Can Personality Traits and Social Support Predict Psychiatric Patient's Medication Adherence?

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Abstract

Adhering to medication among psychiatric patients may be dependent on personality traits and level of patients' social support. The study explored personality traits through the big five personality and social support as factors to medication adherence. Through purposive sampling, 250 psychiatric patients (116 males, 134 females) whose age ranged from 22-56 (*M* = 34.30, *SD* =7.42), were sampled from a federal teaching hospital in the Southeastern region of Nigeria. Multiple regression was adopted to analyze study data. The result showed that personality and social support positively predicted medication adherence. Specifically, the result showed that openness to experience, agreeableness and neuroticism positively predicted medication adherence, while conscientiousness negatively predicted medication adherence. However, extraversion did not predict medication adherence. The findings highlight importance of understanding personality profiles of patients to foster appropriate mechanism to medication adherence, as well as importance of healthy social support among psychiatric patients to improve medication adherence.

Keywords: Medication adherence, social support, personality traits, psychiatric patients

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Introduction

Globally, mental health issues, specifically psychiatric disorders have been established as a public health concern, owing to its severe negative economic impact, which is more in comparison to other diseases, such as diabetes and cancer (Trautmann & Wittchen, 2016). Such concern is drawn from global burden of disease prevalence, with psychiatric disorders accounting for 7% in measures involving disability-adjusted life years (Rehm & Shield, 2019). Management of psychiatric disorders involve the combination of biopsychosocial approach, however, in line with the changes in brain chemicals as a result of the disorders, medication, which represents the biological approach to management is the first management call. Despite evidence suggesting effectiveness of medication in managing different psychiatric disorders, there have been challenges involving the usage of these medications by patients as prescribed by the physician (Semahegn et al., 2020), which is known as medication adherence.

According to World Health Organization (2022), medication adherence revolves around patients having knowledge about their medications, as well as being part of their management process. Non-adherence to medication has negative consequences, and this includes frequent visits to the hospital, worsened health state, lowered treatment effectiveness, and lower responsiveness to treatment in future situations (Semahegn et al., 2020). Similarly, non-adherence to medication results in lowered life quality, suicidal tendency emanating from perceived poor treatment outcome, frequent relapse, poor social well-being, and vulnerability to other psychiatric comorbidities (Semahegn et al., 2020). This is a concern, looking at the global prevalence of non-adherence reported between 40% to 60% (Gudetta et al., 2023), and Nigerian prevalence reported at 87.1% (Shettima et al., 2023); hence, fueling the need to underscore factors responsible for medication adherence in order to inform health policies. Personality traits and social support may necessitate medication adherence, as different personalities may influence instruction, awareness and health belief, while social support from family, friends and significant others has been found to influence medication adherence (Yao et al., 2022).

Anchoring on social cognitive theory (Bandura, 1986), which posits that humans interact between individual factors and environmental factors and their behaviour (Bandura, 1986), personality is the summation of these components. Specifically, environmental factors through social support may form an interaction between an individual and adherence to medication, through observation from significant others on health-related behaviours. Positive perception of social support through observation may serve as a motivation to medication adherence. Consequently, through the self-regulation component of social cognitive theory that influences behavioural change (Wilder et al., 2021), personality components may determine levels in self-regulation, which may influence adherence to medication. Notwithstanding studies (e.g., Adachi et al., 2022; Ko et al., 2020; Linkievics et al., 2022) linking personality traits and medication adherence, there is dearth of research regarding personality traits and medication adherence among psychiatric patients in Nigeria. With the low level of medication adherence reported among psychiatric patients in Nigeria recorded at 12.9% (Shettima et al., 2023), it is important to underscore the relationship, in order to improve on patient factors influencing medication adherence. Furthermore, despite studies (e.g., Hassan & Zaki, 2018; Nan Jiang et al., 2024) linking social support on medication adherence, there is scarcity of research involving social support on medication adherence in Nigerian psychiatric sample. While Ibrahim et al. (2015) may have studied that, there is need for more studies in reliability of findings in order to determine appropriate coping mechanism to fuel adherence to medication among psychiatric patients in Nigeria.

