FACTORS INFLUENCING DURATION OF UNTREATED PSYCHOSIS IN PATIENT WITH FIRST EPISODE SCHIZOPHRENIA

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LIST OF ABBREVIATION

CI	Confidence Interval
DUP	Duration of untreated psychosis
e.g	example
et al	and the rest
GAF	Global Assessment of Functioning
i.e	that is to say
med	median
OPD	Out patient department
SCAN	Section for Child Abuse and Neglect
sd	standard deviation
sig	significant
SPSS	Statistic Package for Social Sciences

ABSTRAK

LATARBELAKANG : Jangkamasa psikosis belum dirawat dalam pesakit Skizofrenia episod pertama secara puratanya adalah panjang (satu hingga dua tahun). Walaubagaimanapun faktor mana yang mempengaruhi jangkamasa ini di dalam pesakit Melayu belum pernah disiasat sepenuhnya.

MATLAMAT : Untuk menentukan faktor-faktor yang berkaitan dengan jangkamasa psikosis belum dirawat di dalam pesakit Kecelaruan Skizofrenifom dan Skizofrenia episod pertama yang dimasukkan ke wad psikiatri, Hospital Kota Bharu, Kelantan.

METODOLOGI : Empat puluh pesakit yang pertama kali dimasukkan ke wad secara berturutan, yang memenuhi kriteria untuk kajian ini dipilih sebagai sampel. Pada peringkat kemasukan ke wad, faktor-faktor sosiodemografik, rangkaian hubungan sosial dan jangkamasa psikosis belum dirawat ditentukan daripada pesakit dan waris. Tanda-tanda penyakit dan tahap kefungsian pesakit dinilai menggunakan skala PANSS dan GAF. Sikap dan pengetahuan pembuat keputusan terhadap rawatan secara moden dinilai secara deskriptif. Data dianalisa menggunakan regresi logistik mudah dan berbilang.

KEPUTUSAN : Jangkamasa psikosis belum dirawat secara puratanya adalah sangat panjang (159 minggu). Nilai median adalah 40 minggu. Jangkamasa psikosis belum dirawat panjang (>26 minggu/ 6 bulan) mempunyai lebih tanda-tanda klinikal negatif dan penyendirian sosial berbanding jangkamasa psikosis belum dirawat yang pendek (<26 minggu/ 6 bulan).

KESIMPULAN : Untuk mengenalpasti pesakit pada peringkat awal, seterusnya mengurangkan jangkamasa psikosis belum dirawat, perkhidmatan kesihatan perlu menekankan peningkatan kesedaran dan pengetahuan terhadap tanda-tanda klinikal penyakit Skizofrenia, terutamanya tanda-tanda negatif. Rangkaian hubungan sosial pesakit mempunyai tanggungjawab yang besar untuk memastikan pesakit mendapat rawatan pada peringkat awal. Sikap dan pengetahuan pembuat keputusan terhadap perubatan moden perlulah dipertingkatkan.

ABSTRACT

BACKGROUND: Duration of untreated psychosis (DUP) in first episode Schizophrenics patient in average was very long (one to two years). However which factors influenced the duration of untreated psychosis in first episode Schizophrenia in the Malay patient has not been fully evaluated

AIM: To determine factors associated with duration of untreated psychosis (DUP) in first episode Schizophreniform Disorder and Schizophrenia admitted to psychiatric ward, at Hospital Kota Bharu, Kelantan

METHOD: Forty consecutive first admissions who fulfill the criteria for the study were selected. At hospitalization the sociodemographic, social network and duration of untreated psychosis were determined from the patients and relatives. Patients' symptoms and level of functioning were assessed using PANSS and GAF scale. Decision makers' attitude and knowledge towards modern treatment were evaluated descriptively. The data were analyzed using simple and multiple logistic regressions

RESULT: The duration of untreated psychosis (DUP) was an average very long (159 weeks). The median value was 40 weeks. The long DUP (>26 weeks/ six months) had more negative symptoms and socially withdrawn compared to the short DUP (<26 weeks/ six months)

CONCLUSION: In order to identify the patient earlier, thus reducing the DUP, the health care delivery system needs to emphasize on increasing awareness and knowledge about the clinical presentation of Schizophrenia especially negative symptoms. The patient's social networks have a great task to bring patients for early treatment. The decisions makers' attitude and knowledge toward modern treatment for psychosis need to be emphasized.

