Chapter 5
Results

5.1 Introduction

The results as given here were obtained from the ADE. The order in which the results are presented was however changed in an effort to make the order chronologically more logical and in keeping with the order similar to that used when doing a general psychiatric clinical interview.

In the ADE, under the main heading of 'Medical History', there is a subsection dealing with women's health issues. The results hereof are presented at the end of this chapter so as to not confuse the reader.

Results will thus be arranged (and discussed in Chapter 6) under the following main headings:

- Socio-demographic variables
- History
- Course and clinical features
- Treatment
- Substances
- Diagnosis
- Women's health issues

5.2 Socio-demographic variables

5.2.1. Table 5.1 Hospitals subjects were recruited from

Table 5.1		
Hospital	**Frequency**	**Percentage**
George Masebe	15	14.56
Mokopane	31	30.10
Mankweng	57	55.34
Total	103	100

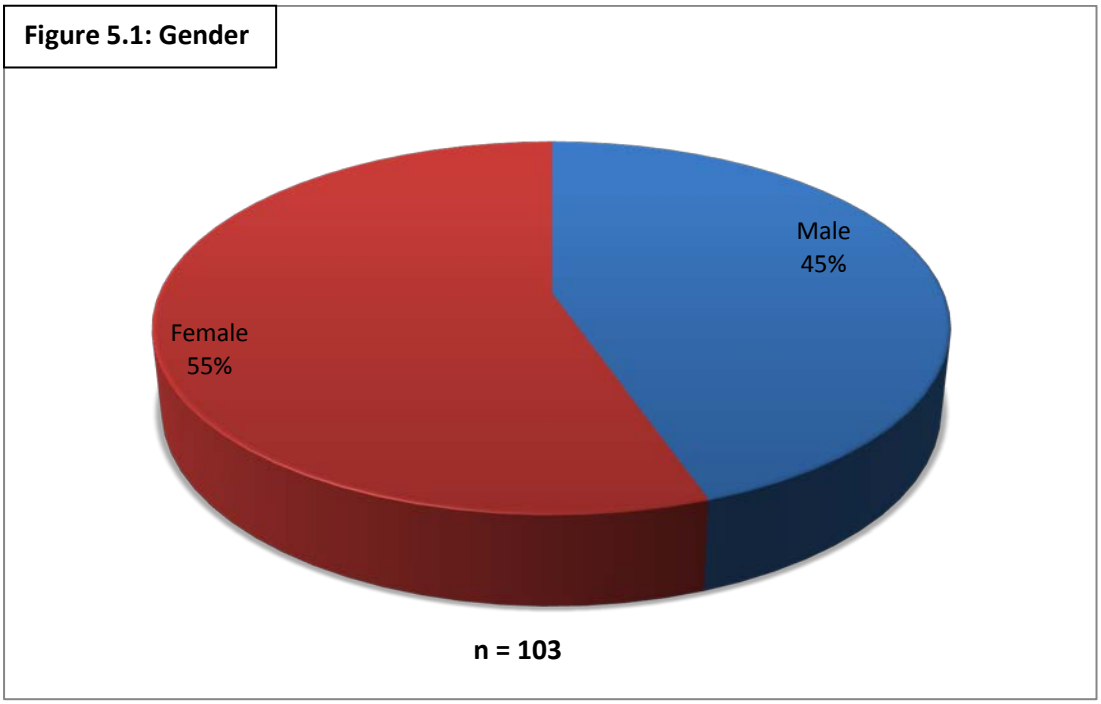
5.2.2 Table 5.2 Inpatient / outpatient status of subjects

Table 5.2		
Current status	**Frequency**	**Percentage**
In-patient	61	59.22
Out-patient	42	40.78
Total	103	100

5.3 Identifying information

5.3.1 Figure 5.1 Gender

Figure 5.1: Gender



5.3.2 Table 5.3 Mean age

Table 5.3				
Variable	**Mean**	**Standard Deviation**	**Min age**	**Max age**
Age	36.6	11.9	12	73

5.3.3 Table 5.4 Marital status

Table 5.4		
Marital status	**Frequency**	**Percentage**
Single	72	69.9
Married	24	23.3
Widowed	5	4.85
Divorced	2	1.94

5.3.4 Table 5.5 Religious affiliation

Table 5.5		
Religious affiliation	**Frequency**	**Percentage**
Zion Christian Church	65	63.11
Christian	26	25.24
None	8	7.77
Other	4	3.88
Total	103	100

5.3.5 Table 5.6 Education

Table 5.6		
Education	**Frequency**	**Percentage**
None	8	7.77
Primary	14	13.59
Secondary	55	53.4
Tertiary	26	25.24
Total	103	100

5.3.6 Table 5.7 Employment

Table 5.7		
Occupation	**Frequency**	**Percentage**
Employed	12	11.65
Unemployed	72	69.9
Retired	5	4.85
Student	7	6.8
Self employed	7	6.8
Total	103	100

5.3.7 Table 5.8 Financial support

Table 5.8		
Monetary support	**Frequency**	**Percentage**
None	1	0.97
Pension	1	0.97
Part time employment	3	2.91
Fulltime employment	13	12.62
Family	31	30.1
Social grant	54	52.43
Total	103	100

5.4 History

5.4.1 Table 5.9 Family history of mental illness

Table 5.9		
Family history	**Frequency**	**Percentage**
Bipolar Mood Disorder	59	57,3
Alcohol abuse	51	52,5
Substance abuse	30	30,9
Suicide	17	16,5
Suicide attempts	12	11,7
Schizophrenia	12	11,7
Other mood disorders	4	3,9

5.4.2 Table 5.10 History of trauma

Table 5.10		
History of trauma	**Frequency**	**Percentage**
Sexual	6	5,8
Physical	25	24,3

5.4.3 Table 5.11 History of suicide attempts

Table 5.11		
Suicide attempts	**Frequency**	**Percentage**
Yes	28	27,2
No	75	72,8
Total	103	100

5.4.4 Table 5.12 Type of suicide attempt

Table 5.12		
Type of suicide attempt	**Frequency n=28**	**Percentage**
Hanging	9	32.14
Overdose	6	21.43
Ingestion of poison	4	14.29
Cutting own throat	3	10.71
Setting self alight	2	7.14
Ate broken glass	1	3.57
Stabbed self in abdomen	1	3.57
Stopped eating	1	3.57
Attempted drowning	1	3.57
Total	28	100

5.4.5 Table 5.13 History of violence/forensic history

Table 5.13		
History	**Yes**	**No**
Violence	51	52
Forensic history	32	71

5.4.6 Table 5.14 Medical history

Table 5.14		
Medical history	**Frequency**	**Percentage**
Head trauma with loss of consciousness	17	16,5
History of seizures	8	7,8
Diabetes	2	1,9
Thyroid disease	1	0,9

5.4.7 Table 5.15 HIV status

Table 5.15		
HIV Status	**Frequency**	**Percentage**
Positive	9	8.74
Negative	39	37.86
Unknown	55	53.4
Total	103	100

5.5 Course and clinical features

5.5.1 Table 5.16 Age of onset

Table 5.16				
Variable	**Mean age of onset**	**Standard deviation**	**Min age**	**Max age**
Mania	25.17	8.49	12	57
Depression	26.16	9.37	12	52

5.5.2 Table 5.17 Age of onset bracket: mania

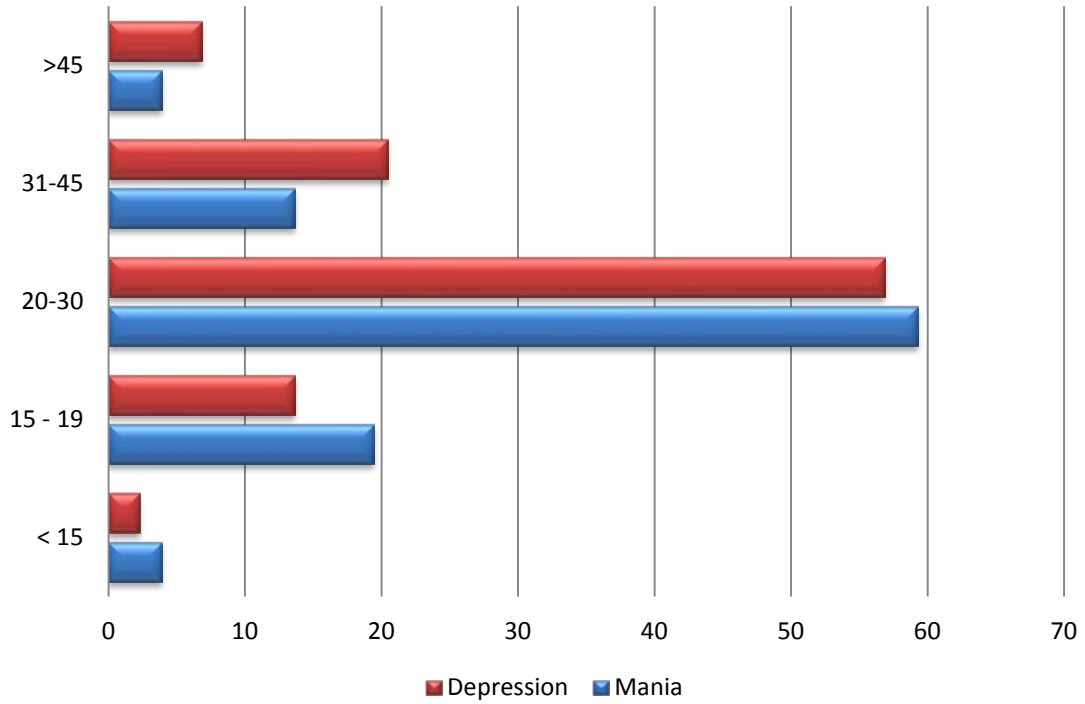
Table 5.17		
Age of onset bracket	**Frequency**	**Percentage**
< 15	4	3.88
15 - 19	20	19.42
20 - 30	61	59.22
31 - 45	14	13.59
> 45	4	3.88
Total	103	100

5.5.3 Table 5.18 Age of onset bracket: depression

Table 5.18		
Age of onset bracket	**Frequency**	**Percentage**
< 15	1	2.27
15 - 19	6	13.64
20 - 30	25	56.82
31 - 45	9	20.45
> 45	3	6.82
Total	44	100

