DEMOGRAPHIC CONSIDERATIONS OF AFRICAN (BLACK) SCHIZOPHRENIC PATIENTS PRESENTING AT BARAGWANTH HOSPITAL PSYCHIATRY OUTPATIENTS AND INPATIENTS FACILITIES.

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A Research Report Submitted to the Faculty of Medicine, University of the Witwatersrand, Johannesburg, in partial fulfilment of the Degree of Master of Medicine in Psychiatry.

Johannesburg

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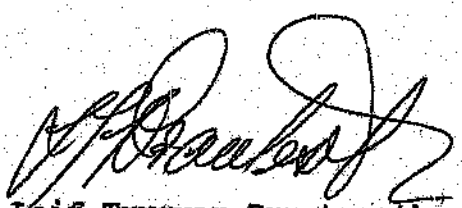
DECLARATION

I declare that this research report is my own work. It is being submitted for the degree of Master of Medicine in Psychiatry to the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination to any other University.

References which I have used have been duly acknowledged.



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CLEARANCE CERTIFICATE

The Committee for Research on Human Subjects, University of the Witwatersrand, has issued a clearance certificate for protocol number 35/3/90. The only stipulation indicated was that patients names could not be used.

ABSTRACT

A paucity of published data was encountered when investigating the demography of most psychiatric problems occurring in the black South African population. Even less demographic data was available which pertains specifically to black Schizophrenic patients and no published data was found which was specific to Schizophrenia amongst Baragwanath Hospital Psychiatry patients. It was intended that the study would firstly identify this group of patients and determine whether compliance and/or relapse was related to any particular demographic factors, and secondly to recommend possible ways of catering more effectively for the mental health care needs of this group of patients. A descriptive demographic study was conducted using a questionnaire survey for data collection. A sample of 104 patients who fulfilled the DSM III-R criteria for schizophrenia was studied. Statistically significant differences between male and female patients were noted for some demographic variables. Factors such as education, socioeconomic status, social support systems, medical management /follow-up systems and substance abuse patterns were examined. Difficulties encountered in conducting the study were discussed. The main limitation of the study was that the findings were not generalizable beyond the study population.

DEDICATION

This work is dedicated to both the patients who made this study possible, and their families who suffer with them in their illness.

LIST OF PUBLICATIONS AND VERBAL PRESENTATIONS

A paper containing these data was read at:

- 1990 Witwatersrand Psychiatry Registrars Association Research Day
- 1991 Southern African Biological Psychiatry Conference, Kruger National Park.

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CHAPTER ONE

1.1 INTRODUCTION

Schizophrenia is a group of diseases which has been plagued by a variety of definitions and postulated etiologies for the past two centuries. The essential features of Schizophrenia are that there are both initial and recurrent acute episodes which occur against a background of a chronic disabling illness in the majority of cases.

1.2 THE ACUTE EPISODES

The onset of the initial presentation may either be fairly rapid or insidious in nature. The acute episode is usually associated with psychotic elements, of which hallucinations are the most common. Affect is always involved to a variable degree although this is often manifest by affective blunting or emotional withdrawal. However, the affective impairment displayed could fall anywhere within the range of affective tone, and is frequently inappropriate to the context of the patient's situation. Thought content is almost always compromised in some way which often leads to inappropriate responses and behaviour. Finally, the acute episode is characterized by a fall off in the patients global level of function with social withdrawal and bizarre or inappropriate behaviour being a hallmark of the condition.

1.3 THE CHRONIC STAGE

The acute episode attenuates with the passage of time, even without pharmacological intervention. The psychosis may resolve completely after the initial acute illness. However, repeated acute episodes of psychosis invariably leave the patient with a long term residual functional deficit. This may even occur after the first episode of illness. The functional deficit may be mild with nothing more than a subtle loss of social and emotional function in a minority of cases. More commonly, the functional impairment is devastating and the patient's entire personality may be damaged. This disease may handicap the person in evary sphere of life. Their capacity to earn a living, to marry and have a family, to achieve anything or to simply enjoy anything in life may be drastically compromised. These patients often become a burden to their society, and particularly to their families.

1.4 EPIDEMIOLOGY

The importance of studying the epidemiology of Schizophrenia is that it might give some clues as to the etiology of the disease. The life time risk of developing Schizophrenia in industrialized countries of North America and Western Europe is between 0,5 and 2 percent. The International Pilot Study of Schizophrenia (WHO 1973) conducted over a two year period,

demonstrated that schizophrenic patients in the Third World tended to have better outcomes than from more developed nations. Lamont and Blignault (1952) showed that in a sample of 258 male "Bantu" admissions at Weskoppies hospital, over 50 percent were diagnosed as Schizophrenic. The outcome of Schizophrenia was generally more favourable than expected, and nearly half of those discharged required no special treatment. This sample may have been contaminated by non Schizophrenic patients. However, neither of the above two studies used DSM III R criteria. A recent multi-centre study using DSM III R criteria by Comptom (1991) supports the disparity between lifetime prevalence rates for Schizophrenia in the First and Third worlds. They found rates for Schizophrenia at various centres in the United States were on average between 1 and 2 percent, while in Taiwan the rates were less than 0.35 percent.

1.5 ETIOLOGY

Schizophrenia is a universal psychosis which is thought to have a multifactorial causality in which organic, genetic and socio-demographic factors have been implicated.

