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The discipline of psychiatry requires the use of thinking skills to perform a number of tasks. The assessment of a patient’s history, his mental state especially the evaluation of thought disorders, the formulation of a diagnosis and differential diagnosis, the formulation of a management plan for what are often complex human problems and the wise application of therapeutic techniques, all require complex thinking skills. The process of communication with patients and their relatives is often fraught with pitfalls that requires a thoughtful approach that makes use of consciously shared information as well as non-verbal information. Evaluating scientific papers is another area that requires critical thinking. At times the lack of critical thinking is painfully apparent. It appears that schools, and sadly universities too, are merely training people and not educating them. Occasionally, of course, one is pleasantly surprised to come across a student with a very sharp and critical mind.

Arguably, the present school system does not appear to be training students to be critical. The emphasis seems to be on rote learning and deference to authoritative pronouncements rather than training students in analytical thinking. Furthermore the emphasis on academic excellence, narrowly defined as how many ‘A’s one obtains, does not encourage students to read anything other than their textbooks and lecture notes resulting in a very distressing lack of general knowledge. Not many read the newspapers and hence are not in touch with the things that affect patients daily. Many years ago after a junior therapist’s first visit the patient contacted the referring consultant and declined to see the therapist again. Why? “He doesn’t know anything!” The patient meant that the therapist had such poor general knowledge that she could not carry on a meaningful discussion of issues affecting her life. And such thinking persists into the university and on into postgraduate training even after 5 or 6 years of medical school. One wonders, with Asher, how “such travesty of thinking survived the rigours of a scientific education.” Errors of logic are a major problem with most trainees. Most appear to have had little training in thinking skills, nor seem to be aware of the rules of logic. Few have heard of deductive thinking or syllogism. Many have never heard of Karl Popper’s comments on science and pseudoscience. Fewer still read good novels that express human thoughts and emotions with greater clarity than psychiatric textbooks. In this article I would like to highlight some of the common thinking and logical errors I have seen and conclude by raising questions about how these may be rectified.
Excessive deference to the views of those in authority

There is a common tendency among psychiatric trainees and perhaps among university students in general, not to question the views of their teachers, even when they are certain that those views are clearly erroneous. This could be for a number of reasons, among which is fear of reprisal or of being victimised for showing up the errors of their teachers. This is an attitude that is sometimes fostered in their earlier school days. One student shared that when she privately pointed out her teacher’s mistake at school, the teacher’s response in settling the issue was: “Are you older, or am I older?” It is as if the correctness of an answer, indeed truth itself, is determined by the age of the speaker! It is sad that the teacher did not see how damaging, and absurd, her statement was. Another student got a public scolding for pointing out an error in his teacher’s statement. Both these students stopped asking questions in their classes after these incidents. Are we teachers and lecturers so lacking in self-esteem that any correction is an unacceptable blow to our self-image? I must admit that in my earlier years I have had difficulties in this area myself.

This deference to authority sometimes leads to an illegitimate appeal to authority. For example, trainees at times say “Professor So-and-so said this.” But a moment’s reflection tells us that if Professor A is an authority in psychopharmacology, but not on psychodynamic psychotherapy, his views on psychotherapy cannot be taken as being authoritative. This is an error committed by not only trainees but specialists as well. One often hears experts in one field pontificating in other areas in which they have absolutely no expertise.

Deferece to authority is compounded by students’ own lack self-confidence, either in their grasp of the subject or the ability to engage in a discussion in the English language. This leads to many a quiet class.

Simplistic explanations

This is a common error among medical students and psychiatric residents. An explanation by a patient is accepted as the true explanation, without evaluating whether it is really so. One trainee reported, “The patient attempted suicide because his religious belief was not strong enough.” This is an example of a naïve, and thoughtless conclusion that some trainees often offer, not much different from laymen’s reasoning. The complexities of the causes of suicidal behaviour have been reduced to a single, unsupported statement, which may or may not be a contributory factor.

Accepting statements at face value

Patients’ explanations and attributions may sometimes be correct, but often they are incomplete and misleading. A patient says he lost his job because his boss was vindictive, and the trainee stops exploring for other underlying causes. Did the patient contribute in any way to his superior’s displeasure? Was the patient already ill before he was dismissed?

Committing other logical fallacies

A few other examples of logical fallacies that I have picked up follow:
Argumentum verbosium – proof by verbosity. The speaker talks so much it is assumed what he says must be true.

Post hoc ergo propter hoc – literally meaning ‘after the event therefore because of it’. If event B occurs after event A, it does not necessarily mean that event B was caused by event A. To give an example, albeit a ludicrous one, if the sun rises after the rooster crows, it does not mean that the crowing of the rooster causes the sun to rise. Association or correlation does not necessarily imply causation.

Ecological fallacy – inferences from group or population studies are uncritically applied to the individual. For example, a study shows that 75% of patients do well when prescribed medication within a dose range, therefore, it is erroneously concluded, there is no reason why any patient should have lower or higher doses. This is often committed by those who appeal to mean data in published works, while ignoring the fact that each individual is unique and that there is no such thing as an average patient. However large the studies “it is its effect on my patient that matters”, says Seaton\(^3\) in a personal opinion with a catchy title, “There’s none so blind as the double blind.”

Appeal to motive – where a statement is dismissed by questioning the motive of the speaker. We may unfairly dismiss the findings of a researcher because he was sponsored by an interested party, though it is good to be critical and not accept things at face value.

Appeal to tradition – where an assertion is accepted as being correct because that is the long-established traditional view. Very often we fail to, or dare not, consider changes because of the deference to tradition, without examining its truth value. If our psychiatric forefathers had not challenged tradition we might still be treating schizophrenia with hydrotherapy. As Seaton\(^3\) said, perhaps rhetorically, “All progress depends on the sceptic.”

Conclusion

There are many more areas and examples one could cover. We need to seriously think about what essential reading we set for our candidates. Just reading a Wikipedia entry on logical thinking might be helpful\(^4\). The critical review paper that candidates sit for in the Part II examinations appears to focus more on statistical thinking rather than on general rules of logical reasoning. Should an introductory course in logic be required in the curriculum? If so, when and how? Are trainees already overburdened with reading material? Would it be better to allocate one journal discussion a month solely to issues relating to logical thinking? How do we encourage candidates to read the newspapers or news analyses? Perhaps undergraduate medical training needs to be thought through as well. I invite, if the editor permits, critical comments on these suggestions.

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Co-Morbid Physical Illness among Long-Stay Patients in a Psychiatric Institution

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Abstract

About 60% of people with mental illness developed co-morbid medical and physical illness that invariably worsens their lives. However, most of the studies regarding this issue were done either in the out-patient or community settings, ignoring long stay inpatients. Locally, no data exists among long stay patients in psychiatric institutions. The aim of this retrospective study was to look at the prevalence of physical illness among long-stay patients and to compare the occurrence of physical illness before and after admission to the psychiatric institution. We found that 85 (63.4%) out of 134 subjects there was suffering with co-morbid physical and medical illnesses. There were 33 (24.6%) subjects with hyperlipidaemia, 22 (16.4%) subjects with hypertension and 17 (12.7%) subjects with diabetes. Approximately 75 (55.9%) subjects developed medical illness after admission. In conclusion, long-stay psychiatric patients are at a high risk of developing medical problems that tends to begin after admission to the psychiatric institution.

Keywords: Co-morbidity, physical illness, long-stay patients, institution

Introduction

Having a psychiatric diagnosis is still considered a major burden in life. In addition to dealing with stigma regarding mental illness, persons with severe mental illness have an added risk of having co-morbid medical illnesses that can further impair their already turbulent life. The importance of detecting co-morbid medical illnesses is to ensure a complete approach to treatment. About 15 years ago, it was established that 60 percent of individuals with mental illness develop serious medical co-morbidities that result in a lost life span of 15 to 20 years compared to the general population. However, recently, even more alarming evidence indicates the risk for lost years of life has accelerated to 25 years earlier than the general population. These medical problems may be due to the mental illness itself as well as the adverse effects of the medications used in the treatments. It is frequently said that 30-40% of persons with schizophrenia died due to suicide and injury. Medical co-morbidities such as cardiovascular disease, respiratory disease, diabetes and infectious disease would further contribute to their shortened life-span.
Rates of circulatory disease, metabolic conditions including diabetes, obesity, hyperlipidemia, osteoporosis, chronic pulmonary disease, HIV-related illnesses, polydipsia, and epilepsy are found to be consistently elevated in individuals with psychiatric illness\textsuperscript{5-7}. For instance, it has been estimated that 50\% of patients with schizophrenia have another medical diagnosis\textsuperscript{8}. However, among these medical co-morbidities is the set of disorders known as metabolic syndrome that has since came to prominence since the increased popularity of atypical anti-psychotics.

Most of the studies regarding medical and physical co-morbidities in psychiatric patients were done either in the out-patient settings or in the community settings, especially those patients receiving community psychiatric services. Those that were done in the in-patient settings were mostly related to the mortality aspect of the co-morbid medical illness in psychiatric patients. Hence, there is inadequate data about medical and physical co-morbidities among persons with severe mental illness that have been hospitalized for a long period of time especially in the mental institution. This is true at least in Malaysia where there are four psychiatric institutions. Long-stay patients in these psychiatric institutions who have co-morbid medical illness may be predisposed to higher risk of several physical and psychological problems in the ward itself, such as impaired mobility with risk of falling and co-morbid psychiatric problems such as anxiety and depression due to the co-morbid medical problems. These medical illnesses would increase the cost of treatment as the affected patients will need extra investigations and treatments for their medical problems, beside the ongoing cost of the treatments of their primary psychiatric problems. More man power is also needed in the nursing and care of these patients thus further increasing the cost of the healthcare.

As there is lack of data regarding co-morbid physical illness in long-stay patients, this study was carried out. The primary aim of this study was to look at the prevalence of physical illness among long-stay patients and to compare the occurrence of physical illness before and after admission to Hospital Bahagia Ulu Kinta, Perak. This study also aimed to look at the effects of physical exercise, weight and use of anti-psychotics as factors that can contribute to the development of physical illness during admission.

Methods

This study was done in Hospital Bahagia Ulu Kinta, Perak, the largest of the four psychiatric institutions in Malaysia. The subjects for this study were from the psychogeriatric wards of the hospital. The reasons for the long stay ranges from total family rejection and lack of community and social support to the effects of institutionalization such as lost of social skills.

This was a retrospective study using Patient Case Record (PCR) to get the necessary information like demographic details and clinical history. Universal sampling was used in this study where patients with odd registration numbers and whose hospital’s stay were 10 years or more were recruited. The decision to take only patients staying for 10 years or more was made because there was no definite definition for long-stay patients.

