



THE AGA KHAN UNIVERSITY



Brain & Mind Institute



The Aga Khan University Hospital



Healing the brain

Bridging the Gap in Low-and Middle-Income Countries

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THE AGA KHAN UNIVERSITY
INSTITUTE FOR HUMAN DEVELOPMENT



THE AGA KHAN UNIVERSITY
MEDICAL COLLEGE, EAST AFRICA



About the Brain & Mind Institute



The Brain and Mind Institute (BMI) at the Aga Khan University, operates in East Africa and Central/South Asia. BMI's ethos is to span from neuron to the neighborhood, and across multi-country campuses. The operational model is to empower and strengthen neuroscience and mental health research and interventions through capacity building and partnerships; connecting the rich tapestry of academics, research entities, stakeholders, and communities of lived experience.

BMI facilitates interdisciplinary research, education and innovation in mental health and neurosciences. Through transdisciplinary research approaches, BMI aims to impact the lives of people who are affected by debilitating neurological and mental health problems. Whether it is uncovering the causes of illness or advancing breakthrough research into treatments or interventions, BMI's approach is always mindful of the local needs of the people and communities at risk.

About the conference

Healing the brain: Bridging the Gap in LMICs

Mental health and Neuroscience are rapidly growing fields with a significant impact on individuals, communities, and societies. Yet, despite progress in these areas, low and middle-income countries (LMICs) continue to face significant challenges in addressing brain health issues. In spite of the growing awareness of the importance of brain health, countries in the global south still face numerous obstacles in addressing brain health issues, including inadequate access to care, insufficient research, development and funding, cultural barriers towards help-seeking behaviour and a general lack of awareness by the populace.

This conference aims to bring together leading experts and stakeholders in neuroscience and mental health to explore innovative solutions and strategies to promote brain health in LMICs.

Objectives

1. To facilitate the exchange of pioneering brain health research and inform evidence-based practices.
2. To raise awareness of the current state of brain health in LMICs and the challenges faced in providing adequate care.
3. To bring together leading experts in the field to share their knowledge and experience in addressing brain health issues.
4. To identify innovative solutions and strategies for improving brain health care and research.
5. To foster collaboration among stakeholders to promote the integration of brain health into overall health systems.

Cultivating Gratitude, Kindness and Hope to Enhance Mental Well-Being Among Young People in School and Informal Settlements in India: A Pilot study of the weRISE intervention

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Objectives: To assess the feasibility of an arts-based train-the-trainer intervention (weRISE) to enhance gratitude, kindness and hope (GKH) and the mental well-being of young people as compared to adapted teen mental health (TMH) literacy in schools and informal settlements in India

Methods: We conducted a pilot study using a pre-/post-intervention with control group design among 128 young people aged 12-14 years. Study participants were recruited from schools (n=2) and an informal settlement in Chennai, India and were divided into control (n=63) and intervention group (n=65). Intervention group received an art based GKH program while the control group received TMH program; both consisting of 8 sessions of 45 minutes each. We measured mental wellbeing using Warwick-Edinburgh Mental Wellbeing Scale. Feasibility was measured by assessing fidelity of intervention protocol and training, the measurement and administration of questionnaires as well as study participants' recruitment and completion. To enhance accessibility to a wide range of youth in LMICs, youth advisory board was established, and intervention was developed in consultation with youth participants during pilot phase. Independent student t-test was used to assess changes in the well-being scores between groups.

Study findings: Intervention sessions were feasible and study tools could be applied to participants at two different time points in schools and within the community. Delivering sessions in the pilot phase provided inputs for modifying the intervention. Attrition rates for the control group and intervention group were 21% and 32%, respectively. We found that the change in the well-being score among the intervention group was significantly higher than the control group (-1.8 vs 2.7, p=0.036).

Conclusions: Overall, these findings provide preliminary support for testing within a larger, randomized controlled trial. This would benefit organizations that support youth, such as schools, community-based organizations, and government officials who work with youth and policymakers to allocate resources appropriately. In response to the attrition findings, we will also discuss strategies to reduce attrition in a future large trial.

Aesthetic properties of flowers can positively impact mental health and mental disorders

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Introduction/Background: Mental health and mental disorders are increasingly common, including in LMIC countries. Human connection with nature, including flowers, is known to uplift mental health and well-being and provide a complementary approach to support patients with mental health disorders. There is a scarcity of knowledge on this topic. Our research focused on ‘how do the aesthetic properties of flowers positively influence mental health and mental disorders?’ Aesthetics was defined as ‘a set of principles concerned with the nature and appreciation of beauty’.

