

The impact of mental health training in nursing professionals in government schools of Koshi province of Nepal.

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Abstract

Background:

Despite mental health being vital for coping with life's challenges, achieving potential, and supporting community well-being, many Low and Middle-Income Countries (LMICs), including Nepal, still rely on institutional rather than Community care. Studies have shown that adolescents, facing rapid changes and mental health challenges, benefit greatly from early intervention in schools, through the training of school health nurses in Mental Health.

Objective:

This study aims to evaluate the effectiveness of mental health training on knowledge, attitudes, and practices of school health nurses in Koshi Province, Nepal.

Methods:

A prospective, Descriptive Pre- and Post-test study amongst five batches of Government School Health Nurses was conducted over three weeks, using a non-probability, convenience sampling method. Data were collected using semi-structured forms and structured questionnaires. The available data analysed using

descriptive statistics, paired t-tests for comparing pre- and post-training results, and regression analysis.

Results:

The mean post-test scores (47.28) were significantly higher than pre-test scores (37.28), indicating effective training. The study population was normally distributed, and a moderate correlation (0.661) between pre- and post-test scores demonstrates consistent improvement. The difference between scores was statistically significant ($p < 0.000$), and effect size analysis confirmed a substantial positive impact.

Conclusion:

Mental health training for nurses significantly strengthens healthcare systems, particularly in low- and middle-income countries facing rural disparities. This study advocates for expanding these programs and underscores the need for systemic support to maintain progress, highlighting school nurses' crucial role in sustainable, effective healthcare.

Keywords:

Adolescent mental health, Nurses training, School mental health

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INTRODUCTION

Mental health is a fundamental aspect of overall health and well-being, essential for decision-making, relationship-building, and personal and community development. and recognized as a basic human right that is crucial for personal, community, and socio-economic development.⁽¹⁾ In developed Western countries, community-based

approaches have largely replaced institutional care, reflecting a paradigm shift in psychiatric care. The World Health Organization (WHO) has been instrumental in promoting this change globally, including in Low and Middle-Income Countries (LMICs)⁸. However, in countries like Nepal, mental health has traditionally received less priority in terms of active promotion, early diagnosis, and treatment. This gap is being addressed through the current five-year plan, which aims to enhance mental health care and expand access to basic services across the healthcare system.^{3,4,5} Adolescents, a significant population in terms of mental health, undergo rapid physical, social, and psychological changes during adolescence. Approximately 34.6% of mental health conditions emerge before age 14, and 62.5% by age 25^{6,7}. Primary care mental health involves providing

basic preventive and curative services, often managed by non-specialists who can refer complex cases to specialised professionals. Effective management of most mental disorders at the primary care level is possible with adequate resources. Schools frequently serve as the first point of contact for identifying mental health issues, making early intervention crucial ⁹. Training has proven effective in various studies, including a qualitative analysis in rural Nepal that showed improved care and more accurate identification of mental health conditions by Auxiliary Nurse Midwives post-training ⁽¹⁰⁾.

School nurses are integral to the primary healthcare system and often encounter mental health issues within the education system. Many students face psychosocial problems, such as bullying, stress, and relationship issues, especially during adolescence when intervention is most impactful ⁽¹¹⁾. Therefore, school nurses play a vital role in early identification and referral to specialists, mitigating long-term mental health issues. Despite the recognized importance of school nurses, there is a consensus that further training and education could enhance mental health care ^{9,12}. Other mental health training programs for paramedical professionals in the Koshi Province of Nepal have demonstrated effectiveness ¹³. This study hopes to understand whether or not the training being given to nurses has been adequate and the role that this training may play on further improvement of the current healthcare delivery system.

METHODOLOGY:

A prospective, descriptive, (quasi-experimental) Pre-and Post-test study was designed to assess the effectiveness of changes on knowledge, skills, and ability to implement mental health care practices of the Government School Health Nurses of Koshi Province, Nepal. A total enumerative number of 65 Government School Health Nurses who were invited by the Office of Directorate of Health Province 1 for a three days training on School Mental Health at Birat Medical College Teaching Hospital and participated in this study. The purpose and objective of the study were explained to all participants before an implicit consent was obtained from them. A pre-tested and validated training Module and questionnaire developed by Expert Panellists of WHO Eastern Mediterranean regional office(14), was implemented over the course of 3 days. This started with an introductory session about the importance of mental health care in school and chronologically through normal child development, Mental health promotion, identification

and referral (see Annexure-1). The study tools were validated for reliability and sensitivity by conducting a pilot testing among 15 nurses not working at government schools (5 each from Budhiganga Health Post, Morang, Letang Hospital, Morang, and Birat Medical College and Teaching Hospital, Morang). The questionnaires used were formulated with English as the language of choice and therefore did not require any translation or modification. Standardised collection techniques were used to minimise potential bias. Statistical analysis included descriptive statistics for demographic data, paired t-tests for comparing pre- and post-training results, and regression analysis to determine the training's impact on knowledge, attitudes, and implementation of mental health care. Statistical analysis was performed using the Statistical Package for the Social Sciences (SPSS).

Confidentiality and anonymity was maintained while collecting the data and no identification was done. The data was coded and decoded to ensure no lapses. There were no threats to human rights and dignity during the course of the training and study with ethical clearance received from the Institutional Review Committee.

RESULTS:

The total number of study participants was 65, all female and both married and unmarried group and from all geographical region (Terai, Mid Hilly region and Upper Hilly region). These nurses had varying experience (from 6 months-12 years of experience) and formal education (Staff Nurse to Bachelor in Nursing Sciences).

Table 1: Shows a descriptive Statistics for Post and Pre-test Score

								Std. Error
Pre-test Score	Mean		37.28	Pre-test Score	Mean		47.28	1.498
N= 65	95% Confidence Interval for mean	Lower Bound	34.19	N= 65	95% Confidence Interval for mean	Lower Bound	44.28	
		Upper Bound	40.36			Upper Bound	50.27	
	Median		37	Median		53		
	Std. Deviation		12.442	Std. Deviation		12.076		
	Range		46	Range		39		

The descriptive summary highlights the fact that, There is a significant improvement in post-test score compared to the pretest score suggesting the effectiveness of Mental Health training.

Table 2: Test of Normality of scores

Tests of Normality						
	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Pre-test Score	0.095	65	.200*	0.961	65	0.039
Post-test Score	0.205	65	0.000	0.872	65	0.000

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

The test of normality shows that the data follows the normal distribution (p-value < 0.05), suggesting that we can use a Paired sample T-test to determine the significant difference between pre and post-test score.

Table 3: Paired sample T-test

Paired Samples Test								
Paired Differences								
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	Df	Sig. (2-tailed)
				Lower	Upper			
Pre-test Score - Post-test Score	-10.000	10.106	1.253	-12.504	-7.496	-7.978	64	.000

The paired sample T-test shows a mean difference of 10 between pre-test and post-test score. The significant p-value indicates there is a significant difference between pre-test and post-test score, hence implying that the training has effectively increased the Post-test score.

Table 4: Calculation of effect size

Paired Samples Effect Sizes						
Pair	Pre-test Score - Post-test Score	Cohen's d	Standardiser	Point Estimate	95% Confidence Interval	
					Lower	Upper
1			10.106	-.990	-1.284	-.690
		Hedges' correction	10.165	-.984	-1.277	-.686

a. The denominator used in estimating the effect sizes. Cohen's d uses the sample standard deviation of the mean difference. Hedges' correction uses the sample standard deviation of the mean difference, plus a correction factor.

Cohen's d and Hedges' correction show a large negative effect size, meaning there is a substantial improvement in scores from pretest to post-test. The confidence intervals confirm the robustness of this finding, as they do not cross zero, implying a statistically significant difference between pre-test and post-test scores.

Table 5: Correlation between Pre-test score and Post-test Score.

Paired Samples Correlations				
		N	Correlation	Sig.
Pair 1	Pre-test Score - Post-test Score	65	.661	.000

A moderately strong and statistically significant positive correlation exists between pre-test and post-test scores. This suggests that the participants' scores were relatively consistent from the pre-test to the post-test, even though the effect size analysis showed a significant improvement in scores. This could indicate that while scores improved, the relative ranking of participants remained similar before and after the training program.

DISCUSSION

The study results reveal a significant positive impact on the knowledge, skills, and implementation of mental health practices among nurses in government schools in the Koshi Province. Descriptive statistics (Table 1) and Paired Sample statistics (Table 3) indicate that the mean post-test score (47.28) exceeded the pre-test score (37.28), highlighting the effectiveness of the training in enhancing the nurses' mental health care delivery.

Table 2 demonstrates that the study population—nurses in government schools in Koshi Province—was normally distributed, validating the statistical significance of the paired tests' results. The moderate correlation (0.661) (Table 4) between pre-test and post-test scores indicates consistent improvement across the study group, reinforcing the effectiveness of the training despite the substantial score enhancements. The statistically significant difference (p < 0.000) between pre-test and post-test scores further confirms that these improvements are not due to chance.

Additionally, the effect size analysis (Table 3) reveals large negative effect sizes, which do not approach zero, thereby affirming the substantial positive impact of the training program. These results align with findings from similar studies conducted in other low- and middle-income countries (LMICs) and regions of Nepal, where mental health training programs like WHO's mhGAP have successfully improved mental health care delivery by non-specialist health workers.⁽⁵⁾ A study conducted in Tunisia with the application of mhGap training program found that although some aspects of mental healthcare delivery were significantly improved following the program many healthcare workers still felt a lack in competency regarding certain

aspects of their training while identifying more barriers than facilitators for adequate mental health practice.⁽¹⁵⁾

The significant positive changes observed in this study are expected to enhance the quality and accessibility of mental health services in Koshi Province, thereby addressing existing disparities in Nepal's healthcare system.

LIMITATIONS OF THE STUDY:

This is a convenience sample and the findings from the study can only be generalised to the nurses in a particular geo-cultural region.

CONCLUSION

This study demonstrates the significant effectiveness of mental health training programs in enhancing the knowledge, skills, and practices of government school health nurses in Koshi Province, Nepal. The substantial improvement in post-test scores, validated by statistical analyses, highlights the training's positive impact on mental health care delivery. The findings emphasise the critical role of school health nurses in early identification and referral of mental health issues, particularly among adolescents, where timely intervention can yield long-term benefits.

Given the disparities in mental health services across Nepal, this study advocates for the expansion and integration of similar training programs into the broader healthcare system. Addressing challenges in competency and resource allocation is crucial to sustaining these improvements. By empowering school health nurses through targeted training, the healthcare system can significantly improve accessibility, quality, and equity in mental health services, ultimately contributing to better community well-being and developmental outcomes.

CONFLICT OF INTEREST:

None

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