All psychiatric diagnoses, including dementia were taken into account. The psychiatric diagnoses were categorized as following: (i) Psychoses (ii) Depression (iii)
Bipolar disorders (iv) Dementia and (v) Mental retardation. Subjects were accorded into the categories based on their primary psychiatric diagnosis. Medical and physical problems were categorized as following: (i) Diabetes (ii) Hyperlipidaemia (iii) Hypertension (iv) Chronic pulmonary disease (v) Infectious disease (vi) Hepatobiliary disease (vii) Cardiovascular disease, and (viii) Stroke. The psychiatric and medical diagnoses were taken as those diagnosed and treated by the primary psychiatric team in-charge of the patient. The diagnoses were made based on history, physical examination, laboratory test and previous medical records.

**Results**

A total of 134 subjects were involved, comprising of 75 (56%) males and 59 (44%) females. There were 29 (21.6%) Malays, 91 (67.9%) Chinese and 14 (10.4%) Indian subjects. About 51 (38.1%) them were in the age group of 60-69 years old, followed by 39 (29.1%) in the 70-79 years old age group, as seen in Figure 1. Majority of them (37.3%) has been staying there between 10-19 years, as illustrated in Figure 2.
There were only three psychiatric diagnoses obtained in 134 subjects in this study, where 123 (91.8%) of subjects were diagnosed as having schizophrenia. The rest comprised 1 patient with dementia and 10 with mental retardation.

A total of 85 subjects (63.4%) were diagnosed as having co-morbid medical and physical illness. There were 33 (24.6%) subjects with hyperlipidaemia followed by 22 (16.4%) subjects with hypertension and 17 (12.7%) subjects with diabetes. The others were infectious disease, cardiovascular disease, chronic pulmonary disease and stroke, as illustrated in Figure 3.

**Figure 3: Medical Diagnosis Among Subjects**

There were 10 (7.5%) subjects who already have co-morbid medical illness prior to admission, while about 75 (55.9%) of the subjects developed co-morbid medical illness after admission to the ward. A total of 49 (36.6%) subjects continued to be free from any co-morbid medical or physical illness after admission. There was a significant difference between onset of medical illness before and after admission (p<0.001) with 33 (24.6%) of them developing hyperlipidaemia, 18 (13.4%) having hypertension and 14 (10.4%) having diabetes.

In the study, there were 69 patients on typical anti-psychotics, while only 25 patients were on atypical anti-psychotics. We failed to get any significant association between the use of atypical anti-psychotics and the onset of medical problems. Of those 25 patients taking atypical anti-psychotics, 11 of them have medical or physical co-morbidities.

Only 34 (25.4%) patients were involved in the exercise activities in the ward. However, there was no correlation between physical exercise and the onset of medical illness after admission.

The data for either weight on admission and current weight was unfortunately not complete. As only about 10% of subjects had reliable recording of weight on admission, we could not do analysis on the body weight.
Discussion

There continue to be on-going interests regarding the occurrence of medical and physical illness among psychiatric patients. Numerous studies have been done with regards to the occurrence of medical illness in specific psychiatric diagnosis. Kilbourne found high rates of hypertension, hyperlipidaemia and Hepatitis C (HCV) infection among those diagnosed with bipolar disorder. Many more studies concentrate on the occurrence of medical illness in schizophrenia. This can be expected due to the on-going debates about the effects of second generation antipsychotics (SGAs) in causing metabolic syndrome in schizophrenia patients.

However, as mentioned earlier in the introduction, most of the studies were done in the acute hospital settings or in the communities. Much is not known regarding the occurrence of medical and physical illness in psychiatric institutions and long-term facilities. This might be because of the deinstitutionalization process whereby more resources are being channelled to the community set-up.

This study mainly looked at the occurrence of medical and physical illness among long-stay patients in the largest psychiatric institution in Malaysia. Due to the lack of corresponding findings from other studies, the authors were unable to compare some of our results. However, we tried to compare our findings with the Malaysian data available to us. In our study, we have found that three of the commonest medical co-morbidities to be hyperlipidaemia, hypertension and diabetes mellitus. These three medical problems are well-known risk factors of cardiovascular disease (CVD), particularly coronary heart disease (CHD) that is the leading cause of medically-certified death in Malaysia. It may be the commonest cause of death in psychiatric institution, but this need another study to look at it. Other risk factors include smoking and family history of pre-mature CHD. Glucose intolerance, either impaired glucose tolerance or diabetes mellitus, together with hypertension and dyslipidaemia constitute what we commonly called metabolic syndrome. We found that only 8 (6%) of our samples had suffered from hyperlipidaemia and hypertension. Apart from these, the other medical co-morbidities are infectious diseases, chronic pulmonary disease and stroke. The commonest infectious diseases found are those patients suffering from leprosy and tuberculosis that was already treated. The most common chronic pulmonary diseases are chronic obstructive pulmonary disease (COPD) and bronchial asthma. We only found 1 patient who had a history of stroke while being admitted in the long stay ward.

According to the 3rd National Health and Morbidity Survey, the prevalence of hypercholesterolemia among Malaysian residents aged 18 and above was 20.6%. From our study, we found that 24.6% of our samples were suffering from hyperlipidaemia. Although direct comparison of this data was not done, it should be noted that nearly a quarter of our sample suffers from this condition. This could be due to a larger number of our samples comprising those from the age of 60 to 79 as hyperlipidaemia is associated with older age.

About 16.4% of our samples suffer from hypertension. Fagiolini et al. reported a much higher percentage of 39% in a group of 171 patients with bipolar disorder suffering from hypertension. This can be explained by the more stringent criteria for the diagnosis of hypertension in their study,
whereby we only took directly the diagnosis of hypertension as given by the treating teams of the patients. In Malaysia, the prevalence of hypertension was 32.2% for those aged 18 and above\textsuperscript{11}. The prevalence jumped to 42.6% for those aged 30 and above\textsuperscript{11}.

According to the 3\textsuperscript{rd} National Health and Morbidity Survey\textsuperscript{11}, the overall prevalence of diabetes mellitus among Malaysian adults aged 30 and above was 11.6%. We found that 12.7% of our samples were diagnosed with diabetes mellitus. In comparison, Holt and Peveler\textsuperscript{13} reported that diabetes occurs in approximately 15% of people with schizophrenia.

We had found that there was a significant difference between the onset of medical illness before and after admission to the psychiatric institution. However, we did not look out for any relationship between this and the causes. From our opinion, there can be a lot of factors for the high onset of co-morbid medical illness after admission to the long-stay wards of the psychiatric institution. This can range from the type of diets given, effects of the pharmacological agents given to the patients and frequencies of physical activities in the wards.

This study was a simple attempt to grossly gauge the occurrence of co-morbid medical and physical illness in the study population. Due to time limitation, this short and simple study has several limitations and disadvantages. The samples in this study were taken only from the psycho-geriatric wards of Hospital Bahagia Ulu Kinta. There might be patients who have stayed for years in the institution but were placed in the farm wards for rehabilitation. There were also long-stay patients in the forensic wards. Those patients who were staying in the psycho-geriatric wards were mostly those who already unable to participate actively in physical rehabilitation programmes like gardening.

The choice to include only patients staying for 10 years or more was up to the authors. Several studies which we looked-at even took patients who just been in the psychiatric institution for a year as long-stay patients. Limitation arises because there is always a risk of developing co-morbid medical and physical illness even before a year of staying in long-stay facilities.

This study was a retrospective study by looking into patients’ case records to obtain the necessary information. The psychiatric and medical diagnoses were those established by the treating teams and the authors did not attempt to clarify the diagnoses.

The authors were also did not test the proforma developed for this study leading to inadequate questions in the proforma and mistakes in categorizing types of illness. There was also incomplete information from the case notes itself leading to inabilities to complete all the questions in the proforma. Some of the vital information that was lacking included the current weight, height and waist circumference. The availability of at least the weight and height (and calculated Body Mass Index) on admission and current time can certainly add more value to the study.

In conclusion, we had found that more than half of our samples were having medical and physical co-morbidities. This is alarming because this group is at a high risk for future morbidity in the psychiatric institution and is expected to need long-term medical attention. The high onset of medical problems after admission also points to many possible reasons that have yet to be
clarified. Therefore, psychiatric health care workers should always be vigilant and aware that long-stay psychiatric patients are at a high risk for developing medical problems.

Detecting and treating them is of paramount importance for preventing unnecessary suffering and increasing the financial strain on our health care system.

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Mental Health Difficulties in Children: A University Hospital Experience

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Abstract

Mental health difficulties in children are often missed or dismissed. Adults too are often wary of bringing their children to such a facility. This paper is a descriptive study of a child mental health service utilization in Kuala Lumpur. Methods: The cases consisted of new cases from the month of January to December 2007 who attended the Psychiatry Adolescent and Child (PAC) Unit, University Malaya Medical Center (UMMC). Results: The children presented with a range of development, academic, behavior and emotional difficulties. There were 373 new cases of which the highest number of children were in the primary school-going age group (54.7%) and males (65.4%). Sixty percent of the cases had one single diagnosis. Children with Attention Deficit Hyperactive Disorder (ADHD) were the highest disorder seen in the single diagnosis group (27.3%) as well as in those with more than one diagnosis (61.5%). Primary support group difficulties were the most common co-morbid condition noted. Conclusion: It is essential that extensive screening of children and their families be done to detect family difficulties and co-morbid conditions, which would be necessary for favorable outcomes to be met.

Keywords: Child, adolescent, mental health, service utilization

Introduction

Mental health issues in children are just as important as in adults and looking at present trends, must be thought about seriously. Children like adults, have mental health difficulties which is common and often persistent. The number of children with mental health problems has been noted to be on the rise1. It has been noted that 10% to 25% of children have mild to serious social-emotional disorders2-4. In Malaysia, the National Health and Morbidity Survey5 found the psychiatric morbidity in children (5-15 years old) to be at 20%. This works out to approximately 1.74 million children in Malaysia have mental health difficulties.

Despite these the development of mental health services for children has lagged...
behind those for adults. In recent years, there has been increasing interest in the utilization of mental health services for children with mental health difficulties. Researchers have noted that many families would have visited or consulted primary care facilities, however only a small portion of children with emotional and behavioral difficulties are subsequently referred to a mental health service. At times, the parents are not motivated enough because the disturbances, although bothersome, are not serious enough. There are children who experience social-emotional difficulties that do not meet symptom criteria for a disorder but can equally cause considerable distress and impairment in functioning yet again treatment is not sought nor the problem referred.

Many adults still remain unaware of mental illness in children and the importance of early intervention. Many would never have thought to sought treatment for their children at a mental health facility, others would not know when and where to bring their child for assessment. Only a small percent of children receive any form of intervention. In some cases, the difficulties are minimized or dismissed while in others, parents find it intimidating to attend such services. This is especially true if their prior knowledge of the service are limited or clouded by misperception. Parents who believe or are told that the child’s problems will spontaneously improve with age may delay or resist suggested mental health interventions. They may think that the problem is manageable or will go away with time or age, but the reality is especially with behavior difficulties and with no consistent intervention, the condition worsens. Researchers have noted that the nature of the child's illness, parental attitudes and presence of family stressors determines the likelihood of receiving services.

Disruptive behaviors, such as delinquency and aggression, are treated more often than emotional problems including boys more than girls.