1.5.a ORGANIC FACTORS

1.5.a(1) CEREBRAL DEVELOPMENT

Schizophrenia has traditionally been regarded as a functional psychosis and thus it is implied that there is no structural or pathologic anomaly of brain substance. This position was challenged by Crow(1989) and others as their observations revealed that ten to fifty percent of their patients showed enlargement of the third and lateral ventricles at postmortem. Similar studies have demonstrated cortical atrophy in ten to th[illegible]y five percent of patients, while other patients have shown atrophy of the cerebellar vermis and decreased radiodensity of the brain parenchyma. Recent findings (Robert, 1991) indicate that microstructural abnormalities in the medial temporal lobes may be responsible for the symptoms encountered in some schizophrenic patients. Medial temporal lobe structures which include the parahippocampal gyrus, hippocampus and the amygdala, seem to be preferentially but not exclusively affected. These structures are believed to play a crucial role in both the integration and processing of information from the association cortex. It is postulated that dysfunction of these structures may well account for the symptoms which form the core of the Schizophrenic syndrome. In this regard, Roberts (1991) very aptly stated that "a chaotic parahippocampal tail grows up to wag the temporal dog".

1.5.b GENETIC MECHANISMS

Genetic mechanisms are currently being studied with great interest. Although genetic regulation of brain development is widely accepted, the factors responsible for genetic dysregulation, and possibly cyto-architectural deficits, curtailed and/or arrested cellular migration, aberrant synaptogenesis, deficient myelination and other developmental anomalies is open to further research. Suffice it to say that there is a definite genetic pattern in the transmission of Schizophrenia within families. The evidence appears to support a polygenetic pattern of inheritance, in which the number of affected genes determines both the individual's risk and the symptomatic presentation of the illness. Nine out of every ten Schizophrenic patients have no history of first degree relatives who suffer from Schizophrenia. The general population carries a one percent risk of developing Schizophrenia, while second degree relatives carry a five to six percent risk. This risk increases to ten to twelve percent in first degree relatives and approaches fifteen percent in dizygotic twins. The risk then jumps to forty percent in the children of two Schizophrenic parents and is the highest, at forty five to fifty percent, in monozygotic twins. Adoption studies have consistently yielded robust concordance rates for twin

Schizophrenic patients, irrespective of whether or not they were raised by their biologic parents.

1.5.6 NEUROTRANSMITTER HYPOTHESES

Much research has been conducted to determine the "biochemical imbalance" or responsible neurotransmitter lesion operant in Schizophrenia. Although no specific neurotransmitter is unlikely to be solely responsible for the entire clinical picture of Schizophrenia, the dopamine neurotransmitter system has been heavily implicated. Many of the psychotic symptoms observed in Schizophrenia are thought to be due hypersensitive dopamine receptors or an increase in dopamine activity. The mesolimbic and mesocortical dopaminergic tracts of the central nervous system are those most implicated in Schizophrenia, although the specific mechanisms involved are not fully understood. This theory gains much support from the fact that most antipsychotic medications act on the D_2 dopamine receptors and cause functional decreases in dopamine activity. Furthermore, drugs such as amphetamines and cocaine which cause increases of dopamine at the synapse, can either trigger or worsen the psychosis, or present with a Schizophrenic-like psychosis. Other neuro-transmitters have also been implicated in Schizophrenia, however it appears that they exert their effect by modulating the dopaminergic system either directly or indirectly.

1.5.d VIRAL THEORY

A slow virus has been implicated in the etiology of schizophrenia. Evidence in support of this position is derived from the presence of neuropathological changes consistent with previous viral infection in some Schizophrenic patients. These include gliosis, glial scarring and the presence of anti-viral antibodies in the serum and cerebrospinal fluid of some schizophrenic patients.

1.5.e STRESS DIATHESIS THEORY

The timing and degree of expression of the disease remains a perplexing issue. Numerous investigators have postulated that biologic predisposition may only be a part of the problem. It is suggested that severe stressors may precipitate a schizophrenic breakdown which could plausibly be perpetuated by adverse social and economic circumstances. In this context stress incorporates a wide variety of potentially adverse phenomena. These include abberations of biology and genetics, as well as psycho-social and environmental hardship.

1.5.f SOCIO-DEMOGRAPHIC FACTORS

Some researchers (Torrey, 1980; Murphy, 1984) suggest that Schizophrenia occurs more commonly in industrialized nations, while others state that

"varieties" of Schizophrenia commonly described in Europeans may also be seen in Africans (Tooth, 1950) and that "true" Schizophrenia is identical in Africans and Europeans" (Boroffka, 1964)

> "If Schizophrenia is less common in non-industrialized settings, it could be hypothesized that people who are genetically predisposed to Schizophrenia are more likely to breakdown when they are subject to the stresses of modern industrial society. Identifying the relevant stresses might give clues to prevention and management. Agrarian lifestyles through out Africa have been dramatically affected by far reaching socio-economic phenomena in operation during both colonial and post colonial eras." (Ben-Tovim & Cushnie; 1986).

South Africa is no exception. The privation caused by unprecedented population growth is compounded by the phenomenon where individuals who live in third world societies, are often required to function daily in a first world working environment, and then return to a third world milieu by night. Although untouched by industrialized society Ben-Tovim and Cushnie (1986) found that living in rural Botswana did not afford any protection against the development of Schizophrenia. Beck and Worthen (1972) suggest that the cumulative evidence

is that schizophrenic patients decompensate in situations in which independently rated as not especially "hazardous". Adapting to abrupt social changes may (Al Khani, 1986; Gureje & Adewunmi, 1988) or may not precipitate a schizophrenic breakdown. This paper highlights some of the socio-demographic factors which must be accommodated by Schizophrenic patients, who have often undergone abrupt social charge. Some of the demographic variables listed below may in fact be relevant in the development of Schizophrenia in the study population.

1.5.g FAMILY INFLUENCES

Psycho-social and environmental stressors are often temporally related to both initial Schizophrenic breakdowns and subsequent relapses. Psychodynamic interpretations would suggest that psycho-social stressors tend to break through the protective forces which hold the psycho-biological vulnerabilities in check. Some researchers feel that high relapse rates are the result of a high degree of expressed emotion in the nuclear family of the patient. Expressed emotion classically refers to criticism, hostility and emotional overinvolvement on the part of the patients immediate family. There is absolutely no support for the position that families with high degrees of expressed emotion actually cause Schizophrenia.