Methods/Findings: Peer reviewed, and gray literature were searched using the following: beauty/aesthetic aspects of flowers (including smell, color, design), mental health, mental well-being, mental disorders, flowers (floral arrangements, indoor/outdoor/sensory gardens, coloring, horticultural therapy, environmental benefits). After applying quality criteria, there were 61 references (20 peer-reviewed studies, 41 websites). There are many aspects of flowers that positively impact mental health including aromatherapy, chromotherapy, designs/patterns, floral arrangements, horticultural therapy, and indoor/outdoor/sensory gardens. Findings include **i.** being in the presence of plants/flowers reduces stress, enhances concentration, improves mood and memory, helps mitigate PTSD, increases creativity and productivity, and improves self-esteem **ii.** an RCT of patients post abdominal surgery who had flowers/plants in their hospital room demonstrated that they needed significantly less postoperative analgesia and had more positive physiological responses vs a control group **iii.** In a pilot study, creating symmetric floral arrangements positively stimulated visuospatial working memory in patients with schizophrenia **iv.** gardening (including sensory gardens) improved physical, social, sensory, and emotional health of patients with autism and **v.** cultivating flowering plants contributes to an improved physical environment that can also enhance well-being.

Conclusions/Recommendations: There are several aesthetic aspects of flowers that reduce stressors and uplift mental health including in individuals with mental disorders. We recommend BMI and related organizations educate the public regarding benefits derived from fostering a deeper connection between mental health and flowering plants as well as other aspects of nature. Further research is needed in this understudied area.

Risk of suicide or repeat self-harm after index self-harm attempt: a longitudinal cohort study from Karachi Pakistan

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Introduction/Background: Suicide is a global public health problem. The Low and middle-income countries contribute 77% of all suicidal deaths. There is a well-known association between self-harm (SH) and suicide, and a prior suicide attempt is one of the strongest predictors of future suicide. To the best of our knowledge, there has been no longitudinal study of self-harm in Pakistan.

Study objectives/Research question: Our primary objective was to study how many people who present with an index episode of self-harm during a defined period repeat the act or die by suicide in the subsequent years. The secondary objective was to see the practicality of a telephonic follow up of self-harm patients after a period of time.

Methods: This was a hospital-based longitudinal cohort study. The study included 279 self-harm patients that presented to Aga Khan University Hospital Pakistan during the period of January 2012 to December 2014. SH cases were enrolled from the self-harm monitoring system of AKUH Pakistan. The main outcome measures were self-harm reattempts and deaths by suicide during the follow-up period. Follow up interviews were conducted through telephone between April 2018 to December 2018, i.e. between 4-6 years after the index episode.

Study Findings: Follow-up telephonic interviews were completed with 210 patients. Out of them, 70.5% (n=148) were females and 29.5% (n= 62) were males. Their ages ranged from 15 to 75 years, with half (49%) in the age group of <25 years. Out of total 210 follow-up participants, only two individuals reported self-harm reattempts (one had re-attempted thrice, while the other, once) and there were no cases of complete suicide. Around 59 participants could not be traced from phone numbers.

Conclusions/Recommendations: The rate of repetition of self-harm or completed suicide are significantly lower in Asian countries than in Western high-income countries. There is need for a better understanding of the low incidence of repeat self-harm and more research is needed in this area in Pakistan. This is only possible if surveillance systems for self-harm are set up across the country.

Neuropsychiatric Genetics of African Populations - Psychosis Study and beyond

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Background: An estimated 1.3 million individuals in sub-Saharan Africa and millions more in other low-and-middle-income countries are living with a psychotic disorder. However, limited research focuses on these populations and even less focus on neuropsychiatric genetics research.

Methods: The Neuropsychiatric Genetics of African Populations-Psychosis (NeuroGAP-Psychosis) study aims to address this gap. NeuroGAP-Psychosis is a case-control genetics study which collected genetic and environmental risk factors for psychotic disorders across Ethiopia, Kenya, South Africa, and Uganda.

Results: This paper reports on the aggregated baseline demographic and clinical characteristics of the 42,953 participants (50.3% cases) recruited from the multi-country study from 2018 through March 2023, as well as comparisons of these characteristics by country and case status. The mean age of all cases was 36.9 (SD: 11.6) years compared to the mean age of controls of 36.5 (SD: 11.8) years. Cases were 57.9% male compared to controls which were 56.8% male. Based on medical chart review, 60.9% of cases were diagnosed with schizophrenia or psychotic disorder not otherwise specified; 35.5% were diagnosed with bipolar disorder or mania not otherwise specified; and 3.7% were diagnosed with schizoaffective disorder. Rigorous training was conducted to standardize data collection and interviewing methods. Still, within this sample, there were country-level differences and case-status differences across all demographic and clinical (e.g., physical comorbidities, exposure to potentially traumatic events, substance use) variables. A number of factors, including language of consent, recruitment catchment areas, diagnostic practices across countries, and translation and/or cultural interpretation of the measures used in this study, may account for this variation.