Accumulating evidence suggests that when left untreated, mental health problems in children can grow in severity and require costly, long-term intervention that may or may not be successful. Evidence also suggests that a more effective and less costly approach is still prevention, early identification and intervention. Early prevention and intervention efforts have been shown to improve school readiness, health status, and academic achievement. It also has been shown to reduce the need for more costly mental health treatment, e.g. grade retention, special education services, and welfare dependence.

In Malaysia though general hospitals around the country are progressively being equipped with child mental health service, such services are still limited, and in this developing country there is a strong reliance on traditional and religious healers and treatments.

The Psychiatry Adolescent and Child (PAC) Unit was established in 2000 to address the mental health needs of children within the Klang Valley. This out-patient clinic is attached to a teaching university hospital. There is a child psychiatrist and 2 psychiatrists at the service and they are supported by two counselors, one occupational therapist, 2 nurses, attendances and a receptionist.

Objective

This is a descriptive study of the patients seen in the unit with the objectives to:

1) Identify the demographic data of new patients seen
2) Ascertain how the parents became aware of the service
3) Identify the common childhood psychiatric disorders among the new patients seen

Methods

Participants
The records of all new patients who came for treatment from January to December 2007 were examined. A standardized assessment procedure has been integrated into the routine assessment done at the clinic. This procedure involves a comprehensive psychiatric interview and mental status examination. The initial assessments are being done by the psychiatrists and the diagnosis made following the ICD-10. The PAC unit has developed Psychiatry Child & Adolescent Data System (PCADS) which consist of data entry of all patients into the computer system.

Results

The demographic data is shown in Table 1. There were 373 new patients seen and of these, 65.4% (N=244) were males and 34.6% (N=129) females. 54.7% (N=204) of the patients were within 7-12 years, followed by 23.6% (N=88) of secondary school-age (13-18 years). Malays made up 41.8% (N=156), while the Chinese made up 38.9% (N=145), Indian 15.8% (N=59), and others, at 3.5%.

Table 1. The demographic data of the new patients

<table>
<thead>
<tr>
<th>Socio-demographic variables</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>244</td>
<td>65.4</td>
</tr>
<tr>
<td>Female</td>
<td>129</td>
<td>34.6</td>
</tr>
<tr>
<td>School Level/ Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-school</td>
<td>81</td>
<td>21.7</td>
</tr>
<tr>
<td>Age: 3 – 6</td>
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<td></td>
</tr>
<tr>
<td>Primary school</td>
<td>204</td>
<td>54.7</td>
</tr>
<tr>
<td>Age: 7 – 12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary school</td>
<td>88</td>
<td>23.6</td>
</tr>
<tr>
<td>Age: 13 - 18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
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<tr>
<td>Malay</td>
<td>156</td>
<td>41.8</td>
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<tr>
<td>Chinese</td>
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<td>38.9</td>
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<tr>
<td>Indian</td>
<td>59</td>
<td>15.8</td>
</tr>
<tr>
<td>Others</td>
<td>13</td>
<td>3.5</td>
</tr>
</tbody>
</table>

Of all the referrals, 56.3% of the new patients were referred by doctors, followed by suggestions and information from family and friends (24.7%), school (17.7%), media (6.4%), allied health sciences professionals (1.3%) and others (1.3%).
Sixty percent (N=227) of patients had one diagnosis while 36.3% (N=135) of them had more than one diagnosis made after the assessment (Table 2). The five most common childhood psychiatric disorders found in the patients (Table 3) were Hyperkinetic disorders (N=62, 27.3%), followed by mental retardation (N=51, 22.5%), pervasive developmental disorders (N=49, 21.6%), Problems related to negative life events (n=9, 3.9%), and other problems related to primary support group, (N=8, 3.5%).

**Table 2. Number of diagnosis made among the new patients**

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Frequency Male</th>
<th>Frequency Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Diagnosis</td>
<td>150 (40.2%)</td>
<td>77 (20.6%)</td>
<td>227 (60.8%)</td>
</tr>
<tr>
<td>More than 1 Diagnosis</td>
<td>86 (23.3%)</td>
<td>49 (13.0%)</td>
<td>135 (36.3%)</td>
</tr>
<tr>
<td>Diagnosis Deferred</td>
<td>6 (1.6%)</td>
<td>3 (0.8%)</td>
<td>9 (2.4%)</td>
</tr>
<tr>
<td>Incomplete data</td>
<td>2 (0.5%)</td>
<td>0 (0%)</td>
<td>2 (0.5%)</td>
</tr>
<tr>
<td>Total</td>
<td>244 (65.6%)</td>
<td>129 (34.4%)</td>
<td>373 (100%)</td>
</tr>
</tbody>
</table>

**Table 3. Top five common single diagnoses among the new patients**

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Frequency Male</th>
<th>Frequency Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyperkinetic disorders</td>
<td>45 (19.8%)</td>
<td>17 (7.5%)</td>
<td>62 (27.3%)</td>
</tr>
<tr>
<td>Mental retardation</td>
<td>32 (14.1%)</td>
<td>19 (8.4%)</td>
<td>51 (22.5%)</td>
</tr>
<tr>
<td>Pervasive developmental disorders</td>
<td>42 (18.5%)</td>
<td>7 (3.1%)</td>
<td>49 (21.6%)</td>
</tr>
<tr>
<td>Problems related to negative life events</td>
<td>5 (2.2%)</td>
<td>4 (1.7%)</td>
<td>9 (3.9%)</td>
</tr>
<tr>
<td>Other problems related to primary support group, including family circumstances</td>
<td>3 (1.3%)</td>
<td>5 (2.2%)</td>
<td>8 (3.5%)</td>
</tr>
</tbody>
</table>

In the children with more than one diagnosis (Table 4) it was noted that children with Hyperkinetic disorders were the highest diagnosis with 61.5% (N=83) seen, and the most common co-morbid were problems related to primary support group.
Table 4. Top five more than one diagnosis among the new patients

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Frequency</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyperkinetic disorders (F90) with other co-morbid conditions</td>
<td>63 (46.7%)</td>
<td>83</td>
</tr>
<tr>
<td>Conduct disorders (F91) with other co-morbid conditions</td>
<td>6 (4.4%)</td>
<td>13</td>
</tr>
<tr>
<td>Mental retardation (F70, F71 &amp; F72) with other comorbid conditions</td>
<td>11 (8.1%)</td>
<td>13</td>
</tr>
<tr>
<td>Emotional disorders with onset specific to childhood (F93) with other comorbid conditions</td>
<td>2 (1.5%)</td>
<td>5</td>
</tr>
<tr>
<td>Disorders of social functioning with onset specific to childhood and adolescence (F94) with other co-morbid conditions</td>
<td>0 (0%)</td>
<td>3</td>
</tr>
</tbody>
</table>

Discussion

The severity of the child’s behavior, resulting in disruption of their school and academic performance gave rise to considerable worries in the adults thus the urgency of seeking help. A higher percentage of the children seen are males, of primary school setting, and attention deficit hyperactive disorder was the most common disorder amongst the cases seen at this service. Though 60% of the children seen had a single diagnosis made, it has been noted that it is becoming common to see children with more than one diagnosis17. It is not surprising that children with ADHD were our major clients seen at the service. The children with ADHD and primary support group difficulties were the most common difficulties seen in the children with more than one diagnosis and with co-morbid conditions. Children with ADHD have been noted to be a major cause of referrals to many mental health services (18). Children with ADHD often experience problems with education, interaction with others and emotional disturbances. Families of children with ADHD often suffer significant burden, in terms of strain on relationships and reduced work productivity18,19.

Difficulties in primary support group were noted to be the most common co-morbid condition in our sample of patients seen at the service. Emotional and financial hassles are part of the normal parenting process; however risk factors within the family environment correlate significantly with childhood mental disorders20. Other investigators have examined the impact of exposures to parental psychopathology as predictors of impaired outcome and psycho-pathology in children and found that exposure to parental psychopathology and parental discord had a statistical significant association with adaptive functioning and psychopathology in children20,31. The additional burden associated with a child's psychiatric problems in a family with difficulties in the primary support group
can add to the parental burden of raising a child. Chronic conflict, decreased family cohesion and parental psychopathology have been found to be common in ADHD families compared to control families. Parents with preexisting mental health problems often perceive more burdens in their children than those without. Studies suggest that caregiver strain and increase in the number of life events are robust predictors of service use and often more important than impairment or type of diagnosis. The difficulties in the primary support group noted in the children seen were authoritarian parenting, conflictual and disengaged couples, marital violence as well warring parents despite separation and divorce.

Interventions have been found to reduce and prevent disorders. The clinical implication is that ameliorating episodes of psychiatric disorder in parents may diminish the occurrence of undesirable life events for the child, thereby reducing the risk of psychiatric disorder in the child.

Conclusions

There is a clear urgency for professionals working in the field of early intervention/child services to tune up their attention to the mental health needs of children and their families. Mental health difficulties and disorders in children represent a huge burden for the children themselves, their families, and society. Under-treatment has been proven to be especially tragic. The results have helped us look at and offer systematic screening of children and their families. We wish for positive life experiences and healthy outcomes for our children; however they will not be able to achieve such outcomes if they and or their primary support groups are struggling. Ignoring family adversities will have significant bearing on management of these cases.

Limitations

We are only studying a small number of children that attend the clinic. Information from many more children or service providers are not obtained.

It would have been good to investigate the effectiveness of the service rendered, including the patients’ and caregivers’ satisfaction of the service and to see the trend of service utilization over the years.

References


18. Graetz BW; Sawyer MG; Baghurst P; Hirte C. Gender Comparisons of service use among Youth with Attention Deficit/Hyperactive Disorders. J Emotional and Behav 2006; 14(1): 2-11


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Anxiety, Depression and Coping Strategies in Breast Cancer Patients on Chemotherapy

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Abstract

The aim of the study was to determine coping strategies among breast cancer patients with depression and anxiety during chemotherapy. Methods: Breast cancer patients with confirmed diagnosis who were undergoing out-patient chemotherapy at the Oncology Unit, University Malaya Medical Centre were invited to participate in the study. They were assessed on their socio demographic profiles and clinical history. The Hospital Anxiety Depression Scale (HADS) was used by patients to report anxiety and depression. The Brief COPE Scale was used to assess coping strategies among the patients. Results: One hundred and forty one patients with mean age of fifty years participated in the study. Prevalence for depression was 19.1% and prevalence for anxiety was 24.1%. Patients who were having anxiety symptoms scored significantly higher on denial, behavioural disengagement and venting as their coping strategies compared to patients who were not anxious. Patients with depressive symptoms scored significantly higher in behavioural disengagement and self-blame as their coping strategies compared to those who were not depressed. Conclusion: Breast cancer patients undergoing chemotherapy experienced high level of depressive and anxiety symptoms. However different coping strategies were adopted to cope with their illness, chemotherapy treatment, practical and family problems, emotional and physical symptoms.

