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The S20 Brazilian Mental Health Report for Building a Just World and a Sustainable Planet: Part I

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The S20 Brazilian Mental Health Report for Building a Just World and a Sustainable Planet: Part I

Running Title: The S20 Brazilian Mental Health Report Part I

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Abstract

This is the first part of two documents prepared by experts for the Brazilian S20 mental health report. These reports outline strategies aimed at addressing the exacerbated mental health challenges arising from a post-pandemic world. Ongoing psychiatric epidemiology research has yielded evidence linking mental health with intricate social determinants, including gender, race/ethnicity, racism, socioeconomic status, social deprivation, and employment, among others. More recently, the focus has expanded to also encompass violence and social oppression. By prioritizing prevention and early intervention, harnessing technology, and fostering community support, we can mitigate the long-term

impact of mental disorders emerging in life. Utilizing evidence-based practices and forging partnerships between the health and education sectors, S20 countries can promote health and safety of their student population, thereby paving the way for a more promising future for the next generations. The first document focuses on addressing the mental health concerns of vulnerable populations, catering to the needs of children, youth, and aging populations, assessing the current state of alcohol and drug addictions, scaling up psychosocial interventions in primary care, exploring the potential integration of health and educational systems, and emphasizing the imperative adoption of human rights in mental health policies.

Keywords: Vulnerable Populations, Child Health Services, Social Determinants of Health, Psychiatric Epidemiology, Human Rights.

Introduction

The 2024 edition of the S20 adopts the motto "Science for Global Transformation" and will center around five key thematic axes: bioeconomy, health challenges, artificial intelligence, social justice, and the energy transition process [1]. The S20 serves as the collective platform for the 19 national science academies of countries with the highest Gross Domestic Product (GDP), along with the scientific representation of the European community [2]. While other discussions within the G20 often prioritize economics and development, as noted by the Brazilian Academy of Sciences (ABC), the focus of the S20 lies squarely on science [2, 3]. However, it's important to note that these topics are not isolated discussions. "All of this depends on science," emphasizes Helena Nader, president of Brazilian Academy of Sciences [4]. In addressing health challenges and science, the initiative aims to involve Brazilian mental health experts in preparing documents commissioned by the ABC [1]. The goal is to put forward suggestions that may be embraced by various countries to advance mental health initiatives globally. These ideas are intended as proposals for discussion among all participating Academies of Sciences. They do not constitute official mandatory guidelines but rather serve as a

collection of ideas that can influence the future trajectory of global mental health.

There is only one health, and it lies in understanding the interconnectedness of the environment, ecosystems, physical, spiritual, and mental health within the context of a universal holistic worldview [5, 6]. These principles align with the Sustainable Development Goals aimed at promoting Mental Health and Well-Being, which include enhancing longevity and improving the quality of life for all individuals affected by mental health conditions worldwide [7]. As part of the S20 Brazilian coordination, we are identifying key principles summarized as follows: The future of mental health entails integrating physical and mental health; Priority should be given to prevention efforts; Strengthening the integration of health and education systems is crucial; Expanding mental health services through primary care is essential; Combatting stigma and racial discrimination surrounding mental health is imperative; Involving health professionals, teachers, and the community in delivering mental health care is vital; The role of culture in the manifestation of mental disorders across different societies must be considered, and users of the health system shall participate in implementing services and policies.

Bridging the Gap in Mental Health Evidence indicates that around 5% of the working-age population grapples with severe mental health conditions, while an additional 15% are affected by more common mental disorders [8]. Furthermore, it is estimated that one in two individuals will experience mental ill-health at some point in their lives, impacting their employment prospects, productivity, and wages [8]. The direct and indirect costs associated with mental ill-health can exceed 4% of the GDP [8]. The COVID-19 pandemic has further exacerbated the burden of mental disorders, demanding policy changes to address this emerging challenge [9]. Epidemiological data reveal a high prevalence of mental disorders globally, particularly affecting vulnerable groups such as women, migrants, those with low literacy, individuals in low social classes, unskilled workers, the unemployed, people living in deteriorated urban areas, those exposed to violence, and the socially excluded [10]. Notably, oppression, inequities and violence play a significant role as determinants of poor mental health. Bullying involvement in any form can adversely affect young people's social adjustment and result in lasting mental health consequences,

underscoring the need to strengthen ties between the educational and health systems and develop preventive interventions in schools to reduce violence and prevent substance abuse [11, 12]. Moreover, modern western culture, marked by competitive environments, social inequality, and loneliness, is contributing to the rising rates of mental disorders, including depression. Periods of isolation, and the economic impacts resulting from health crises are expected to increase the prevalence of mental disorders and depression, particularly in low-income countries. In the opening section of the S20 Brazilian Mental Health Report, strategies are detailed for addressing the heightened mental health challenges arising from contemporary society in a post-pandemic world. Given the complexity surrounding mental health, the report will be presented in two parts (Part I and Part II).

