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The association between personal stigma and adherence to treatment in patients diagnosed with bipolar mood disorder, attention deficit/ hyperactivity disorder and schizophrenia

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Abstract: Research has highlighted that some types of mental disorders are associated with widespread discrimination and stigma, phenomena that negatively affect adherence. The aim of the present study was to examine the association between stigma and adherence to pharmacological treatment in patients diagnosed with bipolar mood disorder (BD), attention deficit hyperactivity disorder (ADHD) and schizophrenia (SZ). A total of 112 patients (age range: 20-68 years, Median age = 42.08; SD age = 12.02) from Brazil (38.4% ADHD, 34.8% SZ, and 26.8% TB) participated in the study. Treatment adherence was measured using the Medication Adherence Questionnaire, personal stigma by means of the Internalized Stigma of Mental Illness, Stigma Scale, and Perceived Devaluation and Discrimination Scale, and self-esteem with Rosenberg's Self-Esteem Scale. Results showed an association between personal stigma and treatment adherence for all three types of disorder. The lower the personal stigma, the higher the adherence to treatment. The study highlights the role of stigma and self-esteem in relation to treatment adherence, with possible implications for future psychotherapy for these disorders.

Keywords: Personal stigma; internalized stigma; psychiatric disorders; adherence to treatment; schizophrenia; bipolar disorder; ADHD.

Asociación entre el estigma personal y la adherencia al tratamiento en pacientes diagnosticados de trastorno bipolar, trastorno por déficit de atención /hiperactividad y esquizofrenia

Resumen: La investigación ha resaltado que algunos tipos de trastornos mentales se asocian a discriminación y estigmas generalizados, fenómenos que afectan negativamente a la adherencia. El objetivo del presente estudio fue examinar la asociación entre el estigma y la adherencia al tratamiento farmacológico en pacientes con diagnóstico de trastorno del estado de ánimo

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bipolar (BD), trastorno por déficit de atención e hiperactividad (TDAH) y esquizofrenia (SZ). Participaron 112 pacientes (rango de edad: 20-68 años, M_{edad} = 42.08; DT_{edad} = 12.02) de Brasil (38.4% TDAH, 34.8% SZ, y 26.8% TB). Se midió la adherencia al tratamiento utilizando el *Medication Adherence Questionnaire*, el estigma personal mediante las escalas *Internalized Stigma of Mental Illness*, *Stigma Scale,* y *Perceived Devaluation and Discrimination Scale,* y la autoestima con la *Rosenberg's Self-Esteem Scale*. Los resultados mostraron una asociación entre el estigma personal y la adherencia al tratamiento para los tres tipos de trastorno. Cuanto menor era el estigma personal, mayor era la adherencia al tratamiento. El estudio pone de relieve el papel del estigma y la autoestima en relación con la adherencia al tratamiento, con posibles implicaciones sobre la futura psicoterapia de estos trastornos.

Palabras clave: Estigma personal; estigma interiorizado; trastornos mentales; adherencia al tratamiento; esquizofrenia; trastorno bipolar; TDAH.

Introduction

Stigmatization is still considered a prominent feature in chronic diseases and health problems (Khalaf et al., 2023; Stangl et al., 2019; Weiss et al., 2006). It is socially seen as a profoundly derogatory attribute triggered by labeling, viewing in a negative stereotypical way and discriminating attitudes (Khalaf et al., 2023; Ritsher et al., 2003). The term "stigma" was created in ancient Greece to refer to bodily signs with which an attempt was made to highlight what was not expected or was not good for the moral status of the person who presented it. The stigmatized person was considered ritually polluted and avoided, especially in public places (Goffman, 1963).

Individuals diagnosed with mental disorders tend to suffer discrimination and be stigmatized because of their condition (Abdisa et al., 2020; Bathje y Pryor, 2011; Corrigan, 1998; Corrigan y Watson, 2002; Gerlinger et al., 2013). Incorporating such stereotypes of their mental disorders into their identity can lead to losses, such as low self-esteem, low self-efficacy, and lower adherence to treatment (Livingston y Boyd, 2010). According to the World Health Organization (WHO), adherence to treatment can be defined as "the extent to which a person's behavior taking medication, following a diet, and/or executing lifestyle changes, corresponds with agreed recommendations from a healthcare provider" (WHO, 2003).

Stigmatization can be understood as a social and experienced process, defined by exclusion, guilt, devaluation, or rejection resulting from experiences, perceptions, and anticipations of a contrary social judgment about a person or a group (Weiss et al., 2006). Therefore, people diagnosed with some mental health disorders can be considered a vulnerable group for stigmatization (Corrigan, 2004), and suffer from psychophobia, and discriminatory prejudiced acts (Pereira & Gomes, 2017). Personal stigma encompasses three components: perceived stigma, experienced stigma, and internalized stigma. Perceived stigma involves individuals' cognitive assessments of societal attitudes toward their condition and their identification with a potentially stigmatized group. Experienced stigma refers to instances of discrimination or limitations directly encountered by individuals affected by the stigma (Gerlinger et al., 2013). Internalization of stigma occurs primarily by the perception and awareness of social stereotypes, followed by accepting and agreeing with such stereotypes (Howland et al., 2016). Then, the patient would endorse and apply these stereotypes to oneself, and last they would directly relate to suffering as a result of internalized stigma, thus resulting in a decrease in the individual's self-esteem. Psychophobia can be defined as the act of prejudice and discriminatory attitudes against people with disabilities as well as those who suffer from mental disorders (Bravo-Maran & Dergham, 2022). This group tends to suffer more discrimination than people with physical illnesses or disabilities (Piner & Kahle, 1984; Weiner et al., 1988), and are less likely to be hired (Bordieri & Drehmer, 1986; Corrigan & Watson, 2002; Link, 1987; Williams et al., 2008), as well as a greater chance of being falsely reported/accused of violent crimes (Sosowsky, 1980; Steadman, 1981).

Discrimination against people with mental health diagnostics erodes individuals´ social status and can cause embarrassment (Smith & Cashwell, 2010), social exclusion, and isolation, with significant consequences for their treatment (Javed et al., 2021; Ritsher et al., 2003). When individuals perceive themselves as belonging to a socially devalued category, they tend to anticipate prejudice and its devaluation, even though they do not occur in fact (Felicissimo et al., 2013). Consequently, only 1/3 of them seek help consulting a mental health professional (Bathje & Pryor, 2011), mostly due to the stigma associated with mental health

diagnoses (Corrigan, 2004; Feldman & Crandall, 2007). Therefore, these people have less access to health services (Arboleda-Flórez, 2003; Fogel & Ford, 2005; Mojtabai, 2010), besides having a worse prognosis during treatment (Corrigan & Rao, 2012).

