Evaluation of the Community Resilience Model (CRM) for Supporting Integrated Behavioral Health and Healthcare Worker Mental Wellbeing in Sierra Leone

Zephon Lister, PhD[1]; John Lou, MSc[1]; Kim Freeman, PhD[1]; Susanne Montgomery, PhD[1]; Peter Turay, BA[2]

1. Loma Linda University School of Behavioral Health, 2. Adventist Health System of Waterloo, Sierra Leone

LOMA LINDA UNIVERSITY
School of Behavioral Health

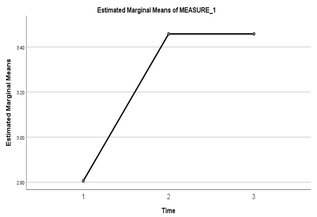
STUDY 1

Background

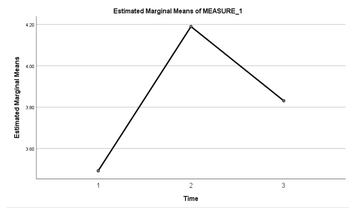
This study reports on a recent pilot project utilizing a task-shifting strategy to scale up behavioral health services in a low-resource hospital in Sierra Leone, West Africa. Primary healthcare services in Sierra Leone is limited and restricted to a network of peripheral health units of varying catchment sizes and capacities, however, many communities do not have these basic health services.[2,4,6] CRM is a low dose guided self-help intervention aimed at teaching lay health workers to provide individuals, groups and communities a set of skills geared toward increasing resiliency, regulating the nervous system and reducing distress, all of which are significant components of good mental health.[12] Previous use of the CRM model has focused on first responders working in the aftermath of disaster and traumatic situations, however recent adaptations of this model have been used to train lay health workers to support individuals navigating high stress and living in low resource contexts.[12] This study discusses the impact on the hospital workers' understanding, perceived ability and confidence in addressing trauma, resilience and distress as well as patient reports of their experience learning the CRM model from their provider and other hospital workers.

Results

Across all measurements hospital workers had statistically significant improvements in their understanding of trauma (p<., ways to manage stress and anxiety, and confidence in providing trauma services. There was a significant effect of the CRM training on the understanding of trauma related symptoms, Wilks' Lambda=.723, F(1, 38) = 14.551, p = .000. There was a significant effect of the CRM training on perceived ability to manage symptoms related to trauma and distress, Wilks' Lambda=.796, F(2, 37) = 4.732, p = .015. There was a significant effect of the CRM training on confidence in providing the CRM services to clinic and hospital patients Symptoms, Wilks' Lambda=.699, F(2, 37) = 7.964, p = .001. Paired samples t-tests were used to make post hoc comparisons between pretest, post-test and 6-month post-test.

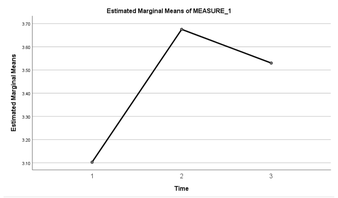


Understanding



Perceived Ability

Confidence



	Pretest		Posttest		6-month Posttest					
Outcome	M	SD	M	SD	M	SD	n	95% CI for Mean Difference	t	df
Understanding	2.83	.878	3.45	.987	3.45	.987	39	-.99804,-.30599	-3.85**	38
Ability	3.12	.956	3.67	.912	3.49	.900	39	-.72230,-.02567	-2.17*	40
Confidence	3.53	1.05	4.18	.847	3.80	.917	39	-70942,-1.229	-1.22	40

* p < .01.; ** p < .001.

Discussion

Delivery of CRM resulted in significant long-term changes in hospital workers perceptions of feeling able to address stress and trauma in patients. These findings suggest that the Community Resilience Model might be an effective task-sharing strategy for integrating basic mental health services within healthcare settings in low resource contexts. This study demonstrates that community members in addition to trained professionals can be effective in assisting others facing mental health stress and trauma. Given the success of the project we suggest using the CRM intervention's train-the-trainer approach to build local capacity for mental health among those serving others in healthcare settings.

