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List of Abbreviations

ADHD	**Attention deficit hyperactivity disorder**
COMT	**Catechol-O-methyl transferase**
DSM	**Diagnostic and statistical manual of mental disorders**
HS	**Highly significant**
MSG	**Mutual support groups**
MTHFR	**Methylene tetrahydrofolate reductase**
NICE	**National Institute for Clinical Excellence**
NOS	**Not otherwise specified**
NSS	**Neurological soft signs**
NS	**Not significant**
OC	**Obstetric complications**
PAS	**Physical anhedonia scale**
PFI	**Psychoeducational Family Interventions**
PPD	**Paranoid personality disorder**
PTSD	**Post-traumatic stress disorder**
SANS	**Scale for assessment of negative symptoms**
SAS	**Social anhedonia scale**

SCID-1	**Structured Clinical Interview for DSM-IV Axis I Disorders**
SCID-2	**Structured Clinical Interview for DSM-IV Axis II Disorders**
SD	**Standard deviation**
SPD	**Schizotypal personality disorder**
SZPD	**Schizoid personality disorder**
TDT	**Transmission disequilibrium test**
VCFS	**Velo-cardio-facial syndrome**
WMH-CIDI	**World mental Health Composite International Diagnostic Interview**

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Psychiatric Morbidity in Siblings of Patients with Schizophrenia

Thesis

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المراضة النفسية في أشقاء مرضي الفصام

رسالة

توطئة للحصول على درجة الماجستير فى الأمراض النفسية و العصبية

مقدمة من

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DEDICATION

I would like to dedicate this thesis to my ***Brother Mohammed*** *and My* ***Sister Shaimaa*** *to them I will never find adequate words to express my gratitude.*

Also my ***beloved Family,*** *especially my Husband* ***Hossam*** *for dealing so patiently, tactfully during the work and to my beloved son* ***Anas****.*

بسم الله الرحمن الرحيم

الرَّحْمَنُ. عَلَّمَ الْقُرْآنَ. خَلَقَ الإِنسَانَ.

عَلَّمَهُ الْبَيَانَ

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صدق الله العظيم □ □ □ □

سورة الرحمن - آيات (١-٤)

Introduction

Schizophrenia has a profound long-term impact on the lives of both schizophrenia patients and their families. The main focus of studies in the field has been to understand the need for information and support in the family and how family intervention programs may optimize the recovery of the mentally ill family member **(Stelberg *et al*., 2004).**

Family studies of schizophrenia have established that schizophrenia strongly aggregates in families with a relative risk of about 11 compared with matched comparison groups. When affected pedigrees were investigated, there was a relatively high risk that healthy pedigree members might develop schizophrenia orother psychotic disorder in the future. Further, it was suggested that familial liability to schizophrenia increases not only the risk for schizophrenia as narrowly defined, but also for personality disorders of the schizophrenia spectrum and probably several psychotic illnesses **(Arajärvi *et al*., 2006).**

Most studies have been conducted on parents and spouses and have largely excluded siblings. Sibling relationships are unique in that they are long-lasting and involve common social,

genetic, and cultural heritage. Despite the need for greater understanding of sibling relationships and siblings' experiences, only recently have efforts been made to systematically describe the emotional impact of being a schizophrenia patient's sibling **(Stelberg *et al*., 2004).**

Some authors suggest that the subjective experience of siblings is quite similar to that of parents in affected families, while others argue that siblings' experience of the stressful situation is specific and may more easily allow physical or mental escape and detachment. Furthermore, healthy siblings seem to have specific needs that differ from those of other family members **(Stelberg *et al*., 2004).**

Non-psychotic siblings of patients with schizophrenia share on average half the genes of their affected brother or sister. Though these siblings are unaffected by the illness, they demonstrate cognitive impairments similar to those observed in patients. In these siblings, deficits have been observed on tasks of episodic memory, working memory, psychomotor speed, and executive functioning. Such cognitive impairments in unaffected siblings have recently been utilized as potential intermediate phenotypes in studies of the genetics of schizophrenia **(Wisner *et al*., 2011).**

Also subtle deficits in affect perception appear to be detectable in the unaffected biological siblings of schizophrenia patients when multiple measures of different types of affect perception abilities are used in combination. This suggests that such deficits are part of the predisposition to this disorder **(Kee *et al*., 2004).**

Although several studies have examined schizotypal personality in first-degree relatives of schizophrenia patients to better understand familial transmission of the illness, much less is known about the profile of temperament and character in schizophrenia. The psychobiological model of personality suggests an individual's temperament is heritable and regulated by neurotransmitters linked to the pathophysiology of schizophrenia. More recently, evidence has appeared that dimensions of character are also heritable and may influence the risk for schizotypy. Research on the average values of personality dimensions suggests that schizophrenia patients and their first-degree relatives have a profile of temperament and character that is unique from the general population **(Smith *et al*., 2008b).**

It has been suggested that the neurobiological factors that predispose individuals to develop schizophrenia-perhaps including genetic influences-may also predispose them to

develop substance use disorders. Thus there is a higher prevalence of substance use disorders for alcohol, cannabis, cocaine, as well as nicotine use in patients with schizophrenia than in the general population **(Smith *et al*., 2008a).**

Furthermore first-degree relatives of individuals with schizophrenia have an increased vulnerability to develop schizophrenia. Thus, if there is shared genetic vulnerability between schizophrenia and substance use disorders, one should find a higher prevalence of substance use disorders in first-degree relatives than in the general population. However, studies examining substance use among non psychotic siblings or other first-degree relatives of individuals with schizophrenia have had mixed results **(Smith *et al*., 2008a).**

One of the important vulnerability markers of schizophrenia is Neurological soft signs (NSS) which are minor or subtle neurological signs indicating non-specific cerebral dysfunction. NSS include different kinds of impairments in such functions as fine motor coordination, right–left orientation, laterality and sensory-perceptual performance. Many previous studies reported an increased number of NSS in first-degree relatives of patients with schizophrenia and in subjects at high risk for developing schizophrenia, emphasizing the importance

of these anomalies as schizophrenia vulnerability markers **(Mechri *et al.*, 2010).**

Despite adversities, siblings report personal qualities and strengths as a result of having grown up with schizophrenia in the family. **Kinsella *et al.* (1996)** reported independence, creativity, empathy, resiliency, assertiveness, and a broader spiritual perspective as potential strengths. Also, in an earlier study, a high association was found between frequent contact with siblings and good social integration as well as good outcome. Moreover, because of an increasing awareness of genetic factors in schizophrenia research, siblings are of particular interest in the search for common vulnerability factors and early risk factor **(Stelberg *et al*., 2004).**

Hypothesis:

Psychiatric morbidity among siblings of schizophrenic patients was reported to be higher compared to general population for many contributing factors and this study tries to enlighten some of these factors for better understanding among Egyptian patients and their families.