Schizophrenia is considered a psychiatric disorder whose main characteristics are changes in behavior, language, affective and interpersonal relationships, and insight. The characteristics usually occur between late adolescence and mid-30s and have a prevalence of 0.3% to 0.7% (American Psychiatric Association [APA], 2013). Schizophrenia is an important and strong example of this relationship. Several studies identified that people diagnosed with schizophrenia suffer from self-stigmatization, with an important negative impact on their adherence to treatment as a consequence (Barlati et al., 2022; Feldhaus et al., 2018; Yılmaz & Okanlı, 2015). While the relationship between personal stigma and adherence to treatment is well-known for schizophrenia, other mental health diagnoses still need more studies. For instance, there is evidence of stigmatization related to bipolar mood disorder (BD; Ellison et al., 2013; Hajda et al., 2015). Individuals with attention-deficit/hyperactivity disorder (ADHD) may present difficulties in the social, interpersonal, and intrapersonal spheres, interfering with self-esteem and personal relationships (Biederman et al., 2012; Mueller et al., 2012; Vaquerizo-Madrid, 2005). However, it is still unclear how stigma differently affects the lives of people diagnosed with ADHD, BD, and schizophrenia comparatively.

The present quantitative study aims to investigate the relationship between personal stigma, self-esteem, and medication adherence in patients diagnosed with BD, ADHD, and schizophrenia. To do so, we applied the self-report scale Internalized Stigma of Mental Illness (ISMI; Ritsher et al., 2003), The Stigma Scale (TSS; King et al., 2007) to evaluate internalized stigma, and the Perceived Devaluation and Discrimination Scale (PDDS) to evaluate perceived/experienced stigma, and the Medication Adherence Questionnaire (MAQ), to evaluate medical adherence. It was hypothesized that personal stigma and its components would negatively predict adherence to the pharmacological treatment for BD, ADHD, and schizophrenia.

Method

Participants

The inclusion criteria for participants were as follows: a) participants had to be 18 years or older; b) participants had to have a confirmed formal diagnosis of schizophrenia, ADHD, or BD based on the DSM-5 criteria and a clinical committee chaired of the Schizophrenia and Dementia Program [Programa de Demência e Esquizofrenia (PRODESQ)], Attention Deficit/Hyperactivity Disorders Program [Programa de Transtornos de Déficit de Atenção/Hiperatividade (PRODAH)], or the Bipolar Disorder Program [Programa de Transtorno do Humor Bipolar (PROTAHBI)], all at *Hospital de Clinicas de Porto Alegre* (HCPA), respectively; c) participants had to have stable symptoms after evaluation by a psychiatric resident; and d) participants had to have sufficient cognitive abilities to complete the study instruments, criteria based on patients' competencies to read and write, followed by a clinical judgment. The patients filled out the scales in a room supervised by two psychologists, with no time limit to complete.

The present study assessed 119 individuals from Rio Grande do Sul (Brazil), with 112 remaining after removing those who answered less than 80% of the questionnaires. Of participants aged between 20 and 68 years old (M = 42.08; SD = 12.02), 64 (57.1%) were male and 48 (42.9%) were female. Seventy-four (66.07%) live in Porto Alegre, while others live in the metropolitan area of Porto Alegre and other parts of the state. The sample consisted of patients with the following psychiatric diagnoses: 39 patients (34.8%) diagnosed with schizophrenia, 43 patients (38.4%) diagnosed with ADHD, and 30 patients (26.8%) diagnosed with BD. The HCPA treatment services include access to pharmacological treatment for their respective diagnoses, as well as access to psychotherapy at outpatient clinics with psychologists and/or psychiatrists. The hospitalization service counts with therapeutic recreation service and a gym where the physical education and occupational therapy service operates. When needed, outpatient neuromodulation services such as electroconvulsive therapy, magnetic brain stimulation, and ketamine infusion are also available. It should be elucidated that the participants were actively undergoing treatment at psychiatric outpatient clinics situated within the institution before the onset of this study. Therefore, they were specifically invited to partake in responding to the respective instruments for this study, retaining their ongoing treatment regimen, rather than initiating new treatment for the present study.

In the matter of education, 19 (16.0%) reported having incomplete elementary school, 10 (8.4%) had completed elementary school, 6 (5.0%) had incomplete high school, 22 (18.5%) had completed high school, 26 (21.8%) had incomplete higher education, and 36 (30.3%)

had completed higher education. Regarding ethnicity, 91 (76.5%) identified themselves as white, 18 (15.1%) as brown, 7 (5.9%) as black, 2 (1.7%) as indigenous, and 1 (0.8%) as yellow. Finally, 109 (93.2%) declared themselves to be heterosexual, 4 (3.4%) declared to be homosexual and 4 (3.4%) declared to be bisexual.

Instruments

Schedule for Affective Disorders and Schizophrenia for School-Age Children - Epidemiological Version (K-SADS-E; Kaufmann et al., 1997). The diagnostic criteria for ADHD, allied with the DSM-5 diagnostic criteria, were assessed using a modified version of the K-SADS-E (Grevet et al., 2005), which was adapted to fit adult symptomatology and administered through a direct semi-structured diagnostic interview with the patient by a psychiatrist.

Adult Self-Report Scale (ASRS; Kessler et al., 2005). The severity of ADHD symptoms was evaluated using the ASRS, developed by the WHO (Kessler et al., 2005). The ASRS is divided into two subsets: part A (items 1-6) and part B (items 7-18), with part A containing the most predictive items for diagnosis of ADHD as higher score, and part B providing additional cues for patient´s severity for inattention or hyperactivity. It has 18 items with five different options that can be assigned as "never", and "rarely", scoring zero points, while "sometimes" can score zero or 1 point, and "often", and "very often" score 1 point.

Structured Clinical Interview for DSM-5 Clinician Version (SCID-CV; First et al., 2017). The presence of other psychiatric disorders was assessed using the Brazilian Portuguese version of the SCID-CV (First et al., 2017; Osório et al., 2019). SCID-CV is a semistructured diagnostic interview for clinicians and researchers to assess the several clusters of personality disorders in the DSM-5. It should be stressed that all diagnostic instruments were used in the patients' admission interviews at the outpatient clinics, before the present study.

