Epidemiology and Society Health Review | ESHR
Vol. 8, No. 2, 2026, pp. 179-195 ISSN 2656-6052 (online) | 2656-1107 (print)
http://journal2.uad.ac.id/index.php/eshr/index eshr@ikm.uad.ac.id

Review Article

Prevalence, Correlates, and Public Health Implications of Mental Disorders in Uzbekistan and Indonesia: A Systematic Review

Sardorbek Ibragimov[1], Sinthia Nurhabibah[2], Muhammad Hisyam Syafii[3*], Dzaka Ogan Amirudin Lutfi[4]

[1] Medical School, Samarkand Medical State University, Samarkand, Uzbekistan
[2] Department of Management, Faculty of Economics and Business, Telkom University, Bandung, Indonesia
[3] Doctoral Indigenous Psychology Studies, National Dong Hwa University, Hualien, Taiwan
[4] Medical Professional Education, Faculty of Medicine, Health Sciences, Universitas Muhammadiyah Yogyakarta, Yogyakarta, Indonesia

*** Correspondence:** hisyamsyafii02@gmail.com

Received 27 March 2026; Accepted 21 July 2026; Published 23 July 2026

ABSTRACT

Background: Mental disorders represent a growing public health challenge in low- and middle-income countries. This study aimed to comparatively investigate the prevalence, sociodemographic correlates, and public health implications of mental disorders in Uzbekistan and Indonesia, two lower-middle-income nations sharing structural mental health system challenges despite differing geographic and cultural contexts.

Methods: A comparative epidemiological study was conducted using secondary data from publicly available sources, including the World Health Organization, Global Burden of Disease database, Indonesian national health surveys, the Uzbekistan Ministry of Health, and Scopus-indexed literature (2013–2024). No primary data were collected.

Results: Indonesia reports that 14.7% of adults experience anxiety and depression symptoms, yet most remain untreated despite an annual economic burden of USD 29.22 billion. Uzbekistan lacks national prevalence data, with mental health services heavily reliant on inpatient care and a limited psychiatric workforce. Both countries face substantial treatment gaps, workforce shortages, and slow progress in deinstitutionalization.

Conclusion: Both countries face substantial unmet mental health burdens requiring urgent investment in community-based care, workforce expansion, primary care integration, and evidence-based policy implementation to reduce treatment gaps and improve population mental health outcomes.

Keywords: Comparative epidemiology; Depression; Indonesia, Mental disorders; Public mental health; Uzbekistan

INTRODUCTION

Mental diseases have become one of the most serious and widespread problems facing worldwide public health in the twenty-first century.[1] In the last thirty years, the number of people with mental illnesses around the world has grown at an alarming rate, affecting people of all ages, income levels, and locations.[2,3] Anxiety disorders, depressive disorders, schizophrenia, and substance use disorders are the most common and disabling types of mental health problems.[4] Together, they account for many global Disability-Adjusted Life Years (DALYs) and Years Lived with Disability (YLDs). The World Health Organization (WHO) has continuously recognized mental health as a crucial aspect of total well-being; nonetheless, mental problems continue to be significantly underfunded, underdiagnosed, and undertreated in most countries worldwide.[5,6] This systematic neglect is especially bad in low- and middle-income countries (LMICs), where more than three-quarters of people with mental problems don't get any official care at all. This is known in the literature as the global mental health treatment gap. The cumulative impacts of urbanization, social disparity, political instability, and, most recently, the COVID-19 pandemic have intensified this burden, establishing mental health as a pivotal public health concern of modern society.

The epidemiology of mental diseases is influenced by a multifaceted interaction of biological, psychological, social, and environmental factors that differ significantly across national and cultural settings. Anxiety disorders are one of the most common types of psychiatric illness in the world. They are marked by excessive and persistent anxiety, concern, and avoidance behaviors that make it hard to do everyday tasks and lower health-related quality of life.[7,8] Depressive disorders, frequently associated with anxiety, increase the chances of functional disability, social isolation, and premature mortality, including suicide.[9]

Mental diseases not only have direct clinical effects but also significant indirect effects on national economies by lowering productivity, increasing healthcare expenditures, and slowing human capital growth.[10] Indonesia is the world's fourth most populous country, with more than 280 million people living across more than 17,000 islands. The country has a fast-expanding mental health burden that is mostly addressed.[11,12] The country's diverse population, along with big differences in healthcare access and infrastructure between regions, makes for a complicated epidemiological picture in which the rates and symptoms of mental disorders vary widely between provinces, ethnic groups, and socioeconomic groups. National health surveys have consistently recorded high levels of anxiety, depression, and other prevalent mental disorders within the Indonesian population, particularly among adolescents, women of reproductive age, rural communities, and individuals from low-income households, who are recognized as especially vulnerable subgroups.[13,14] Even though there are formal mental health laws in place, like the landmark Health Law of 2023, Indonesia's mental health system is still severely underfunded.[15]

At the policy level, both Uzbekistan and Indonesia have made official commitments to improve mental health, but progress has been patchy and insufficiently backed by investment. Indonesia's approval of comprehensive mental health laws and support for the WHO's Mental Health Action Plan show that the country wants to make mental health a bigger part of its national health agenda.[16] However, the amount of money set aside for mental health services is still far below what is recommended by international standards. Uzbekistan has also implemented laws governing psychiatric care and is working to integrate the WHO Mental

Health Gap Action Program (mhGAP) into its primary healthcare system. This shows that the country is moving toward deinstitutionalization and community care.

Cross-national comparisons of this kind provide the methodological benefit of discerning which risk factors, protective mechanisms, and system-level determinants are context-specific, and which are universal insights crucial for the generalization and adaptation of evidence-based interventions. Consequently, this study seeks to do a thorough and meticulous comparative epidemiological analysis of the prevalence, sociodemographic associations, and public health ramifications of mental disorders in Uzbekistan and Indonesia. This study aims to significantly enhance the scientific literature on mental health in developing countries by synthesizing and critically evaluating the epidemiological evidence from Uzbekistan and Indonesia. It seeks to identify critical knowledge gaps that warrant further research and to develop actionable, context-specific policy recommendations to strengthen mental health systems, minimize treatment disparities, and improve mental health outcomes at the population level in both nations.