5.5.4 Figure 5.2 Age of onset bracket

Figure 5.2: Age of Onset Bracket



5.6 Episode pattern

5.6.1 Table 5.19 Pattern of mood symptoms – Depressive and manic episodes versus manic only episodes

Table 5.19		
Episode pattern	**Frequency**	**Percentage**
Depressive and manic episodes	44	42.72
Manic only episodes	59	57.28

5.6.2 Table 5.20 Pattern of mood symptoms; manic only episodes – 2 or less phases versus 3 or more phases

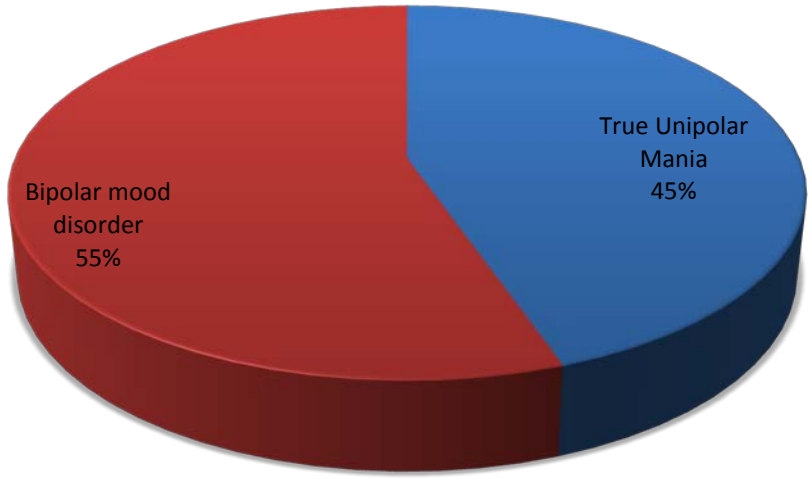
Table 5.20		
Manic only episodes	**Frequency**	**Percentage**
2 or less phases	11	20.75
3 or more phases	42	79.25
Total	53	100

5.6.3 Table 5.21 Pattern of mood symptoms – True unipolar mania versus bipolar mood disorder

Table 5.21		
Pattern of mood symptoms	**Frequency**	**Percentage**
"True unipolar mania" - 3 or more phases	42	44.68
Bipolar Mood Disorder	52	55.32
Total	94	100

5.6.4 Figure 5.3 Pattern of mood symptoms

Figure 5.3: Pattern of Mood Symptoms



n = 94

5.6.5 Table 5.22 Seasonal pattern

Table 5.22		
Seasonal pattern	**Frequency**	**Percentage**
Yes	13	12.62
No	90	87.38

5.6.6 Table 5.23 Lifetime number of phases

Table 5.23		
Lifetime number of phases	**Frequency**	**Percentage**
Zero	1	0,9
1	5	4,8
2	11	10,7
3	7	6,8
4	10	9,8
5 - 12	49	47,6
13 - 52	19	18,5
≥ 53	1	0,9
Total	103	100

5.6.7 Table 5.24 Number of manic episodes

Table 5.24		
Number of manic episodes	**Frequency**	**Percentage**
1	11	7.77
2	13	12.62
3 - 4	20	19.42
5 - 9	42	40.78
10 - 20	13	12.62
20 - 50	4	3.88
Total	103	100

5.6.8 Table 5.25 Number of depressive episodes

Table 5.25		
Number of Depressive Episodes	**Frequency**	**Percentage**
0	63	61.17
1	10	9.71
2	8	7.77
3 - 4	12	11.65
5 - 9	7	6.8
10 - 20	2	1.94
20 - 50	1	0.97
Total	103	100

5.6.9 Table 5.26 Depressive episodes features

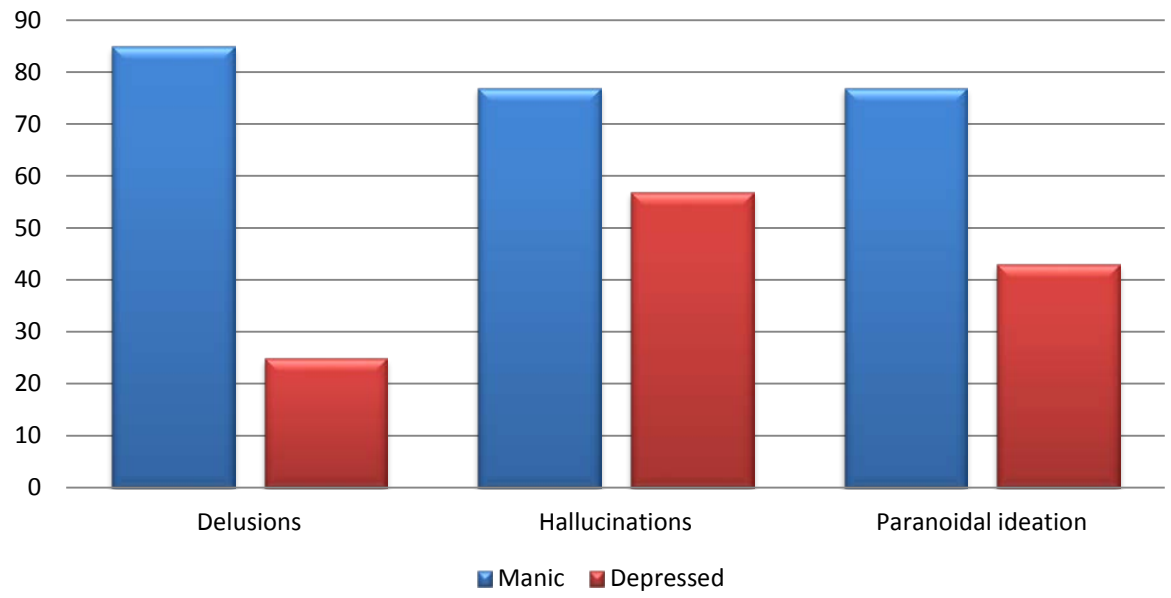
Table 5.26		
Depressive episode features	**Frequency (n = 44)**	**Percentage**
Worthlessness	44	100
Irritability	41	93,2
Sudden onset	39	88,63
Leaden paralysis	31	70,45
Hallucinations	25	56,82
Anger	22	50,0
Paranoid ideation	19	43,18
Delusions	11	25,0

5.6.10 Table 5.27 Mood elevation features

Table 5.27		
Mood elevation features	**Frequency (n=103)**	**Percentage**
Increased energy	101	98,06
Easily annoyed	94	91,26
Delusions	88	85,43
Extraordinary accomplishment	80	77,67
Hallucinations	79	76,7
Paranoid ideation	79	76,7
Decreased appetite	57	55,34
Risky pleasure	47	45,63
Increased libido	35	33,98
Increased spending	23	22,33

5.6.11 Figure 5.4 Psychotic features

Figure 5.4: Psychotic Features – Manic- vs. Depressive Episodes



5.7 Treatment

5.7.1 Table 5.28 Attended traditional healers

Table 5.28		
Attended Traditional Healers	**Frequency**	**Percentage**
Yes	66	64.08
No	37	35.92

5.7.2 Table 5.29 Current medication

Table 5.29 reflects the medication patients were on at the time of the interview.

Table 5.29		
Current Medication	**Frequency**	**Percentage**
Valproate	69	66,90
Haloperidol	51	49,51
Orphenadrine-HCl	43	41,75
Zuclopethixol depot	36	34,95
Risperidone	23	22,33
Lithium	22	21,36
Clozapine	11	10,68
Quethiapine	6	5,82
Clonazepam	5	4,85
Citalopram	4	3,88
Carbamazepine	3	2,91
Olanzepine	3	2,91
Trifluoperazine	1	0,9
Fluoxetine	1	0,9

5.7.3 Table 5.30 Anti-psychotics

Table 5.30 reflects previous medication the patient had ever received.

Table 5.30	
Antipsychotics	**Frequency**
Haloperidol	96
Zuclopethixol depot	59
Risperidone	25
Fluphenazine	15
Clozapine	15
Quethiapine	7
Other First Generation Anti-psychotics (FGA)	9
Olanzepine	4
Trifuoperazine	4

5.7.4 Table 5.31 Mood stabilizers

Table 5.31 reflects previous medication the patient had ever received.

Table 5.31	
Mood stabilisers	**Frequency**
Valproate	81
Lithium	37
Carbamazepine	7

5.7.5 Table 5.32 Anti-depressants

Table 5.32 reflects previous medication the patient had ever received.

Table 5.32	
Anti-depressants	**Frequency**
Citalopram	7
Fluoxetine	3
Amitrityline	2
Clomipramine	1
Ethipramine	1

5.7.6 Table 5.33 Extra-piramidal side-effects and Tardive Dyskinesia

Table 5.33 reflects the presence of either extra-piramidal side-effects or tardive dyskinesia at the time of the interview.

Table 5.33		
Side effects	**Yes**	**No**
Current EPSE	8	95
Tardive dyskinesia	4	99

5.8 Substances

5.8.1 Age of onset

Tables 5.34 to 5.36 reflect the age at which interviewees started to abuse substances. Apart from alcohol, cannabis and nicotine, none reported any other substances of abuse. Considering that the population where this sample came from live in rural areas, what is suggested is a lack of access to other substances available in the area.

