

06. **Enhancing Science Communication Skills Among Medical Trainees Through an Interactive Online Workshop in Sudan.**

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BACKGROUND: Effective science communication is essential for improving public understanding of science and supporting evidence-based decision-making. However, scientific information is often presented using technical terminology and complex language that limit accessibility for non-scientific audiences. This challenge is particularly important in medical and public health contexts, where misinformation can spread rapidly and where communities rely on clear and understandable scientific guidance. Despite possessing strong scientific knowledge, many medical students and early-career researchers lack the practical skills needed to communicate research findings effectively to the public. Therefore, this workshop aimed to strengthen the science communication skills of medical students and young researchers by training them to simplify complex scientific information into clear, accessible, and engaging messages for non-scientific audiences. **METHODS:** Twenty participants with varying levels of research knowledge and experience, including undergraduate and postgraduate trainees, participated in a four-day online workshop on science communication. The workshop consisted of three didactic sessions incorporating interactive activities covering the foundations of science communication, simplification of complex scientific concepts, bridging the gap between research and public communication, tools and strategies for effective science communication, and target audience analysis with message tailoring. On the fourth day, participants were divided into small groups and tasked with developing visual educational posters and delivering presentations simulating communication of scientific topics to specific target populations, allowing practical application of the acquired knowledge and skills. Pre- and post-workshop assessment forms using a 5-point Likert scale were administered to evaluate participants' knowledge and confidence levels regarding key science communication competencies. Data were analyzed using the Wilcoxon signed-rank test due to non-normal distribution of the data, with statistical significance set at $p < 0.05$. **RESULTS:** Fifteen participants completed pre- and post-workshop assessments. Significant improvements were observed across all evaluated science communication domains following the workshop using the Wilcoxon signed-rank test as the data were not normally distributed. Mean scores increased for defining science communication (2.53 ± 0.99 vs. 3.93 ± 1.49 , $p = 0.009$), identifying target audience needs (2.27 ± 0.96 vs. 3.93 ± 1.49 , $p = 0.004$), simplifying scientific information without losing accuracy (2.13 ± 1.06 vs. 3.73 ± 1.53 , $p = 0.006$), using storytelling techniques in research communication (2.20 ± 1.01 vs. 3.80 ± 1.27 , $p = 0.008$), and selecting the appropriate platform for scientific messaging (2.33 ± 0.90 vs. 3.87 ± 1.46 , $p = 0.008$). Participants also reported high satisfaction with the workshop, with recommendation scores ranging from 7–10/10 and a mean satisfaction score of 8.7/10. **CONCLUSION:** This workshop demonstrated the value of structured

science communication training in improving participants' knowledge and confidence across key communication domains. Such workshops are important in equipping researchers and medical students with the skills and tools needed to simplify complex scientific concepts for diverse target populations, thereby enhancing public engagement and maximizing the societal impact of research and scientific knowledge.

Key Words: Health Communication, Education, Students, Professional Competence