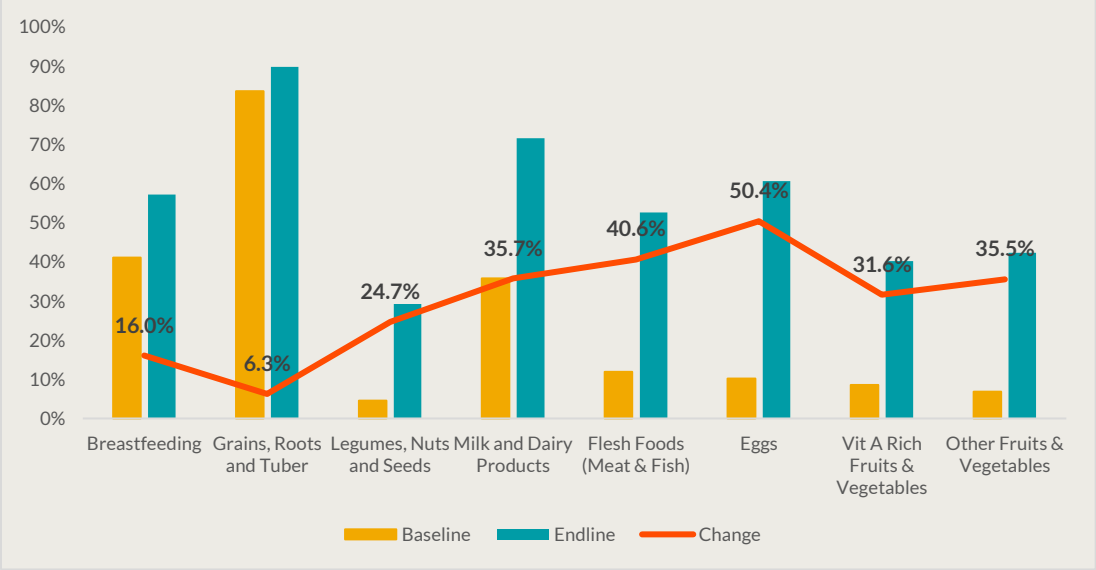


Figure 13 *Each food group consumed by children 6-23 months in the previous day at BL and EL*



[18] MDD-C assesses dietary diversity as a proxy for dietary micronutrient adequacy. This indicator measures whether children between the ages of 6 and 23 months have consumed at least five out of eight defined food groups in the previous 24 hours. Food group diversity is associated with improved linear growth in young children. A diet lacking in diversity can increase the risk of micronutrient deficiencies, which may have a damaging effect on children's physical and cognitive development.

Maternal Knowledge of Infant and Young Child Feeding Practices (IYCF)

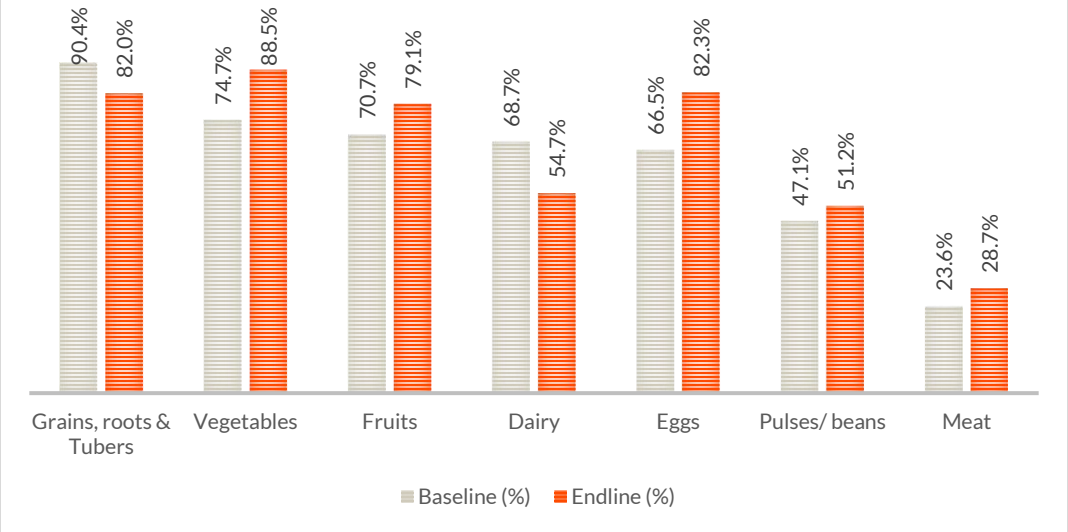
Maternal Knowledge of Complementary Feedings

Maternal knowledge of complementary feeding practices improved modestly and selectively between baseline and endline *(Table 7)*. While awareness of nutrient-dense food groups such as eggs, fruits, vegetables, and flesh foods increased, knowledge of the recommended number of food groups a child should consume daily remained very low. These knowledge patterns align closely with IYCF practice findings, where large gains in dietary diversity and consumption of animal-source foods were observed alongside persistent gaps in practice of dietary diversity standards (i.e., majority of children consuming less than five food groups at endline).

Table 7 *Caregivers/mothers' knowledge of complementary feeding practices at BL and EL*

Indicator	Baseline (%, n, 95% CI)	Endline (%, n, 95% CI)	Change (pp)
At what age is it recommended to introduce foods other than breastmilk to a child? *(After 6 months = Yes)*	**71.1%** 355, [67.1-75]	**74.3%** 277, [69.7-78.5]	3.2
How many food groups is it recommended to provide a child in each day? *(4+ food groups = Yes)*	**24.0%** 120, [20.5-27.9]	**20.1%** 75, [16.3-24.4]	-3.9
Percent of mothers/caregivers who could recall at least 4 or more food groups *(open recall)*	**84.4%** 421, [81.0-87.4]	**89.0%** 332, [85.5-91.9]	4.6
Percent distribution of caregivers by the Food Groups they could recall (Baseline N=499, Endline N=373)			
Starchy foods e.g. Grains/ Bread/ Rice/ Potatoes	**90.4%** 451, [87.6 - 92.7]	**82.0%** 306, [77.9 - 85.7]	-8.3
Vegetables	**74.7%** 373, [70.8 - 78.4]	**88.5%** 330, [84.9 - 91.4]	13.7
Fruits	**70.7%** 353, [66.6 - 74.6]	**79.1%** 295, [74.7 - 83.0]	8.3
Dairy	**68.7%** 343, [64.6 - 72.7]	**54.7%** 204, [49.6 - 59.7]	-14.0
Eggs	**66.5%** 332, [62.3 - 70.6]	**82.3%** 307, [78.2 - 85.9]	15.7
Pulses/ beans	**47.1%** 235, [42.7 - 51.5]	**51.2%** 191, [46.1 - 56.3]	4.1
Meat	**23.6%** 118, [20.1 - 27.5]	**28.7%** 107, [24.3 - 33.4]	5.1

Figure 14 *Percent distribution of mothers/caregivers by the food groups they could recall at BL and EL*