5.8.1.1 Table 5.34 Age of onset of alcohol use

Table 5.34		
Alcohol use age of onset	**Frequency**	**Percentage**
Never	57	55.34
< 10	1	0.97
10 - 15	4	3.88
16 - 20	30	29.13
21 - 25	6	5.83
> 25	5	4.85
Total	103	100

5.8.1.2 Table 5.35 Age of onset of cannabis use

Table 5.35		
Cannabis use age of onset	**Frequency**	**Percentage**
Never	83	80.58
10 - 15	4	3.88
16 - 20	10	9.71
20 - 25	5	4.85
> 25	1	0.97
Total	103	100

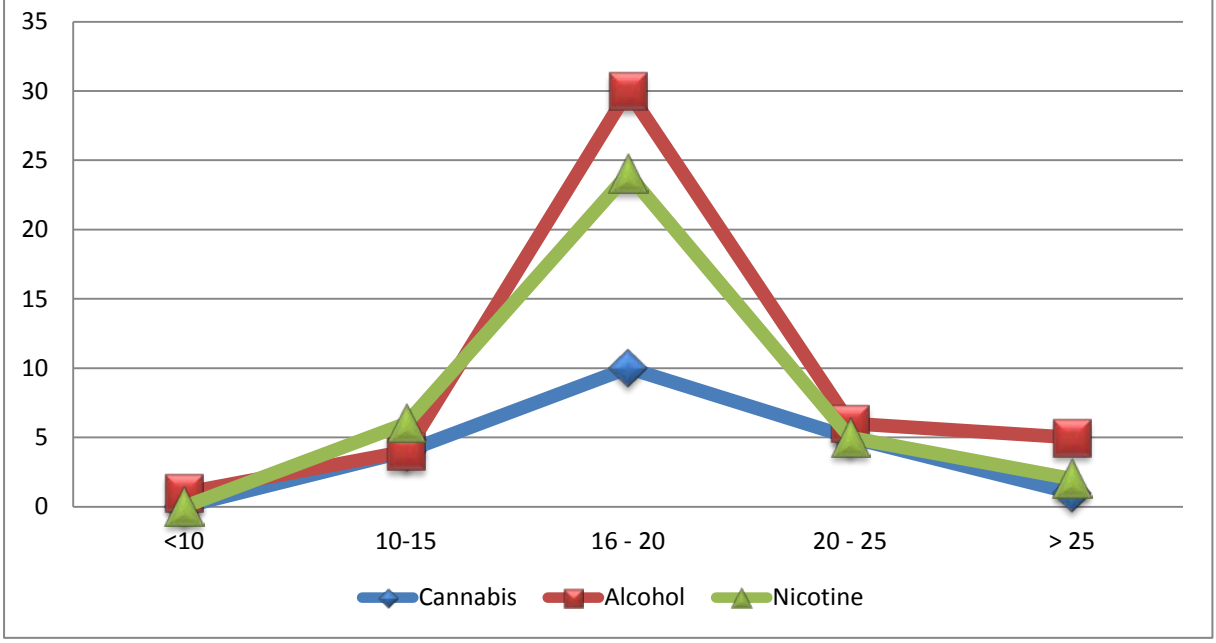
5.8.1.3 Table 5.36 Age of onset of nicotine use

Table 5.36		
Nicotine use age of onset	**Frequency**	**Percentage**
Never	66	64.08
10 - 15	6	5.83
16 - 20	24	23.3
20 - 25	5	4.85
> 25	2	1.94
Total	103	100

5.8.2 Figure 5.5 Substances – Age of onset comparison

Figure 5.5 summarises the age at which subjects started to use substances.

Figure 5.5: Substances Age of Onset Comparison



5.8.3 Summary of current versus past use or abuse

Tables 5.37 to 5.39 reflect a summary of current versus past use or abuse.

5.8.3.1 Table 5.37 Alcohol

Table 5.37	
Alcohol	**Yes**
History of abuse	40%
Current abuse	10%
Current use	18%

5.8.3.2 Table 5.38 Cannabis

Table 5.38	
Cannabis	**Yes**
History of abuse	18%
Current abuse	6%
Current use	9%

5.8.3.3 Table 5.39 Nicotine current use

Table 5.39	
Nicotine	**Yes**
Current use	32%

5.9 Diagnosis

5.9.1 Table 5.40 Axis 1 diagnosis

Table 5.40		
Axis I Diagnosis	**Frequency**	**Percentage**
Bipolar disorder	94	91.26
Schizo-affective disorder	7	6.8
Schizophrenia	1	0.97
Substance induced psychotic disorder	1	0.97
Total	103	100

5.9.2 Table 5.41 Other axis 1 diagnosis

Table 5.41		
Other Axis I Diagnosis	**Frequency**	**Percentage**
Anxiety disorder	51	49.51
Substance abuse/dependence	13	12.63
Other	3	2.91
None	36	34.95

5.9.3 Table 5.42 Comorbid anxiety disorder

Table 5.42		
Comorbid anxiety disorder	**Frequency**	**Percentage**
GAD	21	41.18
PTSD	14	27.45
Panic disorder	8	15.68
Social phobia	7	13.72
OCD	1	0.97
Total	51	100

5.9.4 Table 5.43 Bipolarity Index Score

Table 5.43		
Bipolarity index score	**Frequency**	**Percentage**
81 - 100	52	50.49
71 - 80	29	28.16
61 - 70	17	16.5
51 - 60	4	3.88
41 - 50	1	0.97
Total	103	100

5.9.5 Table 5.44 Clinical Global Impression of severity (CGI)

Table 5.44		
CGI	**Frequency**	**Percentage**
Normal, not ill	4	3.88
Borderline mentally ill	9	8.74
Mildly ill	22	21.36
Moderately ill	41	39.81
Markedly ill	18	17.48
Severely ill	8	7.77
Extremely ill	1	0.97
Total	103	100

5.10 Women's health issues

As alluded to earlier, results of the subsection dealing with women's health issues in the ADE under the main heading of "Medical History", are to be shown here. Menstrual history, parity, contraceptive method and surgery for hysterectomy or oophorectomy are all elicited in the section dealing with women's health issues.

Although not a specific question in the ADE, all women were asked whether they had taken any psychotropic medication while pregnant and whether their offspring had any developmental problems after birth, when enquiring about parity. Results of mood symptoms associated with pregnancy, post-partum onset of symptoms and peri-menstrual exacerbation are presented in this section even though it is enquired about in the section 'Pattern of mood symptoms' in the ADE as it was thought to make more sense presenting it together with women's issues.

5.10.1 Table 5.45 Menarche

Table 5.45		
Menarche Age	**Frequency**	**Percentage**
Never	1	1.75
Twelve	2	3.51
Thirteen	5	8.77
Fourteen	6	10.53
Fifteen	15	26.32
Sixteen	17	29.82
Seventeen	5	8.77
Eighteen	3	5.26
Nineteen	1	1.75
Twenty	2	3.51
Total	57	100

5.10.2 Table 5.46 Cycles

Table 5.46		
Cycles	**Frequency**	**Percentage**
Regular	29	50.87
Irregular	15	26.32
Postmenopausal	11	19.29
Hysterectomy	1	1.76
Never menstruated	1	1.76
Total	57	100

5.10.3 Table 5.47 Contraception

Table 5.47		
Contraception	**Frequency**	**Percentage**
None	31	54.39
Abstinence	8	14.03
IMI	7	12.28
Oral Birth Control	4	7.02
Barrier	4	7.02
Other	3	5.26
Total	57	100

5.10.4 Table 5.48 Took medication while pregnant

Table 5.48		
Took medication while pregnant	**Frequency**	**Percentage**
Yes	26	45.61
No	17	29.82
Unknown	14	24.56
Total	57	100

5.10.5 Live births vs. miscarriages

In Table 5.49 to Table 5.52 an effort was made to ascertain whether there was any reason to believe that taking medication while pregnant was associated with either miscarriages or developmental problems in the offspring. Table 5.49 looks particularly at which drug was taken during pregnancy.

5.10.5.1 Table 5.49 Live births

Table 5.49	
Live Births	**Frequency**
One	13
Two	8
Three	14
Four	3
Five	2
Six	1
Seven	2
Ten	1
Twelve	1
Total	45

5.10.5.2 Table 5.50 Miscarriages

Table 5.50		
Miscarriages	**Frequency**	**Percentage**
Zero	40	70.18
One	10	17.54
Two	5	8.77
Three	1	1.75
Five	1	1.75
Total	57	100

5.10.5.3 Table 5.51 Miscarriages while taking medication

Table 5.51					
Miscarriages while taking medication					
Medication	**Frequency**				
	One	**Two**	**Three**	**Five**	**Total**
Lithium	0	2	0	1	3
Valproate	7	3	1	0	11
Carbamazepine	1	0	0	0	1
Haloperidol	1	0	0	0	1
Clopixol depot	0	0	0	0	0
Quethiapine	1	0	0	0	0
Total	10	5	1	1	17

5.10.6 Developmental problems in offspring

Every woman in the study who had children was specifically asked whether there were any noticeable developmental problems in their children. None answered in the affirmative. This does not necessarily mean that there were no developmental problems but again could just be an indication of the fact that the subjects from this sample lives in

very poor and rural areas with little access to child psychiatric services. Hence developmental problems may go unnoticed or undiagnosed.

5.10.6.1 Table 5.52 Developmental problems in offspring

Table 5.52		
Developmental problems in offspring	**Frequency**	**Percentage**
No	40	70.18
Unknown	17	29.82
Total	57	100

5.10.7 Table 5.53 Peri-menstrual exacerbation

Table 5.53		
Peri-menstrual exacerbation	**Frequency**	**Percentage**
Yes	7	12,82
No	44	77,19
Unknown	6	9,99
Total	57	100

5.10.8 Table 5.54 Mood symptoms associated with pregnancy

Table 5.54		
Mood symptoms with pregnancy	**Frequency**	**Percentage**
Yes	18	31,58
No	31	54,39
Unknown	8	14,03
Total	57	100

5.10.9 Table 5.55 Post-partum onset of symptoms

Table 5.55		
Post-partum onset of symptoms	**Frequency**	**Percentage**
Yes	28	49,13
No	21	36,84
Unknown	8	14,03
Total	57	100

Chapter 6
Discussion

6.1 Introduction

Results will be discussed in the chronological order of the previous chapter. At the end of the chapter special attention will be given to the areas of gender, age of onset of mania and substances. The findings in this study will be compared to the current literature on the subject. In the last part of the discussion, the group of study subjects with Depressive and Manic episodes (DAM) will be compared with the group that had Manic only episodes (MO).

6.2 Recruitment

The majority of patients were recruited from Mankweng Hospital (see Table 5.1). Numbers recruited from each hospital reflect the different size and levels of hospitals. Sixty-one patients were recruited as in-patients while 42 were recruited from out-patients (see Table 5.2).

Hospitals were visited on the days when psychiatric patients were to attend follow up at psychiatric out-patient clinics. The doctors working at out-patients clinics that day were alerted to my presence and were requested to send all patients attending clinic with a diagnosis of bipolar mood disorder to me that day for interview. Hereafter, the wards were

visited and all patients with a diagnosis of bipolar disorder were seen and assessed for their ability to give informed consent. Those that could give informed consent were asked to participate in the study.

6.3 Identifying information

6.3.1 Gender and age

Of the one-hundred-and-three patients interviewed, 46 (44,66%) were male and 57 (55,34%) female (see Figure 5.1). The mean age was 36,6 years with a standard deviation of 11,9. The youngest patient interviewed was 12 and the oldest 73 years of age (see Table 5.3).

