

USING TECHNOLOGY AND EDUCATION TO CHANGE THE CULTURE IN THE NICU/NURSERY REGARDING DIFFERENCES IN SEXUAL DEVELOPMENT (DSD): A MULTIDISCIPLINARY QUALITY IMPROVEMENT PROJECT

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Background: Management of neonates with DSD is an unfamiliar and challenging scenario for most healthcare providers. Delayed diagnosis and poor communication can have long-lasting adverse consequences for patients and families. Through a multi-disciplinary Quality Improvement (QI) project, we sought to educate all healthcare providers involved on timely recognition and referral of DSD, and appropriate communication using gender-neutral language. Specifically, we aimed to show an improvement in medical knowledge and comfort level in DSD-related communication among 70% of providers who completed the education.

Materials/Methods: The QI project planning committee, including providers from sub-specialties involved in DSD care (Endocrinology, Gynecology, Urology, Genetics, Pathology, Ethics) and Neonatology, created a DSD educational module. Two brief animation videos were used to demonstrate effective communication and explain the role of DSD team sub-specialists. The target audience included faculty, fellows, residents, and advanced practice providers in aforementioned specialties, pediatric residents, NICU and labor and delivery nurses, and NICU social workers. Plan-Do-Study-Act (PDSA) cycle 1 involved creation and presentation of the module. Pre- and post-education surveys were used to identify barriers to timely and mindful communication in DSD care, and assess change in medical knowledge and comfort level. Comfort level was assessed using a Likert scale (1 to 5, strongly disagree to strongly agree). A pre-education score of >80% by Endocrinology faculty served as internal validation for questions on medical knowledge. PDSA cycle 2 involved using provider feedback to improve the module.

Results: 5 educational sessions have been completed thus far; 91 providers completed the pre-survey. 56 providers who completed the pre- and post-survey were included in analyses. Lack of medical knowledge (65%) and lack of awareness about sex assignment process (68%) emerged as major barriers to timely and mindful communication. Post-education, 75% of providers had improvement in medical knowledge and 65% of providers reported improvement in comfort level. Cumulative medical knowledge score improved from mean 77% (SD 18) to mean 86% (SD 16) ($p < 0.001$). Cumulative comfort level score improved from mean 2.9 (SD 1.07) to mean 3.6 (SD 1.03) ($p < 0.001$).

Conclusions: Educating healthcare providers on DSD significantly improved medical knowledge and provider comfort, and thereby addressed major barriers in care of neonates with DSD.