Likewise, recent research reveals that while high expressed emotion may predict relapse, it certainly does not cause it. (Kanter, 1987) The danger of therapies which place undue emphasis on expressed emotion is that they tend to "blame" the families for the patient's continuing pathology.

1.6 TREATMENT MODALITIES

1.6.a PSYCHOTHERAPEUTIC INTERVENTIONS

Supportive psychotherapy is generally the treatment of choice. This often includes advice, reassurance, education, limit setting and reality testing. Insight orientated psychotherapy is not recommended as this often leads to further decompensation. It is important the that the patient is not "pushed" to gain more insight than he or she can tolerate, or is able to withstand. Psychotherapeutic interventions to assist the family can be most helpful in helping them deal with the potential changes that a Schizophrenic patient may impose upon the family unit.

1.6.b PHARMACOLOGIC THERAPY

Psychopharmacological therapies are the most successful modalities of treatment available. Antipsychotic medication is most effective in the treatment of the psychotic symptoms of acute episodes associated with initial Schizophrenic breakdowns or subsequent

relapses. It is unfortunate that many of the chronic effects of the illness do not respond to these medications. At best, the medications can control the symptoms but can't cure the illness. As more research is undertaken, and more insights are gained into the molecular biology of the illness, the possibility of more effective drug therapy is envisaged!

CHAPTER TWO

2 METHOD

2.1 OBJECTIVES

2.1.a PURPOSE

The purpose of the study was to obtain reliable demographic data regarding the population of schizophrenic patients receiving treatment at Baragwanath Hospital.

2.1.b GOAL

It is hoped that this information could be used in future planning of psychiatric service delivery.

2.2 DESIGN

The design of study was a descriptive demographic one employing a questionnaire survey for data collection. (see Appendix I)

2.3 SAMPLE

Entry into the study required that all patients who agreed to participate and were over 18 years of age, who met DSM III R criteria for Schizophrenia (see Appendix II), who presented at either in-patient or out-patient facilities of Baragwanath Hospital Psychiatry Department between 1st April and 30th June 1990, would be included.

DSM III-R inclusion and exclusion criteria for Schizophrenia were used. All subtypes of Schizophrenia were included in the study without differentiation according to subtype.

Patients were not included into the study more than once so as to prevent duplication of data, irrespective of how many consultations or admissions they underwent during the study period.

2.4 PROCEDURE

2.4.a PERSONNEL

2.4.a(1) INTERVIEWER

Potential study subjects were interviewed by the author personally. After the author had satisfied himself that all the necessary inclusion and exclusion criteria had been satisfied, each study subject was allocated a specific study number and then entered into the study population.

2.4.a(2) INTERPRETERS

One of several experienced psychiatric nursing sisters was always used as an interpreter, irrespective of whether the author was able to communicate in the vernacular of the patient. The use of selected

psychiatric nursing sisters as interpreters ensured consistent questioning in the patients vernacular. This practice also allowed the author to ensure that the questions were being correctly asked by the interpreters.

2.4.b CONSENT

All patients were above the age of 18 years were approached to participate in the study and did so of their own free will. Verbal informed consent was obtained from each patient prior to commencing with the questioning and completing the questionnaire.

2.4.c DISABILITY GRANTS

During the interview, it was possible to determine whether the patient qualified for a disability grant from the Department of Social Welfare. All patients who were eligible for such a disability grant were referred to the psychiatric social worker so that the necessary disability grant applications could be processed. This was however not used as an incentive to participate in the study.

2.4.d BIOCHEMICAL TESTS FOR ORGANIC DISORDERS

2.4.d(1) COSTS

No additional cost was experienced by any patient included in the study. Only routine investigations

were used. The cost of all investigations was covered in the general daily hospitalization fee which all patients were required to pay, and varied only depending on the duration of their hospital stay.

2.4.d(2) URINE CANNABANIODS

Urine cannabianoid assays were conducted on all the known Schizophrenic patients. It was not practicable to obtain urine cannabanoid assays on all patients who entered the study, particularly if the diagnosis of Schizophrenia was only formulated after the passage of several weeks or months after admission to the psychiatric wards.

2.4.d(3) GENERAL INVESTIGATIONS

Routine biochemical investigations were conducted in medical wards prior to referrals to psychiatry outpatients department. Specific clinical investigations and/or procedures would only be conducted if history and physical examination suggested the need.

2.4.e COLLATERAL INFORMATION

Collateral information was obtained form family, friends and escorts, particularly if the patient was psychotic at the initial interview. In the event that patients were accompanied by an escort or family member, such individuals were approached to

verify the information furnished by the patient, or to provide collateral information, particularly if the patient was displaying any psychotic phenomena.

If no reliable source of collateral information was available at the time of the interview, the assistance of the psychiatric social workers was requested. They were most helpful in obtaining the required collateral histories from the patients family and friends.

2.4.f DATA RECORDING

Data recorded on the questionnaires was entered into a computerized data base. All records were sequentially numbered such that patient anonymity and confidentiality would be maintained. Each patient's individual data sheet was placed into his/her psychiatry file upon completion of the study. It was felt that the information might assist future clinicians when consulting with these patients.

2.5 PILOT STUDY

A pilot study was conducted with approximately 15 patients being questioned so as to identify problems in the questionnaire design and possible sources of ambiguity. It was imperative that all questions could be clearly understood in the vernacular of the patient. Three separate modifications to form

layout
~~lad~~ and structure were carried out prior to it being used in the study.

