Delivering Sprinkles Plus through the Integrated Child Development Services (ICDS) to Reduce Anemia in Pre-school Children in India: Author's Reply

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To the Editor: We thank Kapil et al. for their critique on our paper for not presenting data on hemoglobin increase, compliance, side-effects, and cost-effectiveness of Sprinkles and question the use of Hemocue to estimate hemoglobin [1].

We agree that presenting details on hemoglobin change would have been more informative. In our study, pre- and post-intervention hemoglobin levels were estimated in two independent cross-sections sampled from a larger cohort of children who received the intervention. This precludes us from estimating change in hemoglobin levels. Instead we present the reduction in proportion of anemic children as a meaningful program evaluation outcome.

We have previously presented information on Sprinkles side-effects [2]. The current study was designed in the context of an Integrated child development services (ICDS) pilot intervention program to evaluate delivery and impact of Sprinkles on anemia. We intended ICDS itself to measure hemoglobin, compliance and side-effects to encourage ownership. The ICDS worker over-ascertained the compliance. The post-intervention survey did not have enough power to test differences in compliance by age groups or by place of intervention. It was agreed that the ICDS will only monitor side-effects that result in prolonged interruption or discontinuation of Sprinkles. Furthermore, it was prone to varying recall bias since the survey took place after the 4-mo intervention period while the majority of children had completed receiving Sprinkles in the first 2 mo itself.

It was beyond the scope of this paper to evaluate the cost-effectiveness of Sprinkles. It was supplied to ICDS by the manufacturer at no cost.

Hemoglobin can be measured on a variety of devices that use different principles of operation. Furthermore, the clinical measurement of total hemoglobin has inherent variability. CO-Oximeters use spectrophotometric detection and are considered the gold standard for hemoglobin measurement. Its accuracy is a function of multiple variables related to the device as well as collection and handling of blood analyte that result in significant intra- and inter-device variation (up to 1.2 g/dL) in the hemoglobin measurements. Use of point-of-care analyzers based on spectrophotometry detection (e.g., HemoCue) is widely accepted in critical care, bedside and field survey settings because of quick results with portable devices and smaller samples from capillary puncture.

Conflict of Interest None.

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References

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