METHOD

This study employed a comparative epidemiological design to systematically analyze differences and similarities in the prevalence, sociodemographic correlates, and public health implications of mental disorders between Uzbekistan and Indonesia over a reference period spanning from 2013 to 2024. The comparative approach was intentionally selected to adhere to established methodologies in cross-national public health research. No primary data collection, fieldwork, clinical sampling, or participant recruitment was conducted at any phase of the investigation; the study relied exclusively on secondary data obtained from publicly accessible institutional websites, official government health portals, and internationally recognized databases.

Data were retrieved from a range of trusted sources at both the international and national levels, as summarized in Table 1. At the international level, sources included the World Health Organization Global Health Observatory, the WHO Mental Health Atlas, the WHO World Mental Health Report 2022, the Institute for Health Metrics and Evaluation Global Burden of Disease database, the World Bank Open Data Portal, and the Our World in Data platform for international comparative statistics. For Indonesia, national data were obtained from the Ministry of Health of the Republic of Indonesia, including the National Basic Health Research (RISKESDAS) reports from 2013, 2018, and 2023, the 2023 National Health Survey, and policy documents from the Directorate of Mental Health Services. For Uzbekistan, country-specific data were sourced from the Ministry of Health of the Republic of Uzbekistan, the Agency of Statistics under the President of the Republic of Uzbekistan, and institutional reports from the Republican Specialized Scientific and Practical Medical Center for Mental Health. Additional scholarly evidence was obtained from PubMed/MEDLINE, Scopus-indexed journals, Google Scholar, and UNICEF Data.[17] [18]

To ensure the quality and relevance of all included sources, predefined inclusion and exclusion criteria were applied. Sources were included only if they were publicly available without paywall restriction, published within the reference period of 2013 to 2024, produced by a

reputable governmental or intergovernmental organization or peer-reviewed academic journal, and accessible in English, Indonesian, or Russian.

Table 1. Summary of Data Sources Used in the Study

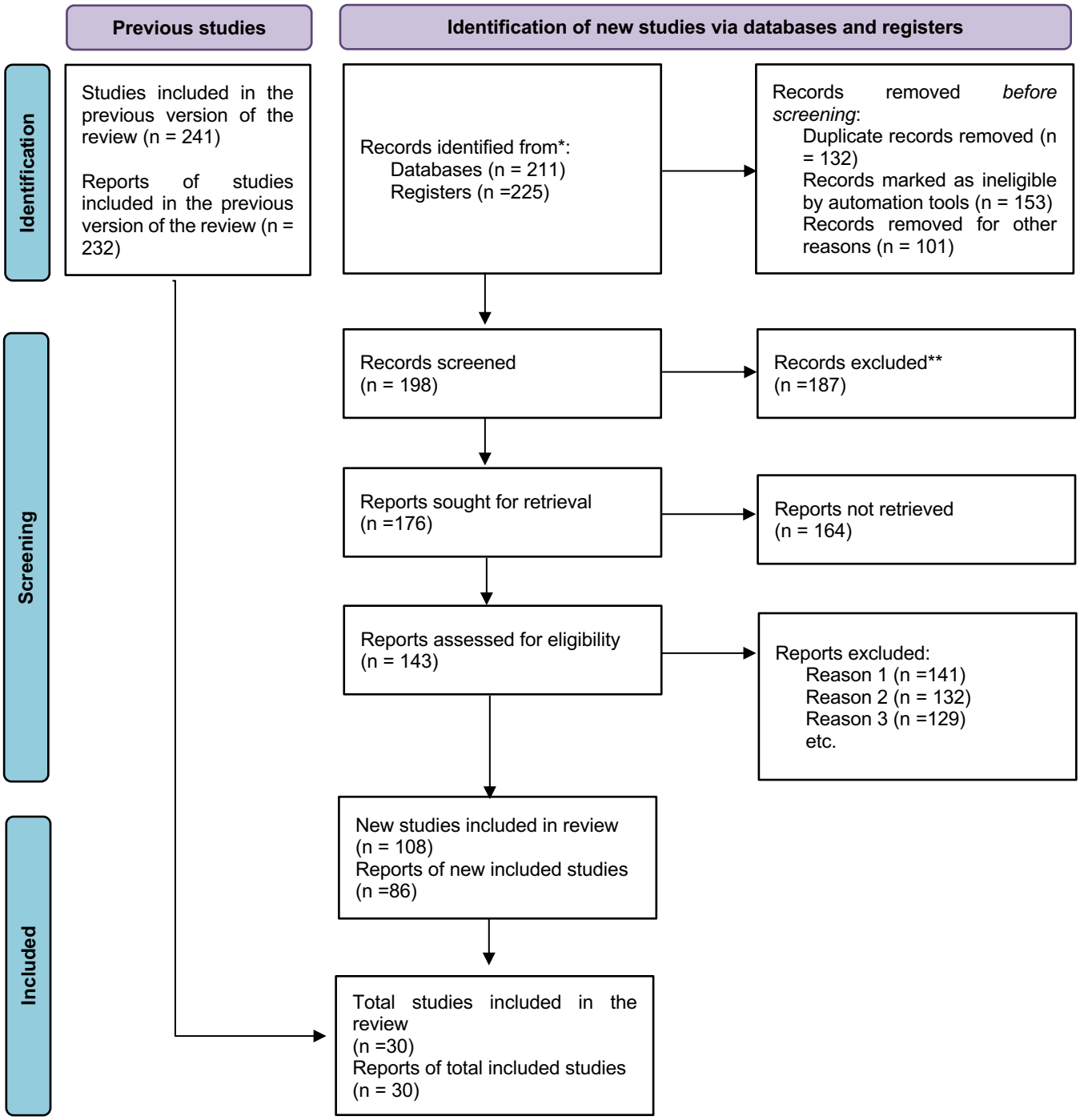
Category	Source
International/ Global	WHO Global Health Observatory; WHO Mental Health Atlas; WHO World Mental Health Report 2022; IHME Global Burden of Disease database; World Bank Open Data Portal; Our World in Data
Indonesia-Specific	Ministry of Health of Indonesia; RISKESDAS 2013, 2018, 2023; National Health Survey (SKI) 2023; Directorate of Mental Health Services policy documents
Uzbekistan-Specific	Ministry of Health of Uzbekistan; Agency of Statistics under the President of Uzbekistan; Republican Specialized Scientific and Practical Medical Center for Mental Health
Academic Literature	PubMed/MEDLINE; Scopus-indexed journals; Google Scholar; UNICEF Data

Conversely, sources were excluded if they were published before 2013, exclusively available behind a paywall, or originating from unconfirmed non-institutional platforms. Beyond these criteria, all sources were evaluated against four quality standards: authority, correctness, currency, and consistency. Any source that did not satisfy at least three of these four criteria was excluded from the final comparative analysis.