Internalized Stigma of Mental Illness (ISMI; Ritsher et al. 2003). The ISMI is a measure of the internalization of social stigma towards mental illness. The ISMI is a validated self-report scale with 29 items on a 5-point Likert-type scale. It has 4 components: *Alienation* (perception of not being a member of society), *Stereotype Endorsement* (acceptance of established stereotypes), *Perceived Discrimination* (perception of being treated differently), and *Social Withdrawal* (avoidance of discussing the illness) (Ritsher et al. 2003). The ISMI was validated in Brazil to measure internalized stigma in psychoactive substance dependents (Soares et al., 2015) and was adapted it to improve understanding of mental disorders. The original "Substance Use Disorder" in ISMI was substituted to the mental health diagnoses studied here: "Schizophrenia" "Bipolar Mood Disorder" or "ADHD"; depending on the clinic where the research was being conducted. In the present sample, the instrument presented an excellent index of internal consistency (Cronbach's alpha was .90).

The Stigma Scale (TSS; King et al., 2007). The Brazilian version of TSS was used to measure the stigma of mental illness with a three-factor structure: discrimination, disclosure, and potential positive aspects of mental illness (King et al., 2007; Fox et al., 2017; Cardoso, et al., 2020). It is a brief self-report scale with 28 items 5-Likert scale ranging from zero to 4, which can be attributed from 'Strongly agree' to 'Strongly disagree' depending on the statement. This scale was adapted to many languages and countries with good evidence of internal consistency (Cardoso et al., 2020). In the present sample, the instrument presented a very reliable internal consistency (Cronbach's alpha was .87).

Perceived Devaluation and Discrimination Scale (PDDS; Link, 1987). This study used the adapted Portuguese version of the PDDS scale (Duarte, 2018). This is a self-report 12-item scale used to analyze the psychometric properties of personal stigma on mental illness by measuring the perceived and experienced stigma. Each item is rated on a six-point scale which ranges from strongly agree to strongly disagree. The higher the score, the higher the acceptance of the patient about their mental illness. The PDDS have been widely used in the past, presenting good internal consistency (Fox et al., 2017). It should be stressed that different from ISMI, PDDS does not measure internalized stigma, only stigma in general. In our sample, the instrument presented a reliable internal consistency (Cronbach's alpha was .79).

Medication Adherence Questionnaire (MAQ; Morisky et al., 2008). The MAQ was used to evaluate adherence to pharmacological treatment. It is a self-report 8-item scale, where responses can be "yes" (coded as 0) or "no" (coded as 1), and a 5-point Likert-type scale on the last item (Morisky et al., 2008). Increased scores correlate with heightened levels of medication adherence. Scores below 6 indicate low adherence, medium adherence scores between 6 and 7, and high adherence with scores of 8. Previous studies successfully applied this questionnaire to estimate medical adherence in patients with the diagnosis of schizophrenia (Yılmaz y Okanlı, 2015). The instrument employed in this study demonstrated a satisfactory level of internal consistency (Cronbach's alpha was .68).

Rosenberg's Self-Esteem Scale (RSE; Rosenberg, 1965). The RSE was applied in this study to measure self-esteem. RSE is a self-report 10-item and a 4-point Likert self-reported scale, ranging from strongly agree to strongly disagree (Robins et al., 2001). Previous studies also used the RSE to evaluate its negative relationship with internalized stigma in psychiatric patients with success (Felicissimo et al., 2013). In the present sample, the instrument presented a reliable internal consistency (Cronbach's alpha was .85).

Sociodemographic Questionnaire. To characterize the sample, participants were asked about their level of education, self-identified ethnicity, and sexual orientation.

Procedure

This study was conducted following the "Guidelines and Norms Regulating Research Involving Human Subjects" adopted by the National Health Council in its Resolution 196/96 and approved by the Ethics Committee of Research of the HCPA, accredited by the National Commission on Research Ethics under number 17-0447, and number 71059417.3.0000.5327 of the Certificate of Presentation for Ethical Consideration (CAAE, acronym in Portuguese) of Plataforma Brasil. All procedures comply with the ethical standards of national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008, and were approved by the Ethics Committee of the HCPA (Project ID 2016-0600, IRB Nº: 0000921).

Participation was voluntary and non-remunerated, with participants being patients treated at the psychiatric outpatient clinic in HCPA, the medical teaching hospital of the Federal University of Rio Grande do Sul, Brazil, invited to participate in the research from 2018 to 2020. Participants were fully informed of the study's procedures and provided a signed consent form in accessible language and signed the Free and Informed Consent Term established in Resolution 510/2016 of the National Health Council.

ADHD Patients were recruited from the Adult Division of the ADHD Outpatient Program (PRODAH-A). Patients with a diagnosis of schizophrenia were recruited from the Adult Division of the Schizophrenia and Dementia Program (PRODESQ), while patients with a diagnosis of BD were recruited from the Bipolar Disorder Program (PROTAHBI).

The discrimination experienced, the internalized stigma, and the perception of the stigma resulting from having a mental illness were assessed by applying self-report scales supervised by a group of psychologists from HCPA.

Statistical Analysis

Statistical analyses were performed using the *R* platform, with graphics generated through *ggplot2*. Only *p*-values < .05 were considered significant. The linear regression was used to evaluate the effect of personal stigma on adherence to treatment. For the calculation of the ISMI arithmetic mean, only the subscales "alienation", "stereotype endorsement", "discrimination experience" and "social withdrawal" were considered, since the "stigma resistance" factor did not present adequate psychometric properties in the original study (Ritsher et al., 2003). As for the MAQ, only the first 7 items were used to calculate the average, since the eighth item has a different score and could bias the average values for patients. The Cronbach's alpha for internal consistency was calculated using the psych package and the alpha function. The Shapiro-Wilks was used test to detect departures from normality, followed by ANOVA or Kruskal-Wallis, according to the distribution of variables used to compare groups followed by the Dunn's test.

The database containing the scales´ results, and sociodemographic information was uploaded as file *Input_psychophobia.txt,* and the R script *Script_ Psychophobia.R* used for statistical analysis can be found in the supplementary material.

