



NIGERIAN JOURNAL JOURNAL OF PSYCHOLOGICAL RESEARCH

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Published by

Department of Psychology,
University of Nigeria, Nsuka.
www.psychology.unn.edu.ng



Internalised stigma mediates the relationship between expressed emotion and psychotic symptoms exacerbation among schizophrenic patients

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ARTICLE INFO

Keywords:

Expressed emotion
Internalised stigma
Symptom exacerbation
Patients
Schizophrenia.

ABSTRACT

Empirical evidence in western and non-western cultures have consistently shown that Expressed emotion (EE) is a robust and valuable predictor of psychotic symptom exacerbation, but very little attention has been given to the mechanism through which EE leads to symptom severity. The present study examines the mediating role of internalised stigma of mental illness on the relationship between Expressed emotion (EE) and psychotic symptoms among patients with schizophrenic spectrum disorders. Two hundred and nineteen schizophrenic patients (76.7% males and 23.2% females) participated in the study. They completed the following self-report measures: Positive and Negative Syndrome Scale, Patient's version of Level of Expressed Emotion Scale, and Internalised Stigma of Mental Illness Scale. Hayes PROCESS macro for SPSS was used in testing for the mediation model. Results showed that expressed emotion (EE criticism, hostility, and over-involvement) was significantly and positively associated with psychotic symptoms severity (negative symptoms and positive symptoms), and this association was mediated by internalised stigma of mental illness. Findings underscore the potential mechanism through which EE may adversely impact on symptoms severity and the importance of designing adequate interventions to decrease familial EE, and to help patients develop resilience skills needed to cope with their mental health status

Introduction

Schizophrenia is one chronic and severe psychiatric disorder found to affect over 0.5% of the world's population (Purgato, Adams, & Barbui, 2012). The global burden of this severe mental illness falls mostly to the poorest countries where over 80% of the world's population live (Purgato et al., 2012). Nigeria, the most populous country in Africa with nearly 200,000,000 people may share in this global burden since empirical evidence have shown that over 58.19% of the patients admitted into a Nigeria Neuro-Psychiatric hospital were Schizophrenic patients (Afolayan, Peter, & Amazueba, 2015). There is therefore need for adequate research on the psychosocial risk and/or protective factors implicated in schizophrenia spectrum disorder among Nigerian population.

Schizophrenia is a psychiatric disorder that is characterized by alterations in perception, communication, and motivation (Afolayan et al., 2015), with hallucinations, delusions, thought disorders, all categorised as positive syndromes, and then, blunted affect and reduced speech categorised as negative syndromes (American Psychiatric Association, 2013; Kay, Fiszbein, & Opler, 1987). The life expectancy of the patients is very low as they are 2 to 3 times more likely to die earlier than the general population due to infections, cardiovascular

and metabolic diseases (WHO, 2018). Although symptoms of the disorder usually emerge in early adulthood with many affected persons making a good recovery, many experience intermittent or persistent symptoms for decades leading to recurrent rehospitalisation (Afolayan et al., 2015). However, environmental factors and person related variables may play a combined role in clinical stability and risk of relapse in schizophrenia (Docherty, St-Hilaire, Aakre, Seghers, McCleery, & Divilbiss, 2011). This study aims to examine the synergistic roles of social environmental stressors such as expressed emotion and patient's variable such as internalised stigma on psychotic symptoms exacerbation among schizophrenic patients.

Expressed emotion and psychotic symptoms

The psychotic symptoms of individuals with schizophrenia appear to be at least partly emotion driven, due to the findings that circumstances and/or stressful life events have been linked to increased risk of psychiatric symptoms (Docherty et al., 2011; Nuechterlein et al., 1994). Expressed emotion (EE) is a measure of the potentially problematic aspect of the family environment particularly for individuals with psychiatric disorders (Weintraub, Hall, Carbonella, De Mamani, & Hooley, 2015). It involves how critical, hostile, or overly involved a

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relative is, particularly, towards an identified family member with mental health problems, and it is thought to represent a relational disturbance and patterns of transaction between the family member and the sick person (Weintraub, et al., 2015). Expressed emotion (EE) is perceived to be a psychosocial stressor that interacts with patients' diathesis, eventually leading to psychiatric relapse (Hooley, 2007). Ordinarily, hearing critical or hostile comments or having an emotionally over-involved family member is never a pleasant experience for anyone (Weintraub et al., 2015), and this may be more critical for individuals with mental illness such as schizophrenia (Docherty et al., 2011).

However, EE has been identified as a robust and valuable predictor of symptom relapse in schizophrenia (Docherty et al., 2011; Hooley, 2007; Weintraub et al., 2015). Furthermore, an aged long finding of a meta-analysis comprising 27 studies revealed that EE is the best documented environmental predictor of psychiatric relapse (Butzlaff & Hooley, 1998). When compared to patients who live in a low EE family environment, schizophrenic patients who live in a high EE family environment are more than twice at higher risk of relapse, and the risk increases significantly with the amount of time the patient spends in contact with such family members (Docherty et al., 2011; Hooley, 2007). Meanwhile, when family interventions succeeded in reducing the levels of familial EE, the patient's risk of relapse decreased concomitantly, corroborating the findings that high levels of EE influence the patient's psychotic symptoms severity (Docherty et al., 2011).