Data extraction was executed through a structured three-stage process. In the first stage, targeted keyword searches were conducted using terms such as mental disorders, anxiety disorders, depression, mental health prevalence, psychiatric morbidity, quality of life, and public mental health, combined with country-specific identifiers for Uzbekistan and Indonesia. In the second stage, all retrieved sources were systematically screened against the predefined inclusion and exclusion criteria. In the third and final stage, all extracted quantitative indicators, including prevalence rates, DALYs, YLDs, healthcare expenditure figures, and workforce statistics, were cross-verified across multiple sources to ensure consistency and accuracy.

The comparative analysis was structured around four principal dimensions. The first was the epidemiological dimension, which examined prevalence rates, incidence trends, and disability burdens. The second was the sociodemographic dimension, which analysed variations by age, sex, geographic location, and socioeconomic status. The third was the health system dimension, which evaluated infrastructure, human resources, and service coverage. The fourth was the policy dimension, which examined legislative frameworks and the extent of implementation in both countries. Descriptive statistical techniques were utilized to organize and present quantitative data, with standardized indicators employed for cross-national comparisons.

This study followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework to ensure a rigorous and transparent literature selection process. In the identification phase, a total of 211 records were retrieved from electronic databases and 225 from registers. Before screening, 132 duplicate records were removed, 153 records were flagged as ineligible by automated tools, and an additional 101 records were removed for other reasons. In addition to new database searches, 241 studies and 232 reports from previous versions of the review were considered.



Notes:
*) The number of identified records is reported by search source, namely databases (n = 211) and registers (n = 225), in accordance with the PRISMA 2020 reporting recommendations that require a breakdown of the number per search source, not just the aggregated number.
**) Records excluded during the screening stage are the results of screening titles and abstracts that do not meet the inclusion criteria; if the screening process involves automated tools, the number of records excluded by the reviewer manually and by the automated tool should be reported separately.

Figure 1. Article generated following PRISMA Flowchart

This study followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework to ensure a rigorous and transparent literature selection process, as

illustrated in Figure 1. In addition to the new search, the review incorporated 241 studies and 232 reports of studies that had been included in the previous version of the review. During the identification phase, a total of 211 records were retrieved from electronic databases, and 225 records were identified through registers. Before screening could begin, several records were removed: 132 were identified as duplicates, 153 were marked as ineligible by automation tools, and an additional 101 were removed for other reasons, leaving 198 records to be screened. Of these 198 records, 187 were excluded at the title and abstract screening stage for failing to meet the predefined inclusion criteria, primarily due to irrelevance to the review topic, mismatch of the target population, unsuitable intervention or exposure, inappropriate study design (such as reviews, editorials, commentaries, or conference abstracts), absence of primary empirical data, or outcomes that did not address the objectives of the review. The remaining 176 reports were sought for retrieval, although 164 of these could not be obtained, leaving 143 reports to undergo full eligibility assessment. At this stage, further exclusions were made based on three predefined reasons: Reason 1 accounted for the exclusion of 141 reports, Reason 2 for 132 reports, and Reason 3 for 129 reports. Following this eligibility assessment, 108 new studies (comprising 86 reports) were determined to meet all inclusion criteria and were incorporated into the review. When these new studies were combined with the 241 studies and 232 reports carried over from the previous version of the review, the final synthesis comprised a total of 30 studies and 30 reports, which formed the basis of the comparative epidemiological analysis presented in this study.

A total of 187 records were excluded during the title and abstract screening stage because they failed to satisfy the predefined inclusion criteria established for this review. These records were removed for several interrelated reasons, namely irrelevance to the review topic, a mismatch between the record's population and the target population of the study, an unsuitable intervention or exposure that did not align with the review's focus, an inappropriate study design such as reviews, editorials, commentaries, or conference abstracts that do not constitute primary research, an absence of primary empirical data within the record, and outcomes reported that did not correspond to the objectives of the present review. Each of these exclusions was carried out independently by the reviewers based on the established eligibility criteria, ensuring that only records of adequate methodological quality and topical relevance proceeded to the subsequent full-text assessment stage of the review process.

RESULTS

Epidemiological Overview: Global Context

The worldwide prevalence of mental diseases has significantly increased over the last thirty years, creating a vital epidemiological context for understanding the national profiles of Uzbekistan and Indonesia. The Global Burden of Disease Study 2021 found that mental disorders caused hundreds of millions of new cases and tens of millions of Disability-Adjusted Life Years (DALYs) around the world. The age-standardized incidence rate and the age-standardized DALY rate both showed steady upward trends from 1990 to 2021. Major depressive disorder and anxiety disorders had the highest age-standardized DALY rates in the world, at about 557.87 and 524.33 per 100,000 people, respectively. Anxiety disorders had the biggest increase in rates during this time. These patterns show that the global mental health problem is becoming worse, and it is hitting people in low- and middle-income nations

the hardest. This is because these countries don't have enough resources to treat mental illness compared to how many people are affected. The World Bank classifies Uzbekistan and Indonesia as lower-middle-income nations. Both countries are part of a larger global picture of escalating mental burden and limited health system response capability.

Prevalence of Mental Disorders in Indonesia

The mental health burden in Indonesia is very high, and this has been shown by national health surveys done over the previous ten years. The 2018 Basic Health Research found that more than 12 million people in the country aged 15 and up were depressed. This was a big jump from the numbers found in the 2013 survey cycle. A large-scale cross-sectional survey of more than 16,000 Indonesian adults in 2024 found that about 14.7% of respondents had clinically significant symptoms of anxiety and/or depression. Of these, 5.2% had anxiety only, 5.5% had both anxiety and depression, and 4.0% had depression only. More than 61% of people with clinically significant symptoms had never been formally diagnosed by a doctor, which is quite concerning. This shows that there is a serious and ongoing gap in diagnosis and treatment in Indonesia. The Indonesia National Adolescent Mental Health Survey found that one in three Indonesian teens had at least one mental health problem in the past year. Anxiety disorders were the most common diagnosis, affecting 3.7% of teens, followed by major depressive disorder, which affected 1.0%. Even though these numbers are extraordinarily high, only 2.6% of impacted teens had gotten professional mental health help during the same time. This shows how badly the country needs to improve its mental health services for young people.