6.3.2 Marital status

The majority of participants were not married with 69,9% reporting being single and 1,94% divorced (see Table 5.4). In comparison, the study by Negash et al in Ethiopia found that 63,4% of the patients in their study were married. (94)

6.3.3 Religious affiliation

Most of the patients interviewed (63,11%) were members of the Zion Christian Church (ZCC), (see Table 5.5). The ZCC is a religious denomination with an extremely large following in Limpopo Province, their headquarters, Zion City Moria, situated a mere 5 kilometres from

Mankweng Hospital. It is one of the largest African-initiated churches in southern Africa with congregations throughout South Africa as well as in neighbouring countries.

The ZCC comprises two main congregations which are led by Barnabas Lekganyane (identified by wearing a green badge with a silver star) and Saint Engenas Lekganyane (identified by wearing a green badge with a silver dove), the grandsons of the founder of the church. (104)

In a scientific letter to the African Journal of Psychiatry; Culture, religion and psychosis – a case study from Limpopo province, South Africa, Grobler (2011) describes a family affiliated to the ZCC church that became psychotic and were treated at the Mankweng Hospital Psychiatric Unit. (105) They became psychotic after one of the family members received a prophecy from an elder of the church suggesting that something bad was going to happen to her and her family.

The role of traditional- and faith healers will be discussed in more detail under the section ‘Treatment’, as a large number of patients in this study (64%) also sought help from traditional healers, most of whom would be within the context of the ZCC church, considering that 63% were members of this church.

6.3.4 Education

In spite of the fact that 25,24% had a tertiary education, 69,9% of the sample were unemployed (see Table 5.6). This finding would be similar to that from a study by Kupfer et al. who found that, despite the fact that 60% of patients in their study had completed some college education and 30 % had completed college education, only 64% were currently unemployed and almost 40% were receiving disability support. (106)

6.3.5 Employment

More than two thirds of subjects in the study were not employed with only 11,6% being in gainful employment (see Table 5.7). This is again in sharp contrast to the study by Negash et al who found only 7,6% of subjects in their study to be unemployed. (94)

A possible explanation could be that employment in rural communities is very scarce in this part of South Africa considering that the average unemployment rate for South Africa is 25,53% and 32,46% for Limpopo in particular. (107) Unemployment is most probably related however to the fact that individuals with severe and enduring mental illness are less able to compete in the open labour market because of the nature of their illness as well as stigmatisation. (108)

6.3.6 Financial support

Slightly more than half the sample (52,43%) were receiving a social grant (Disability Grant) and 30,1% of the sample was dependant on their families for financial support (see Table 5.8).

The large number of patients receiving a Disability Grant in this study reflects the severity of the illness. For the majority of these patients, considering the scarcity of work as mentioned above, it is virtually impossible to compete in the open-labour market.

Employment is an often neglected topic of conversation with patients suffering from bipolar disorder as the perception of doctors in rural areas in my experience are that they view bipolar disorder as an illness with a good prognosis.

For this reason they tend not to consider patients with bipolar disorder candidates for a social grant and it is seldom suggested that they may consider applying for a social grant.

6.4 History

6.4.1 Family history of mental illness

Approximately two thirds of patients (57,3%) reported a family history of bipolar disorder (see Table 5.9). Heritability for bipolar disorder was reported to be 59% by Lichtenstein et al in 2009. (8) Barnett described a ten-fold increased risk for bipolar disorder among first degree relatives compared to the general population. (109) This finding supports the impression that the patients in this sample do in fact suffer from a bipolar type illness rather than a schizophrenic type of illness.

A family history of substance abuse was also common, with 52,5% reportedly having had a family member with a history of alcohol abuse in particular (see Table 5.9).

6.4.2 History of trauma

A third of patients interviewed (30,1%) reported some sort of traumatic experience (see Table 5.10) which is in keeping with a study by Neria et al reporting a history of assaultive trauma in bipolar patients with psychosis in 40% of their sample. (110) All subjects reporting sexual trauma were female with 5,8% reporting a history of a sexually traumatic event.

6.4.3 History of suicide attempts

Twenty-seven percent of patients in this study reported having made a suicide attempt (see Table 5.11) which is much higher than the 6,9% in the study by Negash et al in Ethiopia. History of suicide attempts in this study is however similar to estimated rates of suicide reported by Jamison et al in 2000 in patients suffering from bipolar disorder of between 25% and 50%. (111) The life-time suicide risk was found to be 25.6% by Dalton et al in a sample of 336 subjects with a diagnosis of bipolar I, bipolar II, or schizoaffective disorder (bipolar type). (112)

The results in this study is also in keeping with results from the EMBLEM study, which reported a history of suicidal behaviour in 29,9% of study subjects. The EMBLEM study is a two-year prospective, pan-European, observational study on treatment outcomes in patients with bipolar disorder. A history of suicide was associated with female gender, past alcohol or cannabis problems and poor treatment compliance. (113)

The EMBLEM study also revealed, apart from the above, the other main characteristics that differed between those with versus those without a lifetime history of suicidal behaviour were higher level of depressive (but not manic) symptoms at baseline, longer untreated period of bipolar disorder, earlier age at onset of bipolar disorder, recent treatment with

anti-depressants or benzodiazepines, work impairment and less satisfaction with life. (113)

Suicide is known to be the leading cause of mortality in patients with bipolar disorder. (114) Several studies have suggested an association between suicidal behaviour and comorbid alcohol or substance abuse (115), female gender (116), and being unmarried. (117)

Of those attempting suicide, hanging was the method most commonly reported, followed by overdose of medication and ingestion of poison. Attempting to cut one's own throat was a startling choice of method in 10% of those attempting suicide (see Table 5.12), considering that the most frequently employed methods for suicide in South Africa is hanging, followed by shooting, poisoning, overdosing, gassing and burning. (118)

6.4.4 History of violence and forensic history

Half the patients interviewed had a history of violence (Table 5.13) which would be in keeping with 94 subjects reported being "easily annoyed" whilst manic (see table 5.72) and 41 reporting being "irritable" while depressed (Table 5.71). A third of patients reported a forensic history. The high number of patients reporting a forensic history reflects findings

of other studies in which bipolar disorder has been associated with increased rates of violent behaviour. (119) A history of violence in this study is substantially higher than rates reported in the Epidemiologic Catchment Area Surveys which reported a rate of 11% of respondents reporting violent acts in the past year. (120)

6.4.5 Medical history

Seventeen patients (16,5%) had a history of head injury with loss of consciousness and eight (7,8%) had a history of seizures (see table 5.14). This appears to be quite high considering the findings of the New Haven NIMH Epidemiologic Catchment Area Study which specifically looks at the association between head injuries and psychiatric disorders.

The researchers in this study found that all psychiatric diagnoses, except bipolar disorder and schizophrenia, were more prevalent in the group with head injury compared to those with no history of a head injury. (121)

6.4.6 HIV status

Whilst their HIV status was unknown to the majority of patients, nine (8,74%) of the patients in the sample were HIV positive (Table 5.15). There appears to be heightened rates of bipolar affective disorder and secondary mania among individuals with HIV/AIDS. (122) (123) The

present study did, however, not investigate the relation between HIV status and manic symptoms. Discussing risks related to sexually promiscuous behaviour when manic should be part of the psychoeduation of all bipolar patients.

6.5 Course and clinical features

6.5.1 Age of onset

The mean age of onset of first manic episode was 25 years and the mean age of onset of depression was 26 years (Table 5.16). The majority of patients experienced their first manic- as well as depressive episode between 20 and 30 years of age (Table 5.17 and Table 5.18). A comparable study would be that of Negash et al in 2005 in Ethiopia who found the mean age of onset of mania to be 22 years of age and that of depression 23,4 years of age. (94)

In a cross-national epidemiological study of major depression and bipolar disorder, Weismann et al (1994) found noteworthy differences in terms of age of onset of mania between participating countries. These differences ranged from 17,1 in Canada to 29 in West Germany. (124) Leboyer et al (125) provide a comprehensive review of existing data, showing that age of onset can identify homogenous sub-groups of patients with bipolar disorder.

There appears to be a trend towards mania developing earlier, before age 20 (23,3%) and depression developing later in life, after 30 (27,3% of the 44 subjects who had depressive episodes in this sample), (see tables 5.17, 5.18 and figure 5.2). Only 34% of the subjects in this study were younger than 30.

Age of onset findings will be discussed in more detail at the end of this chapter when those subjects with earlier onset of mania are compared with those with later onset of mania.

6.5.2 Episode pattern

6.5.2.1 Pattern of mood symptoms

A significant finding was that, of the 103 patients interviewed with a history of mania, 57,28% had only ever experienced manic symptoms (Table 5.19) As mentioned in Chapter 3, a unipolar manic course in this study was considered in all patients who had never experienced a major depressive episode. An issue that needs clarification however, is what “true” unipolar mania constitutes in terms of amount of manic episodes without any depressive episodes.

If one excludes all the patients who turned out not to suffer from bipolar disorder (Table 5.40), it leaves 94 patients who had a diagnosis of

bipolar mood disorder specifically. Of these 94 patients, 53 reported never having had depressive episodes (Table 5.20) and of this 53 patients, 42 (44,68%), (Figure 5.3) reported "three or more" lifetime number of phases (see table 5.21). This figure of 44,68% reflects those study subjects with a true unipolar manic course if one accepts the criteria of three or more lifetime number of episodes as indicative of a unipolar manic course. This figure is significantly higher than the reported 10% to 20% rate of unipolar mania in the literature in general. (2)

6.5.2.2 Seasonal pattern

Not many patients admitted to seasonal variation or exacerbation of mood symptoms with only 12,62% reporting a seasonal pattern (Table 5.22). This is lower than the figure reported by Kim et al of 20% to 25% (126) but in keeping with the conclusion of Murray et al who found no evidence of seasonal variation in bipolar disorder. (127)

6.5.2.3 Lifetime number of phases

Most patients had “5 to 12” mood episodes in a lifetime (see table 5.23). Lifetime number of manic or depressive episodes were assessed according to the following breakdown; “zero”, “one”, “two”, “3 to 4”, “5 to 9”, “10 to 20” and “20 to 50”. Most patients experienced “5 to 9” episodes

of mania in a lifetime (Table 5.24). Depression was a much rarer expression of the illness and the majority of patients had fewer than five episodes of depression in a lifetime (Table 5.25).

6.5.2.4 Episode features

Crucial to the present study is the ability to elicit the symptoms of depression and to diagnose the presence of a depressive episode, either currently or in the past. This has been reported to be notoriously difficult in cross-cultural settings.

The prevailing language in Limpopo is Sepedi. When enquiring about depressed mood, it's more of describing the emotion, but the phrase "kgatello ya monagano" is used to describe the emotion which means literally “suppressed mind”. In spite of the lack of a word for depression or depressed mood, the follow on questions in the ADE goes to great lengths to elicit other symptoms of a depressive episode.