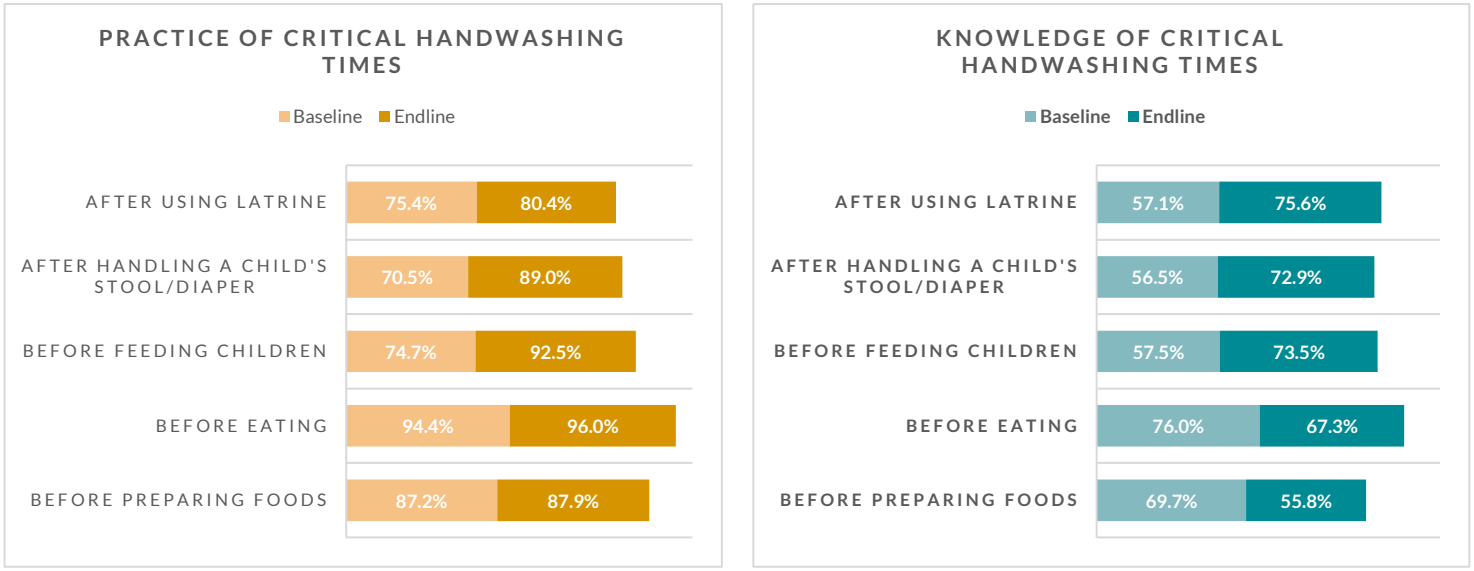


Knowledge and Practice of Handwashing Practices at Critical Times

Caregivers' **practice** of handwashing at critical times improved or stayed very high across all moments, while **knowledge** shows a mixed pattern—strong gains for fecal oral risk moments but slight drops for food related times *(Figure 15)*. On the **practice** side, large increases appear **after handling a child's stool/diaper** (+18.5 pp) and **before feeding children** (+17.8 pp), with smaller but positive shifts **after using the latrine** (+5.0 pp). Practices were already high and remained so **before eating** and **before preparing foods.** In contrast, **knowledge** increased substantially for **after using the latrine** (+18.5 pp), **after handling a child's stool/diaper** (+16.4 pp), and **before feeding children** (+16.0 pp)—showing **convergence** between knowledge and practice for these three high risk moments. However, knowledge **declined** for **before eating** (–8.7 pp) and **before preparing foods** (–13.9 pp), creating marked **divergence** even when practice stayed very high.

By endline, the practice–knowledge gaps are modest for **after latrine** (80.4% vs 75.6%, gap 4.8 pp) but sizable for **stool/diaper** (89.0% vs 72.9%, gap 16.1 pp) and **before feeding children** (92.5% vs 73.5%, gap 19.0 pp), and largest for the food related moments—**before eating** (96.0% vs 67.3%, gap 28.7 pp) and **before preparing foods** (87.9% vs 55.8%, gap 32.1 pp).

Figure 15 *Caregivers' practice and knowledge of washing hands at critical times at BL and EL*



The intervention appears to have effectively strengthened both *practice and knowledge* for fecal oral risk points (latrine use, child stool handling, feeding children). The divergence on food related times suggests caregivers **routinely wash hands** before eating/preparing (possibly due to habit, available stations, or social desirability in self-reports) but are **less likely to identify these moments as "critical"** when surveyed, implying recall or survey design gaps.

While handwashing before eating and food preparation remained consistently high, caregivers increasingly identified and practiced handwashing after handling child feces and before feeding children. This shift toward prioritizing high-risk moments demonstrates strong internal coherence between knowledge and practice and aligns with broader improvements in hygiene prioritization and household capacity to meet hygiene needs.

Conclusions: Cohort 1

The **Cohort 1** findings provide strong evidence that MPCA, when paired with nutrition sensitive SBC, can meaningfully improve household food security, maternal and child dietary diversity, and hygiene practices in one of the most challenging humanitarian contexts in the world. Despite operating in environments characterized by chronic poverty, widespread food insecurity, and limited access to essential services, households demonstrated substantial improvements across key wellbeing indicators over the six-month intervention period.

Household food security improved dramatically. The average rCSI score decreased sharply, and the proportion of households exhibiting characteristics consistent with IPC Phase 3 or worse fell by **45.2 percentage points**, signaling a major reduction in

crisis level food insecurity. Lahj, in particular, experienced a near complete transition out of acute food insecurity, with **99% of households reaching IPC Phase 1 (Minimal)** by endline. While gains in Taiz were more modest, households still demonstrated meaningful reductions in negative coping strategies and improved economic stability.

Household ability to meet basic needs expanded significantly as well. By endline, **60.9% of households** reported meeting all or most basic needs, compared to only 7% at baseline. Households increasingly prioritized and were able to purchase essential health, hygiene, and nutritious foods—reflected in large endline increases in the purchase of eggs (+33 pp), lentils (+15 pp), and vegetables (+13 pp). These shifts signal not only improved economic access but also improved decision-making about food quality and care practices.

Maternal and child nutrition also strengthened substantially during the intervention. Women's dietary diversity increased sharply, with the proportion meeting MDDW rising from **5.8% at baseline to 71.8% at endline**. Consumption of nutrient dense foods—including animal source foods, pulses, and fruits and vegetables—increased across both governorates, suggesting improved micronutrient adequacy among women of reproductive age. Among children, minimum dietary diversity rose meaningfully, with notable increases in breastfeeding continuation and consumption of diverse food groups. Although sweet beverage consumption also rose, indicating emerging nutrition risks, overall dietary diversity gains were substantial.

Knowledge and practice improvements reinforced these nutrition gains. Caregivers demonstrated better understanding of complementary feeding, could recall more food groups, and showed stronger handwashing practices at high-risk moments—including after handling child stools and before feeding children. While knowledge gaps remained around food related handwashing moments, the convergence of knowledge and practice on fecal oral risk points represents an important shift in household hygiene behavior.

Overall, Cohort 1 findings highlight a clear pattern: predictable cash assistance, complemented by targeted SBC, improves households' ability to access nutritious food, strengthens care and hygiene practices, and meaningfully enhances maternal and child dietary quality. While structural barriers persist—particularly in Taiz, where displacement and limited livelihoods constrain economic resilience—the evidence demonstrates that the cash plus model effectively reduces food insecurity and improves essential nutrition and hygiene behaviors. These improvements signal a strengthened foundation for preventing the onset of acute malnutrition in high-risk settings and underscore the value of integrated, multisectoral approaches in Yemen's protracted crisis.

FINDINGS: COHORT 2

Demographic Data & Respondent Characteristics

This evaluation assesses a cash plus nutrition intervention implemented in Yemen, targeting children discharged from treatment for acute malnutrition and enrolled in household cash assistance within 90 days post discharge. At BL, there were 220 households with CU5 who had been discharged from SAM and MAM treatment—100 in Lahj and 120 in Taiz; of whom 181 (72 Lahj, 109 Taiz) were retained at EL. A higher level of attrition (38%) was observed in Lahj due to bouts of conflict and insecurity, which limited Save the Children's access to beneficiaries during the intervention period. Given the panel design of this study, **the results below represent the final sample of 181 participants using paired analysis**. It should be noted that children identified as developing SAM or MAM during enrollment in the study were referred back into treatment. These children were maintained in the cohort.

Focus group discussions (FGDs) were conducted to assess caregiver understandings of child wasting and community perceptions of malnutrition. These insights provided important contextual grounding for interpreting program relevance and post discharge household behaviors. Across interviews, both mothers and fathers described wasting primarily as extreme thinness and weakness, often impairing a child's ability to move or function normally. As one father explained, "*Wasting is when a child is unable to move normally due to weakness*," while mothers similarly described it as "*a weakness and thinness in a child's body*." Caregivers consistently linked wasting to structural factors, including insufficient food, poverty, inadequate breastfeeding, and poor hygiene: "*It occurs due to lack of nutrition or breastfeeding and lack of attention to the child*," and "*caused by malnutrition and lack of access to healthy food*."

Within the community, wasting was widely perceived as common and largely normalized due to pervasive economic hardship; however, it was not viewed with indifference. Fathers noted that "*they see the thin child as normal*," yet families "*try to help him and take him to the health center*." Wasted children were often described as evoking "*pity and compassion*"—prompting advice giving, prayer, and efforts to seek treatment. This coexistence of normalization and concern highlights both the chronic vulnerabilities facing households and the critical role of sustained post-discharge support, underscoring the relevance of cash assistance during a period of heightened risk for relapse. This coexistence of normalization and concern highlights both the chronic vulnerabilities facing households and the critical role of sustained post-discharge support, underscoring the relevance of cash assistance during a period of heightened risk for relapse.