Mediating role of internalised stigma

Individuals diagnosed with schizophrenia must cope with some form of stigmatization during their lives (Lee, Chiu, Tsang, Chui, & Kleinman, 2006; Vrbova et al., 2016). Such stigmatization has been categorised as either public or internalised stigma of mental illness (Corrigan, 2005). While public stigma captures the ways in which the general public stigmatizes individuals with a mental illness, internalized stigma also called self stigma implies the awareness of, agreement with negative stereotypes about mental illness, and the application of these stereotypes to oneself (Carrigan, 2007; Pearl, Forgeard, Rifkin, Beard, & Björgvinsson, 2017).

The processes involved in the internalisation of stigma begins (1) when the sick patient notice that others begin to act differently to them due to their mental illness and realise the prejudice that lead to such action; (2) the schizophrenic patient then begins to believe that the views and attitudes toward individuals with a mental disorder are justified; (3) the patients apply the prejudices to themselves and act according to them (Vrbova et al., 2016). This process may then lead to lower intention to seek psychiatric help (Carrigan, Rafacz, & Rusch, 2011; Schomerus, Matschinger, & Angermeyer, 2009), decreased clinical and personal recovery (Chan, & Lam, 2018) poor quality of life (Mashiach-Eizenberg, Hasson-Ohayon, Yanos, Lysaker, & Roe, 2013; Pearl et al., 2017; Yanos, Roe, Markus, & Lysaker, 2008; Yanos, West, Gonzales, Smith, Roe, & Lysaker, 2012), increased psychotic symptoms and worse overall prognosis (Mashiach-Eizenberg et al., 2013; Pearl, et al., 2017; Ritsher & Phelan, 2004; Vrbova et al., 2016). Patients with internalised stigma of mental illness may have low self esteem, hopelessness and loss of interest

to engage in goal directed behaviour often referred to as 'Why Try' effect (Corrigan, Larson, & Rusch, 2009; Horsseelenberg, van Busschbach, Aleman, & Pijnenborg, 2016; Livingston & Boyd, 2010; Mittal, Sullivan, Chekuri, Allee, & Corrigan, 2012). Result of a meta-analysis showed that internalised stigma is consistently linked to psychiatric symptoms exacerbation (Livingston et al., 2010).

Importantly, patients living with a highly critical, hostile and emotionally over-involved family environment in terms of their communication style may be vulnerable to internalising these negative comments and attitudes from the relatives. Thus, such patient may begin to perceive self as incompetent, dangerous, shameful, weak in character, unworthy of social connection, loss of positive believes about oneself, and potential tendencies of internalising stereotypes about mental illness (Gupta & Mohanty, 2016; Verma et al., 2015). These together may in turn undermine the individual's willingness to pursue behaviours related to important life goals (Corrigan et al., 2009; Horsseelenberg et al., 2016), including the willingness to seek psychiatric treatment (Schomerus et al., 2009) which may subsequently result in psychotic symptom exacerbation (Cavelti, Kvrjic, Beck, Rüsche, & Vauth, 2012; Horsseelenberg et al., 2016; Livingston et al., 2010). For example, when a schizophrenic patient return home from the hospital to live with a high-EE family where patient is blamed for the illness, the individual may begin to see no meaning in life; might be discouraged from taking his medications and may even shy away from subsequent hospital check-up

Considering the strength of internalised stigma in predicting greater severity in psychiatric symptoms (Cavelti et al., 2012; Livingston et al., 2010; Mashiach-Eizenberg et al., 2013; Pearl et al., 2017; Ritsher et al., 2004; Vrbova et al., 2016; Yanos et al., 2008; Yanos, West et al., 2012), and the identification of internalised stigma as a potential mediator variable by other scholars (Cavelti et al., 2012), we speculate that internalised stigma can serve as a path through which other psychosocial stressors or risk factors may be associated with mental health problems. Given that a family climate whose communication style is characterised with criticism, hostility and emotionally over-involvement has been associated with greater internalised stigma of mental health (Gupta et al., 2016), the indirect effect of EE on clinical and personal recovery among 311 patients with psychiatric disorders has been investigated by other scholars (Chan et al., 2018). They concluded that EE resulted in an increased internalised stigma (or self stigma) with these increases mediating psychiatric recovery. Although no study to our knowledge has examine the mediating role of internalised stigma on the relationship between EE and psychotic symptom exacerbation, The findings of (Chan et al., 2018)) provide preliminary evidence that internalised stigma may drives the link between EE and mental health outcome in schizophrenic patients. This skin conductance studies conducted many years ago have provided additional support to this speculation, revealing that the association between EE and psychiatric relapse is mediated by changes in psychophysiological arousal (Sturgeon et al., 1981, 1984; Tarrier, Barrowclough, Porceddu & Watts, 1988). Further exploration is warranted particularly in the developing countries.

