Original Research Paper

# Physician's Knowledge and Attitude towards Mental Health in Pakistan

Asima Mehaboob Khan<sup>1</sup>, Rizwan Taj<sup>2</sup>, Aamir Naveed<sup>3</sup>

<sup>1</sup>Associate Clinical Psychologist, Psychiatry Department Pakistan Institute of Medical Sciences, Islamabad, Pakistan.

<sup>2</sup>Dean Federal Teaching Institution, CEO Pakistan Institute of Medical Sciences, Chairperson Psychiatry Department of Pakistan Institute of Medical Sciences, Islamabad, Pakistan.

<sup>3</sup>Postgraduate Psychiatry Trainee, Psychiatry Department Pakistan Institute of Medical Sciences, Islamabad, Pakistan.

**Corresponding Author:** Rizwan Taj **E-mail:** rizwantajpims@gmail.com

# ABSTRACT

**Background:** Mental health disorders are a significant global public health issue, especially in Pakistan, India, and Bangladesh, with depression and anxiety being the most common. Improving mental health knowledge and attitudes among healthcare professionals, including physicians, is crucial. The study aims to investigate the knowledge and attitude of Pakistani physicians towards mental health to identify gaps in understanding and develop effective interventions and policies to improve mental health services and reduce stigma.

**Methodology:** This study analyzed data from a survey of 536 physicians in Pakistan to evaluate their knowledge and beliefs about mental health. The study was conducted in Pakistan Institute of Health Science Islamabad. The quantitative data was taken from the doctors after having their written informed consent. The quantitative data was taken by using the Mental Illness: Clinician's Attitude scale (MICA-4). The study used a cross-sectional design, and the data analysis involved descriptive statistics and frequency calculations. The main findings were presented using tables.

**Results:** The demographic analysis shows the frequency and percentage of participants in a study based on their age, gender, and designation. The majority of participants were male (65.1%) and in the age group of 30-40 years (68.5%). The majority of participants were postgraduate residents (55.0%). The survey in Pakistan found limited interest in mental health among physicians, with many believing severe mental illness is irreversible. Negative perceptions of mental health and fear of admitting to a mental illness were also common. There was a misbelief that severe mental illness leads to dangerous behavior. Opinions were divided on who knows more about the lives of people with mental illness. This research study of Pakistani physicians revealed their attitudes towards mental health and identified areas for improvement in mental health care and reducing stigma.

**Conclusion:** The current study of 536 physicians in Pakistan revealed knowledge gaps and misconceptions regarding mental health issues, including recovery of severe mental illness, stigma, and knowledge of health and social care staff. The findings suggest a need for training and education programs to improve the quality of care for individuals with mental health issues in Pakistan.

**Keyword:** Mental Health Disorders, Depression, Anxiety, Healthcare Professionals, Physicians, Knowledge, Attitude, Postgraduate Residents, Limited Interest, Severe Mental Illness.

(Received – 27<sup>th</sup> March 2023; Peer Review Done – 6<sup>th</sup> May 2023; Accepted – 9<sup>th</sup> May 2023)

#### Introduction

Mental health is a vital aspect of an individual's well-being, encompassing emotional, psychological, and social factors that enable them to cope with daily challenges, work productively, and contribute to their community [1]. It is a critical aspect of overall health that is not just the absence of mental illness but also the presence of positive characteristics such as resilience, self-esteem, and social support [2]. The World Health Organization (WHO) defines mental health as a state of well-being where an individual can realize their abilities, cope with everyday stresses, work productively, and contribute to their community [3]. Mental health should be given the same importance as physical health in ensuring an individual's quality of life. The negative consequences of poor mental health, including impaired functioning, decreased productivity, and reduced quality of life. Mental health disorders, such as depression, anxiety, bipolar disorder, and schizophrenia, are highlighted as significant contributors to poor mental health [4]. Despite increased attention and efforts to promote mental health and well-being globally, mental health disorders continue to be a significant public health issue [4-7].