This first report encompass addressing the mental health concerns of vulnerable populations, a paradigm shift to focus on prevention, meeting the needs of children, and aging populations, exploring the potential integration of health and educational systems, examining the current state of alcohol and drug addiction, the scaling up of psychosocial interventions in primary care, emphasizing the imperative adoption of human rights in mental health policies, and stimulating the involvement of mental health users in the implementation of mental health care services and policies.

Epidemiology and Mental Health of Vulnerable Populations

The mental health of the economically disadvantaged has been a major topic in Latin American psychiatric epidemiology since the series of pioneering community surveys conducted in Chile in the context of major health and mental health reforms from the late 1950s to the early 1970s [13]. In Lima, Peru, prevalence studies of psychological distress and social factors, led by Seguin and Mariátegui, were published between 1958 and 1969 [14]. In these studies, a local cultural approach includes studies about acculturation and mental health among indigenous populations. In Brazil, epidemiological studies have been strongly influenced by a tradition of culture-sensitive research regarding vulnerable groups of society [15].

The first generation of social psychiatric research in Brazil in the early 1970s focused sociocultural factors, basically explanatory models oriented by concepts of acculturation, modernization, and marginalization. In that period, culture and adaptation predominated in the beginning, moving on to poverty and social exclusion. Population mental health was then studied with a focus on economic development, such as the association between migration and mental illness and between unemployment or informal labor and poor mental health. Findings of the second generation of studies supported the “inverse care hypothesis”: those in greater need have less access to health services and those who are at a lower risk of suffering from a severe mental disorder show higher use of the healthcare system [16]. The introduction of social determination models represented a turning point in the main agenda of current epidemiological research, integrating ecological diversity, economic inequality, and social inequity.

Recently, mental health issues of Vulnerable Populations (Ethnicity/Race, Immigrants, Homeless, LGBTQ+, Aboriginal) have become a topic of interest in Brazil. Santana et al. studied the association between racism and depression among adolescents and young adults in Salvador, Bahia, and concluded that perception of racism and experience of racial discrimination, but not skin color or race itself, was a strong risk factor for depressive disorders in this vulnerable group [17]. Interaction analyses (nowadays known as “intersectionality”) of race/ethnicity and social factors, mediated by gender and inequalities have been reported [18]. Since the pioneering study by Heckert et al [19], several studies have found that practically all homeless people in Brazilian cities have a mental health problem, associated with some type of chemical dependency and concomitant with psychiatric disorders [19]. In different regions of Brazil, studies of specific population groups continued to be carried out, for instance, with elderly [20], children and adolescents [21] and slum dwellers [22]. The São Paulo Megacity Survey found anxiety being the most prevalent condition, followed by depression, impulse-control and substance use disorders; in this survey, findings were consistent with the “income inequality theory” [23, 24]. Data obtained from the Brazilian High-Risk Cohort [25], collected initially when children were aged 6–14 years and during follow-up when they were 15-23 years old, demonstrated how childhood poverty heightened the probability of

externalizing disorders in early adulthood due to increased exposure to stressful life events [26].

Among LGBTIQ+ groups, Terra et al [27] found higher rates of anxiety disorders, depressive disorders, and post-traumatic stress disorders if compared with heterosexual groups [27]. Reis et al [28] found high prevalence of psychiatric disorders and a significant association between mental health conditions, lack of treatment for these conditions and suicidality among transgender women [28]. Dornelles et al [29] found extremely high prevalences (85%) of non-psychotic mental disorders and anxiety symptoms in a Brazilian LGBTIQAP+ during the Covid-19 pandemic [29]. Research on the mental health of indigenous peoples are still scarce and limited in scope in Latin America and in Brazil, but inequalities in mental health care have been documented [30]. Paiva de Araujo et al [31] reported trends in suicide rates among Indigenous peoples in Brazil between 2000 and 2020 and found among Indigenous Brazilians more than two and a half times the suicide rate levels for the overall Brazilian population in 2020 (17.5 suicide deaths versus 6.35 suicide deaths per 100,000 inhabitants, respectively) [31].

Social inequality has been a key-topic for psychiatric epidemiological research on the social determination of mental health in Brazil. The current generation of psychiatry epidemiology studies has produced evidence correlating mental health with complex social determinants, such as gender, race/ethnicity, racism, social class, social deprivation, employment, etc., and more recently, violence and social oppression [32]. Especially affected are vulnerable groups such as women, migrants, illiterates, low social class, unskilled workers, unemployed, people living in deteriorated urban sites, individuals exposed to violence, and among the socially excluded. Vulnerable populations such as immigrated, black women suffering discriminations, elderly population, LGBTIQ+ populations, indigenous populations, those faced losses in the pandemic, and underprivileged will need far more attention [32].

Addressing the Needs of Children and Adolescents

The mental health of children and adolescents has emerged as a critical concern worldwide, underscored by the exacerbated challenges following the

global COVID-19 pandemic [33-35]. The recognition of mental health early in life as a pivotal component of overall well-being necessitates a comprehensive, strategic approach that transcends geographical and socio-economic boundaries. The challenges are particularly pronounced in low- and middle-income countries (LMICs), where most the world's youth reside and where resources for mental health services are often limited [36].