Bodemer (1984) engaged this challenge in his MD dissertation “The concept of depression – an evaluation of symptoms and signs in a group of black South Africans” reporting that the cultural background of the patient played an integral part in the mode of clinical presentation of depression. Bodemer emphasised specifically the challenge that most

black languages in South Africa do not have an accepted word for depression and although the minority in his study complained of a feeling of depression, all the patients diagnosed with depression complained of a loss of interest or pleasure in all or practically all normal pastimes.

In the group with major depression Bodemer found 89,5% presented with agitation or retardation, 78,9% with somatic complaints, 73,7% with loss of appetite and 73,7% with sleep problems, referring to these symptoms as culture free. (128)

Ellis, in a very eloquently article, highlights the challenges of diagnosing depression in general practice in rural Kwazulu-Natal. Ellis suggests that the traditional African presentation of depression may be divided into four domains; somatic complaints, fatigue variants, message of distress and problematic relationships. This author concedes that this is his “artificial” perspective as an English immigrant doctor working with Zulus and that all cultures can present with depression in a variety of said categories but that in more traditional societies the symptoms of depression are more likely to be delivered metaphorically or symbolically as idioms of distress, linguistic images, metaphors and associative phrases. (129)

In the present study, each subject had to answer specific questions related to past depressive episodes (page 3 of the ADE). The first two questions were; 1) Has there ever been a period when you were feeling down or depressed most of the day, nearly every day, for as long as two weeks? and 2) What about being a lot less interested in things or unable to enjoy things you usually would enjoy nearly every day for as long as two weeks?, reflecting DSM diagnostic criteria for a depressive episode. The interviewer could rate these two questions as “No”, “Probable” or “Definite”.

If either question was rated “Definite”, the interviewer then proceeded to ask the following questions: During that time…

1. …did you have a change in sleep pattern?
2. ….were you down on yourself? Did you feel as if you were a bad person or that you deserved to suffer?
3. ….how was your energy level? Were there things that you should have done and didn’t because you didn’t have enough energy or were simply too tired?
4. ….how was your concentration? Were you able to read the newspaper or watch TV? Did you find that you were easily distracted?
5. ….how was your appetite? Did your weight change?

6. ….were there times when you were so fidgety or agitated it was hard for you to stay still? What about the opposite - thinking or moving more slowly than usual? If I had been there, would I have noticed that something was wrong
7. ….were there times when you were feeling so bad that you felt life was not worth living? What about actually thinking about suicide or harming yourself?

Hereafter the following parameters were enquired about: “Sudden onset”, “Irritability”, “Anger attacks”, “Leaden paralysis”, “Worthlessness”, “Paranoid ideation”, “Delusions” and “Hallucinations”.

Using the above approach, the diagnosis of depression was made with a reasonable amount of confidence. It was found that, while subjects were depressed, the most common accompanying feature was “Worthlessness” (100%) followed by “Irritability” (93,2%) and “Sudden onset” (88,63%). “Leaden paralysis” (70,45%) was also a common finding (see table 5.26).

Manic episodes (or lifetime abnormal mood elevation) were elicited in the following fashion (page 2 of the ADE).

Have you ever had a time…

1. …when you were feeling so good or so hyper that other people thought you were not your normal self?
2. …or you were so hyper you got into trouble?
3. …did anyone say you were “manic”?
4. …when you felt like you could do much more than you are ordinarily capable of?
5. …when you were so irritable that you shouted at people or started fights or arguments? Did you find yourself yelling at people you didn’t really know?

It was then ascertained whether, for the most severe episode identified above, any of the following sounded familiar;

a) During that time, were there any times when your mood was euphoric or expansive or irritable or dysphoric?
b) Were you admitted to the hospital during this time?
c) Altogether, how long did this period last?

Symptoms present to a significant degree during most severe episode identified through the questions set out above were then elicited:

During that time…

1. …were you feeling more self-confident than usual or like you were special, more talented, more attractive, or smarter than usual?
2. …were there nights you got less sleep than usual and found you didn't really miss it?
3. …were there any times you were more talkative than usual, or you found you said much more than you intended? Were there any times you spoke faster than usual?
4. …did you find that you had more ideas than usual? Were there times when your thoughts seemed to be racing through your head?
5. …did you find you were easily distracted?
6. …did you experience difficulties due to making new plans or getting new projects started? Were there times when you were so energised or agitated you couldn't sit still?
7. …did you do anything that was unusual for you or that other people might think was excessive, foolish or risky? Did you do anything that would have caused a problem if you were caught?

The following parameters were then asked about with regard to other features of past episodes of mood elevation: "Increase in risky pleasure",

"Extraordinary accomplishment", "Sudden onset", "Easily annoyed", "Decreased appetite", "Increased energy", "Increased Spending", "Increased libido", "Paranoid ideation", "Delusions" and "Hallucinations".

The most common accompanying features of mood elevation (see table 5.27) appeared to be "Increased energy" (98,06%), followed by "Easily annoyed" (91,26%) and "Delusions" (85,43%). The low number of patients reporting "Increased spending" (22,33%) is perhaps a reflection of the poor socio-economic status of the interviewed population.

It appears that, whilst manic, a significant number of patients experienced psychotic symptoms (see table 5.27 and figure 5.3) with 85,43% reporting delusions, 76,7% hallucinations and 76,7% paranoid ideation. However, while subjects were depressed, hallucinations appeared to be more common as a psychotic feature than delusions and paranoid ideation. These findings described here support the argument that this sample of patients presents with significant psychotic symptoms when manic.

6.5.3 Treatment

6.5.3.1 Attended traditional healers

Two thirds (64%) of those interviewed stated that they had consulted with faith or traditional healers with regard to their mental illness (see table 5.28). This is in keeping with the local culture and the fact that the majority of study subjects belonged to the ZCC faith.

Seeking help from a faith healer is not only culturally acceptable but in fact encouraged by the ZCC church where it is believed that that senior officials in the ZCC (known as *"baruti"*) can use the power of the Holy Spirit to perform healing. This could include the laying-on of hands, the use of holy water, drinking of blessed tea and coffee, and the wearing of blessed cords or cloth. (130)

Robertson explored the issue of collaboration between psychiatry and traditional healers in South Africa. In this article Robertson maintains that there are approximately 250,000 traditional healers in South Africa and that it is estimated that 70% of South Africans consult traditional healers. This means that there are more traditional healers than medical practitioners in South Africa and many people consider traditional healers to be more accessible and provide more holistic care.

Reporting on the findings of three studies by their research group at the Department of psychiatry of the University of Cape Town, Faculty of Health Sciences, Robertson's research group found that the overwhelming majority of the sampled population expressed satisfaction with treatment received from traditional healers.

The first study was conducted amongst traditional healers, the second in hospital on in-patients admitted for serious mental illness and the third in the community. In their second study Robertson's group found that 61% of patients admitted for serious mental illness consulted with African indigenous healers during the previous 12 months.

Robertson goes on to write that traditional healers clearly provide a valuable mental health service but draws a distinction between their usefulness for problems related to daily living and lifestyle problems versus serious mental illness. Robertson states:

> As the treatment measures employed by the traditional healer appear to be limited to relatively non-specific, low potency homeopathic medications combined with suggestion, we should not be surprised that they are effective with the former, but not the latter mental health problems. (131)

6.5.3.2 Medication

The drugs study subjects were taking mostly at the time of interview were valproate, haloperidol and zuclopenthixol depot. A significant amount of patients were also receiving orphenadrine (Table 5.29).

Haloperidol was the most commonly ever prescribed anti-psychotic followed by zuclopenthixol depot (see table 5.30). Valproate was the most popular choice with regards to mood stabilizers ever prescribed (Table 5.31). Of those ever receiving antidepressants, most were prescribed citalopram (Table 5.32).

The choice of medication and prescription habits probably reflects availability of certain drugs in the public service. Most of the study subjects in this study would primarily be initially diagnosed, treated and followed-up by primary health care practitioners. This would be especially true for George Masebe- and Mokopane hospitals. Having said that, at the time of the study there was a fulltime consultant psychiatrist working at Mokopane Hospital who also did an outreach-clinic at George Masebe Hospital. At Mankweng Hospital the out-patient service was rendered by medical officers and registrars working fulltime in the department of psychiatry.

Comparing the above findings with those from the study by Kupfer et al where more than a third of the patients in their study were taking lithium (compared to 21% in the current study) and 40% were taking an anticonvulsant as a mood stabiliser (compared to 85% in the current study), it would appear that prescription habits differ from continent to continent. In the current study a patient would more likely receive an anticonvulsant as a mood stabilising agent than lithium. (106)

Valproate in particular was used much more compared to the study by Kupfer et al. A possible explanation for this could the fact that the subjects in this study comes from a rural and sometimes isolated population where monitoring for lithium levels would be challenging and therefore an anticonvulsant would be chosen rather than lithium as lithium is perceived to carry more risk in terms of toxicity.

More than half the patients in Kupfer et al's study were taking antidepressants compared to only 13,6% in this current study. Twenty-five percent of the patients in Kupfer et al's study were taking benzodiazepines compared to 4,8% in this study.

Considering the small amount of patients receiving anti-depressants, one has to wonder whether this because this population tends to present

with a manic only course of their bipolar illness. The fact that so few patients were receiving antidepressants indicates a different expression of bipolar disorder in this particular population and would support the argument that bipolar disorder presents differently in Africa.

Not many patients exhibited any extra-piramidal symptoms and very few had tardive dyskinesia (see table 5.33), in spite of the fact that the majority of patients received first-generation anti-psychotic drugs. Forty-two percent were taking an anti-cholinergic at the time of interview (Table 5.29).

6.5.4 Substances

The age of onset of substance use appeared to be mostly in the age group “16 to 20” for nicotine, alcohol and cannabis (see tables 5.34, 5.35, 5.36 and figure 5.4). The majority started smoking cigarettes between the ages of 16 to 20 and 32% were still smoking cigarettes at the time of interview (Table 5.36 and Table 5.39).

Whilst 40% gave a history of alcohol abuse, only 18% admitted to current use (Table 5.37). Just 5,8% of participants were still using cannabis at the time of interview but 18,4% had a history of cannabis abuse (Table 5.38).

Substance use and history of abuse will be discussed in detail at the end of this chapter.

