AUTHORS' REPLY

We thank the reader for his astute observations of our study findings [1]. Two methods that are commonly used to measure serum β-hydroxybutyrate **(**BOHB) in the laboratory are colorimetric method and spectrophotometry. Both methods are unavailable in most laboratories due to the prohibitively high cost of estimation and average time range from two to six hours based on the method of estimation, analysis of a number of samples and workforce available in the laboratory. In our study, we used Cayman colorimetric BOHB estimation kits, which had 96 wells (including those for control samples). Hence, samples were stored at -80°C and measured at the end of the study. Thus, real estimation time was not possible using this method. The spectrophotometric method of BOHB estimation is more widely used. It provides quick results (varying from the laboratory to laboratory), and is very accurate [1].

Regarding the concern about BOHB values >5 mmol/L, the total number of samples tested in the study were 236, out of which 42 capillary samples had a BOHB ≥5.0 mmol/L. We align with the reader's concern about the utility of BOHB measurement and hyperchloremic metabolic acidosis (HCMA), a potential cause of persistent metabolic acidosis in patients with DKA. As HCMA is a complication seen in a handful of patients towards the latter part of DKA management, blood gas analysis cannot be completely excluded. However, capillary BOHB can aid in reducing the frequency of blood gas analysis early on during the treatment course as it correlates well with pH, especially when HCMA has not set in. Hence, monitoring of ketonemia (BOHB) is one of the endpoints of diabetic ketoacidosis (DKA), where metabolic acidosis targeted approach might lead to an unnecessary continuation of therapy despite resolution of DKA by that time [3].

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REFERENCES

1. Kurup PM, Rameshkumar R, Soundravally R, Satheesh P. Capillary *versus* serum β-hydroxybutyrate in pediatric diabetic ketoacidosis. Indian Pediatr. 2019;56:126-9.
2. Li PK, Lee JT, MacGillivray MH, Schaefer PA, Siegel JH. Direct, fixed-time kinetic assays for beta-hydroxybutyrate and acetoacetate with a centrifugal analyzer or a computer-backed spectrophotometer. Clin Chem. 1980;26:1713-7.
3. Wolfsdorf JI, Glaser N, Agus M, Fritsch M, Hanas R, Rewers A. ISPAD Clinical Practice Consensus Guidelines 2018: Diabetic Ketoacidosis and the Hyperglycemic Hyperosmolar State. Pediatr Diabetes. 2018;19:155-77.

Problems Associated With Some Drug Formulations

Primarily the relationship between medical professionals and pharmaceutical industry is based on the common goal of providing help to the people during illness, and to maintain good health. Patients take a drug prescribed by a doctor because they have full faith in the treating doctor knowing that a doctor would abide by the cardinal principle of medical profession. A doctor prescribes a drug believing that any drug that has been licensed must be safe and approved. Is it a misplaced trust? [1]. The most important point is that drug formulations should be appropriate regarding ingredient(s) and the quantity of ingredients. Unfortunately, many drug formulations do not fulfill criteria to be labeled as appropriate formulations:

Substandard drugs: In case the quantity of any ingredient happens to be less than 90% of the quantity mentioned, it is called substandard drug.

Spurious drugs: In case the ingredient(s) quantity is zero percent it is called spurious drug.

Irrational formations: Clavulanic Acid is approved in combination with Amoxicillin, and Sulbactum for combination with Cefoperozone. Presently many antibiotics in combination with Clavulanic Acid or Sublactum are available in the market. These formulations add tremendously to the cost of therapy without providing any additional benefit to the patients.

Combination of antagonistic ingredients: Iron and zinc have many similar absorption and transport mechanisms, and may therefore compete for absorption [2,3]. Iron may interfere with absorption of Zinc, when ingested together.

Combination of ingredients having different administration schedules: Many cough and cold formulations have Cetirizine or Levocetirizine, which are to be administered once in 24 hours. Other ingredients in cold or cough formulations are recommended 3 to 4 times in 24 hours.