Keywords: Breast cancer, depression, anxiety, chemotherapy, coping

Introduction

Breast cancer is the second most common cancer diagnosed worldwide after lung cancer, with 1.15 million cases in 2002, and the most prevalent cancer in the world with 4.4 million survivors, up to 5 years following diagnosis. However breast cancer is number one cancer among women in Malaysia where 1 in 20 women in the country has a lifetime risk. Patients undergoing treatment for cancer face major physical and emotional challenges. Most cancer patients receiving chemotherapy experience psychological distress as a result of negative effects of chemotherapy agents, the uncertainty of post-treatment, and the occurrence of psychosocial problems.
Anxiety is common at the initiation of treatment, worrying of the potential side effects of the agents and fear of recurrence after completion of treatment. The prevalence of depression varies between 8% and 36% depending on the site of cancer, diagnostic criteria and the rating scales used.

Appropriate coping and adjustment is important in facing chronic diseases, especially during the treatment period such as chemotherapy. Coping strategies refer to the specific efforts, both behavioral and events. Payne, 1990 stated that chemotherapy recipients employed four predominant styles in coping with the treatment crisis - think positively/fighter, acceptance, fearfulness and hopelessness. Women, who underwent chemotherapy treatment and had “confrontive” element in coping style, were found to experience less psychological and physical symptoms, as compared to the patients who had “avoidant” element in the coping strategy used. Another researcher pointed out that behavioural escape avoidance and cognitive escape-avoidance as the most important coping mechanisms which contribute to the psychological distress of the cancer patients receiving chemotherapy. Thus, the coping style with a fighting spirit has been observed to associate with a greater adherence to the chemotherapy regimen.

This study aimed to determine the coping strategies among breast cancer patients who had depression and anxiety symptoms during chemotherapy.

Methods

This was a cross-sectional study conducted from July 2009 until November 2009. Every second breast cancer patients underwent out-patient chemotherapy at the Oncology Unit, University Malaya Medical Centre, Kuala Lumpur and consented for the study were invited to participate. For the level of confidence of 95%, Z value is 1.96, d is set at 10%, the minimum sample size is 82 patients. They were assessed on their socio demographic profiles, clinical history and problems checklist on practical, family, emotional and physical symptoms.

The Hospital Anxiety Depression Scale (HADS) was used to report anxiety and psychological that people employ to master, depressive symptoms. The instrument was designed for medically ill patients and does not include physical symptoms. It has been validated in patients with cancer. The HADS contains seven items that assess anxiety and seven items that assess depression rated on a four-point Likert scale (0 to 3). HADS-A or HADS-D score of >8 was defined as a case. A validation study on the Malay version of HADS by Fariza, 2003 revealed that sensitivity is 92.3% and specificity is 90.8% for depression at 8/9 cut-off points whereas as for anxiety portion, the sensitivity is 90.0% and specificity is 86.2% at 8/9 cut-off points.

Brief COPE scale was used to assess coping scale. It contains 28 items and is rated by the four-point Likert scale, ranging from “I haven’t been doing this at all” (score one) to “I have been doing this a lot” (score four). In this study, there were no cut-off point scores for coping strategies. In total, 14 dimensions are covered by this scale. These are self-distraction, active coping, denial, substance use, use of emotional support, use of instrumental support, behavioural disengagement, venting, positive reframing, planning, humour, acceptance, religion and self-blame. Every dimension has two items. The coping dimensions also can be divided into two major categories: Problem-focused Strategies (i.e. active coping, planning and using instrumental support) and Emotion...
focused Strategies (i.e. positive reframing, acceptance, religion, using emotional support and denial). Brief COPE scale has been translated to Malay and validated\(^\text{17}\). SPSS version 17 was used to analyse the data.

**Results**

A total of 141 breast cancer patients on chemotherapy with mean age of 50 years participated in the study. Prevalence for depression was 19.1% and prevalence for anxiety was 24.1%. The total prevalence of patients that may have had psychological distress (i.e. depression and anxiety) as determined by HADS was 29%.

Anxiety was significantly associated with practical, family, emotional problems and spiritual or religious concerns whereas depression was associated with practical problems such as transportation, financial and work problems. In addition depression and anxiety were associated with some of the physical problems such as eating difficulties, fatigue, indigestion, memory/concentration, nausea and sleep. Table 1 shows the mean score of domains in Brief COPE scale. Highest scores were on religion, acceptance, use emotional support and use instrumental support. The lowest score were on substance use, behavioural disengagement and self-blame.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean ±SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self Distract</td>
<td>5.48±1.46</td>
</tr>
<tr>
<td>Active Coping</td>
<td>5.57±1.57</td>
</tr>
<tr>
<td>Denial</td>
<td>5.42±1.63</td>
</tr>
<tr>
<td>Substance Use</td>
<td>2.06±0.35</td>
</tr>
<tr>
<td>Use Emotional Support</td>
<td>6.15±1.58</td>
</tr>
<tr>
<td>Use Instrumental Support</td>
<td>5.95±1.63</td>
</tr>
<tr>
<td>Behavioural Disengagement</td>
<td>3.02±2.30</td>
</tr>
<tr>
<td>Venting</td>
<td>4.46±1.39</td>
</tr>
<tr>
<td>Positive Reframing</td>
<td>5.91±2.29</td>
</tr>
<tr>
<td>Planning</td>
<td>5.43±1.57</td>
</tr>
<tr>
<td>Humour</td>
<td>4.11±1.54</td>
</tr>
<tr>
<td>Acceptance</td>
<td>6.28±1.60</td>
</tr>
<tr>
<td>Religion</td>
<td>6.82±1.63</td>
</tr>
<tr>
<td>Self-blame</td>
<td>3.10±1.39</td>
</tr>
</tbody>
</table>

Table 2 shows comparison of Brief COPE score between anxious and non-anxious patients. Compared to the non-anxious, patients with anxiety symptoms had significant higher score on denial, use behavioural disengagement and venting as their coping strategies. Patients who were depressed had significantly higher score on coping strategies such as behavior disengagement (p=0.002) and self-blame (p=0.013) as compared to the non-depressed patients.
Table 2. Brief COPE scores between anxious and non anxious patients

<table>
<thead>
<tr>
<th>Brief COPE Scale</th>
<th>Anxious (n =34)</th>
<th>Non Anxious (n =107)</th>
<th>Statistical Test</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean Rank ±sd</td>
<td>Sum of rank</td>
<td>Mean Rank ±sd</td>
<td>Sum of rank</td>
</tr>
<tr>
<td>Self-Distraction</td>
<td>71.49±2430.50</td>
<td>70.85±7580.50</td>
<td>0.08</td>
<td>0.935</td>
</tr>
<tr>
<td>Active Coping</td>
<td>73.66±2504.50</td>
<td>70.15±7506.50</td>
<td>0.44</td>
<td>0.656</td>
</tr>
<tr>
<td>Denial</td>
<td>86.34±2935.50</td>
<td>66.13±7075.50</td>
<td>2.63</td>
<td>0.008*</td>
</tr>
<tr>
<td>Substance Use</td>
<td>73.20±2485.50</td>
<td>70.33±7525.50</td>
<td>1.19</td>
<td>0.231</td>
</tr>
<tr>
<td>Use Emotional Support</td>
<td>72.71±2472.00</td>
<td>70.46±7539.00</td>
<td>0.29</td>
<td>0.775</td>
</tr>
<tr>
<td>Use Instrumental Support</td>
<td>69.68±2369.00</td>
<td>70.46±7539.00</td>
<td>0.22</td>
<td>0.825</td>
</tr>
<tr>
<td>Behavioural disengagement</td>
<td>88.24±3000.00</td>
<td>65.52±7011.00</td>
<td>3.24</td>
<td>0.001*</td>
</tr>
<tr>
<td>Venting</td>
<td>84.28±2865.50</td>
<td>66.78±7145.50</td>
<td>2.24</td>
<td>0.025*</td>
</tr>
<tr>
<td>Positive Reframing</td>
<td>63.96±2174.50</td>
<td>73.24±7836.50</td>
<td>1.17</td>
<td>0.241</td>
</tr>
<tr>
<td>Planning</td>
<td>73.50±2499.00</td>
<td>70.21±7512.00</td>
<td>0.42</td>
<td>0.676</td>
</tr>
<tr>
<td>Humor</td>
<td>77.28±2627.50</td>
<td>69.00±7383.50</td>
<td>1.05</td>
<td>0.293</td>
</tr>
<tr>
<td>Acceptance</td>
<td>67.47±2294.00</td>
<td>72.12±7717.00</td>
<td>0.59</td>
<td>0.553</td>
</tr>
<tr>
<td>Religion</td>
<td>63.51±2220.50</td>
<td>72.81±1.7790.50</td>
<td>1.039</td>
<td>0.299</td>
</tr>
<tr>
<td>Self-blame</td>
<td>81.69±2777.50</td>
<td>67.60±7233.50</td>
<td>1.87</td>
<td>0.062</td>
</tr>
</tbody>
</table>

*Mann-Whitney U test: test is significant when p < 0.05

Discussion

Breast cancer patients on chemotherapy experienced high level of depressive and anxiety symptoms. They could be normal responses to the threat of the illness, uncertainty, side effects of chemotherapy agents, loss of control or an underlying psychiatric disorder such as depression and anxiety disorders.

In this study the breast cancer patients on chemotherapy were better coping with their religion, they had accepted their disease and learned to use either emotional or instrumental support. A study by Taleghani et al18 showed that the majority of strategies used by Iranian women to cope with breast cancer were being positive on religious faith. On the other hand self-blame was used as their coping strategy by those who had symptoms of depression. Patients with anxiety symptoms used denial, behavioral disengagement and venting. Denial may not eliminate negative mood states but may help a woman with breast cancer distance herself from negative thoughts and feelings, thereby fostering feelings of hope for a positive health outcome. Denial in the form of avoiding all thoughts about the possible devastating effects of cancer may
particularly benefit some patients at the time of diagnosis\(^1\). It is understood that depressed patients tend to internalize their problems and blame themselves. This can be part of the symptoms of depression. Behavioral disengagement is a dimension that reduces one’s effort to deal with the stressor, even giving up the effort to accomplish objectives with which the stressor is interfering\(^2\).

**Conclusion**

Breast cancer patients undergoing chemotherapy experienced high level of depressive and anxiety symptoms. However different coping strategies were adopted to cope with their illness, chemotherapy treatment, practical and family problems, emotional and physical symptoms.

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Does Psychoeducation Improve Insight of Patients with Schizophrenia?

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3Hospital Bahagia Ulu Kinta, Ipoh, Perak

**Abstract**

Objective: The main aim of the study was to determine the effect of psychoeducation program on insight of patients with schizophrenia and to determine other factors associated with the change of the insight. Methods: This was an interventional study of 70 patients with schizophrenia who underwent a psychoeducation program. Diagnosis was confirmed using Mini International Neuropsychiatric Interview (M.I.N.I). Insight was assessed using the Schedule for the Assessment of Insight (SAI) before and after the psychoeducation programme. Effect on insight was measured as the change in SAI scores. Results: There was an improvement in insight after the psychoeducation programme which was significant (p< 0.001). Patient’s age, shorter duration of illness and no previous history of admission to mental institution were significantly related to the improvement of insight (p< 0.05). Conclusion: Psychoeducation is an important tool in improving insight into illness among patients with schizophrenia. It needs to be given as early as possible during the course of the illness.