Results

The summary statistics comparing all three diagnostics for the instruments used in this study can be found in Table 1. The average ISMI for Alienation subscale was 2.30 (*SD* = 0.77), 1.82 (*SD* = 0.54) for Stereotype Endorsement subscale, 2.10 (*SD* = 0.72) for Perceived Discrimination subscale, and 1.99 (*SD* = 0.68) for Social Withdrawal subscale. MAQ scale presented an average of 0.70 (*SD* = 0.25). Alienation subscale significantly and negatively predicts adherence to pharmacological treatment (Adj-R-Squared = .099, Odds Ratio = 0.90; *p* < .001, see Table 2). Curiously, when schizophrenia is removed from the analysis the significance is lost (Adj-R-Squared = .031; *p* = .075). A separate analysis for Alienation subscale and BD (*p* = .484) indeed identified no significant relationship, but a marginal significance for ADHD (*p* = .055), and a significant relationship for schizophrenia, (*p* = 0.015). Social Withdrawal, Stereotype Endorsement, and Perceived Discrimination subscales did not present any significant relationship with medical adherence (see Table 2). The study utilized the Stigma Scale (TSS) and Rosenberg's Self-Esteem Scale (RSE) to examine their correlation with medical adherence (see Table 3). However, no significant relationship was found

Table 1. Summary statistics of adherence to treatment and different scores for scales used in this study to evaluate stigma among people diagnosed with different mental disorders.

	Mean (*SD*)		
	ADHD	BD	Schizophrenia
MAQ	0.81(0.17)	0.73 (0.24)	0.56 (0.26)
PDDS	3.20 (0.55)	3.33 (0.67)	2.73 (0.92)
TSS discrimination	1.95 (0.64)	2.12 (0.81)	1.89 (0.75)
TSS disclosure	2.12 (0.60)	2.33 (0.67)	2.02 (0.89)
TSS positive aspects	2.42 (0.45)	2.41 (0.60)	2.45 (0.60)
RSE	2.88 (0.46)	2.91 (0.68)	3.04 (0.51)
ISMI alienation	2.16 (0.73)	2.24 (0.86)	2.50 (0.71)
ISMI stereotype endorsement	1.94 (0.53)	1.82 (0.63)	1.69 (0.44)
ISMI perceived discrimination	2.20 (0.79)	2.29 (0.69)	1.84 (0.59)
ISMI social withdrawal	2.21 (0.66)	2.14 (0.67)	1.62 (0.57)

Note. ADHD = Attention deficit/hyperactivity disorder; BD = Bipolar mood disorder; *M* = Average; *SD* = Standard deviation; MAQ = Medication adherence questionnaire; PDDS = Perceived devaluation and discrimination scale; TSS = The stigma scale; RSE = Rosenberg's self-esteem scale; ISMI = Internalized stigma of mental illness.

Table 2. Linear regression model predicting the internalized stigma of mental illness subscales (ISMI) on adherence to treatment according to the medication adherence questionnaire.

Variable	Adj-R-squared	OR[exp(beta)]	95% CI	*p*-value
Alienation	.10	0.90	0.85, 0.95	> .001[1]
Social withdrawal	-.00*	1.02	0.96, 1.09	ns
Stereotype endorsement	-.01	1.01	0.92, 1.10	ns
Perceived discrimination	-.01	1.00	0.94, 1.07	ns

Note. OR = Odds ratio ; CI = Confidence interval; * = -0.005; [1] = 0.00045.

Table 3. Linear regression model predicting the personal stigma and self-esteem on adherence to treatment, according to the medication adherence questionnaire.

Variable	Adj-*R*-squared	exp (beta)	95% CI	*p*-value
RSE	-.00[1]	1.04	0.95, 1.13	ns
PDDS	.04	1.08	1.02, 1.14	.015
TSS discrimination	.01	0.95	0.89, 1.01	ns
TSS positive aspects	-.01[2]	1.00	0.92, 1.09	ns
TSS disclosure	.02	0.94	0.88, 1.00	.055

Note. CI = Confidence interval; RSE = Rosenberg's self-esteem scale; PDDS = Perceived devaluation and discrimination scale; TSS = The stigma scale; [1] = -0.002004; [2] = -0.009112.

between TSS scores and medical adherence regarding Discrimination subscale (Adj-R-Squared = .012, p = .129) or the Positive Aspects subscale (Adj-R-Squared = -.009, p = .935). There was a borderline significance for the Disclosure subscale and MAQ (Adj-R-Squared = .024, p = .055). Additionally, no significant relationship was observed. Finally, the PDDS significantly and positively predicted (Adj-R-Squared = .044; p = .015, the medical adherence, expected in patients with higher acceptance of their condition. As observed for ISMI,

Table 4. Comparing stigma scales and their factors among mental health diagnoses

	Chi-squared	F-value	df	p-value	test
MAQ	19.18		2	< .001	KW
RSE		0.89	2	ns	ANOVA
ISMI Social withdrawal	18.44		2	< .001	KW
ISMI Stereotype endorsement	4.88		2	.087	KW
ISMI Alienation	3.73		2	ns	KW
ISMI Perceived discrimination	8.46		2	.015	KW
TSS discrimination		0.91	2	ns	ANOVA
TSS disclosure		1.50	2	ns	ANOVA
TSS positive aspects		0.07	2	ns	AOV

Note. AOV = Anova; Df = Degree of freedom; KW = Kruskal-Wallis; MAQ = Medication adherence questionnaire; PDDS = Perceived devaluation and discrimination scale; RSE = Rosenberg's self-esteem scale; ISMI = Internalized stigma of mental illness; TSS = The stigma scale.

when people diagnosed with schizophrenia are not included in the analysis, we do not observe statistical significance (p = .132).

Mental disorders differed for Perceived Discrimination subscale (Chi-squared = 8.459, p = .015), and Social Withdrawal subscale (Chi-squared = 18.439, p = 9.91*10-5), with lower values observed in participants with schizophrenia (see Table 4). Alienation (p = .155), and Stereotype Endorsement (p = .087) did not present significant differences among mental disorders (Table 4), suggesting some common internalized stigma factors among those mental illnesses. No difference was observed among mental health diagnoses when applying the RSE (p = .413), nor any factor of the TSS (Table 4). However, patients with schizophrenia presented lower values (Table 1) for MAQ scores among other mental disorders (p = 6.85*10-5).

Compared to other mental health diagnoses, patients with schizophrenia showed lower scores for Perceived Discrimination and Social Withdrawal subscales, although they had similar values for Stereotype Endorsement subscale. Our results suggest that patients with ADHD and BD tend to avoid people and activities that they enjoy more than patients with schizophrenia.