CHAPTER 1

INTRODUCTION

1. KELANTAN AND MENTAL HEALTH CARE

1.1 Intoduction to the state of Kelantan

Kelantan is situated in the north-east of Peninsula Malaysia between Thailand in the north and states of Terengganu, Pahang, and Perak covers a land of 14,922 square kilometers. The state of Kelantan is one of the thirteen states in Malaysia. (see appendix A)

Kelantan consists of ten districts namely Kota Bharu, Bachok, Machang, Pasir Puteh, Tanah Merah, Tumpat, Kuala Kerai, Jeli and Gua Musang. The state capital, Kota Bharu is located at the bank of Kelantan River and situated 627 kilometres from the federal Capital, Kuala Lumpur. Dark lush forest still covers a large portion of the state particularly to the south.

The total population is nearly 1.5 million (1484,100) and the distribution of the population differs from one districts to another with 86% of the population living in the northern districts (except Kuala Kerai and Gua Musang), which contribute only about 26% of the total land area. The Malays form the main ethnic group that is 93% (approximated one million) with Islam as the main religion. Chinese constitutes of 5.4%, Siamese about 0.9% and Indian about 0.7%. the total population for males and females are fairly equal i.e. 720,600 and 726,600 each (Statistic,1998). An

extended family set-up is still a common phenomenon in most area in Kelantan. Kota Bharu, the capital of Kelantan is the most densely populated area (about half million population) compared to other districts in Kelantan.

The main source of income is from the palm oil plantation, agriculture products and fishing. . The rural handicrafts such as "batek", jewellery and silver products are considered as major industries, which are some of the attractions for the local and international tourists.

In Kelantan, traditional treatment is the main choice of psychiatric treatment since ancient times and still being the popular practice till today. With increasing availability of psychiatric services and people's knowledge about mental illness, there is a change in citizens looking for the modern psychiatric treatment, usually in combination with the traditional treatment.

1.2 Mental health care in Kelantan

There are two major (tertiary) hospitals (Hospital Kota Bharu and Hospital Universiti Sains Malaysia (HUSM), Kubang Kerian) providing the main psychiatric services in Kelantan, both situated in Kota Bharu. The other health facilities include health centers and general practitioners.

a) Psychiatric Department Hospital Kota Bharu (HKB)

In 1952, Mental Health Unit, Hospital Kota Bharu started its operation as a temporary placement for the psychiatric cases before they were sent to the Mental Institution in Hospital Tampoi, Johor.

In 1960, Hospital Kota Bharu opened its own mental unit. It owned 8 cells and 15 beds for male and female patients. The unit then was gazetted as "Unit Perubatan Jiwa" in 1973. Being a referral hospital, it receives cases for the whole Kelantan to as far as from Besut (Terengganu). Since then the bed number had increased to 115, and then to 122 beds. The psychiatric department occupying an area of 14,467m^3 is one of the rapidly growing departments at Kota Bharu Hospital. During the preparation of this draft, the department is being upgraded and renovated. A Consultant Psychiatrist who is also a Consultant Forensic Psychiatrist and two other psychiatrists leads the department. The service strategies include the administration services and clinical services. The clinical services available includes outpatient and in patient treatment, drug abuse screening, counseling, occupational therapy, Community services, Medical social-welfare services and training and development services (Suarn S, 1999).

