

**A STATISTICAL STUDY ON
SCHIZOPHRENIA CASES IN JAFFNA
PENINSULA**

By

VAMATHEVAN VALAVAN

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VAMATHEVAN VALAVAN

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Nugegoda

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DECLARATION

The work described in this thesis was carried out by me at the University of Sri Jayewardenepura, under the supervision of Dr.B.M.S.G.Banneheka, Senior Lecturer in Statistics in the Department of Statistics and Computer Science, University of Sri Jayewardenepura, and a report on this has not been submitted in whole or in part to any University or any other Institution for another Degree/Diploma.

Date:.....09/12/2006.....

.....*A.V. Valavan*.....

A.V.Valavan

GS/PS/1776/2002

PGD/PS/65

I certify that the above statement made by the candidate is true and that this thesis is suitable for submission to the University for the purpose of evaluation.

Date:.....09/12/06.....

.....*Dr. B.M.S.G. Banneheka*.....

Dr.B.M.S.G.Banneheka

Department of Statistics and

Computer Science,

Faculty of Applied Science,

University of Sri Jayewardenepura,

Nugegoda,

Sri Lanka.

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CHAPTER 1

INTRODUCTION

1.1 General Background

Jaffna, where I live is situated in the northern part of Sri Lanka. This is a peninsula without natural resources such as mountains, rivers etc. People of Jaffna are noted for perseverance and hard work. For generations people lived there peacefully without any discrimination against caste, creed or religion. Unfortunately, this harmonious situation could not continue due to various factors. In the recent past due to political instability and the subsequent disturbances caused by the civil war, citizens of Sri Lanka faced tremendous difficulties. In particular, the people of Jaffna had to undergo calamities after calamities. Lot of human life were lost. Most of the people lost their belongings and even their dwelling places. Most of the people were forced to vacate the peninsula. They were scattered and had to live even without their minimum basic facilities. Most of the people lost their family members. People were restless. Even the most industrious and persevering people had lost their source of economy. All had to idle and depend on the relief supply by the state. These circumstances could have caused unbalance in their minds.

About two decades of continuous war situation in Jaffna has affected the people in several ways. It has degraded the people physically, mentally and financially. Due to continuous sufferings young, old, men and women, the sickly are subjected to mental

illness. Some have become lifelong psychiatric patients. In addition, the natural disaster Tsunami on the 26th December 2004 has aggravated the conditions.

Incidentally, I was working with UNICEF Learning Years section in the Tsunami affected area. There I have witnessed parents and even teachers of students of varying ages with abnormal behaviours. I became sympathetic towards them. My mind was affected and I discussed these with a friend of mine who is a doctor. He was very kind enough to enlighten me generally of mental illnesses and particularly of schizophrenia. My sympathy towards the psychiatric patients influenced me greatly to choose a topic related to these psychiatric patients for research. With this aim, I approached my friend again and he suggested me to analyse the data that he had recorded concerning the mental patients suffering from the particular illness called schizophrenia. The doctor was magnanimous enough to help me to collect the necessary data from his files at the teaching hospital in Jaffna.

1.2 Overview of Schizophrenia

Several sources (Davidson's 1993, p. 943; Melissa K. Spearing 2002) indicate schizophrenia is a chronic, severe and disabling brain disease. Approximately 1 percent of the population develops schizophrenia during their lifetime and, when uniform diagnostic criteria are used, the prevalence is similar throughout the world. This disorder often appears earlier in men, usually in the late teens or early twenties than in women, who are generally affected in the twenties to early thirties. People with schizophrenia often suffer terrifying symptoms such as hearing internal voices not heard by others or believing that other people are reading their minds, controlling their thoughts or plotting to harm them. These symptoms may leave them fearful and withdrawn. Their speech

and behaviour can be so disorganized that they may be incomprehensible or frightening to others. Available treatments can relieve many symptoms, but most people with schizophrenia continue to suffer some symptoms throughout their lives; it has been estimated that no more than one in five individuals recovers completely.

Descriptions of schizophrenia in medical literature are sparse until the nineteenth century. Then the German psychiatrist Emil Kraepelin distinguished two major groups of insanity, manic depression that nearly always had a favourable outcome and dementia praecox which usually ran a chronic course. The term schizophrenia replaced dementia praecox after its introduction by Eugen Bleuler in 1911.

There is no doubt that schizophrenia can be transmitted genetically. Relatives of a schizophrenic have a risk of developing schizophrenia much higher than the general population risk 1% and this increase with the degrees of genetic proximity. Siblings of a schizophrenic have an 8% risk of developing the illness, children have a 12% chance but when both parents are affected this increase to 35% or more. Twin studies have provided further support. The risk for dizygotic twins is approximately the same as for non-twin siblings whereas for monozygotic twins it is of the order of 45-60%. This high risk for identical twins prevails even if the twins have been reared apart. Similarly, adoption studies have shown that the increased risk for children of a schizophrenic parent continues in those cases where the children have been adopted at birth and brought up by healthy parents.

1.3 Methodology

An observational retrospective study was made to identify the factors that are significantly associated with the schizophrenia illness in Jaffna peninsula such as age group, sex and marital status. The Teaching Hospital of Jaffna approved the study, after submission of formal request from the University of Jayewardenepura.

