

Efficacy of Psychosocial and Mental Health Interventions to Mitigating the Effect of COVID-19 among Learners in Kenya

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Abstract

The COVID-19 pandemic was declared a public health emergency of international concern by the World Health Organization in January 30, 2020. COVID-19 affected more than 1.5 billion learners worldwide including 18 million in Kenya. As much as a lot has been done to control and manage the physical health effects posed by the pandemic globally, there has been little effort put on psychosocial and mental health support to mitigate the effects of COVID-19 pandemic, especially among school learners. As such, researchers in Kenya came up with psychosocial and mental health (PSMH) interventions that were offered to learners to mitigate the PSMH effects of COVID-19. Since learners affected by PSMH issues, rely on schools for their PSMH wellbeing and development, the intervention was offered to selected learners that met intervention threshold for period of two months in their respective schools. In order to build a strong evidence of efficacy of the intervention, the study carried out an outcome evaluation which is primarily target-audience oriented. This is where the effects of the intervention on learners' PSMH wellbeing were measured. Mass outbreaks such as pandemics are associated with adverse PSMH problems requiring efficacious psychological interventions, thus the

need for this study. The findings revealed statistically significant differences in PSMH scores between learners as per counties and category of schools. No difference was noted with gender. There is therefore need to mainstream PSMH programmes in educational institutions in the country.

Keywords

COVID-19 Pandemic, Efficacy, Evaluate, Intervention, Learners, Mental Health, Psychosocial

1. Introduction

In Kenya, when the first case of COVID-19 was confirmed in early March 2020, the Kenya Ministry of Health (MoH), through the National Emergency Response Committee on Coronavirus (NERCC) implemented a mix of public health response measures, including messaging to create awareness on preventive measures, such as use of masks, practicing hand hygiene and social distancing (Mwai et al., 2022) and (Karijo et al., 2021). As the pandemic curve showed increased infections, there was heightened trauma, anxiety, worry, frustration and stress due to the uncertainty and the feeling of lack of control. The closure of schools and restricting learners at home for a long period of time due to the COVID-19 pandemic as noted by (Hallgarten, 2020) precipitated learners' disengagement, drop outs, risky behaviors such as participation in criminal activities, sex, alcohol and drug abuse. Moreover, (Maina, 2022) noted that the restriction of learners at home diminished the resilience of family and children, heightened the possibility for mental health issues like depression and anxiety. In fact, Fergert et al. (2020) cited in Stoyanova (2023) noted that during COVID-19 pandemic, some of the psychosocial problems experienced are anxiety, increased risk for domestic violence, and reduced opportunities for coping with stress, owing to restricted social contacts and in this way limited social support. This is likely to be more acute for children with special needs who usually face extra challenges, because many encounter significantly higher chances of neglect, segregation leading to loneliness (Angode et al., 2021).

Moreover, research has consistently shown that children often experience psychological stress following natural disasters and other crises (Durlak et al., 2011). During such moments, children suffer fear, loss and grief after experiencing sickness or the loss of friends or family members (El-Zraigat et al., 2020). Also, the social and economic disruptions that accompany a pandemic or a disaster will likely increase stress within the family and lead to mental disorders such as Post traumatic stress disorder (PTSD), anxiety and depression, among children and youth (Filmer et al., 2014). Prolonged stress can impair learners' learning and threaten their future development. According to Auxéméry (2018), Post Traumatic Stress Disorder, depressions and bereavement lead to high risk of suicidal crisis and self-harm behaviors. Stress experienced by parents is associated with

child abuse and neglect. During the COVID-19 outbreak, there was evidence of an increased domestic violence (Filmer et al., 2014). These predispose children to possible psycho-social challenges including depression, hence the need for additional psychosocial support. The significance of this psychosocial intervention is to address the psychosocial issues in children before they escalate to mental health issues such as depression, Posttraumatic Stress Disorder and anxiety. Without it, the mental health of children is likely to be negatively affected for a long time.

According to Doherty et al. (2021) psychological interventions are needed for all those affected by, and or more vulnerable to the mental health consequences of pandemics. This includes children and young people experiencing anxiety and depression associated with loss of freedom and opportunities for play, boredom, separation from friends, and school closures during lockdowns (Bolt et al., 2021).

