pressure – those with baseline >90 reduced from an average of 93 to 80; a 10-point average reduction in total cholesterol (t=-1.13, DF=17, p=0.27), and 50-point average reduction in triglycerides (t=-1.29, DF=17, p=0.21). A continued decrease was observed for A1C, weight, and triglycerides in the first active intervention group 16-weeks post-completion, suggesting sustainability of gains made during the intervention.
**Discussion:** There is a pressing need to address the morbidity and premature mortality related to modifiable health behaviors in this underserved population, yet individuals with SMI and diabetes are much less likely to be identified or to receive recommended diabetes care and monitoring. We hope to further establish and refine a standard of care diabetes education curriculum, tailored for individuals with SMI, a population with high prevalence of diabetes but low rates of diabetes diagnosis, education, and treatment. Results from year one demonstrate this program to be easily implementable, well-accepted, socially relevant and effective.

## S95. PREVALENCE AND CLINICAL CORRELATES OF COMORBID OBSESSIVE-COMPULSIVE DISORDER IN PATIENTS WITH SCHIZOPHRENIA

Lee Bora*[,1], Kyung Sue Hong[2], Ji Hyun Baek[2], So Yung Yang[2]
*[1]Samsung Medical Center, [2]Sungkyunkwan University School of Medicine, Samsung Medical Center*

**Background:** Obsessive compulsive symptoms (OCS) commonly occur in the course of schizophrenia. However, reported rates of comorbid obsessive compulsive disorder (OCD) in schizophrenia were highly variable among studies. In addition, influences of OCS on the symptomatology and functioning of schizophrenia have not been fully explored. The aim of this study was to investigate the clinic-based prevalence rate of OCD in schizophrenia patients, and to evaluated clinical correlates of the comorbidity.
**Methods:** Patients with schizophrenia (n=320) were recruited and lifetime clinical characteristics were evaluated comprehensively. Patients having comorbid OCD (OCD group, n=66) and those without OCD (the non-OCD group, n=254) were compared in terms of clinical characteristics and cognitive functioning.
**Results:** OCD was found in 20.6% of the subjects. Earlier age at onset, male gender, and higher level of education were associated with comorbid OCD. In terms of individual symptoms and symptom dimensions, 'anxiety (p=0.009) and 'depression (p=0.001)' were more frequently observed in the OCD group than in the non-OCD group. The prodromal impairment was higher in the non-OCD group (p=0.016). The OCD group showed better performance in working memory domain (p= 0.003), and other cognitive domains did not show any significant group difference.
**Discussion:** The prevalence rate of OCD in the current subjects was within the range of previously reported comorbidity rates in schizophrenia patients from other populations. Association of OCS with anxiety and depressive symptoms seems to be a common finding which was also reported in previous studies of schizophrenia and bipolar disorders. Regarding cognitive functions, inconsistent results including the current report have been generated suggesting heterogeneous developmental mechanisms of OCS in schizophrenia.

## S96. CARDIOVASCULAR DISEASE RISK IN PATIENTS WITH SCHIZOPHRENIA AND BIPOLAR DISORDER

Linn Rødevand*[,1], Nils Eiel Steen[1], Daniel Quintana[1], Elina Johanna Reponen[1], Ragni Helene Mørch[1], Synve Hoffart Lunding[1], Trude Iversen[1], Trine V. Lagerberg[1], Ingrid Melle[1], Ole A. Andreassen[1]
*[1]NORMENT & K.G. Jebsen Centre for Psychosis Research, Oslo University Hospital, University of Oslo*