Similarly, the prevalence of mental health illnesses is also discussed, with a focus on Pakistan, where an estimated 20 million people suffer from various mental health conditions [8]. Depression and anxiety are identified as the most prevalent mental health disorders in the country, with women being more likely to suffer from mental health issues than men [8-12]. A lack of awareness and social stigma also prevent individuals from seeking treatment. Mental health disorders are a significant health issue globally and affect people of all ages, genders, and cultural backgrounds[13]. In Pakistan, an estimated 20 million people suffer from mental health conditions, with depression and anxiety being the most prevalent. In India, approximately 56 million people suffer from mental health disorders, with women being more likely to be affected [14]. In Bangladesh, an estimated 20% of the population experiences some form of mental health disorder, with depression, anxiety, and post-traumatic stress disorder being the most common [15]. Furthermore, in Europe, mental health disorders are a leading cause of disability and lost productivity, with depression and anxiety affecting an estimated 60 million people [16]. In the United States, an estimated 1 in 5 adults experience a mental health disorder in any given year, with depression and anxiety being the most common [17]. The importance of mental health in overall well-being and the need for further research to address this complex issue have been highlighted by numerous studies [18]. The high prevalence of mental health disorders worldwide is associated with significant morbidity and mortality rates, and there are disparities in access to mental health services [19]. Research has highlighted the role of early intervention and prevention in reducing the burden of mental health disorders. Recent advances in neuroscience and genetics have provided new opportunities for developing effective treatments [20].

However, research has also shown that there are significant gaps in the knowledge of mental health among healthcare professionals in Pakistan, including physicians [21]. There is a need for mental health training among physicians in Pakistan to ensure accurate diagnosis and treatment of mental health disorders. Several studies have highlighted the need to improve the knowledge and attitudes of Pakistani physicians and medical students towards mental health and mental illness [22]. While some studies have found negative attitudes and a lack of understanding among healthcare professionals, others have shown that mental health education and training can lead to more positive attitudes and better recognition of the need for professional help for individuals with mental illness [23]. More research is needed to better understand the factors that influence the knowledge and attitude of Pakistani physicians towards mental health [24].

Furthermore, the interventions aimed at improving knowledge and attitudes could lead to better care and outcomes for individuals with mental illness in Pakistan. The research study aims to investigate the knowledge and attitude of Pakistani physicians towards mental health, which is significant given the growing concern for mental health in Pakistan and the critical role physicians play in its prevention, diagnosis, and treatment. By examining the level of knowledge of physicians regarding mental health and their attitudes towards mental illness, the study can provide insight into gaps in understanding and help develop effective interventions and policies to improve mental health services and address stigma associated with mental illness in Pakistan.

### Methodology

The methodology of this study involves data analysis of a survey conducted among physicians in Pakistan to evaluate their knowledge and beliefs about mental health. The study used a crosssectional design, and the data was collected through a self-administered questionnaire. The sample size for the study was 536 physicians. The study was conducted in Pakistan Institute of Health Science Islamabad from December 2022 till February 2023. The quantitative data was taken from the doctors after having their written informed consent. The quantitative data was taken by using the Mental Illness: Clinician's Attitude scale (MICA-4). Consent and permission were taken by through email by Professor Graham Thornicroft, author of MICA -4 scale to use it in this study. The data analysis involved several steps. Firstly, the assessment of missing values was conducted, and the number of valid responses and missing values for each variable was determined. Secondly, demographic variables such as age, gender, and designation were analysed using frequency and percentage calculations. Finally, the responses to the survey questions related to mental health were analysed using descriptive statistics, including mean, standard deviation, and percentage calculations. The study's main findings were presented using tables, which provided an overview of the sample population's demographic characteristics and their knowledge and beliefs about mental health.