Discussion

The present study investigated the relationship between personal stigma, self-esteem, and medication adherence in patients diagnosed with BD, ADHD, and Schizophrenia. According to the statistical analysis on the ISMI scale and MAQ, the Alienation factor, as part of internalized stigma, is a negative and significant predictor of pharmacological treatment adherence. The decrease in self-esteem with Alienation has a harrowing and destructive effect on stigmatized people who feel that they are not full members of society (Corrigan, 2004; Ritsher et al., 2003). This research strengthens the previous studies about this relationship from adherence to psychosocial treatment (Fung et al., 2008) to the perspective of pharmacological treatment, especially for patients with schizophrenia, which presented the lowest MAQ values among mental health diagnoses. However, we did not identify a significant association between Alienation and adherence to treatment for bipolar and ADHD patients in a separate analysis, besides sharing similar values for Alienation. The concept of Alienation within psychophobia assesses the subjective feeling of not fully belonging to society or having a diminished sense of identity (Rithser et al., 2003). It is built on the subjective experience regarding how inferior, disappointed, and embarrassed the person with the diagnosis sees him/herself, as well as the feeling of not being a full member of society, and/or having a spoiled identity. Based on the present study, it is possible to suggest that as individuals diagnosed with schizophrenia exhibit more observable behaviors in public settings compared with individuals with ADHD or BD, they would be at a heightened risk of prolonged internalization. Importantly, the antipsychotic, used as a treatment for schizophrenia, and its side effects are a potential predictor of high internalized stigma (Barlati et al., 2022). Still, psychological aspects such as hope and general optimism also predict internalized stigma and its treatment in schizophrenia (Caqueo-Urízar et al., 2022), which could also differ among mental disorders.

Unlike other studies, there was no relationship between internalized stigma and medical adherence for

BD (Hajda et al., 2015). As the pattern of mood swings in bipolar disorder varies widely, the answers on the self-report scale can be biased regarding their psychological state during the day. It should be stressed that we cannot discard the possibility that those individuals applying the questionnaires who were in a higher mood could have puzzled our results, leading to a false negative. People with the diagnosis of BD can suffer from different levels of personal stigma (Latifian et al., 2023) depending on the magnitude and momentum: bipolarity itself, mania, and depression. Therefore, stigmas may overlap which affects the score, questioning whether the previous studies were answered by people in remission of symptoms, manic or depressive phase, affecting the score. In this study, all patients were in remission.

No significant relationship between adherence to treatment and internalized stigma for ADHD patients was observed. Parents with children diagnosed and treated for ADHD experience several difficulties to start and continue pharmacotherapy. Among them is the stigmatization related to parenting skills and medication use, which is misjudged by others as inducing children to "drug abuse" (Ahmed et al., 2017). Participants in our research were adults, and therefore there are aspects associated with personal stigma and its impact on treatment that cannot be interpreted for children, but that easily can be extrapolated to adults since the use of amphetamines for other performance purposes in adults, with abuse, has been common, especially among university students (Haas et al., 2019).

Although patients from different mental health diagnoses share common stigmatizations regarding Alienation they differ in their pharmacological treatment. There is an essential stigmatization of the class of antipsychotics and the apprehension of patients to be negatively labeled due to the drug category (Townsend et al., 2022). For instance, treatment for BD is majorly based on the use of anticonvulsants, drugs that are not directly associated with psychiatric treatment. Stimulant drugs of the central, such as methylphenidate and lisdexamfetamine, used in ADHD, are unfortunately also widely used for non-ADHD patients, especially among medical students (Amaral et al., 2022), although stigmatized. These scenarios roughly differ from the use and stigma of antipsychotic drugs.

Patients with schizophrenia present distortions of thinking and perception of the world, varying from disorganized to incoherent, sometimes incomprehensible speech and inappropriate conduct (Amaral et al., 2022). Under these behaviors, discrimination is known to be higher in those who experience psychosis than in other mental disorders (Pearce et al., 2019), reflecting stronger stigmatization and lower adherence to treatment observed in our data.

The PDDS, along with the ISMI, highlighted the higher personal stigma and its effect on medication compliance among individuals diagnosed with schizophrenia relative to those with other mental disorders. This analysis indicates that individuals with schizophrenia not only face more stigmatization, feeling discriminated by others, but also this higher stigma could lead to greater internalization and lower adherence to pharmacological treatment compared to BD and ADHD.

Finally, comparing patients from different mental health diagnoses, in general, with the group diagnosed with schizophrenia presents challenges as individuals with schizophrenia often experience cognitive impairments. Although all patients were on treatment at the outpatient clinic and in remission of symptoms, we cannot exclude that they can present heterogeneity in their understanding of the questionnaire. Additionally, individuals with schizophrenia may experience considerable stigma due to their potential for disordered clothing, hallucinatory behaviors, and deficits in basic social skills. Given the diverse range of impairments associated with schizophrenia, non-compliance may stem from a lack of insight into the disorder and its apparent adverse effects, which are further compounded by social stigma. In this study, our patients were in remission and with follow-up in clinical outpatient clinics which can attenuate this confounding effect.

It is necessary to point out some limitations of this study. Although the ISMI scale has good scientific evidence and has already been used nationally, few studies compared the internalized stigmatization among schizophrenia, ADHD, and BD. There are also limitations, since the sample obtained was small and concise, with a limited number of psychiatric disorders, allowing a more systemic view of the effect of personal stigma on psychiatric patients. Further, although significant results were identified, our R^2-Adjusted values were extremely low. The evaluation of internalized stigma could also focus on the impact of the relationship between the patient and the health professional, and the care provided at the location, on the analyzed outcomes. It would also be possible to focus on an analysis of the relationship between the patient and their families, thus creating possible hypotheses of the sources of origin of the external stigma, which its receptors may internalize. Importantly, a previous study on patients treated for anger management suggested that individual intrinsic motivation could contribute to adherence to psychotherapeutic treatment (Alcázar-Olán et al., 2018), an important variable that was not controlled in the present study.

The results obtained in the present study demonstrate that the internalized stigma negatively affects adherence to medication in the Alienation component, thus affecting the well-being of the individuals who receive the stigma. Essentially, the impact of personal stigma differs among mental health diagnoses, with a higher impact on adherence to treatment in patients with schizophrenia, compared to those with BD and ADHD. Components of the personal stigma that were not significantly related to medication adherence are relevant to the individual's well-being and need further studies.

Conflict of interests

The authors have no conflicts of interest to disclose.

