

CHAPTER 3: RESULTS

3.1 DEMOGRAPHIC CHARACTERISTICS

3.1.0 Introduction

A total of 217 patients with a diagnosis of Schizophrenia were included in the study of which 61.8% (n=134) had a history of a relapse (Figure 3.1).

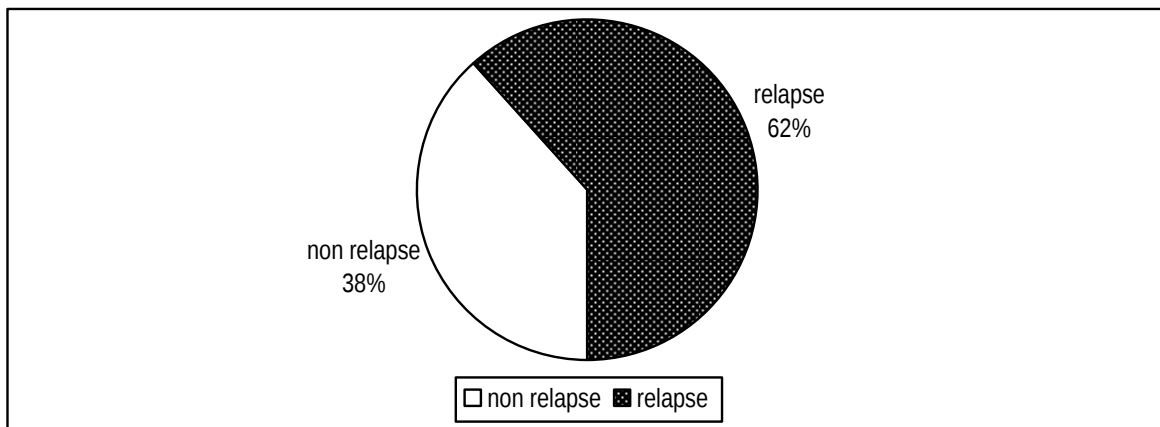


Fig 3.1 Percentage of relapses in the study population

Of the 134 patients who had relapses, 57.5% (n= 77) of the patients had two relapses (Figure 3.2).

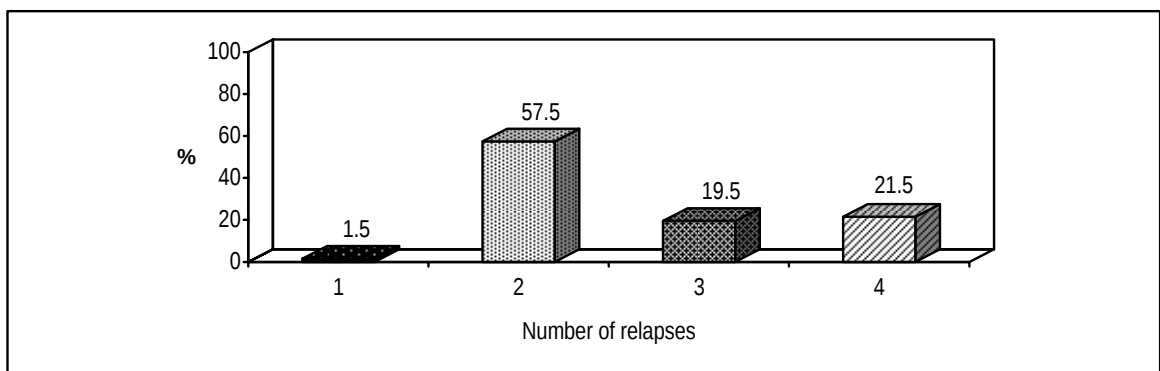


Figure 3.2 Frequency of relapses in the study population

The demographic characteristics of the study population are summarised in Table 3.1.

Table 3.1 Demographic characteristics of the study population.

		Relapse N =134 (100%)	Non-relapse N =83 (100%)
Gender	<i>Males</i>	93 (69.4)	58 (69.9)
	<i>Females</i>	41(30.6)	25 (30.1)
Marital status	<i>Single</i>	97 (72.4)	49 (59.0)
	<i>Married</i>	18 (13.4)	20 (24.1)
	<i>Divorced/widows</i>	18 (13.4)	13 (15.7)
	<i>Unknown</i>	1 (0.8)	1 (1.2)
Education	<i>No formal</i>	19 (14.2)	8 (9.6)
	<i>Primary</i>	41 (30.6)	13 (15.7)
	<i>Secondary</i>	65 (48.5)	60 (72.3)
	<i>Tertiary</i>	9 (6.7)	2 (2.4)
Source of income*	<i>Nil</i>	4(3.0)	4 (4.8)
	<i>Employed</i>	9(6.7)	9 (10.8)
	<i>State grants</i>	112 (83.6)	66 (79.5)
	<i>Family support</i>	61 (45.5)	30(36.1)
* Respondents in each category who reported "yes" to having a certain source of income.			

3.1.1 Age

The mean age of patients with relapses was 42.5 years (SD =10.5) (95% CI: 40.7 - 44.3) (min - 21 years; max - 75 years). The mean age for patients with no relapses was 49.3 years (SD = 13.7) (95% CI: 46.3 – 52.3) (min – 21 years; max - 83 years). There was a statistically significant difference between the two groups ($p < 0.05$). The majority of patients in both groups were in the age groups 41-60 years (Figure 3.3).