There are four wards for male patients (two acute wards, one rehabilitation ward and one forensic ward) and two wards for female patients (one acute ward and one rehabilitation ward). A medical officer under the psychiatrist supervision manages the newly admitted patient and

all new cases will be presented to the psychiatrist in charge for further evaluation of the diagnosis and management. In 1999 the total number of cases admitted was 1791 (male patients: 222 new cases and 1,098 relapsed cases; female patients: 73 new cases and 408 relapsed cases). The outpatient visit figures have shown a marked increase in number i.e. from 8,286 patients in 1990 to 10,761 patients in 1999. Male patients outnumbered the female patient's attendance by half. Their monthly visit patients were ranging from 500 to 750 (Suarn S, 1999).

The psychiatrists in Hospital Kota Bharu have a regular monthly visit to the other eight-district hospital in Kelantan. The districts hospitals and some health clinics run the outpatient clinic to cater the follow up treatment of the local psychiatric patients. The department also provides courses to upgrade psychiatric knowledge to the medical officers, health providers (i.e. nurses, medical assistance, social workers etc) and other hospital support services for the whole state of Kelantan.

b) Psychiatric Department Hospital Universiti Sains Malaysia (HUSM)

HUSM serves as a teaching hospital for the school of Medical Sciences-Universiti Sains Malaysia (USM). It is located at Kubang Kerian Town which is about 6.4 kms from Kota Bharu. It was built in 1979 under the third Malaysian Plan and construction was completed in 1983. The Royal

Highness Sultan of Kelantan officially opened the hospital on the 26th August 1984.

The psychiatric services started in April 1984 providing an out patient psychiatry clinic. HUSM opened its own psychiatric ward, 5 Utara in August 1987 with capacity of 16 beds, for both male and female.

The psychiatric department serves three main functions. First, providing the psychiatric services in addition to Hospital Kota Bharu especially for the nearby areas. Second, it functions as the teaching unit in providing adequate psychiatric knowledge for the medical students. The post-graduate course in psychiatry started in 1996. Lastly, the psychiatric unit also organises serial courses, At present the department has in-patient services (male and female ward, 16 beds each), general psychiatric outpatient clinic, Child and adolescent clinic (also being part of the Section for Child Abuse and Neglect (SCAN) team services), psychology clinic, psychotherapy clinic, occupational therapy services, Community Psychiatric Services and Liason Psychiatry services. seminars etc targeting the health personnels and public in order to provide psychiatric knowledge and awareness about mental illness (Razali SM, 2001).

At the USM Hospital, there is also a rising pattern of the number of patients visiting the outpatient's psychiatric clinic and in-patient admission. In 1986, a total of 1,782 patients attended the psychiatric clinic, and after ten years; in 1996 the number increased into 6,037 (old and new patients).

1.3 An overview of Schizophrenia

1.3.1 Schizophrenia: Epidemiology and Clinical presentation

Schizophrenia is a chronic, debilitating disorder and is generally regarded as the most devastating of all the mental illnesses with a lifetime prevalence rate between 0.5% and 1.0%. In addition to often severe functional impairment, the disorder is associated with significant morbidity and mortality; approximately 10% of schizophrenia patients will die by suicide (Drake & Cotton, 1986).

Typically, schizophrenia emerges during adolescence or early adulthood and is, for the majority of patients, a lifelong condition resulting in significant social and economic impairment. The incidence in men peaks during the age of 20 to 25. The male onset preceded the female for about five years. Whereas the peak incidence in women occurs between 25 and 35 years. Rates of employment, marriage, and independent living are significantly lower among schizophrenia patients compared with the general population, reflecting the functional impairments they experience (Loranger AW, 1984).

