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**EVENT RELATED EVOKED POTENTIAL  
IN OFFSPRING AT HIGH RISK  
FOR SCHIZOPHRENIA AND DEPRESSION**

**A THESIS**

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صلى الله عليه وسلم  
العظيم

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## ***LIST OF ABBREVIATIONS***

<b>BO</b>	Erythrocyte Blood Groups.
<b>EPs</b>	Auditory-Evoked Potentials.
<b>ERP</b>	Auditory Event Related Potential.
<b>NA</b>	Anti-Nuclear Antibodies.
<b>AEP</b>	Brain-stem Auditory Event Related Potential.
<b>EAM</b>	Brain Electric Activity Mapping.
<b>PRS</b>	Brief-Psychiatric Rating Scale.
<b>RMS</b>	Bech-Rafaelsen Melancholia Scale.
<b>AMP</b>	Cyclic-Adenosine Mono-Phosphate.
<b>OMT</b>	Catecholamine-O-Methyl-Transferase.
<b>PK</b>	Creatinine Phosphokinase.
<b>SF</b>	Cerebrospinal Fluid.
<b>CT</b>	Computerized Tomography.
<b>BH</b>	Dopamine- $\beta$ -Hydroxylase.
<b>RD<sub>2</sub></b>	Dopamine D <sub>2</sub> Receptor gene.
<b>ST</b>	Dexamethazone-Suppression Test.
<b>Z</b>	Dizygotic.
<b>ECT</b>	Electro-Convulsive Therapy.
<b>EEG</b>	Electro-Encephalography.
<b>ERP</b>	Event-Related Potential.
<b>FSH</b>	Follicular Stimulating Hormone.
<b>GABA</b>	Gamma-Amino-Butyric Acid.
<b>GH</b>	Growth Hormone.
<b>GHQ</b>	General Health Questionnaire.
<b>-HIAA</b>	5-Hydroxy-Indole-Acetic Acid.
<b>HLA</b>	Human Leukocyte Antigens.
<b>HRSD</b>	Hamilton Rating Scale for Depression.
<b>MP</b>	<sup>123</sup> I-labelled Iodoamphetamine.
<b>LH</b>	Leutinizing Hormone.
<b>MAO</b>	Mono-Amine Oxidase.

# INTRODUCTION

## ***INTRODUCTION***

**E**vent related potentials (**ERP**) are series of positive and negative waves that are generated above the brain stem and have a widespread scalp distribution. There are two naming systems for these waveforms, the negative (**N**) and positive (**P**) waves can be labelled in numerical order, or can be labelled by their average latency in group of healthy subjects. The major waves are the **N100**, **P200**, **N200** and **P300** (*Oken et al., 1989*). These event related potentials are also referred as cognitive evoked potentials or endogenous event related potentials (*Oken, 1989*).

Many researchers studied the implication of these event related potentials in different psychiatric disorders. *Cohen, (1990)* found significant attenuation in the amplitude of **N100**, and /or **P300** in schizophrenics. Moreover, also the latencies of both **N100** and **P300** were found to be increased (*Roth et al., 1986*).

*Rimpel et al., (1995)* studied the event related potentials in the course of antidepressant treatment, they mentioned that the latency of **N100** seemed to be increased significantly with therapy and the latency of **P300** was decreased significantly with therapy.

As schizophrenia and depression are genetically inherited diseases and because there are many vulnerability markers in offsprings of schizophrenia and depression categories, so, many researchers started to study the importance of event related potentials in early detection of children at high risk for schizophrenia and depression.

# AIM OF THE WORK

## ***AIM OF THE WORK***

1. To review the different correlates of schizophrenia and depression including event related potential.
2. To determine whether changes in event related potential, when present, can provide a distinction to be made among those common disorders.
3. To assess the value of ERPs as a diagnostic aid in early detection of subjects genetically at risk for schizophrenia and depression.