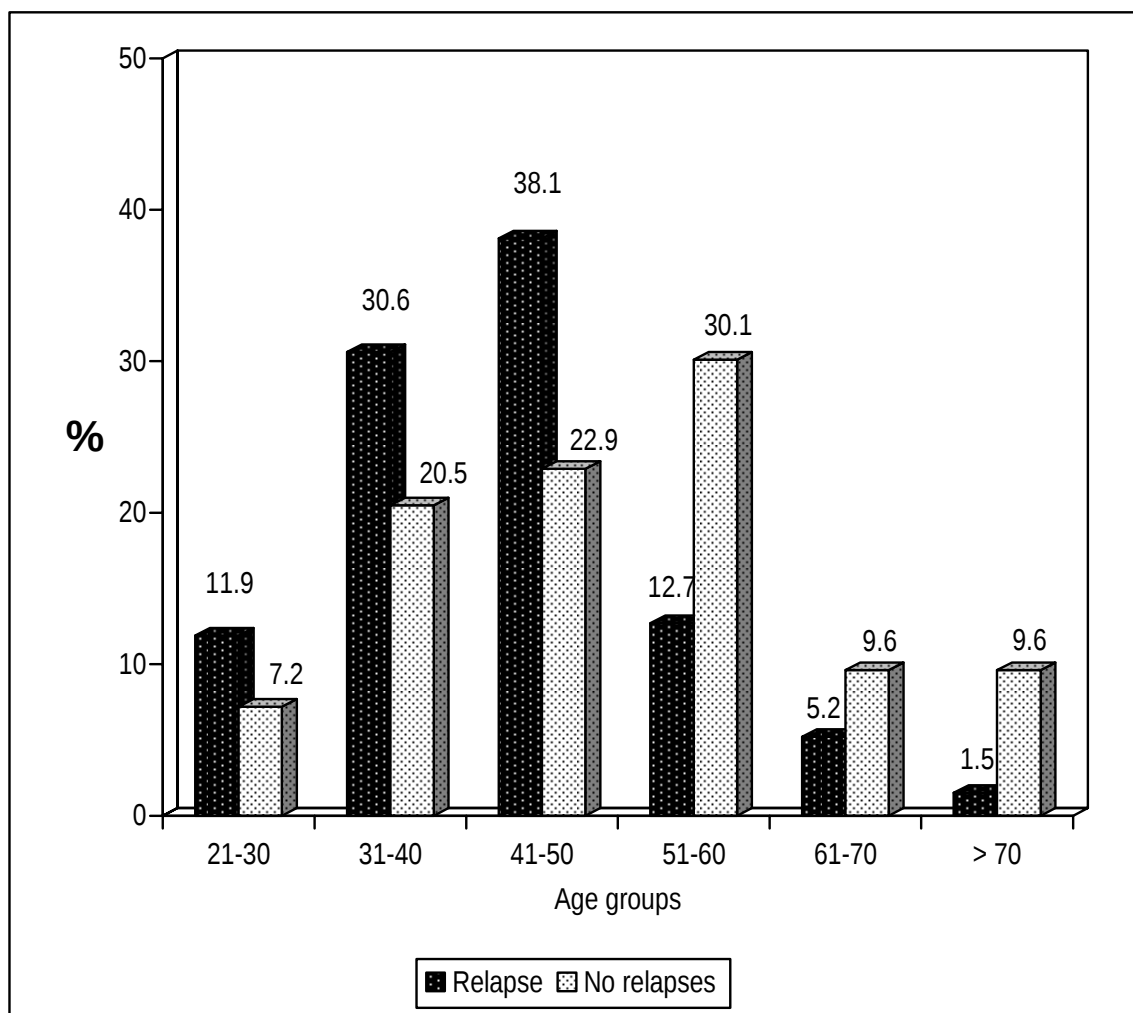


Figure 3.3 Age group distributions in the study population

3.1.2 Gender

In the study population, 69,6% (n = 151) were males while 30.4% (n = 66) were females. In the group of patients with relapses, 69.4 % (n = 93) were males compared to 69.9% (n = 58) in the group with no relapses. There was no significant difference in the proportion of gender between the two groups (Fischer's exact = 1.000; p= 0.98).

3.1.3 Marital status

Of the patients who had relapses, 72.4% (n = 97) were single, 13.4% (n = 18) were married and 13.4% (n = 18) were divorced, separated or widowed. By contrast, among the group of patients with no relapses, 59.0% (n = 49) were single, 24.1% (n = 20) were married and 15.7% (n = 13) were divorced, separated or widowed (Fischer's exact = 0.001; p = 0.12) (Figure 3.4).

