

https://dspace.org/

Neuropsychological impairment in bipolar I disorders in the euthymic state

Strijdom, Sonet Christina

2008-06-05T11:52:51Z
http://hdl.handle.net/10539/4930

Downloaded from a DSpace repository. https://dspace.org/

DECLARATIONS

I, Sonet Strijdom, declare that this thesis is my own work, that its substance neither in whole nor in part has been submitted to, or is to be submitted to, any institution other than the University of the Witwatersrand, Johannesburg. It is being submitted for the degree of Master in Science (Med) Pharmacotherapy.

SONET STRIJDOM

……. day of ……..2007

ABSTRACT

Over the last few years Bipolar Disorder has been associated with chronic neuropsychological deficits that remain even when episodes of depression, mania or hypomania remit. Furthermore Bipolar Disorder has been associated with progressive cognitive impairment, leading to the description of the illness as chronic and deteriorating, rather than as an illness with discreet episodes from which patients can fully recover. The results of neuropsychological studies have been criticized for methodological weaknesses however. The present study attempted to address these weaknesses. The aim was primarily to establish whether neuropsychological impairment exists in euthymic patients, and secondarily, to establish if neuropsychological functioning deteriorates with illness severity. Sixteen euthymic Bipolar I disordered patients were matched for age and sex to 16 controls and subjected to a battery of neuropsychological tests. Matched pair T-tests were used to identify if significant differences in neuropsychological functioning existed between the two groups. The ANOVA technique was used to determine if neuropsychological functioning deteriorated with illness severity. Markers of illness severity utilised in this study were number of depressive episodes, number of manic episodes, number of suicide attempts and number of hospitalisations. The results indicated that neuropsychological differences between the patient and control group were minimal and not clinically significant. The present study sample was medically and psychologically well managed and enjoyed good support structures and their neuropsychological functioning did not deteriorate with illness severity. It was concluded that the sample size and the nature of the sample selected could perhaps have affected the study outcome. It was therefore hypothesized that bipolar disorder is not a homogenous group and that protective factors may exist which affect the course and outcome of the illness. These protective factors should be the subject of further investigation as they are likely to significantly impact on the natural history of this disease process.

ACKNOWLEDGEMENTS

I wish to thank Prof. C. Szabo and for his time, advice and encouragement.

A special thank you also is extended to Dr. Brian Levy for his statistical advice.

A further thank you to Prof. Marilyn Lucas for her input.

Thank you to all the people who participated in the study.

To Avri Davidoff who remains a constant inspiration to all suffering from bipolar and related disorders

INDEX

Declaration		i
Abstract		ii
Acknowledgements		iii
Index		iv
List of tables		vii
List of figures		viii
1. Introduction		1
2. Literature review		3
2.1	Definition	3
2.2	An overview of bipolar disorder	7
2.3	The course and prognosis of bipolar disorder	8
2.4	Treatment	9
2.5	Neuropsychological functioning in bipolar disorder	10
2.6	Aim of study	17
3. Methodology		19
3.1	Study design	19
3.2	Subjects	19
3.3	Neuropsychological assessment	20
3.4	Statistical analysis	25
4. Results		26
4.1 Demographics and clinical characteristics		26

4.1.1 Age 26
4.1.2 Gender 27
4.1.3 Educational level 27
4.1.4 Age of onset 28
4.1.5 Age of first manic episode 28
4.1.6 Pharmacotherapy 29
4.1.7 Psychotherapy intervention 29
4.1.8 Family support and occupational functioning 29
4.2 Neuropsychological performance comparisons 30
4.3 Relationship between illness severity and neuropsychological performance 32
4.3.1 Mania and neuropsychological functioning 32
4.3.2 Depression and neuropsychological functioning 34
4.3.3 Hospitalisations and neuropsychological functioning 38
4.3.4 Suicide attempts and neuropsychological functioning 41
4.4 Summary of neuropsychological test results 42

5. Discussion 44

5.1 Demographics and clinical characteristics 44
5.2 Neuropsychological assessment 46
5.3 Illness severity and neuropsychological performance 47

6. Conclusion and recommendations 50

7. References 52

Appendix A: Beck Depression Scale 61
Appendix B: Modified Mania Rating Scale 63
Appendix C: Participant information letter 64
Appendix D: Informed consent 65

Appendix E: Case report form 66
Appendix F: Ethics clearance document 67

LIST OF TABLES

Table 1: DSM-IV-TR criteria for manic episode 4
Table 2: DSM-IV-TR citeria for major depressive episode 5
Table 3: DSM-IV-TR criteria for hypomanic episode 6
Table 4: DSM-IV-TR criteria for mixed episode 6
Table 5: Review of studies published by PubMed 12
Table 6: Impairment in cognitive functioning as identified by the PubMed studies 13
Table 7: Age distribution and differences 26
Table 8: Frequency distribution of educational levels 27
Table 9: Differences between patient and control group's educational levels 28
Table 10: Frequency distribution of medications used by patients 29
Table 11: Neuropsychological differences between patients and control group pairs 31
Table 12: Correlations between number of manic episodes and test performance 33
Table 13: Correlations between number of depressive episodes and test performance 35
Table 14: Correlations between number of hospital admissions and test performance 39
Table 15: Correlations between number of suicide attempts and test performance 41

LIST OF FIGURES

Figure 1:	Distribution of Stroop (W) performance	34
Figure 2:	Distribution of RAVLT (trial IV) performance	36
Figure 3:	Distribution of RAVLT (trial V) performance	37
Figure 4:	Distribution of RAVLT (trial VI) performance	37
Figure 5:	Distribution of Boston (phonemic) performance	38
Figure 6:	Distribution of Digit memory (FW) test performance	42