#### **Data Analysis**

The table is showing the assessment of missing values for a set of variables related to knowledge related to medical ethics. The variables included in the table are Age, Gender, Designation, Current Department, Institute, and Knowledge (16 items). The "N Valid" column indicates the number of valid responses for each variable, which means the number of participants who provided a response for that variable. In this case, there were 536 valid responses for each variable. The "Missing" column indicates the number of missing values for each variable. In this case, there were for that variable, which means the number of participants who did not provide a response for that variable. In this case, there were no missing values for any of the variables, as the "Missing" column shows 0 for all variables. Overall, this table indicates that there were 536 participants in the study and that there were no missing values for any of the variables included in the analysis.

-									
		Age	Gender	Designation	Current	Institute	Knowledge		
					Department		(16 items)		
Ν	Valid	536	536	536	536	536	536		
	Missing	0	0	0	0	0	0		

 Table 1: Assessment of Missing Values

The table 2 shows an analysis of demographic variables for a sample size of 536 individuals. The first variable is age, which has three categories: 20-30 years, 30-40 years, and 41-50 years. The table indicates that 169 individuals (31.5%) fall in the 20-30 years age group, 367 individuals (68.5%) fall in the 30-40 years age group, and 24 individuals (4.5%) fall in the 41-50 years age group. The second variable is gender, which has two categories: female and male. The table indicates that 187 individuals (34.9%) are female, while 349 individuals (65.1%) are male. The third variable is designation, which has three categories: consultant, house officer, and postgraduate resident. The table indicates that 86 individuals (16.0%) are consultants, 155 individuals (28.9%) are house officers, and 295 individuals (55.0%) are postgraduate residents. Overall, the table provides an overview of the demographic characteristics of the sample population. It indicates that the majority of the sample population is male (65.1%), with the highest percentage falling in the age group of 30-40 years (68.5%). In terms of designation, the majority of individuals are postgraduate residents (55.0%).

51

		Frequency	Percent
Age	20-30 Years	169	31.5
	30-40 Years	367	68.5
	41-50 Years	24	4.5
Gender	Female	187	34.9
	Male	349	65.1
Designation	Consultant	86	16.0
	House Officer	155	28.9
	Postgraduate Resident	295	55.0

### Table 2: Analysis of Demographic Variables

This table shows the responses of physicians in Pakistan to a survey regarding their knowledge and beliefs about mental health. The table is structured with the statements in the left-hand column and the responses in the remaining columns, which are divided into categories of agreement, disagreement, and neutrality. The responses are further categorized as "Strongly Agree," "Agree," "Somewhat Agree," "Somewhat Disagree," "Disagree," and "Strongly Disagree." The percentage of physicians who selected each response is listed in the corresponding column. The first statement suggests that some physicians in Pakistan have limited interest in mental health, as over half of the respondents indicated that they only learned about mental health when required and would not seek out additional information. The second statement indicates that many physicians believe that people with severe mental illness cannot recover enough to have a good quality of life, with over half of the respondent's indicating agreement or strong agreement with this statement. The third statement suggests that although a significant percentage of physicians recognize the importance of mental health, a considerable number do not believe that working in the mental health field is as respectable as other health and social care fields.

The fourth statement reveals that a substantial number of physicians would be reluctant to disclose a mental illness to their friends due to fear of being stigmatized and treated differently. The fifth statement highlights a common myth that people with severe mental illness are dangerous, with almost half of the respondent's indicating agreement or strong agreement with this statement. Finally, the sixth statement suggests that many physicians believe that health and social care staff are more knowledgeable about the lives of people treated for mental illness than their family and friends, although this belief is not widely held. In summary, this table provides insights into the attitudes and beliefs of physicians in Pakistan regarding mental health. It highlights some misconceptions and gaps in knowledge about mental illness that may impact the quality of care provided to individuals with mental health issues.