Potentially harmful combinations: Paracetamol, Ibuprofen and Mefenamic acid are marketed as

antipyretics. Ibuprofen and mefenamic acid may have significant side effects [4]. The combination of these drugs with paracetamol does not offer any advantage, but increases the chances of adverse effects.

Different quantities of ingredients: Cough syrups of different brands have different quantity of dextromethorphan per 5 mL of liquid (*e.g.* 5 mg, 10 mg and 15 mg). Some doctors may not be aware of this fact, which can result in inappropriate dosage of dextromethorphan [4]. There are many formulations meant for providing relief during cough/cold, which have combinations of different ingredients in variable quantities.

It seems that in a race for 'one-upmanship' the pharmaceutical industry has turned blind eye to the science of pharmacy and safety of people. Doctors should have full information about the drug formulations which they prescribe so as to give right medicine in right dose.

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REFERENCES

1. Paul Y. Need for safe and doctor friendly drug formulations. Pharma Times. 2013; 45:31- 2.
2. Sandstrom B. Micronutrient interactions: Effect on absorption and bioavailability. British J Nutr. 2001;85: 5181-5.
3. Solomons NW, Ruz M. Zinc and iron interaction: concepts and perspectives in developing world. Nutri Res. 1997;17:177- 85.
4. Grosser T, Smyth E, Fitzgerald GA. Anti-inflammatory Antipyretic and Analgesic Agents: Pharmacotherapy of Gout. *In*: Goodman and Gillman Pharmacological Basis of Therapeutics, New York: Brunton LL, Chabner BA, Knollman BC. *Eds*. 12th ed: McGraw Hill; 2011.p.982-7.
5. Paul Y. Dextromethorphan: Problems with formulations. Indian Pediatr. 2014;51:1019.

Bonding Angel Program – A Novel Initiative to Improve Early Initiation of Breastfeeding

Early initiation of breastfeeding refers to provision of mother's breastmilk to infants within one hour of birth. This is an evidence-based high-impact intervention for improving neonatal survival, and for establishing breastfeeding over the long-term. According to World Health Organization, early and uninterrupted skin-to-skin contact between mothers and infants should be facilitated and all mothers should be supported to initiate breastfeeding as soon as possible after birth, within the first hour after delivery. Despite these established guidelines and benefits of early initiations of breastfeeding, only 41.6% of neonates in India are breastfed within one hour of birth [1]. Despite 80% of the deliveries are institutional, early initiation of breastfeeding is suboptimal in the country [2].

In resource-restricted settings with high delivery rates, the reasons for suboptimal early initiation practices include lack of manpower (dedicated lactation counsellors and staff nurses) and delay in procedures like episiotomy suturing and ward transfers. Ours is a tertiary care teaching Institute in Southern India with 1500 to 1600 intramural deliveries per month. The rate of early initiation of breastfeeding in this center was only 33% as observed in a previous study [3]. In this context, Bonding Angel Program was initiated in September 2018 to improve early initiations of feeding. All stakeholders, including Departments of Neonatology, Obstetrics and Gynecology and Nursing College, were involved. Among the nursing students posted in labor room, one female nursing student was designated as the dedicated Bonding Angel for the day, and an identifying badge was provided to her. It was her responsibility to bring the mother and baby together soon after delivery, and help them to initiate breastfeeding at the earliest. She would also ensure correct position and attachment during breastfeeding. This has the potential to prevent hypoglycemia in newborn, facilitate good uterine contraction in the mother and ensure bonding between mother and the baby. All the Bonding Angels received appreciation certificates at the end of their labor room posting. The impact of this quality initiative on early initiation of breastfeeding is yet to be quantified. National Health Mission has also incorporated early initiation of breastfeeding in Laqshya – Labor room quality improvement initiative [4].

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REFERENCES

1. National Family Health Survey - 4. 2017. Available from: