

Ordinary Teachers' Evidence-Based Intervention on Mental Health Literacy

Subjects: Primary Health Care

Contributor: Yuanyuan Liao, Moses Agyemang Ameyaw, Chen Liang, Weijian Li

The immediate effect of the intervention on promoting students' mental health knowledge was significant, but the amount of delay effect is not significant. Ordinary classroom teachers can effectively participate in projects to improve students' mental health literacy, significantly improve students' mental health knowledge and attitudes towards psychological problems, and make up for the shortage of full-time mental health teachers in schools. More attention should be paid to students' mental health literacy, and evidence-based intervention research should be strengthened. Furthermore, researchers can improve students' mental health literacy and avoid poor mental health by addressing delays in early intervention, as well as improve experimental design, prolong the intervention time, and improve the effectiveness of the intervention.

Keywords: evidence-based ; students' mental health literacy ; ordinary teachers

1. Introduction

The mental health of students is a major issue related to personal and national development. According to the statistics of the World Health Organization (WHO), nearly 20% of the world's adolescents suffer from different degrees of psychological disorders, which has become a global challenge and an important strategy and priority for the development of public health in various countries ^{[1][2][3]} (Kessler et al., 2000; WHO, 2001; WHO, 2000–2011). The initial onset of most mental health problems occurs before the age of 25 ^{[4][5]} (Kessler et al., 2000; Kelly CM, Jorm AF and Wright A, 2017; Rusch et al., 2011), and the degree of mental health problems is usually mild to moderate. The response to the measures is positive, and the treatment effect is good ^{[6][7][8]} (Kessler RC, Avenevoli and Costello J, 2012; Kutcher, 2011; Rutter et al., 2010), if timely identification and intervention during this period can significantly improve the individual Attitudes, behaviors, and mental health levels of seeking professional help ^[4] (Kelly CM, Jorm AF and Wright A, 2017). However, surveys have shown that 70–80% of adolescents with mental illnesses do not receive the mental health services they need, especially in developing countries ^{[9][10]} (Ren Zhihong et al., 2020; Thornicroft, G., 2007). The main reason is the delay of early intervention caused by an insufficient number of full-time and part-time teachers for mental health in schools, low levels of specialization, limited mental health service resources, and low mental health literacy in students ^{[3][10][11][12][13]} (WHO, 2011; Thornicroft, 2007; Patel et al., 2007; Tolan and Dodge, 2005; Waddell et al., 2005).

Mental health literacy is the knowledge, beliefs, and behaviors about mental disorders, including understanding how to achieve and maintain positive mental health, understanding mental disorders and their treatment, reducing the stigma associated with mental disorders, and improving self-help and helping others ^{[14][15][16][17]} (Jorm et al., 1997; Jorm, 2012; Kutcher, Bagnell and Wei Y, 2015; Kajawu et al., 2016). At present, there are two main ways to measure mental health literacy: case interviews and questionnaire surveys ^[9] (Ren zhihong et al., 2020). Jorm et al. (1997) used case interviews to investigate public awareness of the causes and risk factors of depression and schizophrenia ^[14]. There are various forms of questionnaires, but no questionnaire has been widely used at present ^[9] (Ren zhihong et al., 2020). Improving mental health literacy has been widely recognized by countries and international organizations as the key to promoting individual mental health. Due to a lack of mental health knowledge, limited ability to identify mental disorders, and the impact of mental illness stigma, students are less willing to seek formal help, so they are more dependent on others for help to identify mental illness symptoms and guide them to appropriate interventions, such as friends, family, teachers, etc. Among them, teachers, as the adults with the most contact with students' campus life, have unique advantages in identifying, helping, and supporting students' mental health ^{[18][19][20]} (Atkins et al., 2011; McGorry et al., 2011; Rowling, 2015).

In the past two decades, many countries have carried out evidence-based intervention projects based on the participation of ordinary schoolteachers and focusing on improving students' mental health literacy (MHL) as an important strategy and