**Keywords:** Psychoeducation, Insight, Schizophrenia, Malaysia

**Introduction**

Insight in schizophrenia is a complex and multidimensional phenomenon\(^1\)\(^-\)\(^4\) which affect patient’s attitude towards medication and compliance\(^5\)\(^,\)\(^6\). Good insight correlates with superior post-hospital adjustment, positive post-discharge outcome, better medication response, and better medication compliance\(^7\)\(^-\)\(^9\). Conversely, poorer insight was found to have a higher association with violent behavior\(^10\) and also reduction in psychosocial functioning\(^11\). Poor insight leads to poor adherence to treatment, subsequent illness relapse and rehospitalization. This is a major cause for concern as it involves huge amounts of resources and manpower.

Psychoeducational intervention can help to engage this group of patients to improve knowledge\(^12\), acceptance, and promote appropriate use of drug therapy\(^12\)-\(^18\). Other benefits of psychoeducation include enhanced self-esteem, increased the likelihood of treatment compliance\(^19\), more likely to feel satisfied with the services\(^20\), have significant gains in social functioning.
as well as quality of life\textsuperscript{21}, reducing relapses
and admissions\textsuperscript{22-26}.

A structured psychoeducation program has
been introduced in Malaysia in various
mental health settings including primary
care centers, general hospital and mental
institution. The aim of this study was to find
out whether a structured psychoeducation
program could improve the insight among
patients with schizophrenia in one of the
mental institutions in Malaysia.

**Methods**

This study was conducted in Hospital
Bahagia Ulu Kinta (HBUK). It is a
government-run mental institutional and a
tertiary centre which receives patients from
the northern and western states of Malaysia.
It has a total of 2000 beds and is equipped
with range psychiatric facilities. The ethic
approval was obtained from the Research
Ethical Committee of Universiti Kebangsaan
Malaysia and the Ethical Committee of
HBUK.

This is a cross-sectional, interventional
study conducted from January 2009 until
April 2009. All in-patients who admitted in
HBUK during the study period and fulfilled
the inclusion criteria were included in the
study.

The inclusion criteria include the diagnosis
of schizophrenia using Mini International
Neuropsychiatric Interview (M.I.N.I); aged
18 - 65 years old; admitted in either the
acute or sub acute wards; and able to give
consent total Brief Psychotic Rating Scale
(BPRS) score was less than 36). The
exclusion criteria include co-morbid mood
disorder; substance abuse or dependence;
mental retardation, underlying neuro-
medical problem and dementia.

**Data Collection**

All the patients who were referred for the
psychoeducation programme during the
three months study duration were offered to
participate in this study. Written informed
consent was obtained from each selected
subject.

**Pre and Post Assessment of insight**

Insight was assessed before and after the
intervention using Schedule for Assessment
of Insight (SAI)\textsuperscript{3}. Insight was assessed once
the patient was able to give consent. The
insight assessment was interviewer-rated.
Psychoeducation was commenced only
when the total BPRS score was equal or less
than 36 and with each BPRS item i.e.
conceptual disorganization, suspiciousness,
hallucinations and unusual thought content
scoring equal to or less than 4. This was to
sure the patients’ capability for learning
and using coping strategies for relapse
prevention.

The assessment of insight post intervention
was done within two weeks after the
completion of all the modules of the
psychoeducation programme and prior to the
patients’ discharge from the hospital. Other
demographic and clinical data were
obtained. A further outcome assessment on a
later date was not possible as most patients
were referred back to the different states in
Malaysia and at this moment there is no
official effective communication link
between mental health facilities in Malaysia.

**The Intervention**

The psychoeducation programme in HBUK
has been started since 2003. It is a structured
educational programme for patients with
schizophrenia and consists of five modules
covering five important subjects that are
understanding patient’s illness, understanding patient’s treatment, relapse
prevention, crisis intervention and healthy life-style. The psychoeducation programme was conducted by trained paramedical (staff nurses, medical assistants, physiotherapist) using structured modules. The sessions were conducted in a group of eight to twelve patients. Patients were encouraged to complete all the five modules prior to discharge. The sessions were conducted in the language understood by the patient.

**Study Instruments**

M.I.N.I is a short structured diagnostic interview. Even though it has not been validated in Malaysia, it has been used widely in local studies. The 18-item BPRS scale was used to access the severity of symptoms. It generally found to have good inter-rater reliability. The main outcome was measured using Schedule for the assessment of insight which is an interviewer-rated rating scale which has a score from 0-14. It assesses: awareness that one is suffering from an illness (0-6); ability to re-label symptoms as signs of mental illness (0-4); acceptance of treatment (0-4). It has been widely used for clinical researches involving patients with schizophrenia including local studies.

**Statistical Analysis**

The relationship between parameters was analyzed using appropriate statistical analysis in Statistical Package for Social Study (SPSS) version 16.0. The improvements in Schedule of Assessment of Insight (SAI) score was analysed using Paired T test. The relationship between the variables and improvement in SAI scores were analysed using Independent T test. Factors that were significant were further analysed using multiple linear regression analysis.

**Result**

Table 1 shows the sociodemographic factors of patients. About two third of them were male with majority Malays followed by Chinese and Indian. Most patients with schizophrenia were not married and attained secondary level of education. Slightly more than half were employed prior to admission to the hospital.

Table 2 shows the clinical characteristics of the patients. Majority of the patients had their first onset of illness between during their most productive years (age 20-30). The mean duration of illness was more than 10 years with about two third of them had history of recurrent admissions.

The mean pre-psychoeducation SAI scores were 3.40 (s.d. 1.53) and the mean post-psychoeducation SAI scores were 6.34 (s.d. 1.89). There was improvement in SAI score post psychoeducation with the mean improvement of 2.94 (s.d. 1.43). The improvement in SAI score was statistically significant (p<0.001) with the confidence interval of 2.60 to 3.28.
Table 1. Socio-demographic characteristics of the sample

<table>
<thead>
<tr>
<th>Socio-demographic data</th>
<th>N=70</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Male</td>
<td>51</td>
<td>72.9</td>
</tr>
<tr>
<td>• Female</td>
<td>19</td>
<td>27.1</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Malay</td>
<td>41</td>
<td>58.6</td>
</tr>
<tr>
<td>• Chinese</td>
<td>22</td>
<td>31.4</td>
</tr>
<tr>
<td>• Indian</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>• Others</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Single</td>
<td>53</td>
<td>75.7</td>
</tr>
<tr>
<td>• Married</td>
<td>11</td>
<td>15.7</td>
</tr>
<tr>
<td>• Divorced</td>
<td>6</td>
<td>8.6</td>
</tr>
<tr>
<td>• Widowed</td>
<td>0</td>
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</tr>
<tr>
<td>Religion</td>
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<tr>
<td>• Islam</td>
<td>41</td>
<td>58.6</td>
</tr>
<tr>
<td>• Buddhist</td>
<td>22</td>
<td>31.4</td>
</tr>
<tr>
<td>• Hindu</td>
<td>6</td>
<td>8.6</td>
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<tr>
<td>• Others</td>
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<td>1.4</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Primary</td>
<td>9</td>
<td>12.9</td>
</tr>
<tr>
<td>• Secondary</td>
<td>58</td>
<td>82.9</td>
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<tr>
<td>• Tertiary</td>
<td>3</td>
<td>4.3</td>
</tr>
<tr>
<td>Employment</td>
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<tr>
<td>• Yes</td>
<td>37</td>
<td>52.9</td>
</tr>
<tr>
<td>• No</td>
<td>33</td>
<td>47.1</td>
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<tr>
<td>Social class</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• I</td>
<td>1</td>
<td>1.4</td>
</tr>
<tr>
<td>• II</td>
<td>1</td>
<td>1.4</td>
</tr>
<tr>
<td>• III</td>
<td>2</td>
<td>2.9</td>
</tr>
<tr>
<td>• IV</td>
<td>3</td>
<td>4.3</td>
</tr>
<tr>
<td>• V</td>
<td>63</td>
<td>90</td>
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Table 2. Clinical characteristics of the sample

<table>
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<th>Clinical data</th>
<th>N=70</th>
<th>Mean</th>
<th>S.D.</th>
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<tr>
<td>Age of onset (years)</td>
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<td>27</td>
<td>7</td>
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<tr>
<td>Duration of illness (months)</td>
<td></td>
<td>132</td>
<td>82</td>
</tr>
<tr>
<td>No of admissions</td>
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<td>7.31</td>
<td>9.31</td>
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<tr>
<td>BPRS score</td>
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<td>25.8</td>
<td>3.12</td>
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<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Yes</td>
<td>48</td>
<td>68.6</td>
</tr>
<tr>
<td>• No</td>
<td>22</td>
<td>31.4</td>
</tr>
<tr>
<td>Alcohol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Yes</td>
<td>3</td>
<td>4.3</td>
</tr>
<tr>
<td>• No</td>
<td>67</td>
<td>95.7</td>
</tr>
<tr>
<td>Antipsychotics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Conventional</td>
<td>36</td>
<td>51.4</td>
</tr>
<tr>
<td>• Atypical</td>
<td>34</td>
<td>48.6</td>
</tr>
<tr>
<td>Use of Depot</td>
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<td></td>
</tr>
<tr>
<td>• Yes</td>
<td>52</td>
<td>74.3</td>
</tr>
<tr>
<td>• No</td>
<td>18</td>
<td>25.7</td>
</tr>
</tbody>
</table>

Factors associated with improvement in SAI score

Patients who were less than 40 had a mean improvement of 3.31 whereas patients aged 40 and above scored a mean improvement of 2.14. The difference between the 2 groups was statistically significant with p < 0.001. Forty years was taken as the cut-off age as the mean age for the sample was 38 years old and the sample was normally distributed. Other factors such as ethnicity, gender, marital status, educational level and employment status were not found to be statistically significant factors influencing the improvement of insight (Table 3).
Table 3. Relationship between variables and improvement in SAI score