Method

Twelve Community Resilience Model Non-Specialist Behavioral Health Workers provided a 3-day readiness intervention that incorporated the Community Resiliency Model and its use in health care settings to 41 hospital workers. The goal of this project was to evaluate whether non-specialized behavioral health workers can effectively train clinic/hospital workers to understand and work with the emotional, physical and behavioral reactions to trauma and to what degree this training also supported the mental health of these hospital workers. The training took place before the beginning of the COVID-19 pandemic and 6-month post data collection was collected 4 months into the COVID-19 pandemic in 2020. To assure proper documentation and implementation, a team of LLU Faculty provided consultation and supervision of implementation activities through zoom. For study 1 the outcome evaluation we used a survey at pre, immediate post and 6-month post to determine changes in trauma understanding, stress management and understanding of trauma. In study 2, we used validated scales to track levels of depression, anxiety, and PTSD to examine the impact of the CRM training on mental health over time. For data analysis, a series of repeated measures ANOVA analyses were conducted to compare the effect of (IV) a 3 day Community Resilience Model (CRM) training on understanding of responses to trauma, perceived ability to manage trauma related symptoms and confidence in providing CRM services to patients at baseline (pre-training), immediately after the 3-day training (post-training), and at 6-months follow-up. Repeated measures ANOVA analysis was also used to examine changes in mental health outcomes pre, immediate post and 6-months after the initial training.

Demographics

CRM Non-Specialist Behavioral Health Worker Team

Demographic Information	N=12, n (%)
Gender	
Male	9 (75%)
Female	3 (25%)
Marital Status	
Married	5 (41.7%)
Single	7 (58.3%)
Type of Employment	
Teacher	4 (33.3%)
Medical Provider	2 (16.7%)
Business	2 (16.7%)
Other (farming, trading, unemployed, student etc.)	4 (33.3%)
Age (Mean)	33.32
Average Years of Education (Mean)	14.82

AHS Waterloo, Sierra Leone Integrated Behavioral Health Team

Demographic Information	N=41, n (%)
Gender	
Male	17 (41.5%)
Female	24 (58.5%)
Marital Status	
Married	21 (51.2%)
Single (not married, widowed, divorced)	20 (48.8%)
Type of Employment	
Medical (nurse, med hygienist, lab tech)	30 (73.2%)
Non-Medical Provider (maintenance, billing, security)	10 (24.4%)
Age (Mean) (N=40)	Range: 22-65 (36.05)
Average Years of Education (Mean) (N=32)	Range: 3-19 (14.34)
Experienced Traumatizing Event (N=39)	
Yes	32 (78.0)
No	7 (17.1)

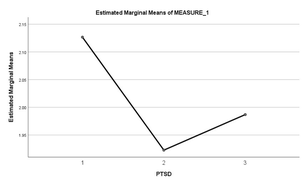
STUDY 2

Background

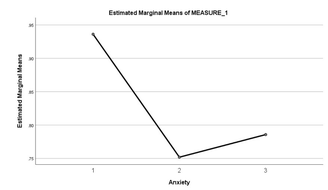
Since the beginning of the COVID-19 pandemic, researchers reported increased physical and mental exhaustion among health workers in Sierra Leone. Reasons may include navigating the risk of infection for themselves and families, the pain of losing patients and colleagues, and the unavailability of sufficient and timely mental health services.[3] Reports of depression, anxiety, and PTSD-related symptoms have increased among health providers during the pandemic.[3] Prolonged provider stress can lead to reduced effectiveness at work, reduced quality in patient care, and negative patient outcomes[1-4]. Stress and inability to meet demands placed on an individual within the context of their work role can result in psychological strain, ill health and burnout.[1-2,5,11] Finding ways to help workers better cope with stressful environments has led some researchers to look at the role of resilience within the workplace.[6,7] Resilience is seen as a positive organizational factor that can help individuals and healthcare organizations reduce absenteeism, improve the well-being of healthcare workers, and patient care.[7,9,10] A lack of resilience in the workplace and increased work-based stress levels may impact the overall quality of life negatively impacting not just the individual but the wider family group and community.[7,9,10] This study evaluated the effectiveness of the CRM model on reducing depression, anxiety, and PTSD-related symptoms among hospital workers in a low-resource hospital setting in Sierra Leone during the COVID-19 pandemic.

Results

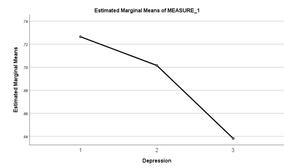
There was a significant reduction of PTSD symptoms that still remained significantly lower than baseline even during the COVID-19 pandemic. There was a significant reduction of depression symptoms that continued to drop even during the COVID-19 pandemic. There was a significant reduction of anxiety symptoms that still remained significantly lower than baseline even during the COVID-19 pandemic.



