

ORIGINAL RESEARCH

Utilization of Family Led Mid Upper Arm Circumference for Early Detection of Malnutrition among the Nomadic Communities in Turkana South, Kenya.

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Abstract

Malnutrition remains a key public health issue in Turkana South Sub-County, Kenya. Pastoralist children frequently present to health facilities with advanced stages of undernutrition. The Family-led Mid-Upper Arm Circumference (F-MUAC) screening approach has been promoted as a community-based strategy to enhance early identification and referral of malnutrition cases. However, evidence on its uptake and effectiveness in this context has remained limited. This study determined the utilization, coverage and key determinants of F-MUAC tape use among caregivers in Turkana South. A cross-sectional survey was conducted among 244 caregivers of children aged 6–59 months, with a 100% response rate. Most respondents were women (97.95%), most of whom were married (92.21%) and engaged in livestock rearing (26%) or petty trade (25%). Findings indicate that caregiver awareness of malnutrition was significantly associated with increased MUAC utilization (Odds Ratio [OR] = 6.05, $p < 0.001$). Approximately 70.49% of households had screened their children during the last two weeks, while 29.51% had not used the tape consistently. A negligible proportion (5.33%) reported a lack of trust in the tool due to discrepancies between home and facility MUAC readings. Technical measurement error was strongly related to incorrect tape positioning (OR = 203.85) and incorrect reading window alignment (OR = 136.55) ($p < 0.001$), highlighting the need for improved caregiver training. While 74% of caregivers demonstrated good comprehension of MUAC interpretation, undernutrition prevalence remained high, especially among children aged 6–24 months (19.5%) compared to those aged 25–59 months (15.2%). Improved F-MUAC utilization will support earlier detection and treatment of acute malnutrition, reduce child mortality, treatment costs and pressure on overstretched health facilities. Empowering caregivers with screening skills fosters community ownership of child health and strengthens resilience in fragile settings. The findings provide evidence to support scale-up of Family MUAC as a key component of community-based nutrition programming through strengthened caregiver training, timely facility confirmation of readings, sustained community engagement, adaptive support for pastoralist livelihoods and prioritization of children under two for routine screening.

Key words: Family MUAC, Turkana South, pastoralist communities, early detection, utilization