Reference

Abdisa, E., Fekadu, G., Girma, S., Shibiru, T., Tilahun, T., Mohamed, H., Wakgari, A., Takele, A., Abebe, M., & Tsegaye, R. (2020). Self-stigma and medication adherence among patients with mental illness treated at Jimma University Medical Center, Southwest Ethiopia. *International journal of mental health systems*, *14*(1), 1-13. https://doi.org/10.1186/s13033-020-00391-6

Ahmed, R., Borst, J., Wei, Y. C., & Aslani, P. (2017). Parents' Perspectives About Factors Influencing Adherence to Pharmacotherapy for ADHD. *Journal of Attention Disorders*, *21*(2), 91–99. https://doi.org/10.1177/1087054713499231

Alcázar-Olán, R. J., Merckel-Niehus, N., Toscano-Barranco, D., Barrera-Muñoz, O., y Proal-Sánchez, M. F. (2018). Adherencia al tratamiento y efectividad de un programa cognitivo conductual sobre la rumiación y expresión de la ira. *Revista de Psicopatología y Psicología Clínica*, *23*(1), 13-23. https://doi.org/10.5944/rppc.vol.23.num.1.2018.19248

Amaral, N. A., Tamashiro, E. M., Celeri, E. H. R. V., Santos Junior, A. D., Dalgalarrondo, P., & Azevedo, R. C. S. D. (2022). We need to talk about the use of methylphenidate by medical students-review of the literature. *Revista Brasileira de Educação Médica*, *46*, e060. https://doi.org/10.1590/1981-5271v46.2-20200233.ING

American Psychiatric Association (APA) (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). American Psychiatric Publishing.

Arboleda-Flórez, J. (2003). Considerations on the stigma of mental illness. *The Canadian Journal of Psychiatry*, *48*(10), 645-650.https://doi.org/10.1177/070674370304801001

Barlati, S., Morena, D., Nibbio, G., Cacciani, P., Corsini, P., Mosca, A., Deste, G., Accardo, V., Turrina, C., Valsecchi, P., & Vita, A. (2022). Internalized stigma among people with schizophrenia: Relationship with socio-demographic, clinical and medication-related features. Schizophrenia research, *243*, 364-371. https://doi.org/10.1016/j.schres.2021.06.007

Bathje, G. J., & Pryor, J. B. (2011). The relationships of public and self-stigma to seeking mental health services. *Journal of Mental Health Counseling*, *33*, 161–177. https://doi.org/10.17744/mehc.33.2.g632039274160411

Biederman, J., Spencer, T., Lomedico, A., Day, H., Petty, C. R., & Faraone, S. V. (2012). Deficient emotional self-regulation and pediatric attention deficit hyperactivity disorder: A family risk analysis. *Psychological Medicine*, *42*(3), 639–646. https://doi.org/10.1017/S0033291711001644

Bordieri, J. E., & Drehmer, D. E. (1986). Hiring Decisions for Disabled Workers: Looking at the Cause. *Journal of Applied Social Psychology*, *16*(3), 197–208. https://doi.org/10.1111/j.1559-1816.1986.tb01135.x

Brasil, H. H. A. (2003). *Development of the Brazilian version of K-SADS-PL (Schedule for Affective Disorders and Schizophrenia for School-Aged Children Present and Lifetime Version) and study of psychometric properties*. [Doctoral dissertation, UNIFESP. Federal University of São Paulo], São Paulo. http://repositorio.unifesp.br/handle/11600/18619.

Bravo-Maran, L., & Dergham, M. (2022). La psychophobie dans le soin: Des stigmatisations aux discriminations [Psychophobia in healthcare: From stigma to discrimination]. *Médecine*, *18*(1). https://doi.org/10.1684/med.2022.725

Caqueo-Urizar, A., Ponce-Correa, F., & Urzua, A. (2022). Effects of recovery measures on internalized stigma in patients diagnosed with schizophrenia. *International Journal of Mental Health and Addiction*, *20*(6), 3339-3355. https://doi.org/10.1007/s11469-022-00847-5

Cardoso, N. D. O., Vieira, B. S., Machado, W. D. L., & Argimon, I. I. D. L. (2020). Transcultural adaptation to Brazilian Portuguese of the Stigma Scale: A pilot study. *Avaliação Psicológica*, *19*(3), 254-267. http://dx.doi.org/10.15689/ap.2020.1903.17467.04.

Corrigan, P. W. (1998). The impact of stigma on severe mental illness. *Cognitive and Behavioral Practice*, *5*(2), 201–222. https://doi.org/10.1016/S1077-7229(98)80006-0

Corrigan, P. W (2004). How stigma interferes with mental health care. *The American Psychologist*, *59*(7), 614–625. https://doi.org/10.1037/0003-066X.59.7.614

Corrigan, P. W., & Rao, D. (2012). On the Self-Stigma of Mental Illness: Stages, Disclosure, and Strategies for Change. *Canadian journal of psychiatry. Revue canadienne de psychiatrie*, *57*(8), 464–469. https://doi.org/10.1177%2F070674371205700804.

Corrigan, P. W., & Watson, A. C. (2002). Understanding the impact of stigma on people with mental illness. *World Psychiatry*, *1*(1), 16–20.

Duarte, S. R. (2018). *O estigma percebido em indivíduos com esquizofrenia: Validação da Perceived Devaluation and Discrimination Scale (PDD)[Perceived stigma in individuals with schizophrenia: validation of the Perceived Devaluation and Discrimination Scale]*[Master´s thesis, ISMT. Miguel Torga Institute of Higher Education], Coimbra. http://repositorio.ismt.pt/handle/123456789/861.

Ellison, N., Mason, O., & Scior, K. (2013). Bipolar disorder and stigma: A systematic review of the literature. *Journal of Affective Disorders*, *151*(3), 805–820. https://doi.org/10.1016/j.jad.2013.08.014

Feldhaus, T., Falke, S., von Gruchalla, L., Maisch, B., Uhlmann, C., Bock, E., & Lencer, R. (2018). The impact of self-stigmatization on medication attitude in schizophrenia patients. *Psychiatry Research*, *261*, 391–399. https://doi.org/10.1016/j.psychres.2018.01.012

Feldman, D. B., & Crandall, C. S. (2007). Dimensions of Mental Illness Stigma: What About Mental Illness Causes Social Rejection? *Journal of Social and Clinical Psychology*, *26*(2), 137–154. https://doi.org/10.1521/jscp.2007.26.2.137

Felicissimo, F. B., Ferreira, G. C. L., Soares, R. G., da Silveira, P. S., & Ronzani, T. M. (2013). Estigma internalizado e autoestima: Uma revisão sistemática da literatura [Internalized stigma and self-esteem: A systematic review of the literature]. *Psicologia: teoria e prática*, *15*(1), 116–129.