Prevalence of Mental Disorders in Uzbekistan

A significant lack of population-based prevalence data marks Uzbekistan's epidemiological profile of mental disorders. This deficiency complicates precise burden estimation and likely leads to a systematic underrepresentation of the actual extent of psychiatric morbidity in the nation. The World Health Organization says that as of the most recent reporting period, there had been no formal population-based prevalence studies on mental illness in Uzbekistan. The only epidemiological data available was administrative data from patients who were treated in or registered with the formal psychiatric care system. Based on these institutional data, schizophrenia was the most common reason for psychiatric hospital admissions, accounting for 48.5% of all admissions. Intellectual disabilities were the second most common reason, accounting for 20% of all admissions. Common mental disorders like depression and anxiety accounted for a disproportionately small share of admissions. This pattern is most likely due to systematic underreporting and access barriers, rather than a genuinely low community prevalence of these conditions. A comprehensive school-based survey encompassing nearly 300 institutions revealed that girls were marginally more susceptible than boys to moderate to severe anxiety or depression. Furthermore, adolescent suicide rates had increased twofold among boys and threefold among girls compared to 2008 statistics. These findings indicate a worsening and underrecognized mental health crisis among younger populations in Uzbekistan.

Comparative Epidemiological Summary

 10.26555/eshr.v8i2.16030

Table 2. Prevalence and Burden of Mental Disorders: Uzbekistan vs. Indonesia

Indicator	Uzbekistan	Indonesia
Population-based prevalence studies	No available	Available (Riskesdas 2018, SKI 2023)
Depression prevalence (adults)	Not formally established	>12 million adults (2018)
Anxiety/Depression combined (adults)	Not formally established	14.7% (2024 survey)
Anxiety only	Underreported	5.2%
Depression only	Underreported	4.0%
Comorbid anxiety + depression	Underreported	5.5%
Schizophrenia (hospital admissions)	48.5% of all admissions	Data varies by province
Adolescent suicide rate trend	Doubled (boys), Tripled (girls) vs. 2008	Increasing (data limited)
Treatment/diagnosis gap	Very high (unquantified)	61.4% undiagnosed (2024)
YLDs from mental disorders	Not formally reported	1,350.67 per 100,000 (2019)

Table 2 shows a side-by-side comparison of how many people in Uzbekistan and Indonesia have mental problems. The most notable discovery from this analysis is the inherent disparity in data accessibility between the two countries. Indonesia, despite its considerable mental health challenges, has established a relatively more resilient epidemiological monitoring framework through consecutive iterations of the Riskesdas national health surveys, facilitating the assessment of prevalence across major diagnostic categories. Uzbekistan, on the other hand, doesn't have any similar population-based prevalence data. This means that the numbers from administrative psychiatric registries are very certainly a big undercount of the true mental disease burden in the community. The high number of schizophrenia diagnoses among people admitted to psychiatric hospitals in Uzbekistan is probably because the system is more focused on severe, visible disorders than on more common mental disorders like anxiety and depression, which usually need to be found in the community but aren't right now. The surge in teenage suicides in Uzbekistan, which has been reported, is more evidence that there is a large unmet mental health demand that current surveillance systems don't do a good job of capturing.

Health System Infrastructure

Table 3. Mental Health System Structure and Financing: Uzbekistan vs. Indonesia

Indicator	Uzbekistan	Indonesia
Health Expenditure (% of GDP)	5.9%	~3.5%
Mental Health Budget (% of health budget)	2.1–3%	<1%
Expenditure concentration	89% in psychiatric hospitals	Predominantly institutional
Health System Model	Centralised / Public	Mixed (Public & Private)
Mental Health Legislation	Law on Psychiatric Care (2021)	Health Law No. 17 (2023)
National Mental Health Policy	Exists (partial implementation)	Exists (partial implementation)
Integration into primary care	Not integrated	Limited integration
Deinstitutionalization policy	Declared, not implemented	Partially declared
Community-based care development	Weak	Weak
WHO mhGAP implementation	In progress (2023 decree)	In progress

 10.26555/eshr.v8i2.16030

Table 3 shows that both Uzbekistan and Indonesia have serious structural problems with their mental health systems, even though they work in quite different administrative and historical contexts. Uzbekistan allocates a nominally higher proportion of its health budget to mental health services than Indonesia does. However, the overwhelming concentration of that expenditure, approximately 89%, within inpatient psychiatric hospitals indicates that mental health financing remains disproportionately oriented toward institutional care rather than community-based or preventive services. This pattern shows how the Soviet-era psychiatric model still affects things today. It placed greater emphasis on large inpatient facilities than on ambulatory and primary care-integrated approaches. Indonesia has a mixed public-private health system, but it only spends less than 1% of its total health budget on mental health. This is far below the World Health Organization's recommended level and not nearly enough given the high levels of psychiatric illness in the country. In recent years, both countries have passed formal laws on mental health and have promised to move toward community-based care. However, there are still big gaps between what the laws say and how they are carried out, because of lack of funding, staff shortages, and institutional inertia.

Table 3 shows the significant differences in the number of mental health workers in Uzbekistan and Indonesia, as well as how far both nations are from the staffing levels recommended worldwide. Uzbekistan has 2.8 psychiatrists for every 100,000 people. This is much higher than Indonesia's very low rate of 0.058 psychiatrists per 100,000 people. However, it is still well below the WHO-recommended minimum of 1.0 psychiatrist for every 100,000 people when considering the need for psychiatrists at the population level and the lack of community mental health workers. Indonesia has a very serious shortage of psychiatrists, which is one of the worst in Southeast Asia. This means that most people, especially those who live in rural, remote, and outer island communities, can't get the specialized psychiatric care they need. Both countries are in dire need of more psychologists and social workers. For example, Uzbekistan has only 0.08 psychologists for every 100,000 people, and there is no institutional social work component in the mental health system. The almost complete lack of community mental health teams in both countries makes the delivery of mental health services even more institutionalized in both cases. This limits the ability of both systems to provide the early intervention, outpatient follow-up, and preventive care that evidence-based mental health policy calls for.