Data from the Global Burden of Disease Study indicate that, around the globe, 293 million individuals aged 5 to 24 years have at least one diagnosable mental disorder, and 31 million had a substance use disorder – corresponding to an average prevalence of 11.63% and 1.22%, respectively [37]. Importantly, during the first decades of life, the prevalence of mental disorders varies substantially across narrow age groups, almost doubling over this developmental period: 6.80% in childhood (5 to 9 years), 12.40% in early adolescence (10 to 14 years), 13.96% in late adolescence (15 to 19 years), and 13.63% in early adulthood (20 to 24 years) [37].

Furthermore, mental disorders as a group constitute the leading cause of health-related disability among children and adolescents worldwide, accounting for one-fifth of the years lived with disability (YLDs) between ages 5 and 24 [37]. Considering the overall impact of mental disorders across the entire life course, one quarter of all YLDs attributable to mental disorders were recorded before age 25 years, emphasizing that, in contrast to what is seen for most physical conditions, the burden imposed by mental disorders begins early in life [37].

Mental disorders not only affect the immediate well-being of young individuals but also have long-term implications on their development, education, and integration into society [36]. Recognizing the substantial burden imposed by mental disorders early in life not only highlights the challenges we face but also unveils a tremendous opportunity for prevention and early intervention. The early onset and high incidence of mental health conditions among children and adolescents underscore the potential to significantly alter life trajectories through timely and effective actions. This perspective shifts the narrative from one of burden to another of opportunity, emphasizing that early engagement can lead to improved outcomes across the lifespan. The following strategic directions for addressing mental health needs of this population are as follows:

Evidence-based Psychosocial Interventions: Early intervention focuses on identifying and addressing mental health issues as they emerge, using development and implementation of screening tools within educational and healthcare settings to detect early signs of mental distress. Providing immediate access to care through evidence-based interventions can prevent the escalation of symptoms and facilitate a return to well-being [38];

Embracing Technological Advancements: The digital revolution offers unprecedented opportunities to extend the reach of mental health services. Telepsychiatry, online therapy sessions, and mobile health applications can overcome traditional barriers to access, facilitating ongoing support and providing platforms for preventive education and self-management tools tailored to young users [39];

Fostering Global Collaboration: Addressing the mental health needs of children and adolescents requires a global concerted effort. Sharing best practices, research findings, and resources among countries can enhance collective capacity to develop and implement effective mental health strategies. The importance of global partnerships in advancing mental health care for young populations is paramount [40];

Tailoring Services to Cultural and Local Contexts: Adapting mental health services to fit cultural and local contexts involves engaging with communities to ensure that interventions are culturally sensitive and relevant. This ensures the effectiveness of mental health services across diverse populations [41]; and

Advocacy and Policy Support: Achieving progress in mental health care for children and adolescents necessitates strong advocacy and policy support. Governments, non-governmental organizations, and international bodies must prioritize mental health in public health agendas, allocate sufficient resources, and implement policies that support the integration of mental health services into primary care and educational settings [41].

Mental health Needs of the Ageing Population

Population ageing is a global phenomenon, but it is happening much more rapidly in low- and middle-income countries (LMICs), with significant implications for healthcare, social services, and the overall well-being of older

people. One of the most pressing concerns associated with ageing is the surge in dementia. It has been estimated that 57.2 million people were living with dementia in 2019, a figure that is projected to triple by 2050 [42].

Age-related cognitive disorders such as Alzheimer's disease and other dementias can impact various aspects of daily life, including independent living. As dementia is, in general, progressive, people with the condition will at some point need help with their daily activities. The resulting burden mainly falls on family members, often an older person too, who will also have their health compromised by the demands of this care responsibility [43]. Studies on dementia costs have shown that although formal costs are higher in high-income countries (HICs) due to the age composition of the population, better diagnosis, and greater access to medications and therapies, informal costs, which is related to the care provide by family members, are higher in LMICs [43].

Despite the recent advances in respect of biomarkers, that can provide information about the presence or progression of dementia-related brain changes, and potential new treatments, there is still no cure, and the best option to decrease dementia burden is to reduce risk. Some HICs have shown a decrease in incidence [44] which has been attributed to improvements in education and better control of cardiovascular diseases and their risk factors. The Lancet commission on dementia using a life course approach, has shown that about 40% of global dementia cases could be attributed to 12 modifiable risk factors - less education, hypertension, hearing impairment, smoking, obesity, depression, physical inactivity, diabetes, alcohol consumption, traumatic brain injury, air pollution and social isolation [45]. The room for prevention seems to be higher in LMICs, given the fact that in general, the prevalence of these risk factors is greater in these countries [46].