From literature, experience with COVID-19 outbreak has highlighted how a pandemic can impact on the psychosocial and mental health wellbeing of school going children and how this can negatively affect their learning. Particularly, a concern has been raised due to increased cases of teenage pregnancies during the COVID-19 outbreak. This puts the wellbeing of girls at risk (Maina, 2022). Psychological interventions have been found to reduce emotional distress, promote positive health habits and even enhance immune responses among people during the COVID-19 outbreak (Kong et al., 2020). In this study, interventions were provided for learners who experienced psychosocial and mental health effects of COVID-19 and met the required thresholds. Thereafter, the efficacy of the interventions was evaluated. This paper therefore presents the outcome of the evaluation of six psychosocial dimensions: Physiological needs, self-awareness, self-efficacy, social relations, self-esteem and moral and spiritual aspects. It further evaluated three mental health dimensions: Anxiety, depression and Post-traumatic Stress Disorder among learners in five counties of Kenya. Eight session intervention was offered for a period of two weeks. This was after training guidance and counselling teachers on the content and mode of delivery of the content of the intervention.

2. Methodology

2.1. Procedure

A Learner's Progress Report form was used to evaluate the efficacy of the Psychosocial and Mental Health (PSMH) intervention. Prior to the evaluation, a two (2) month intervention process for learners meeting the required thresholds was conducted using an eight-session Learners Intervention Tool where those who went through at least six (6) of the sessions and met the threshold qualified for intervention. The items developed to measure psychosocial and mental health effects were scored on a 3-point Likert scale (All the time, some time and not at all) giving scores that classified learners as Normal (1), Mild (2), Moderate

(3) and Severe (4). All the learners who scored moderate to severe in the psychosocial and mental health tools were identified as vulnerable and predisposed to risks of psychosocial and mental health issues and were recommended for interventions and prevention programmes which formed the basis for evaluating the efficacy of the intervention. The threshold before intervention was 3 - 4 that is Moderate to Severe while after intervention, was expected to reduce to 1 - 2 that is Normal to Mild implying the intervention was efficacious. The efficacy of the intervention was based on three parameters that measured a learner's progress after the intervention: Substantial progress (1), Good progress (2) or No Progress (3). The intervention was considered efficacious if learners reported substantial and good progress that is scored from 1 - 2 in at least six sessions while no progress, that is a score of more than 2 showed the intervention was not efficacious enough or at all. The six psychosocial dimensions of physiological needs were: Self-awareness, self-efficacy, social relations, self-esteem and moral and spiritual aspects whereas the three (3) mental health dimensions were: Anxiety, depression and posttraumatic stress disorder among learners in the five counties in Kenya). The measurement tools (Learner's Progress Report form and eight-session Learners Intervention tool) were developed and validated by the researchers and counsellors involved the study. Moreover, a pilot study was conducted among primary and secondary school learners in two counties of Kenya that were not part of the study areas.

2.2. Participants

Seven hundred and eleven (711) learners who met the threshold for intervention were drawn from five counties of Kenya namely: Nairobi, Mombasa, Kajiado, Migori and Elgeyo-Marakwet participated in the study. They were distributed based on county, gender and school category. The learners involved in the study were aged 8 - 18 years, and they from grade 5 - 6 for primary schools and form one to three for secondary schools. Both male and female learners were considered.

2.3. Instruments

Cross-sectional descriptive research design was utilized for a survey-based questionnaire for the assessment of PSMH issues. Learners' Progress report form was used to evaluate the efficacy of the PSMH intervention. The progress by learners was scored as substantial (1), good progress (2) or no progress (3).

2.4. Data Analysis

The data collected was analyzed using both descriptive and inferential statistics. Descriptive statistics included Means and Standard deviations whereas comparisons of the before and after intervention scores was done by use of both independent and paired t-tests. All statistical tests were at $\alpha = .05$. This was done by learners rating themselves before and after the psychosocial intervention was of-

ferred.

3. Research Results

3.1. Characteristics of Study Respondents

The demographic characteristics considered for this research were county diversity, gender and school category.

3.2. Demographic Data of Respondents

Demographic data of the respondents is summarized in **Table 1** where data on learners who met the threshold for Psychosocial and Mental health intervention are presented.

3.3. Results

It is evident from **Table 1** that all the targeted counties in Kenya experienced psychosocial and mental health effect of COVID-19.

In order to determine the efficacy of the intervention, before and after intervention learners mean scores in Psychosocial and Mental health (PSMH) dimensions were compared, then tested for significance by use of the t-test statistic. The results are shown in **Table 2**.

It is clear from **Table 2** that the before PSMH mean scores were between 2.12 and 3.21 (above a score of 2) whereas the after PSMH scores were between 1.44 and 1.79 (below a score of 2). This implies that there was a difference in the pre and post intervention PSMH scores. Thus, it was concluded that the intervention was efficacious. The t-test results further established the mean differences as statistically significant ($p < .05$) across all the schools in the five counties.