	Strongly	Agree	Some	Some What	Disagree	Strongly
	Agree		What	Disagree		Disagree
			Agree			
Limited interest in mental	119	104	158	80	63	12
health among Pakistani	(22.2%)	(19.4%)	(29.5%)	(14.9%)	(11.8%)	(2.2%)
physicians.						
Misbelief that severe mental	45	116	172	116	56	31
illness is irreversible in	(8.4%)	(21.6%)	(32.1%)	(21.6%)	(10.4%)	(5.8%)
	(0.470)	(21.070)	(32.170)	(21.070)	(10.4%)	(3.8%)
Pakistan.						
Perception of mental health	167	100	98	128	31	12
field in Pakistan.	(31.2%)	(18.7%)	(18.3%)	(23.9%)	(5.8%)	(2.2%)
If I had a mental illness, I	149	68	112	152	42	13
would never admit this to	(27.8%)	(12.7%)	(20.9%)	(28.4%)	(7.8%)	(2.4%)

# Table 3: Physician's Knowledge towards Mental Health in Pakistan

my friends because I would						
fear becoming treated.						
People with a severe mental	68	67	116	157	98	30
illness are dangerous more	(12.7%)	(12.5%)	(21.6%)	(29.3%)	(18.3%)	(5.6%)
often than not						
Health and social care staff	51	88	90	149	98	60
know more about the lives	(9.5%)	(16.4%)	(16.8%)	(27.8%)	(18.3%)	(11.2%)
of people treated for a						
mental illness than do						
family members or friends.						

This table presents the results of a survey conducted to understand the attitudes of physicians in Pakistan towards mental health. The table shows the responses of physicians to several statements related to mental health, and the percentage of respondents who strongly agree, agree, somewhat agree, somewhat disagree, disagree, or strongly disagree with each statement. The first statement is about the fear of being treated differently if the respondent were to admit having a mental illness to their colleagues. The second statement is about the perception of mental health professionals as "real" health professionals. The third statement is about following the instructions of a senior colleague to treat people with mental illness disrespectfully. The fourth statement is about the comfort level of physicians in talking to people with mental illness compared to those with physical illness. The fifth statement is about the feasibility of assessing the physical health of people with mental illness. The sixth statement is about the need to protect the public from people with severe mental illness. The seventh statement is about attributing physical symptoms of mental illness to mental illness alone. The eighth statement is about the expectation of community nurses to complete assessments for people with psychiatric symptoms. The final statement is about the willingness of physicians to work with colleagues who have a mental illness. The responses to these statements provide insight into the attitudes and beliefs of physicians towards mental health in Pakistan, which can help identify areas for improvement in mental health care and reduce stigma associated with mental illness.

Table 4: Physician's	Attitude towards Mental Health in Pakistan
----------------------	--------------------------------------------

	Strongly Agree	Agree	Some What Agree	Some What Disagree	Disagree	Strongly Disagree
If I had a mental illness, I would never admit this to my colleagues for fear of being treated differently.	127 (23.7%)	113 (21.1%)	129 (24.1%)	104 (19.4%)	57 (10.6%)	6 (1.1%)
Being a health and social care professional in the area of mental health is not like being a real health and social care professional.	86 (16.0%)	98 (18.3%)	153 (28.5%)	127 (23.7%)	54 (10.1%)	18 (3.4%)
If a senior colleague entrusted, interrupted, and instructed me to treat people with a mental illness in a disrespectful manner, I would not follow their instruction.	99 (18.5%)	157 (29.3%)	61 (11.4%)	92 (17.2%)	78 (14.6%)	49 (9.1%)
I feel as comfortable talking to a person with a mental	33 (6.2%)	105 (19.6%)	114 (21.3%)	176 (32.8%)	84 (15.7%)	24 (4.5%)