A social isolation, beyond being a well-established late-life risk factor for dementia, has emerged as a significant concern, particularly in many modern societies where social structures are evolving, and traditional support networks are breaking down. Older adults often experience social isolation due to factors such as retirement, mobility limitations, and the loss of friends and family members. The proportion of older adults who are socially isolated varies between regions and the definitions used; a recent systematic review suggested

a global pooled prevalence of 25 % [47], while reporting of the prevalence of loneliness is 25-29% in the USA [48], 25-32% in Latin America, and 18% in India [49]. Social isolation and loneliness have been shown to have detrimental effects on physical and mental health, increasing the risk of depression and suicide [50, 51]. According to the Global Health Estimates (GHE) for 2019, more than a quarter of deaths from suicide (27.2%) were among people aged 60 or over, and it occurs more often in older men, particularly those over 80 years of age [52].

A multi-faceted approach that considers not only healthcare and social support, but also a shift on people's attitudes is necessary to address the unique needs of older people. It is important to increase the social engagement of the older population through the development of community programs and support groups, and by supporting intergenerational activities that can help to ensure that they remain connected to others. Additionally, technology should be used to facilitate virtual social interactions and to help overcome mobility barriers, thus allowing older adults to stay in closer touch with their families and feel connected to their communities. Furthermore, it is important that health and social work professionals identify and address the needs of older adults by, for example, screening for signs of social isolation during routine contact and referring individuals to appropriate support services when necessary to try to prevent loneliness and its negative effects on the well-being of older adults.

Emerging Trends in Alcohol and Drug Addictions

Substance use-related disorders pose significant public health challenges worldwide, with profound implications for individuals, families, and communities. As for alcohol, worldwide, 3 million deaths every year result from the harmful use of alcohol, which represents 5.3% of all deaths. Overall, 5.1% of the global burden of disease and injury is attributable to alcohol, as measured in disability-adjusted life years (DALYs) [53]. Concerning illicit substance use, according to the World Drug Report, 2023, 5.8% of the world population aged 15 to 64 years old were people who use drugs. Cannabis is still the most used illicit substance, followed by amphetamine, cocaine, and ecstasy-type substances [54].

While substantial progress has been made in understanding the neurobiological and psychosocial underpinnings of addiction, emerging trends continue to reshape the landscape of substance use disorders. The growth of novel psychoactive substances (NPS), including synthetic opioids, synthetic cannabinoids, and designer stimulants, poses new challenges to the addiction field, as its physiological actions, epidemiology, and treatment are still only partially known. Rapid detection methods and proactive surveillance systems are essential for monitoring NPS trends and providing data for prevention and treatment strategies [54].

As for clinical research, one of the main discussions is on what should be considered successful. For many years, abstinence was the only desirable outcome, and all efforts and research were driven in that direction. However, other endpoints have recently received special attention from the scientific and clinical community. Improving the quality of life, reducing the amount of substance use, diminishing the prevalence of car accidents due to intoxication, reduction in overdose deaths, and emergency department visits are examples of new outcomes being evaluated and considered successful [55]. An important benchmark for this perspective was the creation of a Harm Reduction Research Network funded by the National Institute of Health (NIH). Through the National Institute on Drug Addiction (NIDA), this program is expected to invest US\$36 million over five years [56].

In the clinical treatment approach, it has been clearer and clearer that a one-size-fits-all approach is inadequate. The needs of each patient should be carefully evaluated. Patients who use different substances will demand different approaches; what works for cannabis use disorder will not necessarily work for opioid use disorder, for instance. Also, psychiatric comorbidities, clinical comorbidities, and psychosocial network support are some of the issues that must be considered when designing a treatment plan. Medications and psychosocial interventions are the core of the available treatments.

Various psychosocial therapies have demonstrated efficacy in treating substance use disorders, either independently or in combination with pharmacotherapy. Among the commonly employed interventions are motivational interviewing, cognitive behavioral therapy (CBT), contingency management, and twelve-step facilitation [57]. As for medications, those with

demonstrated efficacy are limited to nicotine, opioid, and alcohol use disorders. There are no approved medications to treat disordered use of stimulants, cannabis, benzodiazepines, barbiturates, inhalants, ketamine, or 3,4-methylenedioxy-methamphetamine (MDMA) [57]. In the past few years, cannabidiol and delta-9-tetrahydrocannabinol are being studied as potential agents for the treatment of several substance use disorder [58]. The same has been happening with classical psychedelics, such as lysergic acid diethylamide (LSD), psilocybin, dimethyltryptamine (DMT), and mescaline, which are promising breakthrough agents [59]. Finally, concerning stimulant use disorders, agonist-based treatment seems to be a very promising approach, as demonstrated by recent findings [60, 61].

Concerning public policies, the world has been testimony to the flexibilization of laws regarding access to cannabis. In many countries, such as Portugal, Uruguay, Canada, some states of Australia, and the United States, and, more recently, in Germany, it is not a crime to use some or all substances, and even recreational use is allowed by law, respecting some regulation. Several factors have contributed to a shift away from the criminalization of substance use behavior, which included a not significant increase in substance use in countries or states where decriminalization has occurred, greater acknowledgment of substance use disorders as a medical issue, and concerns regarding the infringement of human rights endorsed by the United Nations [57, 62]. The impact that these new policies will have on substance use prevalence is a matter of concern and an exciting topic for an in-depth look at in the next few years. Also, from this political perspective, it is essential to think of policies specially tailored to minorities or to minoritized majorities, such as the LGBTIQ+ population, refugees, women, and marginalized ethnic groups [63].