2.6 OBSERVER BIAS

Observer bias was minimized by employing structured inquiry techniques. Only direct responses to the structured interview were recorded, while unstructured patient responses were not utilized!

2.7 STATISTICAL INTERPRETATION

All the data were collated on computer and subjected to statistical analysis. Comparisons between male and female patients were made using the t-test for continuous variables and the Chi-square test for categorical variables. Fisher's exact method was used if the Chi-square test could not be applied.

CHAPTER THREE

3 RESULTS

3.1 SAMPLE SIZE

During the period under study, 104 patients who met all the DSM III R inclusion and exclusion criteria for Schizophrenia were seen by the author. The sample consisted of 73 male and 31 female patients. While the vast majority of patients were initially seen at the psychiatric "outpatients" facilities, 70 percent of the cohort had already been admitted to general medical wards prior to psychiatric referral and management.

3.2 AGE AND SEX

Demographic age and sex characteristics are described below. The cohort consisted of 73 males (70 percent) and 31 females (30 percent).

TABLE 1. SEX RATIOS, MEAN AGES AT INTERVIEW AND AT ONSET OF ILLNESS

	MALES	FEMALES	STATISTICS
MEAN AGE AT INTERVIEW (YEARS)	30.04	36.07	t=2.39 p<0.05
MEAN AGE AT ONSET OF ILLNESS (YEARS)	23.55	28.00	t=2.19 p<0.05
SEX RATIO	2.35	1.00	-

The mean age for males and females together was 31,71 years, with a range of 18 to 59 years. Table 1 lists the significant differences between males and females for both mean age at interview and mean age of onset of illness (1st episode).

Table 2 shows that the largest grouping (39 percent) was in the 20-29 year age group, while 78 percent of the entire cohort was less than 40 years of age.

TABLE 2. DISTRIBUTION ACCORDING TO AGE (BOTH SEXES)

AGE IN YEARS	(n)	PERCENTAGE
<23	11	10%
20-29	40	39%
30-39	31	30%
40-49	15	14%
50-59	7	7%

3.3 MARITAL STATUS

Table 3 shows that, while 76 percent of the cohort was single and 24 percent was married, there was no statistically significant difference for marital

status between males and females (p=0,46). No significant contribution was made by widowhood or divorce.

TABLE 3. DISTRIBUTION ACCORDING TO MARITAL STATUS			
MARITAL STATUS	MALE	FEMALE	TOTAL
SINGLE	59	20	79
MARRIED	12	5	17
TOTAL	71	25	96
EXCLUDED FROM TABLE: (3) WIDOWED, (5) DIVORCED. FISHER'S EXACT METHOD: p = 0,46943			

3.4 OFFSPRING

Table 4 shows that 63 percent of males and only 23 percent of females did not have any offspring at the time of interview.

TABLE 4. DISTRIBUTION ACCORDING TO OFFSPRING			
NUMBER OF CHILDREN	MALE	F	TOTAL
NONE	46	27	73
ONE OR MORE	7	24	31
TOTAL	53	51	104
$X^2 = 12.66$; df = 1 ; p < 0.05			

Table 5 shows that 5 percent of males and 29 percent of females had two or more children by different partners and this difference was statistically significant (p=0,002).

TABLE 5. DISTRIBUTION ACCORDING TO OFFSPRING BY DIFFERENT SEXUAL PARTNERS

NUMBER OF PARTNERS	MALE	FEMALE	TOTAL
NIL OR ONE	69	22	91
TWO OR MORE	4	9	13
TOTAL	73	31	104
FISHER'S EXACT METHOD: p = 0,00203			

3.5 EDUCATION

Table 6 indicates that approximately 6 percent of the cohort was illiterate, 34 percent had a primary school education, 56 percent had some form of secondary school education while 3 percent had some tertiary education. No significant contribution was made by either illiteracy or tertiary education. No statistically significant difference between males and females was noted for education.

3.6 OCCUPATION AND EMPLOYMENT

Table 7 shows that the largest grouping according to occupation consisted of 63 percent of the cohort.

TABLE 6. DISTRIBUTION ACCORDING TO EDUCATION			
LEVEL OF EDUCATION	MALE	FEMALE	TOTAL
ILLITERATE/PRIMARY	31	10	41
SECONDARY/TERTIARY	42	21	63
TOTALS	73	31	104
$x^2 = 1,73$; df = 1 ; p > 0,05			

This group included petty traders, unskilled labourers and domestic servants. The second largest group (21 percent) consisted of scholars and individuals who had never been employed in any capacity. Skilled labourers, with recognized formal training, comprised 8 percent of the cohort while clerical staff accounted for a further 9 percent.

TABLE 7. DISTRIBUTION ACCORDING TO OCCUPATION			
TYPE OF OCCUPATION	MALE	FEMALE	TOTAL
SCHOLAR/NEVERWORKED/ UNSKILLED LABOURER	60	27	87
SKILLED LABOURER/ CLERICAL STAFF	13	4	17
TOTAL	73	31	104
FISHER'S EXACT METHOD: p = 0,36098			

No significant difference between males and females was noted for occupation. Employment characteristics are reflected in Table 8. Only those individuals who were gainfully employed in the 4 weeks preceding the interview were classed as such. Unemployed individuals comprised 63 percent of the cohort while a further 22 percent consisted of individuals employed in temporary and ad-hoc jobs. Individuals with stable full time employment comprised a further 15 percent of the cohort. No significant difference between males and females was noted for employment.

TABLE 8. DISTRIBUTION ACCORDING TO EMPLOYMENT

TYPE OF EMPLOYMENT	MALE	FEMALE	TOTAL
UNEMPLOYED	44	21	65
TEMPORARY JOBS / FULL TIME JOBS	29	10	39
TOTALS	73	31	104

$X^2 = 0,248$; df = 1 ; $p > 0,05$

3.7 FINANCIAL SUPPORT

State funded disability grants were being received by only 17 percent of the cohort at the time of interview. Patients who were neither employed nor

receiving a disability grant (n=63) were financially supported by their parents in 71 percent of cases. No significant difference between males and females was noted for either of the above cohort distributions.