A further analysis was done on the efficacy of the intervention among boys and girls in the selected schools. **Figure 1** and **Figure 2** give the details of the results.

Figure 1 shows that the learners' mean scores before intervention in the five

Table 1. Distribution of learners selected for intervention per county and school category.

County	Primary school	Boys only secondary school	Girls only secondary school	Mixed secondary school	Special school	Total
Kajiado	66	20	8	24	22	140
Migori	65	13	12	15	15	120
Nairobi	68	8	28	11	32	147
Elgeiyo Marakwet	79	10	29	12	36	166
Mombasa	62	9	11	33	23	138
Total	340	60	88	95	128	711

Table 2. T-test results of the learners’ scores before and after intervention per county.

County	School category	Intervention Epoch	N	Mean	SD	df	t-value	p-value
Kajiado	All schools	Before	139	2.86	.69	139	24.149	.000
		After	139	1.59	.44			
Migori	All schools	Before	91	2.18	1.09	90	6.625	.000
		After	91	1.58	.49			
Mombasa	All schools	Before	134	2.98	.60	133	20.686	.000
		After	134	1.79	.49			
Elgeyo Marakwet	All schools	Before	76	2.12	.91	75	6.511	.000
		After	76	1.44	.50			
Nairobi	All schools	Before	69	3.21	.55	68	25.430	.000
		After	69	1.65	.60			

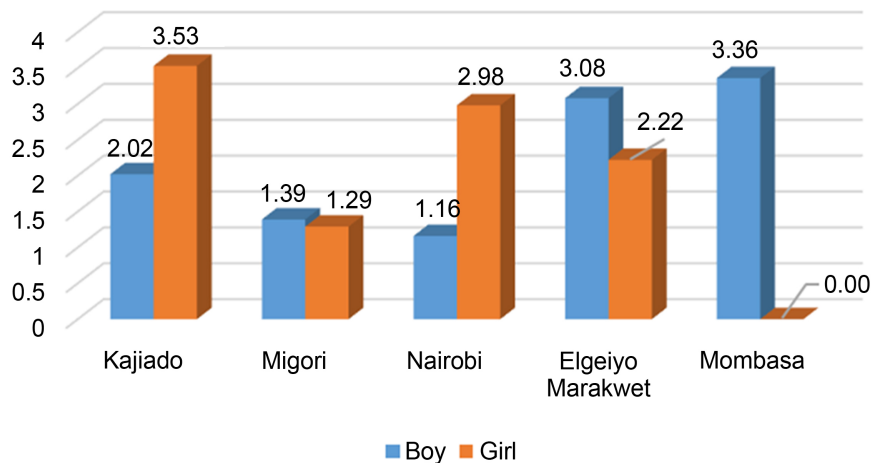


Figure 1. Mean scores between boys and girls before intervention per county.

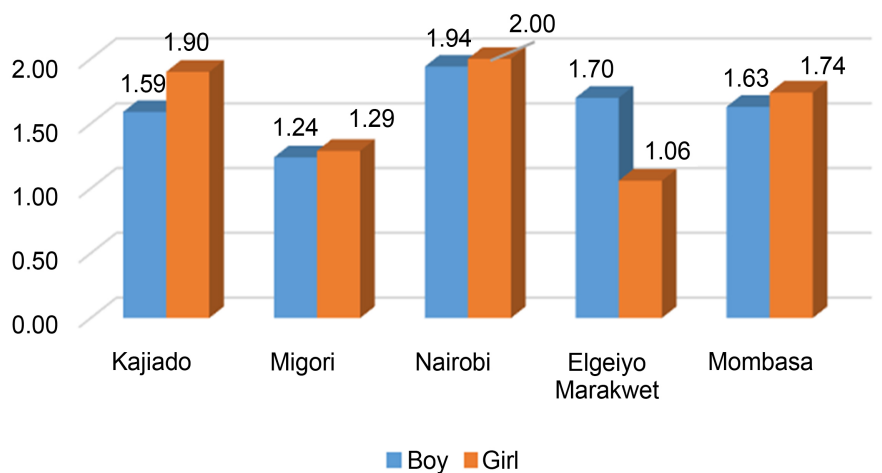


Figure 2. Mean scores between boys and girls after intervention per county.

counties were moderate to severe (above 2) for both boys and girls except for Migori, while after the intervention the mean scores reduced to normal to mild (below 2) as shown in **Figure 2**, implying the intervention was efficacious for both school boys and girls.