The characteristic symptoms of schizophrenia have often been conceptualized as falling into two broad categories-positive and negative symptoms-with a third category, disorganized, recently added because statistical analyses have revealed that it is a dimension independent of the positive symptom category, where it was previously included. The positive symptoms include delusions and hallucinations. Disorganized symptoms

include disorganized speech (Docherty *et al*, 1996), disorganized behavior and poor attention. Negative symptoms include restricted range and intensity of emotional expression (affective flattening), reduced thought and speech productivity (alogia), anhedonia, and decreased initiation of goal-directed behavior (avolition) (McGlashan & Fenton, 1991).

According to DSM-IV, subtypes of schizophrenia are defined by the predominant symptoms at the time of the most recent evaluation and therefore may change over time. These subtypes include paranoid type, in which preoccupation with delusions or auditory hallucinations is prominent; disorganized type, in which disorganized speech and behavior and flat or inappropriate affect are prominent; catatonic type, in which characteristic motor symptoms are prominent; undifferentiated type, which is a nonspecific category used when none of the other subtype features are predominant; and residual type, where there is an absence of prominent positive symptoms but continuing evidence of disturbance (e.g., negative symptoms or positive symptoms in an attenuated form) . Although the prognostic and treatment implications of these subtypes are variable, the disorganized type tends to be the most severe and the paranoid type to be the least severe (Fenton & McGlashan, 1991).

The complexity of clinical presentation, course, and severity of schizophrenia makes its treatment and long-term management particularly challenging. For patients presenting with their first episode of

schizophrenia, prompt diagnosis and intervention may be critical in optimizing long-term outcomes in terms of symptom remission, time to psychotic relapse, and prevention of psychosocial deterioration.

Just as the clinical presentation of schizophrenia is heterogeneous, so is the long-term course of the disorder. Schizophrenia was originally regarded as a progressive encephalopathy with patients experiencing an almost inevitable decline to states of severe cognitive and functional impairment and requiring long-term, intensive supervision. While the majority of patients are likely to have multiple episodes, often with increasing impairment, between one quarter and one third of patients will have a single episode or multiple episodes with little or no residual symptomatology (Shepherd *et al*, 1989).

In 1993, Lieberman suggested that schizophrenia could be regarded as a progressive encephalopathy, such that the longer patients experience the symptoms of schizophrenia the more likely they are to suffer lasting impairment. Indeed, McGlashan and Fenton (1993) suggested that the processes that make schizophrenia a lifelong disorder might be most active during the early stages of the illness. A number of prospective studies in which patients were followed for up to 11 years after the initial onset of their illness found that, after an initial phase of deterioration, patients tended to stabilize (Duke *et al*, 1984; McGlashan, 1984; Carpenter & Straus, 1991). In fact, majority of the deterioration is likely to

take place in the early stages of their illness-during the first 5 to 10 years, emphasizing the importance of early intervention.

1.3.2 Schizophrenia : Natural history and course

The onset of schizophrenia typically occurs during adolescence or early adulthood. It affects men and women with equal frequency. The majority of patients alternate between acute psychotic episodes and stable phases with full or partial remission. Inter-episode residual symptoms are common. This often-chronic illness can be characterized by three phases that merge into one another without absolute, clear boundaries between them.

The **onset** of the first psychotic episode may be abrupt or insidious, but the majority of individuals display some type of prodromal phase manifested by the slow and gradual development of a variety of signs and symptoms (e.g., social withdrawal, loss of interest in school or work, deterioration of hygiene and grooming, unusual behavior, outbursts of anger). Eventually a symptom characteristic of the active phase appears, marking the disturbance as schizophrenia. Before a patient in the stable phase relapses, there is usually a prodromal period in which there may be nonpsychotic dysphoric symptoms, attenuated forms of positive symptoms, or idiosyncratic behaviors. This prodromal period usually lasts for several days to a few weeks but may last for several months (Heinrichs & Carpenter, 1985; Subotnik & Nuechterlein, 1988).