Scaling up Psychosocial Interventions in Mental Health

The introduction of evidence-based psychosocial interventions administered by non-specialists is a critical strategy for expanding access to mental health [64-66]. Technology-based interventions, both for detection and treatment, are realities that increase the effectiveness of services [67, 68]. The gateway for mental health patients is at the primary care level. However, detection, care,

and referral of mental disorders at this level are low due to factors related to the patient, system, and health care providers, as well as social and environmental conditions [69-71].

In Brazil a scale-up and well-defined model of care that includes task-shifting associated with the Family Health Strategy (FHS) program is fundamental to bridging mental health gap (MHGap). The participation of mental health professionals, psychiatrists, and psychologists in primary care is necessary to care for complex and severe cases, such as depression and more severe anxiety, borderline disorders, and substance dependence, which do not adapt to psychosocial care centers (CAPS), oriented to more chronic cases, which need rehabilitation and social reintegration. Stabilized patients by the intervention of mental health professionals return for maintenance with primary care professionals in the FHS.

Although there are known and effective treatments for mental disorders, less than half of those affected receive proper treatment [72]. Andrade et al. studied the prevalence, severity, and treatment of recent active mental disorders in Sao Paulo, with 10% of the interviewees having severe mental disorders and only one-third having received treatment in the previous year [23]. The other side of these epidemiological data showed that 2/3 of the cases were mild to moderate in severity. A step-up approach to care plus a task-shifting program with evidence-based interventions involving the FHS is vital to addressing this gap.

The FHS in Brazil has made remarkable progress in universal coverage of its population in primary care in recent decades but with limited investments in mental health [73]. Each FHS team has a physician, a nurse, a nursing technician (NT), and 6 to 12 community health workers (CHWs). CHWs and NTs are, therefore, an essential human resource for health in Brazil. Training this workforce in detecting suspected cases, mental disorders, and evidence-based intervention for mild cases can be a crucial point in identifying underreported people and intervening in mild cases. These professionals can be trained in the application of validated instruments, used to triage more prevalent cases, referring them to more specialized professionals for more complex cases, and being able to intervene using evidence-based interventions in mild cases.

Interpersonal counseling (IPC), a concise psychosocial intervention spanning four sessions and rooted in interpersonal therapy principles, can be administered by Community Health Workers (ACHWs) to address mild cases of depression and anxiety. IPC has demonstrated effectiveness in non-specialized settings when delivered by individuals without specialized training. The intervention centers around exploring the connection between interpersonal challenges such as disputes, life transitions, grief, and social isolation, and psychiatric symptoms.

Cases of substance use disorders will receive a motivational interview by the NTs or CHWs, as well as a brief four-session therapeutic approach that employs empathetic listening to explore patients' goals, resolve ambivalence, and elicit motivation to change [74, 75]. Specially trained Non-Traditional Health Workers (NTs) will evaluate suicide risk using validated instruments designed for laypeople. Individuals identified as at-risk will promptly enter a program supported by evidence: the Safety Planning Intervention (SPI) [76]. Those in acute risk of suicide will collaborate with the provider to develop a Suicide Safety Plan tailored to their needs, comprising coping strategies and support resources to manage a suicidal crisis. Additionally, nurses from the Family Health Strategy (FHS) will assess severe psychiatric cases and receive training to administer validated instruments. Positive cases will then be referred to primary care physicians or mental health specialists [77].

Psychologists in the FHS team should be trained to apply evidence-based psychotherapeutic interventions in person or through the Internet. Cognitive-behavioral therapy (CBT) or interpersonal therapy for patients with depressive disorder (unipolar and bipolar) and anxiety [78-80], and Dialectical behavior therapy (DBT) for borderline personality disorder [81, 82]. As well as the introduction of CBT for substance use disorders and the integration of health services with support groups such as Alcoholics or Narcotics Anonymous [83, 84].

Implementing scale-up interventions associated with including mental health specialists in the FHS team and improving detection in the family health strategy are fundamental resources for reducing the mental health gap. These strategies were implemented in Mozambique and now in New York City by researchers from Columbia University [67, 68].

The Integration of the Health and Education Systems

Preventive strategies are crucial in mitigating the onset and potential chronicity of mental health disorders. Creating supportive environments in schools and communities that promote emotional well-being from a young age is critical. Educational programs enhancing emotional literacy, resilience, and coping skills can empower children and adolescents to navigate life's challenges more effectively. Integrating mental health education within the school curriculum can demystify mental health issues, reduce stigma, and promote a culture of support and understanding [85-87].