Mental Health Workforce

Table 4. Mental Health Workforce Comparison: Uzbekistan vs. Indonesia

Workforce Indicator	Uzbekistan	Indonesia	WHO Recommendation
Psychiatrists per 100,000 population	2.8	~0.058	≥1.0
Psychiatric nurses per 100,000	9.0	~1.3	≥10.0
Psychologists per 100,000	0.08	Limited data	≥1.0
Social workers in mental health	None integrated	Very limited	Required
Psychiatrist-to-nurse ratio	1:2 (below WHO 1:4)	Below WHO standard	1:4
Outpatient mental health facilities	282 nationally	Limited, urban-concentrated	
Community mental health teams	4% of outpatient facilities	Underdeveloped	Recommended

 10.26555/eshr.v8i2.16030

Table 4 compares the mental health workforce capacity in Uzbekistan and Indonesia against WHO recommendations. Both countries experience significant shortages of mental health professionals, although the gap is more pronounced in Indonesia, particularly in the number of psychiatrists and psychiatric nurses per 100,000 population. Uzbekistan has a relatively larger workforce and a wider network of outpatient mental health facilities; however, community-based mental health teams remain limited. In contrast, Indonesia continues to face uneven workforce distribution, with services concentrated in urban areas and limited integration of psychologists and social workers into the mental health system. These findings underscore the need to strengthen human resources and expand community-based mental health services in both countries.

Policy and Legislative Framework

Table 5. Policy and Legislative Framework Comparison: Uzbekistan vs. Indonesia

Policy Dimension	Uzbekistan	Indonesia
Mental health law	Law on Psychiatric Care (2021)	Health Law No. 17 (2023)
National mental health plan	Exists	Exists
Presidential/ministerial decree	Yes (2018, 2023)	Yes (2022, 2023)
WHO mhGAP implementation	In progress	In progress
Deinstitutionalization policy	Declared, not implemented	Partially declared
Community-based care policy	Weak	Weak
Mental health in primary care	Not integrated	Limited
Budget increase commitment	Yes (2023)	Insufficient
Stigma reduction programs	Limited	Limited
Mental health literacy campaigns	Emerging	Emerging

Table 5 shows that both Uzbekistan and Indonesia have established formal laws and policies on mental health. However, both countries still face major problems in implementing these laws and policies, making them much less effective at improving the mental health of the entire population. Uzbekistan passed its Law on Psychiatric Care in 2000 and updated it in 2021. Since then, the country has issued several presidential and ministerial decrees calling for improvements to mental health services. One of these decrees, from 2023, requires the integration of WHO's Mental Health Gap Action Program into primary healthcare settings. In 2023, Indonesia passed a full set of health laws and officially backed the WHO Mental Health Action Plan. This shows that the government sees mental health as a public health priority. Still, in both countries, national policies aimed at shifting care from hospitals to communities have not been matched by increases in funding, workforce development, or intersectoral coordination. As a result, most of the promised commitments to deinstitutionalization have not been implemented. The similar paths of reform intent and implementation failure in both countries show that structural and systemic barriers, such as institutional inertia, persistent stigma, and lack of budgetary commitment, are the main things that stop meaningful change in the mental health system in both cases.

DISCUSSION

The current comparative epidemiological study has produced significant data concerning the prevalence, correlates, and public health ramifications of mental diseases in Uzbekistan and Indonesia. In summary, the results show that both countries have a lot of psychiatric problems, not enough money spent on mental health care, gaps in treatment, and policies that aren't being followed through on, even though their geographic, cultural, and historical contexts are very different.[19,20] The most significant conclusion from this comparison is not only that both countries experience considerable challenges related to mental disorders, but that the processes through which these challenges are created, perpetuated, and inadequately addressed reveal profound structural and, in many respects, remarkably similar deficiencies in mental health governance, financing, and service delivery. These similarities are especially interesting because Uzbekistan and Indonesia are in different parts of the world and have different health system structures.[21,22] This suggests that the problems they face are not only due to local differences but also to broader patterns common in lower-middle-income countries seeking to move toward modern, community-oriented mental health systems.

One of the most important findings of this study is that there is a significant difference between the two countries in the availability of epidemiological data. Indonesia, despite its significant mental health challenges, has established a relatively stronger national surveillance system through the continuous implementation of the Basic Health Research and the National Health Survey.[23,24] This system facilitates the generation of population-level prevalence estimates across key diagnostic categories. Uzbekistan, on the other hand, has almost no information about common mental disorders. It only uses administrative data from psychiatric hospital registries, which only include the most severely ill patients who have overcome many obstacles to get formal psychiatric care.[25,26]

The lack of population-based prevalence data in Uzbekistan is not a minor methodological flaw; it is a major obstacle to making public health policy because it hides the true number of anxiety disorders, depressive disorders, and other common mental disorders that affect working-age adults, women, and younger people who are unlikely to go to inpatient psychiatric facilities. The result of this lack of data is a systematic distortion of the epidemiological picture in which schizophrenia and other severe psychotic disorders seem to be the most common mental health problems.[27,28] This is not because they are the most common in the Uzbek population, but because the recording system is set up only to record patients whose conditions are severe enough to require admission to a hospital. Consequently, rectifying this deficiency should be considered a fundamental goal for the advancement of the mental health system in Uzbekistan, as efficient resource distribution, workforce organization, and service formulation are unattainable without dependable community-level prevalence statistics.

This makes them more likely to seek help from religious or traditional healers instead of clinical services. At the systemic level, the extreme shortage of trained mental health professionals in both countries, combined with the geographic concentration of available services in urban centers and the near-total absence of mental health components within primary healthcare, ensures that the majority of the population in both nations has no realistic pathway to receiving evidence-based mental health care regardless of their willingness to seek it. To close this treatment gap, we need to work on all three levels simultaneously. This includes reducing public stigma, increasing mental health literacy, integrating mental health care into primary

care, and significantly increasing the number of educated mental health professionals. The mental health workforce data from this study show that both countries are falling short of international standards, with Indonesia facing especially severe shortages that make it almost impossible to meet the mental health needs of the entire population through specialist psychiatric services alone in the near future. Indonesia has one of the lowest specialist mental health workforce ratios in Southeast Asia, with about 0.058 psychiatrists per 100,000 people. This means there are several thousand fewer psychiatrists than the World Health Organization's recommended minimum.