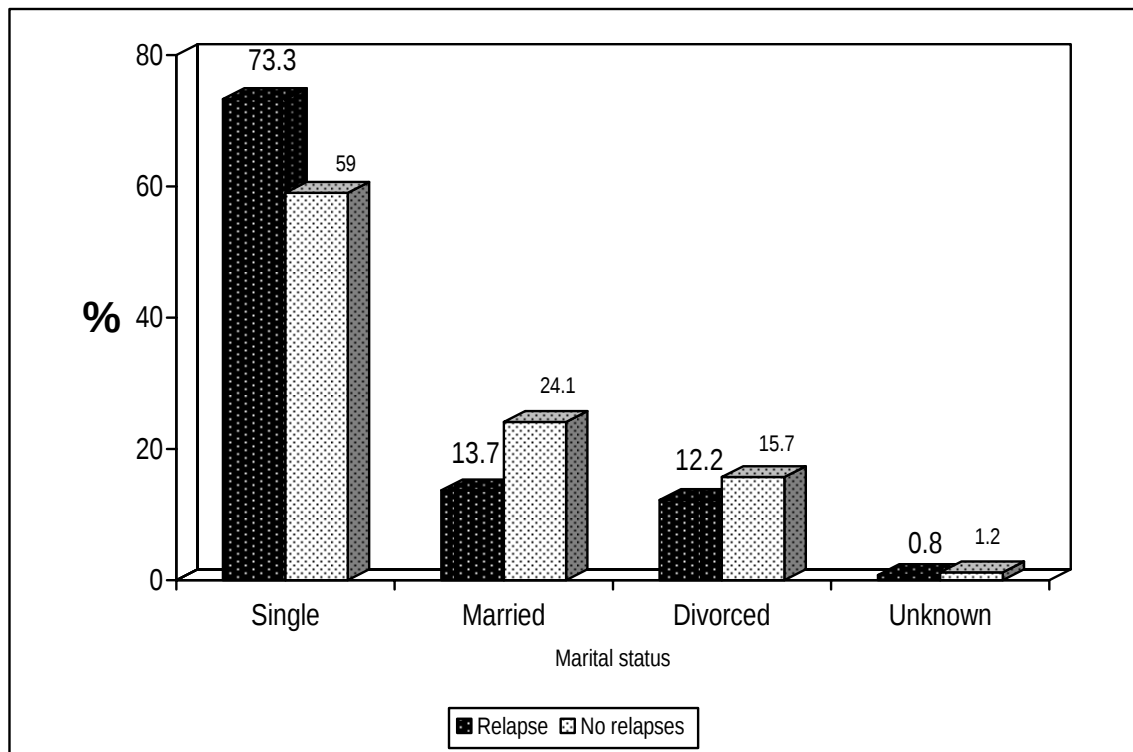


Figure 3.4 Marital status distribution in the study population

3.4 Highest level of education

48.5% (n=65) of the patients with relapses had attained a secondary level of education whilst 30.6% (n=41) had only a primary level of education. By comparison; in the group with no relapses, 73.3% (n=60) achieved a secondary level of education and 15.7% (n=13) had only a primary level of education (Fischer's exact=0.006; $p=0.01$).

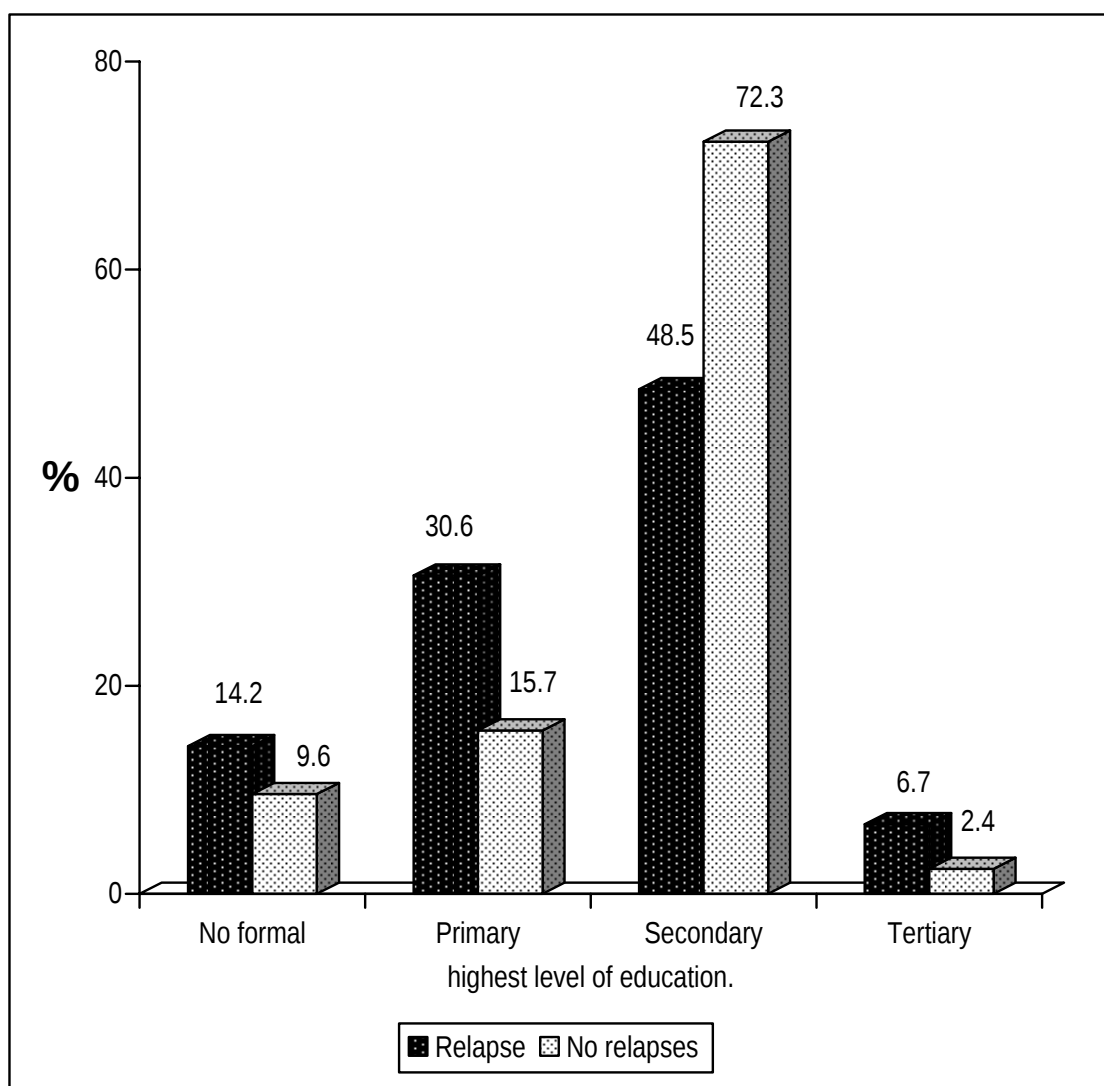


Figure 3.5 Highest level of education distribution in the study population

In the group of the patients who achieved only a primary level of education, 76%(n=41) of the patients had a relapse and 24% (n=13) only had no relapse. By comparison, in the group with at least a secondary level of education, only 52% (n=65) had relapse and 48%(n=60) had no relapse (Figure 3.6).