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean Difference</th>
<th>S.D.</th>
<th>p value</th>
<th>t</th>
<th>95% CI</th>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Malay</td>
<td>2.80</td>
<td>1.38</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Non-Malay</td>
<td>3.13</td>
<td>1.51</td>
<td>0.35</td>
<td>-0.96</td>
<td>-1.02, 0.36</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Less than 40</td>
<td>3.31</td>
<td>1.31</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 40 and more</td>
<td>2.14</td>
<td>1.39</td>
<td>0.001</td>
<td>3.43</td>
<td>0.49- 1.86</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Male</td>
<td>3.01</td>
<td>1.22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Female</td>
<td>2.74</td>
<td>1.91</td>
<td>0.47</td>
<td>0.73</td>
<td>-0.49, 1.05</td>
</tr>
<tr>
<td>Married</td>
<td></td>
<td></td>
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<td></td>
</tr>
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<td>• Yes</td>
<td>2.67</td>
<td>1.75</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• No</td>
<td>3.00</td>
<td>1.38</td>
<td>0.44</td>
<td>0.80</td>
<td>-0.36, 0.47</td>
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<tr>
<td>Educational level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Higher</td>
<td>3.00</td>
<td>1.38</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Lower</td>
<td>2.55</td>
<td>1.81</td>
<td>0.39</td>
<td>-0.87</td>
<td>-0.58, 1.47</td>
</tr>
<tr>
<td>Employment</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
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<td>3.11</td>
<td>0.20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• No</td>
<td>2.76</td>
<td>0.29</td>
<td>0.31</td>
<td>1.02</td>
<td>-0.33, 1.04</td>
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<tr>
<td>Age of onset</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Up to 45</td>
<td>2.94</td>
<td>1.45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• More than 45</td>
<td>3.00</td>
<td>0.00</td>
<td>0.96</td>
<td>-0.05</td>
<td>-2.13, 2.01</td>
</tr>
<tr>
<td>Duration of illness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Less than 10 years</td>
<td>3.67</td>
<td>1.54</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 10 years or more</td>
<td>2.40</td>
<td>1.39</td>
<td>&lt;0.001</td>
<td>4.05</td>
<td>0.64- 1.89</td>
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<tr>
<td>History of readmission</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• No</td>
<td>3.83</td>
<td>0.86</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Yes</td>
<td>2.63</td>
<td>1.47</td>
<td>0.002</td>
<td>3.27</td>
<td>0.47- 1.93</td>
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<tr>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>• Yes</td>
<td>3.06</td>
<td>1.21</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• No</td>
<td>2.68</td>
<td>1.84</td>
<td>0.31</td>
<td>1.03</td>
<td>-0.36, 1.12</td>
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<tr>
<td>Alcohol</td>
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<td></td>
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<tr>
<td>• Yes</td>
<td>3.00</td>
<td>1.73</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• No</td>
<td>2.94</td>
<td>1.43</td>
<td>0.94</td>
<td>0.07</td>
<td>-1.64, 1.76</td>
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<tr>
<td>Antipsychotics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Atypical</td>
<td>3.23</td>
<td>1.23</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Conventional</td>
<td>2.92</td>
<td>1.44</td>
<td>0.39</td>
<td>-0.86</td>
<td>-0.38, 0.97</td>
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<tr>
<td>Depot injection</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Yes</td>
<td>2.73</td>
<td>1.33</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• No</td>
<td>3.56</td>
<td>1.58</td>
<td>0.03</td>
<td>-2.16</td>
<td>-1.59, 0.06</td>
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<tr>
<td>BPRS score</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>• Higher</td>
<td>2.68</td>
<td>1.30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Lower</td>
<td>3.20</td>
<td>1.53</td>
<td>0.13</td>
<td>-1.53</td>
<td>-1.20, 0.16</td>
</tr>
</tbody>
</table>
Duration of illness, history of readmission and use of depot medication had significantly affected on the change in the SAI scores. Patients who had a longer duration of illness had significantly lesser improvement. Ten years was taken as the reference as the mean duration of illness was about 11 years and the mode was 10 years. Meanwhile, patients who had no previous admissions to the current hospital (HBUK) had a better improvement in the SAI score, with the mean improvement of 3.83. Patients who were readmitted to the hospital had a lower improvement, with the mean improvement of 2.63. Those who were given intramuscular depot injection had a lesser improvement in SAI score compared to those who did not receive any intramuscular depot injection. The age of onset, smoking and alcohol usage, types of antipsychotic and severity of illness did not found to have a significant influence on the improvement in SAI score.

Table 4 shows the multivariate analysis of Improvement in SAI score using multiple linear regression the four variables i.e. age, duration of illness, history of readmission and use of depot medication, were re-analysed using multiple linear regression. Out of the 4 variables, only three were found to be statistically significant in improving the SAI score. The three factors were age, duration of illness and history of readmission to hospital.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Adjusted regression coefficient</th>
<th>p value</th>
<th>t</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-0.25</td>
<td>0.033</td>
<td>-2.18</td>
<td>-1.39, -0.06</td>
</tr>
<tr>
<td>Duration of illness</td>
<td>-0.28</td>
<td>0.009</td>
<td>-2.68</td>
<td>-1.61, -0.24</td>
</tr>
<tr>
<td>History of readmission</td>
<td>-0.27</td>
<td>0.018</td>
<td>-2.43</td>
<td>-1.51, -0.15</td>
</tr>
</tbody>
</table>

**Discussion**

This study showed that psychoeducation programme such as one done in HBUK was effective in improving patients’ insight. The mean post-assessment SAI score was almost double of the mean pre-assessment score. This indicates that psychoeducation programme provides an immediate positive impact on insight, which is also similarly found in other studies\(^{12,24,25,28}\).

The improvement in insight in this study was rather an indirect measurement of the other outcomes. For instances, improvement of insight leads to better collaboration with professionals, promote adherence and self-management of symptoms and thus reduce symptom severity and susceptibility to relapses\(^{28}\). Psychoeducation has been found to have a positive effect on the attitude towards medication. The patients were more confident in medication and had lower general negative attitudes towards
medication\textsuperscript{28-29}. It was found that even though psychoeducation may not alter or change in compliance with medication; it had significant gains in quality of life, social functioning and social networks\textsuperscript{21}.

One of the most practical and useful outcome measures that could have been measured in this study was the reduction in readmission rate. Most studies found psychoeducation has a positive effect in relapse prevention and were able to reduce admissions to hospitals\textsuperscript{23,24,26,28,30}. Lincoln and colleague in their meta-analysis found that the weighted effect sizes for prevention of relapse and rehospitalization ranged from medium during follow-up at less than 6 months; and small during follow-up at the duration of 7 to 12 months and were no longer significant at follow-up of more than 12 months\textsuperscript{24}. However, due to the limited time frame available for the study, readmission rates within a 6-month period as a measurement of the effectiveness of psychoeducation programme was not done. Furthermore, Hospital Bahagia Ulu Kinta serves as a referral centre and mental institution. Patients who relapsed may be admitted to the nearest hospital in their respective area or state. Malaysia has not centralized the data on people with schizophrenia; therefore studying the readmission after discharge at different hospital would be difficult.

Psychoeducation when conducted in multiple sessions have shown better outcome as compared when it is conducted in a single session\textsuperscript{12}. This study also shows that psychoeducation program is feasible and effective even in a mental institutional setting. There might be concern that the patients in mental institutions may not be given adequate psychoeducation as most of the previous researches were not on patients in mental institutions. It was found that about 20\% of the patients in institutions were given psychoeducation\textsuperscript{26}. The acute ward in our big institution now managing acute inpatients similarly to general hospital setting, therefore it should be recommended that that psychoeducation be given to more patients.

The psychoeducation seemed to work better with the younger patients. This could probably due to cognitive and age related factors. Advanced age is related to reduction in the ability to acquire and master new skills as there is age-related cognitive decline not only in patients with schizophrenia but also among the general population. It was noted that a gradual age-related deterioration for all cognitive tasks including perceptual speed and episodic memory\textsuperscript{31}.

As the psychoeducation programme was conducted in a language that the patient can understand, the multiracial Malaysian patients found to benefit from the psychoeducation regardless of the language differences. Furthermore, the content was based on scientific basis and not culturally biased. This could be the reasons here was no significant difference in the improvement of insight between the race groups.

It has been implied before that male schizophrenic patients have more severe cognitive impairment compared to female patients\textsuperscript{32}. If that is so, then one would expect a better improvement in insight among female patients attending psychoeducation. In our study, we found that gender did not significantly improve the insight. This was supported by researchers that found that there’s no significant difference in cognitive impairment between male and female\textsuperscript{33-34}. Although female patients performed better than men in verbal memory and learning,
men performed better in terms of spatial organization. They concluded that gender does not appear markedly to modify the cognitive impairment characteristics of schizophrenia.33

Patients with shorter duration of illness showed better improvement of insight in this study. This may be due to the cognitive impairment in the group with longer duration of illness. Hence, reducing the capability to learn and master new information. Studies have shown that patients with schizophrenia have a dysfunction in working memory and verbal memory.36-37 Executive dysfunction and other cognitive impairments have also been put forward. The longer the duration of illness, the greater the cognitive dysfunction.40-41 In fact, multiple education sessions were needed to consolidate learning, rather than a single session.12

There is a complex relationship between duration of illness and effectiveness of psychoeducation.42 It was found that psychoeducation was not optimally located in patients with a very short duration of illness but showed that psychoeducation had the most preventive effect in patients with a medium duration of illness who already accepted their illness but were not yet adhering to fatalistic assumptions often established to explain the manifestation of illness.42. However, the definition of short, medium and long duration of illness differs as Feldman defined them as less than 4 years, 4 to 7 years and more than 7 years respectively. In our current study, the patients had a mean duration of illness of 11 years and the majority of them suffered from schizophrenia for more than 10 years.

The use of atypical antipsychotics was not related to any improvement in insight among patients in this study. Similar finding was also noted by several other researchers while other study found a significant association between psychoeducation with better insight.46 The use of intramuscular depot injection was found to be significant in improving insight. Intramuscular depot is usually used for patients who have poor insight and poor compliance to medication. However, further analysis with multiple linear regressions found that it was not statistically significant in improving insight. The fact that the patients were given intramuscular depot injection proves that the patients had poorer insight to illness to begin with. They could also have developed a fixed ideation or delusion about medication. Therefore, for this group of patients, a series of psychoeducation session as suggested by Macpherson and colleagues would be more beneficial.

Patients with no previous admission to HBUK had a significantly better improvement in insight. This could be due to adverse effect of hospitalizations on improvement of insight.42 Higher number of admissions generally reflects a longer duration of illness, higher number of relapses and increased complexity of the condition. Moreover, frequent relapses are toxic to the brain and would cause more cognitive impairments.

In this study, psychoeducation was only targeted to patients but not their family members. Family psychoeducation was studied by various researchers and was found to be effective in the management of patient’s illness.24,47-50 As most of the patients were actually referred from different states, a joint psychoeducation session or family psychoeducation was not possible for patients who were admitted as inpatients.
Some limitations of this study include the generalisability of findings and study design. This study was conducted in a mental institution with the majority of the patients being admitted there involuntarily. They represent a different/limited set of population. Furthermore, it was done on a group of patients who were recovering from an acute episode and not among the stable patients. Therefore, the result from this study may not be able to be generalized to a wider group of patients. It would be good to have a control group to compare the effectiveness of psychoeducation. It is important to select patients that represent the general population of patients with schizophrenia. The sampling method of convenient sampling may not be representative of all the patients with schizophrenia. Several findings were dependent upon recollection, thus, exposing to recall bias. Corroborative history would be useful in reducing recall bias. However, as most patients were actually referred from different states, corroborative history from patient’s relatives was not feasible. The effectiveness of psychoeducation was determined by the improvement in assessment of insight using the Schedule for the Assessment of Insight (SAI); which was proven to be statistically significant. However, statistical significance may not be clinically significant. A measurement of readmission to the hospital within a certain time-frame would serve as a measure for clinical improvement, which was the initial plan for the project. However, due to the limited time for the study, a follow up study was shelved.