All **181 children enrolled in MPCA 'plus'** were previously admitted for acute malnutrition and were discharged as cured from CMAM services (OTP and/or TSFP) in the past 90 days *(Table 8)*.

Table 8 *Participant Characteristics at BL and EL*

Indicator	Baseline	Endline
# of Households	181	181
Governorates		
Lahj	72	72
Taiz	109	109
# of Children <5 years	181	181
Boys	74	74
Girls	107	107
Child age (Mean, SD), months	26 (13)	31 (13)
Child age (Min, Max), months	9, 59	11, 59
# of Children 6–23 months	94	69
Boys	36	22
Girls	58	47
Lahj	28	14
Taiz	66	55

Table 9 shows the time elapsed since OTP admission, TSFP enrollment/transfer, and TSFP discharge at baseline and endline. The timing of children's discharge from wasting treatment provides important context for interpreting relapse outcomes. At baseline, 61% of the children included had been discharged as recovered at least 60 days prior to the assessment, while by endline approximately 80% had already completed treatment before the endline measurement. The data also indicate that nearly half of the cohort received wasting treatment services concurrently with the Cash plus SBCC intervention. These patterns suggest that children entered the study at different stages of post-treatment recovery, with some already having deteriorated and becoming malnutrition again while others remained healthy.

Table 9 *Acute malnutrition treatment admission and discharge data at BL and EL*

Indicator	Baseline	Endline
OTP admission		
≥ 2 months (≥8 weeks)	166 (91.7%)	178 (98.3%)
≤ 2 months (≤8 weeks)	2 (1.1%)	1 (0.6%)
Don't know	13 (7.2%)	2 (1.1%)
TSFP enrolment/transfer		
≥ 2 months (≥8 weeks)	70 (38.7%)	87 (48.1%)
≤ 2 months (≤8 weeks)	20 (11%)	4 (2.2%)
Missing response	80 (44%)	88 (48.6%)
Don't know	6 (3.3%)	2 (1.1%)

N/A	5 (2.8%)	0 (0.0%)
TSFP discharge		
≥ 2 months (≥8 weeks)	110 (60.8%)	145 (80.1%)
≤ 2 months (≤8 weeks)	52 (28.7%)	7 (3.9%)
Don't know	19(10.5%)	2 (1.1%)
Missing / Not applicable	0 (0.0%)	27 (14.9%)
Re-enrolment status		
SAM/MAM re-enrolled into CMAM at baseline[19]	83 (46%)	N/A
Children without SAM or MAM ((**MUAC >12.5cm or WHZ>-2 and no oedema)**[20]	98 (54%)	N/A

Child Nutritional Status

Nutritional recovery during wasting treatment (CMAM)

Table 10 *Changes in anthropometric indicators between enrollment and discharge from CMAM treatment (paired t-test)*

Indicator	At Enrollment in CMAM	At Discharge from CMAM	Mean Diff	p- value	Effect	Interpretation
Weight (0.1kg)	7.7 (2)	9.1 (2.3)	1.43	<0.001	2.066	Strong gain
Height (0.1cm)	74.9 (10.7)	76.7(10.7)	1.8	<0.001	0.586	Moderate gain
MUAC (0.1cm)	12.5 (0.67)	13.1(0.56)	0.6	<0.001	1.307	Strong gain
Weight for Height Z-scores (WHZ)	-2.3(0.61)	-0.73 (0.56)	1.54	<0.001	2.225	Strong gain
MUACZ_Height	-1.77(0.63)	-1.3 (0.57)	0.48	<0.001	1.148	Strong gain

Comparison of standardized z-scores (WHZ, WAZ, HAZ) between discharge (Table 10) and baseline (Table 11) suggest that children largely retained absolute gains in weight, MUAC and height at baseline, but recovery momentum stalled once therapeutic support ended. Weight for height z-scores that reflect acute nutritional status showed early signs of vulnerability – deteriorating two–fold from –0.7 SD at discharge to –1.5 SD at baseline.

Post-discharge anthropometric growth during the intervention period (5 months): After discharge, children were followed for approximately five months while receiving Cash plus Social and Behaviors Change (SBC) support, with a subset also receiving additional CMAM treatment. At the endline, absolute anthropometric measures (weight, height and MUAC) show clear, statistically significant gains that align to expected outcomes from effective curative programming. These results are potentially reinforced by the CVA + SBCC approach. (Table 11). Standardized z-scores (WHZ, WAZ and HAZ) remained broadly stable, indicating that children did not regress nutritionally during the intervention (MPCA plus Nutrition intervention) period. However, MUAC-for-age and MUAC-for-height z-scores improved significantly during follow-up ($p<0.001$). Overall, these findings suggest continued physical growth and maintenance of nutritional status following treatment discharge through the intervention period – highlighting the probably combined effect of Cash Plus SBCC and wasting treatment.

[19] At Baseline, 83 children who were identified as SAM or MAM and re-admitted into the CMAM programme and received Cash Plus SBCC alongside wasting treatment
[20] Of the 181 successfully recovered children, 98 were not malnourished at baseline (prior to the addition of cash assistance) and received Cash Plus SBCC support during the intervention period.

Additional analysis by intervention exposure groups (Cash Plus SBCC vs wasting treatment and Cash Plus SBCC) showed that children who received cash assistance plus SBCC in addition to wasting treatment had significantly greater improvements in weight for length (WFL) and weight for age (WAZ) compared to those who received Cash Plus SBC alone (Table 14).

Table 11 *Post-treatment changes in anthropometric measures and nutritional indices between BL and EL, (paired t-test)*

Indicator	Baseline	Endline	Mean Diff	p-value	Effect size	Interpretation
Weight (0.1kg)	9.2(2.03)	10.1(2.04)	0.874	<0.001	1.04	Strong gain
Height (0.1cm)	79.7(9.85)	83.8(9.30)	4.163	<0.001	0.89	Moderate gain
MUAC (0.1cm)	13.1(0.86)	13.6(0.82)	0.523	<0.001	0.67	Moderate gain
WHZ	-1.5(1.13)	-1.4(0.87)	0.134	0.116	0.12	Stable
HAZ	-2.2(1.61)	-2.1(1.25)	0.102	0.333	0.07	Stable
WAZ	-2.2(1.03)	-2.1(0.88)	0.102	0.107	0.12	Stable
MUACZ_Age	-1.8(0.81)	-1.5(0.75)	0.287	<0.001	0.36	Low gain
MUACZ_Height	-1.5(0.77)	-1.2(0.73)	0.312	<0.001	0.41	Moderate gain

Changes in Wasting Prevalence and Relapse

At the baseline, very high levels of acute malnutrition prevalence (Table 12), and relapse rates of SAM (38%) and MAM (46%) cases within 90 days at the baseline underscores severe nutritional vulnerability after discharge from CMAM programming highlighting the severity of nutrition insecurity in this the context (over 70% of studied households are IPC3+) and inadequacy in post-treatment support.

Paired analysis using McNemar's test in *Table 12* shows a **substantial and statistically significant reduction in acute malnutrition** between baseline and endline: the prevalence of SAM declined from 17.8% to 4.4%, and acute malnutrition (SAM+MAM) declined by more than 25 percentage points (pp), indicating strong recovery from acute malnutrition among children 6-59 months old. Recovery from and reduction in acute malnutrition was similar between boys and girls at baseline and endline. Severe underweight also declined significantly, while overall underweight and stunting prevalence remained stable—including between boys and girls—as expected given their chronic nature *(Figure 17)*.

The prevalence of SAM and MAM cases relapsing into acute malnutrition declined substantially over the intervention period (5 months). Relapses of MAM cases declined significantly from 46% to 20.8% (p=<0.001), while relapse of SAM cases into acute malnutrition declined by 14.5% though it was not statistically significant.