The present study

The rate of relapse among individuals with schizophrenia is notoriously high and this has been found to impact negatively on the social economy as well as the emotional health of both the patient and the caregivers (Almond, Knapp, Francois, Toumi, & Brugha, 2004). The early identification of patients who are at high risk for relapse following symptom remission is very essential for both theoretical and practical reasons. Although numerous researches conducted with schizophrenic patients in the western world have consistently demonstrated that EE is a reliable predictor of symptoms severity, we assume that it would certainly be a construct worthy of empirical attention and more exploration particularly in collectivist culture such as Nigeria. This is particularly important because of the findings that the effect of EE varies between cultures (Bhugra & McKenzie, 2003). Furthermore, very little attention has been given to the mechanism through which EE is linked to symptom exacerbation. Specifically, and to our knowledge, no research has been conducted on the mediating role of internalised stigma on the relationship between EE components (criticism, hostility and emotional over-involvement) and psychotic symptoms (negative and positive symptoms) among patients with schizophrenia spectrum disorder. A clearer understanding of the role of family environment such as EE and internalised stigma of mental illness in relapse processes will not only have the potential to enlighten us about the nature of vulnerability, but also provide reliable information that is important for the development of a better clinical intervention. Thus, the present study aimed to explore the psychological processes underlying the EE – symptoms relationship by examining the potential mediating role of internalised stigma of mental illness among schizophrenic patients. We hypothesize that (1) Expressed emotion (EE) (criticism, hostility and over-involvement) will have a positive association with psychotic symptoms and that (2) this positive association will be mediated by internalised stigma of mental illness among patients diagnosed with schizophrenia spectrum disorder.

Method

Participants and procedure

Participants for the study included 219 individuals diagnosed with schizophrenia and currently undergoing treatment in the psychiatric ward Federal Teaching Hospital, Abakaliki, Ebonyi State, Nigeria. Inclusion criterion includes: Receiving the diagnosis of schizophrenia according to the DSM-5 criteria, (American Psychiatric Association, 2013), must be clinically stable enough as confirmed by their case managers, aged 18 years – above; must have been previously diagnosed and hospitalized in a psychiatric hospital for the same illness, and being able to give informed consent. Exclusion criteria include unable to read and write English language, first episode schizophrenic disorder, a co-morbid neurological disorder and presence of an acute psychotic episode. These were ascertained by reviewing the patients' individual files through the help of the case manager.

This study was approved by the research ethics committee of the Federal Teaching Hospital, Abakaliki and the psychology research committee of Ebonyi State University, Abakaliki, Ebonyi state. After obtaining a written informed consent from the participant and proper description of the study and

procedures, the questionnaires were administered to the participants through the help of 3 trained research assistants. Among the research assistants were a clinical psychologist who is currently a staff of the hospital where the study was conducted, and the remaining two were clinical psychology intern students. The sample comprises of 168 (76.7%) males and 51(23.3%) females (age ranged from 18 – 53 years, $M = 30.70$; $SD = 8.59$); of whom 134 (61.2%) were single, 73 (33.3%) were married and 12 (5.5%) were divorce. By level of education, 129 (58.9%) had secondary education while 90 (41.1%) had tertiary education. This study was conducted within the period of 9 months (between June 2017 and February 2018). Within this period, patients were admitted into the hospital almost on daily bases and were also discharged. Data were collected from patients who have fully recovered and were waiting to be discharged from the hospital.

Instruments

Psychotic symptoms common in schizophrenia were assessed using the Positive and Negative Syndrome Scale (PANSS) (Kay et al., 1987). The PANSS consists of 30 items with 3 subscales (positive symptoms = 7 items; negative symptoms = 7 items; and general psychopathology = 16 items). Items are scored on a seven (7) points likert scale ranging from 1 (absent) to 7 (extreme). Though the scale evidenced good psychometric properties (Kay et al., 1987) which has also been demonstrated in some other studies elsewhere (Docherty et al., 2011; Horselenberg et al., 2016), a study with Nigerian samples has replicated the 3 factor structure originally designed for the scale with positive syndrome, $r = .73$, negative syndrome, $r = .81$ and general psychopathology, $r = .83$ (Lasebikan & Aremu, 2016). For the present study, the internal consistency reliability coefficient was ($\alpha = .79, .82$ and $.70$) for positive syndrome, negative syndrome, and general psychopathology. However, consistent with previous studies (Docherty et al., 2011; Horselenberg et al., 2016), only the positive and negative syndrome subscales were used in the present study.

Expressed emotion was measured with the 12-item patients' version of Level of Expressed Emotion scale (Siu-Man et al., 2011) developed out of the original 60-item LEE scale to assess the level of expressed emotion of family caregivers of a person with mental disorder (Cole & Kazarian, 1988). The patients' version consists of 3 subscales: criticism (items 1, 2, 3, 4), hostility (items 9, 10, 11, 12), and over-involvement (items 5, 6, 7, 8) with items scored on a 4-point Likert-type responses: 1-“not true,” 2-“more or less untrue,” 3-“more or less true,” and 4-“true.” The scale evidence excellent psychometric properties with alpha values of .84 for the total score and .75 to .77 respectively for the three subscales. Regarding convergence and divergence construct validity, the Scale has significant positive correlations with the anxiety and depression scores of Hospital Anxiety and Depression Scale (HADS) at $r = .37$ and $.21$, respectively; $p < .01$; significant negative correlation with the mental component score of Short Form Health Survey (SF-12) at $r = -0.27$; $p < .01$; and insignificant correlation with the physical component score of SF-12 ($r = -0.02$) (Siu-Man et al., 2011). The principal components factor analysis using extraction method confirmed a 3-factor structure originally designed for the scale (Siu-man et al., 2011). In the

present study, the internal reliability coefficient for the subscales includes criticism, $\alpha = .82$, hostility $\alpha = .84$, and over-involvement $\alpha = .73$ respectively.