Uzbekistan has a higher psychiatrist density of 2.8 per 100,000 people. However, it still doesn't meet the recommended levels, given how much care is needed and how few other professionals, such as psychologists, social workers, occupational therapists, and community mental health workers, are available.[29] These professionals are important parts of effective community-based mental health systems. The workforce data also show that Uzbekistan's psychiatric staffing model is not balanced. There are too many psychiatric nurses working in institutions, which shows that the system is focused on hospitals instead of investing in care at the community level. Both nations would significantly benefit from task-sharing and task-shifting methodologies, in which trained primary healthcare workers, community health volunteers, and non-specialist health providers are equipped with evidence-based competencies to identify, manage initially, and facilitate referral of prevalent mental disorders. This approach has been effectively implemented in various low-resource contexts and represents the most scalable strategy for reducing treatment disparities in the short- to medium-term.[30,31]

The finance figures that come from this comparison show that both countries have been underinvesting in mental health for a long time, which makes it impossible to make real gains in the mental health of the population. Indonesia spends less than 1% of its total health budget on mental health services. This is not only much less than what the World Health Organization recommends, but it is also very out of proportion to the documented impact of mental disorders on the country's overall disease burden.[32,33] Uzbekistan's allocation, while nominally higher at approximately 2 to 3% of the health budget, is rendered substantially less impactful by its overwhelming concentration in inpatient psychiatric facilities, meaning that the vast majority of mental health financing supports a mode of care delivery that reaches a very small proportion of those in need and is poorly aligned with the evidence base for effective mental health treatment. The analysis of the economic burden makes the case for more investment even stronger.

A particularly significant finding of this investigation is the extent to which both Uzbekistan and Indonesia have established formally ambitious mental health policy frameworks that, however, have not resulted in substantial improvements in service delivery, workforce development, or treatment access at the population level. Both nations have implemented mental health legislation, established national mental health plans, made official commitments to community-based care transitions, and participated in World Health Organization technical assistance initiatives, including the Mental Health Gap Action Program. However, in both instances, the execution of these policy commitments has been significantly deficient, hindered by the lack of dedicated implementation funding, inadequate inter-ministerial coordination, insufficient accountability mechanisms, and the enduring institutional

predominance of hospital-based psychiatric services that are structurally resistant to reform.[34,35]

This pattern of policy ambition outpacing implementation capacity is not unique to Uzbekistan and Indonesia. Still, it represents a widespread challenge in mental health system reform across low- and middle-income countries, where formal policy adoption frequently occurs ahead of the enabling conditions financing, workforce, infrastructure, and governance required to translate policy intent into operational change. This means that future policy efforts in both countries should focus less on creating new laws and strategies and more on developing specific, time-limited, resource-backed plans to implement them.[36,37] These plans should include clear accountability structures, measurable goals, and ways to change course when implementation problems keep coming up.

The results of this study have significant ramifications for public health policy and practice in both Uzbekistan and Indonesia. It is very important to fix the lack of population-based epidemiological data in Uzbekistan by setting up national mental health survey systems that can give accurate estimates of how common mental health problems are in different communities. This will help with evidence-based resource allocation and policy planning. Both countries must significantly expedite the incorporation of mental health into primary healthcare systems by implementing task-sharing models that utilize the current primary care workforce to broaden the accessibility of evidence-based mental health interventions beyond the limited population that can feasibly access specialized psychiatric services.[38,39]

Both countries need to put a lot more money into mental health care and shift it away from institutional care and toward community-based, preventive, and early intervention services. They also need to set up dedicated budget lines and robust monitoring systems to ensure that the extra money leads to better access, quality, and fairness in services. Stigma reduction should be regarded as a fundamental public health objective rather than a secondary aspect of clinical service development, given substantial evidence that stigma is a key, widespread obstacle to help-seeking in both national contexts.[40,41] Regional cooperation between Uzbekistan and other Central Asian countries, and between Indonesia and other Southeast Asian countries, has significant potential for shared learning, joint capacity building, and working together to secure more funding for mental health services that neither country could provide as well on its own.

There are some methodological limitations to this experiment that need to be considered when interpreting its results. The complete reliance on secondary data from publicly accessible sources implies that the quality, consistency, and comparability of the foundational data depend on the methodological rigor of the initial data-gathering processes, which exhibit significant variability across sources and national contexts. The near-complete lack of population-based prevalence data from Uzbekistan makes it very difficult to make meaningful quantitative comparisons across several epidemiological indicators. The administrative data that is available is almost certainly an underestimate of the true prevalence of common mental disorders in the Uzbek population. Inconsistencies in time between data sources, which provide various reference years for distinct metrics, make cross-national comparisons even less clear. Despite these constraints, this study is a significant addition to the comparative epidemiology of mental disorders in two underrepresented emerging nations, producing knowledge that can guide national policy formulation and regional mental health advocacy.

Future research should prioritize conducting nationally representative mental health surveys in Uzbekistan, developing standardized cross-national epidemiological monitoring frameworks for Central and Southeast Asia, and conducting longitudinal studies examining the correlation between mental health system investment and population-level mental health outcomes across both national contexts.

CONCLUSION

The current comparative epidemiological study has shown that both Uzbekistan and Indonesia have significant and mostly unmet needs for mental health care. Existing epidemiological data don't show this well, and current mental health systems don't do enough to help. There also isn't enough funding or workforce infrastructure to provide evidence-based care to large groups of people. In both countries, the study found a worrying and consistent pattern: formal policy promises to improve mental health have not been backed up by the necessary operational investments in financing, workforce development, primary care integration, and community-based service expansion. These investments are needed to turn legislative intent into real improvements in mental health outcomes for the population. The treatment gap observed in both nations, where most individuals with clinically significant mental disorders do not receive formal diagnosis or treatment, signifies not only a clinical failure but also a critical public health and human rights issue necessitating immediate and continuous governmental intervention.

