

Experiences from a health-worker led congenital anomaly screening program in Pakistan

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Introduction

Globally, 8 million children are born with congenital anomalies (CAs) annually¹; 94% are from developing countries². Neonatal screening is imperative for early diagnosis to prevent mortality and disability. Orofacial clefts (OFCs) contribute significantly to this burden.

We aimed to establish a newborn screening program for external CAs, including OFCs, by training health workers (HWs) to identify, counsel and refer affected newborns.



Methods

HW training: An educational intervention was developed to enable screening of newborns for external CAs, which included subject knowledge, head-to-toe examination, counselling and referral guidelines. Pre- and post-tests were conducted to assess HWs' knowledge, followed by an evaluation to assess concordance in anomaly identification between them and the specialists.

Implementation: The program was conducted at three high-volume facilities. Newborns were enrolled after obtaining caregiver consent and all identified anomalies were documented. Parents of affected babies were counseled and referred using standardized expert-developed guidelines.



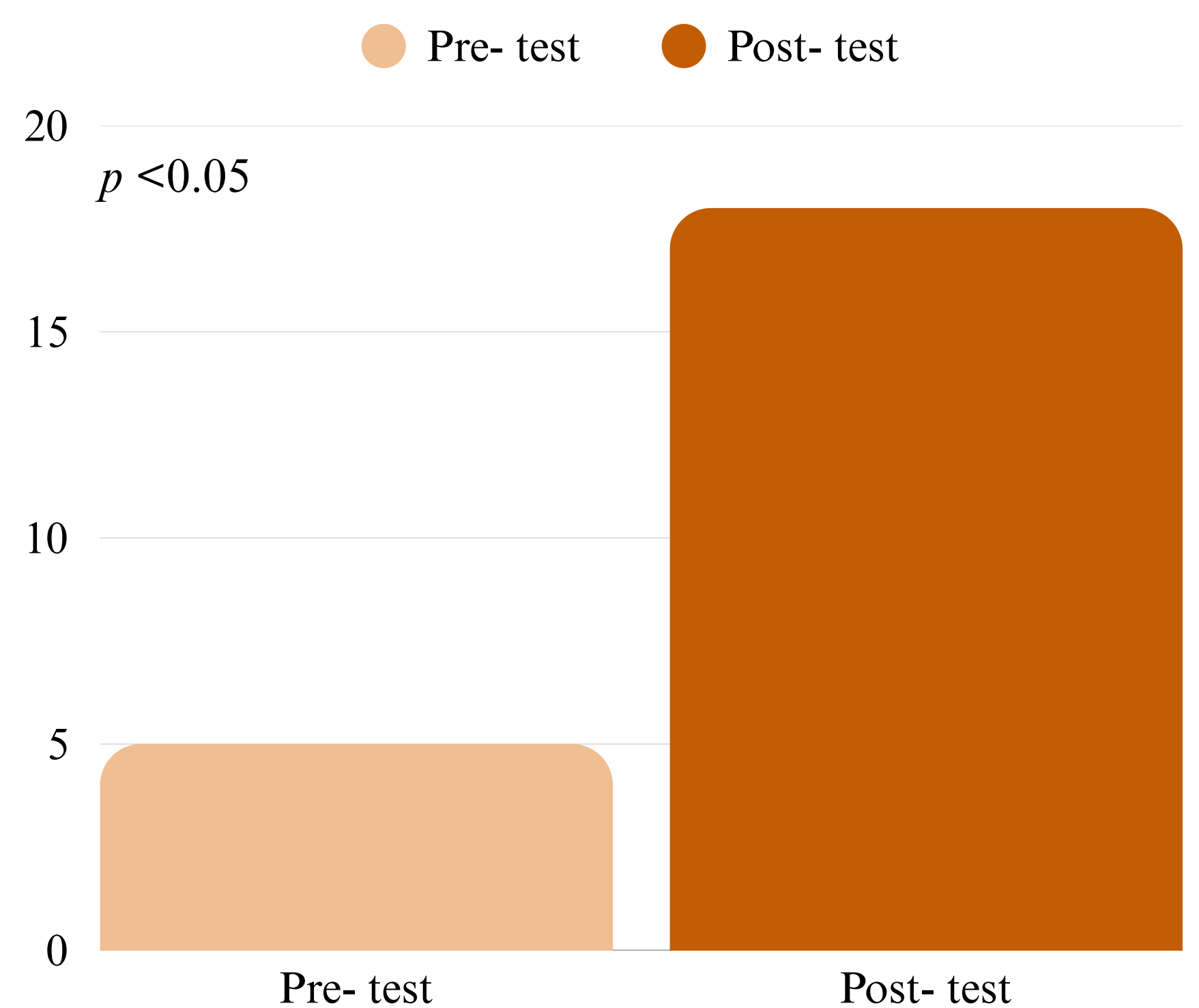
Results

Fifteen HWs underwent classroom training; thirteen were selected based on performance. A statistically significant increase in median knowledge score was observed in the pre and post-test assessments (5.0 vs 18.0) (**Figure 1**).

From the 18,728 births screened, 3,730 (19.9%) were identified with anomalies, 334 (1.8%) major and 3,384 (18.1%) minor anomalies. OFCs (n=45) represented 13.5% of all major anomalies.

The concordance of OFC identification between HWs and photographic review by specialists was 98%.

Figure 1: Median knowledge score pre- and post-intervention



Conclusion

Capacity building of HWs is an effective and feasible strategy for reliable newborn screening for external CAs, including OFCs, linking them to care pathways.

¹Singh PK. World Birth Defects Day: Many birth defects, one voice. WHO Regional Office for South-East Asia; 2023 Mar 2. Available from: <https://www.who.int/southeastasia/news/detail/02-03-2023-world-birth-defects-day-many-birth-defects-one-voice>

²Sitkin NA, Ozgediz D, Donkor P, Farmer DL. Congenital anomalies in low- and middle-income countries: the unborn child of global surgery. World J Surg. 2015;39(1):36-40. doi:10.1007/s00268-014-2714-9