Conclusion/Future Directions: These findings suggest the importance of ongoing evaluation of cross-cultural differences to explore clinical implications and patterns of symptoms amongst geographically and culturally diverse populations, and future analyses should also evaluate within-country differences to better explore these variations. Our team has begun to re-contact participants in Kenya and Uganda to investigate other mental health conditions, including PTSD, OCD, and suicidality. Further, the success from this initial study has spurred further new collections in Kenya and Uganda to further genetics research on PTSD.

Scaling up a peer-delivered programme to support parental mental health in remote mountain communities of Northern Pakistan

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Background: A recent systematic review from Pakistan reports pooled prevalence of antenatal depression at 37% and postnatal depression at 30% [1]. Few examples exist of scaling up evidence-based interventions for perinatal mental health in real-world implementation settings that also measure mental health outcomes.

Methods: We adapted the Thinking Healthy Program [2,3] for delivery in mountainous regions of Northern Pakistan – tailoring it for groups and inclusion of fathers. The peer-volunteer-led program was offered in 8 remote settings to women and men regardless of depression status at baseline who were expecting or had a child under the age of 5 years. Depression and anxiety were measured using PHQ-9 and GAD-7 at baseline and at the end of the six-session weekly program.

Findings: Of the 878 participants (61.2% female; 38.2% male) complete data is available for 819 participants pre-and-post intervention. In women and men mean depression scores reduced from 5.7 to 3.2 (95% CI: 2.0 – 2.9, $p < 0.001$) and from 3.8 to 2.3 (95% CI: 1.0 – 1.9, $p < 0.001$) respectively. Similarly, mean anxiety scores on GAD-7 reduced in women from 5.0 to 2.7 (95% CI: 1.9 – 2.7, $p < 0.001$) and in men from 3.4 to 2.0 (95% CI: 1.0 – 1.8, $p < 0.001$). Mean depression and anxiety scores improved for all categories (by severity) of depression and anxiety. Notably, the odds of suicidal thoughts being absent at endline compared to baseline were 2.6 (1.9-3.6, 95% CI). 89.4% of participants attended 4 or more out of 6 weekly sessions demonstrating good acceptability and uptake.

Conclusion: Evidence-based interventions for improved mental health can be scaled up in challenging environments such as remote mountain communities demonstrating positive mental health outcomes amongst participants.

Fostering Scientific Inclusion in Global Psychiatric Genetics: Lessons Learned and Paths Forward

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Background: Suicide is a serious public health concern, claiming over 800,000 individuals annually, young adults being particularly vulnerable to suicidal ideations. Research has consistently shown that low self-esteem is a significant risk factor for suicidal ideation. People with low self-esteem are more likely to experience feelings of hopelessness, worthlessness, and despair, which can contribute to suicidal thoughts and behaviors. Studies conducted over the years found that adolescents with low self-esteem were more likely to attempt suicide, even after controlling for other risk factors such as depression and substance abuse. Studies also indicate that individuals with low self-esteem were more likely to experience suicidal thoughts and engage in suicidal behaviors and that negative self-evaluations and feelings of hopelessness were significant predictors of suicidal ideation.

Objectives: The study will determine the level of self-esteem among undergraduate students, the rate of suicidal ideations among the study population, and compare the relationship between the two variables.

Methodology: The proposed study will be a correlational study that will use a quantitative research design to collect data from a sample of young adults at MU-CHS using self-report measures of the Rosenberg self-esteem scale and Suicidal Behaviors Questionnaire through online surveys administered through the various class platforms. The sampling technique used will be a census. The sample size will be determined by the number of responses received from the surveys. The data collected will then be compiled using Microsoft Excel and analyzed using descriptive statistics, specifically mean and mode. Spearman's Rank Correlation will be used to analyze the correlation between self-esteem and suicidal ideation from the data collected. Ethical considerations will include getting approval from IREC, permission to conduct the study from the university administration, informed consent, and ensuring confidentiality.

Expected Outcome: The research is likely to find a negative correlation between self-esteem and suicidal ideations in undergraduate students. This would mean that as self-esteem levels decrease, the likelihood of experiencing suicidal thoughts increases. Conversely, higher self-esteem levels would be associated with a lower prevalence of suicidal ideations. The study findings will help mental health practitioners develop strategies to improve self-esteem and reduce suicidal ideations among undergraduate students.

Diagnosis and Care of Children and Adolescents with Autism Spectrum Disorder at the Kenyatta National Hospital and Mathare National Teaching and Referral Hospital

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Introduction: Autism Spectrum Disorders (ASD) contribute significantly to the disease burden among children and adolescents. Early diagnosis and intervention significantly improve outcomes however, in Africa children/adolescents with ASD are frequently identified and diagnosed late. This has been attributed to long and tortuous pathways to care, influenced by socioeconomic, cultural, contextual and healthcare system factors.

Study Objectives: To document and evaluate the pathways used by children and adolescents to get a diagnosis of ASD.