The 10-item short version of Internalized Stigma of Mental Illness Scale (ISMH; Boyd, Otilingam, & DeForge, 2014) which was developed from the original 29-item ISMI scale (Ritsher et al., 2004) was used to assess patients' personal experience of stigma of mental illness. The scale is rated on a four-point likert scale ranging from 'strongly disagree' = 1 to 'strongly agree' = 4. Sample items include 'having a mental illness has spoiled my life', 'I can't contribute anything to the society because I have a mental illness'. Items 2 and 9 are reversed coded before calculating the total score. All items are added together and divided by the total number of answered items. Scores ranged from 1–4 as higher scores indicate greater internalised stigma (Boyd et al., 2014). The ISMI-10 retained the essential properties of the ISMI-29, including adequate internal consistency reliability and external validity in relation to depression, self-esteem, recovery orientation, perceived devaluation and discrimination, and empowerment. In the present study, the internal reliability coefficient for the scale was ($\alpha = .79$).

Data analysis

Analysis for the present study was done using the Statistical Package for the Social Sciences (SPSS) version 20. Hayes PROCESS macro for SPSS, model 4 was used in testing the mediation hypothesis and complete mediation holds when the 95% confidence interval CI of the random sampling bootstrapping result did not include zero. That is, when the upper limit and lower limit of the CIs did not contain zero, one may conclude that the indirect effect of EE (criticism, hostility and over-involvement) on psychotic symptom (negative symptoms and positive symptoms) via internalized stigma is significant. Bootstrapping has been identified currently as a standard in the test of direct and indirect effect (Hayes, 2013) and has been used in other studies in the test of mediation hypothesis (Aliche et al., 2019).

Results

Table 1 contains the zero – order correlation of the predictors and outcome variables. The results of the testing of the hypothesis are shown in Table 2. Results in Table 1 indicated that criticism was significantly and positively associated with hostility ($r = .31, p < .001$), over-involvement ($r = .14, p < .05$), internalised stigma ($r = .16, p < .05$), negative symptoms ($r = .19, p < .01$) and positive symptoms ($r = .16, p < .05$). Hostility was significantly and positively related to over-involvement ($r = .39, p < .001$), internalised stigma ($r = .21, p < .01$), negative symptoms ($r = .19, p < .01$) and positive symptoms ($r = .17, p < .05$). Over-involvement was significantly and positively related to internalised stigma ($r = .19, p < .01$), negative symptoms ($r = .15, p < .05$) and positive symptoms ($r = .15, p < .05$). Internalised stigma was significantly and positively associated with negative symptoms ($r = .53, p < .001$), and positive symptoms ($r = .38, p < .001$), while the negative symptoms and positive symptoms were significantly and positively associated with each other ($r = .59, p < .001$).

In the mediation analysis, we tested if internalised stigma mediated the relation between EE (criticism, hostility, and over-involvement) and psychotic symptoms (negative symptoms and

positive symptoms). Results in Table 2 showed that EE criticism had a significant, direct path to psychotic symptoms {negative symptoms: $B = .46, SE = .16, t = 2.87, R^2 = .04, F(1, 217) = 8.24, p < .01$; positive symptoms: $B = .38, SE = .16, t = 2.43, R^2 = .03, F(1, 217) = 5.91, p < .05$ }. When internalised stigma was introduced in the model, EE criticism ceased to have a significant relationship with psychotic symptoms {negative symptoms: indirect effect with 95%CI (.02 to .16); $R^2 = .29, F(2, 216) = 44.49, p < .001$; positive symptoms: indirect effect with 95%CI (.01 to .12); $R^2 = .16, F(2, 216) = 20.13, p < .001$ }.

Result also showed that EE hostility had a significant, direct effect on psychotic symptoms {negative symptoms: $B = .50, SE = .18, t = 2.81, R^2 = .04, F(1, 217) = 7.89, p < .01$; positive symptoms: $B = .45, SE = .17, t = 2.61, R^2 = .03, F(1, 217) = 6.82, p < .01$ }. When internalised stigma was added to the model, EE hostility was found to have a non significant relationship with psychotic symptoms {negative symptoms: indirect effect with 95%CI = (.01 to .20), $R^2 = .29, F(2, 216) = 43.44, p < .001$; positive symptoms: indirect effect with 95%CI = (.01 to .15), $R^2 = .16, F(2, 216) = 20.01, p < .001$ }.

Lastly, EE over-involvement had a direct significant association with psychotic symptoms {negative symptoms: $B = .36, SE = .16, t = 2.20, R^2 = .02, F(1, 217) = 4.86, p < .05$; positive symptoms: $B = .34, SE = .16, t = 2.22, R^2 = .02, F(1, 217) = 4.91, p < .05$ }. The introduction of internalised stigma in the model resulted in a non significant association between EE over-involvement and psychotic symptoms {negative symptoms: indirect effect with 95%CI = (.02 to .09), $R^2 = .28, F(2, 216) = 42.61, p < .001$; positive symptoms: indirect effect with 95%CI = (.02 to .14), $R^2 = .15, F(2, 216) = 19.49, p < .001$ }. For each of the bootstrapped indirect effect, the 95%CI never contained zero, indicating that all of the indirect effects of EE (criticism, hostility and over-involvement) on psychotic symptoms (negative symptoms and positive symptoms) through an increase in internalised stigma were all significant. This implies that the positive association between EE (criticism, hostility, and over-involvement) and psychotic symptoms (negative symptoms and positive symptoms) is completely mediated by internalised stigma.