TABLE 9. DISTRIBUTION ACCORDING TO FINANCIAL SUPPORT

	MALE	FEMALE	TOTAL
DISABILITY GRANT	9	9	18
FAMILY AND FRIENDS	47	16	63
"OWN DEVICES"	17	6	23
TOTAL	73	31	104

$X^2 = 4,25$; df = 2 ; $p > 0,05$

3.8 ACCOMMODATION

The type of building occupied is reflected in table 10 while 82 percent of the cohort lived in municipal accommodation consisting of three or more rooms, 18 percent lived in one roomed shacks or outbuildings. No significant differences were noted between males and females for type of accommodation.

The mean number of occupants of each dwelling for both sexes was 6,34 with a range of 1 to 15 occupants. While 23 percent of the cohort contributed in cash or kind, toward the monthly rental of accommodation, 77 percent did not contribute in any way at all.

TABLE 10. DISTRIBUTION ACCORDING TO DWELLING

TYPE OF DWELLING	MALE	FEMALE	TOTAL
SHACK / OUTBUILDING	11	8	19
MUNICIPAL HOUSE	62	23	85
TOTAL	73	31	104

$X^2 = 1,03$; df = 1 ; $p > 0,05$

Table 11 shows that both male (85 percent) and female (81 percent) patients lived with their immediate family although there was no significant difference noted between males and females.

Table 12 shows that 52 percent of males occupied a room on their own while this was the case in only 19 percent of females. All other patients shared accommodation with one or more other persons.

TABLE 11. DISTRIBUTION ACCORDING TO WITH WHOM PATIENT LIVED			
RELATIONSHIP	MALE	FEMALE	TOTAL
IMMEDIATE FAMILY	63	25	87
OTHER	11	6	17
TOTAL	73	31	104
$X^2 = 0,063$; df = 1 ; p > 0,05			

TABLE 12. DISTRIBUTION ACCORDING TO ACCOMMODATION WITHIN DWELLING			
ACCOMMODATION WITHIN DWELLING	MALE	FEMALE	TOTAL
OWN ROOM	38	6	44
SHARING	35	25	60
TOTAL	73	31	104
$X^2 = 8,23$; df = 1 ; p < 0,05			

3.9 HOSPITALIZATION

Remission at the time of interview was documented in 29 percent of patients while 71 percent of patients (both

sexes) had documented psychotic symptoms. Table 13 shows the mean duration of hospitalization to be

TABLE 13. MEAN DURATION OF HOSPITALIZATION IN WEEKS (n = 73)

	MALES	FEMALES	STATISTICS
MEAN DURATION	4,47	3,07	t = 0,86 p > 0,05

different for males and females, but this was not found to be statistically significant. (t=0,86)

3.10 TREATMENT AND FOLLOW UP

Although no significant difference between males and females was noted, 79 percent of the cohort indicated that they attended community psychiatric clinics for follow up treatment from previous admissions. While 86 percent of the cohort reported having been given oral neuroleptics at follow up, 69 percent of the cohort also reported having been given concurrent depot neuroleptic medication, even though no significant difference between males and females was noted for either distribution of neuroleptic medications.
Table 14 shows that 84 percent of females received supervision in the daily administration of medications and attendance at follow up clinics, while the same was

TABLE 14. DISTRIBUTION ACCORDING TO PATIENT SUPERVISION			
	MALE	FEMALE	TOTAL
SUPERVISION	41	26	67
NO SUPERVISION	32	5	37
TOTAL	73	31	104
FISHER'S EXACT METHOD: p = 0,00535			

true for only 56 percent of males and this difference proved to be statistically significant.

3.11 PRIOR PSYCHIATRIC ILLNESS AND SUBSTANCE ABUSE

Although no significant difference was noted between males and females, record of previously documented psychiatric illness was found in 87 percent of the cohort. Table 15 shows that while 70 percent of males admitted to some form of substance abuse being part of their life style, the same was true for only 45 percent of the female patients. A significant difference between males and females was noted and 55 percent of the cohort admitted to the use of either alcohol and/or cannabis.

It was intended that all patients would have a urine cannabanoid assay. Urine samples of 33 patients were either lost or not assayed for a variety of reasons.

TABLE 15. DISTRIBUTION ACCORDING TO ADMISSION OF SUBSTANCE ABUSE			
SUBSTANCE ABUSE	MALE	FEMALE	TOTAL
ADMISSION	51	14	65
DENIAL	22	17	39
TOTAL	73	31	104
$x^2 = 5,66$; df = 1 ; p < 0,05			

However, of the 71 urine samples assayed, 44 percent were positive for cannabanoids. Table 16 shows the distribution for urine cannabanoids, even though no significant difference between males and females was noted.

TABLE 16. DISTRIBUTION ACCORDING TO URINE CANNABANOID ASSAY RESULTS (n =71)			
CANNABANOID ASSAY	MALE	FEMALE	TOTAL
POSITIVE	30	1	31
NEGATIVE	35	5	40
TOTAL	65	6	71
FISHER'S EXACT METHOD : p = 0,169			

CHAPTER FOUR

4 DISCUSSION

4.1 LIMITING FACTORS

4.1.a THE PROBLEM OF HOSPITAL BASED STUDIES

This study is subject to many of the limitations of a hospital based study. Undoubtedly, the majority of patients were either brought to hospital because their families and/or society would no longer tolerate their inappropriate behaviour, or presented at outpatients for regular follow up treatment. It is expected that this latter group would be more insightful and motivated than the former. This study does not, and can not, address the group of non-compliant individuals whose behaviour is socially tolerable or those individuals who have not yet been diagnosed or treated, and who may be roaming the community at large.