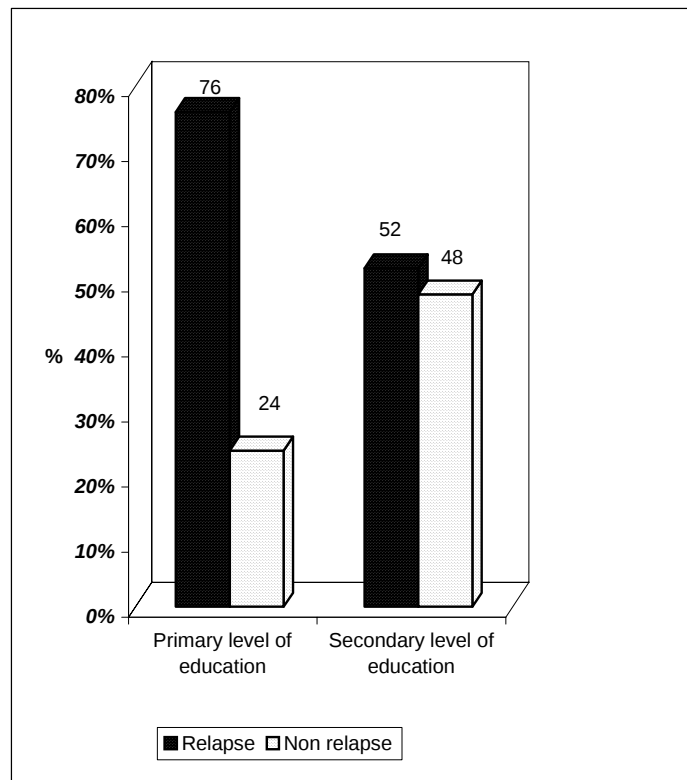


Figure 3.6: Distribution of relapses in patients who attained a primary or a secondary level of education

The study population was grouped into either having a less than secondary level of education (primary and no formal education) and those with at least a secondary level of education (secondary and tertiary).

Only 25.3% (n=21) of population with less than secondary education compared to 74.7% (n=62) of patients with at least secondary education had no relapses (Figure 3.7).

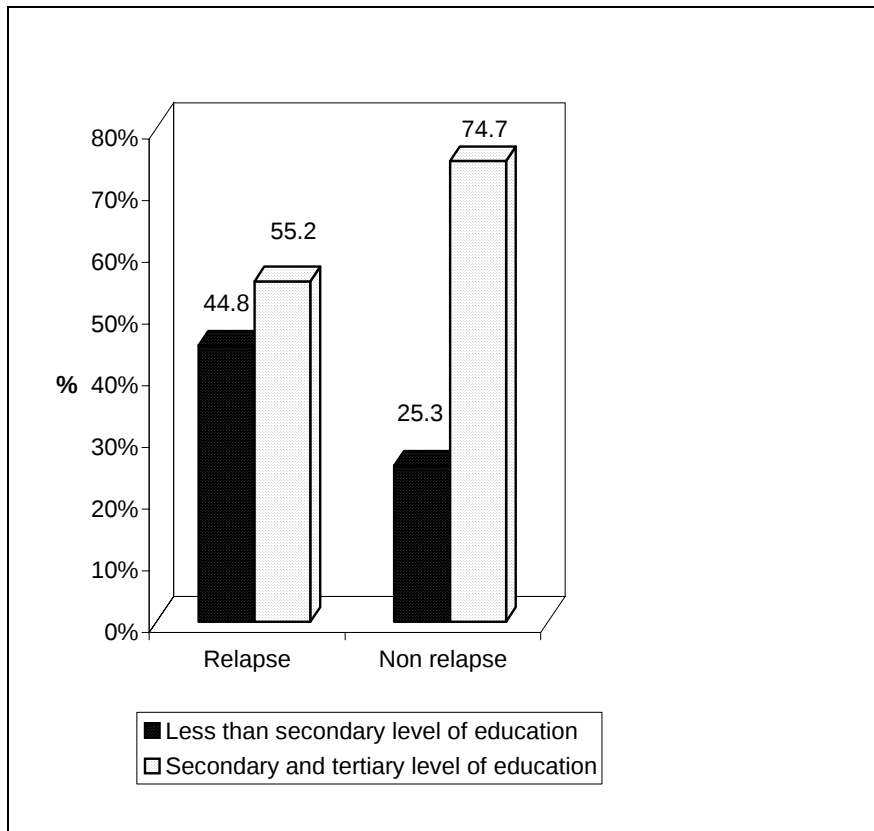


Figure 3.7: Distribution of relapse in patients with lesser than or at least a secondary level of education.

3.1.5 Source of Income

96.3% (n=208) in the study population had some form of income. Among those who had relapsed, 83.6% (n=112) were receiving state disability grants, 45.5% (n=61) were supported by their family and only 6.7% (n=9) were employed. In the group with no relapses, 79.5% (n=66) reported receiving state disability grants, 36.1% (n=30) were supported by their family and 10.8% (n=9). There were no statistically significant differences between the two groups with regards to sources of income: state grants (Fischer's exact=0.471; p=0.52), family support (Fischer's exact=0.203; p=0.31) or employment (Fischer's exact=0.203; p=0.31).

3.2.CLINICAL CHARACTERISTICS

3.2.0. Introduction

The clinical characteristics associated with relapses that were considered in this study include co-morbid psychiatric disorders (32.2% of the study population), co-morbid medical condition (29.7% of the study population), the presence of substance use / abuse (40.7% of the study population), non compliance (64.2% of the study population) and the presence of life stressors (45.4 % of the study population) (Table 3.2).

