

## “Smart Scale–Based Health Monitoring and Nutritional Awareness in Women during PoshanAbhiyan”

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The Healthify smart scale offers a quick evaluation of 11 essential health metrics for women through the Healthify app, enabling effortless and immediate health status checks and facilitating timely medical and dietary advice when necessary. During Poshan Abhiyan Month, celebrated every September in India to raise nutrition awareness and tackle malnutrition among children, adolescent girls, pregnant women, and nursing mothers, this smart scale is employed to measure weight and analyze eleven health indicators using an integrated sensor, with the data readily available on the Healthify app for instant health status assessment.

A survey was carried out among three groups of women- employees, labor women, and school children-to determine the effectiveness of the Healthify smart scale. The findings of this evaluation are presented in Table 1, where different colors indicate various health statuses. This survey was instrumental in assessing the smart scale’s capability to measure and deliver health insights across different groups of women.

### Participants and Health Status Findings

The Healthify smart scale evaluates health metrics by dividing them into three categories—Low, Healthy, and High-and assesses overall health status as Very Lean, Lean, Healthy, High, or Very High through color-coded signals. These visual indicators enable users to swiftly grasp health risks such as dehydration, protein deficiency, excess fat, or low bone mass, encouraging the adoption of balanced diets and healthier lifestyles.

### Health Status Results:

- **Healthy Status (Green):** Two employees, two laborers, and one ZPHS student are categorized as healthy.
- **Lean and Very Lean Status (Purple and White):** The majority of ZPHS students were classified as lean or very lean, reflecting the lower body fat and BMI often seen in teenagers.
- **High Status (Orange):** Several participants, including employees and laborers, were identified as high, indicating increased BMI or body fat.
- **Very High Status (Red):** Those marked in red faced significant health risks due to high levels of body fat, visceral fat, or BMI, suggesting obesity

### Health Insights and Nutritional Recommendations:

- **Obesity Risks:** Those in orange and red zones face higher risks of lifestyle diseases like diabetes, hypertension, and heart disease and require emphasis on balanced nutrition and exercise.
- **Under-nutrition Concerns:** Very lean and lean participants, especially students, may suffer from under-nutrition, needing increased intake of nutrient-rich foods to support growth.

- Nutritional Guidance:** The importance of a balanced diet rich in proteins, calcium, micronutrients, and vitamins was stressed, especially for pregnant women, young girls, and school children to ensure proper development.

These findings highlight the value of the smart scale in providing actionable health insights tailored for diverse women groups during Poshan Abhiyan Month.

### Conclusion

The Healthify smart scale proved to be an effective tool supporting the goals of Poshan Abhiyan by promoting nutritional awareness and encouraging healthier lifestyles. The workshop highlighted diverse health profiles among participants, identifying both obesity-related risks and under-nutrition concerns. By fostering community engagement and providing actionable health insights through real-time monitoring, this program contributed positively to improving the nutritional status and overall well-being of Narayanpuram’s residents.

Future programs could build on this model by incorporating follow-up assessments and personalized dietary plans to sustain long-term health improvements, further strengthening the multi-sectoral and technology-driven approach of Poshan Abhiyan aimed at combating malnutrition comprehensively across communities.