In conclusion, psychoeducation is an effective tool in improving patients’ insight, and should be given to all patients suffering from schizophrenia. However, the psychoeducation catered to patients should look into several factors i.e. patient’s age, duration of illness and history of readmission; so to have a better outcome. In future, a longer follow up study that measures readmission rates would be a better design in determining the effectiveness of psychoeducation. Since this study has its limitations and was conducted mainly on patients who were admitted involuntarily to a mental institution, thus generalizing the result needs careful consideration. Future studies should include a more generalized sample involving patients in the community, general hospitals as well as mental institutions.

References


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Self Esteem Amongst Young Adults: The Effect of Gender, Social Support and Personality

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Department of Psychology, School of Health and Natural Sciences, Sunway University College, Malaysia

Abstract

A total of 200 university students were surveyed to ascertain if gender, personality traits and social support were associated with self-esteem. There were equal numbers of males and females in the study, with controls for living and education status. The results showed that gender was not significantly associated with self-esteem. Whilst all the personality and social support factors were found to be associated with levels of self-esteem, only extraversion, openness to new experiences, conscientiousness, emotional stability and total amount of social support were found to predict self-esteem. Recommendations are made for early identification and interventions for populations at risk of low self-esteem based on the findings of the study.

Keywords: Personality, Self-esteem, Social support, Gender, Young adults

Introduction

The rate of mental health problems amongst Malaysians is rising. According to the Ministry of Health Malaysia\(^1\), 61% of Malaysians in a sample of 36,519 subjects, aged 16 years and above, were reported to have some mental health symptoms. Within this sample 6.3% had symptoms of depression and feelings of taking their lives. Within the 16-24 year old age group the prevalence of suicidal ideation was 11%. Of concern is that feelings of low self-esteem may result in suicidal ideation\(^2\). Given the link between self-esteem and suicidal ideation, this paper’s concerns are on the predictors of self-esteem whether it is biologically or socially related. Several possible factors have been found to be associated with self-esteem. Amongst these are personality\(^3\) and social support\(^4\). Understanding these predictors of self-esteem would assist with targeting groups at risk so that intervention programs can be developed.

There have been several definitions of self-esteem. Robson\(^5\) defined it as “the sense of contentment and self acceptance that results from a person’s appraisal of his own worth, significance, attractiveness, competence, and ability to satisfy his aspirations”. According to Harmon-Jones et al.\(^6\) it is “one’s belief regarding how well one is living up to the standards of value prescribed by the worldview”. In general, self-esteem concerns how people view themselves.
There has been many speculations about the relationship between gender and self esteem. A study by Naderi and colleagues\(^7\) amongst 153 adults observed that females had a higher score of self-esteem, as compared with males. On the other hand, Gentile and colleagues\(^8\), in a meta-analysis of 115 studies, did not find gender differences where self esteem was concerned. Therefore the link between gender and self-esteem is not clear.

Two main descriptions of social support exist. Firstly, Weiss\(^9\) suggested a multi-dimensional model of social support which includes attachment (a sense of emotional closeness and security); reliable alliance (the assurance that one can count on others for assistance under any circumstances); enhancement of worth (affirmation of one's competence and skill); social integration (a sense of belonging to a group of people who share common interests and recreational activities); guidance (advice and information); and opportunity for nurturance (taking care of another person). Secondly, social support has also been described in terms of network density and satisfaction with support received\(^10\).

Social support levels have been found to be associated with self esteem. Huurre\(^4\) assessed 115 young adults and found that those with higher levels of social support from friends and parents were more likely to have a higher level of self-esteem which subsequently protected against the symptoms of depression. Lower levels of children’s perceived social support from their classmates were also found to be associated with higher levels of depression and lower self-esteem\(^11,12\). Thus social support may have a role in buffering against symptoms of depression and low self-esteem\(^13\). To explain these interactions, Stryker\(^14\) suggested that people tend to use role models as tools that shape thinking about themselves, thus persons who have supportive role models, tend to have higher self-esteem. This social support theory may be the cause of the changes of social support levels.

Personality can be described as the pattern of thought, emotion and behaviour that defines an individual’s personal style and influences his interactions with the environment. Several descriptions of personality currently exist. The Cattell 16 Personality Factor profile\(^15\) describes sixteen types of personality traits. The sixteen traits are listed below along with a description of what is derived from either extreme of the personality axis. Eysenck\(^16\) developed a general method of describing personality. In his description, two major traits were identified. These were introversion and extroversion. Using statistical methods, Costa & McCrae\(^17\) found that there were 5 broad traits which all behaviours could be classified into. They labelled these traits Neuroticism, Extraversion, Openness, Agreeableness and Conscientiousness.

Personality has been found to be associated with self-esteem. Garaigordobil and Bernaras\(^18\) studied 90 participants and found that high extraversion was associated with high self-esteem, hence implying that internal factors too such as personality traits can be associated with levels of self-esteem. Similar findings were observed by Gosling and colleagues\(^3\) amongst 326,641 subjects where emotional stability, extraversion, conscientiousness, agreeableness and openness to experience were associated with high self-esteem.

A review of the literature has indicated that a sizeable proportion of young adults have a low self-esteem. However, it is unclear whether there are gender differences.
Furthermore, it has been observed that personality and social support has been associated with self-esteem. Given these observations, the speculations of this study with regards the impact of gender, personality and social support on self esteem are as follow:

1. Gender differences are not associated with levels of self-esteem.
2. Some personality traits would predict higher self-esteem.
3. Higher level of social support would predict higher level of self-esteem.
4. Personality traits and self-esteem would predict social support equally.

Methods

Study design
The study design employed was a cross-sectional survey. The independent variables were the level of social support, personality traits and gender, whilst the dependent variable was the level of self-esteem.

Subjects
The study comprised 100 males and 100 female subjects. They were aged between 18-24 years with a mean age of 21.31 years. A breakdown of the racial composition showed that there were 172 (86%) Malays, 13 (6.5%) were Indians, 14 (7%) were Chinese and 1 (0.5%) from the ‘others’ racial group. All the subjects were living with their families. In terms of the courses that subjects were taking, 2 (1%) of the subjects were studying psychology, 14 (7%) were from Information Technology, 11 (5.5%) were from Accounting and the other 173 (86.5%) subjects were from other courses. The bulk of the data was collected from University TechnologyMara, unfortunately, some of the subjects did not provide the name of course that they were enrolled into.

Measurement Instruments
The main variables included in this study were self-esteem, personality and social support. Three instruments were used to measure these factors. They are depicted in this sub-section, and the means, standard deviations and ranges of each of the subscales are depicted in Table 1.

Ten Item Personality Index (TIPI)19
The TIPI consists of ten items that are used to evaluate the five different personality traits of the subject. These traits are Neuroticism - Emotional Stability, Extraversion - Introversion, Openness - Closeness, Agreeableness - Disagreeableness and Conscientiousness - Non-Conscientiousness and based on the work of Costa & McCrae (17)’s NEO Personality Inventory. The responses are based on a seven point scale ranging from “Strongly disagree” to “Agree a lot”. The sub-scale correlation with the NEO Personality Inventory subscales ranges from 0.65-0.87. Test-retest reliability of the TIPI after two weeks is r = 0.72.

Social Support Questionnaire (SSQ)10
The SSQ is a 27 item questionnaire that examines perceived social support and satisfaction with social support. A 1-6 Likert scale was used to score the degree of satisfaction. Higher scores indicate that respondents are more satisfied with social support. For the purpose of this study, only the satisfaction with social support score was utilised. The score has been found to correlate negatively with anxiety, depression and neuroticism. The SSQ was selected as it had been evaluated on more than one sample and correlated with measures of parent well-being (i.e., depression, r = -.43  p < .01; anxiety, r = -.39  p < .01; and
neuroticism, $r = -.37$ $p < .05$) and encompassed the widest variety of issues concerned with the subject’s social support. The Internal reliability of the scale has been reported to be as .97 (10).

**Self-Esteem Rating Scale (SERS)**

The SERS consists of 40 questions on self-evaluation including overall self-worth, social competence, problem-solving ability, intellectual ability, self-competence, and worth relative to other people. The SERS has an excellent internal consistency with an alpha of .97 and the validity of SERS was reported as having good construct validity, with significant correlations with the Index of Self-Esteem and the Generalised Contentment Scale 20. The higher the score, the more positive self-esteem the individual would likely have.

### Table 1.

**Descriptive Statistics of Subscales**

<table>
<thead>
<tr>
<th>Sub-Scale</th>
<th>N</th>
<th>Range</th>
<th>Minimum</th>
<th>Max</th>
<th>Mean</th>
<th>S.D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-esteem</td>
<td>200</td>
<td>183.00</td>
<td>-86.00</td>
<td>97.00</td>
<td>19.30</td>
<td>27.90</td>
</tr>
<tr>
<td>Extraversion</td>
<td>200</td>
<td>11.00</td>
<td>3.00</td>
<td>14.00</td>
<td>9.01</td>
<td>2.14</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>200</td>
<td>10.00</td>
<td>3.00</td>
<td>13.00</td>
<td>9.21</td>
<td>1.96</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>200</td>
<td>11.00</td>
<td>3.00</td>
<td>14.00</td>
<td>9.68</td>
<td>2.64</td>
</tr>
<tr>
<td>Emotional</td>
<td>200</td>
<td>12.00</td>
<td>2.00</td>
<td>14.00</td>
<td>9.36</td>
<td>2.40</td>
</tr>
<tr>
<td>Openness</td>
<td>200</td>
<td>7.00</td>
<td>7.00</td>
<td>14.00</td>
<td>10.40</td>
<td>1.89</td>
</tr>
<tr>
<td>S.S total</td>
<td>200</td>
<td>8.07</td>
<td>0.00</td>
<td>8.07</td>
<td>2.59</td>
<td>1.51</td>
</tr>
<tr>
<td>S.S Satisfaction</td>
<td>200</td>
<td>5.00</td>
<td>1.00</td>
<td>6.00</td>
<td>5.05</td>
<td>0.93</td>
</tr>
</tbody>
</table>

**Procedure**

The students were randomly selected at various Universities. They were first asked to sign the consent form. They were then instructed to complete the demographic data, the Ten Item Personality Index, the Social Support Questionnaire and finally the Self-esteem Rating Scale.

**Results**

An independent samples t test was used to determine the relationship between gender and self esteem. The results showed that there was no significant difference in self-esteem across groups [t(198)=−0.38, p>0.5]. The mean self-esteem scores were 18.54 and 20.06 respectively for males and females. Thus, gender was not associated with self-esteem.