approach to identifying early symptoms in adolescents, reducing stigma, and improving the effectiveness of help-seeking [21]. These projects included the Adolescent Mental Health First Aid Program (United States) [22] (Theda Rose et al., 2017), Mental Health Teaching Program (United Kingdom) [23] (Paul B et al., 2009), National Curriculum for Personal Development, Health and Physical Education (Australia) [24] (Yael Perry et al., 2014), Middle School Students' Knowledge, Attitudes and Help for Depression (Hong Kong, China) [25] (Eliza s et al., 2016). Teachers use videos in the classroom to let students contact mental health patients, teach mental health knowledge and classroom seminars, and achieve other means to increase students' mental health knowledge, reduce stigma, and promote a help-seeking willingness and actual help-seeking behavior. However, the experimental results are different. For example, in the intervention of mental health knowledge, Stan Kutcher (2015) and Alan Mcluckie (2014) [16][26] measured immediately after the experiment and showed that school mental health knowledge improved to a significantly large effect size ($p < 0.001$, $d \geq 0.8$). However, Amanda J. Nguyen (2020) showed a significantly small effect size ($p < 0.001$, $d \leq 0.2$) immediately after the students' mental health knowledge intervention trial [27], making it difficult for people to accurately grasp whether the mental health courses provided by ordinary teachers can effectively improve the students' mental health literacy and the improvement effect. In addition, the existing meta-analysis has some limitations. For example, Yifeng Wei (2013) et al. systematically reviewed a total of 27 school-based mental health literacy programs with participants aged 12–25 [28], but this meta-analysis was not aimed at teacher-led projects. Ordinary teachers refer to teachers who are not full-time mental health teachers or part-time mental health teachers in schools. The intervention project led by ordinary teachers can make all teachers participate in school mental health education projects and effectively alleviate the shortage of teachers in school mental health education.

2. Description of Included Studies

After literature search and screening, 14 original pieces of literature were finally included, with a total of 14 intervention items, 44 effect sizes, and a total of 7873 students. Among them, there are 14 English literature and 0 Chinese literature; 5 randomized control experimental studies (RCT), 9 non-randomized control experimental studies; 5 studies with follow-up measurement and 10 studies without follow-up measurement; and studies in 4 developing countries, and 11 experimental studies in developed countries.

3. Studies on Evidence-Based Intervention

3.1. Publication Bias and Heterogeneity Testing

The heterogeneity test was performed on the studies included in the meta-analysis, and the Cochran Q test results were significant ($p < 0.001$), and $I^2 > 75\%$, indicating that the effect values of the 14 original studies included in the meta-analysis had non-negligible heterogeneity. Meta-analyses with random effects models are accurate (Table 1).

Table 1. Heterogeneity test and publication bias Egger's linear regression.

Outcome Variable	k	Publication Bias Test			p	Heterogeneity Test			
		Egger's Intercept	SE	95% CI		Q-Value	df	p	I ²
immediate effect of intervention	31	0.280	2.108	(−4.031, 4.591)	0.895	867.482	30	0.000	96.542
Intervention delay effect	13	2.621	2.332	(−2.513, 7.756)	0.285	166.027	12	0.000	92.772

Both the immediate effect of the intervention and the delay effect of the intervention were presented at the top of the inverted funnel and were evenly distributed on both sides of the total effect, indicating that there is less possibility of publication bias from a subjective judgment point of view. The p value of Egger's linear regression coefficient of the immediate effect of the intervention and the delay effect of intervention were not significant ($p = 0.895$, $p = 0.285$), which objectively indicated that there was no publication bias (Table 1).

3.2. Main Effects and Sensitivity Tests

The main effects included knowledge, stigma, and help-seeking effects in the immediate effect of the intervention and the follow-up effect of the intervention. In terms of the immediate effect of the intervention, knowledge and stigma were moderately large and moderately small ($g_{\text{knowledge}} = 0.622$, $g_{\text{stigma}} = 0.262$, $p < 0.001$), and the effect of the help-seeking intervention was not significant ($g = 0.078$, $p = 0.105$). In the intervention's delay effect, the intervention effects of knowledge, stigma and help-seeking were not significant ($p > 0.001$). In the sensitivity analysis, the combined effect size

of knowledge, attitude, and help-seeking effect and delay effect size did not change after removing each effect value, indicating that the immediate effect size and delay effect size of the three were stable (**Table 2**).

Table 2. Main effects and sensitivity tests.

Outcome Variable		k	g (95% CI)	Sensitivity Test	Heterogeneity Test			
				g (95% CI)	Q _w	df	p	I ²
Knowledge	immediate effect of intervention	12	0.622 (0.395, 0.849)	0.622 (0.395, 0.849)	396.399	11	0.000	97.225
	Intervention delay effect	5	0.752 (0.671, 0.834)	0.752 (0.671, 0.834)	3.480	4	0.481	0.000
stigma	immediate effect of intervention	14	0.262 (0.170, 0.354)	0.262 (0.170, 0.354)	79.760	13	0.000	83.701
	Intervention delay effect	5	0.288 (0.123, 0.452)	0.288 (0.123, 0.452)	12.648	4	0.013	68.374
Help-seeking	immediate effect of intervention	5	0.078 (−0.033, 0.189)	0.078 (−0.033, 0.189)	7.662	4	0.105	47.796
	Intervention delay effect	3	0.029 (−0.065, 0.123)	0.029 (−0.065, 0.123)	0.497	2	0.780	0.000

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