Concerning school category (primary and secondary), comparisons were made in their PSMH scores for before and after intervention, and t-test computation done. The results revealed a statistically insignificant difference ($p > .05$) between primary and secondary school learners before intervention. However, statistically significant difference ($p < .05$) existed in the mean scores after intervention. A summary of the results is shown in **Table 3**.

From **Table 3**, the PSMH mean scores clearly indicate that primary school learners were more affected than secondary school learners. Notably, PSMH mean scores for primary school learners were lower than those of their secondary school counterparts, implying that the intervention was more efficacious for primary than for secondary school learners.

In the study, special school learners were included. Specifically, the mentally and hearing impaired learners were involved. Their PSMH mean scores for before and after intervention are shown in **Table 4**.

Table 4 shows that the mean before intervention for all the special schools in all counties was 3.00 - 4.00 (moderate to severe) and after intervention it reduced

Table 3. Efficacy of interventions between primary and secondary school learners.

Sample	Intervention Epoch	School level	N	Mean	SD	Df	t-value	p-value
	Before	Primary	315	2.72	.84	555	.315	.753
		Secondary	242	2.74	.84			
	After	Primary	413	1.61	.46	661	2.280	.023
		Secondary	250	1.70	.52			

Table 4. Special school learners PSMH mean scores for before and after intervention.

County	Dimension	Before intervention			After intervention		
		N	Mean	SD	N	Mean	SD
Kajiado	Psychosocial and mental health after treatment mean score	22	2.80	.20	22	1.53	.24
Migori	Psychosocial and mental health after treatment mean score	13	3.10	.54	13	2.07	.62
Nairobi	Psychosocial and mental health after treatment mean score	32	3.11	.14	32	1.94	.47
E/Marakwet	Psychosocial and mental health after treatment mean score	14	3.10	.08	36	1.94	.37
Mombasa	Psychosocial and mental health after treatment mean score	16	3.08	.84	16	1.53	.86

to a mean of 1 - 2 (Normal to mild). In effect, the intervention was efficacious for special school learners in all the counties of study. A close inspection shows that the intervention was more efficacious for Kajiado and Mombasa counties.

To find out whether significant differences existed in the before and after intervention, PSMH mean scores for each county, a paired t-test was run as presented in **Table 5**.

In **Table 5**, the study sought to find the status of learners' psychosocial (PS) dimensions: Physiological, Self-efficacy, Self-esteem, Social relations, Stigma/discrimination and Spiritual/moral and Mental health (MH) dimensions: Anxiety, Depression and PTSD. The results indicate that learners' mean scores were high ranging from moderate to severe (3 - 4) before whereas after the intervention, the mean scores were low ranging from normal to mild (1 - 2) which shows that the intervention was efficacious. The paired t-test results revealed statistically significant difference ($p < .05$) in the psychosocial and mental health scores among special school learners in all counties before and after intervention. This further confirmed the efficaciousness of the intervention. Close observation show that for both PSS and MH, the intervention was more efficacious for Kajiado and Mombasa counties. The differences could be attributed to preexisting cultural elements within the counties of the study.

The study further compared the efficacy of the intervention between special needs and the regular schools. This was to establish how the intervention worked for learners in the two categories of schools. Detailed results are shown in **Table 6**.

From **Table 6**, the mean scores for special schools before intervention were at 3.04 unlike the regular schools which was at 2.67. After the intervention, it reduced to 1.82 and 1.60 respectively. Also, the t-test results showed statistically significant difference ($p < .05$) between special and regular school learners. Based on the after intervention mean scores, the intervention was more efficacious for learners in regular than in the special needs category ones. Thus their levels of psychosocial and mental health issues are likely to be higher than the other type of children. Consequently, there is a need for more special attention in the psychosocial and mental interventions for the special needs learners in Kenya and elsewhere.

3.4. Discussion

The t-test results showed there was a significant decrease in the learners' scores before and after intervention in all schools per county. The results corroborate those of (Kong et al., 2020) who established that after the psychological-behavioural intervention was offered to COVID-19 patients in China, scores on depression and anxiety significantly reduced. This demonstrated that a psychological intervention can reduce emotional distress and promote positive health habits. Moreover, (Lee et al., 2020) notes that, as the world adjusts to the impact of COVID-19, there is an urgent need for positive experiences and coping mechanisms that can counterbalance the negative physical and mental impact of the pandemic.

Table 5. Efficacy of intervention based on paired t-test of PSS and MH scores for special school learners per county.