Theoretical background and development of hypotheses

Personality and Medication Adherence

Personality is defined as differences observed in individuals in line with their ways of thinking, feeling and behaving (American Psychological Association, 2017). Similarly, Larsen and Buss (2018) defined personality as a stable human character traits which influences how an individual interacts with or adapt to different environment surrounding them, including physical, psychological and social environment. On assessment of personality, there are different models, however, the big five model which include agreeableness, conscientiousness, neuroticism, openness to experience and extraversion has over time universally accepted as a model for understanding differences in human personality (Furnham & Cheng, 2019). Agreeableness defines an individual that shows cooperation with people, support others, has a caring attitude, and is warm in general; conscientiousness highlights dependable personality, an individual who holds organization to its core, showing high responsibility in actions, aims towards achieving goals, and always punctual; neuroticism highlights insecure personality, one who worries and acts on impulse, while being anxious; openness to experience explains an open-minded personality, a curious and creative individual, as well as one with imaginative ideas; extraversion highlights a social and energetic personality (Funder & Fast, 2010).

Research literature has highlighted that these personality traits may influence adherence to medication (Emillson et al., 2020). The crux of this is that personality characteristics may influence the level of relationship a patient may have with others, and that may influence the extent to which they cooperate with caregivers and significant others regarding illness treatment (Bielanska et al., 2016). Ko et al. (2020) reported that highly conscientious individuals were more adherent to their medications. Similar finding was observed by Linkievics et al. (2022) as they reported that conscientiousness as well as agreeableness individuals were adherent to their medication; however, participants with high neuroticism were less adherent to their medication. Nevertheless, neuroticism and agreeableness were associated with medication adherence (Niyokwizera et al., 2024), while Adachi et al. (2022) reported that agreeableness, neuroticism, openness to experience and extraversion were not related to medication adherence. Despite these studies, there is lack of study on personality influence on medication adherence among psychiatric patients, which necessitates this study. We assume that different personality traits have their respective influences medication adherence among psychiatric patients; hence, we believe that:

H1: Personality traits (extraversion, agreeableness, conscientiousness, neuroticism, openness to experience) will significantly influence medication adherence.

Social Support and Medication Adherence

Social support is the extent to which an individual is susceptible to getting support from the social environment, that is, from families, friends, colleagues, relations and co-patients, which is geared towards managing stress, and adapting to social situations (Guo et al., 2023). Such support which can either be physical, financial, material or emotional is an important element for an individual suffering from or recovering from an illness (Santos et al., 2018). Specifically, support from the family is of utmost important as they may help patients cover the cost of their medication, take them to hospitals for follow up, remind them about taking their medication, and assisting them towards taking the medication (Pamungkas et al., 2017). In doing this, such patient feels loved, and possesses a sense of worth, which keeps them positive regarding treatment process and its outcome (Thomas et al., 2017); hence, adhering to medication will be positive. Social support from the literature has been reported to positively influence medication adherence among patients with psychiatric illness (Hassan & Zaki, 2018). Similarly, Nan Jiang et al. (2024) reported that among schizophrenic patients, social support

related positively with medication adherence. Notwithstanding these studies, we observed scarcity in research literature for psychiatric patients. Drawing on the social connectedness in African culture, it is imperative to understand the role of social support on medication adherence for psychiatric patients; hence, we believe that:

H2: Social support will positively influence medication adherence.

Method

Participants and Procedure

A cross sectional survey design was adopted to sample 250 patients (116 males, 134 females) with records of psychiatry visits. These participants through purposive sampling technique were sampled across psychiatry department, general outpatient department and other departments of a federal university teaching hospital in the Southeastern region of Nigeria. Approval for the study was granted by the Ethics and Research Board (MASKED FOR REVIEW). With the help of trained nurses serving as research assistants from each department, patient's records were assessed, and patients with history of psychiatric visit were administered the study questionnaires. Prior to administering the questionnaire, consent to proceed with the study was gotten from each participant, and other ethical consideration for the study was followed. A total of 292 questionnaires were distributed, and only 250 made the final analysis, accounting for 86% success rate. Participants' age ranged between 22-56 (M = 34.30, SD =7.42).

Measures

Medication adherence was measured using the 4-item Morisky et al. (1986) Morisky Medication Adherence Scale-4. This scale assesses medication use and continuous usage of medication. Participants responded on a yes/no response format. The scale items include "do you ever forget to take your medication", "when you feel better, do you sometimes stop taking your medication", "sometimes if you feel worse when taking your medication, do you stop taking it". Morisky et al. (1986) reported internal consistency at Cronbach's alpha .61. For the present study, the reliability coefficient is at Cronbach's alpha .68.

Personality was assessed with the 44-item John et al. (1991) Big Five Inventory. This scale was designed to assess individual characteristics in line with 5 dimensions, including extraversion, agreeableness, openness to experience, conscientiousness and neuroticism. The scale response format is a 5-point Likert scale ranging from 1 – disagree strongly to 5 – agree strongly. Some of the items in the scale include "feel little concern for others", "someone who can be tensed", "makes friends easily". The reliability coefficient for the present study is at Cronbach's alpha .81.