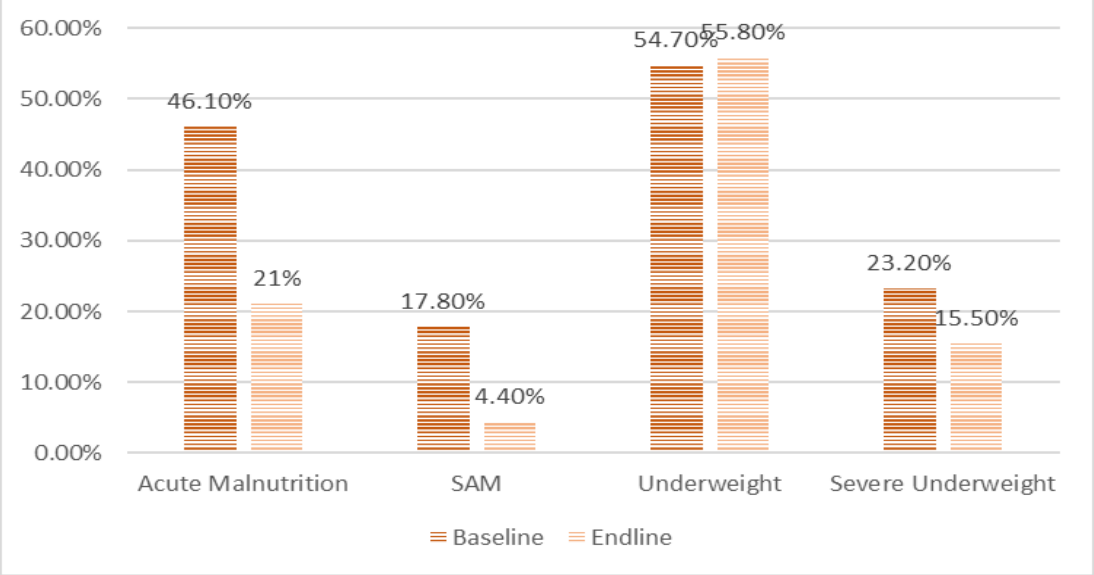
These findings suggest sustained treatment recovery following discharge and indicate that the combination of wasting treatment, cash assistance, and SBCC intervention package may reduce vulnerability to relapse during the post-treatment period. Since the effect of Cash plus SBCC in reduction of acute malnutrition and relapse cannot be differentiated from wasting treatment in this analysis, further stratified comparative analysis of nutritional growth, and relapse was run between these two groups. The results of this analysis are presented in the section below.

Table 12 Changes in the prevalence of wasting at baseline and endline (McNamer's test)

Indicator	Baseline [n, 95% CI]	Endline [n, 95% CI]	Change (pp)	P-value

Acute Malnutrition (SAM+MAM) [21]	46.1% [83, 38.9-53.4]	21.0% [38, 15.5-27.4]	-25.1%	**<0.001**
Girls	48.6% [52, 39.3-58.0]	20.6% [22, 13.7-28.9]		
Boys	42.5% [31, 31.6-53.9]	21.6% [16, 13.4-32.0]		
SAM only[22]	17.8% [32, 12.7-23.9]	4.4% [8, 2.1-8.2]	-13.4%	**<0.001**
SAM relapse to SAM or MAM [23] (N=26)	**38.5% (n=10, 21.8-57.6)**	**24% (n=6, 10.7-42.9)**	**- 14.5%**	**0.250**
MAM relapse to SAM or MAM [24] (N=125)	46% (n=57, 37.4-54.7)	20.8% (n=26, 14.4-28.5)	-25.2%	<0.001
Underweight[25]	54.7% [99, 47.4-61.8]	55.8% [101, 48.5-62.9]	1.1%	0.883
Girls	57.0% [61, 47.5-66.1]	56.1% [60, 46.6-65.2]		
Boys	51.4% [38, 40.1-62.5]	55.4% [41, 44.1-66.3]		
Severe Underweight[26]	23.2% [42, 17.5-29.7]	15.5% [28, 10.8-21.3]	-7.7%	**0.013**
Stunting	54.7% [99, 47.4-61.8]	55.8% [101, 48.5-62.9]	1.1%	0.880
Girls	56.1% [60,46.6-65.2]	56.1% [60, 46.6-65.2]		
Boys	52.7% [39, 41.4-63.8]	55.4% [41, 44.1-66.3]		
Severe Stunting	27.1% [49, 21.0-33.9]	24.3% [44, 18.5-30.9]	-2.8%	0.665

Figure 16 *Prevalence of SAM, Acute Malnutrition, and Underweight at BL and EL*



[21] Acute Malnutrition (SAM+MAM) (MUAC <12.5cm or WHZ<-2 or presence of oedema)
[22] SAM (MUAC<11.5cm or WHZ<-3 or presence of oedema)
[23] SAM relapse to SAM or MAM is defined as children 6-59m admitted into OTP with SAM, recovered from malnutrition, and identified as SAM or MAM again at baseline (within 90 days) and endline follow up. All identified SAM and MAM cases were re-enrolled into OTP/TSFP for treatment. Since there was no monthly follow up measurement, estimation of relapse incidence at various time points such as end of month 1, 2, 3, 4, 5 and 6 was not feasible.
[24] MAM relapse to SAM or MAM is defined as children 6-59m old admitted into TSFP for MAM treatment, discharged healthy and identified with MAM or SAM again at baseline and endline follow up. Note that all identified SAM or MAM cases were re-enrolled into OTP/TSFP for treatment. Since there was no monthly anthropometric follow up, relapse incidence across various time points such as end of month 1, 2, 3, 4, 5, and 6 could not be measured.
[25] Underweight (WAZ <-2SD)
[26] Sever Underweight (WAZ <-3SD)

Comparative analysis of nutritional recovery and relapse between intervention groups (Cash plus SBCC vs Cash plus SBCC + wasting treatment)

In the absence of a standard control group, all eligible children for Cash plus SBCC intervention were grouped into two categories considering their nutritional vulnerabilities and the interventions they received. From the baseline onwards, 97 of the 181 children were not malnourished (>12.5cm) and received Cash Plus SBCC assistance only during the intervention period (5 months); while 83 of 181 children were already diagnosed as acutely malnourished at baseline and therefore were readmitted into wasting treatment. These children also received the same Cash plus SBCC support as those children who were not malnourished at baseline. To explore if there were any differences in the baseline vulnerabilities, growth trajectory and relapse prevalence at the endline between these two groups, differences in WHZ, WAZ and HAZ between baseline and endline, and prevalence of relapse at the endline was statistically analyzed.

Comparison of baseline nutritional vulnerability between groups

Table 13 presents a comparative analysis of baseline nutritional conditions. It shows that children in the Cash Plus SBCC group were better nourished (WHZ −0.9, WAZ −1.84) at baseline than those who required wasting treatment due to acute malnutrition (WHZ −2.10, WAZ −2.68), this was statistically significant (P<0.001). In other words, at baseline the children re-enrolled in wasting treatment alongside Cash plus SBCC were statistically significantly more nutritionally at risk and had more weight to regain than children in Cash plus SBCC alone intervention. Given this statistically significant difference, comparisons in outcome of the two group need to be interpreted cautiously as outcomes are highly influenced by the underlying difference in vulnerability between the two groups at baseline.

Differences in nutritional recovery/growth trajectories between intervention groups

Anthropometric indicators (WHZ, WAZ, HAZ) among children receiving Cash + SBC alone remained broadly stable between baseline and endline, suggesting sustained recovery during the follow-up period (Table 14). Children receiving wasting treatment alongside Cash + SBC demonstrated significantly greater improvements in WHZ and WAZ, indicating continued and faster recovery among those with greater baseline nutritional deficits (Table 14).

Relapse prevalence by intervention group

Relapse prevalence at endline (after 5 months of intervention) differed between the two intervention groups (Table 15). Among children receiving **Cash + SBCC only**, **10.3% experienced relapse.** In the second intervention group who were re-enrolled in wasting treatment at baseline and continued to receive Cash Plus SBCC support,**30.1% relapsed to wasting (SAM/MAM)**. The difference was statistically significant (χ^2=11.21, p=0.001). This significant difference is a reflection of the baseline differences in vulnerability highlighted earlier. The pattern is consistent with earlier findings showing broadly stable anthropometric status among children receiving Cash + SBC alone during the follow-up period, suggesting that household support through cash assistance and SBCC may help sustain recovery after treatment discharge and may prevent relapse. The higher rates of SAM / MAM prevalence observed among children receiving wasting treatment and Cash + SBC should be interpreted in light of the substantially poorer nutritional status of these children at baseline potentially compounded with additional vulnerabilities beyond the scope of this study rather than as a negative programme effect.