No reliable demographic data exists with respect to either the general population of patients who attend Baragwanath Hospital, or the population of Schizophrenic patients in the "community". Thus, the findings of this study are not generalizable beyond the study population.

4.1.b THE PROBLEM OF SUBSTANCE ABUSE

The degree to which substance abuse (alcohol and cannabis) interferes with the very diagnosis of Schizophrenia is ideally diagnosed in the complete absence of any substance abuse. Although the exclusion criteria were intended to preclude flagrant substance abusers from the study, it soon became apparent that numerous patients were abusing alcohol and/or cannabis. Many of these patients had previously been diagnosed as Schizophrenic. Such cases were not removed from the study.

4.2 POSITIVE FINDINGS

4.2.a SOCIETAL TOLERANCE OF FEMALE SCHIZOPHRENICS

The observed discrepancy between males and females for both mean age and mean age of onset of illness, as well as for the observed sex ratio, may be a reflection of greater societal tolerance of mental illness in women. Folnegovic-Smalc et al (1990) demonstrated that the mean age of onset of illness in Croatian Schizophrenics is 24.8 years with no statistically significant difference between males and females. Their findings also indicated that females tended to present for psychiatric help much later than males with similar symptoms. This was accounted for by the different social statuses, roles and societal obligations of

Croatian females. Ihezue and Kumaraswamy (1984) have suggested that the more aggressive nature of males and their need for prompt treatment in order to minimize loss of income, dictate that males be admitted to Psychiatric facilities as soon as possible. Traditional methods of healing may also account for this discrepancy as females who may not be as economically active as males and can avail themselves for lengthy periods of "treatment" and thus delaying their initial presentation to orthodox psychiatric facilities. Such sociological interpretation of data is fraught with difficulty as it appears that important organic factors have been overlooked. Lewine et al (1982) suggest that females present with a tendency to later onset in industrialized societies as well!

It is interesting to note that if society does actually tolerate mental illness more readily in females than in males, then it could be expected to find that females would present more frequently than males in regard of all mental illness (Gove, 1973). This is especially true of affective disorders but the same does not apply in the case of Schizophrenia. Other possible reasons must be explored to account for such observations.

4.2.b PREPONDERANCE OF MALE SCHIZOPHRENICS

Freed (1953) observed a sex ratio of 1.15:1 in european South African Schizophrenic patients during 1944. However, the subjects of his study were selected using different criteria and thus are not suitable for comparison with our data. The sex ratio in this study lies between that of industrialized countries, which is always about one to one according to Torrey(1980) and under-industrialized countries. The latter have a tendency to be weighted in favour of males and sex ratios may range from 1,5:1 and higher. Robert et al(1989) have reported a sex ratio as high as 8.5:1 in Algerian schizophrenics. Although no specific sex ratios were quoted by Gillis et al(1986), it was stated that there was a preponderance of male schizophrenics in coloured and black cohorts in line with the sex distribution in those cohorts as a whole. Substance abuse generally occurs much more frequently in males than in females and the clinical picture can resemble Schizophrenia very closely. The degree to which substance abuse impacts on Schizophrenia rates in males requires further research.

4.2.c SINGLE MALE SCHIZOPHRENICS

Marital status may be contingent on several variables. The high proportion of single males may

be due solely to the earlier onset of disease in males. Undoubtedly, some of these patients are not socially appropriate and even if in a prodromal phase, may not be able to establish lasting interpersonal relationships. This may predispose such patients to an inability to marry. Apart from the apparent societal tolerance of mental illness in females in less industrialized societies, there is a cultural tendency for women to marry at an earlier age than men. It is plausible that many female patients are married well before the onset of overt schizophrenic illness.(Ihezue and Kumaraswamy, 1984)

4.2.d AGE OF ONSET OF ILLNESS

It has been stated above that some authors believe that societal tolerance of mental illness in females accounts for their older age of onset of illness. This approach has some problems. A more plausible explanation could lie in the examination of biological factors. Schizophrenia is essentially a disease of the dominant cerebral hemisphere, usually the left. Laterality studies tend to demonstrate that male brains show evidence of greater dominance than female brains (Goy, 1980). Thus it is not surprising that the schizophrenic process will affect the male brain earlier than the female brain. This could account for the earlier onset of the illness in males. It is

important to stress that although the onset of illness may be later in females, the process is identical and the ultimate sex ratio is about one to one in the chronic course of the disease. However, females generally tend to have less severe functional impairment than males.

4.2.e OFFSPRING

The high number of males who had not fathered any children was statistically significant. This could be due to the possibility that Schizophrenic males might be less fertile than expected. It is also possible that the disease process indirectly restricts sexual behaviour because of inappropriate social demeanour and an inability to form meaningful interpersonal relationships. Females on the other hand, had all mothered offspring except for 23 percent of the sample. This could be explained by the fact that the disease onset occurred after the females had become sexually active and child bearing.

It is notable that 29 percent of females and only 5 percent of males had children by two or more partners. This may be a reflection of an increased risk of sexual abuse of female Schizophrenic patients. However, this data does not distinguish whether or not the children

were born prior to the onset of illness. Further research is needed to clarify this issue.

4.2.f SECONDARY EDUCATION

Over half the cohort had some form of secondary education. Although the majority did not progress beyond the lower standards, this finding is somewhat different to what Ihuze and Kumaraswamy (1986) found. In their study, they reported that the majority of the cohort did not progress beyond primary education. This difference may be attributable to greater availability of educational opportunities in South Africa. However, the paucity of individuals who completed the higher standards may be a reflection of a schizophrenic process which begins to debilitate in adolescence. This finding needs to be compared to a control group before it can be fully accepted.