Most longitudinal studies of schizophrenia suggest that its **course** is variable, with some individuals free of further episodes, the majority displaying exacerbations and remissions, and a small proportion remaining chronically severely psychotic (Harding *et al*, 1987; Tsuang *et al*, 1981). Because of the differences in diagnostic criteria used in studies, an accurate and comprehensive summary of the long-term outcome of schizophrenia is not possible. Complete remission (i.e., a return to full premorbid functioning) is not common in this disorder. Of the patients who remain ill, some appear to have a relatively stable course, whereas others show a progressive worsening associated with severe disability. Early in the illness, negative symptoms may be prominent and apparent primarily as prodromal features. Subsequently, positive symptoms appear. Because these positive symptoms are particularly responsive to treatment, they typically diminish, but in many individuals negative symptoms persist between episodes of positive symptoms. There is some suggestion that negative symptoms may become steadily more prominent in some individuals during the course of the illness (McGlashan & Fenton, 1993).

1.4 Definition of Duration of Untreated Psychosis (DUP)

Duration of untreated psychosis (DUP) is defined as the time interval between the onset of psychotic symptoms and hospitalisation for psychosis or initiation of adequate treatment (Loebel *et al*, 1992; Larsen *et al*,1996).

The **onset of psychotic symptoms** is defined as a score of four or higher on the Positive and Negative Syndrome Scale (PANSS) **positive** subscale and manifestation of psychotic symptoms such as delusion, hallucination, thought disorder or inappropriate bizarre behavior in which the symptoms are not apparently due to organic cause; these symptoms must have lasted throughout the day for several days or several times a week, not only limited to a few brief moment (Larsen *et al*, 1996; Larsen *et al*, 1998).

The **duration of untreated psychosis (DUP)** can only be determined retrospectively by asking the patient as well as the relatives when the patient experienced or family noticed persistent psychotic symptoms after explaining psychosis in clear language. Loebel et al 1992 used this method in his three years prospective study to asses duration of untreated psychosis and outcome in first episode schizophrenia (n= 70); using multiple informants the authors asked the onset of illness in two ways; firstly asking the patient and family members when the patient (or family member) first experienced (or noticed) behavioral changes which in

retrospect, appear to have been related to the patient becoming ill and secondly after explaining psychosis in clear language , the patient (or family members) will be asked again when the patient first experience (or notice) psychotic symptoms (Lobel *et al*, 1992).

Larsen and collegues 1996, also ascertained the **DUP** from the patients as well as the family members. In their study of early course parameter in first episode Schizophrenia patients, they determined the onset by asking the patient first. When the patient acknowledged a targetted psychotic symptom, he was asked to trace back when the symptom began. Similar questions will be asked to the family. Several other reseachers in first episode study have used the same method to determine **DUP** in first episode Schizophrenic patient (Johnstone *et al*, 1986; Birchwood *et al*, 1998).

Adequate treatment biologically was defined as an antipsychotic drug given in sufficient time and amount that it would lead to clinical response in the average non chronic schizophrenia patients (e.g. Haloperidol 5 mg a day for three weeks). Larsen in his study has excluded those patient who received adequate treatment (Larsen *et al*, 1996).

Several researchers had found the significant inverse correlation between the **duration of untreated psychosis** and better outcome (Crow *et al*, 1986; Rabiner et al, 1986; Helgason, 1990). Patients with **long duration of untreated psychosis** are shown to have deteriorating premorbid

functioning, weak social network, active social avoidance and more negative symptoms at hospitalisation (Larsen *et al,* 1998). Generally patient with Schizophrenia have poor insight and are not motivated to seek treatment and it is often that family members who first recognise the prodromal symptoms of psychosis (Amador et al, 1994).

Understanding of the patient's sociocultural background is important in our local set up because certain cultural factors might influence the patient or relatives attitudes in getting modern treatment. The patient social network including spouse, parents and family should be assessed in each case to ensure the better compliance as well as patient outcome. Determining the factors associated with the delay in getting treatment is important to reduce the misperception on mental illness and modern treatment.