Table 3.2: Clinical characteristics of the study population

CLINICAL CHARACTERISTICS	Relapse N =134 (100%)	Non-relapse N =83 (100%)
<i>Co-morbid psychiatric disorder</i>		
<i>Personality disorder</i>	3 (2.3)	2 (2.5)
<i>Mood features</i>	53 (40.2)	6 (7.6)
<i>Suicidal ideation</i>	20 (15.2)	0 (0.0)
<i>Other</i>	1 (0.8)	0 (0.0)
<i>Co-morbid medical disorder</i>	43 (32.1)	21(25.3)
<i>Substance use / abuse</i>	63 (47.4)	25 (30.1)
<i>Non-compliance</i>	107(80.4)	31 (37.8)
<i>Life stressors</i>	72(59.0)	18 (23.6)

3.2.1. Co-morbid psychiatric disorders

In the study population 32.2% (n = 70) of the patients had a co-morbid psychiatric disorder, of which 62.8 % (n = 44) were males as compared to only 37.1% (n = 26) females. In the group of patients with relapses, 45.5% (n = 61) had a co-morbid psychiatric disorder compared to 10.8% (n = 9) in the group with no relapses (Fischer's exact = 0.000; $p < 0.05$). Of these co-morbid psychiatric disorders, 2.3% (n = 5) were personality disorders with no difference between the two groups (Fischer's exact value = 1.000; $p=0.891$) (Figure 3.8).

Mood features include the presence of depressive symptoms and mixed anxiety-depressive symptoms. Mood features were present in 27.1% (n = 59) of the study population. 40.2% (n = 53) of patients in the relapse group had mood features compared to 7.6% (n = 6) of patients in the group with no relapses (Fischer's exact = 0.000; $p < 0.05$).

3.2.2 Suicidal attempts and / or ideations

15.2% (n = 20) of patients in the group with relapses had attempted suicide or had suicidal ideations compared to no reported cases of suicide attempts or ideations in the group with no relapses (Fischer's exact = 0.0; $p < 0.05$). In some patients, suicide attempts and/or ideations were reported independently of the presence of a mood component.

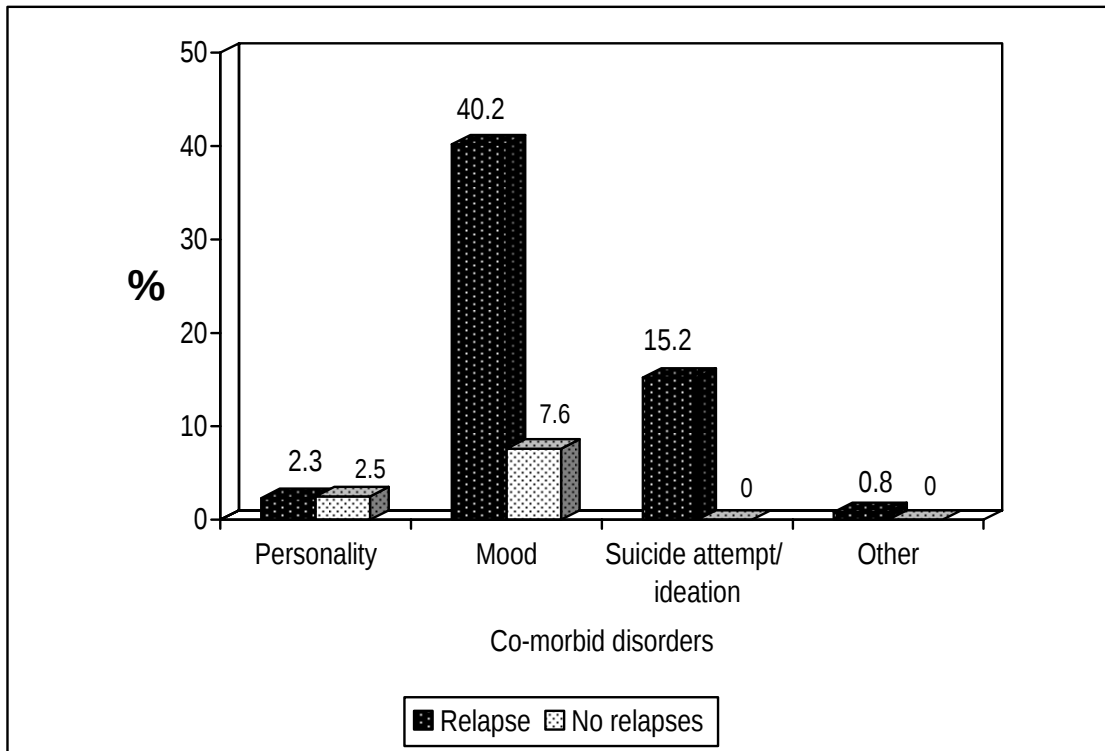


Figure 3.8 Co-morbid psychiatric disorders in the study population

3.2.3 Co-morbid medical disorder

Although 29.7% (n= 64) of the study population reported the presence of a co-morbid medical disorder, it was reported by 32.1% (n=43) of the patients in the group with relapses compared to 25.3% (n=21) of the patients with no relapses (Fischer's exact =0.286; p=0.35). The common co-morbid medical disorders reported included HIV infection, diabetes mellitus, hypertension and pulmonary tuberculosis.

3.2.4 Substance use / abuse

Of the study population, 40.7% (n=88) had a history of substance use/abuse. In the group with relapses, 47.4% (n=63) had a history of substance use/abuse compared

to 30.1% (n=25) in the group with no relapses (Fischer's exact<0.05; p=0.03). 54.5% (n=48) of the patients were in the age group 31 to 40 years, followed by 44.3% (n=39) in the age group 41 to 50 years (Figure 3.9).