Data were collected from the records maintained at the Teaching Hospital of Jaffna from July 1996 to June 2005. The recorded ages of the patients are as at their first visit (For the purpose of our analysis the date of first visit was taken into consideration). We recorded the data with the help of doctors and medical students. Generalized linear model used to analyse these data in chapter 3, shows some association between schizophrenia illness and factors such as age group, sex and marital status.

CHAPTER 2

DATA

2.1 Description of Data

Data were collected from the records maintained at the Teaching Hospital of Jaffna from July 1996 to June 2005. The recorded ages of the patients are as at their first visit (For the purposes of our analysis the date of first visit was taken into consideration). According to the records, 1224 schizophrenics among the 5368 mentally ill patients have visited the hospital for treatment. So about 23% of the total mentally ill patients were Schizophrenics. The data set contains information on the following variables.

Variable	Description
Y	Number of patients suffering from schizophrenia
N	Total number of patients suffering from any type of mental illness
sex	Sex of mentally ill patients [sex(1)=female, sex(2)=male]
ms	Marital status of mentally ill patients [ms(1)=married, ms(2)=unmarried]
age	Age group of mentally ill patients [age(1)=0-19, age(2)=20-39, age(3)=40-59, age(4)=60-79, age(5)=above 79].

Table 2.1: Descriptions and notations of variables, used in the study.

2.2 Total Number of Mentally ill and Schizophrenia Patients

by Age group, Sex and Marital Status

According to the records 1224 schizophrenics among the 5368 mentally ill patients visited the teaching hospital of Jaffna for treatment from July 1996 to June 2005.

Age group	sex	marital status	Total number of mentally ill Patients	Total number of schizophrenia patients
0—19	Female	Married	7	1
0—19	Female	Unmarried	366	47
0—19	Male	Married	1	0
0—19	Male	Unmarried	457	43
20—39	Female	Married	670	160
20—39	Female	Unmarried	479	160
20—39	Male	Married	438	93
20—39	Male	Unmarried	616	176
40—59	Female	Married	924	243
40—59	Female	Unmarried	106	53
40—59	Male	Married	685	146
40—59	Male	Unmarried	70	29
60—79	Female	Married	295	43
60—79	Female	Unmarried	15	5
60—79	Male	Married	213	22
60—79	Male	Unmarried	10	2
Above 79	Female	Married	9	0
Above 79	Female	Unmarried	0	0
Above 79	Male	Married	7	1
Above 79	Male	Unmarried	0	0
Total			5368	1224

Table 2.2: Data from July 1996 to June 2005, classified by age, sex and marital status.

CHAPTER 3

ANALYSIS

3.1 Descriptive Analysis

Following figures show the total number of mentally ill patients and schizophrenics who visited the teaching hospital of Jaffna from July 1996 to June 2005, corresponding to their age group, sex and marital status. The recorded ages of the patients are as at their first visit.

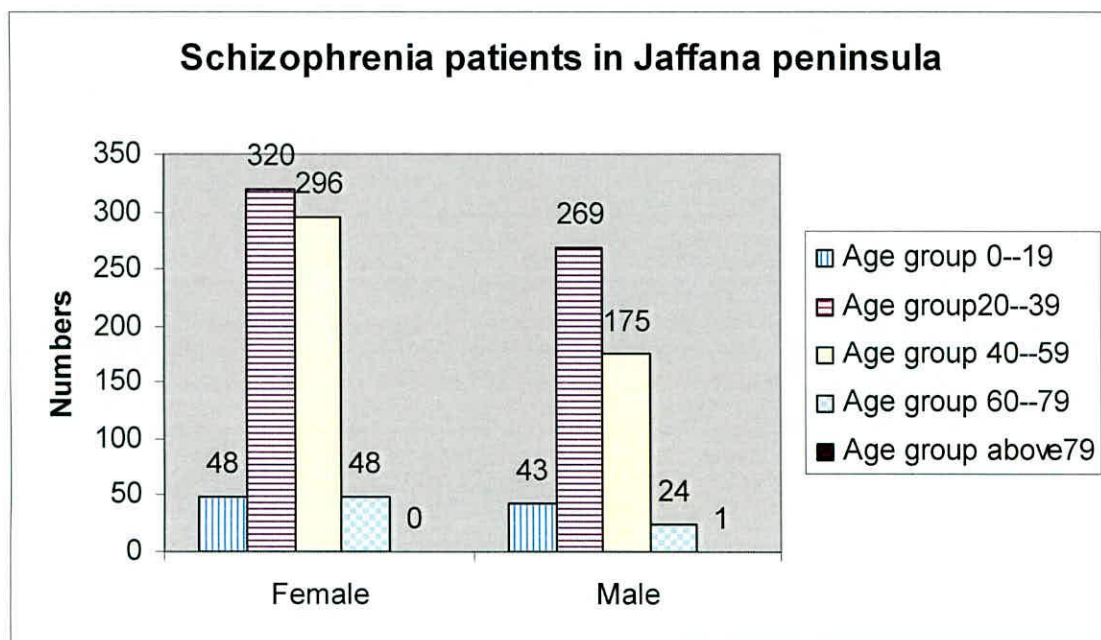


Figure 3.1: Schizophrenia patients in Jaffna peninsula from July 1996 to June 2005 by sex and age group.

According to figure 3.1, female and male categories show similar pattern. More patients