Social support was assessed using the 12-item Zimet et al. (1988) Multidimensional Scale of Perceived Social Support. The scale assesses actual or perceived support an individual has, under three dimensions which are support from family, friends and significant other. Participants responded on a 5-point Likert scale ranging from 1 – Disagree strongly to 5 – Agree strongly. The scale has the following items "there is a special person who is around when I am in need", "I can talk about my problems with my family", "My family really tries to help me". Zimet et al. (1988) reported a reliability coefficient of Cronbach's alpha .88. For the present study, the internal consistency is at Cronbach's alpha .90.

Data Analysis

Multiple regression was adopted to analyze study data. This type of analysis explores the relationship between multiple independent variables on a dependent variable; that is, personality traits and social support on medication adherence.

Results

Table 1: Mean, standard deviation and inter-correlation among variables (n = 250)

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10
1.MA	3.39	.87	-	-	-	-	-	-	-	-	-	-
2.Personality	138.96	22.06	.15**	-	-	-	-	-	-	-	-	-
3.OE	39.38	5.60	.14**	-.10*	-	-	-	-	-	-	-	-
4.Agreeableness	37.00	5.36	.17**	-.14*	.07	-	-	-	-	-	-	-
5.Conscientiousness	36.81	5.54	-.16**	-.11*	.13*	-.01	-	-	-	-	-	-
6.Neuroticism	19.17	4.04	.15**	.06	-.02	-.03	-.04	-	-	-	-	-
7.Extraversion	30.13	5.05	-.00	-.03	-.04	.01	-.03	.06	-	-	-	-
8.SS	37.39	6.84	.17**	.12*	.03	.10*	-.12*	-.09	-.15**	-	-	-
9.Gender	-	-	-.03	.05	-.06	.03	.12*	-.05	-.05	-.03	-	-
10.Age	34.30	7.42	.01	.07	-.00	.06	.01	.11*	-.23	-.00	-.03	-

*Note: SD = Standard Deviation, MA = Medication Adherence, OE = Openness to Experience, SS = Social Support, * = < .05; ** = <.001*

The result from the Pearson correlation analysis showed that personality as a construct was positively related to medication adherence (r = .15, p<.001). Furthermore, it showed that openness to experience (r = .14, p<.001), agreeableness (r = .17, p<.001) and neuroticism (r = .15, p<.001) were positively related to medication adherence, while conscientiousness was negatively related to medication adherence (r = -.16, p<.001). However, extraversion was not related to medication adherence (r = .00, p>.05), while social support was positively related to medication adherence (r = .17, p<.001). Also, the result showed that openness to experience (r = -.10, p<.05), agreeableness (r = -.14, p<.05) and conscientiousness (r = -.11, p<.05) related negatively to personality, while personality related positively to social support (r = .12, p<.05). The result further showed that openness to experience was positively related to conscientiousness (r = .13, p<.05), agreeableness was positively related to social support (r = .10, p<.05), conscientiousness was negatively related to social support (r = -.12, p<.05), while conscientiousness was positively related to gender (r = .12, p<.05). More so, the result showed that neuroticism was positively related to age (r = .11, p<.05), while extraversion was negatively related to social support (r = -.15, p<.001)

Table 2: Predicting the Influence of Personality Traits - Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness to Experience and Social Support on Medication adherence.

Model	*B*	*SEB*	*β*	*t*	*p*	*R²*	*F*
Personality	.00	.02	.15	2.56	.011	.15	4.81(9,249)**
Openness to Experience	.02	.01	.17	2.84	.005		
Agreeableness	.02	.01	.17	2.91	.004		
Conscientiousness	-.02	.01	-.14	-2.37	.018		
Neuroticism	.03	.01	.16	2.69	.008		
Extraversion	.00	.01	.01	.15	.876		
Social Support	.01	.01	.12	2.04	.042		

Note: β = Regression coefficient; SE = Standard Error; t = Population t value; p = Probability level

The result from the regression analysis showed a significant model fit of the predictor variables on the outcome variable F(9,249) = 4.81, p<.001, accounting for 15% of the total variance in medication adherence. However, personality as a construct positively predicted medication adherence β = .15, p<.05, while there were varying results on its dimensions on medication adherence. While openness to experience β = .17, p<.001, agreeableness β = .17, p<.001 and neuroticism β = .16, p<.05 positively predicted medication adherence,

conscientiousness negatively predicted medication adherence β = -.14, p<.05, and extraversion did not predict medication adherence β = .01, p>.05. Furthermore, social support positively predicted medication adherence β = .12, p<.05.