Table 13: Comparison of baseline nutritional and food security indicators between Cash plus SBCC and Cash + SBCC + Wasting treatment

Indicator	Cash + SBC (n=97) Mean ± SD	Wasting Treatment plus Cash + SBC (n=83) Mean ± SD	Mean Difference	95% CI	p-value

WHZ (Weight-for-height z-score)	-0.98 ± 0.92	-2.10 ± 1.06	1.12	0.83 – 1.41	<0.001
WAZ (Weight-for-age z-score)	-1.84 ± 0.82	-2.68 ± 1.06	0.83	0.55 – 1.12	<0.001
HAZ (Height-for-age z-score)	-2.12 ± 1.53	-2.27 ± 1.25	0.15	-0.26 – 0.57	0.48
Child age (months)	26.71 ± 12.54	24.75 ± 13.11	1.96	-1.81 – 5.74	0.31

Table 14: Mean difference (Endline – Baseline) of standardized anthropometric indices between intervention groups

Outcome: Mean Difference (Δ Endline–Baseline)	Cash + SBCC (n=96) Mean ± SD	Wasting Treatment plus Cash + SBC (n=83) Mean ± SD	Mean Difference	95% CI	p-value
Weight-for-height z-score (Δ WHZ)	-0.16 ± 1.20	0.48 ± 0.95	-0.64	-0.96 to -0.32	<0.001
Weight-for-age z-score(Δ WAZ)	-0.05 ± 0.91	0.27 ± 0.73	-0.32	-0.57 to -0.07	0.011
Height-for-age z-score(Δ HAZ)	0.15 ± 1.34	-0.08 ± 0.83	0.23	-0.10 to 0.55	0.165

Table 15: Prevalence of Acute Malnutrition relapse[27] between intervention groups after the follow up period (5months)

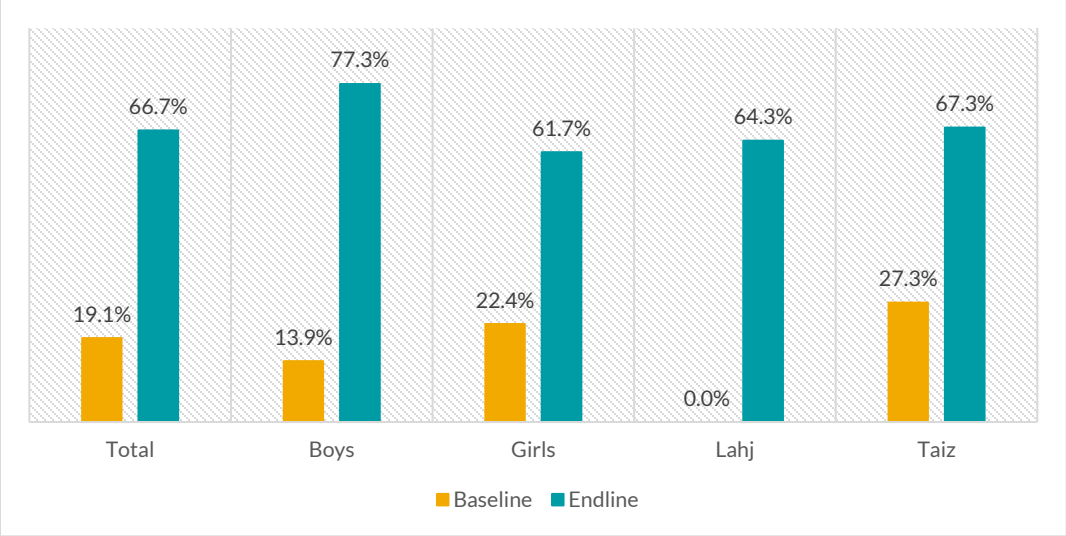
Intervention group	No relapse n (%)	Relapse n (%)	Total (n)	P-values
Cash + SBC	87 (89.7%)	10 (10.3%)	97	<0.001
Cash + SBC + Wasting treatment	58 (69.9%)	25 (30.1%)	83	
Total	145 (80.6%)	35 (19.4%)	180	

Child Dietary Diversity

Children's dietary diversity was assessed using the WHO and UNICEF Minimum Dietary Diversity for Children (MDD-C)[28] indicator, defined as children 6–23 months of age who consumed foods and beverages from at least five (5) out of eight (8) defined food groups during the previous day. Between BL and EL, **marked gains (+47.6 pp) were observed in dietary diversity among children,** including among boys and girls across both governorates *(Figure 18).* FGDs with caregivers corroborate these gains in children's dietary diversity and illuminate the pathways through which cash plus SBC operated. Caregivers consistently reported clear, actionable messaging from health workers and organization staff on breastfeeding, diet quality, and appropriate cash use—"*we received awareness about breastfeeding, healthy eating for the child… from health facility workers, organization staff, and the home awareness committee. The awareness was clear, and we practiced it and benefited from it*"—as well as practical guidance on spending and safeguarding the transfer (not to spend it on qat or share it). Mothers emphasized that messaging shifted priorities toward nutrient-dense foods and maternal diets: "*as a pregnant mother, my top priority is to eat well*".

[27] Due to very low SAM or MAM relapse cases between the two groups, Acute malnutrition relapse defined as "children aged 6-59 months old who were previously discharged recovered from acute malnutrition and identified as SAM or MAM again at the endline after the intervention period.
[28] MDD-C assesses dietary diversity as a proxy for dietary micronutrient adequacy. This indicator measures whether children between the ages of 6 and 23 months have consumed at least five out of eight defined food groups in the previous 24 hours. Food group diversity is associated with improved linear growth in young children. A diet lacking in diversity can increase the risk of micronutrient deficiencies, which may have a damaging effect on children's physical and cognitive development.

Figure 17 *Proportion of children (6-23 months) meeting minimum dietary diversity by governorate and gender*



These accounts align with the rise in an animal-source foods (meat, fish, and dairy products), plant-source protein (legumes, nuts and seeds), and vitamin A-rich fruits and vegetables *(Figure 19)*; as one mother summarized, the program "*eased the burdens of life*" and enabled purchases of eggs, milk, and chicken previously out of reach. Reported outcomes—"*my child has greatly improved from malnutrition*," "*now healthier… eating a variety of foods and fruits*," and "*no longer gets sick as often… I was able to purchase soap to prevent diarrhea*"—point to combined nutrition and hygiene gains.

However, a concurrent rise in consumption of sweet beverages **(27% at BL to 75% at EL)** and unhealthy foods **(30% at BL to 81% at EL)** was also observed, suggesting that expanded purchasing power can drive less healthy choices without sustained reinforcement. Caregivers' positive reception to SBC ("*clear and effective*," "*helpful*") underscores the opportunity to intensify messages that promote nutrient-dense options and discourage sugary drinks and ultra-processed snacks.

Figure 18 *Each food group consumed by children 6-23 months in the previous day at BL and EL*

