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Invitation for Expressions of Interest for participation in Indian Child Growth Reference Development Research Initiative

Background

Childhood growth, particularly growth during the first two years of life, has important implications for the short term and long-term health outcomes, work productivity and cognitive capacity of individuals and society at large.

Existing Standards -WHO Growth Standards

Currently, the most widely used standards for assessment of growth and development of children were developed through the World Health Organization- Multicentre Growth Reference Study (WHO-MGRS) conducted between 1997 and 2003 by pooling of growth data from six different countries of various ethnicities representing five continents. The study showed that if provided with ideal conditions for 'healthy' growth, children from various countries all over the world would attain similar growth irrespective of ethnicities and genetic determinants. WHO growth standards are currently being used by over 125 countries and remain the universally accepted yardstick for international growth comparisons.

Need for an Indian Growth Reference Study

Over the past 25 years since the WHO-MGRS study, knowledge on 'healthy growth' has evolved with better understanding of the association of growth velocity and body composition to later cardio metabolic health outcomes. Moreover, the recommendations on optimal infant and young child feeding practices (including optimal duration of exclusive breastfeeding) have undergone changes, and there is better understanding of the nurturing growth environment, physical activity that are needed for healthy growth. In the context of the known thin-fat phenotype with enhanced metabolic risk in Indian population, it is critical to define healthy childhood growth that is compatible with long term health and development.

India was one of the six participating sites in the WHO-MGRS with the study children enrolled from urban areas of South Delhi. However, considering likely regional variations in growth potential, a growth reference representing urban and rural children from different regions of the country is desirable.

Purpose of the call

This call for expressions of interest (EoI) invites applications from willing groups of researchers for participation in data collection for a multicentre growth reference research initiative including children from six zones of the country, who will meet pre-defined criteria to indicate 'no constraints to growth'. The applicants should have an experience of conducting large-scale community-based studies related to childhood growth with high quality data collection. The resultant data from all the study sites will be pooled to generate growth references for Indian children.

Overarching aim of the research initiative:

To develop contemporary Indian child growth references based on children from different parts of the country, who receive care that is likely to be associated with optimal growth and low risk of future metabolic disorders.

Expected Deliverables

The selected study teams are expected to deliver the following under the guidance of ICMR:

- Collection of data among healthy (using definition of 'health' finalized during protocol development) Indian children from 0-19 years of age for the development of growth references to estimate the growth indices like length/ height for age, weight for age, weight for length/ height, and (Body Mass Index) BMI for age
- Collection of data leading to development of body composition charts for healthy Indian children
- Collection of data leading to development of growth velocity charts for certain age groups

Outline of the research initiative:

It will be multicentre research initiative consisting of two observational studies conducted in rural and urban areas from six regions in the country:

- 1) Study-1: A longitudinal study initiated in early pregnancy with accurate gestational age measurement with follow up of newborn up to 2 (or 3) years of age
- 2) Study-2: A cross sectional study for all age brackets (of one year) starting at 2-3 years of age up to 19 years

Target Population/Inclusion criteria

Study-1: will enroll pregnant women before 20 weeks gestation. These will be 'healthy' women (according to predefined criteria, which will be finalized during protocol development) with accurate pregnancy dating done by ultrasonography and willing to comply with study requirements needed to ensure 'no constraints to growth' environment. These women will be followed up till delivery. Healthy newborns (according to predefined criteria) will be enrolled and followed up periodically till 2-3 years of age.

Study-2: will enroll children and adolescents from 2-3 to 19 years of age. Participants will be selected based on predefined criteria to ensure that they had 'no constraints' to their growth and functional/development outcomes and are not at risk of any discernible metabolic disorders.

Setting: Households/ schools in urban and rural areas where the children / adolescents are likely to experience an environment conducive to growth and development without known social, educational, and economic constraints.

Duration of study: 4 years

Activities	Approximate Duration
Preparation	6m
Enrolment	6m
Follow up	2.5y
Data analysis and report writing	6m

Study Procedures

Study-1: Pregnant women eligible and consenting for inclusion into the study will be counseled and advised to follow guidance for providing the newborn a healthy growth environment. The newborns enrolled according to inclusion criteria will be followed up periodically for growth assessment, body composition assessment with high quality standard methodology. Families will be simultaneously assessed for factors such as breastfeeding, complementary feeding, nurturing care, immunizations. A record will be kept separately of the compliant and non-compliant families and the study drop outs/ deaths. Finally, after 2 (or 3) year follow –up, data from all the sites will be assessed for conformity to a pre-set inter-site and intra-site variance limit and will be pooled using standard statistical methods to generate the growth references.

Study-2: Children in different age groups from 2 (or 3) years to 19 years fulfilling the eligibility criteria will undergo one-time measurements of growth parameters with high quality standard methodology and resulting data will be pooled and analyzed using standard statistical methods.

Who can apply:

1. Researchers who have regular employment in Medical Institutes/ Research Institutes/ Universities/ Colleges/ Government and semi- government organizations and NGOs.
2. A team of researchers should be identified along with the principal investigator.
3. The team should have prior experience in conducting large community-based studies, preferably child growth and body composition studies.
4. The team should have expertise to ensure high quality standardized anthropometric measurements in the field settings.
5. The team should have experience of maintaining cohorts of young children.
6. The team should preferably have expertise in conducting research in both young children and adolescents.

Information to be included in the EoI:

Two-page CV:

- A.** Name, academic/ professional qualifications and affiliation of PI and the other members of the team (PI + maximum of 3 other investigators)
- B.** Experience in undertaking large projects on child growth/ body composition in community settings: Experience of the PI and a maximum of 3 other investigators should be included. The research experience and publications of the team as a whole should be summarized within one page.
- It should include:
- Upto five most relevant previous research grants with the main objectives of the research studies

- Upto five most relevant previous publications with brief summary of each paper

Two-page EoI Document

- C. The EoI should clearly state the choice of the sites (states and districts) where the study implementation shall be carried out and the rationale behind choosing the sites.
- D. Implementation strategy (one page) for each of the two studies including selection of sample population, enrolment strategy, inclusion/ exclusion criteria, follow-up plan, anthropometric measurements and the quality control measures.

Review process:

The EOI documents will be screened for completeness and eligibility by the ICMR. The shortlisted applications will be reviewed by an independent selection committee. The selected teams will then collaborate to develop a detailed proposal, under the guidance of ICMR. The roles and responsibilities of the respective teams will be decided by the project steering committee constituted by ICMR.

How to submit the EOI?

The EOI can be submitted through ONLINE MODE ONLY using the Google form through the link given below:

<https://forms.gle/4edNbz2UP4kU3JKx9>

Only the shortlisted applicants will be contacted via e-mail

Timelines

Activities	Date
Release of the Call	22.11.2023
Last date for submission of EOI	26.12. 2023 (5pm)
Shortlisting of EOIs	15.01.2024
Proposal Development Workshop	13.02.2024

For any queries related to the call, please contact the following program officers:

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