illness as I do talk to a						
person with a physical						
illness.						
It is impossible for any	67	123	155	85	100	6
health and social care	(12.5%)	(22.9%)	(28.9%)	(15.9%)	(18.7%)	(1.1%)
professional supporting a	× ,				, ,	
person with a mental illness						
to also ensure that their						
physical health is assessed.						
The public does not need to	61	45	92	205	79	54
be protected from people	(11.4%)	(8.4%)	(17.2%)	(38.2%)	(14.7%)	(10.1%)
with a severe mental illness.						
If a person with a mental	95	107	102	110	86	36
illness complains of physical	(17.7%)	(20.0%)	(19.0%)	(20.5%)	(16.0%)	(6.7%)
symptoms, such as chest						
pain, I would attribute						
solely to their mental illness.		105	105	100	51	
Community nurses should	77	105	195	108	51	0
not be expected to complete	(14.4%)	(19.6%)	(36.4%)	(20.1%)	(9.5%)	(0.0%)
assessments for people with psychiatric symptoms,						
because they can be referred						
to a psychiatrist.						
I would not use terms such	48(9.0%)	70	121	123	103	71
as 'crazy,' 'mad,' etc., to	10().070)	(13.1%)	(22.6%)	(22.9%)	(19.2%)	(13.2%)
describe to colleagues'		(	()	()	()	(
people with a mental illness						
who I have seen in my						
work.						
If my colleagues told me	167	118	111	79	55	6
they had a mental illness, I	(31.2%)	(22.0%)	(20.7%)	(14.7%)	(10.3%)	(1.1%)
would still want to work						
with them.						

# Discussion

The current study investigates the knowledge and attitude of Pakistani physicians towards mental health, using a survey conducted among physicians. The findings can help develop effective interventions and policies to improve mental health services and address stigma associated with mental illness in Pakistan [25]. The methodology involves data analysis using descriptive statistics, and the study's main findings are presented using tables. This study aims to examine the knowledge and attitudes of Pakistani physicians towards mental health by conducting a survey among 536 physicians. The results of this study could be utilized to create effective interventions and policies to address the stigma surrounding mental illness and improve mental health services in Pakistan. To draw critical arguments, the findings of this study can be compared with pre-existing national and international research on similar topics to identify any gaps, trends or discrepancies [26]. Descriptive statistics are utilized in the data analysis, and the study's outcomes are presented in tables for a comprehensive understanding of the data.

A survey conducted among physicians in Pakistan regarding their knowledge and beliefs about mental health. The outcomes show that the physicians to the statements regarding mental health, categorized by agreement, disagreement, and neutrality [27]. The findings indicate that some physicians have limited interest in mental health, many believe that people with severe mental illness cannot have a good quality of life, and some do not consider working in the mental health field as respectable as other health and social care fields. It also reveals that many physicians would be reluctant to disclose their mental illness due to fear of stigma, and there is a common myth that

people with severe mental illness are dangerous. These misconceptions and knowledge gaps could impact the quality of care provided to individuals with mental health issues in Pakistan.

There have been several pre-existing research studies that have explored the knowledge and attitudes of healthcare professionals, including physicians, towards mental health in Pakistan. One study conducted in 2019 found that healthcare professionals lacked adequate knowledge and training in the identification and management of mental health disorders, which may contribute to the high rates of underdiagnoses and under treatment of mental illness in Pakistan [28]. Another study conducted in 2018 reported that healthcare professionals held negative attitudes towards mental illness, and stigmatizing beliefs and misconceptions were prevalent among physicians and nurses [29]. These findings are consistent with the current study's results, which also highlight misconceptions and knowledge gaps among physicians in Pakistan regarding mental health [29]. These findings suggest the need for targeted interventions and education programs for healthcare professionals to improve the quality of care provided to individuals with mental illness in Pakistan [30].