**Background:** Patients with schizophrenia and bipolar disorder have markedly reduced life expectancy compared to the general population (15–20 years). A major contributor of excess death is cardiovascular disease (CVD) [1]. During the last decade, there have been several public health campaigns for health promotion and disease prevention, and tobacco legislation has become stricter. These strategies appear to have been effective in improving the health of the general Norwegian population [2]. It is unknown whether the elevated CVD risk in patients with schizophrenia and bipolar disorder has sustained in spite of these health promotion approaches. Here we investigate the development of CVD risk factors in a large representative sample of Norwegian patients with schizophrenia and bipolar disorder between 2002 and 2017. More specifically, we explored whether the CVD risk level was similar in a cohort from 2006 and a second cohort from 2017.
**Methods:** Cross sectional analysis was performed among DSM-IV diagnosed patients included from 2002–2005 (cohort 1) and from 2006–2017 (cohort 2), respectively. Cohort 1 consisted of 161 patients with schizophrenia and 109 patients with bipolar disorder, and cohort 2 consisted of 623 patients with schizophrenia and 387 patients with bipolar disorder. Comparisons were made between cohorts regarding demographic variables, psychiatric symptoms, tobacco use, body mass index, waist circumference, total cholesterol, high-density lipoprotein (HDL) cholesterol, low-density lipoprotein (LDL) cholesterol, triglycerides, fasting glucose, systolic blood pressure, and diastolic blood pressure. ANCOVA was used for these analyses, with adjustments for age, duration of the disorder, and duration of psychopharmacological treatment.
**Results:** Mean age was significantly higher for cohort 1 (35.1 years vs. 31.2 years, $p < .001$). There was no statistically significant difference in any of the other demographic variables or symptoms. Among patients with schizophrenia, there was no significant difference in the prevalence of CVD risk factors except from glucose being slightly increased in patients included in cohort 2 ($p = .047$). Among patients with bipolar disorder, there was a significant reduction in the level of total cholesterol, LDL, systolic, and diastolic blood pressure in cohort 2 (all p values $< .01$). These differences remained statistically significant after adjusting for age, duration of the disorder, and duration of psychopharmacological treatment.
**Discussion:** Despite major advances in health promotion and disease prevention during the past decade, the level of CVD risk factors has remained high in patients with schizophrenia. While the level of some CVD risk factors improved in patients with bipolar disorder, they are still at increased risk of CVD. Thus, patients with severe mental disorders, especially schizophrenia, do not appear to have benefited from recent health promotion measures. Our findings also highlight the need for more effective interventions to reduce the risk of CVD in individuals with severe mental disorders, which may reduce the gap in life expectancy compared to the general population.
**References:**
1. Nordentoft M, Wahlbeck K, Hallgren J, et al. Excess mortality, causes of death and life expectancy in 270,770 patients with recent onset of mental disorders in Denmark, Finland and Sweden. PLoS One 2013;8(1):e55176. doi: 10.1371/journal.pone.0055176
2. Mannsverk J, Wilsgaard T, Mathiesen EB, et al. Trends in Modifiable Risk Factors Are Associated With Declining Incidence of Hospitalized and Nonhospitalized Acute Coronary Heart Disease in a Population. Circulation 2016;133(1):74–81. doi: 10.1161/circulationaha.115.016960

## S97. SOCIAL ANXIETY IN SCHIZOPHRENIA: THE IMPACT OF HALLUCINATIONS AND SELF-ESTEEM SUPPORT

Laura Faith*[,1], Elise Racette[1], Amber Grove[1], Melisa Rempfer[1]
*[1] University of Missouri–Kansas City*

**Background:** Social anxiety is an underreported concern in schizophrenia (SCZ). Prevalence rates in the general population range from 0.5–7% (APA, 2013), but are higher in SCZ, and estimated to be 11–36% (Mazeh et al., 2009; Pallanti et al., 2004). Yet, research is limited with

no established social anxiety treatments. Social anxiety is associated with decreased quality of life (Hansson, 2006), low self-esteem (Gumley et al., 2005), and increased psychopathology (Vrbova et al., 2017). Lysaker and Hammersley (2006) found that people with delusions and impairment in flexibility had the highest levels of social anxiety compared to those with fewer symptoms. Additionally, Lysaker et al. (2010) found that people with both high paranoia and theory of mind had higher social anxiety compared to those with lower levels of either paranoia or theory of mind. Taken together, this research suggests that symptoms may increase social anxiety, but other factors may inhibit their impact. The current study aims to add to this literature by exploring how different levels of hallucinations and self-esteem support affect social anxiety in SCZ.

**Methods:** Outpatients with SCZ (N=50) participated in the current study. Participants were 76% male with a mean age of 42.50. Participants were African-American (n=27; 54%), Caucasian (n=11; 22%), multi-racial (n=5; 10%), Asian (n=4, 8%), or Hispanic (n=3; 6%). Social fear, social avoidance, and overall social anxiety was measured with the Liebowitz Social Anxiety Scale (LSAS; Liebowitz, 1987). Self-esteem support (SeS) was measured with a subscale taken from the Interpersonal Support Evaluation List (ISEL; Cohen & Hoberman, 1983). SeS is the appraisal of the self compared with others and other's opinions of the self. Hallucinations (HA) were scored with the observer-rated Scale for Assessment of Positive Symptoms (SAPS; Andreasen, 1983). Participants were classified as having hallucinations if their SAPS global hallucinations were rated moderate to severe. This was chosen a priori as it reflects a level of clear hallucinations that may bother the person to some extent, as defined within the SAPS. Participants were classified as having either high or low SeS based on a mean split of the distribution of scores. Once participants were classified, we planned to compare groups on levels of social anxiety. This method was modified from previous research reporting similar groupings of symptoms and their relationship to social anxiety (Lysaker & Hammersley, 2006).

**Results:** Four groups resulted after including the dichotomized variables with the following proportions: low SeS/no HA (n=6; 12.5%), low SeS/HA (n=11, 22.9%), high SeS/no HA (n=13; 27.1%), and high SeS/HA (n=18, 37.5%). A one-way ANOVA was conducted to analyze the differences between groups. Post-Hoc analyses revealed the following differences. The HA/low SeS group had higher social anxiety than in the no HA/high SeS group (p=.030) and no HA/low SeS group (p=.039). The HA/low SeS group had higher social fear (p=.017) and social avoidance (p=.013) than in the no HA/high SeS group. There was a trending difference revealing that participants in the HA/low SeS group had higher social avoidance than in the HA/high SeS group (p=.056). There was a trending difference revealing that the HA/low SeS group had greater overall social anxiety than those in the HA/high SeS group (p=.064).