6.5.5 Diagnosis

All the subjects assessed by the researcher were referred as having had a history of mania and after assessment with the ADE, a definitive diagnosis was made. Not all patients presenting with mania were diagnosed as having bipolar mood disorder by the researcher after completion of the assessment using the ADE. The patients that received a different diagnosis from bipolar disorder after being interviewed were excluded in the final calculations as to a “true” unipolar manic course as mentioned earlier under the heading “Pattern of mood symptoms”.

Of the 103 subjects interviewed, nine turned out not to have bipolar mood disorder after completion of the ADE (99) which uses DSM-IV-TR criteria (64), with 6,8% (n = 7) diagnosed with schizoaffective disorder, one with schizophrenia and one with substance induced psychotic disorder (Table 5.40).

Anxiety disorders were the most common comorbid condition (49,51%) followed by substance abuse/dependence (12,63%) (Table 5.41).

Generalised anxiety disorder (GAD) was the anxiety disorder mostly encountered (41,18%), followed by posttraumatic stress disorder (PTSD) (27,45%), panic disorder (15,68%), social anxiety disorder (13,72%) and obsessive-compulsive disorder (OCD) (0,79%) (Table 5.42).

At first glance the number of patients presenting with comorbid anxiety disorders seems disproportionately high but the recent literature suggests that comorbid anxiety disorders have been reported at rates of 7% to 32% for GAD, 7% to 38,8% for PTSD, 3,2% to 35% for OCD, 7,8% to 47,2% for social anxiety disorder and 10,6% to 62,5% for panic disorder. (132) (133) (134) (135) (136)

In a study of psychiatric comorbidity in patients with bipolar disorder who entered into the Stanley Foundation Bipolar Treatment Outcome Network, McElroy et al found the lifetime comorbidity for anxiety disorders to be 42% and current comorbidity of anxiety disorders 30%. Findings for GAD and PTSD in particular were however lower compared to the current study with 3% having comorbid GAD (41% in the current study) and 4% comorbid PTSD (27% in the current study). (137)

Similarly, Simon et al, examining anxiety and its correlates in a cross-sectional sample from the first 500 patients with bipolar disorder enrolled

in the Systematic Treatment Enhancement Program for Bipolar Disorder (STEP-BD), found the prevalence of any lifetime anxiety disorder for the entire sample to be 51,2% and 30,5% for any current anxiety disorder.

Data on prevalence of psychiatric disorders in South Africa are, however scarce and one of the first studies investigating lifetime prevalence of psychiatric disorders in South Africa was the South African Stress and Health (SASH) Study. (138) Stein et al reported the lifetime prevalence of any anxiety disorder in the general population to be 15,8%, GAD 2,7% and PTSD 2,3%. (139)

Examining trauma and posttraumatic stress disorder in an urban Xhosa primary care population, Carey et al interviewed 201 subjects at a South African township primary healthcare clinic. Ninety-four percent of the sample reported exposure to traumatic events and PTSD was found to be present in 19,9% of patients. (140)

Considering the high rates of comorbidity of bipolar- and anxiety disorders as reported on above, the lifetime prevalence of anxiety disorders in the general population in South Africa and the prevalence of PTSD in in an urban primary care population, the rate of comorbid

anxiety disorders including GAD (41%) and PTSD (27%) in this present study suddenly seems less disproportionate.

6.5.6 Bipolarity Index Score

The “Bipolarity Index” is part of the ADE and is a tool for both assessment as well as creating rapport with patients. According to Sachs the index approaches the diagnosis of bipolar disorder not as a categorical question but more on a continuum. Therefore an impression is created of how much and in what ways a patient is ‘bipolar’. (141)

Sachs contends that, at the end of an evaluation, the goal of producing a DSM diagnosis pushes the interviewer toward considering bipolarity as a categorical entity. The “Bipolarity Index” was developed as a useful alternative to categorising bipolarity as present or absent. Most bipolar I patients will score above “60”. (102)

In this current study sample, close to 95% of the subjects scored higher than “60” on the Bipolarity Index (Table 5.43).

Most of the subjects in the study were rated as “Mildly ill” to “Moderately ill” on the CGI at the time of interview (Table 5.44).

6.6 Women's health issues

As explained earlier in this chapter, there is a subsection dealing with women's health issues in the ADE, under the main heading of "Medical History". For this reason women's issues are discussed here in accordance with the order in which results were presented in the "Results" chapter.

Research with regard to the management of bipolar disorder in women during pregnancy and the postpartum period remains scarce. The impact of the illness in women is poorly understood and many questions remain to be answered that could have major treatment implications for women suffering from bipolar disorder during their reproductive years.

The majority of women in the study had their menarche at ages 15 to 16 which is slightly older than the expected 14 to 15 years (see table 5.45). The worldwide average age of menarche is difficult to estimate accurately and varies by geographical region, race, ethnicity and other characteristics. Some estimates suggest that the median age of menarche worldwide is 14. (142)

Age of menarche was found to be 13 to 14 years in a study from Cameroon (143) as well as one from Mozambique. (144) However, in a

study conducted in two small towns in northwest Ethiopia in 2007, the average age at menarche by recall method was 15.8 +/- 1 years, which is more in keeping with the results from the present study. (145) The average age of menarche is about 12.5 years in the United States. (142)

Twenty-six percent of the women in this sample reported irregular menses (see table 5.46) and more than half of them used no contraception at all (Table 5.47). Another neglected topic with regard to psychoeducation of our female patients of childbearing age is the matter of menstrual abnormalities associated with taking psychotropic mediation as well as the importance of using contraception if of childbearing age. Not only should women be informed about the effects of psychotropic medication in their menstrual patterns but they should also be educated about the possible teratogenetic effects of psychotropic drugs on their offspring.

Only 29% (n = 26) stopped taking their medication while pregnant with another 24% (n = 14) were “not sure” or “could not remember” whether they took medication while pregnant (Table 5.48).

In order to come to conclusions with regard to miscarriages suffered by females in this sample, the author also looked at “Live births” and the

medication the patients were taking. Considering that this is the medication they were currently on and not necessarily that which they were taking at the time of falling pregnant, findings need to be interpreted carefully and no clear conclusions can be inferred from this data. It can serve as a guide for future research however.

Table 5.49 reflects the number of “live births” per subject, in other words the females who had children in the study had 45 children all together. Approximately 30% (n=17) of the sample had suffered miscarriages (see table 5.50). The majority of those who had miscarriages were on Valproate (see table 5.51). None of the females who had children were on a depot medication. The rate of miscarriages appears to be higher than expected and significantly higher than the findings of a study on pregnancy outcomes in South Africa by Bello et al who reported that 9.5% of 2467 pregnancies ended in spontaneous abortion and only 2.2% in still births. (146)

A specific question was asked with regard to any noticeable developmental problems in their offspring. Again, the findings should be carefully interpreted considering that this is a very rural and poor population and that developmental problems may not be picked up by either parents or the school system. None however reported any

problems that could be interpreted as being the result of a teratogenetic effect of a particular drug (see table 5.52).

Research on the effects of prenatal exposure to anti-psychotic medication remains scarce but a recent study examining the effects by Johnson et al showed that prenatal anti-psychotic exposure may affect neuromotor performance during infancy. This prospective study conducted at an Infant Development Laboratory in Atlanta, Georgia examined 309 infants who had prenatally been exposed to either anti-psychotics, antidepressants or no psychotropic medication. Johnson et al found that, among six month-old infants, a history of intrauterine antipsychotic exposure, compared to antidepressant or no exposure was associated with significantly lower scores on a standard test of neuromotor performance. (147)

Only 12% (n = 7) of women in the sample reported peri-menstrual exacerbation of mood symptoms (Table 5.53). This appears to be lower than the approximately 60% in other studies. (148) (149)

A third of patients reported mood symptoms associated with pregnancy while 49,13% (n = 28) reported postpartum onset of symptoms (see tables 5.54 and 5.55). Some studies report rates of post-partum mood

episodes of up to 40% after delivery (150) (151), while Freeman et al (152) found that 67% of their group of 50 women with bipolar disorder with children experienced a post-partum mood episode within one month of delivery. Nearly half (49,13%) of the women who had children in this study reported post-partum onset of symptoms.

6.7 Gender comparison

In the present study the following trends with regard to gender appeared:

- Marital status
    - Males were less likely to be married (17% vs. 28%) [p=0.245]
- Education
    - Males were more likely to have secondary education (58% vs. 49%) but less likely to have a tertiary education (21% vs. 28%) [p=0.502].
- Employment
    - Men were more likely to be unemployed (76% vs. 64%) [p=0.281].
- Disability
    - Men were slightly more likely to receive a Social Grant (54% vs. 50%) [p=0.843].

- History of trauma
    - No men reported being the victim of sexual trauma whereas 10% of females reported a history of sexual trauma which is a statistically significant difference [p=0.032].
- History of suicide attempts
    - There did not appear to be a significant difference in reporting of a history of suicidal attempts (26% vs. 28%) [p=1.000] but methods differed significantly.
    - Men were more likely to attempt suicide by hanging (13% vs. 5%) [p=0.293] while women were more like to ingest poison (0% vs. 7%) [p=0.126] or take an overdose (2% vs. 8%) [p=0.221].
- Forensic history
    - Men were significantly more likely to have a forensic history (52% vs. 14%) [p=0.001].
- Medical history
    - Men tended to more often report a history of head trauma with loss of consciousness (21% vs. 12%) [p=0.286] whilst more women reported being HIV positive (14% vs. 2%) which was statistically significant [p=0.040].

- Affective episode features
    - Interesting gender differences emerged with regard to ways in which both depressive episodes as well as manic episodes presented:
        - While depressed, females were more likely to report delusions, anger, irritability, sudden onset, worthlessness and leaden paralysis.
        - Whilst manic, men were more likely to report delusions, hallucinations, paranoid ideation, increased libido and partaking in risky pleasurable activities.
        - The only statistical difference was for hallucinations while manic with 78,26% of men reporting hallucinations compared to 49,12% of women [p=0.004]
- Treatment
    - Slightly more females tended to visit a traditional healer (60% vs. 66%) [p=0.680].
    - With regard to current medication, again some very interesting gender differences emerged:

    - Males were more likely to receive lithium (26% vs. 17%) [p=0.339] and clozapine (19% vs. 3%) [p=0.011] and females more likely to receive valproate (58% vs. 73%) [p=0.141].
    - No males were on anti-depressants whereas 8% of the females were on an anti-depressant [p=0.063].