Type	Weight, kg	Status	Body Fat, %	Muscle Mass, %	BMI	BMR, Cal	Bone Mass, %	Body Hydration, %	Metabolic Age, Yrs.	Protein, %	Skeletal Muscle, %	Subcutaneous Fat, %	Visceral Fat, %	Muscle Mass, kg
Employs1	49.3	Healthy	25.5	69.98	19.3	1163	2.21	51.2	34	17.5	43.5	24.3	2	34.5
Employs2	62.3	High	32.9	63.08	24.3	1272	2.51	46	40	15.4	39.1	30.1	7	39.3
Employs3	48.55	Healthy	24.9	70.65	19	1157	2.19	51.6	35	17.8	43.8	23.8	2	34.3
Employs4	79	Very High	38.8	57.59	30.9	1414	2.9	42	45	13.6	35.6	34.1	13	45.5
Employs5	62.85	High	33.1	62.85	24.6	1278	2.52	45.9	41	15.4	38.9	30.2	7	39.5
Labor1	56.3	Healthy	29.9	65.9	22	1222	2.37	48.1	37	16.3	40.9	27.8	5	37.1
Labor2	88.4	Very High	41.2	55.32	34.5	1492	3.12	40.4	46	12.8	34.3	35.5	16	48.9
Labor3	70.35	High	36.1	60.13	27.5	1340	2.7	43.9	44	14.4	37.3	32.4	10	42.3
Labor4	56.85	Healthy	30.2	65.61	22.2	1227	2.38	47.9	38	16.2	40.7	28	5	37.3
Labor5	33.05	Very Lean	8	86.54	12.9	1026	1.82	63.1	47	23	53.6	7.6	1	28.6
ZPHS student 1	34.35	Very Lean	10	84.72	13.4	1037	1.85	61.7	46	22.4	52.4	9.5	1	29.1
ZPHS student 2	39.15	Lean	16.2	78.67	15.3	1078	1.97	57.5	42	20.5	48.8	15.6	1	30.8
ZPHS student 3	40.25	Lean	17.5	77.52	15.7	1087	1.99	56.6	40	20.1	48.1	16.9	1	31.2
ZPHS student 4	46.75	Lean	23.5	71.87	18.3	1142	2.15	52.5	36	18.2	44.6	22.6	1	33.6
ZPHS student 5	50.55	Healthy	26.3	69.24	19.7	1174	2.23	50.5	34	17.5	42.9	24.9	3	35

Table 1. Health assessment parameters and status of women and students using smart scale

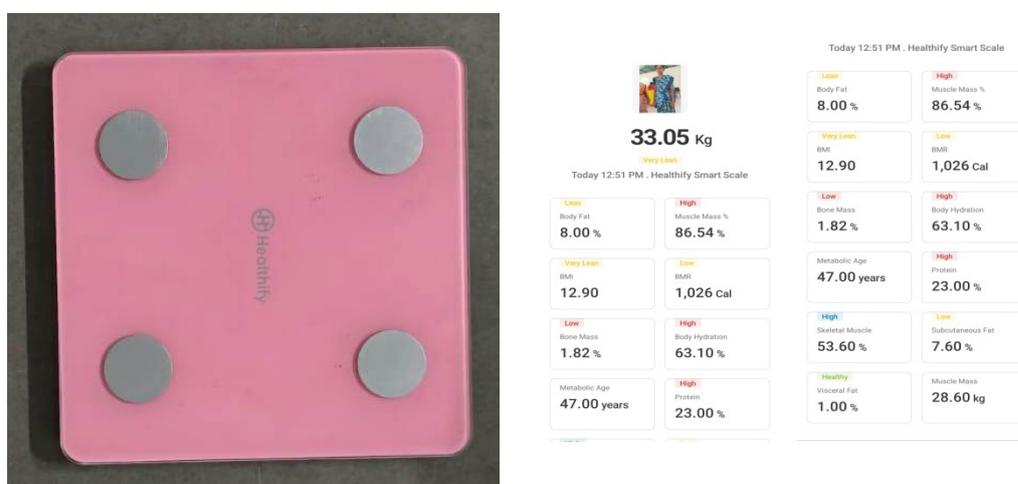


Fig. 1 Real-Time Health Parameter Monitoring Using the Healthify Smart Scale App



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Fig. 2 Nutritional Awareness during Poshan Abhiyan Month at Narayanpuram, the Adopted Village of Agricultural College, Aswaraopeta, PJTSAU-Hyderabad



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Fig. 3 Workshop on Smart Scale–Based Health Monitoring of Women under Poshan Abhiyan