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National Nutrition Survey of Pakistan, 2011 A Critical Appraisal

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Malnutrition epidemic poses a double burden on Pakistan's health system in the form of under nutrition and obesity. Several efforts have been made for improving the situation of malnutrition in the country. Nation-wide surveys are the best means of assessing nutritional status of population and quantifying nutritional problems. In countries like Pakistan, undergoing nutrition transition[1], large scale surveys are crucial in planning and implementing nation-wide policies[2]. Pakistani governmental authorities conducted National Nutrition Surveys (NNS) in years 1998, 2001 and 2011, out of which the most recent one has formally been reported and is easily accessible to all[2]. NNS was again conducted in 2018 and reports are under process. 2011 NNS was considered the sole source of authentic, country-wide representative data on nutrition situation and has been referenced in national as well as international health reports since its publication. This editorial gives an overview of the survey as well as critically appraises different aspects of the 2011 survey report. NNS survey design and methods have several pros including adoption of household survey method, proportionate random sampling technique to achieve regional representativeness, and collecting data on a range of variables with qualitative aspect introduced as a new dimension. However, focus was mainly made on under-nutrition rather than including imbalanced and over-nutrition, which are becoming more of a problem during the health transition in developing countries[2].

However several improvements were noted in data collection procedures which was strengthened by cross checking, use of special probes, standard utensils and staff trainings. These measures reduced the chances of observer recall and interviewer bias though a detail account of staff/ data collectors' training was not available in the report. A single day dietary recall (24-hr recall) was used which was better than a 72-hr recall and enhanced understanding was achieved reducing reporter bias. Nevertheless certain aspects of the NNS require consideration. The data could have been tainted with social acceptability bias in presence of interviewer, family members/ in-laws during interview or in focus group discussions (under-reporting of bad points and over-reporting of good ones). The sample of elderly people had gender tilt towards females with probable reason being that data was collected in morning time. There was also a discrepancy between sample size estimated and actually reaching for biochemical assessment, which might have been addressed by increasing sample size but not exactly explained in the report.

The survey questionnaire was pilot tested, which is a strength of this report. One of the objectives of pilot testing the questionnaire was "to check accuracy and adequacy of the questionnaire instructions such as "skip" and "go to". Such instructions were not relevant in researcher-administered questionnaire and must have given rise to problems related to illiteracy if the questionnaire was self-administered. Results of pilot testing along with what and how modifications were done needed further elaboration so as to give a better utilization and understanding of piloting a research questionnaire.

Plausible difference in cutoff points of child malnutrition could have decreased the comparability of survey findings by using wider ranges than 3SD (standard deviation), though z-score references by WHO were used[3].

There could have been potential inter-observer/ inter-reporter bias involved in clinical examination of mothers. Observed parameters tend to be difficult to replicate and compare with same precision. Lack of separate reference range for anemia in pregnant women may have mingled physiological anemia with nutritional anemia. International standards for BMI categories were used although Asian population may have higher cut-offs.

The findings suggest provincial disparities in nutritional problems, which is in line with the devolution of health system in the country in 2011 for providing need based interventions. These were visually well represented for aiding comprehensibility and added to by explicit reporting

of limited data from FATA region. The findings exposed problems closely linked to nutritional issues and identified the most-at-risk sections of population. Previously there was a lapse of 15 years between two surveys; the current survey was conducted a decade later. It is highly recommended that regular surveys be conducted with shorter intervals while incorporating certain improvements in methodology, data collection and reporting so as to collect more robust data on nutrition and health. Pakistan has conducted and published nation-wide nutrition surveys but needs to make this information comprehensible for effective utilization and informed decision making. Health surveys need to be better planned and executed after considering the critical appraisal of previous reports so as to avoid wastage of resources.

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