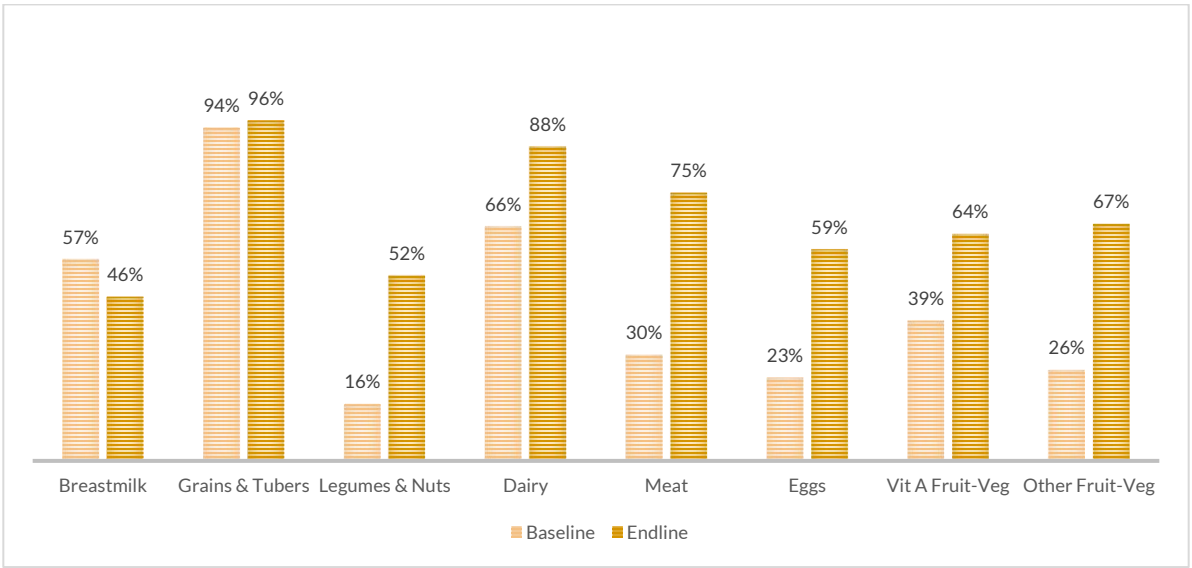
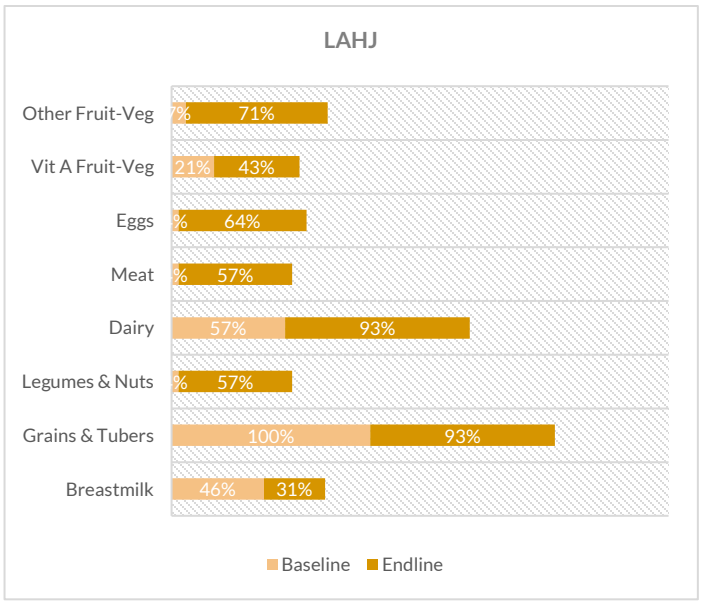
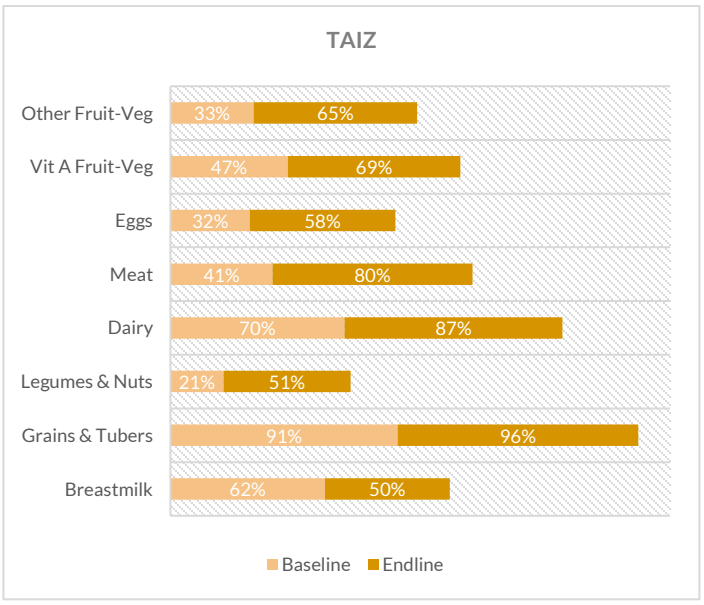


Figure 20 highlights that **Lahj**, which exhibited pronounced dietary deficits at baseline, experienced the largest relative improvements, indicating substantial catch-up. **Taiz** started from a stronger baseline and achieved very high consumption across most food groups at endline, maintaining an advantage in animal-source foods and vitamin A–rich fruits and vegetables.

Figure 19 *food group consumed by children 6-23 months in the previous day by governorate*

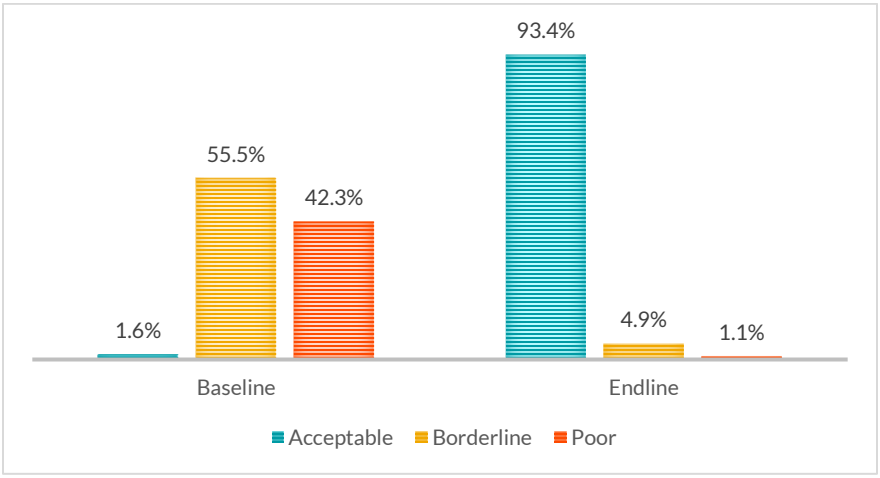




Household Food Security

Between baseline and endline, Food Consumption Score (FCS)[29] increased substantially, with a mean gain of 46.9 points and a significant paired effect size (dz=2.77). The proportion of households with 'acceptable' food consumption **increased significantly—by 92 pp**—from 1.6% baseline to 93.4% at endline. The proportion of households with 'poor' and 'borderline' food consumption decreased, accordingly, from 97.8% at baseline to 6.0% at endline *(Figure 21)*. McNemar–Bowker tests confirm that these changes were statistically significant, indicating a strong and systematic improvement in household food consumption consistent with Multipurpose Cash Assistance (MPCA).

Figure 20 *Food consumption score at BL and EL*



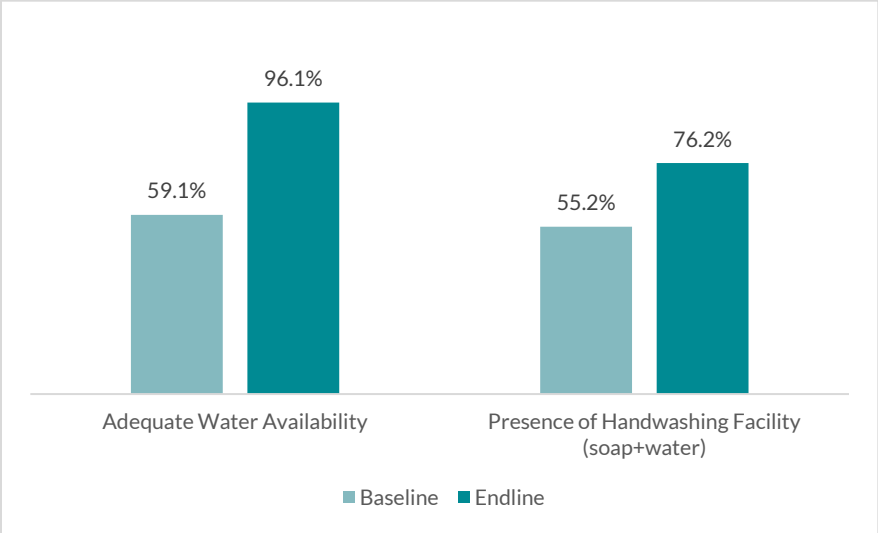
[29] FCS uses standard thresholds to classify household food security: 0-21 is Poor, 21.5-35 is Borderline, and above 35 is Acceptable. These thresholds, established by the World Food Program (WFP), categorize households based on the frequency and nutritional value of foods eaten over seven days, with higher scores signifying better food access and less vulnerability to food insecurity. **In contexts where the consumption of oil and sugar is high, such as Yemen, thresholds are higher (Poor=0-28, Borderline=28.5-42, Acceptable=42.5+).**

Water, Sanitation and Hygiene (WASH)

Between baseline and endline, access to **improved water sources**[30] and **sanitation facilities**[31] remained high, while substantial gains were observed in **water availability** (+37 pp), accessibility, and hygiene *(Figures 22, 23, 24)*. The proportion of households with water available when needed increased markedly, and significantly more households were able to collect water within 30 minutes (+19 pp), meeting WHO/UNICEF accessibility benchmarks.