The debates on **the duration of untreated psychosis** being one of the predictor of outcome is still going on. However what delays presentation is poorly understood. In Malaysia to date, there are not many published study specifically on this issue especially in Malay patients. There fore this study is designed to look at the association between **duration of untreated psychosis** in first episode Malay Schizophreniform/Schizophrenia patients with the demographic variable, clinical presentation, severity of illness at first admission and patient social network. This might clarify the feasibility of, and suggest strategies for, early intervention. A survey of the decision maker's attitude towards the

importance and urgency of seeking modern treatment as well as the influence of traditional healer will be evaluated . We hypothesized that:

(1) Patients with long duration of untreated psychosis

a) Are male, unemployed, have low educational level, low family income and from rural areas.

b) Had more negative symptoms, more severe symptoms and poorer GAF

c) Are those who had no spouse, not staying with parents or relatives and had smaller number of close friends

(2) The decision maker's poor knowledge and attitude towards modern Psychiatric treatment and the influenced of traditional healer contributes to the delay in getting treatment

CHAPTER 2

LITERATURE REVIEW

The literature review will focus on the duration of untreated psychosis (DUP) in first episode schizophrenic patients and factors associated with it.

2.1 Duration of untreated psychosis in first episode studies

In recent years, increased attention has focused on the first presentation and early course of psychosis. The main reason for this is the realization that treatment is least effective in those patients who have been psychotic for many years. The obvious implication is that closer attention should be paid to patients during the period when the vulnerability to psychosis is first expressed, in the hope that intervention at this point may prevent irreversible neurobiological and social changes.

As early as 1927, Harry Stack Sullivan said of schizophrenia, "I feel certain that any incipient cases might be arrested before the efficient contact with reality is completely suspended, and a long stay in institutions made necessary". Subsequently, Cameron wrote of the value of a preventive approach to schizophrenia, describing the importance of 'the detection of very early disorder to prevent later serious ill health'. Such views have been enclosed by many recent authorities who believe that early diagnosis and treatment may minimize or even prevent the devastating psychological and social disturbances that result from continued florid psychosis (Falloon IR, 1992; Birchwood *et al*, 1993).

Several **advantages** of first episode study includes study participants are usually neuroleptic naives, thus eliminating the potential confounding effects of medication, a factor that is important for biological and neuropsychological research. There is also a reduction in the confounding effects of chronic illness, institutionalization, secondary morbidity, prolonged medications, and family and social effects. First episode samples have a wider spectrum of presentations and outcomes than do non- first episode samples, and the selection bias for chronic cases is avoided, an issue that is important for epidemiological research. Additionally, study of the first episode allows examination of the early course of illness when maximum deterioration occurs (Johnstone *et al,* 1986; Thara *et al*, 1994). This has led to increasing emphasis on treatment during this phase and a growing area of 'early intervention' research, which investigates different treatment regimens, both biological and psychosocial, for the early phase of psychotic disorders. The hope is that through vigorous attention to this early phase of illness, deterioration may be minimized and outcome improved (Liberman JA *et al*, 1996; Birchwood M, Jackson C, 1998).

The interest in first episode studies has been going on, despite difficulties in this field of heterogenous samples, diagnostic instability and small sample size (Keshavan and Schooler, 1992). A further difficulty is defining the population to be studied. How should onset of schizophrenia, and therefore a true first episode case, be defined? Options range from first

appearance of prodromal symptoms, first psychotic symptoms or from when full diagnostic criteria are met (and which criteria?). Some have attempted to increase reliability of definition by studying 'first admission' cases. Validity then becomes an issue as these cases could vary widely in duration of illness and prior non-admission treatment.

Keshavan and Schooler suggested the use of structured interview schedules and multiple information sources to record significant events related to onset, such as onset of any psychiatric symptom, onset of psychotic symptoms, first treatment and first admission. This enables a number of diagnostic systems to be applied to the data. They also suggested using standardised scales to measure psychopathology, but refrained from providing an operationalised definition of first episode, as the required sample would vary depending on the purpose of the research. Each investigator has specified whether first episode psychosis, first episode schizophrenia or first admission cases are being investigated (Keshavan and Schooler, 1992).

