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EDITORIAL COMMENTARY

G6PD Deficiency in Children: From Clinical Auditing to Optimizing Care

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The Journal's current issue carries an interesting study from Alexandria, Egypt, on the effectiveness of clinical auditing in improving the management of children presenting to the emergency with acute hemolytic anemia (AHA) secondary to glucose-6 phosphate dehydrogenase (G6PD) deficiency [1]. While the prevalence of G6PD deficiency in their studied population is not mentioned, an estimated 4%–9% of neonates in Egypt are G6PD deficient [2, 3]. The authors chose an excellent topic for performing this audit, as is corroborated by the fact that during the brief 4-wk study period, 111 patients with AHA were included.

The intervention was administered on a digital platform, followed by mandatory feedback. A pre- and postintervention evaluation demonstrated a marked reduction in ordering inessential investigations. It is heartening to see the involvement of digital platforms in the education of healthcare professionals. In the current study, the clinical auditing process has yielded encouraging results over a brief period of 4 wk. However, an accurate measurement of the effectiveness of this intervention will be the long-term sustainability of the change. A recent clinical audit to improve transfusion practices in the pediatric emergency of a referral hospital in North India did not demonstrate a significant reduction in the rate of request of blood products or wastage of blood products [4]. The reasons for this included varying levels of training of the doctors and patients' dynamic status [4]. In addition, residents are typically rotated every few weeks and require repeated training, which is challenging to implement in the emergency of a busy university hospital.

Impactful interventions typically need to be sustained over several years to change practices, and solutions need to be customized to the problem. The ongoing COVID-19 pandemic has taught us to effectively integrate digital platforms in day-to-day functioning, including healthcare services and teaching. It is proving to be a powerful tool for continued medical education, as demonstrated in this study. The formation of modules that can be easily used on digital platforms makes it possible to streamline education and provide updates and feedback regularly while working around human resources, time, and space constraints.

In this study, G6PD deficiency was initially diagnosed based on clinical features, and the authors have not commented in detail about non-G6PD AHA [1]. The information on this cohort is pertinent to make accurate local guidelines. In a recent single-center study from Egypt, 29% of children presenting with AHA to emergency did not have underlying G6PD deficiency [5].

The population prevalence of G6PD deficiency in India is estimated to be between 6% and 8% in the general population of Northwestern India and 7.7% in the pan-India tribal populations [6, 7]. A high incidence of neonatal jaundice (NNJ) of 30%–40% is observed secondary to G6PD deficiency [8], whereas presentation with AHA is uncommon and primarily associated with infections like acute viral hepatitis. Drug-induced AHA is uncommon, and food-indued AHA even more so. In our experience, essential drugs like chloroquine and rasburicase may be administered without waiting for a G6PD assessment. WHO recommends the need for neonatal screening if the population prevalence is > 3%–5% in males. The burden of G6PD deficiency is skewed towards NNJ in our population. A screening strategy would be impactful in reducing the morbidity and mortality caused by neonatal jaundice and kernicterus, more than for acute hemolytic anemia.

Declarations

Conflict of Interest None.

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