Discussion

The present study examined the relationship between symptoms and EE dimensions (criticism, hostility, and emotional over-involvement) among patients with a schizophrenia spectrum disorder with particular attention to the possible mediating role of internalised stigma of mental illness. The findings of the study agree with our hypothesis. Symptoms severity were positively associated with higher EE (criticism, hostility and emotional over-involvement), with this association fully mediated by greater internalisation of stigma associated with mental illness. The current finding on the association between EE and symptom severity is in agreement with age long research conducted in this area (Butzlaff et al., 1998; Docherty et al., 2011; Hooley, 2007; Weintraub et al., 2015). As stated earlier, it is very unpleasant and psychologically distressing for schizophrenic patients who returned home from hospital to live with family members who engages in criticism, or hostile and overly involved attitudes. This finding may have great consequences especially

in collectivist culture where the family is considered the first point of contact and the most important source of social support particularly for individuals with severe mental illness such as schizophrenia.

The results of this study support the earlier hypothesis that internalised stigma will be associated with psychotic symptoms severity among individuals with schizophrenia spectrum disorder. As demonstrated in numerous studies (Cavelti et al., 2012; Grambal et al., 2016; Hajda et al., 2015; Holubova et al., 2016; ; Kamaradova et al., 2016; Vrbova et al., 2016; Yilmaz & Okanlı, 2015), internalising beliefs about mental illness jeopardises the chances of adhering to psychiatric treatment leading to an overall symptom severity in various psychiatric disorders including schizophrenia. Internalised stigma can compromise vocational (Yanos, Lysaker, & Roe, 2010), and social functioning (Lysaker, Roe, & Yanos, 2007), and impact on positive symptoms severity by way of its effect on social avoidance (Yanos et al., 2008). The results of this study have replicated the above findings in individuals with schizophrenia in African population. Thus, interventions geared towards reducing internalised stigma should consider a continuous screening of patients to identify those who are more vulnerable for self stigmatising beliefs. Through such interventions, patients may be provided with adequate information about mental illness and its treatment possibilities.

Most importantly, the complete mediation effect of internalised stigma found in this study is a clear evidence that EE is only associated with symptom severity because schizophrenic patients who live with high EE family members are in part most vulnerable to internalisation of negative beliefs about persons with mental illness (that is, applying the stigmatizing belief to one's self rather than just being aware of the stereotype). The high EE and/or greater internalised stigma of mental illness may represent the complex interaction between environmental stressors and some form of vulnerabilities to distress, consistent with the diathesis stress model of clinical outcome (Hooley et al., 2000). This pattern of result is similar to what other scholars reported elsewhere with internalised stigma mediating the link between EE and clinical and personal recovery (Chan & Lam, 2018). This mediation result may suggest that if EE from the family relatives and patients' internalised stigma can be reduced, symptom remission may be achieved and sustained.

Family based intervention programs may be utilised in helping family members improve their knowledge about psychiatric disorders and adjust their communication styles. There is an empirical support for the effectiveness of family intervention and cognitive behaviour therapy (CBT) based guided self help (GSH) in decreasing EE in caregivers of people with psychiatric illness (McCann, Songprakun, & Stephenson, 2015; Pilling et al., 2002). We are also aware of two evidenced-based psychological treatment approaches to reduce internalised stigma among psychiatric patients. They include cognitive behaviour therapy (CBT) and Narrative enhancement (Corrigan et al., 2005; Lysaker, Glynn, Wilkniss, & Silverstein, 2010). CBT regards internalised stigma as resulting from patient's maladaptive self statements or cognitive schemata of mental illness emanating from negative stereotypes common in individual's culture and acquired through prior experiences of discrimination. CBT may target

at altering these cognitive schema by exploring distressing cognitions about the self, making efforts towards refraining them as belief, and attempting to find less distressing alternative interpretations or meaning (Cavelti et al., 2012; Knight, Wykes, & Hayward, 2006; Larson & Corrigan, 2010). Since internalised stigma was described as the opposite of personal empowerment, promoting psychological empowerment through motivational interviewing by way of giving schizophrenic patients greater control over their treatment and reintegration into the society may be an additional way to effectively reduce internalised stigma of mental illness (Cavelti et al., 2012; Corrigan et al., 2005).

Narrative enhancement is another promising approach to reduce internalised stigma (Lysaker et al., 2010). Going by the assumption of the onset of internalised stigma of mental illness as a disruption in one's autobiography, psychotherapy offers a good opportunity to tell one's life story. The final objective is to integrate the experience of the psychopathology in one's life story and to develop a better perspective for the future, which is no longer characterised by hopelessness and helplessness but includes the possibility of a meaningful life despite the patients' mental health status. Although CBT tries to challenge negative self-evaluation, narrative enhancement aims to fill the gap left by the negative self-evaluation and to reshape a larger sense of who one is in the world. The exposition of a persons' life story combined with the awareness of stigma as unjust might evoke righteous anger and psychological empowerment as a reason for trying new things in life and positive adjustment (Corrigan et al., 2005). The combination of the CBT and narrative enhance therapeutic approaches have shown to be effective in decreasing internalised stigma in patients with serious mental illness (Corrigan et al., 2005). Based on the literature reviewed and the findings of this study, we propose that both the patients and family relatives together be integrated into the intervention programs in order to optimise symptom remission, sustain clinical stability and psychiatric recovery among schizophrenic patients.