Yung in her review concluded that the biological and neuropsychological research has continued to use first episode samples to test hypothetical neurodevelopmental and neurodegenerative models of schizophrenia. However, major new areas of first episode research have been in secondary prevention and early intervention in schizophrenia and to reduce the duration of untreated psychosis (Yung Alison R, 1998).

2.1.2 Previous data on duration of untreated psychosis

Studies of first episode psychosis all over the world document that the average time between onset of psychotic symptoms and first effective treatment is often one to two years (Johnstone *et al*, 1986; Beiser *et al,* 1993). In Malaysia, from my personal experience the duration of untreated psychosis varies from as early as days to years, few cases up to ten years. However no specific research done on this area.

Table 2.1: DUP in studies of first episode schizophrenia.

Study	Setting	n	Definition	DUP
Beiser et al1993	Vancouver	72	DSM-III	56 weeks
Birchwood et al[1992]	Birmingham	128	ICD-9	30 weeks
Johnstone et al[1986]	London	253	ICD-9	28%<8 weeks
				26%>52weeks
Loebel et al[1992]	New York	70	RDC	52 weeks
McGorry & Singh1995	Melbourne	60	DSM-III-R	74 weeks

From Birchwood et al, 1992

Much evidence suggests that most patients who present to psychiatrists with their first episode psyhosis have, infact, been ill for a considerable period (Table 2.1). Some people who develop schizophrenia will never be

detected and others will be detected and treated late in their course of illness (Helgason, 1990; McGlashan, 1996).

For instance, Loebel in his study of first episode psychosis patient in New York found that their patients had suffered psychotic symptoms for an average of one year before treatment started (Loebel *et al*, 1992).

Other research groups in the UK (Johnstone *et al*, 1986), Canada (Beiser *et al*, 1993), Australia (Mc Gorry *et al*, 1996) and Germany (Hafner *et al*, 1993) have reported a similarly long interval between the onset of psychotic symptoms and the initiation of appropriate treatment.

2.2 Factors associated with long DUP

Literature reports that extensive delays in accessing treatment are common in the first episode of a psychotic illness (Johnstone *et al*, 1986; Loebel *et al*, 1992) The concept of a pathway to care has been creatively used to examine how individuals obtain treatment in common mental disorders although an elaboration of this notion to cover early psychosis has only recently been explored (Lincoln & McGorry, 1995).

DUP is partly determined by concern about the illness by sufferers or people in their social networks. This concern is influenced by the poor

insight and negative symptoms (social deficits) of the sufferers. Some researchers reported that the delay was because the patient did not want treatment. (Helgason, 1990; Amador *et al*, 1994), or were not offered treatment (Lincoln & McGorry, 1995). The problem of motivation for accepting assessment and subsequently receiving treatment, is related to the person's understanding of being ill and needing help. An Icelandic study showed that as many as 20% of untreated cases of Schizophrenia, detected in 1966-1967 (n=107) had still not received treatment 21-22 years later (Helgason, 1990).

Lincoln *et al.* (1998) examined three separate aspects of the process of delay which were help seeking, recognition and referral. They found that all patients in their study (n=62) already had contact with the health workers with the mean number of contacts of 4.5, ranged from 1 to 17 contacts. In Australia, General Practitioners (GPs) appear to have significant potential role in recognition where by as many as 50 percent had contacted a GP at some point before the initial effective treatment. However this figure contrasts with the fact that only 5 percent of referrals for specialist psychiatric care came from GPs (Lincoln *et al*,1998).

