

ABSTRACT

Background: On annual basis, pneumonia kills an estimated 1.4million children under the age of five, accounting for about one in every five child deaths worldwide. About 90% of these deaths occur in Sub-Saharan Africa. Nearly 19% of child deaths in South Sudan are blamed on pneumonia. The integrated community case management (ICCM) has been deployed to curb these gigantic deaths yet many challenges still exist especially in the diagnosis of pneumonia by CHWs. The use of simplified diagnostic tools such as ARI beads for diagnosis of pneumonia is recognized as a vital step in improving diagnosis, rational drug use and quality of care for children presenting with pneumonia at community level.

Main objective: This study tested the validity of ARI beads in the diagnosis of pneumonia by CBDs in Aweil South County.

Methods: This was a cross sectional study that employed both quantitative and qualitative data collection tools. Pre-coded questionnaires were administered to consenting CBDs and data was entered in Epidata-Denmark (version 3.1) and analyzed using SPSS 16.0.

Results: A total of 260 CBDs participated in the study. The mean age was 37.51 with standard deviation of 9.488. Of the 260 CBDs, 209(80.4%) were able to correctly use the ARI beads for diagnosis of pneumonia. The ARI beads had a sensitivity of 80%, specificity of 81%, and positive predictive value of 67% and a reliability of 0.576. The factors that affect correct use of the ARI beads by CBDs include fear/anxiety and difficulty in coordinating the timer, moving of the beads and child's respirations.

Conclusion: The ARI beads are valid and can improve diagnosis of pneumonia since they have high sensitivity, specificity, moderate reliability and that a significant number of CBDs were able to use them correctly.