# **INTRODUCTION**

Dr. Chaitali and Dr. Johnson, please write up the Introduction part and I request you to follow the same format (for the references) in which I am writing the Methods section.

# **METHODS**

Ethical clearance for the present study was not required as it deals with the real-life analyses of the secondary datasets. The informed consent from the parents and ethical clearance had been taken from the respective institutional authorities. Datasets were used from the National Demographic Health Survey (DHS) datasets from the South and South-East Asia and Sub-Saharan Africa. The analysis was limited to anthropometric datasets that were obtained in 2010 or after, specifically between 0-59 months [DHS Program website]. With the same variables, names, kinds, lengths, coding schemes, unit of measurement, and file format, a single set-up was created for the DHS datasets. These comprised case ID, age, sex, length/height, and weight.

For generating the z-scores of the four anthropometric indices from the length/height for age (HAZ), weight for age (WAZ), weight for height (WHZ), and body mass index for age (BMIZ), we have used the WHO macro syntax for STATA [WHO Child Growth Standards]. The WHO criteria were used to delete the missing or flagged values (z-scores): HAZ <-6 or >6; WAZ <-6 or >5; WHZ <-5 or >5; and BMIZ <-5 or >5 [WHO Child Growth Standards; WHO MGRS Group, 2006]. The children whose WHZ or BMIZ was more than one standard deviation were labelled as possible risk of overweight and overweight if WHZ or BMIZ was more than 2z, stunted (<-2z for length/height for age) according to the WHO growth standards. Children who were both stunted and possible risk of overweight; and stunted and overweight were labelled as CSPO and CSO, respectively.

*Statistical Analysis:* The path and intensity of the CSPO and CSO for both the metrics weight-for-length/height and BMI-for-age were estimated by calculating the Odds Ratio (OR) separately for each country’s dataset. DerSimonian-Laird model in the random-effects meta-analysis was used to pool the ORs from each dataset [DerSimonian R, 1986; Higgins JPT, 2008], as the clinical context of the surveys was heterogeneous. The five categories which were used to compare the WHZ (or BMIZ) and HAZ were, namely, possible risk of overweight only, overweight only, stunted only, CSPO, and CSO. Due to the fact that these indices were left truncated at +2 z-scores and were not normally distributed, the data was compared using the nonparametric Mann-Whitney test and summarised as median (IQR). Through a user-defined package (ImpactEffectsize Version: 0.6.2), a non-parametric effect size measure was used to capture the changes in central tendency and data distribution shape [Lotsch J, 2020]. For each of these measures separately as well as between weight (kg) and height (cm), Pearson correlation coefficients were calculated between weight for height and BMI for age z-scores. Additionally, coefficients for the log weight regressed on log height were calculated. We have used the STATA 17.0/MP-Parallel Edition version (StataCorp LLC) and R software 4.3.1 version (R Core Team, 2023; [www.R-project.org/](http://www.R-project.org/)) were used to perform the analyses.

# **RESULTS**

From the available online DHS datasets, twenty-one countries (7 from South and South-East Asia and 14 from Sub-Saharan Africa) have fulfilled the inclusion criteria. Table 1 summarizes the demographic and anthropometric characteristics of the analyzed datasets. The surveys had been conducted between 2011 and 2022. The sample size in the DHS were ranging from 2,342 in Maldives to 17,280 in Kenya; except for India where the sample size was huge (n=197,651). In under-five children, approximately 8-14% of the children were young infants (0-6 months) and with almost equal representation of both the sexes (boys and girls).