- Substances
    - Fifty-six per cent of males were currently smoking compared to 12% of females, a statistically significant difference [p=0.001].
    - Males were also statistically significant more likely to have a history of alcohol abuse (60% vs. 22%) [p=0.001] and cannabis abuse (39% vs. 1,75%) [p=0.001].
- Comorbid anxiety disorder
    - Females had virtually double the rate of comorbid anxiety disorders (32% vs. 63%) [p=0.003].
- CGI
    - Males were more likely to be rated “Markedly ill” (19% vs. 10%) to “Severely ill” (15% vs. 1%) [p=0.103].

The literature on the matter of gender differences in bipolar disorder suggests that the clinical features and evolution of illness differ between

men and women. (114) Roy-Byrne et al held that women are more likely to have depressive episodes. (153) Hendrick et al found no gender difference in the total number of depressive or manic episodes. (154)

Kupfer et al found that more men (39,4%) than women (29,29%) had never been married. Men had higher mean educational achievement (in keeping with current study findings), were more likely to be employed (different from current study) but were also more likely to be receiving disability grants (same as current study). (106)

Arnold claims the onset of bipolar disorder to often be later in women than in men and, similarly to the current study found that women tended to have more anxiety disorders. (17) In keeping with the current study, men with bipolar disorder more often had comorbid substance abuse according to Kessing (155) as well as Kawa et al. (156)

Baldessano et al found women had higher rates of PTSD (10,6% M vs. 20,9% F), men were more likely to have a history of legal problems (36% M vs. 17,5% F), and women had more lifetime suicide attempts. In the current study men were also more likely to have a forensic history. (157)

The findings of Nivoli et al are also similar to those of the present study with Nivoli finding that men are more likely to suffer from comorbid substance abuse, women are more likely to have a lifetime history of a suicide attempts, and suicides are often more violent in men with bipolar disorder. (158) Lastly Miquel et al found that manic episodes are more common in men and depressive episodes occur more frequently in women.(159)

Statistically significant differences in the present study in summary are:

- Females were more likely to:
    - Have a history of sexual trauma.
    - Be HIV positive
    - Suffer from a comorbid anxiety disorder
- Males were more likely to:
    - Have a forensic history
    - Experience hallucinations
    - Receive clozapine
    - Smoke cigarettes currently
    - Have a history of alcohol or cannabis abuse

6.8 Age of onset of mania

For the purposes of this particular study and considering the assessment instrument used, the author defined early age of onset (EAOO) as ≤ 19 years of age. In the present study the following trends appeared with regard to age of onset:

- Marital status
    - Considerably less of the EAOO group appeared to get married (12,5% vs. 27,85%) [p=0.175].
- Education
    - Less of the EAOO group obtained secondary education (67% vs. 49%) [p=0.066] or went on to obtain tertiary education (12,5% vs. 29,11%) [p=0.116].
- Employment and financial support
    - The rate of unemployment was virtually equal with more subjects receiving a Social Grant in the later onset group (42% vs. 56%) [p=0.252].
- Family history of mental illness
    - The EAOO group had a slightly increased rate of a family history of bipolar disorder (62,5% vs. 55,7%) [p=0.641].
- History of suicide attempts
    - The EAOO group had a lower rate of suicide attempts (20,83% vs. 29,11%) in this study [p=0.601].

- Treatment
    - A number of differences came to light with the EAOO group receiving more lithium (29,17% vs. 18,99%) [p=0.393], less oral haloperidol (37,5% vs. 53,16%) [p=0.244] but more depot Zuclopenthixol (54,17% vs. 30,88%) [p=0.051] and much more Clozapine (25% vs. 6,33%) [p=0.018]. This was the only statistically significant difference with regard to difference in age of onset and could signify a more severe and disabling course of illness.
    - Another interesting finding was that the EAOO group were more likely to receive Citalopram (12,5% vs. 1,27%) [p=0.081].
- Substance abuse
    - The EAOO group appeared to be slightly less prone to have a history of substance abuse with regard to both alcohol (37,5% vs. 40,5%) [p=0.645] and cannabis (16,7% vs. 18,99%) [p=1.000], which is not in keeping with research findings from other countries.
- Comorbid anxiety disorder
    - The EAOO group had a slightly higher rate of comorbid anxiety disorders (54,17% vs. 48,1%) [p=0.647]

- Bipolarity Index
    - In terms of the Bipolarity Index, the EAOO group had a higher likelihood of scoring “81-100” (58,33% vs. 48,1%) [p=0.166] which again could indicate that this group is the ‘true’ bipolar group.
- CGI
    - The EAOO group was more likely to be rated ‘Markedly ill’ (20,83% vs. 16,46%) to ‘Severely ill’ (12,5% vs. 6,33%) on the CGI, which again could point toward a more severe and disabling course of illness. [p=0.700].

As noted above, the only statistically significant difference that emerged from the above comparison was that the EAOO group was more likely to be prescribed clozapine [p=0.018].

The diagnosis of mania in childhood has been a source of much debate but nowadays it seems clear that early-onset bipolar disorders are not necessarily rare but simply very difficult to diagnose. There appears from the literature to be three sub-groups based on age of onset – early, intermediate and late onset. Bellivier et al. demonstrated by admixture analysis (a method that identifies the theoretical model that best fits with the observed distribution of age at onset in an epidemiological sample of

bipolar patients) three distinct age of onset sub-groups to exist namely early, intermediate and late onset, peaking at 17, 27 and 46 years respectively. (160)

Lin et al examined the clinical and familial characteristics of age at onset in bipolar disorder subjects from families with multiple affected members and defined early onset as ≤ 21 years. (161)

Early onset bipolar disorder is associated with:

- Lifetime panic disorder - Chen and Dilsaver (136)
- Higher rates of psychotic symptoms during affective episodes, particularly in women - Yildiz and Sachs (162)
- Alcohol- and substance abuse - Lin (161)
- More suicidal behaviour - Lin (161)

Kennedy et al, however, maintains that studies investigating age at onset of bipolar disorder have yielded inconsistent results. (163)

6.9 Substance Abuse

In the present study the following trends emerged when the matter of substance abuse was reviewed:

- Employment
    - Although the rate of unemployment was high in both cannabis users and alcohol abusers, those that abused cannabis were even more likely to be unemployed. (78% vs. 68%) [p=0.541].
- Financial support
    - Cannabis abusers were less likely to receive a Social Grant compared to those that abused alcohol. (36% vs. 53%) [p=0.274].
- History of suicide attempt
    - Subjects with a history of cannabis abuse were less likely to have a history of suicide attempts compared to those with a history of alcohol abuse (15% vs. 39%) [p=0.083].
- Comorbid anxiety disorder
    - Subjects with a history of cannabis abuse were less likely than those with a history of alcohol abuse to have a comorbid anxiety disorder (26% vs. 56%) [p=0.051]. This could suggest that alcohol abuse may indicate self-medicating for anxiety.

- CGI
    - Those with a history of cannabis abuse were more likely to be rated as “Severely ill” on the CGI. (21% vs. 14%) [p=0.711].

None of the above findings were found to be statistically significant.

One of the most comprehensive papers with regard to bipolar disorder and substance abuse is a paper by Regier et al (164). The Epidemiological Catchment Area Study, a large epidemiological study of the prevalence of psychiatric disorders in five communities in the United States during the 1980s, found that, compared with individuals with other Axis I disorders, individuals with bipolar I disorder, had the highest lifetime rates of alcohol-use disorders (46%) and drug-use disorders (41%).

Kessler et al confirmed this in their study and found that individuals with mania were 8,2 times more likely to have been drug dependent in the previous 12 months and 8,4 times more likely to have lifetime drug dependence compared to the general population. (165) Brown et al reported that the lifetime rate of drug abuse or dependence for patients

with bipolar disorder ranged from 14% to 65% compared with rates of 6% to 12% in the general population. (166)

6.10 Manic Episodes Only vs. Depressive- and Manic Episodes

In Chapter 3, “unipolar mania” was extensively discussed. The literature suggests there is ample evidence that a huge number of patients in Africa diagnosed with bipolar disorder have a ‘manic only’ or ‘unipolar manic’ course of illness. The present study supports the presence of a high rate of a unipolar manic course of illness.

The question that still needs answering, though, is whether this a different course of bipolar (affective) illness we are seeing in Africa or could this be a different illness altogether? With this in mind the researcher decided to compare the two groups in order to ascertain whether any differences appear which could assist in answering the above questions.

In the present study the following differences appeared when comparing the Depressive and manic (DAM) group with the Manic only (MO) group:

- Mean age
    - The mean age of the MO group was 38,18 years vs. the DAM group at 34,66 years.

- Gender
    - There were more males in the MO group (54% vs. 31%), which was statistically significant [p=0.028].
- Marital Status
    - No obvious difference appeared with regard to marital status (22% vs. 25%) [p=0.815].
- Employment
    - The rate of unemployment was slightly less in the MO group (67% vs. 72%) [p=0.667].
- Financial support
    - More patients received a disability grant in the MO group (57% vs. 45%) [p=0.238].
- Family history of mental illness
    - The MO group reported a family history of bipolar mood disorder (54% vs. 61%) [p=0.548], alcohol abuse (47% vs. 52%) [p=0.692] and suicide (15% vs. 18%) [p=0.790] less frequently.
- History of suicide
    - The MO group reported having attempted suicide significantly less than the DAM group (16% vs. 40%, a statistically significant difference [p=0.013].

- History of violence/forensic history
    - The MO group reported a history of violence more often (50% vs. 47%) [p=0.843] but had a lesser chance at having a forensic history (28% vs. 34%) [p=0.668].
- Medical history
    - Only 3% in the MO compared to 15% in the DAM group reported being HIV positive which was statistically significant [p=0.036].
- Age of onset
    - Age of onset did not appear to differ dramatically between the two groups.
- Mood elevation features
    - Some interesting differences with regard to 'mood elevation features' appeared in the sense that the MO group tended to report more psychotic symptoms (delusions: 89% vs. 79%) [p=0.166], (paranoid ideation: 88% vs. 61%) [p=0.002], (hallucinations: 77% vs. 63%) [p=0.126] but less 'increased energy' (16% vs. 31%) [p=0.100].
    - The difference in paranoid ideation was statistically significant [p=0.002].