4.2.g LOW OCCUPATIONAL FUNCTIONING

The occupational disposition (unskilled labourers) of the great majority of the cohort could be a reflection of chronic demotivation by the disease. This may also be a function of being educationally disadvantaged, whether due to socio-political or other factors. However, it is interesting is to note that a fair number of subjects with higher secondary

education were employed in occupations beneath their educational capability. This observation needs to be validated against a control group before it's significance can be determined and thus further research is required in this regard.

4.2.h EFFECTS OF EMPLOYMENT ON ACCOMMODATION

Those patients who lived with their parents lived in municipal houses while those who had other living arrangements usually lived in shacks. This may be a reflection of their decreased economic earning power, unemployment and the general lack of societal support for patients who are not "protected" in the home environment.

The high proportion of males who have their own room may be misleading initially. It would appear that employed males tend to have sole use of their own rooms for sleeping. Unemployed males would often also sleep alone in the kitchen because the family could not tolerate their strange and bizarre behaviour. Females on the other hand tended to share their accommodation with other family members. Thus it would seem that the more people sharing a room, the better socialized and behaviorally appropriate the patient the patient. This may however reflect the effects of male dominance in social situations, while females

being less dominant are relegated to shared accommodation.

4.2.i FINANCIAL SUPPORT BY FAMILY

The financial burden of most of the patients rested squarely on the immediate family. It would appear that if the immediate family was not involved in the support of the patient, then there were few other available resources. The low number of patients who were receiving a disability grant at the time of interview is probably a reflection of the indifference of the medical staff to the socio-economic needs of the patients and their families. Other possibilities which could account for this observation might be ongoing substance abuse which would disqualify patients from receiving a disability grant. This observation may also be a function of the patient's ignorance of possible financial assistance or a lack of assertiveness in requesting financial help.

4.2.j FAMILY SUPERVISION OF COMPLIANCE

Once again it is interesting to note that if the immediate family were not involved in the supervision of clinic attendance and daily administration of medication, it was unlikely that any other parties would see to this matter.

4.2.k NEUROLEPTIC TREATMENT

The results indicate that while 85 percent of the cohort were taking oral neuroleptics, 69 percent indicated that they had received depot neuroleptics as well. This may give the impression that the majority of schizophrenic patients are concurrently treated with both oral and depot neuroleptics. The most likely reason for this finding is that many patients receive treatment from a variety of sources, including Sterkfontein Mental Hospital, Community Psychiatric clinics and Baragwanath Hospital. The communication between all of these is less than optimal and often the patients are treated, unaccompanied by their psychiatric treatment record, from other institutions.

It is interesting to note that while approximately 85 percent of the cohort indicated that they received some form of regular neuroleptic treatment, about 63 percent of the cohort indicated that they made frequent use of cannabis and/or alcohol. It was reported by Knudsen and Vilmar (1984) that there is pharmacological support for diminished therapeutic efficacy of neuroleptic agents in the presence of

concomitant cannabis abuse . Such a neuroleptic / cannabanoid antagonistic interaction may play a sizable role in the relapse of psychotic symptoms in schizophrenics, although this has not been clinically substantiated.

4.2.1 POLITICAL AND SOCIOECONOMIC STRESSORS

It has been suggested by numerous authors that the stress and frustration associated with rampant privation and unemployment may precipitate a schizophrenic process in biologically predisposed individuals. The significance of these factors may be radically compounded by the repercussions caused by politically inspired sanctions and the rapid socio-economic changes that are under way in South Africa. There is little doubt that the above assumptions could be argued in favour of alcoholism. At best these factors may have some bearing on relapse rates, but there is little support that such factors have any causal relationship in Schizophrenia.

CHAPTER FIVE

5.1 CONCLUSIONS

Statistically significant differences between males and females were not noted except for mean age, mean age of onset, the number of offspring and offspring by different sexual partners, accommodation in their own rooms, supervision of both clinic attendance and administration of medications and finally the admission of substance abuse.

5.2 RECOMMENDATIONS

It is recommended that a similar epidemiological study with adequate controls is required in order to further validate these findings.

CHAPTER SIX

6.1 REFERENCES

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Address _____ Sex M=1 F=2 B

Baragwanath Hospital No. _____ Psychiatry No. C

Language Group

Zulu 1 Ndebele 6
Xhosa 2 Shangaan 7
Sotho 3 Swazi 8
Pedi 4 Tsawna 9
Venda 5 Other 0 D

Marrital Status

Single 1 Divorced/Seperated 4
Married 2 Cohabiting 5
Widow/er 3 Common Law Marriage 6 E

No. of Children F
No. of Mothers/Fathers G

Education

Nil 0 Matric 5
Special School 1 Technikon 6
<Std 5 2 University 7
Std 6-8 3 Other 8
Std 9 4 H

Accommodation

Type of Dwelling

None 1
Shack 2
Addition/Out-Bldg 3
<4 room House 4
4 room House 5
>4 room House 6
Hostel 7
Other 8

With whom does patient live?

Parents 1
Spouse/Children 2
Siblings 3
Relatives 4
Friends/S.O. 5
Alone 6 I J

Dwelling "Ownership/Usership"
Own 1
Immediate Family 2
Relatives 3
Friends/S.O. 4 K

Does patient pay rent to owner? N=0 Y=1 L

Total number of people in dwelling? M

Patients accommodation in dwelling?