The present study has many limitations. Firstly, it was impossible to explain the causality of the associations found in this study due to the cross-sectional nature of the design. The samples of schizophrenic patients used were relatively small. It is also worthy of note that data were gathered through questionnaires filled by the patients themselves. The possibility of the subjective judgement of the assessment methods, which are based on the ability of introspection of the participants and their willingness to testify, has its limitation, especially in individuals with schizophrenia who may have a significant degree of cognitive dysfunction. Responses to the items of the scales may have been affected by various levels of fatigue, motivation and current health status of the patients. Lastly, we were unable to obtain information on the clinical characteristics of the patients such as duration of illness, number of hospitalisation and anti psychotic medications side effect, which may potentially influence psychotic symptoms exercitation.

Conclusion

Expressed emotion (EE) and internalised stigma are two major psychosocial factors found to impact negatively on the mental health of patients

with schizophrenia. In the present study, we found evidence for internalised stigma as a mediator of the relationship between expressed emotion (criticism, hostility, and emotional over-involvement) and psychotic symptoms among patients with schizophrenia spectrum disorder. Finally, we provided support for the possible intervention programs to address the detrimental effect of these variables on clinical outcome.

References

- Afolayan, J. A., Peter, I. S., & A.N. (2015). Prevalence of Schizophrenia among patients admitted into a nigeria neuro-psychiatric hospital. *Journal of Dental and Medical Sciences*, 14(6), 09-14. doi: 10.9790/0853-14660914 www.iosrjournals.org
- Aliche, J. C., & Onyishi, I. E. (2019). Mindfulness and wellbeing in older adults' survivors of herdsmen attack. The mediating effect of positive reappraisal. *Aging and Mental Health*. Online first. doi: 10.1080/13607863.2019.1602592
- Almond, S., Knapp, M., Francois, C., Toumi, M., & Brugha, T. (2004). Relapse in schizophrenia: costs, clinical outcomes and quality of life. *British Journal of Psychiatry*, 184, 346–351
- American Psychiatric Association (2013). *Diagnostic and statistical manual of mental disorders (5th ed.)*. Washington, DC.: Author
- Bhugra, D., McKenzie, K. (2003). Expressed emotion across cultures. *Advanced Psychiatric Treatment*, 9, 342–348
- Boyd, J. E., Otilingam, P. G., & DeForge, B. R. (2014). Brief version of the Internalized Stigma of Mental Illness (ISMI) scale: Psychometric properties and relationship to depression, self esteem, recovery orientation, empowerment, and perceived devaluation and discrimination. *Psychiatric Rehabilitation Journal*, 37(1), 17-23
- Butzlaff, R. L., & Hooley, J. M. (1998). Expressed emotion and psychiatric relapse. *Archives of General Psychiatry*, 55, 54 – 552.
- Carrigan, P., Rafacz, R., & Rusch, N. (2011). Examining a progressive model of self-stigma and its impact on people with serious mental illness. *Psychiatry Research*, 189(3), 339-43 doi: 10.1016/j.psychres.2011.05.024
- Cavelti, M., Kvrjic, S., Beck, E., Rüsck, N., & Vauth, R. (2012). Self-stigma and its relationship with insight, demoralization, and clinical outcome among people with schizophrenia spectrum disorders. *Comprehensive*, 53, 468–479
- Cole, J. D., & Kazarian, S. S. (1988). The Level of Expressed Emotion Scale: A new measure of expressed emotion. *Journal of Clinical Psychology*, 44, 392–397.
- Corrigan, P. W. (2005). *On the stigma of mental illness Washington: Practical strategies for research and social change*. Washington DC: American Psychological Association.
- Corrigan, P. W. (2007). How clinical diagnosis might exacerbate the stigma of mental illness. *Social Work*, 52, 31–39. doi: 10.1093/sw/52.1.31
- Corrigan, P. W., & Calabrese, J. D. (2005). Strategies for assessing and diminishing self-stigma. In P. W. Corrigan (Ed.), *On the stigma of mental illness. Practical strategies for research and social change* (pp. 239 – 256). Washington, DC: American Psychological Association.
- Corrigan, P. W., Larson, J. E., & Rusch, N. (2009). Self-stigma and the why try effect: Impact on life goals and evidence based practices. *World Psychiatry*, 8, 75-81, PMID: 19516923
- Docherty, N. M., St-Hilaire, A., Aakre, J. M., Seghers, J. P., McCleery, A., & Divilbiss, M, (2011). Anxiety interacts with expressed emotion criticism in the prediction of psychotic symptom exacerbation. *Schizophrenia Bulletin*, 37(3), 611–618. doi:10.1093/schbul/sbp123
- Grambal, A., Prasko, J., Kamaradova, D., Latalova, K., Holubova, M., & Sedlackova, Z. (2016). Self-stigma in borderline personality disorder in comparison with schizophrenia, major depressive disorder, and anxiety disorders – cross-sectional study. *Patient Prefer Adherence*, 10, 1421–1433
- Gupta, N. & Mohanty, S. (2016). Stigma and expressed emotion in spouses of persons with schizophrenia. *Indian Journal of Community Psychology*, 12, 98-106.
- 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*, 5(1–2), 6–11.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York, NY: Guilford Press
- Holubova, M., Prasko, J., Latalova, K., Ociskova, M., Grambal, A., Kamaradova, D., Vrbova, K., & Hruby, R. (2016). Are self-stigma, quality of life, and clinical data interrelated in schizophrenia spectrum patients? A cross-sectional outpatient study. *Patient Prefer Adherence*, 10, 265–274.
- Hooley, J. M., & Gotlib, I. H. (2000). A diathesis-stress conceptualization of expressed emotion and clinical outcome. *Applied and Preventive Psychology*, 9(3), 135–151.
- Hooley, J. M. (2007). Expressed emotion and relapse of psychopathology. *Annual Review of Clinical Psychology*, 3, 329–352.
- Horsseleben, E. M. A., van Busschbach, J. T., Aleman, A., & Pijnenborg, G. H. M. (2016). Self-Stigma and its relationship with victimization, psychotic symptoms and self-esteem among people with schizophrenia spectrum disorders. *PLoS ONE*, 11(10), 0149763. doi:10.1371/journal.pone.0149763
- Kamaradova, D., Latalova, K., Prasko, J., Kubinek, R., Vrbova, K., Mainerova, B., ..., & Tichackova, A. (2016). Connection between self-stigma, adherence to treatment, and discontinuation of medication. *Patient Prefer Adherence*, 10, 1289–1298.