According to the most recent data of the Pesquisa Nacional de Saúde do Escolar (IBGE, 2021) reported data of 13- and 17-years Brazilian students showed that 65.5% have already used alcohol and 13% illicit drugs, at least once in their lifetime. Bullying is also frequent, with 23% of respondents reporting experiences of being bullied, while 12% admitted to bullying others in the past month. Brazil's response to these issues has been historically fragmented, with health and education initiatives often operating independently. This lack of coordination has diminished the potential impact of prevention programs. However, recent shifts towards more integrated approaches recognize the complex relationship between student health and educational accomplishment.

In 2013, the Brazilian government, through the National Plan to Combat Crack, brought three drug prevention programs to Brazil, in a partnership between the United Nations Office for Drugs and Crimes and the Ministry of Health [88]. These programs had already shown positive results in other countries: "Unplugged," targeted at adolescents aged 12 to 14 in middle schools; "Good Behavior Game," designed for children aged 6 to 10 in elementary schools; and the "Strengthening Families Program," focused on the families of adolescents aged 10 to 14. In Brazil, after cultural adaptation they became "Tamojunto," "Elos," and "Famílias Fortes," disseminated by the integration of three sectors: health, education, and social welfare systems. These programs have been successfully implemented to date, despite some interruptions during changes in federal administrations. Two of them (Tamojunto and Elos) have been implemented in some Brazilian schools, aiming to reduce alcohol and drug use,

bullying and aggressiveness. Their proposal integrates the actions of teachers and health professionals [89].

"Tamojunto," inspired by the "Unplugged" curriculum, targets middle school students to foster life skills and resilience, addressing social influences on drug use and enhancing emotional competencies. Over the years, the program has undergone three cultural adaptations in Brazil and, in its current version, has shown effectiveness in reducing the initiation of alcohol use among students, decreasing bullying practices mediated by reduced alcohol consumption among students, and an increase in negative beliefs about alcohol. This latter aspect was the main mediator of the significant reduction in alcohol use among these adolescents, who had an average age of 13 years and were attending the eighth grade of middle school [90-92].

Within the framework of interventions for elementary school children, Brazil currently has the "Elos" program, which is the Brazilian adaptation of the most famous and longtime evaluated North American program named "Good Behavior Game", known as a "behavioral vaccine". The program aims to enhance mental health and mitigate disruptive or aggressive behaviors by fostering cooperative interactions between teachers and students. It targets early risk and protective factors related to drug use, aiming for long-term drug use prevention. Elos effects was evaluated through two extensive studies. The first one found that the program, in its first adapted version, reduced aggressiveness among boys with a mean age of 8 years old [93]. The second study, evaluating the second adaptation of the program, found that the program was associated with significant improvements in children's prosocial and concentration skills and a decrease in disruptive behavior [89].

Effective prevention strategies in Brazil have included fostering resilience and promoting student life skills. Programs aimed at equipping young people with decision-making tools, resistance to peer pressure, and stress management have shown promise in reducing substance use and violent behaviors within the classroom. The entire school community's involvement, including educators, administrators, parents, and students, is crucial for creating supportive environments where students can safely discuss these issues.

Policy plays a significant role in guiding the implementation of school-based prevention programs. Clear policies that define the roles and responsibilities of

health and education professionals, supported by adequate funding and resources, are necessary for the success of these initiatives.

The success of these programs highlights the importance of a multifaceted prevention approach that includes students, teachers, families, and the wider community. Their effectiveness demonstrates how interventions, when culturally and socially tailored, can significantly impact reducing substance use and violence among adolescents.

Human Rights and Mental Health

The International human rights law creates an effective mechanism that defends the rights and dignity of people with mental disabilities. This law-making ensures that equality before the law of every person is recognized and their rights always protected. The Resolution on Mental Health and Human Rights introduced by the UN Human Rights Council in July 2016, which was widely adopted, is one of the main achievements in this field. This resolution brought the fact to light that people with illnesses associated with mental health or psychosocial disabilities were victims of discrimination, stigma, bias, harassment, social isolation, and segregation. Thus, it also exposed the adverse consequences of inappropriate institutionalization, overmedicalization, and the practices of treatment that overlook the autonomy, willpower, and consent of patients. It encouraged the countries to involve a human rights perspective in the community and mental health care system to eliminate any form of violence, discrimination, and oppression while promoting social inclusion within the society [94, 95].

However, beside the international commitments, the implementation of mental health rights remains at different levels on a global scale. The implementation of human rights explored in the Compassion, Assertive action, Pragmatism, and Evidence Vulnerability Index (CAPE Index) is a challenge to numerous states, especially in the category of highly vulnerable states. The CAPE Index is an interesting tool to target assistance, which can include mental health programs, by defining the countries with the biggest vulnerability. This structured approach does not aim to just better the aid within the bilateral agreements but also to

bring to the attention of the world that mental health plays a significant role in overall wellness [96].

A study that investigated the correlation between the CAPE Index and common mental health disorders found that the prevalence of mental problems was significantly lower in vulnerable countries compared to their richer peers. Such a result indicates the possibility of underreporting and the existence of a great shortage of mental health services in these areas. The disparity in access to mental health facilities and the paucity of skilled professionals like psychiatrists and psychologists add to the problem of underestimation. Moreover, social stigma and imperfect awareness about mental health disorders worsen the difficulties of such individuals in getting the care they need [97, 98].