Discussion

An analysis of the study results reflected personality construct positively predicting medication adherence, which confirmed the first study hypothesis. However, on independent prediction, openness to experience, agreeableness and neuroticism personality types positively predicted medication adherence, while conscientiousness negatively predicted medication adherence. However, extraversion did not predict medication adherence. This finding delves into the characteristics of different personalities, as it is common for agreeableness personality rooted in corporation with other (Funder & Fast, 2010), cooperate well with prescribed medication, such that they are able to adhere to usage and continuous usage of their medication. This finding supports the finding of Linkievics et al. (2022) who reported that agreeableness positively predicted adherence to medication. Similar finding was observed by Niyokwizera et al. (2024), reporting positive influence of agreeableness personality on medication adherence. Furthermore, an open-minded personality in openness to experience (Funder & Fast, 2010) may be open to accept medical situations that warranted medication prescription; as such, the perceived experience may facilitate their adherence to the prescribed medication. The meta-analytic study of Kohli (2017) backed this finding, as they reported that openness to experience positively influenced medication adherence. More so, taking responsibility in actions, which highlights conscientiousness (Funder & Fast, 2010) may foster taking responsibility in adhering to medication, however, this was not captured in the study, as the study showed patients with low conscientiousness adhered more to their medication. This may however be due to the awareness of the nature of the illness, which facilitated adherence, even in the midst of low conscientiousness. Notwithstanding, this finding aligned with the result reported by Adachi et al. (2022) as they revealed that conscientiousness influenced medication adherence, despite variation in the direction of influence. Similarly, while Linkievics et al. (2022) reported higher neuroticism leading to low medication adherence, the finding showed that high neuroticism was related to medication adherence, suggesting the need for future research in determining consistency in finding. However, extraversion was not related to medication adherence, and this aligned with the finding of Adachi et al. (2022) as they reported no relationship between extraversion and medication adherence.

Furthermore, the study showed that social support positively predicted medication adherence, and this affirmed the second study hypothesis. Aiding this finding is the view that social support help patients cover their medication cost, as well as setting reminders and assisting with giving patients medications (Pamungkas et al., 2017). As such, it may facilitate medication adherence. In addition, patients understanding that they are not alone in the journey of wellness, due to the social support gotten may be motivated to follow through the treatment process, which involves taking medication. Influencing this is the notion that through the sense of love and worth established with social support, patients are positive about their health challenges and outcome (Thomas et al., 2017). This finding corroborates Hassan and Zaki (2018) and Nan Jiang et al. (2024) who reported that social support positively influenced medication adherence.

Implications of the Study

The findings of this study highlights the essence of support from friends, family members and significant others on patients with psychiatric illness, as it helps them to adhere to their medication, which makes positive the management process and outcome. In line with this, family members and friends of patients with psychiatric illness should offer support, which

would help them in the treatment process, either as giving them the medication or making them become hopeful on the future of the illness. In addition, with the personality profiles observed as it relates to medication adherence, healthcare institutions should evaluate personalities of clients to determine their possible adherence in line with the findings, in order to initiate appropriate process that would help them adhere to their prescribed medication.

Limitations of the Study and Suggestions for Future Studies

Every study has its limitations, and this study is limited on not considering patients' insights on medication through psycho-education on how they may contribute to medication adherence. In addition, with participants not solely gotten from psychiatric hospitals, assessing medication adherence may not capture whether the adherence is on psychiatric medication or other forms of medication. Future research on this should control for patients' insight on medication on psychiatric illness management. Also, future research should make use of psychiatric department's outpatients for the study in order to control for other factors that may influence medication adherence. More so, cross sectional design adopted, which allows data to be collected at one point in time may not accommodate factors that may be influencing patients' states at the time of data collection, since survey response reflects current state. More so, longitudinal study should be adopted in future research to understand consistency in relationship between variables.

Conclusion

Concluding this, different personality traits may influence behaviours, especially as it relates to medication adherence. This study highlights the role of different personality profiles and how they influence psychiatric patients adhering to their prescribed medication and as prescribed. It also highlights the role of social support from patients with psychiatric illnesses on how it influences their adherence to medication. Through this, patients are better managed in biopsychosocial approach, with medication serving as a core in psychiatric illness management.

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