- Kay, S. R., Fszibein, A., & Opler, L. A. (1987). The Positive and Negative Syndrome Scale (PANSS) for schizophrenia. *Schizophrenia Bulletin*, 13, 261-276, PMID: 3616518
- Chan, K. K. S., & Lam, C. B. (2018). The impact of familial expressed emotion on clinical and personal recovery among patients with psychiatric disorders: The mediating roles of self-stigma content and process. *American Journal of Orthopsychiatry*, 88(6), 626–635.
- Knight, M. T. D., Wykes, T., & Hayward, P. (2006). Group treatment of perceived stigma and self-esteem in schizophrenia: A waiting list trial of efficacy. *Behaviour Cognitive Psychotherapy*, 34, 305-318
- Larson, J. E., & Corrigan, P. W. (2010). Psychotherapy for self-stigma among rural clients. *Journal of Clinical Psychology*, 66, 524-536.
- Lasebikan, V., & Aremu, O. (2016). Cannabis use and associated harms among schizophrenia patients in a Nigerian clinical setting: A case-control Study. *Frontier in Psychiatry*, 7, 123-136.
- Lee, S., Chiu, M. Y., Tsang, A., Chui, H., & Kleinman, A. (2006). Stigmatizing experience and structural discrimination associated with the treatment of schizophrenia in Hong Kong. *Social Science & Medicine*, 62(7), 1685–1696.
- 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*, 71, 2150–2161. doi: 10.1016/j.socscimed.2010.09.030
- Lysaker, P. H., Glynn, S. M., Wilkniss, S. M., & Silverstein, S. M. (2010). Psychotherapy and recovery from schizophrenia: a review of potential applications and need for future study. *Psychological Services*, 7, 75-91.
- Lysaker, P. H., Roe, D., & Yanos, P. T. (2007). Toward understanding the insight paradox: internalized stigma moderates the association between insight and social functioning, hope, and self-esteem among people with schizophrenia spectrum disorders. *Schizophrenic Bulletin*, 33, 192-199.
- Mashiach-Eizenberg, M., Hasson-Ohayon, I., Yanos, P. T., Lysaker, P. H., & Roe, D. (2013). Internalized stigma and quality of life among persons with severe mental illness: The mediating roles of self-esteem and hope. *Psychiatry Research*, 208(1), 15–20.
- McCann, T. V., Songprakun, W., & Stephenson, J. (2015). Effectiveness of guided self-help in decreasing expressed emotion in family caregivers of people diagnosed with depression in Thailand: a randomised controlled trial. *BMC Psychiatry*, 15, 258. doi: 10.1186/s12888-015-0654-z.
- Mittal, D., Sullivan, G., Chekuri, L., Allee, E., & Corrigan, P. W. (2012). Empirical studies of self stigma reduction strategies: A critical review. *Psychiatric Services*, 63, 974–981. doi: 10.1176/appi.ps.201100459
- Nuechterlein, K. H., Dawson, M. E., Ventura, J., Gitlin, M., Subotnik, K. L., Snyder, K. S., Mintz, J., & Bartzokis, G. (1994). The vulnerability/stress model of schizophrenic relapse: A longitudinal study. *Acta Psychiatrica Scandinavica*, 89(382), 58–64. doi: 10.1111/j.1600-0447.1994.tb05867.x
- Pearl, R. L., Forgeard, M. J. C., Rifkin, L., Beard, C., & Björgvinsson, T. (2017). Internalized stigma of mental illness: Changes and associations with treatment outcomes. *Stigma and Health*, 2(1), 2-15. doi.: 10.1037/sah0000036.
- Pilling, S., Bebbington, P., Kuipers, E., Garety, P., Geddes, J., Orbach, G., & Morgan, {2002. Psychological treatments in schizophrenia: Meta-analysis of family intervention and cognitive behaviour therapy. *Psychological Medicine*, 32, 763-782. doi: 10.1017/S0033291702005895
- Purgato, M., Adams, O & Barbui, C. 2012). Schizophrenia trials conducted in African countries: a drop of evidence in the ocean of morbidity? *International Journal of Mental Health Systems*, 6, 9-19.
- Ritsher, J. B., Otilingam, P. G., & Grajales, M. (2003). Internalized stigma of mental illness: psychometric properties of a new measure. *Psychiatric Research*, 121(1), 31–49.
- Ritsher, J. B., & Phelan, J. C. (2004). Internalized stigma predicts erosion of morale among psychiatric outpatients. *Psychiatry Research*, 129(3), 257–265.
- Schomerus, G., Matschinger, H., & Angermeyer, M. C. (2009). The stigma of psychiatric treatment and help-seeking intentions for depression. *European Archives of Psychiatry and Clinical Neuroscience*, 259, 298–306. doi: 10.1007/s00406-009-0870-y.
- Siu-Man N. G. & Yat-Sang, S. U. N. (2011). Validation of the Concise Chinese Level of Expressed Emotion Scale. *Social Work in Mental Health*, 9, 473–484
- Sturgeon, D., Turpin, G., Kuipers, L., Berkowitz, R., & Leff, J. (1981). Psychophysiological responses of schizophrenic patients to high and low expressed emotion relatives. *British Journal of Psychiatry*, 138, 40–45
- Tarrier, N., Barrowclough, C., Porceddu, K., & Watts, S. (1988). The assessment of psychophysiological reactivity to the expressed emotion of the relatives of schizophrenic patients. *British Journal of Psychiatry*, 152, 618–624
- Weintraub, M. J., Hall, D. L., Carbonella, J. Y., De Mamani, A. W., & Hooley, J. M. (2015). Integrity of literature on expressed emotion and relapse in patients with schizophrenia verified by a p-curve analysis. *Family Process*, 10, 1-9.
- Verma, M., Arora, A., Malviya, S., Nehra, A., Sagar R., & Tripathi, M (2015). Do expressed emotions result in stigma? A potentially modifiable factor in persons with epilepsy in India. *Epilepsy & Behavior*, 52, 205–211.
- Vrbova, K., Prasko, J., Holubova, M., Kamaradova, D., Ociskova M., Marackova, M., ..., & Zatkova, M. (2016). Self-stigma and schizophrenia: a cross-sectional study. *Neuropsychiatric Disease and Treatment*, 12, 3011–3020.
- Yanos, P. T., Lysaker, P. H., & Roe, D. (2010). Internalized stigma as a barrier to improvement in vocational functioning among people with schizophrenia-spectrum disorders. *Psychiatry Research*, 178, 211-213.