- Treatment
    - In keeping with the above, it would appear that the MO group tended to be prescribed more anti-psychotics (haloperidol: 54% vs. 43%) [p=0.321], (zuclopenthixol depot: 49% vs. 38%) [p=0.321], (risperidone: 23%vs. 20%) [p=0.812], (clozapine: 10% vs. 11%) [p=1.000] and fewer mood stabilisers (lithium – 18% vs. 25%) [p=0.473], (valproate: 57% vs. 59%) [p=1.000].
    - None of the patients in the MO group were on anti-depressants (0% vs. 11%), a statistically significant difference [p=0.012].
- Substance abuse
    - The MO group tended to abuse substance more than the DAM group both with regard to a history of abuse and current abuse.
    - History of alcohol abuse (42% vs. 36%) [p=0.550], current alcohol abuse (13% vs. 4%) [p=0.183].
    - History of cannabis abuse (25% vs. 9%) was statistically significant [p=0.042],
    - Current cannabis abuse (8% vs. 2%) [p=0.235].

- Comorbidity
    - The appeared to be a significant difference between the two groups in terms of comorbidity with the DAM group twice as likely to have a comorbid anxiety disorder (20% vs. 43%), a statistically significant finding [p=0.017].
- Bipolarity index
    - There appeared to be a trend towards the MO group scoring lower on the Bipolarity Index (“81-100”: 45% vs. 56%) [p=0.321] and (“71-80”: 33% vs. 20%) [p=0.184].
- CGI
    - There was a slight tendency for the MO group to be scored ‘Markedly ill’ (20% vs. 13%) to ‘Severely ill’ (10% vs. 6%), compared with the DAM group [p=0.058].

Statistically significant differences in the present study in summary are:

- The Depressive and Manic (DAM) group were more likely to:
    - Have a history of attempted suicide
    - Be HIV positive
    - Be prescribed antidepressants
    - Have a comorbid anxiety disorder

- The Manic Only (MO) group were more likely to:
    - Be males
    - Have more psychotic features; in particular paranoid ideation
    - Have a history of cannabis abuse

Research from the non-Western world and in particular Africa seems to indicate that a manic only course in bipolar mood disorder is more prevalent than previously believed. (80) (85) (94) Bipolar disorder also possibly expresses itself differently in different ethnic races. It would appear from studies of bipolar disorder in African, African-Caribbean and African-American patients in both the UK and the USA that they are less likely than white patients to experience depressive episodes before the onset of first mania, experience more severe psychotic symptoms at first mania (167), and are more likely to be misdiagnosed as having schizophrenia. (168)

A number of studies have found that there seems to be an increased rate of psychosis among African-Caribbean people living in the UK (169) (170) as well as an increased rate of mania. Leff et al reported that the African-Caribbean population more often displayed mixed manic and schizophrenic symptoms. (171) In fact, Van Os et al calculated that the rate for mania among African-Caribbean people in Camberwell, south

London, was approximately three times that of the white group in their study. (172)

Kirov and Murray found that, among patients diagnosed as Bipolar I attending a Lithium Clinic in South London, African patients were significantly more likely than whites to show exclusively or mainly manic presentations (64,3% as compared to 28,3% in the white British group in their study). They conclude that “there may be genuine differences between ethnic groups in the form of presentation of bipolar disorder”. (173)

Kennedy et al, in their study of first episode psychosis and mania in Camberwell, London, found that the African-Caribbean and African groups were significantly less likely to have had a previous depressive episode before the onset of mania, were more likely to present with psychotic symptomatology and had a more severe clinical presentation at first mania. (167)

In contrast, Caucasian subjects in studies conducted in Europe and the USA seemed to spend far more time with depressive symptoms than with mania over the course of their illness as shown by Angst (174) and Judd et al. (175) Kennedy et al rightfully insist therefore that ethnic

differences in clinical presentation of affective disorders are clinically important as such differences may lead to misdiagnosis that could have obvious treatment implications. (167)

Lloyd et al found in the AESOP (Aetiology and Ethnicity of Schizophrenia and Other Psychoses) study in the UK, a multi-centre population-based incidence and case-control study of first-episode psychosis, that the incidence of bipolar disorder was higher among black and minority ethnic groups than in the white population. (176) Dean et al in the same study concluded that African-Caribbean ethnicity was independently associated with aggression and that aggression was associated with a diagnosis of mania. (177)

Bearing in mind the findings of this current study and considering the evidence from the literature as referred to in this chapter, there appears to be no doubt that bipolar disorder presents differently in patients of African descent.

Chapter 7
Conclusion

The limitations of this study need to be recognised before the implications of the findings are discussed. Language was probably the biggest obstacle in conducting this study and the fact that interpreters had to be used. The difficulties associated with explaining some concepts - particularly eliciting a history of depressive episodes - were also certainly a limitation. As alluded to elsewhere, eliciting depression may be particularly challenging in South Africa. (128) (129)

However, the way the ADE (99) is designed and the type of questions asked makes it improbable that depressive episodes were missed. The ADE appears to be a dependable instrument for eliciting a history of bipolar disorder including eliciting a history of depressive episodes.

A much more important limitation would be recall bias. The reasons Negash et al (2005) (94) considered explaining the high rate of non-reporting of depressive episodes deserves consideration in the present study as well, in that recall bias might lead to under reporting milder episodes of depression. Depressive symptoms may also be seen as part of normal life rather than as a psychiatric disorder.

Another limitation may be the fact that the methodology could be criticised as this was a purposeful sample with the majority of patients being recruited while hospitalised and all patients being interviewed only once. This precludes generalisation of the findings. In future a prospective study with a control group may be considered as the cross-sectional nature of the study, without a prospective component, makes it impossible to accurately evaluate and predict the course and outcome of the illness.

In consideration of the findings of the present study, one cannot help but being struck again by the debilitating nature of bipolar disorder. And in spite of a quarter of the study subjects having a tertiary education, more than two-thirds were unemployed. Yet only half of them were receiving a disability grant. The majority of the study subjects were not married (70%).

Twenty-seven per cent of subjects had attempted suicide at some point, half the patients interviewed had a history of violent behaviour, and a third had a forensic history. Forty per cent had a history of alcohol abuse and 18% of cannabis abuse. All these factors point to the serious risks associated with this illness, not to mention the challenges faced by the carers of these patients. Primary health care doctors need to be

educated with regard to the debilitating nature of this illness and the perception that bipolar disorder patients do not qualify for disability grants should be changed.

The role of traditional healers is another area that needs to be considered and we need to ask ourselves the question whether we should not attempt to collaborate more with them, considering that two-thirds of this study sample had consulted with faith- or traditional healers. As they clearly provide a service to our mental health care users, we should seriously consider collaborating with traditional healers on certain issues and this is an area ripe for exploring through research.

Most of the subjects in this study appeared to receive a combination of a mood-stabilising agent (70% being on valproate) and an anti-psychotic (50% receiving haloperidol and 35% depot zuclopenthixol). Forty-two percent were receiving orphenadrine. Further research exploring different treatment approaches in bipolar patients in South Africa certainly merits future research to answer the question as to what the appropriate approach would be and whether there is a place for monotherapy using second-generation anti-psychotics.

Significant gender differences also appeared from this study in that females were more likely to suffer from comorbid anxiety disorders, to have a history of sexual trauma, and be HIV positive whilst men were more likely to have a forensic- and substance-abuse history, experience hallucinations and receive clozapine. It would appear, therefore, that the expression of bipolar disorder is certainly different in the two sexes and this may have treatment implications.

Women's health issues in bipolar disorder needs specific attention, considering the possible effects psychotropic drug use can have on women's menstrual pattern and the dangers related to falling pregnant while taking these drugs. Twenty-six per cent of females in this sample reported irregular menses and only 29% stopped taking their psychotropic medication when they fell pregnant.

Although findings with regard to miscarriages need to be carefully interpreted as the drugs the females in this sample were taking are not necessarily the same they were taking whilst being pregnant, one cannot help but be concerned about the fact that 30% had miscarriages. More troubling is the fact that the majority of them were taking valproate. However, as mentioned, one cannot infer that they were taking valproate at the time of being pregnant but it has been shown that valproate

increases the risk of miscarriage and can also cause developmental delay and cognitive defects in the children of mothers taking valproate whilst pregnant. (178)

The fact that a third of females reported mood symptoms associated with pregnancy and nearly half reported postpartum onset of symptoms indicate the need for careful monitoring of our patients both intra- and postpartum.

Twenty-three percent of this study population had an early age of onset of mania – before the age of 20. Although comparison of the two groups, in terms of onset of illness before age 20 versus after, yielded only one statistically significant difference between the early onset- and late onset groups, a number of differences came to light which might indicate a more severe course of illness.

Fewer members of the EAOO group got married, fewer obtained secondary and tertiary education, this group was more likely to receive lithium and depot zuclopenthixol and significantly more were likely to receive clozapine. The EAOO group had a higher rate of comorbid anxiety disorders and were more likely to be rated “Markedly ill” to “Severely ill” on the CGI.

However, not all the findings were consistent with the literature on the subject, as the EAOO group in this study had lower rates of suicide attempts and were less likely to have a history of substance abuse.

Arguably the most important finding of this current study is the fact that 57% of study subjects had only ever experienced manic episodes. And even after exclusion of those who were not diagnosed with bipolar disorder, the rate only came down to 56%. If one defines a true unipolar manic course in terms of three or more phases without the occurrence of a depressive episode the rate was still 45%, in stark contrast to the rate of 10% to 20% as reported in the literature (2), but in keeping with findings from Africa (85) (94) and other non-Western countries. (27) (88)

Identifying etiologically homogenous subgroups in psychiatry can aid the profession in developing a reliable and valid nosology for psychiatric disorders. The earlier view that bipolar disorder is a chronic illness with alternating phases of depression and mania together with euthymic intervals, has gradually been replaced by an understanding of the heterogeneity of this disease and the need to identify phenotypic markers associated with sub-forms. The “manic only” group as described in this thesis may contribute to the search for an etiologically homogeneous sub-group. As a unique phenotype, a manic only course

of illness in bipolar disorder present an opportunity for genetic research and the search for genetic markers in mental illness.

It would make sense therefore that we need to consider a unipolar manic course as at least a specifier in the DSM as well as ICD, in order to heighten the awareness of such a course of illness in bipolar disorder, with a view to research and in particular genetic research.

If the Kreapelinian dichotomy continues to survive for the time being and we continue to consider the psychotic disorders categorically, one could also postulate that a certain sub-group of patients currently being diagnosed as bipolar disorder in Africa may in fact have a completely different illness. They may in fact suffer from a psychotic-type illness that lies somewhere on the spectrum between what are currently described as bipolar mood disorder and schizoaffective disorder. An appropriate descriptive name for this illness that could be considered would be “Recurrent Manic Psychotic Illness”.