3.2.4.1 Cannabis and alcohol use

Cannabis and alcohol were the most commonly used / abused substances (Figure 3.11). Cannabis use / abuse was reported in 37.3% (n=50) of the patients in the group with relapses compared to 16.9% (n=14) of patients in the group with no relapses (Fischer's exact<0.05; p<0.05). Alcohol abuse was reported in 24.6% (n=34) patients in a relapse group compared to 20.5% (n=17) of patients in the group with no relapses (Fischer's exact=0.30, p=0.48).

3.2.4.2 Other substances

Other substances that were used / abused included glue (n=2), cocaine (n=1) and benzene (n=1). These substances were used / abused by patients in the group with relapses.

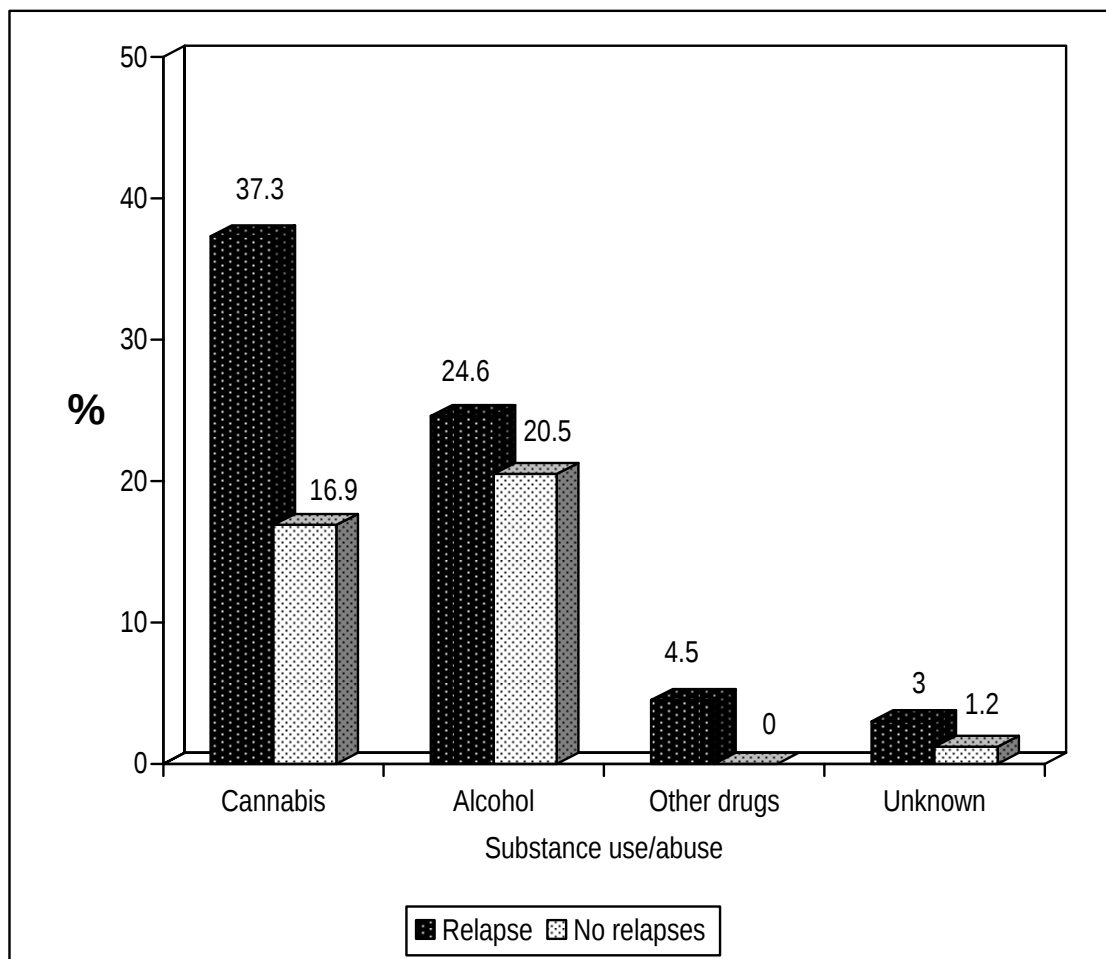


Figure 3.9: Substance use / abuse in the study population

3.2.5 Non-compliance

64.2% (n=138) of the study population were non compliant. 80.4% (n=107) of non compliers were in the group with relapses compared to 37.8% (n=31) in the group with no relapses (Fischer's exact=0.000; $p<0.05$). The factors that contributed to non-compliance include poor relationship between patients and the treating staff, distance from the clinic, poor insight into the condition, side-effects and unspecified causes (Figure 3.10).