Yanos, P. T., Roe, D., Markus, K., & Lysaker, P. H. (2008). Pathways between internalized stigma and outcomes related to recovery in schizophrenia spectrum disorders. *Psychiatric Services, 59*, 1437–1442. doi: 10.1176/ps.2008.59.12.1437

Yanos, P. T., West, M. L., Gonzales, L., Smith, S. M., Roe, D., & Lysaker, P. H. (2012). Change in internalized stigma and social functioning among persons diagnosed with severe mental illness. *Psychiatry Research, 200*, 1032–1034. doi: 10.1016/j.psychres.2012.06.017

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.

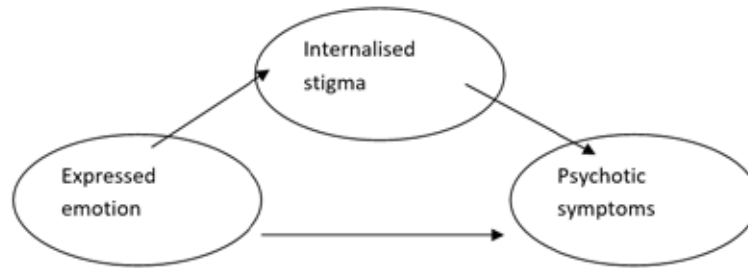


Figure 1: Proposed Model of Internalised stigma mediation of Expressed Emotion – Psychotic symptoms Relationship

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Table 1: Correlation among predictors and outcome variables

Variables	1	2	3	4	5	M	SD	Range
1 Criticism						11.29	3.44	4 – 16
2 Hostility	.31***					10.87	3.12	4 – 16
3 Over-involvement	.14*	.39***				11.68	3.47	4 - 16
4 Internalised stigma	.16*	.21**	.19**			3.56	.97	1 - 4
5 Negative symptoms	.19**	.19**	.15*	.53***		32.10	8.25	7 – 49
6 Positive symptoms	.16*	.17*	.15*	.38***	.59***	32.00	8.01	7 – 49

Note: *** $p < .001$, ** $p < .01$, * $p < .05$

Table 2: Analysis of internalised stigma mediating the link between expressed emotion and psychotic symptoms

	Criticism		Hostility		Over involvement	
	Negative	Positive	Negative	Positive	Negative	Positive
IV/M (Part a)						
B(SE)	.05*(.02)	.05*(.02)	.06**(.02)	.06**(.02)	.05**(.02)	.05**(.02)
M/DV (Part b)						
B(SE)	4.40**(.50)	3.02***(.52)	4.40***(.50)	2.99***(.53)	4.47***(.50)	3.04***(.53)
IV/DV (Part c)						
B(SE)	.46**(.16)	.38*(.16)	.50**(.18)	.45**(.17)	.36*(.16)	.34*(.16)
IV/DV controlling for M (part c ¹)						
B(SE)	.26(.14)	.24(.15)	.22(.16)	.26(.16)	.12(.14)	.18(.15)
Indirect effect with 95%CI	.08 (.02, .16)	.06(.01, .12)	.11 (.01, .20)	.07 (.01, .15)	.10 (.02, .19)	.07 (.02, .14)
R ²	.29	.16	.29	.16	.28	.15
Sobel's value	2.34*	2.22*	2.91**	2.69**	2.68**	2.50**

Note: *** $p < .001$, ** $p < .01$, * $p < .05$; Notations (a, b, c, and c¹) can be found in Figure 1, Criticism, Hostility and Over involvement are the IVs, Negative and Positive symptoms are the DVs