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Bringing interactive eHealth tools to community health centers for assessment of common mental disorders

Background: Access to timely care for common mental disorders is an on-going challenge, especially for vulnerable ethno-cultural and immigrant groups. With the aim to address such challenges for populations served by community health centres (CHCs), our team developed an interactive computer-assisted client assessment survey (iCCAS) tool for pre-consult assessment of common mental disorders of depression, anxiety, post-traumatic stress disorder and alcohol abuse (using PHQ9, GAD7, PTSD-PC and CAGE) along with questions on social determinants of health. Patients completed the assessment in their waiting time and the program generated point-of-care reports.

Methods: A pilot randomized controlled trial recruited (response rate 78%) adult patients, fluent in English or Spanish, and seeing a physician or nurse practitioner at the partnering CHC in Toronto. The trial objectives were to examine the interventions' efficacy in improving mental health discussion (primary) and symptom detection (secondary). The trial data were collected by a paper-pencil exit survey and chart review. We also conducted post-trial qualitative interviews with clinicians and with a subset of screen-positive patients.

Results: iCCAS (n=75) and usual care (n=72) groups were similar in socio-demographics; 98% were immigrants and 68% females. Mental health discussion occurred for 58.7% in iCCAS and 40.3% in the usual care group ($p < 0.05$); the effect remained significant while controlling for potential covariates (language, gender, education, employment) in Generalized Linear Mixed Model, GLMM (Adj OR 2.2; 95% CI: 1.1-4.5). Mental health symptom detection occurred for 38.7% in iCCAS and 27.8% in usual care group ($p > 0.05$); the effect was not significant beyond

potential covariates in GLMM (Adj OR 1.9; 95% CI: 0.9-4.1). Patients using the iCCAS reported its completion time was acceptable (94.5%), the touch-screen was easy to use (97.3%), and the instructions (93.2%) and questions (94.6%) were clear. The qualitative interviews with nine participating clinicians showed their positive experiences: tool's benefits (e.g., non-intrusive prompting of clients to discuss mental health, and facilitation of clinicians' assessment and care plans); tool's integration into everyday practice; and promoting integration effectively (e.g., settings readiness, language diversity, and EMR linkages). Further, the need for routine screening at the CHCs was supported by the high rates of CMDs found via iCCAS: 36% reported symptoms of moderate to severe depression (PHQ9 score > 10); 17.7% reported moderate to severe symptoms for anxiety (GAD7 score > 10); 28.4% had symptoms for post-traumatic stress (PTSD-PC > 3). The follow-up qualitative interviews with a subset of screen-positive patients identified improved care quality of care via new detection of CMDs or comorbidity or possible relapse.

Interpretation: The studied intervention holds potential for CHCs to improve mental health discussion, detections and quality of care. Further research with larger sample and inclusion of multiple sites is needed to enhance generalizability..

Speaker Biography

Farah Ahmad, MBBS, MPH, PhD is an Associate Professor at the School of Health Policy and Management, York University and affiliate Research Scientist at the North York General Hospital. Her training includes family medicine and public health sciences. She conducts health services research with a focus on psychosocial health vulnerable communities, primary care and eHealth innovations. She has extensively published in the areas of underserved populations, mental health and partner violence.

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