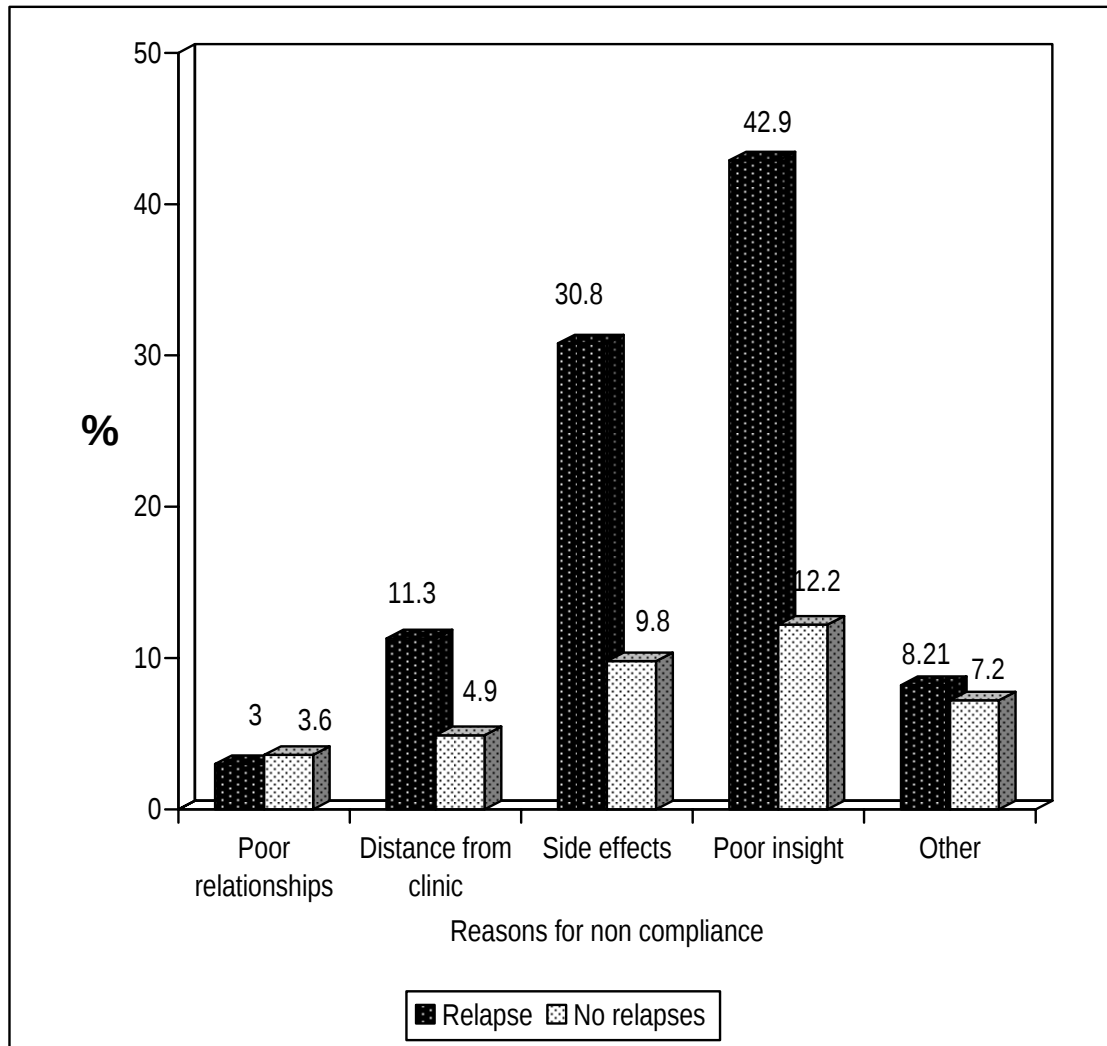


Figure 3.10: Reasons for non compliance in the study population.

3.2.5.1 Poor relation with staff

3.0% (n=4) of patients in the relapse group compared to 3.6% (n=3) in the group with no relapses had history of documented poor relationship with a health care provider (Fischer's exact=1.00; p=0.80).

3.2.5.2 Distance from clinic

11.3% (n=15) of the patients with relapses reported that they stayed far away from the clinic or moved to stay with relatives far away from the health centre compared to 4.9% (n=4) of the patients with no relapses (Fischer's exact=0.14; p=0.09).

3.2.5.3 Side effects

About 30.8% (n=41) of the patients with relapses had a history of side-effects compared to 9.8% (n=8) of patients with no relapses (Fischer's exact=0.00; p<0.05).

3.2.5.4 Insight

42.9% (n = 57) of the patients with relapses had a history of poor insight compared to 12.2% (n = 10) of the patients with no relapses (Fischer's exact = 0.00; p < 0.05).

3.2.6 Life stressors

59% (n=72) of patients experienced relapses associated with stressful life events compared to 23.6% (n=18) of patients with no relapses (Fischer's exact=0.00; p=0.001). Life stressors that were commonly reported included relationships difficulty with partner or with a family member, loss of a close relative or a friend, financial stressor namely lapsing of a disability grant, or mismanagement or misappropriation of the grant money by the family, personal difficulties (Figure 3.11).

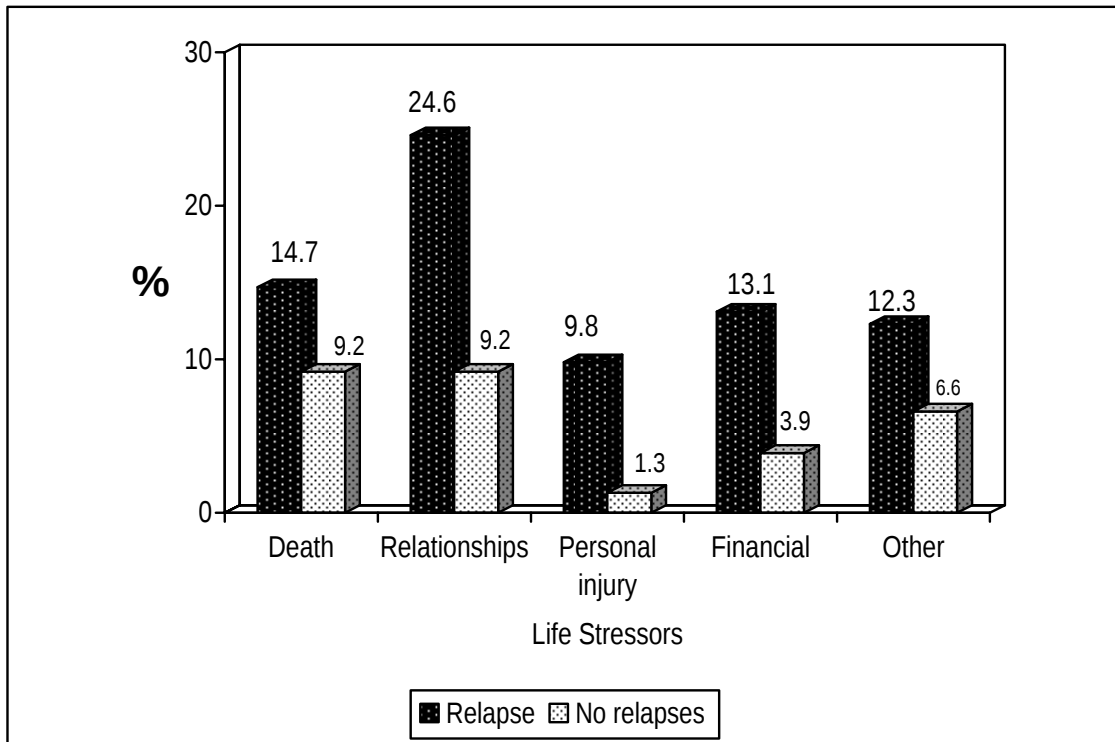


Figure 3.11: Life stressors in the study population.

