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The association of clinical insight and depression with quality of life in schizophrenia

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ABSTRACT

This study assesses how insight influences depression and Quality of Life (QOL) in schizophrenia-spectrum outpatients and whether depression modifies the relationship between insight and QOL. 141 patients with schizophrenia or schizoaffective disorders with stable disease completed the EUROQOL-5D-5L and SQLS-R4, SAI-E and Calgary scales. Univariate and multivariate linear regression models were fitted to assess whether insight was related to QOL and/or depression. Higher levels of insight were (inversely) only related to EuroQOL-health but showed no relationship with depression. Depression showed an inversely strong relationship with EuroQOL-health. The relationship between clinical insight and QOL does not seem to be associated with depression.

1. Introduction

Important aims of interventions in psychosis are maintaining and improving Quality of Life (QOL) (Kao et al., 2011). Two types of insight (cognitive and clinical) are considered. Clinical insight refers to a person's awareness of their illness, symptoms and need for treatment (Zhang et al., 2016). The relationship between clinical insight and subjective QOL (patient-assessed) is unclear (Kim et al., 2015; Montemagni et al., 2014). Some studies (Kurtz and Tolman, 2011; Tolman and Kurtz, 2012; Van Baars et al.,2013; Margariti et al., 2015) found higher insight was associated with lower QOL, while others found no relationship (Kako et al., 2014) or a positive or negative relationship depending on the insight dimension (Rocca et al., 2010).

Depression may be related to insight and QOL. The direction of the association between insight and depression is unclear. Some studies found that good insight is related to higher depression – the 'insight paradox' (Lysaker et al., 2018). Others found less insight in depressive patients (Riedel et al., 2012) or no relationship (Kurtz and Tolman, 2011). Cavelti et al. (2012) presented the concept of *chronic demoralization* (related to loss of hope for the future): patients with several years of disease may be more prone to insight-related depressive symptoms than those in their first episodes.

The relationship between good clinical insight and lower QOL may be associated with depression (Kim et al., 2015).

This study assesses how far clinical insight is related to QOL and depression in schizophrenia-spectrum outpatients with stable disease, and whether depression modifies the relationship between this type of insight and QOL. We expect higher clinical insight to be associated with lower QOL and higher depression levels, and the effect of this type of insight on QOL to be accentuated in patients with higher depression levels.

2. Methods

2.1. Participants

A consecutive sample of schizophrenia and schizoaffective-disorder patients treated at a Rehabilitation Service (May 2014-June 2016) were recruited. All participants were adults (18–65 years) with stable disease and mild or no positive symptoms (scores ≤ 2 in all SAPS items) (Andreasen, 1990). They had spent at least three weeks in the service. Patients whose cognitive level prevented them from completing the questionnaires were excluded.

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2.2. Instruments

2.2.1. QOL questionnaires

All patients completed two subjective QOL questionnaires: EUROQOL-5D-5L (Herdman et al., 2011) and SQLS-R4-Spanish validation (Martin and Allan, 2007; Arraras et al., press).

EUROQOL-5D-5L is a generic QOL questionnaire in two parts:

- five items with five levels of severity that can be combined into 3125 health states, each with a societal preferential value: EUROQOL value (between 1 and −0.654 for Spain).
- a Visual Analogue Scale (0–100) on level of health: EUROQOL health.

Schizophrenia Quality of Life Scale Revision4 (SQLS-R4) is a QOL scale for schizophrenia patients comprising 33 items divided into vitality and psychosocial feelings sub-scales and a global QOL score. On both questionnaires, high scores represent high QOL.

2.2.2. Other instruments

SANS and SAPS (Scales for the Assessment of Negative and Positive Symptoms) (Andreasen, 1990): Global scores 0–30 in SANS and 0–20 in SAPS. Calgary Depression Scale for Schizophrenia (Spanish validation) (Addington et al., 1990; Sarró et al., 2004) (Scores 0–27). A cut-off point of 6 classifies patients with or without depression. High scores indicate high levels of symptoms in all scales.