Besides the physical harm caused by the wars and forced migrations, mental health is also deeply affected. The resulting social isolation, poverty, and unemployment amplify the risk of mental disease significantly in vulnerable groups (depression, anxiety, and PTSD) . This reiterates the very critical need for better global mental health services for refugees and migrants [99, 100].

The intersection of human rights and mental health in Brazil emphasizes the need for diverse and fair policies and interventions. The legal and policy frameworks regulating mental health services remain very vital in guaranteeing access to care and protecting the rights of persons with mental illness. Highlighting stigma and discrimination, safeguarding rights during involuntary hospitalization, and developing specialized services for the target groups, for instance, children, the elderly, and minority groups are very crucial. Community-based models of care and a robust monitoring mechanism are the core of maintaining social inclusion and holding accountable those responsible for mental health violations. On top of it, education and awareness activities should be designed to remove the stigma around mental illness and to increase mental health literacy among the general population [101-104].

The transition of mental health policy in Brazil from recognizing people as users to treating them as subjects with rights demonstrates the country's development in the field of mental health advocacy. Nevertheless, struggles are still evident as some within the mental health field, as well as other stakeholders such as family members and health professionals, are unsporting. This demanding challenge needs a holistic approach, including enhancing the engagement of

people with their own hands-on experience, training the professionals, and launching mass media campaigns. These initiatives are designed to improve support and social inclusion and to increase the mental health services provision in primary care settings, which in turn will reduce stigma and improve access to mental health care for marginalized populations [101, 102].

A study of involuntary psychiatric admissions in Brazil compared to England/Wales found some important differences, which show that the procedures in Brazil need to be more transparent, and the system of supervision should improve. The barriers that social minorities encounter in accessing mental health services require the ramps involving stigma reduction and provision of equal opportunities. Additionally, the cognitive intersectionality of race, gender, and mental problems, most evident in the case of black women in northeastern Brazil, confirms the enlargement of existing health disparities and the necessity for the development and strengthening of specialized programs and interventions [103-105].

The Brazilian mental health care system faces problems concerning human resources and service availability where the treatment gap is more evident, such as older people. The unjust allocation of services and resources around the country leads to the growth of funds, the release of programs that focus on mental health, and the enhancement of professional training. A heftier plan is needed to establish linkages between primary care and mental health services while striving to improve the mental health system in general [106]. For the improvement of the situation with the treatment gap and to ensure equal access to mental health services, the primary health care teams should be trained either to treat the most widespread mental health issues, perform non-abrupt assessments of the needs, and provide long-term support for the management of older patients in their own homes or to address others needs altogether.

Non-coercive practices encompass a broad spectrum of interventions, ranging from verbal de-escalation techniques to comprehensive care models that prioritize patient autonomy and consent. A fundamental aspect underlying non-coercive approaches is the emphasis on informed consent as central to quality healthcare deliver [107]. The shift towards minimizing or eliminating such coercive practices aligns with global efforts advocating for more humane and ethical treatment modalities in mental healthcare. There exists an urgent need

for theoretically informed research developed collaboratively with individuals possessing lived experiences related to mental health issues [108].

In the modern era, psychiatry has come to be entirely focused on applying not-forceful therapies in the treatment of mental health disorders all across the board [109]. Apart from this, these methods pay special attention to the patient's autonomy and dignity, aiming to build a bond of relationship grounded on trust and collaboration [109]. The most effective approach is to use non-coercive and multi-model interventions [110]. Many such interventions exist, from psychotherapy techniques like cognitive-behavioral therapy (CBT) and dialectical behavior therapy (DBT) to holistic methods such as mindfulness-based interventions and expressive therapies supported by art or music. Consequently, these methods often compromise an active patient role in decision-making during this treatment planning process. This encourages personal ownership of the mental health journey and simultaneously implies a sense of taking the reins in the person's recovery [110].

Also, nonviolent strategies are no longer limited to pure medical ones but cover a wider scope as the broad context of the psychiatric care system. Here, trauma-informed principles are adopted, which are aimed at addressing the prevailing cases of trauma that individuals with mental illnesses have experienced and at ensuring that there is a safe and supportive treatment environment [111]. Moreover, attempts are underway to reduce the number of compulsory admissions and restriction utilization, as well as to seek professional help from our community and peer support networks and institute crisis intervention teams [112]. Treatment methods, which are non-coercive in approach, are a desired strategy in psychiatry, thus shifting away from paternalistic "top-down" constructions of care that favor repressive measures and instead progress collaborative, respectful, and principle-driven care models that protect individual rights and dignity of people suffering mental health issues.

Conclusion and Recommendations

The initial report explores into addressing mental health challenges faced by vulnerable populations, advocating for a shift towards prevention, catering to the needs of children and aging individuals, exploring potential integration between health and educational systems, assessing the state of alcohol and drug addiction, expanding psychosocial interventions in primary care, and emphasizing the crucial adoption of human rights in mental health policies.