Methodology: A cross-sectional study involving 70 caregivers of children/adolescents with ASD. Pathways to care were described using the WHO Encounter Form and a researcher designed questionnaire assessed the influence of caregiver, clinical, cultural and contextual factors on the pathway. SPSS version 25.0 was used for data analysis. Correlations between variables were analysed using t - test and linear regression models.

Results: A healthcare-based and traditional/spiritual based pathway was utilised by 73% and 27% of caregivers respectively. The average age of diagnosis was 5 years with a delay of 34.9 ± 33.5 months between symptom recognition and diagnosis. Occupational/speech therapy was started 9 months prior to diagnosis. An average of 4 contacts were visited before a diagnosis was made and special needs assessors were the main sources of referral. Maternal educational level, comorbid ADHD and IDD, and prior knowledge of ASD significantly predicted the type of pathway utilised. Caregiver income level and comorbid IDD were associated with longer diagnostic delays and a later diagnosis respectively. Spiritual/cultural beliefs attributed as the cause of the first symptom was associated with a later diagnosis.

Conclusion: ASD was diagnosed late despite early recognition of symptoms and the predominant use of healthcare-based pathways. While socioeconomic, cultural and contextual factors contributed to the delays, poor healthcare worker knowledge at primary care level, lack of standardised diagnostic tools and poorly established referral systems are also significant contributors. Maternal education on neurodevelopmental 'red flags', early screening at primary care, and the development of efficient referral systems can facilitate earlier identification and intervention.

Stakeholders' Perspectives on School-Based Mental Health Programs in Colleges: An Exploratory Study from low-middle income country Pakistan

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Introduction: The recognition of mental health's significance has grown, with the United Nations highlighting its role in the Sustainable Development Goals (SDGs). School health programs encompass vital aspects of mental health for adolescents, playing a pivotal role in their overall well-being. However, understanding stakeholders' perceptions about school-based mental health programs is crucial, especially considering the lack of design and planning for future school mental health programs to reflect ground reality, baseline mental health literacy and data-driven by in-house school stakeholders. This study explores and describes stakeholders' perspectives on school-based mental health programs in colleges in the low-middle-income country of Pakistan.

Method: Based on the school mental health theoretical framework, this study delved into stakeholders' viewpoints regarding college school-based mental health programs utilizing a qualitative exploratory-descriptive design. Participants were categorized into leadership and managerial (Principals), educator (Teachers), and student (Adolescents) levels. Key informant interviews and focus group discussions involved 43 representatives from public and private colleges. Thematic analysis was employed to analyze the data, ensuring study rigour.

Findings: Representatives from all three stakeholder groups participated, revealing valuable insights. Themes emerged, encompassing mental health prevention, promotion, challenges, enablers, and program suggestions. Challenges included stigma, confidentiality concerns, lack of professionals, and budget constraints. They were enabling factors comprised of supportive leadership and partnerships. Stakeholders suggested art-based interventions, dedicated time and space, and the creation of mental health societies in educational institutes.

Conclusion: This study provides a unique perspective, capturing stakeholders' viewpoints on school-based mental health programs. It underscores the importance and demand for such initiatives in colleges, unlike approaches imposing models from other contexts. On adolescent mental health, this research recognizes local context and ground-level needs. The study's findings can inform future programs, facilitating informed, adaptable, and sustainable school-based mental health interventions that promote adolescent health and well-being.

Keywords: Mental Health, School-Based Programs, Stakeholder Perspectives, Adolescents, College, Karachi, Pakistan

The Impact of Homophobia on the Quality of Life among the LGBT Community in Usikimye Organization, Kayole, Nairobi, Kenya.

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Introduction/Background: While there has been remarkable global progress in the realm of mental health and neuroscience advancements, LMICs still encounter difficulties in delivering inclusive care, especially to their minority populations, specifically sexual minorities. Research indicates that a country's wealth affects its acceptance of homosexuality, whereby LMICs, like Kenya, are less accepting of homosexuality in comparison to their more affluent counterparts. In 2013, a staggering 90% of Kenyans were found to be against homosexuality and believed that it ought to be rejected by society. These opinions have inspired an atmosphere of hate, violence and intolerance against the LGBT community. Additionally, studies like the 2010 landmark US study that show that 1 in 3 LGBT youths met the criteria for a mental disorder and another 1 in 3 LGBT youths had attempted suicide in their lifetimes paints a concerning picture. This gives the impetus to conduct this study.

Methods: The three-month study was undertaken among 50 LGBT individuals receiving services at Usikimye, a non-governmental organization in Kayole, Kenya. Questionnaires were used to collect data and Microsoft Excel as well as Google Forms were used to manually analyze and present the data.