The expanded Schedule of Assessment of Insight (SAI-E) (Kemp and David, 1996) assesses three clinical insight dimensions: awareness of disease (scores 0–12), relabeling of symptoms as pathological (0–12), and treatment compliance (0–4), plus total insight (0–28). High scores indicate high level of insight.

SAPS, SANS and SAI-E were assessed by clinicians who coordinated treatment and had received training on these instruments. Interrater reliability was obtained at meetings where the coordinator clinicians agreed scores for six patients.

2.3. Data collection procedures

Patients providing informed consent completed EUROQOL-5D-5L, SQLS-R4 and Calgary. The study was approved by the Health Department's Research Ethics Committee and conducted according to Declaration of Helsinki ethical standards.

2.4. Statistical analysis

To assess whether insight was related to QOL and/or depression, univariate linear regression models were fitted using each SAI-E dimension and total score separately as independent variables and QOL scores for EUROQOL-5D-5L health and value, SQLS-R4 (two sub-scales and global score) and Calgary as dependent variables. Unadjusted p-values and p-values adjusted for multiple comparisons using Holm's method were obtained. For QOL dimensions for which insight showed a significant or marginally significant ($p < 0.10$) relationship in univariate models, we conducted three-step complementary analysis to assess the independent contribution of insight on QOL. We checked whether time and number of acute episodes since diagnosis, negative symptoms and depression influenced that QOL dimension. We then fitted a multivariate linear regression model to that QOL dimension which included age, sex, insight (each SAI-E scale separately to avoid multicollinearity) and the significant variables. Finally, to assess whether depression (Calgary ≥6 vs <6) played a modifying role between insight and QOL, we determined the significance of the interaction term and maintained it if significant. The effect of time since diagnosis on depression and insight was also assessed using linear models.

Table 1
Age and sex adjusted multivariate results for the EUROQOL health in the total and each of the SAI-E subscales.

		β-estimate (95% CI)	*p*-value	R^2
M1: with SAI-E Total				
Calgary	0–5 points	Reference		
	≥6 points	−15.98 (−7.96, −24.00)	<0.001	31%
SANS		−0.93 (−1.71, −0.15)	0.020	
SAI-E Total		−0.84 (−1.50, −0.17)	0.014	
M2: with SAI-E disease				
Calgary	0–5 points	Reference		
	≥ 6 points	−15.78 (−7.82, −23.74)	<0.001	31%
SANS		−0.91 (−1.68, −0.14)	0.021	
SAI-E disease		−1.77 (−3.14, −0.40)	0.012	
M3: with SAI-E symptoms				
Calgary	0–5 points	Reference		
	≥ 6 points	−15.67 (−7.65, −23.7)	<0.001	29%
SANS		−0.87 (−1.64, −0.09)	0.028	
SAI-E symptoms		−1.53(−2.89, −0.17)	0.027	
M4: with SAI-E treatment				
Calgary	0–5 points	Reference		
	≥6 points	−15.84 (−7.75, −24.16)	<0.001	27%
SANS		−0.90 (−1.70, −0.09)	0.030	
SAI-E treatment		−2.67 (−6.25, 0.92)	0.143	

3. Results

141 patients (149 candidates) were interviewed. Mean age was 39.8. 69.5% had schizophrenia. Mean time since diagnosis was 13.9 years, and mean number of acute episodes was 3.4.

Mean (standard deviation) scores were: 62.1(21.4) for EUROQOL health, 0.79(0.21) for EUROQOL value; 35.8(21.6), 39.2(19.1), and 37.1(19.6) for Psychosocial, Vitality and Total SQLS-R4; 20.2(5.9) for SAI-E total; 6.1(5.1) for Calgary (43.9% of patients ≥6 points); 8.9(4.9) for SANS.

Higher insight was inversely related to QOL according to EuroQOL Health but showed no relationship with EUROQOL value, SQOL-R4 or Calgary. No other clinical or demographic characteristic was related to EuroQOL health, except depression and negative symptoms (both inversely associated with QOL).