First, M. B., Williams J. B. W., Karg R. S., & Spitzer R. L. (2017). *Structured Clinical Interview for DSM-5 Disorders, Clinician Version (SCID-5-CV)*. American Psychiatric Association.

Fogel, J., & Ford, D. E. (2005). Stigma beliefs of Asian Americans with depression in an internet sample. *Canadian Journal of Psychiatry. Revue Canadienne de Psychiatrie*, *50*(8), 470–478. https://doi.org/10.1177/070674370505000807.

Fox, A. B., Earnshaw, V. A., Taverna, E., & Vogt, D. (2017). Conceptualizing and measuring mental illness stigma: The mental illness stigma framework and critical review of measures. *Stigma and Health, 3(4),* 348-376. https://doi.org/10.1037/sah0000104

Fung, K. M. T., Tsang, H. W. H., & Corrigan, P. W. (2008). Self-stigma of people with schizophrenia as predictor of their adherence to psychosocial treatment. *Psychiatric Rehabilitation Journal*, *32*, 95–104. https://doi.org/10.2975/32.2.2008.95.104

Gerlinger, G., Hauser, M., De Hert, M., Lacluyse, K., Wampers, M., & Correll, C. U. (2013). Personal stigma in schizophrenia spectrum disorders: a systematic review of prevalence rates, correlates, impact and interventions. *World Psychiatry, 12(2)*, 155-164. http://dx.doi.org/110.1002/wps.20040.

Goffman, E. (1963). *Stigma—Notes on the Management of Spoiled Identity* (First). Simon & Schuster.

Grevet, E. H., Bau, C. H. D., Salgado, C. A. I., Ficher, A., Victor, M. M., Garcia, C., de Sousa, N.O., Nerung, L., & Belmonte-de-Abreu, P. (2005). Interrater reliability for diagnosis in adults of attention deficit hyperactivity disorder and oppositional defiant disorder using K-SADS-E. *Arquivos de neuro-psiquiatria*, *63*, 307-310. https://doi.org/10.1590/S0004-282X2005000200019

Haas, G. M., Momo, A. C., Dias, T. M., Ayodele, T. A., & Schwarzbold, M. L. (2019). Sociodemographic, psychiatric, and personality correlates of non-prescribed use of amphetamine medications for academic performance among medical students. *Brazilian Journal of Psychiatry*, *41*, 363-364. http://dx.doi.org/10.1590/1516-4446-2018-0328.

Hajda, M., Kamaradova, D., Latalova, K., Prasko, J., Ociskova, M., Mainerova, B., Cinculova, A., Vrbova, K., Kubinek, R., & Tichackova, A. (2015). Self-stigma, treatment adherence, and medication discontinuation in patients with bipolar disorders in remission – a cross sectional study. *Activitas Nervosa Superior Rediviva*, *57(1-2)*, 6–11. https://doi.org/10.1016/j.eurpsy.2016.01.1160

Howland, M., Levin, J., Blixen, C., Tatsuoka, C., & Sajatovic, M. (2016). Mixed-methods analysis of internalized stigma correlates in poorly adherent individuals with bipolar disorder. *Comprehensive psychiatry*, *70*, 174–180. https://doi.org/10.1016/j.comppsych.2016.07.012

Javed, A., Lee, C., Zakaria, H., Buenaventura, R. D., Cetkovich-Bakmas, M., Duailibi, K., Ng, B., Ramy, H., Saha, G., Arifeen, S., Elorza, P. M., Ratnasingham, P., & Azeem, M. W. (2021). Reducing the stigma of mental health disorders with a focus on low- and middle-income countries. *Asian Journal of Psychiatry*, *58*, 102601. https://doi.org/10.1016/j.ajp.2021.102601

Kaufman, J., Birmaher, B., Brent, D., Rao, U. M. A., Flynn, C., Moreci, P., Williamson, M.A., & Ryan, N. (1997). Schedule for affective disorders and schizophrenia for school-age children-present and lifetime version (K-SADS-PL): Initial reliability and validity data. *Journal of the American Academy of Child & Adolescent Psychiatry*, *36*(7), 980-988. https://doi:10.1097/00004583-199707000-00021. PMID: 9204677.

Kessler, R. C., Adler, L., Ames, M., Demler, O., Faraone, S., Hiripi, E. V. A., Howes, M. J., Jin, R., Secnik, K., Spencer, T., Ustun, T. B., & Walters, E. E. (2005). The World Health Organization Adult ADHD Self-Report Scale (ASRS): A short screening scale for use in the general population. *Psychological medicine*, *35*(2), 245-256. https://doi:10.1017/S0033291704002892

Khalaf, O. O., Fathy, H., Ebrahim, H. A. M., & Samie, M. A. (2023). Self-stigma and coping in youth with schizophrenia and bipolar disorder: A comparative study. *Middle East Current Psychiatry*, *30*(1), 76. https://doi.org/10.1186/s43045-023-00350-0.

King, M., Dinos, S., Shaw, J., Watson, R., Stevens, S., Passetti, F., Weich, S., & Serfaty, M. (2007). The Stigma Scale: Development of a standardized measure of the stigma of mental illness. *The British Journal of Psychiatry: The Journal of Mental Science*, *190*, 248–254. https://doi.org/10.1192/bjp.bp.106.024638

Latifian, M., Abdi, K., Raheb, G., Islam, S. M. S., & Alikhani, R. (2023). Stigma in people living with bipolar disorder and their families: A systematic review. *International Journal of Bipolar Disorders*, *11*(1), 1-20. https://doi.org/10.1186/s40345-023-00290-y

Link, B. G. (1987). Understanding Labeling Effects in the Area of Mental Disorders: An Assessment of the Effects of Expectations of Rejection. *American Sociological Review*, *52*(1), 96–112. https://doi.org/10.2307/2095395

Livingston, J. D., & Boyd, J. E. (2010). Correlates and consequences of internalized stigma for people living with mental illness: A systematic review and meta-analysis. *Social Science & Medicine (1982)*, *71*(12), 2150–2161. https://doi.org/10.1016/j.socscimed.2010.09.030

Mojtabai, R. (2010). Mental illness stigma and willingness to seek mental health care in the European Union. *Social Psychiatry and Psychiatric Epidemiology*, *45*(7), 705–712. https://doi.org/10.1007/s00127-009-0109-2