Results: Regarding psychological health, the study supported the minority stress theory with majority expressing feelings of despair, anxiety, and depression, dissatisfaction with their performance of self-care and daily functioning. However, Post Traumatic Growth was also indicated with participants expressing satisfaction with self, sleep, appetite and personal relationships. While most of the respondents had attempted to seek mental health services, majority cited unaffordability as the greatest hinderance to accessing the services. Passive entertainment was the most preferred method of coping while therapy was the least favored. Regarding physical safety, majority reported feeling unsafe, uncomfortable and have experienced a form of harassment, either sexual, physical or verbal, while in public. Men, specifically those in the transport industry were found to be the greatest perpetrators of the harm. Worryingly, 98% had heard of a queer person that had experienced harm.

Conclusion: Homophobia negatively impacts the physical safety of sexual minorities but affects psychological health both negatively as indicated by the Minority Stress Theory, and positively, as predicted by Post Traumatic Growth.

“I’d rather lose my Life than my way of Life”: Climate Change, Eco-Grief and Mental Health in Kilifi County

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Background: Climate events are a major cause of mental distress worldwide. A growing body of evidence indicates that changing climate can cause a cluster of negative affective states identified as ecological grief, ecological anxiety, and solastalgia.

Objective: We aimed to understand how climate change events affect people’s access to food, water, sanitation and hygiene, energy, and healthcare, and how people perceive these events to affect both mental and physical health in Kilifi, a coastal town in Kenya. Our secondary objective was to investigate how prepared people are to respond to climate related events in Kilifi County.

Methodology: Between July and August 2023, we conducted a concurrent mixed method study in Kilifi County. We interviewed 22 key informants (policy makers) in sectors such as health, security, agriculture, energy and climate and metrological departments. We then adapted the Solstalgia scale at Kaloleni and Rabai sub-counties by conducting 5 expert interviews, 3 FGDs and 10 cognitive interviews. We assessed 30 community members’ mental health using the adapted solstalgia scale, PHQ-9 and GAD-7; and later conducted in-depth interviews with these community members. Data were recorded, transcribed and translated to English, and thematically analyzed using Dedoose software.

Findings: Two thirds of participants were worried about the state of the changing environment in Kilifi. Drought was reported as a major climate change event followed by extreme heat and flooding. Participants demonstrated ecological grief - which was associated with physical ecological losses as well as loss of traditional Mijikenda knowledge/ traditions. Various impacts of climate events were reported: Direct impacts: Food and water insecurity and loss of jobs. Social impacts: Family breakup, gender-based violence, early girl marriage, increase in crime. Physical health impacts: Diarrhea, stunting growth in children, malnutrition and skin diseases. Mental health impacts: stress, anxiety, depression, suicidal ideations.

Recommendations: Health care professionals should be trained on mental health assessments and strategies to support individuals experiencing ecological grief. Community members must be sensitized on how to adapt to the changing climatic events. Political will is key to ensure that climate change policies are funded, to help communities to respond well, heal and become resilient.

Key words: Climate change events, Eco-anxiety, Mental Health, Kilifi County, Kenya

Suboptimal or locally rational? Foraging as a window onto the universal mechanisms of decisions under uncertainty

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Humans and animals are often maligned as being bad (“suboptimal”) at making decisions, especially decisions under uncertainty. But is this allegation justified? In this talk, I will present recent findings in the domain of patch foraging. Foraging requires individuals to compare a local option to the distribution of alternatives across the environment. Foragers, across a range of species, have been observed to systematically deviate from exogenous notions of optimality by “overharvesting”—staying too long in a patch. I introduce a computational model that explains the appearance of overharvesting as a by-product of two mechanisms: 1) statistically rational learning about the distribution of alternatives and 2) planning that adapts to the uncertainty of these distributions - looking ahead farther when more sure about the options available. I test this model using a variant of a serial stay-leave task and find that human foragers’ behavior is consistent with both mechanisms. Our findings suggest that overharvesting, rather than reflecting a deviation from optimal decision-making, is instead a consequence of optimal learning and adaptation.

Adaptation of Smartbrain: a cognitive training program for adults ageing with HIV in Harare, Zimbabwe

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Introduction: HIV-associated neurocognitive disorders (HAND) have a prevalence of about 43% globally. Despite the high prevalence of HAND and its impact on daily functioning, there are few tested and validated interventions to improve cognition. As people living with HIV are ageing this becomes critical because age is associated with an increased risk of HAND and cognitive training is important to continue building cognitive reserve and reduce the risk for age-associated dementias. The objective of this study was to adapt a cognitive training program that can be used by adults aged 50 years and above living with HIV.

Method: This study is taking place at an urban HIV care Centre of Excellence. Ten participants consisting of nurses, counsellors and patients at the centre were recruited to be part of a focus group to go through the ADAPT-ITT process of the Smartbrain Pro intervention. The ADAPT-ITT process consists of the following steps: Assessment of what needs to be done; making a Decision on tasks to be used; Administration of tasks to key stakeholders; Discussing what needs to be changed and adapted; Production of draft of the adapted tasks; engaging Topical Experts to review drafts; Integration of feedback; Training staff to test the tasks; and Testing of intervention with participants.