For age- and sex-adjusted multivariate results for the EUROQOL Health, see Table 1. Calgary ≥6 significantly and independently decreases EuroQOL Health scores by roughly 16 points compared to Calgary <6. SANS and insight also negatively affect QOL. A 1-point increase in SAI-E total, disease and symptoms relates to a 1–2 point decrease in EuroQOL Health scores.

The interaction terms between Calgary and SAI-E were not significant for SAI-E total ($p = 0.596$) or any SAI-E dimension ($p = 0.592$ disease, $p = 0.549$ symptoms, $p = 0.448$ treatment), so were excluded from final models. Time since diagnosis was not related to Calgary ($p = 0.326$), to total SAIE ($p = 0.719$) or any of its dimensions.

4. Discussion

Clinical insight is related to just one QOL area but unrelated to depression in schizophrenia-spectrum outpatients with stable disease. The relationship between clinical insight and QOL does not seem to be associated with depression, which seems to influence QOL strongly.

Patients have moderate QOL limitations. SQLS-R4 scores are as in UK (Martin and Allan, 2007) and other areas (Rofail et al., 2016). EUROQOL-health scores were in line with 10 countries (including Spain) (Alonso et al., 2009). Kim et al. (2015) also found no correlation between SQLS-R4 and age, gender, number of admissions or disease duration. SAI-E mean scores were high (higher than in UK (Gilleen et al., 2011)). Calgary scores were as in India (Grover et al., 2017).

Few and weak relationships were found between insight and QOL.

Kako et al. (2014) and Nakamae et al. (2010) found no relationship between insight and QOL (using some questionnaires we used).

The non-relationship between insight and EuroQOL-value may be because scores in EuroQOL-value are based on closed questions on patient ability to perform activities (more 'objective') or symptoms levels. EuroQOL-health scores are more subjective (general view of health is more influenced by insight).

Boyer et al. (2012) found better illness awareness was associated with lower QOL (patients may better understand negative consequences of their illness), whereas better awareness of symptoms was associated with higher QOL (patients may develop care skills that mitigate their symptoms).

The association between depression and QOL is as in most studies on the topic in schizophrenia-spectrum disorders (Huppert et al., 2001; Margariti et al., 2015; Tomotake, 2011).

Our non-association between depression and insight agrees with other studies administering questionnaires we used (Grover et al., 2017) or different ones (Kako et al., 2014).

What may explain the non-relationship between insight and depression we found is that several causes underlying this relationship (self-stigma (Corrigan and Rao, 2012), hopelessness and lower self-esteem) are decreasing (Belvederi et al., 2015, 2016). Patients in our Unit receive multi-professional treatment that may improve hope and self-esteem and reduce self-stigma.

A meta-analysis of the relationship between insight and depression in schizophrenia found weak associations, especially in first-episode and acute schizophrenia (Belvederi et al., 2015). Our patients had chronic disease and may have had time to adapt to disease limitations. This adaptation, plus their low depression rate, stable disease and mild/no positive symptoms, may have influenced the non-relationship between insight and depression and the few relationships with QOL.

The non-relationship between insight and depression in our sample (mean duration since diagnosis = 13.9 years), the lack of relationship between time since diagnosis and insight and depression (and QOL), plus the moderate depression scores, may not support *chronic demoralization* in our sample.

This study might have benefited from a longitudinal design (Lysaker et al., 2018) and study of cognitive insight (Grover et al., 2017; Phalen et al., 2015).

Declarations of interests

None.

References

Addington, D., Addington, J., Schissel, B.A., 1990. Depression rating scale for schizophrenics. Schizophr. Res. 3, 247–251.

Alonso, J., Croudace, T., Brown, J., Gasquet, I., Knapp, M.R., Suárez, D., Novick, D., 2009. Health-related quality of life (HRQL) and continuous antipsychotic treatment: 3-year results from the Schizophrenia Health Outcomes (SOHO) study. Value Health 12, 536–543.