The economic evidence further emphasizes the irrationality of ongoing underinvestment, as the annual costs of untreated mental disorders to national economies, manifested through diminished productivity, premature mortality, and increased healthcare utilization, significantly surpass the expenses associated with the large-scale implementation of evidence-based mental health interventions. The sociocultural analysis underscores that effective mental health interventions in both countries must be grounded in a profound contextual understanding, acknowledging the diversity of cultural attitudes, help-seeking practices, and manifestations of psychological distress that shape the mental health experiences of populations in Central Asia and Southeast Asia. The results of this study support the idea that mental health needs to be moved from the edge to the center of public health policy in both Uzbekistan and Indonesia. This should be done by increasing budget allocations, speeding up the growth of the workforce, truly integrating mental health into primary healthcare, and keeping up the fight against stigma, which is still one of the biggest obstacles to mental health equity in both countries. The comparative framework used in this study provides a replicable model for cross-national mental health research in underrepresented developing-country contexts. It is anticipated that the evidence produced will foster momentum for transformative mental health system reform in Uzbekistan, Indonesia, and the wider regions in which they are located.

Acknowledgement

Sardorbek Ibragimov thanks all parties who supported this research. Muhammad Hisyam Syafii thanks the academic community and research collaborators for their valuable insights and constructive feedback. Dzaka Ogan Amirudin Lutfi thanks the supporting institutions for facilitating data collection.

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Declarations

Authors' contributions

SI conceptualized the study, designed the research framework, and supervised the project. MHS conducted data analysis, contributed to the theoretical framework, and drafted the manuscript. DOAL carried out data collection and curation and assisted with manuscript editing. All authors reviewed and approved the final version of the manuscript.

Funding statement

This research has not received external funding" for research without a donor.

Conflict of interest

There is no conflict of interest in this research.

REFERENCES

1. Maerlender A, Bray PG. Adolescent Mental Health in the Twenty-First Century. In: *Adolescent Public Mental Health*. Springer Nature Switzerland; 2024:11-33. doi:10.1007/978-3-031-68294-0_2
2. Nie P, Zhao K, Ma D, Liu H, Amin S, Yasin I. Global Climate Change, Mental Health, and Socio-Economic Stressors: Toward Sustainable Interventions across Regions. *Sustainability*. 2024;16(19):8693. doi:10.3390/su16198693
3. McGorry P, Gunasiri H, Mei C, Rice S, Gao CX. The youth mental health crisis: analysis and solutions. *Front Psychiatry*. 2025;15. doi:10.3389/fpsyt.2024.1517533
4. Sullivan MA. Drug Use and Mental Health: Comorbidity between Substance Use and Psychiatric Disorders. In: *Substance and Non-Substance Related Addictions*. Springer International Publishing; 2022:3-17. doi:10.1007/978-3-030-84834-7_1
5. Gebeyehu DT, East L, Wark S, Islam MS. Disability-adjusted life years (DALYs) based COVID-19 health impact assessment: a systematic review. *BMC Public Health*. 2023;23(1):334. doi:10.1186/s12889-023-15239-0
6. Poulsen Nautrup B. Disability-Adjusted Life Year (DALY). In: *Outcomes Research in Animal Health Care*. Springer Nature Switzerland; 2026:141-148. doi:10.1007/978-3-032-12587-3_14
7. Pedro Costa A, da Silva Brito I, Mestre TD, Matos Pires A, José Lopes M. Meshing Anxiety, Depression, Quality of Life, and Functionality in Chronic Disease. *Healthcare*. 2025;13(5):539. doi:10.3390/healthcare13050539
8. Alwhaibi M, Balkhi B, AlRuthia Y. Anxiety and depression and health-related quality of life among adults with migraine: a National Population-Based Study. *Front Public Health*. 2023;11. doi:10.3389/fpubh.2023.1241800
9. Minjie Z, Zhijuan X, Xinxin S, Xinzhu B, Shan Q. The effects of cognitive behavioral therapy on health-related quality of life, anxiety, depression, illness perception, and in atrial fibrillation patients: a six-month longitudinal study. *BMC Psychol*. 2023;11(1):431. doi:10.1186/s40359-023-01457-z
10. Puerto-Casasasnovas E, Galiana-Richart J, Mastrantonio-Ramos MP, López-Muñoz F, Rocafort-Nicolau A. Direct and Indirect Management Models in Public Health in the