Results: The original Smartbrain Pro was administered to the participants and the relevant tasks from Smartbrain Pro were selected. These tasks cover the domains of executive function, processing speed, attention and memory. Linguistic changes were made to the program. Changes made to some of the tasks included changing the names of items described in the tasks to more culturally/locally appropriate names, replacing the original activities in the program with more culturally relevant activities. The instructions of the tasks were forward and back translated. A local language (Shona) voice over of the instructions was recorded and incorporated into the tasks.

Conclusion: The cognitive training program Smartbrain Pro was successfully adapted to the local Zimbabwean context. There is need to have the program in other local languages. We are currently testing Smartbrain Pro in a small sample of patients to ascertain the feasibility and acceptability.

Depression, anxiety, stress (DAS) and its effect on Psychological Well-being among students of the University of Buea, Cameroon

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Background: Mental health is a state of well-being in which individuals realize their potentials, cope with the normal stress of life, work productively and are able to contribute to the community. Over the years DAS in University students have an effect on their psychological well-being. We had as research objective, study to determine the prevalence of depression, anxiety stress and their effect on psychological wellbeing among students of Buea University.

Methods: A cross-sectional study was carried out over a period of 3 months both online (google forms) and onsite with questionnaires. A multi-staged sampling method was used to recruit 1095 students. Depression, Anxiety and Stress Scale 21 (DAS-21) was used to measure psychological distress and of the World Health Organization scale for psychological well-being-5 to evaluate for psychological well-being. Bivariate and Multiple logistic regression analysis was done with p-value set at < 0.05.

The mean age (\pm SD) was 22.1 \pm 3.99 and 64.1% were females. Out of the total population, 28.8%, 40.3% and 9.2% of students showing depressive, anxiety and stress symptoms, respectively. A total of 54.6% the students had a poor psychological well-being score (\leq 50). Of the 28.8%, 40.3% and 9.2% of the students who had symptoms of depression, anxiety and stress, 21.2%, 27.5% and 7.2% of had a poor psychological well-being score respectively.

Conclusion: The prevalence of depression, anxiety and stress among university students of Buea was high with about one out of two students having at least one of the conditions. with more than half of the students who suffered from depression, anxiety or stress having a poor effect psychological well-being. We recommend to the students to seek for professional help in case they are going through any mental health problems. And to the University to organize seminars, conferences and workshops aimed to educate students about mental health, creating awareness and promoting mental health among the students.

Piloting a psychosocial program for older adults with depression and NCDs in Tanzania: feasibility and acceptability findings

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Background: There is significant unmet need of older adults' mental health in Tanzania. The Depression in Late Life program (Dias et al., 2019) was culturally adapted for use in Tanzania and called 'ZIBA UFA' ('Repair the Crack'). ZIBA UFA is a hybrid program of problem-solving therapy (PST) and healthy lifestyle advice for older adults with depression and non-communicable diseases (NCDs), delivered over six weekly sessions in clinical settings by a trained healthcare worker.

Objective: A pilot study was conducted to assess feasibility and acceptability of ZIBA UFA in Tanzania.

Methods: Four counsellors were recruited and trained over six weeks, supervised by a Tanzanian Clinical Psychologist. A total of 157 older adults were opportunistically sampled in four outpatient NCD clinics in Moshi, Tanzania, and screened for mild-moderate depression with the MOSHI-D (Howarth-Maddison et al., 2020); 35 were baselined; 32 enrolled (eight per site). Recruitment and retention rates are reported. Twenty-four participants and all counsellors completed an exit interview. Translated transcripts were mapped onto the Theoretical Framework of Acceptability (Sekhon et al., 2018) (constructs in bold).

Findings: ZIBA UFA recruitment rate was 100% (N=32), and the retention rate was thirty-one (97%) of participants completing the full six sessions over an average of 6.5 weeks, with one (3%) dropping out after five sessions due to loss of interest. Interview feedback showed ZIBA UFA didn't interfere with everyday life (Burden/Opportunity Costs) and talking helped older adults open up and feel better (Affective Attitude). Most perceived the program as instructional, to receive solutions from counsellors (Intervention Coherence), and stress was reduced with sleep routine and breathing exercises (Perceived Effectiveness), rather than learning PST skills for future use (Self-Efficacy). ZIBA reduced stigma around NCDs (Ethicality), but the healthy lifestyle advice was not appropriate due to the lack of NCD risk factors in this sample (no smoking, drinking, refined sugar; high physical activity).

Conclusion: ZIBA UFA was both highly acceptable and feasible in Tanzania, when delivered as six weekly sessions in a routine healthcare clinic by a trusted healthcare provider, with travel reimbursed. Recruiting for and delivering talking therapy through an NCD program is likely to have increased acceptability for this age group. Further training is needed to support delivery of a more collaborative PST process. Further research is needed on appropriate NCD lifestyle advice for this population.

