

Vol 45 (1) March , 2021

Print: ISSN 0304 4904
Online: ISSN 2305-820X



PAKISTAN PEDIATRIC JOURNAL



A JOURNAL OF PAKISTAN PEDIATRIC ASSOCIATION

Indexed in EMBASE/Excerpta Medica, Index Medicus WHO
IMEMR & Global Health/CAB Abstracts and UDL-EDGE Products and Services

www.pakpedsjournal.org.pk

<http://www.pakmedinet.com/PPJ>

SHORT COMMUNICATION

Nutritional Status of Children Presenting at a Free Medical Camp in District Awaran: A Cross Sectional Study

ASAD MAQBOOL AHMAD, TAIMOOR ASHRAF KHAN, MIAN SARFARAZ GUL, AFNAN AKBAR, AMIR ALI, MUHAMMAD ASHRAF

Pak Pediatr J 2021; 45(1): 117-19

Correspondence to:

Taimoor Ashraf Khan
Headquarters FC Balochistan North
Quetta

E-mail: taimoorashraf@gmail.com

Received: 21st February 2020

Accepted for publication:

13th October 2020

ABSTRACT

It was a cross-sectional study conducted in December 2016 to assess the nutritional status of children attending a free medical camp in Awaran, Balochistan. Of the 124 children included, 17 (13.7%) were with moderately stunted growth, 20 (16.1%) with severely stunted growth, 22 (17.7%) moderately underweight, and 44 (35.5%) were extremely underweight.

Key Words: *Malnutrition, Wasting, Stunting, Food security, RUTF, Growth assessment*

INTRODUCTION

'Nutrition' is itself a fundamental element of Sustainable Development Goal (SDG) no. 2 but in reality nutrition is interlaced with all of the 17 SDGs. Before SDGs, nutrition was a free-standing element of Millennium Development Goal (MDG) no 1. The nutrition of children is of substantial importance because deficits in the early stages of growth cause significant negative impact on the long term health and socioeconomic functional status of the individual and the nation.¹

In Pakistan, 48.6 percent of the population is experiencing food insecurity, whereas out of the total food insecure population, 22.4 percent are *extremely* food insecure. The National Nutrition Survey 2011 reported that 40 percent children in Balochistan are underweight, 52 per cent stunted while 16 per cent are wasted.² Awaran is a remote rural-agricultural district in South Balochistan where the percentage of food insecurity is 67.2%. The objective of this study was to assess the nutritional status of children 2-12 years' age, attending a free medical camp in Awaran district soon after the earthquake.

CLINICAL EXPERIENCE

This was a cross sectional study conducted in

Awaran, Balochistan over 5 days in December 2016. A total of 124 children were selected by convenience sampling. All children of ages 2-12 years attending the camp were included. Weight of the individuals was measured using an analogue Salter scale. A height meter rule that was attached to the scale was subsequently used to measure the height of the children. Data from anthropometric measurements were analyzed using NCHS/WHO standard of reference.³ The indicators of nutritional status used were weight for age, height for age, and BMI for age. The mean and standard deviation of the height and weight measurements were calculated, and data was analysed using Statistical Package for the Social Sciences (SPSS) version 22 and Microsoft Excel 365.

Of the 124 individuals, 72 (58.1%) were females with mean age 5.33 ± 3.13 years and 52 (41.9%) were males with mean age 4.81 ± 2.66 years. The proportion of children of both genders falling in the severe underweight category was 35.5% while 17.7% were underweight, together constituting 53.2% of the study sample. Of the total study sample 29.8% were stunted including 16.1% who were severely stunted. Stunting and underweight

were similar in both genders. The mean BMI among females was 13.96 ± 2.55 and among males was 13.51 ± 2.37 . There is no significant

difference between the proportions of male and female children in each category ($p=0.463$).

TABLE 1: Weight for age analysis (n=124)

Gender	Weight for age				
	Severely underweight	Underweight	Normal weight	Over weight	Obese
Female	19	13	37	1	2
Male	25	09	16	1	1
Total	44 (35.5%)	22 (17.7%)	53 (42.7%)	2 (1.6%)	3 (2.4%)

TABLE 2: Height for age analysis (n=124)

Gender	Height for age			
	Severe stunting	Moderate stunting	Normal height	Tall for age
Female	10	8	46	8
Male	10	9	31	2
Total	20 (16.1%)	17 (13.7%)	77 (62.1%)	10 (8.1%)

TABLE 3: BMI for age analysis (n=124)

Gender	Weight for age				
	Severely underweight	Underweight	Normal weight	Over weight	Obese
Female	21	11	34	5	1
Male	22	06	22	1	1
Total	43 (34.7%)	17 (13.7%)	56 (45.2%)	6 (4.8%)	2 (1.6%)