McGorry *et al.* (1996) also stressed on the importance of recognition as a factor that caused delay in treatment. This is especially so when the onset of psychotic symptoms emerged insidiously. Apart from poor insight,

negative symptoms especially social withdrawal and muteness was shown to be significantly associated with longer DUP (Waddington *et al,* 1995; Larsen *et al,* 1996; Larsen *et al,* 1998). Waddington described muteness as the end stage in increasing severity of the negative symptom poverty of speech and patients with a longer DUP were more likely to progress to this end stage.

All the above are illness related factors and a wide array of sociocultural factors may interact together to influence treatment seeking behaviour. The sociocultural factors include educational level of patients and family members, socioeconomic status, availability and access to health care, beliefs and knowledge about mental illness and integrity of social support network.

The influence of traditional healer in the treatment of Malay psychiatric patients will be reviewed in a separate section. In **summary** the delay in treatment (longer DUP) might be due to **illness factors** (poor insight, socially withdrawn), **patient social network** (relatives availability, attitudes and knowledge), **proper identification by health care workers** and **sociocultural factors.**

2.2 Duration of untreated psychosis and outcome

The association between DUP and outcome is clearly complex (McGorry *et al*, 1999). Some researcher suggested that, because DUP was independently predicted by demographic and clinical variables such as family history and low educational level, the association between DUP and poor prognosis was not likely to be causal. The effect of DUP on outcome is likely to be confounded to some extent by other potential predictors of outcome, however the critical question is whether DUP remains a significant and important predictor after adjusting for the effects of these confounding variables. Indeed, there is evidence that DUP is not simply a proxy for other factors, which is suggestive of iatrogenic effects on outcome that are specific to prolonged DUP (McGorry *et al*, 1999).

DUP, as a marker of delay in delivering effective specific treatment, is a potentially important variable in improving outcome in first-episode schizophrenia, and more widely in first episode psychosis. Indeed, psychosis may be an easier and less conflicted target to detect than Schizophrenia (McGorry, 1995). DUP is important because, unlike other prognostic variables such as genetic vulnerability, sex and age of onset, it is a potentially malleable variable that can become the focus of intervention strategies.

Wyatt and others have marshalled persuasive circumstantial evidence suggesting a link between delayed treatment and outcome (Wyatt RJ, 1991; Loebel *et al, 1992)*. Evidence showed that there was an independent association between DUP and time to and level of remission, but this association was not confirmed in later analyses (Robinson *et al*, 1999a,b). There was no evidence of association between mode of onset or premorbid adjustment and DUP, a finding that has received support from other studies (Larsen *et al*, 1996).

Birchwood (1998) elaborated on the critical period hypothesis for schizophrenia. He supported this notion, in his first-episode prospective studies; predictors of outcome of people with schizophrenia. His finding support the nation of the 'plateau effect', first coined by Tom Mc Glashan, which suggested that when deterioration occurs, it does so aggressively in the first 2-3 years; and that critical psychosocial influences, including family and psychological reactions to psychosis and psychiatric services, develop during this period. Therefore the earlier the patient treated in his early psychosis, the better the outcome (Birchwood *et al,* 1998).

2.4 Reality of delayed treatment

McGlashan acknowledged that delayed treatment is already a major public health problem and regards it as 'unequivocal that DUP, by itself, is reason enough for early intervention on a large and intensive scale' (McGlashan T, 1999).

The experience of having a long period of time where an individual is not functioning at work, at school, with friends or in the family will probably worsen the individual's or relative's hope of getting better. This constitute a major public health problem because people in active psychosis are vulnerable to initiating irrational, inappropriate, unpredictable, and often damaging behaviours such as substance misuse and suicide (McGlashan, 1998).

McGorry *et al.* (1996) and Lincoln *et al.* (1998) depicted the range of negative psychosocial outcomes that result during the period of untreated psychosis. These include vocational failure, self-harm, offending behaviour, family distress, aggression, substance abuse and harm from others. Homelessness can occur in up to 15% of cases (Herman *et al*, 1998) and in two-thirds these manifest before first treatment.