A bottom-up approach to advocacy in mental health in a low resource setting: lessons from the Difu Simo Mental Health Awareness project in Kilifi Kenya

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Background: Rooted in societal norms, institutional practices and public policies, structural stigma encompasses the systemic discrimination and marginalization of people with mental health problems. In Kenya, mental health remains low in the agenda for health priorities. Participatory advocacy led from the grassroot levels may tackle structural stigma, but there is currently no guidance on how to conduct mental health advocacy in a resource-constrained setting.

Methods: Guided by a theory of change map, we implemented a service-user led multipronged advocacy campaign dubbed “Difu Simo” in Kilifi County, Kenya. It comprised (i) a community level awareness initiative targeting the general population and (ii) an online engagement platform targeting national and international mental health stakeholders. The effectiveness of the campaign in lowering structural stigma was evaluated using a mixed methods approach. Quantitative data were used to quantify reach of the campaign through summary statistics of metrics of online and in-person engagements. Qualitative data were used to explore the mechanisms through which the advocacy efforts brought change and for process evaluation.

Results: Between 2019 and 2022, the campaign reached ~3 million people at local and international levels. The project won 2 international awards and was featured in many local and international news. It produced 2 scientific publications, with 3 more currently under peer review. As a result of leading grassroot advocacy efforts, members of the team were invited to participate in policy development of two major documents: (i) Kenya’s first ever investment case for mental health and (ii) Kilifi County’s mental health action plan 2021-2025. We learnt 3 key lessons about mental health advocacy in a resource-limited setting: (i) Participatory service user-led approaches are a feasible and effective advocacy strategy in mental health (ii) Sustainability is one of the biggest challenges to advocacy efforts mainly due to overreliance in donor funding from the global north (iii) Human resource is critical for successful advocacy efforts but advancements in technology provides an unprecedented opportunity for robust advocacy efforts with large scale impact.

Conclusions: Participatory approaches are a feasible and effective strategy of conducting mental health advocacy. To sustain these efforts, local resources should be mobilized, and technology should be utilized to maximize outputs.

Promoting Help-seeking for Mental Healthcare among Children and Adolescents through Proactive Community Case Detection: A Stepped Wedge Cluster Randomized Controlled Trial in Ugandan Refugee Settlements

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Worldwide, approximately one in seven 10-19 year olds face mental health issues in any given year, yet most go unnoticed and untreated (WHO, 2021). To address this, the Community Case Detection Tool (CCDT) was developed, enabling non-experts to proactively detect cases through culturally appropriate vignettes showcasing signs of psychological distress in children. Previous CCDT studies conducted in Palestine and Sri Lanka demonstrated that nearly 70% of children were accurately detected as needing mental healthcare when compared with structured clinical interviews.

A stepped-wedge cluster randomized controlled trial (SW-CRT) was conducted to assess the effectiveness of the CCDT on mental health service utilization among children and adolescents in five refugee settlements in Uganda. The CCDT was sequentially introduced in 28 zones over nine months. Community resource persons trained in the CCDT (n=177), used the tool to detect potential cases of mental health problems and promote help-seeking at a local mental healthcare service provider, TPO Uganda.

In the weeks immediately after the CCDT was introduced there was a significant 21-fold increase in the utilization rate (95% CI: 12.87, 33.99). While there was a slight decline in utilization over time in both the CCDT and pre-CCDT zones, over the entire SW-CRT period there was an average significant 17-fold increase in the mental healthcare service utilization rate in the CCDT zones (95% CI: 8.15, 34.99).

This study found that a two-day training on the CCDT enabled community members to enhance help-seeking behaviours in children and adolescents and make a valuable contribution towards reducing the mental health treatment gap. It is important to assess the scalability of this approach within Uganda's national mental health programme. Additional research is necessary to improve sustainability by selecting appropriate gatekeepers, maintaining their motivation, and to replicate these findings in other contexts.

Comparing the Shamiri Intervention for Kenyan adolescents and its components: a universal, parallel-group, five-arm randomised controlled effectiveness trial

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Background: Mental health problems are prevalent among Sub-Saharan African adolescents, but treatment capacity is limited. Shamiri, a lay-provider-delivered intervention, has shown effectiveness in various studies. We investigated the impact of each intervention component on depression and anxiety in Kenyan adolescents.

Methods: We conducted a five-group randomised controlled trial with youths aged 10-21 from four Kenyan secondary schools. Anxiety, depression, and well-being—were self-reported through eight-month follow-up. Recruitment occurred from May 19th to June 18th, 2021. Analyses involved multi-level models with imputed missing data.