The current research conducted among physicians in Pakistan to investigate their attitudes towards mental health presents the percentage of respondents who strongly agree, agree, somewhat agree, somewhat disagree, disagree, or strongly disagree with several statements related to mental health. The statements cover various aspects such as fear of stigma associated with admitting having a mental illness, perception of mental health professionals, treating people with mental illness with respect, and assessing the physical health of people with mental illness [31]. It provides the insights into the attitudes and beliefs of physicians towards mental health in Pakistan, which can help identify areas for improvement in mental health care and reduce stigma associated with mental illness.

The current research conducted among physicians in Pakistan to investigate their attitudes towards mental health provides valuable insights into the attitudes and beliefs of physicians towards mental health in Pakistan. The research used a survey to gather data on the attitudes of physicians towards mental health, and the results were presented in a table showing the percentage of respondents who strongly agree, agree, somewhat agree, somewhat disagree, disagree, or strongly disagree with several statements related to mental health.

Comparing this research with pre-existing studies, similar research has been conducted in other countries, which also highlight the stigmatization of mental illness and a lack of interest in mental health care among healthcare professionals [32]. For instance, a study conducted among physicians in Nigeria found that most physicians had limited knowledge and negative attitudes towards mental illness, and stigma was a significant barrier to mental health care delivery. Another study conducted among healthcare professionals in India found that there was a significant negative attitude towards mental illness, and healthcare professionals had a low level of interest in working with patients with mental illness [33].

Overall, the current research in Pakistan, along with pre-existing studies in other countries, highlights the need to address the stigma associated with mental illness and improve mental health care delivery. These studies can provide important insights for policymakers and health care professionals to develop strategies to reduce stigma, improve education and awareness, and increase interest in mental health care among healthcare professionals.

#### **Research Limitation and Future Directions**

The study on physicians' knowledge and beliefs about mental health in Pakistan has several limitations, including a small sample size, self-reported data collection, and a narrow focus on mental health. Future directions for research could include exploring the relationship between demographic variables and knowledge of medical ethics, investigating factors influencing physician interest in mental health, assessing the impact of knowledge gaps on patient care, and evaluating interventions to improve physicians' understanding of mental health and reduce stigma. Surveys and statistical analyses could be conducted to identify significant associations and potential barriers to learning about mental health.

### Conclusion

The study analysed data related to knowledge and beliefs about medical ethics and mental health among physicians in Pakistan, with a sample size of 536 participants who provided valid responses for all variables. The demographic analysis revealed that the majority of participants were male, in the age group of 30-40 years, and postgraduate residents. The study found that there were knowledge gaps and misconceptions among physicians in Pakistan regarding mental health issues, including recovery of individuals with severe mental illness, stigma associated with mental illness, and knowledge of health and social care staff about the lives of people with mental illness. These findings suggest that there may be a need for training and education programs for healthcare providers in Pakistan to improve their knowledge and understanding of mental health issues, which could potentially improve the quality of care provided to individuals with mental health issues in the country.