PTSD



Anxiety



Depression

Discussion

Delivery of CRM resulted in significant long-term changes in depression, anxiety, and PTSD, making it an effective intervention for persons living during stress and trauma of a global pandemic. CRM also resulted in strengthening existing resilience, doing so using local cultural resources, thus making it a powerful adaptable approach that easily translates to different cultural settings. Further, since CRM is also a low dose intervention, it has the potential for scalability and capacity building potential in low resource context. Given the success of the project, we suggest using the CRM intervention to equip hospital workers in supporting their mental health, especially during times of stress and crisis.

References

1. Alemu W, Funk M, Gakurah T et al. (2012). WHO Profile on Mental Health in Development (WHO proMIND): Sierra Leone. Geneva: World Health Organization.

2. Betancourt, T. S., Brennan, R. T., Rubin-Smith, J., Fitzmaurice, G. M., & Gilman, S. E. (2010). Sierra Leone's former child soldiers: a longitudinal study of risk, protective factors, and mental health. *Journal of the American Academy of Child and Adolescent Psychiatry*, *49*(6), 606–615. https://doi.org/10.1016/j.jaac.2010.03.008

3. Debes, J. D., Quadri, N. S., Sultan, A., Yousif, M., Ali, S. I., Kayandabila, J., Ijeoma, I., Ssebambulidde, K., Ochola, L., & Moussa, A. (2021). Risk of Healthcare Worker Burnout in Africa during the COVID-19 Pandemic. *Annals of global health*, *87*(1), 5. https://doi.org/10.5334/aogh.3150

4. Fitts, J. J., Gegbe, F., Aber, M. S., Kaitibi, D., & Yokie, M. A. (2020). Strengthening mental health services in Sierra Leone: perspectives from within the health system. *Health policy and planning*, *35*(6), 657–664. https://doi.org/10.1093/heapol/czaa029.

5. GBD 2019 Mental Disorders Collaborators. (2022). Global, regional, and national burden of 12 mental disorders in 204 countries and territories, 1990-2019: a systematic analysis for the Global Burden of Disease Study 2019. *The lancet. Psychiatry*, *9*(2), 137–150. https://doi.org/10.1016

6. Jagadesh, S., Sevalie, S., Fatoma, R., Sesay, F., Sahr, F., Faragher, B., Semple, M. G., Fletcher, T. E., Weigel, R., & Scott, J. T. (2018). Disability Among Ebola Survivors and Their Close Contacts in Sierra Leone: A Retrospective Case-Controlled Cohort Study. *Clinical infectious diseases : an official publication of the Infectious Diseases Society of America*, *66*(1), 131–133. https://doi.org/10.1093/cid/cix705

7. Jones, S., White, S., Ormrod, J., Sam, B., Bull, F., Pieh, S., Gopalakrishnan, S., & van den Broek, N. (2020). Work-based risk factors and quality of life in health care workers providing maternal and newborn care during the Sierra Leone Ebola epidemic: findings using the WHOQOL-BREF and HSE Management Standards Tool. *BMJ open*, *10*(11), e032929. https://doi.org/10.1136/bmjopen-2019-032929

8. Rehm, J., & Shield, K. D. (2019). Global Burden of Disease and the Impact of Mental and Addictive Disorders. *Current psychiatry reports*, *21*(2), 10. https://doi.org/10.1007/s11920-019-0997-0

9. WHO Mental Health Atlas. (2014). World Health Organization, Geneva http://www.who.int/mental_health/evidence/atlas/executive_summary_en.pdf?ua=1

10. World Health Organization, Regional Office for the Eastern Mediterranean. (2015). Scaling up mental health care: a framework for action. World Health Organization. Regional Office for the Eastern Mediterranean. https://apps.who.int/iris/handle/10665/250492

11. Van Bortel, T., Basnayake, A., Wurie, F., Jambai, M., Koroma, A. S., Muana, A. T., Hann, K., Eaton, J., Martin, S., & Nellums, L. B. (2016). Psychosocial effects of an Ebola outbreak at individual, community and international levels. *Bulletin of the World Health Organization*, *94*(3), 210–214. https://doi.org/10.2471/BLT.15.158543

12. Freeman, K., Baek, K., Ngo, M., Kelley, V., Karas, E., Citron, S., & Montgomery, S. (2021). Exploring the Usability of a Community Resiliency Model Approach in a High Need/Low Resourced Traumatized Community. *Community mental health journal*, 10.1007/s10597-021-00872-z. Advance online publication. https://doi.org/10.1007/s10597-021-00872-z