Findings: Participants (N=1,252; 48.72% female) were allocated to: growth (n=249), gratitude (n=237), values (n=265), Shamiri (n=250), and study-skills (n=251). Anxiety scores improved compared to baseline at midpoint (B=-0.847; [95%CI -1.57 -0.13]), endpoint (B=-2.948; [-3.60 -2.30]), one-month (B=-1.587; [-2.55 -0.63]), three-month (B=-2.374; [-2.99 -1.76]), and eight-month (B=-1.917; [-2.59 -1.25]) follow-ups. Depression scores also improved at midpoint (B=-0.796; [-1.67 0.08]), endpoint (B=-3.126; [-3.79 -2.46]), one-month (B=-2.382; [-3.53 -1.23]), three-month (B=-2.521; [-3.42 -1.62]), and eight-month follow-ups (B=-2.237; [-3.19 -1.29]). Wellness scores improved at midpoint (B=1.73; [0.76 2.66]), endpoint (B=3.44; [2.27 4.60]), one-month (B=2.21; [-0.32 4.75]), three-month (B=1.78; [0.09 3.47]), and eight-month (B=1.59; [0.35 2.84]) follow-ups. No significant differences were observed between intervention groups, and findings remained consistent in several sensitivity analyses.

Conclusion: Depression, anxiety and wellness significantly improved in all interventions, including study-skills. The study-skills control—implemented during a time of COVID-related academic stress—had a markedly larger effect than in prior trials, in which it had been significantly inferior to Shamiri. Shamiri's effects were comparable to previous trials. These findings underscore the potential of multiple psychological interventions, as well as relevant skill-focused interventions, such as a study-skills intervention to cope with elevated academic pressure, to enhance mental health.

Emotion regulation difficulties associated with suicide risk in adolescent university students: A case study of USIU-Africa

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Suicide is a major mental health burden, and Africa has the highest burden globally. Adolescence is a turbulent developmental period with multiple transitions, growth and maturation, and emotional lability. Emotional dysregulation is a transdiagnostic risk factor associated with suicide risk. The current study examined associations between emotional dysregulation and suicide risk in a community sample of adolescents using descriptive-analytic, cross-sectional design.

The study participants were 352 adolescents aged 18 and 19 and enrolled at the United States International University-Africa (USIU-Africa). The instruments used were the Difficulties in Emotion Regulation Scale (DERs) and The Columbia Suicide Severity Rating Scale Short Version (C-SSRS).

Results indicated that 75.8% had low risk, 2% had moderate risk, and 22.5% had a high risk of suicide. In addition, participants with high suicidal risk had significantly higher emotion regulation difficulties than those with low suicidal risk, $p=0.003$.

In conclusion, emotional dysregulation is associated with suicide risk in adolescent university students.

Neurobehavioural properties of spondias mombin extracts in male wistar rats.

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Background: Neurobehavioral test is a non-invasive method employed to evaluate the performance of the central nervous system in an individual or group with similar exposures. Mental and neurological disorders are a serious public health challenge globally, particularly in developing countries where cultural factors and limited access to standard healthcare have led to a reliance on traditional medicines. Herbs are an integral part of the development of modern civilization, much of the medicinal use of plants seems to have been observed through observation of wild animals, and by trial-and-error Nigeria is blessed with abundant medicinal plants with most of them reported for their analgesic, anxiolytic, anticonvulsant properties. Others had been reported for their sedative, anti-Alzheimer's disease, motor coordination, antipsychotic, antidepressant, cognitive enhancement, and neuroprotective properties. Most people especially in the rural areas depend solely on the use of these plants, however, this is gradually creeping into urban settings.

Methods: Three experiments were carried out using plant extracts to test for anxiolytic, locomotor, learning and memory properties of *Spondias mombin*. In experiment A, ethanolic (250&500mg/kg) and aqueous extracts (400& 800mg/kg) were used to deduce anxiolytic effects. Experiment B involved the use of ethanolic extract to deduce locomotor effect, while experiment C was carried out for the learning and memory potential using aqueous extract. A total of 50 Wistar rats with an average weight of 200g were used for these experiments and administration lasted for 4 weeks. The elevated plus maze, open field maze and Morris water maze were used to analyze the three neurobehavioral changes.

Results: Ethanolic extract produced better behavioral effects with decreased anxiety and fear compared to the aqueous extract. The dose at 500mg/kg showed evidence of significantly ($P<0.05$) reduced locomotor activity recorded in all the open field maze test parameters, while at dose of 250mg/kg, animals exhibited high exploratory activity. Aqueous extract at 400mg/kg improved learning and retention with a significant improvement established in memory tests using the reversal training.

Notes

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Healing the brain

Bridging the Gap in Low-and
Middle-Income Countries



Brain & Mind Institute
from neuron to neighbourhood
Kenya | Pakistan



The Aga Khan University Hospital



THE AGA KHAN UNIVERSITY
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Aga Khan Health Services



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