Implementing and Evaluating a Sustainable Early Childhood Development Program in Limpopo, South Africa: A Pilot Study

Vidya Gopinath, BS1, Gwyneth Milbrath, MSN, RN2, Claire Constance3, Audrey Ogendi4, Madison Compton4 and James Plews-Ogan, MD4
1University of Virginia School of Medicine, 2University of Virginia School of Nursing, 3University of Virginia, 4University of Virginia College at Wise

Abstract

More than 200 million children under 5 fail to reach their cognitive potential due to poverty, poor health, poor nutrition and lack of care. Providing increased cognitive stimulation or learning opportunities to young children significantly increases cognitive and social-emotional competence later in life. An interdisciplinary team of medical, PhD, nursing and undergraduate students from the University of Virginia worked with the nurse manager of the Vhembe Health District in Limpopo, South Africa. The objective was to determine the suitability and feasibility of implementing an early childhood development (ECD) tool and to create a program to improve ECD in Limpopo, South Africa. A mixed-method approach was used in assessing cultural acceptance and practicality of two ECD assessment tools. The study group consisted of 18 primary health nurses employed in the Vhembe Health District of South Africa. Focus groups were conducted to select between Ages and Stages and CAT/CLAMS as possible ECD assessment tools. An educational intervention was developed to teach nurses about ECD, the selected ECD program and interventions for parents. The Ages and Stages program was most feasible for this population. Knowledge surveys were used to compare pre-existing and learned content in the form of pre-test and post-test assessments with multiple choice and matching questions. Knowledge of ECD significantly improved after the educational intervention according to a paired t-test with a P=0.001. Nurses cited time constraints, cultural and language modifications required in Ages and Stages, financial concerns and administrative challenges as barriers to implementation.

Methods and Materials

• Worked as a large interdisciplinary team to research and discuss ECD and cultural differences in child rearing
• Developed a day-long educational intervention on ECD for Vhembe Health District nurses with four primary topics
  • Importance of ECD
  • The 5 Major Domains of Childhood Development
    • Communication
    • Gross Motor
    • Fine Motor
    • Problem Solving
    • Personal-Social
  • Interactive activities to synthesize knowledge
  • ECD intervention activities for parents/care-givers
• Created two knowledge assessments: pre-educational intervention and post-educational intervention
• Coordinated distribution of didactic materials, both hardcopy and electronically for the clinics and health district administrator
• Conducted a focus group to assess nurse’s perception of educational intervention, possible improvements and discussion of feasibility of implementation of this program throughout the district

Results

• Demographics of participants at day-long educational intervention
  • 18 Professional Nurses
  • 100% employed by Vhembe Health District
  • Mean 16.5 years experience
  • 17 female, 1 male
• Knowledge assessments: multiple choice and matching questions
  • Pre-test: 17 questions, mean 0.49
  • Post-test: 16 questions, mean 0.75

Distribution of didactic materials
• Curriculum Binders (4 hardcopies printed):
  • Slides from presentations
  • Booklet of ECD activities selected from ASG3 Learning Activities as culturally-appropriate and inexpensive
• Milestone chart
• Sent electronic versions of the materials in the curriculum binders to Mrs. Mabunda, Nurse Manager of Vhembe Health District
• Focus group stated it’s feasible to implement however there are barriers
  • Cited the following barriers: time constraints, cultural and language modifications, financial concerns and administrative difficulties of printing and distributing materials

Conclusions

• Day-long educational intervention on ECD can improve same knowledge
• Nurses convinced of importance of play and benefits of interaction with babies and toddlers
• Numerous barriers to implement this pilot study throughout the district
  • Intended for nurses in pilot study to teach the educational intervention to other nurses and possibly community health workers; however, they state it’s not possible due to work demands and time constraints
  • Socializing and forming lasting bonds with our UNIVEN partners was critical to our robust working relationship

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