Access to **handwashing facilities with soap and water** also increased (+21 pp) significantly *(Figure 22)*, indicating improved basic hygiene. Between baseline and endline, an **increase in household use of both fixed and simple handwashing options** is observed. The slight shift toward basins, sinks, buckets with taps, and jugs indicate enhanced capacity for regular handwashing practices in line with WHO/UNICEF hygiene standards. Although nearly one-quarter of households still lacked a handwashing station at endline, the overall pattern reflects meaningful progress in access to basic hygiene infrastructure.

Figure 21 *Household access to water and handwashing facility at BL and EL*



Drinking water access shifted decisively toward **piped water within the dwelling at endline**, accompanied by a sharp **reduction in reliance on public taps and standpipes**. This pattern indicates improved convenience and potentially improved reliability of water access, consistent with observed gains in water availability and reduced collection time. At the same time, modest increases are observed in delivered water and borehole usage.

While there is a slight decline in access to improved water sources in some areas between baseline and endline *(Figure 24)*, particularly in **Taiz** (92.7% to 87.2%), this could be due to prolonged dry seasons and drought conditions, which reduced the functionality of improved sources such as boreholes and piped systems, leading households to seek alternative, often unimproved, sources. Additionally, in water-scarce urban areas like Taiz city, many households shifted to delivered water (tankers) or shared community sources.

[30] Improved drinking water source (piped water into dwelling, yard or plot; public taps or standpipes; boreholes or tube wells; protected dug wells; protected springs, rainwater, packaged or delivered water) which is located on premises, available when needed, and free of fecal and priority chemical contamination (link).
[31] Improved sanitation facilities include flush or pour flush toilets to sewerage systems, septic tanks or pit latrines, improved pit latrines (pit latrines with a slab or ventilated pit latrines) and composting toilets (link).

Figure 22 *Household access to improved water sources at BL and EL by governorate*

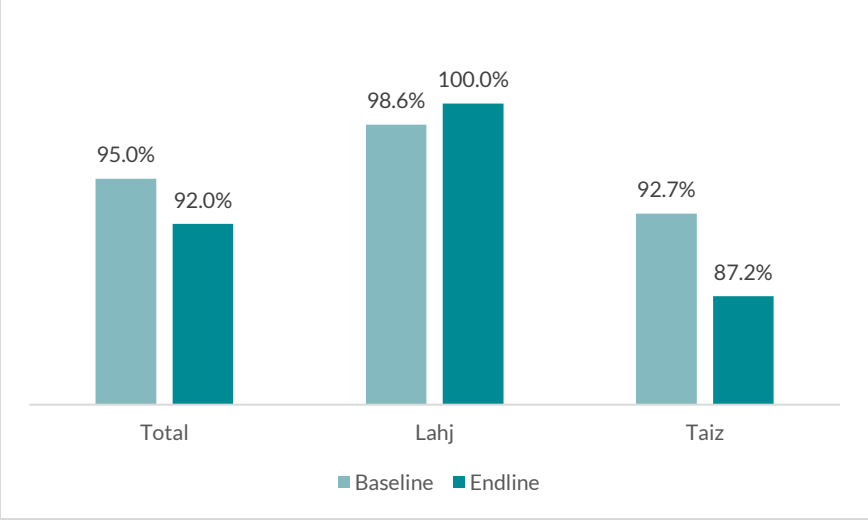


Table 13 *Summary of water and sanitation access by governorate at BL and EL*

Indicator	Baseline, % (n, 95%CI)	Endline % (n, 95%CI)	Change (pp)	p-value
Improved water source (yes)	95.0% [172, 91.1-97.5]	92.3% [167, 87.7-95.5]	-3%	0.302
Lahj	98.6% [71, 93.7-99.8]	100% [72]	1.4%	
Taiz	92.7% [101, 86.6-96.5]	87.2% [95, 89.9-92.4]	-5.5%	
Water Availability	59.1% [107, 51.9-66.1]	96.1% [174, 92.6-98.3]	37%	<0.001
Time required to collect water				
<30 minutes	60.8% [110, 53.5-67.7]	79.6% [144, 73.2-84.9]	19%	<0.001
Don't Know	7.7% [14, 4.5-12.3]	1.1% [2, 0.2-3.5]	-7%	
>30 minutes	31.5% [57, 25.1-38.5]	19.3% [35, 14.1-25.6]	-12%	
Handwashing Station with soap & water (Yes)	55.2% [100, 48.0-62.4]	76.2% [138, 69.7-82.0]	21%	<0.001
Improved Sanitation Facility (yes)	94.5% [171, 90.4-97.1]	90.1% [163, 85.1-93.8]	-4%	Not available
Lahj	95.8% [69, 89.3-98.8]	88.9% [64, 80.1-94.6]	-6.3%	
Taiz	93.6% [102, 87.8-97.1]	90.8% [99, 84.3-95.2]	-2.8%	

Between baseline and endline, overall access to improved sanitation declined slightly *(Figure 24 and Table 14)*, with a small proportion of households continuing to use unimproved facilities (pit latrine *without* a slab) *(Table 15)*. At the same time, an **increase** (22 pp) is observed in the use of **pit latrines *with* slabs** *(Table 15)*, indicating improved sanitation conditions in line with WHO/UNICEF standards.

Figure 23 *Household access to improved sanitation facilities at BL and EL by governorate*

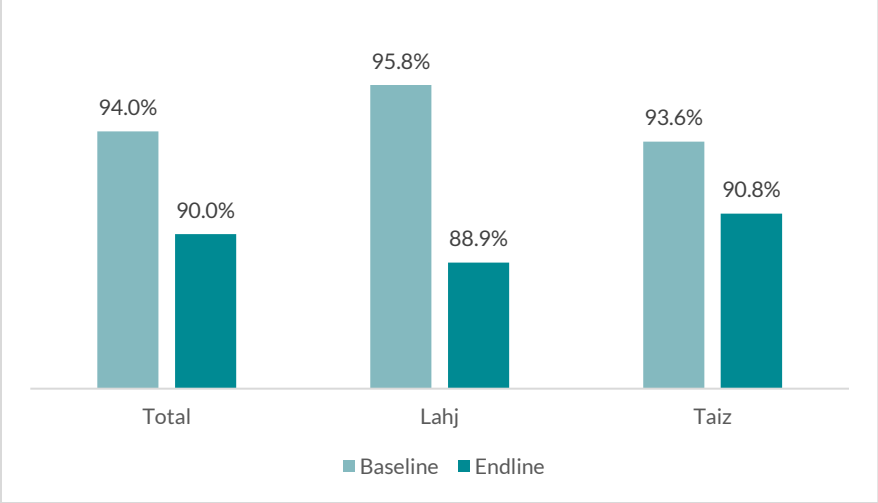


Table 14 *Detailed summary of water and sanitation access at BL and EL*

Indicator	Baseline (count)	Baseline (%)	Endline (count)	Endline (%)
Water Availability (Yes)	**107**	**59.1%**	**174**	**96.1%**
Improved Source of Drinking Water	**172**	**95.0%**	**168**	**92%**
Source of Drinking Water				
Piped water into the dwelling	104	57.5%	121	66.9%
Public tap or standpipe	35	19.3%	4	2.2%
Protected dug well	12	6.6%	14	7.7%
Protected rainwater collection system	6	3.3%	1	0.6%
Piped water into the yard / plot	5	2.8%	1	0.6%
Protected spring	5	2.8%	8	4.4%
Unprotected dug well	4	2.2%	7	3.9%
Delivered water (by tanker-truck or cart from an improved source)	3	1.7%	11	6.1%
Other (Specify)	3	1.7%	6	3.3%
Borehole / tubewell	2	1.1%	7	3.9%
Packaged/bottled water	2	1.1%	1	0.6%
Time required to collect water				
Less than 30 minutes	**110**	**60.8%**	**144**	**79.6%**
More than 30 minutes	57	31.5%	35	19.3%
Don't Know	14	7.7%	2	1.1%
Presence of Handwashing Facility (with soap and water)	**100**	**55.2%**	**138**	**76.2%**
Type of handwashing facility				
No Handwashing station	**81**	**45%**	**43**	**24%**
Basin	59	33%	70	39%
Bucket with tap	27	15%	34	19%
Jug	17	9%	33	18%
Sink (bathroom or kitchen)	9	5%	22	12%
Tippy-tap	0	0%	1	1%

Improved Sanitary Latrine	**171**	**94%**	**163**	**90%**
Type of Latrine				
Pit latrine with slab	106	59%	155	86%
Flush or pour toilet (connected to a sewer system/septic tank)	65	36%	8	4%
Pit latrine without slab	9	5%	9	5%
None (open defecation)	1	1%	0	0%
Other (Specify)	0	0%	9	5%

These changes represent meaningful improvements and are likely to contribute to reduce WASH-related health risks and better child nutrition outcomes. Minor, non-significant declines in improved water source and sanitation coverage were observed and warrant monitoring but do not indicate systematic deterioration.