County		N	Mean	SD	df	T	p-value	
Kajiado	Pair 1	PSS before intervention	22	3.00	.00	21	22.029	.000
		PSS after intervention	22	1.60	.30			
	Pair 2	MH before intervention	22	2.95	.21	21	22.079	.000
		MH after intervention	22	1.39	.37			
Migori	Pair 1	PSS before intervention	15	3.14	.64	14	4.086	.001
		PSS after intervention	15	2.13	.63			
	Pair 2	MH before intervention	15	3.27	.54	14	5.281	.000
		MH after intervention	15	2.02	.76			
Nairobi	Pair 1	PSS before intervention	32	3.11	.16	31	13.487	.000
		PSS after intervention	32	1.85	.54			
	Pair 2	MH before intervention	32	3.11	.18	31	11.259	.000
		MH after intervention	32	2.13	.45			
Elgeiyo Marakwet	Pair 1	PSS before intervention	14	3.15	.12	13	14.149	.000
		PSS after intervention	14	2.24	.21			
	Pair 2	PSS before intervention	14	3.00	.00	13	9.918	.000
		MH after intervention	14	2.07	.35			
Mombasa	Pair 1	PSS before intervention	16	3.07	.82	15	11.099	.000
		PSS after intervention	16	1.54	.90			
	Pair 2	MH before intervention	15	3.31	.43	14	17.665	.000
		MH after intervention	15	1.60	.76			

Table 6. T-test results for special needs and regular schools.

County	Intervention Epoch	Type	N	Mean	SD	Df	t-value	p-value
	Before	Special	97	3.04	.42	555	3.966	.000
		Regular	460	2.67	.89			
	After	Special	119	1.82	.53	661	4.596	.000
		Regular	544	1.60	.46			

In the present study, it was noted that the intervention worked slightly better for primary than for secondary school learners across counties of study. This can be attributed to the primary schools being more receptive and interactive in the intervention activities provided.

On gender, the intervention was efficacious for both school boys and girls. As such, both boys and girls benefited from them. This contrasts the findings of a study that found females to be experiencing more severe stress and anxiety symptoms during COVID-19 outbreak, while males showed better resilience to stress (Hou et al., 2020).

Based on school category, the t-test results showed there was no significant difference in the efficacy of intervention in primary and secondary school learners in all counties before and after intervention. This means that the PSSMH intervention was efficacious for both primary and secondary schools. The study further established significant differences in special needs and regular school learners.

According to Angode (2021), children with special needs usually face extra challenges because many encounter significantly higher chances of neglect, abuse, segregation leading to loneliness. In fact, Luan (2020) found that many people with disabilities already suffer from social isolation and the panic due to COVID-19 can increase that sense of isolation. In other studies, FAO (2020) and Xie (2020) established that COVID-19 causes psychological and social effects on persons with disabilities, and these impacts vary according to the type of disability. The studies further noted that many of the participants stated fear if infected by the disease. The studies recommended the necessity of providing psychological, social and health support to persons with disabilities.

3.5. Conclusion

Based on the results of before intervention and after intervention, the tool is efficacious among the learners. The tool's practicability among learners is a reality and it should be adopted by all schools within the counties of Kenya and other parts of the world. In all categories of schools, the mean scores before and after intervention shows significant change of the mean score and p-value which shows the intervention was efficacious in all category of schools (Primary, secondary, special, mixed, girls or boys only, day or boarding schools). On gender of the learners, the mean scores and the t-test values showed that both boys and

girls benefited from the PSMH intervention given. This implies that the tool was efficacious for both gender of learners. Owing to the noted significant differences between the special needs learners and the regular learners, there is need to pay attention to mediating factors that may make special school learners not to maximally benefit from the psychosocial and mental health interventions.

3.6. Recommendation

Based on the findings and the conclusions of the study, it is recommended that:

- 1) All school learners in Kenya be given a chance to experience this phenomenal intervention process that is hoped to bring holistic citizenry who become an important human capital for the nation.
- 2) Psychosocial and mental health programs be mainstreamed in educational institutions in the country.
- 3) Learners in Special schools be given more attention and requisite resource during intervention.

3.7. Limitations to the Study

Although the findings found that PSMH intervention alleviated PSMH issue among learners in Kenya, there was no control group for the study. Despite the limitation, however, we view these results as encouraging in pointing out the efficacy of the intervention offered to the learners. A large-scale study is recommended that includes a control group to validate the results.

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Authors' Contributions

All the authors substantially contributed to the preparation and approved the final version of the manuscript.

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Conflicts of Interest

The authors declared no conflict of interest concerning research, authorship, and publication of this article.

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