Morisky, D. E., Ang, A., Krousel-Wood, M., & Ward, H. J. (2008). Predictive validity of a medication adherence measure in an outpatient setting. *Journal of Clinical Hypertension (Greenwich, Conn.)*, *10*(5), 348–354. https://doi.org/10.1111/j.1751-7176.2008.07572.x

Mueller, A. K., Fuermaier, A. B. M., Koerts, J., & Tucha, L. (2012). Stigma in attention deficit hyperactivity disorder. *ADHD Attention Deficit and Hyperactivity Disorders*, *4*(3), 101–114. https://doi.org/10.1007/s12402-012-0085-3

Osório, F. L., Loureiro, S. R., Hallak, J. E. C., Machado-de-Sousa, J. P., Ushirohira, J. M., Baes, C. V., Apolinario, T. D.,

Donadon, M. F., Bolsoni, L. M., Guimarães, T., Fracon, V. S., Silva-Rodrigues, A. P. C., Pizeta, F. A., Souza, R. M., Sanches, R. F., dos Santos, R. G., Martin-Santos, R., & Crippa, J. A. S. (2019). Clinical validity and intrarater and test–retest reliability of the Structured Clinical Interview for DSM-5–Clinician Version (SCID-5-CV). *Psychiatry and clinical neurosciences*, *73*(12), 754-760.doi: 10.1111/pcn.12931.

Pearce, J., Rafiq, S., Simpson, J., & Varese, F. (2019). Perceived discrimination and psychosis: A systematic review of the literature. *Social Psychiatry and Psychiatric Epidemiology*, *54*(9), 1023–1044. https://doi.org/10.1007/s00127-019-01729-3

Pereira, L. F., & Gomes, K. M. (2017). O Olhar do Paciente do CAPSII Sobre a Psicofobia. [The CAPSII Patient's Perspective on Psychophobia]. *Revista de Extensão*, *2*(1), Artigo 1. https://doi.org/10.18616/re.v2i1.3767

Piner, K. E., & Kahle, L. R. (1984). Adapting to the stigmatizing label of mental illness: Foregone but not forgotten. *Journal of Personality and Social Psychology*, *47*(4), 805–811. https://doi.org/10.1037//0022-3514.47.4.805

Ritsher, J. B., Otilingam, P. G., & Grajales, M. (2003). Internalized stigma of mental illness: Psychometric properties of a new measure. *Psychiatry Research*, *121*(1), 31–49. https://doi.org/10.1016/j.psychres.2003.08.008

Robins, R. W., Hendin, H. M., & Trzesniewski, K. H. (2001). Measuring Global Self-Esteem: Construct Validation of a Single-Item Measure and the Rosenberg Self-Esteem Scale. *Personality and Social Psychology Bulletin*, *27*(2), 151–161. https://doi.org/10.1177/0146167201272002

Rosenberg, M. (1965). *Society and the Adolescent Self-Image*. Princeton University Press. https://www.jstor.org/stable/j.ctt183pjjh

Smith, A. L., & Cashwell, C. S. (2010). Stigma and Mental Illness: Investigating Attitudes of Mental Health and Non-Mental-Health Professionals and Trainees. *The Journal of Humanistic Counseling, Education and Development*, *49*(2), 189–202. https://doi.org/10.1002/j.2161-1939.2010.tb00097.x

Soares, R. G., Silveira, P. S., Noto, A. R., Boyd, J. E., & Ronzani, T. M. (2015). Validação da Versão Brasileira da Escala ISMI Adaptada para Dependentes de Substâncias [Validation of the Brazilian Version of the ISMI Scale Adapted for Substance Dependents]. *Psicologia: Teoria e Pesquisa*, *31*, 229–238. https://doi.org/10.1590/0102-37722015021093229238

Sosowsky, L. (1980). Explaining the increased arrest rate among mental patients: A cautionary note. *The American Journal of Psychiatry*, *137*(12), 1602–1605. https://doi.org/10.1176/ajp.137.12.1602

Stangl, A. L., Earnshaw, V. A., Logie, C. H., Van Brakel, W., C. Simbayi, L., Barré, I., & Dovidio, J. F. (2019). The Health Stigma and Discrimination Framework: a global, crosscutting framework to inform research, intervention development, and policy on health-related stigmas. *BMC medicine*, *17*, 1-13. https://doi.org/10.1186/s12916-019-1271-3.

Steadman, H. J. (1981). Critically reassessing the accuracy of public perceptions of the dangerousness of the mentally ill. *Journal of Health and Social Behavior*, *22*(3), 310–316. https://doi.org/10.2307/2136524.

Townsend, M., Pareja, K., Buchanan-Hughes, A., Worthington, E., Pritchett, D., Brubaker, M., Houle, C., Mose, T. N., & Waters, H. (2022). Antipsychotic-Related Stigma and the Impact on Treatment Choices: A Systematic Review and Framework Synthesis. *Patient preference and adherence*, *16*, 373–401. https://doi.org/10.2147/PPA.S343211

Vaquerizo-Madrid, J. (2005). Hiperactividad en el niño preescolar: Descripción clínica. *Revista de neurología*, *40*(1), 25.

Weiner, B., Perry, R. P., & Magnusson, J. (1988). An attributional analysis of reactions to stigmas. *Journal of Personality and Social Psychology*, *55*(5), 738–748. https://doi.org/10.1037//0022-3514.55.5.738

Weiss, M. G., Ramakrishna, J., & Somma, D. (2006). Health-related stigma: Rethinking concepts and interventions. *Psychology, Health & Medicine*, *11*(3), 277–287. https://doi.org/10.1080/13548500600595053

Williams, D. R., Gonzalez, H. M., Williams, S., Mohammed, S. A., Moomal, H., & Stein, D. J. (2008). Perceived discrimination, race and health in South Africa. *Social Science & Medicine (1982)*, *67*(3), 441–452. https://doi.org/10.1016/j.socscimed.2008.03.021.

World Health Organization (2003). *Adherence to long-term therapies: Evidence for action.* World Health Organization. https://www.paho.org/en/documents/who-adherence-long-term-therapies-evidence-action-2003

Yılmaz, E., & Okanlı, A. (2015). The effect of internalized stigma on the adherence to treatment in patients with schizophrenia. *Archives of Psychiatric Nursing*, *29*(5), 297-301. https://doi.org/10.1016/j.apnu.2015.05.006