Framework of Mental Health. *Int J Environ Res Public Health*. 2023;20(3):2279. doi:10.3390/ijerph20032279
11. Setiawan HH, Aldyan RA, Susantyo B, et al. Climate Change and Mental Health Resilience in Northern Coast of Java's Island, Indonesia Coastal Communities: Challenges and Adaptations. In: 2025:49-70. doi:10.1007/978-3-031-99132-5_3
12. Sebong PH, Pardosi J, Goldman RE, Suryo AP, Susianto IA, Meliala A. Identifying Physician Public Health Competencies to Address Healthcare Needs in Underserved, Border, and Outer Island Areas of Indonesia: A Rapid Assessment. *Teach Learn Med*. 2025;37(3):363-374. doi:10.1080/10401334.2024.2353573
13. Arulsamy K, Effendy E, Mardhiyah S, et al. The economic burden of anxiety and depression in Indonesia: evidence from a cross-sectional web panel survey. *Front Public Health*. 2025;13. doi:10.3389/fpubh.2025.1667726
14. Idaiani S, Fikaris MF, Chairunnisa G, et al. Individual and area-level factors associated with depression in Indonesia: a multilevel analysis using the 2018 national basic health research. *BMC Public Health*. 2025;25(1):3298. doi:10.1186/s12889-025-23434-4
15. Kurniati Y, Abdillah A. Comparative Labor Law Studies in Indonesia and Malaysia: Social–Economic Inequality and Governance of Migrant Workers. *Laws*. 2025;14(6):79. doi:10.3390/laws14060079
16. Kunze C, Preugschat B, Arndt R, Kandzia F, Wiens B, Altfelder S. Development of a UAV-Based Gamma Spectrometry System for Natural Radionuclides and Field Tests at Central Asian Uranium Legacy Sites. *Remote Sens (Basel)*. 2022;14(9):2147. doi:10.3390/rs14092147
17. Quireyns M, Boogaerts T, Giraldo JSP, et al. Comparing the applicability of de facto population markers for spatiotemporal trend analysis in wastewater-based epidemiology. *J Hazard Mater*. 2025;496:139332. doi:10.1016/j.jhazmat.2025.139332
18. Ghanem AS, Bata R, Kovács N, Nagy AC. Sociodemographic inequalities in the global burden trends and machine learning-based projections of periodontitis from 1990 to 2030 across different development levels. *Frontiers in Oral Health*. 2025;6. doi:10.3389/froh.2025.1609961
19. Wolf K, Schmitz J. Scoping review: longitudinal effects of the COVID-19 pandemic on child and adolescent mental health. *Eur Child Adolesc Psychiatry*. 2024;33(5):1257-1312. doi:10.1007/s00787-023-02206-8
20. McNab SE, Dryer SL, Fitzgerald L, et al. The silent burden: a landscape analysis of common perinatal mental disorders in low- and middle-income countries. *BMC Pregnancy Childbirth*. 2022;22(1):342. doi:10.1186/s12884-022-04589-z
21. Ravshanov AX, Suhail M, Komilova N, Ravshanov S. Medical geographical zoning in part of Uzbekistan – A regional synthesis. *Regional Science Policy & Practice*. 2024;16(12):100142. doi:10.1016/j.rspp.2024.100142
22. Fahlevi M, Ahmad M, Balbaa ME, Wu T, Aljuaid M. The efficiency of petroleum and government health services to benefit life expectancy during the inefficiencies of hydroelectricity consumption. *Environmental and Sustainability Indicators*. 2023;19:100289. doi:10.1016/j.indic.2023.100289
23. Pham MD, Wulan NR, Sawyer SM, et al. Mental Health Problems Among Indonesian Adolescents: Findings of a Cross-Sectional Study Utilizing Validated Scales and Innovative Sampling Methods. *Journal of Adolescent Health*. 2024;75(6):929-938. doi:10.1016/j.jadohealth.2024.07.016
24. Rahman FF. Indonesia's healthcare landscape: embracing innovation in the new health regime. *Curr Med Res Opin*. 2024;40(6):929-933. doi:10.1080/03007995.2024.2349732
25. Cooper RE, Saunders KRK, Greenburgh A, et al. The effectiveness, implementation, and experiences of peer support approaches for mental health: a systematic umbrella review. *BMC Med*. 2024;22(1):72. doi:10.1186/s12916-024-03260-y

26. Laureano CD, Laranjeira C, Querido A, Dixe MA, Rego F. Ethical Issues in Clinical Decision-Making about Involuntary Psychiatric Treatment: A Scoping Review. *Healthcare*. 2024;12(4):445. doi:10.3390/healthcare12040445
27. Ghizlane C, Zougrar I, Benayad A, et al. Prevalence of suicidal thoughts and behaviors among individuals with mental disorders in Africa: a systematic review and meta-analysis of the past 25 years. *BMC Psychiatry*. 2026;26(1):158. doi:10.1186/s12888-025-07453-4
28. Luo W, Gao J, Guo Z, et al. Trends and cross-country inequalities in schizophrenia from 1990 to 2021, with prediction to 2035: a systematic analysis of the global burden of disease study 2021. *BMC Psychiatry*. 2025;25(1):928. doi:10.1186/s12888-025-07273-6
29. Bhattarai K, Yousef M. Demography, Language, Ethnicity, Religion, and Refugee Crises. In: 2025:45-81. doi:10.1007/978-3-031-83967-2_3
30. Okoroafor SC, Christmals C Dela. Task Shifting and Task Sharing Implementation in Africa: A Scoping Review on Rationale and Scope. *Healthcare*. 2023;11(8):1200. doi:10.3390/healthcare11081200
31. Sood B. Investing in a Resilient and Responsive Healthcare System During COVID-19 Pandemic. In: *Health Dimensions of COVID-19 in India and Beyond*. Springer Nature Singapore; 2022:27-52. doi:10.1007/978-981-16-7385-6_2
32. 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. *Lancet Psychiatry*. 2022;9(2):137-150. doi:10.1016/S2215-0366(21)00395-3
33. Freeman M. Investing for population mental health in low and middle income countrieswhere and why? *Int J Ment Health Syst*. 2022;16(1):38. doi:10.1186/s13033-022-00547-6
34. Chen-Florea ALQ, Luksic I, Boskovic B. From Disruption to Stabilization: A Functional Governance Perspective on the Renewable Energy Transition in Montenegro. *Environmental Policy and Governance*. Published online February 24, 2026. doi:10.1002/eet.70057
35. Katanging DG, Nabila N, Putri SA, Viona M, Sinaga LSB. Implementation of the Job Creation Law: Severance Pay from the Perspective of Pressman and Wildavsky's Theory. *Journal Governance Bureaucratic Review*. 2025;2(2):79-92. doi:10.31629/jgbr.v2i2.7743
36. Meyer-Krahmer F, Reger G. New perspectives on the innovation strategies of multinational enterprises: lessons for technology policy in Europe. *Res Policy*. 1999;28(7):751-776. doi:10.1016/S0048-7333(99)00019-0
37. Kuhlmann S. Future governance of innovation policy in Europe three scenarios. *Res Policy*. 2001;30(6):953-976. doi:10.1016/S0048-7333(00)00167-0
38. Raviola G, Naslund JA, Smith SL, Patel V. Innovative Models in Mental Health Delivery Systems: Task Sharing Care with Non-specialist Providers to Close the Mental Health Treatment Gap. *Curr Psychiatry Rep*. 2019;21(6):44. doi:10.1007/s11920-019-1028-x
39. Hoeft TJ, Fortney JC, Patel V, Unützer J. Task-Sharing Approaches to Improve Mental Health Care in Rural and Other Low-Resource Settings: A Systematic Review. *The Journal of Rural Health*. 2018;34(1):48-62. doi:10.1111/jrh.12229
40. Stangl AL, Earnshaw VA, Logie CH, et al. The Health Stigma and Discrimination Framework: a global, crosscutting framework to inform research, intervention development, and policy on health-related stigmas. *BMC Med*. 2019;17(1):31. doi:10.1186/s12916-019-1271-3
41. Corrigan PW, Druss BG, Perlick DA. The Impact of Mental Illness Stigma on Seeking and Participating in Mental Health Care. *Psychological Science in the Public Interest*. 2014;15(2):37-70. doi:10.1177/1529100614531398