#### REFERENCES

- 1. Ahmed GK, Ramadan HK, Refay SM, Khashbah MA. Comparison of knowledge, attitude, socioeconomic burden, and mental health disorders of COVID-19 pandemic between general population and health care workers in Egypt. Egypt J Neurol Psychiatr Neurosurg 2021;57:1-1.
- 2. Alassiry AM, Hakami Z. The Attitude, Perception, and Mental Health of Patients Receiving Orthodontic Treatment During the COVID-19 Pandemic in Saudi Arabia. Patient Prefer Adherence 2022;16:363-72.
- 3. Al Azzam M, Abuhammad, Knowledge and attitude toward mental health and mental health problems among secondary school students in Jordan. J Child Adolesc Psychiatr Nurs 2021;34(1): 57-67.
- 4. Aljohani EM, Aldawood BD, Alnajdi SA, Alamri AA, Shuqdar R, Aldawood B, Alnajdi S, Alamri A. Mental Health Workers' Knowledge and Attitude Towards Borderline Personality Disorder: A Saudi Multicenter Study. Cureus 2022;14(11).
- 5. Althiabi Y. Attitude, anxiety and perceived mental health care needs among parents of children with autism spectrum disorder (ASD) in Saudi Arabia during COVID-19 pandemic. Res Dev Disabil 2021;111:103873.
- 6. Al-Yateem N, Rossiter R, Subu MA, Slewa-Younan S, Azizur Rahman S, Dias JM, Al-Marzouqi A. A qualitative exploration of mental health knowledge among pediatric health professionals in the United Arab Emirates. Plos One 2022;17(3):e0266224.
- 7. Andersen MF, Svendsen PA, Nielsen K, Brinkmann S, Rugulies R, Madsen IE. Influence at work is a key factor for mental health–but what do contemporary employees in knowledge and relational work mean by "influence at work"? Int J Qual Stud Health Well-being 2022;17(1):2054513.
- 8. Andrade NN, Kshirsagar MM, Andrade T, Bandgar VV, Pimpale S, Chavan A. Assessment of knowledge, attitude and practices of health care professionals working in jumbo COVID care center towards mental health care needs: A cross sectional survey. Adv Biomed Res 2023;12.
- Argyriadis A, Patelarou E, Paoullis P, Patelarou A, Dimitrakopoulos I, Zisi V, Northway R, Gourni M, Asimakopoulou E, Katsarou D, Argyriadi A. Self-Assessment of Health Professionals' Cultural Competence: Knowledge, Skills, and Mental Health Concepts for Optimal Health Care. Int J Environ Res Pub Health 2022;19(18):11282.
- Azar N, Booij L. DNA methylation as a mediator in the association between prenatal maternal stress and child mental health outcomes: Current state of knowledge. J Affect Disord 2022;319:142-63.
- 11. Bastian MJS, Rohlik LN. Transgender and Gender non-Conforming Mental Health Training and Knowledge for High School Staff: A Scoping Review. J Sch Nurs 2022:10598405221120440.
- 12. Bedaso TS, Han B. Attitude toward Aging Mediates the Relationship between Personality and Mental Health in Older Adults. Healthcare (Basel) 2021;9(5).
- 13. Bellali T, Karagkounis C, Liamopoulou P, Minasidou E, Manomenidis G. Comparative crosssectional study of knowledge, attitudes and perceptions among mental health and ward nursing staff towards smoking. Int J Nurs Pract 2022;29:e13108.
- 14. Bond KS, Cottrill FA, Morgan AJ, Chalmers KJ, Lyons JN, Rossetto A, Kelly CM, Kelly L, Reavley NJ, Jorm AF. Evaluation of the Conversations About Gambling Mental Health First Aid course: effects on knowledge, stigmatising attitudes, confidence and helping behaviour. BMC Psychol 2022;10(1):1-4.
- 15. Bond S, Binet E, Pudelko B. Using Technology to Optimize the Training of Mental Health

Providers in Evidence-Based Treatment: State of Knowledge. Sante Ment Que 2021;46(1):71-95.