The current generation of psychiatry epidemiology research has produced evidence correlating mental health with complex social determinants, such as gender, race/ethnicity, racism, social class, social deprivation, employment, etc., and more recently, violence and social oppression. Vulnerable populations such as immigrants, black women suffering discriminations, elderly population, LGBTIQ+ populations, indigenous populations, those faced losses in the pandemic, and underprivileged will need far more attention. A more recent review of the Brazilian mental health epidemiology literature showing the role of social determinants in mental health can be seen elsewhere [32].

The early onset of mental disorders presents not only a challenge but also a profound opportunity for action. By prioritizing prevention and early intervention, leveraging technology, and fostering community support, we can mitigate the long-term impact of mental disorders emerging in children and adolescents. This approach, supported by global collaboration, offers a pathway to not only reduce the burden of mental disorders but also enhance the overall well-being and potential of future generations. As we move forward, ensuring that children and adolescents are at the heart of mental health strategies, recognizing their right to a healthy, fulfilling life, becomes imperative. The S20 meeting provides a unique opportunity to galvanize international support and commitment towards this goal, setting the stage for a new era in mental health care that prioritizes the well-being and potential of every child and adolescent. By utilizing evidence-based practices and cultivating partnerships between the health and education sectors, S20 countries can safeguard the health and safety of their student population, thus paving the way for a more promising future for the next generation. This integration is crucial for promoting the well-being of students and cultivating safer learning environments. As we advance, our collective

responsibility is to ensure that mental health care is accessible, equitable, and attuned to the diverse needs of children and adolescents around the world.

Dementia continues to be significantly underrecognized, especially in Low- and Middle-Income Countries (LMICs), where diagnosis rates remain low. This can largely be attributed to the pervasive stigma surrounding the disease, limited public awareness, and inadequate access to healthcare services. In terms of family caregivers, there is an urgent need to provide them with enhanced support to safeguard their own health and well-being. Promoting brain health through initiatives such as increased physical activity, healthy nutrition, and cognitive stimulation can help mitigate cognitive decline, ultimately enhancing the overall well-being of older adults and reducing the risk of dementia. Efforts to diminish stigma and advocate for help-seeking behaviors should be initiated to prompt older adults and their families to seek assistance when facing emotional distress or other mental health-related challenges. Additionally, healthcare professionals, caregivers, family members, and community stakeholders play pivotal roles in enhancing the well-being of older individuals and should receive training to identify warning signs of depression, suicide, and dementia. Ensuring access to effective mental health services is also crucial in addressing the changing needs of older adults.

The prevalence of substance use and school violence has prompted a reassessment of prevention approaches, highlighting the necessity for integrated strategies that incorporate both health and education initiatives. Brazilian efforts to prevent alcohol, drug use, and violence in schools emphasize the importance of a collaborative approach that goes beyond traditional sectoral boundaries. In terms of future directions in alcohol and drug addiction, there is a focus on evaluating the effectiveness of artificial intelligence (AI) and machine learning in the identification, diagnosis, and treatment of substance use disorders [113, 114]. AI prototypes are currently being developed and tested to provide counseling to patients as a strategy for preventing relapse, following training by specialized professionals. Another emerging area of study involves wearable devices, which offer an objective means of measuring drug use and related occurrences such as overdose and withdrawal syndrome, with minimal invasiveness. Resembling ordinary wearable items like watches or activity trackers, these devices help mitigate the stigma associated

with drug use monitoring. Many of these devices have the advantage of continuous data collection, thereby reducing potential observer bias. Additionally, geolocation tracers enable monitoring to determine whether individuals are approaching areas with heightened risk factors or triggers for potential relapse, or for swiftly locating individuals in the event of an overdose [115]. Furthermore, gamified therapeutic tools show promise in enhancing engagement, motivation, and treatment adherence among individuals with substance use disorders. Although these technological approaches are enticing and exciting, one must not forget the basics. Addressing social determinants and health inequities in alcohol and drug addiction is fundamental. Structural factors, including poverty, unemployment, discrimination, and lack of access to healthcare, disproportionately impact vulnerable populations and contribute to health disparities in substance use outcomes. Culturally sensitive and community-driven interventions are essential for promoting equity and fostering resilience within underserved communities. Developing a holistic and comprehensive strategy that considers human rights with the aim of adapting to the specific circumstances faced by all vulnerable groups, and employing the least coercive practices, offers the greatest potential to enhance the mental health framework. Focusing on these systems provides stakeholders with an opportunity to establish a mental healthcare system where the equitable care of every individual aligns with the principles of international human rights provisions.

The G20 mental health working group is dedicated to leveraging scientific insights to foster innovation and propose actionable recommendations for implementation in Brazil and participating countries. These proposals serve as a foundation for refining ideas and identifying essential elements that could shape the future of mental health. This initiative aligns with the "One Health" approach, advancing holistic human health in alignment with Sustainable Development Goal 3 (SDG 3), which prioritizes ensuring healthy lives and promoting well-being for all, across all age groups.

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