Own Room Alone 1
Shared Room/1 other person 2
Shared Room/2 other persons 3
Shared Room/3 other persons 4
Shared Room/4 or more persons 5 N

Employment (within 1/12 prior to present admission)

Unemployed 1
Piece Jobs 2
Temporary Jobs 3
Full-Time Work 4 O

	Scholar/Student	0			
Occupation	Never Worked	1	Clerk	5	P
	Unskilled Labourer	2	Manager	6	
	Semi-skilled ||	3	Self Employed	7	
	Skilled ||	4	Housewife/Domestic	8	

Is patient qualified/registered to practice the occupation? Y=1 N=Ø — Q

Is patient on a Disability Grant? Y=1 N=Ø — R

If Unemployed and not on D/G, who supports the patient?

Grandparents	1	Siblings	4
Parents	2	Relatives	5
Spouse	3	Friends/SO	6
		Self	7

S

Treatment & Follow-up| In Remission Y=1 N=Ø — T

Duration of present episode (weeks) — U

Duration of Hospital stay (weeks) — V

No. of previous admissions to Psychiatric facilities? — W

Ø-4	= 1
5-9	= 2
>10	= 3

Does patient attend a Community Psychiatry clinic? Y=1 N=Ø — X

If Yes, Specify.

Diepkloof	1	Zola	4	Meadowlands	7
Mofolo	2	Shanty	5	K/Beukes	8
Chiawelo	3	Baragw.	6	Phumalong	9
Other	10			Dobsonville	Ø

Y

Is patient on Oral Neuroleptics? Y=1 N=Ø — Z

Haloperidal	1	Chlorpromazine	3	Sulpiride	5
Thioridazine	2	Trifluoperazine	4	Other	6

AA

Is Patient on Depot Neuroleptics? Y=1 N=Ø — AB

Flupenthixol 1 Fluphenazine 2 Other 3 — AC

Does anyone ensure the patient get's to Psychiatry clinic regularly?

Grandparent	1
Parent	2
Spouse	3
Sibling	4
Relative	5
Friend/S.O.	6

AD

Does anyone administer/supervise patients medications regularly? — AE

Total time elapsed since first episode?(years) — AF

Any/other family history of Psychiatric illness Y=1 N=Ø — AG

Grandparent=1 Parents=2 Sibling=3 Child=4 Relative=5 — AH

List any previously documented diagnoses. Y=1 N=Ø — AI

Schizophrenia	1	Schizophreniform	4	Schizoaffective	7
Bipolar	2	Affective Disorder	5	Substance Abuse	8
M/retardation	3	Epilepsy	6	Other	9

AJ

Patient denies all Substance Abuse? Y=1 N=Ø — AK

Patient admits to:

Alcohol	1
Cannabis	2
Tobacco	3

Urine Cannabis

Negative	Ø
Positive	1
Not Done	2

AL AM

APPENDIX II

DSM III R DIAGNOSTIC CRITERIA FOR SCHIZOPHRENIA

A. Presence of characteristic psychotic symptoms in the active phase either (1), (2), or (3) for at least 1 week (unless the symptoms are successfully treated):

1) two of the following:
   a. delusions
   b. prominent hallucinations (throughout the day several days or several times a week for several weeks, each hallucinatory experience not being limited to a few brief moments.)
   c. incoherence or marked loosening of associations.
   d. catatonic behaviour
   e. flat or grossly inappropriate affect
2) bizarre delusions involving a phenomenon that the persons culture would regard as totally implausible (e.g. thought broadcasting, being controlled by a dead person)
3) prominent hallucinations (as defined in 1)b. above) of a voice with content having no apparent relation to depression or elation, or a voice keeping up a running commentary on the person's

behaviour or thoughts, or two or more voices conversing with each other.

B. During the course of the disturbance, functioning in such areas as work, social relations, and self-care is markedly below the highest level achieved before onset of the disturbance (or, when the onset is in childhood or adolescence, failure to achieve expected level of social development).

C. Schizoaffective Disorder and Mood Disorder with Psychotic Features have been ruled out, i.e., if a Major Depressive or Manic Syndrome has ever been present during an active phase of the disturbance, the total duration of all episodes of a mood syndrome has been brief relative to the total duration of the active and residual phases of the disturbance.

D. Continuous signs of the disturbance for at least 6 months. The 6-month period must include an active phase (of at least 1 week, or less if symptoms have been sucessfully treated) during which there were psychotic symptoms characteristic of Schizophrenia (symptoms in A), with or without a prodromal or residual phase, as defined below.

Prodromal phase: A clear deterioration in functioning before the active phase of the disturbance that is not due to a disturbance in

mood or to a Psychoactive Substance Use Disorder and that involves at least two of the symptoms listed below.

Residual phase: Following the active phase of the disturbance, persistence of at least two of the symptoms noted below, these not being due to a disturbance in mood or to a Psychoactive Substance Use Disorder.

Prodromal or Residual Symptoms:

1) marked social isolation or withdrawal
2) marked impairment in role functioning as wage-earner, student or homemaker.
3) markedly peculiar behaviour (e.g. collecting garbage , taking to self in public, hoarding food)
4) marked impairment in personal hygiene and grooming.
5) blunted or inappropriate affect
6) digressive, vague, overelaborate, or circumstantial speech, or poverty of speech, or poverty of content of speech.
7) odd beliefs or magical thinking, influencing behaviour and inconsistent with cultural norms (e.g. superstitiousness, belief in clairvoyance, telepathy, "sixth sense","others

can feel my feelings," overvalued ideas, ideas of reference.)

8) unusual perceptual experience (e.g., recurrent illusions, sensing the presence of a force or person not actually present)

9) marked lack of initiative, interests, or energy.

Examples: Six months of prodromal symptoms with 1 week of symptoms from A: no prodromal symptoms with 6 months of symptoms from A: no prodromal symptoms with 1 week of symptoms from A and 6 months of residual symptoms.

E. It cannot be established that an organic factor initiated and maintained the disturbance.

F. If there is a history of Autistic Disorder, the additional diagnosis of Schizophrenia is made only if prominent delusions or hallucinations are also present.