Caregiver Perceptions of Child Health, Illness, and Health-seeking Behaviors

Households with children treated for severe and moderate acute malnutrition (SAM/MAM) were targeted for the intervention. Mothers were interviewed through focus group discussions about their own perceptions and their understanding of the perceptions of community members.

Only some mothers reported feeling judged by relatives or embarrassment for their child's condition, according to focus group discussions (FGDs). Most mothers reported receiving community support; some mothers in Lahj said, "*It's normal, and families strive to help and don't hide it*," reflecting a common sentiment of acceptance. Other mothers felt blamed by relatives or considered the child's condition as a form of parental neglect; "*I felt embarrassed because my husband's family would blame me and say I neglected my children*," said one mother in Lahj.

There were no narratives suggesting shame or embarrassment due to program participation or tension between beneficiary and non-beneficiary households. Many respondents felt supported and accepted by their community after receiving assistance. The few that reported experiencing any resentment from the community said that "*those who didn't know why we were chosen came to the distribution point and inquired, and the staff and representatives explained the reason for [our] selection*," (fathers, Taiz). However, non-supported families within the community were not consulted to triangulate the findings.

Caregivers also articulated a holistic understanding of child health that closely linked nutrition, hygiene, and responsive care. Both mothers and fathers emphasized balanced diets—particularly animal source foods and fruits and vegetables—as foundational to healthy growth. Mothers described the need for "*eggs, potatoes, milk, yogurt, all proteins, and chicken*," while fathers similarly highlighted "*healthy food and hygiene*." Clean water and household hygiene were repeatedly cited as essential, with caregivers noting that a child "*needs food, personal hygiene, and should not be neglected*" and "*to drink clean water and keep the house clean*." Medical care was also viewed as integral to maintaining health, with mothers stressing the importance of timely treatment alongside preventive practices: "*Medical treatment is also necessary… providing clean water, a clean home, and protection from dirt*." These responses suggest strong caregiver awareness of the multisectoral determinants of child health, spanning diet, WASH, and health services, and reflect alignment with program messaging around nutrition and hygiene. Mothers described the need for animal-source foods and fruits and vegetables as foundational to healthy growth.

Perceptions of illness causation and care seeking behaviors further reveal both proactive intentions and structural constraints. Caregivers commonly attributed child illness to poor hygiene, inadequate nutrition, environmental exposure, and lack of attention, with fathers noting "*lack of attention to hygiene, food, climate changes*," and mothers pointing to "*mosquitoes, flies, lack of hygiene… and open sewers*." When children fall ill, caregivers prioritized food, fluids, and treatment—"*use the appropriate medication and adhere to the medication schedule*," and "*give him healthy food and fluids to help him recover*"—but often relied first on home remedies such as over-the-counter fever reducers, cold compresses, or special foods ("*if there is diarrhea, we give him yogurt and cumin*"). Health seeking from formal services was sometimes delayed—"*after two days, if he does not recover, we take him to the doctor*" due to access barriers including "*distance, transport, limited medicines, and health facilities*". These challenges

underpin pervasive anxieties, particularly around affordability: "*I worry when my child gets sick and we don't have the money for treatment*." Overall, caregivers' narratives depict strong motivation to protect child health, tempered by financial and access constraints that shape reliance on home care and delayed healthcare.

Conclusions: Cohort 2

The absence of a control group limits causal attribution to Cash Plus SBCC or Cash Plus SBCC combined with wasting treatment. Notwithstanding, the findings from this longitudinal panel study provide several important insights. First, the high prevalence of acute malnutrition observed at baseline among children discharged from wasting treatment within the previous 90 days highlights substantial vulnerability during the early post-treatment period. Nearly half of the children had relapsed into acute malnutrition at baseline, suggesting that recovery achieved during treatment may not be sustained without continued support.

Second, significant reductions in acute malnutrition and relapse prevalence were observed during the follow-up period. In a context characterized by severe food insecurity and high risk of relapse, these improvements suggest that the combination of wasting treatment, cash assistance, and SBCC may help support recovery through complementary pathways: wasting treatment facilitates nutritional recovery, while Cash Plus SBCC may help sustain recovery after discharge by improving household food consumption, maternal and child dietary diversity and adequacy.

Third, stratified analysis has shown comparatively lower relapse prevalence (10.3%) and broadly stable anthropometric status (WHZ, WAZ, HAZ) among children who received Cash Plus SBCC support for five months. Considering that 46% of children had relapsed within 90 days at baseline in the absence of additional support, the observed relapse rate of 10.3% during the follow-up period suggests that targeted household support during the early post-treatment period may contribute to reducing relapse risk. These findings indicate potential value in integrating household Cash plus SBCC assistance with wasting treatment programmes to sustain recovery and reduce relapse.

Finally, the relatively high continued prevalence of acute malnutrition (30.1%) observed among children who were readmitted into wasting treatment at baseline despite receiving treatment alongside Cash Plus SBCC reflects the greater nutritional vulnerability of this subgroup. This finding highlights the severity of underlying vulnerabilities in contexts characterized by food insecurity, limited access to services, and high risk of malnutrition recurrence. It underscores the continued importance of understanding the underlying drivers of malnutrition, strengthening wasting treatment services and exploring packages of complementary support to extremely vulnerable households to improve recovery sustainability.

Further research with appropriate comparison groups is recommended to better assess the causal contribution of Cash Plus SBCC and its integration with wasting treatment in sustaining post-treatment recovery.

At the household level, food security gains were profound. Food Consumption Scores increased dramatically, shifting **nearly all households into the "acceptable" category by endline**. Families reported **markedly reduced reliance on negative coping strategies** and greater ability to meet basic needs. **Improvements in water availability, access to handwashing facilities, and basic hygiene practices** further underscore the value of integrated cash plus approaches.

Caregivers exhibited **increased knowledge of child feeding, hygiene, and appropriate childcare practices**, with many attributing improvements in child growth, health, and dietary quality directly to a combination of cash assistance and practical, actionable SBC messaging. Focus group discussions point to strong community acceptance, clear pathways of change, and positive shifts in parental priorities and behaviors.

Despite these gains, challenges remain. High attrition in Lahj, continued economic fragility, the rise in consumption of unhealthy foods and sweetened beverages, and persistent chronic undernutrition (stunting, underweight) highlight significant structural constraints that cash alone cannot address. The absence of a control group limits causal attribution, and some measurement gaps—particularly around treatment timelines and relapse classification—necessitate careful interpretation.

Overall, the findings suggest that multipurpose cash assistance combined with tailored nutrition and hygiene SBCC can support post-treatment nutritional stability and strengthen household food security in severely constrained environments. The RF4BN model shows promising potential to sustain post-treatment recovery and reduce relapse when targeted during the early vulnerable period following treatment discharge and implemented at a sufficient scale. In contexts such as Yemen,

characterized by high food insecurity and elevated risk of relapse, combining RF4BN with wasting treatment remains critical to support faster and more sustained nutritional recovery among malnourished children. By addressing key underlying determinants of malnutrition—including food access, caregiving practices, and hygiene conditions—the integrated approach may help stabilize recovery beyond treatment discharge. Further research with appropriate comparison groups is recommended to strengthen the evidence base on the causal contribution of RF4BN and its integration with wasting treatment in sustaining recovery and preventing relapse in fragile settings.

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