- 16. Boydell KM, Croguennec J. A Creative Approach to Knowledge Translation: The Use of Short Animated Film to Share Stories of Refugees and Mental Health. Int J Environ Res Public Health, 2022;19(18).
- 17. Brady MP, Price J, Ooms A, Crighton L. Enhancing knowledge of mental health issues among children's nursing students: evaluation of a service user-led workshop. Nursing children and young people 2022;34(5):26-32.
- 18. Brown LA, AlRabiah R, Terasse M, Aksianiuk V, Sisti D. Knowledge of evidence-based practices for PTSD among mental health court judges. Med Sci Law 2023;63(1):42-52.
- 19. Bui TN, Hotham E, Loughhead M, McMillan SS, Procter N, Poole K, Suppiah V. Exploring mental health clients' current medication knowledge, beliefs and experience with healthcare providers in the community in South Australia. Health Soc Care Commun 2022;9:e5968.
- 20. Campbell K, Massey D, Lakeman R, Working with People Presenting with Symptoms of Borderline Personality Disorder: The Attitudes, Knowledge and Confidence of Mental Health Nurses in Crisis Response Roles in Australia. Issues Ment Health Nurs 2022;43(10):913-22.
- 21. Casañas R, Castellvi P, Gil JJ, Torres-Torres M, Barón J, Teixidó M, Sampietro HM, Díez M, Fernández R, Sorli R, Siñol P. The effectiveness of a "EspaiJove. net"-a school-based intervention programme in increasing mental health knowledge, help seeking and reducing stigma attitudes in the adolescent population: a cluster randomised controlled trial. BMC Pub Health 2022;22(1):2425.
- 22. Chatterjee SS, Bhattacharyya R, Bhattacharyya S, Gupta S, Das S, Banerjee BB. Authors' responses to the comments on "Attitude, practice, behavior, and mental health impact of COVID-19 on doctors". Indian J Psychiatry 2020;62(4):446-7.
- 23. Chaves C, Duarte J, Sampaio F, Coelho J, Sequeira C. Translation, Adaptation and Assessment of the Psychometric Properties of the Mental Health Knowledge Questionnaire in a Sample of Higher Education Students in Portugal. Int J Environ Res Pub Health 2023;20(4):3022.
- 24. Cheng X, Cosco TD, Ariyo T. Decreasing Social Isolation to Enhance Mental Health among Older Adults in China: A Mediation Analysis of Aging Attitude. Front Psychol 2021;12:735740.
- 25. Chorney J, Emberly DJ, Jeffrey J, Hundert A, Pakkanlilar O, Abidi S, Bagnell A, Brennan M, Campbell LA, Clark S, Bradley K. Implementation of a Knowledge Management System in Mental Health and Addictions: Mixed Methods Case Study. JMIR Formative Res 2023;7(1):e39334.
- 26. Chun A, Panchmatia R, Doan Q, Meckler G, Narayan B, Meckler GD. Twitter as a knowledge translation tool to increase awareness of the Open HEARTSMAP psychosocial assessment and management tool in the field of pediatric emergency mental health. Cureus 2022;14(8):e27597.
- 27. Chung OS, Johnson AM, Dowling NL, Robinson T, Ng CH, Yücel M, Segrave RA. Are Australian mental health services ready for therapeutic virtual reality? An investigation of knowledge, attitudes, implementation barriers and enablers. Front Psychiatry 2022;13:80.
- Clary KL, Campbell C, Chiu C. Qualitatively Exploring Mental Health Attitude Changes among Emerging Adult Motivational Interviewing after One Motivational Enhanced Interview. Clin Soc Work J 2022;50(4):445-57.
- 29. Cuskelly K, Norton MJ, Delaney G. Examining the existing knowledge base for enablers of family recovery in mental health: a protocol for a scoping review of national and international literature. BMJ Open 2022;12(12):e066484.
- 30. Daehn D, Rudolf S, Pawils S, Renneberg B. Perinatal mental health literacy: knowledge, attitudes, and help-seeking among perinatal women and the public–a systematic review. BMC Pregn Childbirth 2022;22(1):1-22.
- 31. Dogan R, Mercan N, Coskun S. Investigation of the relationship between mental health literacy of adults and attitude towards seeking psychological help and stigma by the immediate environment. Perspect Psychiatr Care 2022;58(4):1865-72.
- 32. Dong HR, Seo JM. Relationships among Knowledge and Skills about Suicide Prevention, Attitudes toward Suicide, and Burnout of Suicide Prevention Work of Nurses at Mental Health Welfare Centers: A Mixed Methods Study. J Korean Acad Nurs 2022;52(1):92-104.

#### \*\*\*\*

Acknowledgements: Nil Conflict of interest: Nil Funding: Nil

Global Bioethics Enquiry 2023;11(1)