Andreasen, N.C., 1990. Methods for assessing positive and negative symptoms. Mod. Probl. Pharmacopsychiatry 24, 73–88.

Arraras, J.I., Basterra, I., Pereda, N., Ibañez, B., Iribarren, S., Cabases, J.M, 2019Arraras et al., in press. The Schizophrenia Quality of Life Scale Revision 4 (SQLS-R4) questionnaire. A validation study with Spanish schizophrenia spectrum outpatients. Actas Esp. Psiquiatr In press.

Belvederi, M., Respino, M., Innamorati, M., Cervetti, A., Calcagno, P., Pompili, M., Lamis, D.A., Ghio, L., Amore, M, 2015. Is good insight associated with depression among patients with schizophrenia? Systematic review and meta-analysis. Schizophr. Res. 162, 234–247.

Belvederi, M., Amore, M., Calcagno, P., Respino, M., Marozzi, V., Masotti, M., Bugliani, M., Innamorati, M., Pompil, i M., Galderisi, S., Maj, M., 2016. The "Insight Paradox" in Schizophrenia: magnitude, moderators and mediators of the association between insight and depression. Schizophr. Bull. 42, 1225–1233.

Boyer, L., Aghababian, V., Richieri, R., Loundou, A., Padovani, R., Simeoni, M.C., Auquier, P., Lançon, C., 2012. Insight into illness, neurocognition and quality of life in schizophrenia. Prog. Neuropsychopharmacol. Biol. Psychiatry. 30, 271–276.

Cavelti, M., Kvrgic, S., Beck, E.M., Rusch, N., Vauth, R., 2012. Self-stigma and its relationship with insight, demoralization, and clinical outcome among people with schizophrenia spectrum disorders. Compr. Psychiatry 53, 468–479.

Corrigan, P.W., Rao, D., 2012. On the self-stigma of mental illness: stages, disclosure, and strategies for change. Can, J, Psychiatry 57, 464–469.

Huppert, J.D., Weiss, K.A., Lim, R., Pratt, S., Smith, T.E., 2001. Quality of life in schizophrenia: contributions of anxiety and depression. Schizophr. Res. 51, 171–180.

Gilleen, J., Greenwood, K., David, A.S., 2011. Domains of awareness in schizophrenia. Schizophr. Bull. 37, 61–72.

Grover, S., Sahoo, S., Nehra, R., Chakrabarti, S., Avasthi, A., 2017. Relationship of depression with cognitive insight and socio-occupational outcome in patients with schizophrenia. Int. J. Soc. Psychiatry 6, 181–194.

Herdman, M., Gudex, C., Lloyd, A., Janssen, M., Kind, P., Parkin, D., Bonsel, G., Badia, X., 2011. Development and preliminary testing of the new five-level version of EQ-5D (EQ-5D-5L). Qual. Life Res. 20, 1727–1736.

Kao, Y.C., Liu, Y.P., Chou, M.K., Cheng, T.H., 2011. Subjective quality of life in patients with chronic schizophrenia: relationships between psychosocial and clinical characteristics. Compr. Psychiatry 52, 171–180.

Kako, Y., Ito, K., Hashimoto, N., Toyoshima, K., Shimizu, Y., Mitsui, N., Fujii, Y., Tanaka, T., Kusumi, I., 2014. The relationship between insight and subjective experience in schizophrenia. Neuropsychiatr. Dis. Treat. 29, 1415–1422.

Kemp, R., David, A., 1996. Psychological predictors of insight and compliance in psychotic patients. Br. J. Psychiatry 169, 444–450.

Kim, J.H., Lee, S., Han, A.Y., Kim, K., Lee, J., 2015. Relationship between cognitive insight and subjective quality of life in outpatients with schizophrenia. Neuropsychiatr. Dis. Treat. 7, 2041–2048.

Kurtz, M.M., Tolman, A., 2011. Neurocognition, insight into illness and subjective quality-of-life in schizophrenia: what is their relationship? Schizophr. Res. 127, 157–162.