DISCUSSION

In our study more than half of all children studied (53.2%) were underweight including 34.7% who were severely underweight. This is almost twice the national figures according to the National Nutrition Survey which states that the underweight rate for Pakistan is 30%. Asim M *et al* in his paper reviewed 28 local studies in Pakistan, 27 of these were cross-sectional studies, 17 of which used the NCHS/WHO Z-score for assessment of malnutrition. Only one of these studies was conducted in the province of Balochistan, in two rural union councils of Quetta which concluded 48% stunting and 10 % wasting in these areas respectively.⁴ In comparison, our study showed 29.8% stunting which is below the national average of 40% stunting according to the Pakistan 2018 National Nutritional Survey. In terms of wasting, our study showed a proportion of 48.4% which is more than twice the national average. This bears out the statistics of Awaran district being one of the most affected in terms of food insecurity.

The significant rates of malnutrition in Awaran require a consistent and systematic approach to the problem with short- and long-term approaches. The long-term approach must focus on economic development of the region led by the government and socially conscious leaders across the spectrum of society. However, the high rates of stunting and malnutrition carry significant impacts on individual lives leading to a need for short term actions as well. This can be done through the use of Ready to Use Therapeutic Food (RUTF) such as Plumpy Nut which is available in 92 g sachets that give equivalent caloric value of F100 diet yet being more acceptable, not requiring the need to cook or mix in water, therefore preventing contamination risks. However, Plumpy Nut has a pasty consistency and a nutty flavor that our local population is not familiar with. It is also expensive relative to the local purchasing power, being bought by donor agencies at high cost. To counter this problem a study evaluating a locally produced, chick pea based RUTF found higher acceptability with the locally made 'high density diet'. A locally produced high density diet is reasonably efficacious and has

higher acceptability due to taste and texture similar to traditional dessert.⁵ This region of Balochistan requires a more targeted approach to counter prevailing malnourished condition of its population at emergency basis. Ruel M *et al*, suggested that 'nutritional sensitive programme' must include that they a) focus on the fundamental determinants of nutrition, b) are implemented on a scale, c) effectively reach the populations which are at high risk of malnourishment, d) address those at malnutrition risk, and e) may be extended to serve more targeted nutrition-specific activities as a delivery platform.⁶

CONCLUSION

Awaran region has a significant proportion of stunting and malnutrition proportional to the level of food insecurity. This observation is significant as it spells out the urgent need for short- and long-term rehabilitation of the region. More efforts need to be established in meeting nutritional reference values set by World Health Organization especially the supplementation of protein intake.

Conflict of Interest: None to declare.

Funding Disclosure: None to declare

Authors' affiliation

Asad Maqbool Ahmad, Mian Sarfaraz Gul,
CMH, Peshawar

Taimoor Ashraf Khan,
Headquarters FC Balochistan

Afnan Akbar,
Army Medical College, Rawalpindi

Amir Ali,
CMH, Mangla

Muhammad Ashraf

Amna Inayat Medical College, Lahore

REFERENCES

1. Nutrition and the Post-2015 Sustainable Development Goals, [Internet]- [cited 19 Nov 2019]. October 2014 , Available from: https://www.unscn.org/files/Publications/Briefs_on_Nutrition/Final_Nutrition%20and_the_SDGs.pdf
2. National Nutrition Survey 2011 [Internet]. May 2012. [cited 19 Nov 2019]. Available from: <https://www.mhinnovation.net/sites/default/files/downloads/innovation/research/Pakistan.National.Nutrition.Survey.2011.pdf>
3. Nutrition Landscape Information System: Country Profile Indicators. [Internet]. Who.int. 2019 [cited 26 May 2019]. Available from: https://www.who.int/nutrition/nlis_interpretation_guide.pdf.
4. de Onis M, Blossner M. WHO Global database on child growth and malnutrition [Internet]. *Who.int*. 2019 [cited 4 August 2019]. Available from: <https://www.who.int/nutgrowthdb/about/introduction/en/index4.html>
5. Asim M, Nawaz Y. Child Malnutrition in Pakistan: Evidence from Literature. *Children (Basel)*. 2018;5(5):60. Published 2018 May 4. doi:10.3390/children5050s060
6. Akram DS, Suleman Y, Hanif H. Home-based rehabilitation of severely malnourished children using indigenous high-density diet. *JPak Med Assoc* Vol.66,(3),p251-254 Mar2016
7. Ruel MT, Alderman H, Nutrition-sensitive interventions and programmes: how can they help to accelerate progress in improving maternal and child nutrition? *Lancet*. 2013 Aug 10;382(9891):536-51. doi: 10.1016/S0140-6736(13)60843-0. Epub 2013 Jun 6.