3.2.6.1 Relationship breakdown/conflict

24.6% (n=30) of the patients with relapses had relationship difficulty compared to 9.2% (n=7) of patients with no relapses. The difference is statistically significant (Fischer's exact=0.08; p=0.006).

3.2.6.2 Personal injury

9.8% (n = 12) of the patients with relapses had personal stressors compared to 1.3% (n = 1) of patients with no relapses (Fischer's exact = 0.018; p = 0.02).

The clinical characteristics of the study population is summarised in Figure 3.12:

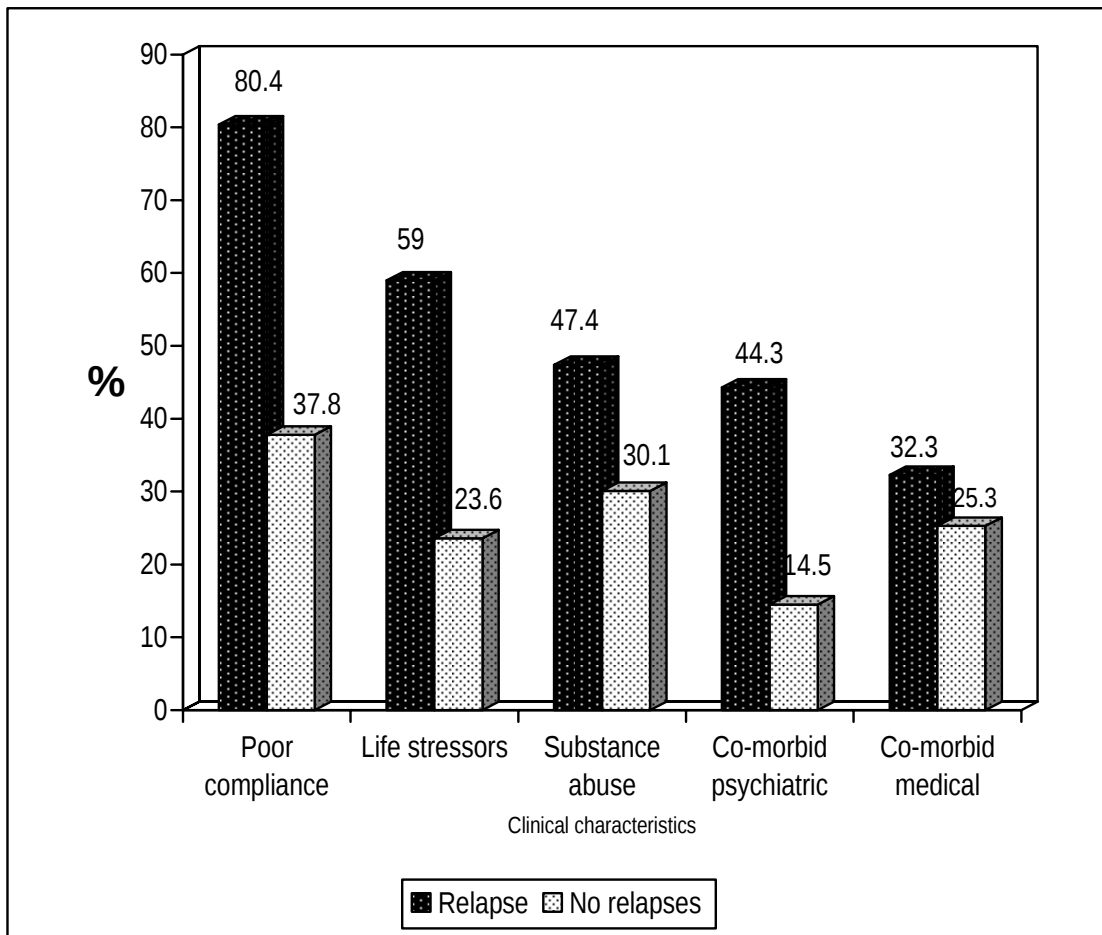


Fig 3.12 Clinical characteristics of the study population.

3.3 MULTIVARIATE ANALYSIS

Multiple Logistic regression models were fitted to identify the factors which best predicted whether or not a patient relapses (Table 3.3.). Variables (age groups, marital status, highest level of education, co-morbid psychiatric disorder, co-morbid substance abuse, non-compliance) were considered. Variables (marital status $p=0.12$; level of education $p=0.19$; substance abuse $p=0.92$; distance from the clinic $p=0.89$;

financial stressor $p=0.68$; relationship difficulty $p=0.40$) that showed no significant association were subsequently removed from the model. Variables, age and personal stressor, were also removed as the Odds Ratio estimates were 0.95 and 0.07 respectively.

Table 3.3: Results of significant multiple logistic regression models for relapses.

Variables	Odds Ratio	Standard Error	p	95% CI
Non Compliance - side effects	3.032	0.2433	0.0226	1.168-7.870
Non compliance - no insight	5.278	0.2137	<.0001	2.284-12.198
Co-morbid depression	5.328	0.2118	<.0001	2.323-12.219