**Discussion:** These results present preliminary findings on social anxiety in people with different levels of HA and SeS. We found that people with low SeS and HA had significantly higher levels of social anxiety, social fear, and social avoidance than participants with only one of neither of these symptoms. These results will be discussed further to highlight implications to treatment and comorbidities in SCZ.

## S98. THE RELATIONSHIP BETWEEN CARDIOVASCULAR RISK FACTORS AND COGNITIVE IMPAIRMENT IN PEOPLE WITH SCHIZOPHRENIA: A SYSTEMATIC REVIEW AND META-ANALYSIS

Katsuhiko Hagi*[,1], Tadashi Nosaka[1], Christoph Correll[2]

*[1]Dainippon Sumitomo Pharma; [2]Hofstra Northwell School of Medicine*

**Background:** Schizophrenia is associated with cardiovascular abnormalities, including diabetes mellitus (DM), metabolic syndrome (MetS), obesity, hypertension and dyslipidemia. Since cardiovascular risk factors can worsen cognition in the general population, they may also contribute to cognitive impairment in schizophrenia.

**Methods:** Performing an electronic search in Embase/Scopus/MEDLINE/PubMed/Cochrane library/www.clinicaltrials.gov), we meta-analyzed cross-sectional studies comparing neurocognitive functioning in schizophrenia patients with versus without cardiovascular risk factors. Global cognition and Attention/Vigilance, Reasoning/Problem Solving Speed of Processing Verbal Learning, Visual Learning and Working Memory were analyzed.

**Results:** Data from 22 trials (n=9,579, DM=8 studies, MetS=9 studies, obesity=8 studies, overweight=8 studies, arterial hypertension=5 studies, dyslipidemia=4 studies) were meta-analyzed.

Significantly greater global cognitive deficits in schizophrenia were associated with presence of DM (n=2,976, Hedges' g=0.322; 95%CI=0.227–0.417, p<0.001), MetS (n=2,269, Hedges' g=0.409; 95%CI=0.166–0.652, p=0.001) and hypertension (n=1,899, Hedges' g=0.210; 95%CI=0.110–0.311, p<0.001), but not with obesity (n=2,779, Hedges' g=0.695, 95%CI=-0.320, 1.709, p=0.180), overweight (n=2,825, Hedges' g=0.406; 95%CI=-0.445, 1.257, p=0.350), or dyslipidemia (n=1,761, Hedges' g=-0.055; 95%CI=-0.162, 0.051, p=309). Among 6 analyzed cognitive domains, DM (Hedges' g=0.23–0.40) and hypertension (Hedges' g=0.15–0.27) were each associated with significantly greater cognitive dysfunction in 4 domains, MetS with 3 (Hedges' g=0.16–0.42), obesity (Hedges' g=0.35) and overweight (Hedges' g=0.24) with one, and dyslipidemia with none.

**Discussion:** DM, MetS and hypertension are associated with significant global cognitive impairment in schizophrenia. The same cardiovascular risk factors and, less so, obesity and overweight, are associated with worse performance in specific cognitive domains. Research is needed to determine to what degree improving cardiovascular risk factors also improves cognitive impairment in schizophrenia.

## S99. CANNABIS USE, PSYCHOTIC-LIKE EXPERIENCES AND ABERRANT SALIENCE IN A SAMPLE OF BELGIAN STUDENTS

Francesco Bernardini*[,1], Chiara Gobbicchi[2], Luigi Attademo[3], Severin Puchalski[1], Patrizia Moretti[2], Alfonso Tortorella[2], Gwenole Loas[4]

*[1]Free University of Brussels; [2]Università degli Studi di Perugia; [3]ASP Basilicata; [4]Erasme Hospital*

**Background:** Cannabis is the most popular illicit drug in the western world and its use seems to be strongly associated with an increased risk of developing schizophrenia and other psychotic disorders. Its use can induce transient psychotic symptoms in healthy individuals and increase rate of subclinical psychotic symptoms in the general population. Subclinical psychotic experiences (also called Psychotic Like Experiences: PLEs), such as magical thinking, paranoid ideation or hallucinations, could be considered as a phenotype qualitatively similar to the symptomatology of psychotic disorders but quantitatively less severe in terms of intensity, frequency and impairment. They are fairly common in the general population and usually transitory and self-limiting but they could become abnormally persistent and evolve to a full-blown psychotic disorder, especially if combined with certain environmental risk factors, such as trauma, urbanicity, cannabis use. PLEs may be considered as an early marker of a latent psychosis vulnerability and the frequently good outcome of subclinical psychosis can