



## Review

# National G6PD neonatal screening program in Gaza Strip of Palestine: rationale, challenges and recommendations

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Congenital genetic disorders affecting neonates or young children can have serious clinical consequences if undiagnosed and left untreated. Early detection and an accurate diagnosis are, therefore, of major importance for preventing negative patient outcomes. Even though the occurrence of each specific metabolic disorder may be rare, their collective impact of preventable complications may be of considerable importance to the public health. Our previous studies showed that glucose-6-phosphate dehydrogenase (G6PD) deficiency is a problem of public health importance that has been shown to be a predominant cause of acute hemolytic anemia requiring hospitalization in Palestinian young children in Gaza Strip. Intriguingly, the majority of these children had one of the three variants, Mediterranean<sup>c.563T</sup>, African *G6PD A*–<sup>c.202A/c.376G</sup> and heretofore unrecognized as a common *G6PD*-deficient variant *G6PD* Cairo<sup>c.404C</sup>. The high prevalence of G6PD deficiency, as well as dietary factors in the region that precipitate anemia, argues for a need to protect the Palestinian children from a treatable and manageable genetic and metabolic disorder. This work reviews and discusses rationales and challenges of G6PD screening program in Gaza Strip. We advocate adopting a national neonatal G6PD screening program in Gaza Strip to identify children at risk and promote wellness and health for Palestine.

### Conflict of interest

The authors declare no conflict of interest related to this work.

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A key public health goal for a given population is to change mortality patterns within a society in order to increase life expectancy and improve the quality of life, which are essential elements that contribute and determine prosperity and welfare of a population (1–3). This substantial public health goal is achieved mainly through improving the well-being and wellness of the core elements of a population: mothers, infants, and

children. It is this segment of society that largely defines, shapes, and drives the general health and fortune of the next generations, as well as any challenges of the overall health care system and health services (4, 5).

The World Health Organization (WHO) associates the future of human societies to children being able to achieve their optimal physical and psychological developments, so that they are more likely to be prepared