Lysaker, P.H., Pattison, M.L., Leonhardt, B.L, Phelps, S., Vohs, J.L., 2018. Insight in schizophrenia spectrum disorders: relationship with behavior, mood and perceived quality of life, underlying causes and emerging treatments. World Psychiatry 17, 12–23.

Margariti, M., Ploumpidis, D., Economou, M., Christodoulou, G.N., Papadimitriou, G.N., 2015. Quality of life in schizophrenia spectrum disorders: associations with insight and psychopathology. Psychiatry Res. 225, 695–701.

Martin, C.R., Allan, R., 2007. Factor structure of the Schizophrenia Quality of Life Scale Revision 4 (SQLS-R4). Psychol. Health Med. 12, 126–134.

Montemagni, C., Castagna, F., Crivelli, B., De Marzi, G., Frieri, T., Macrì, A., Rocca, P., 2014. Relative contributions of negative symptoms, insight, and coping strategies to quality of life instable schizophrenia. Psychiatry. Res. 220, 102–111.

Nakamae, T., Kitabayashi, Y., Okamura, A., Shibata, K., Iwahashi, S., Naka, F., Morinobu, M., Watanabe, M., Narumoto, J., Kitabayashi, M., Fukui, K., 2010. Insight and quality of life in long-term hospitalized Japanese patients with chronic schizophrenia. Psychiatry. Clin. Neurosci. 64, 372–376.

Phalen, P.L., Viswanadhan, K., Lysaker, P.H., Warman, D.M., 2015. The relationship between cognitive insight and quality of life in schizophrenia spectrum disorders: symptom severity as potential moderator. Psychiatry Res. 230, 839–845.

Riedel, M., Mayr, A., Seemüller, F., Maier, W., Klingberg, S., Heuser, I., Klosterkötter, J., Gastpar, M., Schmitt, A., Sauer, H., Schneider, F., Gaebel, W., Jäger, M., Möller, H.J., Schennach-Wolff, R., 2012. Depressive symptoms and their association with acute treatment outcome in first-episode schizophrenia patients: comparing treatment with risperidone and haloperidol. World. J. Biol. Psychiatry 13, 30–38.

Rocca, P., Castagna, F., Mongini, T., Montemagni, C., Bogetto, F., 2010. Relative contributions of psychotic symptoms and insight to quality of life in stable schizophrenia. Psychiatry Res. 15, 71–76.

Rofail, D., Regnault, A., le Scouiller, S., Berardo, C.G., Umbricht, D., Fitzpatrick, R., 2016. Health-related quality of life in patients with prominent negative symptoms: results from a multicenter randomized Phase II trial on bitopertin. Qual. Life Res. 25, 201–211.

Sarró, S., Dueñas, R.M., Ramírez, N., Arranz, B., Martínez, R., Sánchez, J.M., González, J.M., Saló, L., Miralles, L., San, L., 2004. Cross-cultural adaptation and validation of the Spanish version of the Calgary Depression Scale for Schizophrenia. Schizophr. Res. 1, 349–356.

Tolman, A.W., Kurtz, M.M., 2012. Neurocognitive predictors of objective and subjective quality of life in individuals with schizophrenia: a meta-analytic investigation. Schizophr. Bull. 38, 304–315.

Tomotake, M., 2011. Quality of life and its predictors in people with schizophrenia. J. Med. Invest. 58, 167–174.

Van Baars, A.W., Wierdsma, A.I., Hengeveld, M.W., Mulder, C.L., 2013. Improved insight affects social outcomes in involuntarily committed psychotic patients: a longitudinal study in the Netherlands. Compr. Psychiatry. 54, 873–879.

Zhang, Q., Li, X., Parker, G.J., Hong, X.H., Wang, Y., Lui, S.S., Neumann, D.L., Cheung, E.F., Shum, D.H., Chan, R.C., 2016. Theory of mind correlates with clinical insight but not cognitive insight in patients with schizophrenia. Psychiatry Res. 30, 188–195.