A bivariate correlation was employed to ascertain if there is a relationship between personality traits and self-esteem (Table 2). It was found that a high level of self-esteem was associated with high levels of extraversion ($r=0.40$, $p<0.01$), conscientiousness ($r=0.40$, $p<0.01$), emotional stability ($r=0.43$, $p<0.01$) and openness ($r=0.23$, $p<0.01$). Only Agreeableness was not found to be significantly affected by the level of self-esteem.
Table 2.

Correlation Matrix Depicting Relationships between Personality Traits and Levels of Self-esteem

<table>
<thead>
<tr>
<th>Extraversion</th>
<th>0.40**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agreeableness</td>
<td>0.13</td>
</tr>
<tr>
<td>Conscientious</td>
<td>0.40**</td>
</tr>
<tr>
<td>Emotional</td>
<td>0.43**</td>
</tr>
<tr>
<td>Openness</td>
<td>0.23**</td>
</tr>
<tr>
<td>Self-esteem</td>
<td></td>
</tr>
</tbody>
</table>

Key: **p<0.01
    * p<0.05

The relationship between self-esteem and level of social support was ascertained using a bivariate correlation (Table 3). The results showed that there was a significant relationship between total social support (r=0.19, p<0.01), satisfaction with social support (r=0.34, p<0.01) and self-esteem. Thus, higher self-esteem was associated with having more friends, and a higher satisfaction with social support.

Table 3.

Correlation Matrix Depicting Relationships between Self-Esteem and Social Support

<table>
<thead>
<tr>
<th>Social Support Total</th>
<th>0.19**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Support Satisfaction</td>
<td>0.34**</td>
</tr>
<tr>
<td>Self-esteem</td>
<td>Social Support Total</td>
</tr>
</tbody>
</table>

Key: **p<0.01
    * p<0.05

Given that subscales of personality and social support were associated with the subject’s self-esteem, the researchers were also interested to ascertain which aspects of these sub-scales played an important role in predicting levels of self-esteem. A multiple linear regression was conducted and showed that 47% of the variance for self-esteem was accounted for by measures of personality and social support R² =.47 [F (6,193) = 28.54, p<0.01]. See Table 4. The analysis also revealed that higher levels of extraversion, conscientiousness, emotional stability, openness to new experiences and total social support a person could significantly predict self-esteem. Social support was not found to be as important in predicting self-esteem as the other factors.
Table 4.

Summary of Ordinary Least Squares Multiple Regression Analysis for Personality Predicting Social Support (N=200)

<table>
<thead>
<tr>
<th>Sub-Scales</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td>3.99</td>
<td>0.70</td>
<td>0.30**</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>2.93</td>
<td>0.59</td>
<td>0.27**</td>
</tr>
<tr>
<td>Emotional Stability</td>
<td>3.35</td>
<td>0.65</td>
<td>0.28**</td>
</tr>
<tr>
<td>Openness</td>
<td>1.82</td>
<td>0.81</td>
<td>0.12*</td>
</tr>
<tr>
<td>Social Support Total</td>
<td>3.8</td>
<td>1.03</td>
<td>0.20**</td>
</tr>
<tr>
<td>Social Support Satisfaction</td>
<td>3.37</td>
<td>1.76</td>
<td>1.13</td>
</tr>
</tbody>
</table>

R² = .470 [F (6,193) = 28.542, p<0.01

Key: ** p<0.01  * p<0.05

Discussion

This study sought to understand affects of gender, social support and personality on the levels of self-esteem. The analysis found that gender differences were not associated with levels of self-esteem. It was also found that personality traits such as extraversion, openness, emotional stability and conscientiousness were associated with higher levels of self-esteem. Having more friends, as well as being more satisfied with social support was found to be associated with higher levels of self-esteem. Finally, personality traits such as extraversion, conscientiousness, emotional stability, openness, and the total social support a person was found to predict self-esteem.

Many studies have also found that gender was not associated with self-esteem. Gentile et al tested 32, 486 subjects on 10 specific domains on self esteem, and concluded that gender difference did not affect the general Several studies have also found that social-support is related to self-esteem. It has been suggested that social support buffers self esteem. The lack of self-esteem differences between genders was believed to be due to self-esteem being more dependent on domain such as physical appearance and athletic competence.

Personality traits such as openness, emotional stability and conscientiousness were associated with self-esteem. Similar results have been observed by several researchers who found that some of the personality factors such as neuroticism, which is similar to emotional instability, and introversion, were associated with lower levels of self esteem. It has been suggested that introverted people talk less and are less expressive and learn to view themselves negatively in front of others. Furthermore, those who are emotionally unstable may think poorly of themselves as they are not able to control their emotions as well as others. Does this have a reference?

Several studies have also found that social-support is related to self-esteem. It has been suggested that social support buffers against the effects of stress, thus having beneficial effects on the emotional health of adults.
Personality traits such as extraversion, openness, emotional stability, conscientiousness and the amount of support from friends were found to predict higher levels of self-esteem. Satisfaction with social support was found to be less important as a predictor of self-esteem, when compared with the other factors. This may be the rationale why young adults link ‘popularity’ with their self-esteem. They may believe that having more friends would make them more popular and consequently lead to a higher level of self-esteem. The effect of being called a ‘loner’ can be deemed a form of social exclusion that triggers the effects of low self-esteem.

An important implication from the findings of this study concerns setting up programmes for young adults with low self-esteem. As gender differences were not found to be associated with self-esteem, it may be implied that interventions should not target specific genders. In addition, given that specific personality traits seem to be associated with lower levels of self-esteem, those who have introverted, neurotic, conventional and disorganized tendencies should be targeted for assistance. Furthermore, interventions also need to seek out those who do not have a circle of friends, and appear isolated. The author should elaborate the type of programmes that would be needed to address this problem. This includes the target groups and how it is going to be set up and run. This needs to be clearly explained as it is the main finding in this study.

This study has several strengths and limitations. Amongst the strengths of this study are the controlling of participants’ ages and gender. Furthermore, the study also controls for living status and is restricted to specifically university students. The main limitation of this study is that its sample may not be representative of young people in Malaysia as it is limited to those in urban areas, and living within the Klang Valley.

Future studies could explore self-esteem status amongst different age groups. As this study controlled the living status of the participants whereby all of the participants were required to be living with their family, further studies could also include different types of living status (e.g. living with friends, alone, hostel) and ascertain if this has an impact on levels of social support and self-esteem. In this study only global self-esteem was studied, future studies could look at more specific aspects of self-esteem similar to Gentile et al.’s study whereby 10 domains of self-esteem were studied.

To conclude, this research was set up due to concerns of factors that affect the young Malaysian adults’ self-esteem. It was found that those who are introverted, neurotic and conventional, disorganized and have a lack of friends would be more likely to have low levels of self-esteem. The results of the study add to a growing understanding about the mental state of young Malaysians which assists with the development for intervention programs for those at risk.

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ORIGINAL PAPER

Obsessive-Compulsive Disorder in Schizophrenia: Clinical and Neurocognitive Correlates

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Abstract

Objectives: This study aims to determine the prevalence of obsessive compulsive disorder (OCD) among schizophrenic patients and the association of this condition with clinical and selected neurocognitive factors. Methods: This is a cross sectional study on one hundred schizophrenic patients who attended psychiatric clinic in National University Hospital and Kuala Lumpur Hospital over a four-months period. All patients diagnosed as schizophrenia according to DSM 1V were assessed using Mini International Neuropsychiatric Interview (MINI) Version 5 for the presence of Obsessive Compulsive Disorder, Brief Psychiatric rating Scale (BPRS) for severity of psychosis and Yale Brown Obsessive Compulsive Scale (YBOCS) for severity of obsessive compulsive (OC) symptoms. Socio-demographic data were obtained by direct interview. The neurocognitive assessment were done using Mini Mental State Examination, Rey Auditory Verbal Learning Test (RAVLT) and Digit Span. Results: Fifteen percent of schizophrenic patients (15%) in this sample were found to have a diagnosis of Obsessive compulsive Disorder (OCD). The OCD and non-OCD schizophrenic patients did not differ significantly in term of age, gender, race and family history of mental illness. However they differ significantly on employment, type of treatment medication and the presence or severity of current psychosis. Schizophrenic patients with OCD also showed no significant different in selected neurocognitive functions.

Keywords: Schizophrenia, obsessive compulsive disorder, neurocognitive correlates

Introduction

There are various reports that obsessive compulsive (OC) symptoms in schizophrenia can be found in the earliest descriptions of the illness¹. Later studies had suggested that between 30% and 59% of schizophrenic experience clinically significant obsessive or compulsive symptomatology²,³ while between 8% and 23% meet full diagnostic criteria for obsessive compulsive disorder(OCD)⁴,⁵ Their presence has been associated with poorer social and occupational function,
earlier onset of illness and greater use of service.  

The relationship between OC symptoms and schizophrenia has started to receive increase interest recently possibly due to the new reports indicating that such an association is seen in a rather large number of schizophrenic patients (30 - 59%) and that it represents an indicator of poor outcome. 

The most important problem in studying the association between OC symptoms and schizophrenia is the phenomenology of the OC symptoms themselves. These symptoms may be ignored in patients who experience persistent psychotic symptoms, partly because severe obsessions and compulsions resemble symptoms of psychosis. For example, although intrusive, ego-dystonic thoughts are considered obsessions in non schizophrenic patients, in a psychotic person they can appear to be simply persistent delusions. Moreover, in these psychotic patients, the insight (a requirement for OC disorder) into such symptoms is frequently absent. However, if religious, sexual, aggressive, and or somatic preoccupation are rated as obsession and secondary repetitive behavior as compulsions, a significant number of patients with schizophrenia can be identified as having OC symptoms. Such patients are more likely than those without OC symptoms to have poor outcome (e.g. longer hospitalizations, worse social functioning, poorer employment history; and they seem to have an improved treatment response if serotonin reuptake blocker (clomipramine) is added to their antipsychotic regimen. 

It is still uncertain whether OC symptoms in schizophrenic patients are manifestations of a persistent psychosis, or rather their presence indicates a distinct subclass of patients who share characteristics of both schizophrenia and obsessive-compulsive disorder. The recent reports that OC symptoms can extend beyond the period of acute psychotic exacerbation in schizophrenia and persist despite adequate treatment with antipsychotic drugs support the possibility that OC symptoms in schizophrenic patients are separate from psychosis. The fact that OC symptoms in these patients response to antipsychotic also support above possibility.

In this study we sought to determine the prevalence of obsessive compulsive disorder (OCD) among schizophrenic patients and the association of this condition with clinical and neurocognitive factors.

Methods

This was a cross sectional study on schizophrenic patients who attended psychiatric clinic in National University Hospital and Kuala Lumpur Hospital over a four months period from August to December 2004. All patients diagnosed as schizophrenia by DSM IV by psychiatrist or medical officer working in psychiatric unit were approached and those consented were interviewed. The patient will be excluded if they were too psychotic, unable to cooperate or unable to comprehend or write in either English or Malay language. Those patients who were included in the study were assessed using Mini International Neuropsychiatric Interview (MINI) Version 5 for the presence of Obsessive Compulsive Disorder, Brief Psychiatric rating Scale (BPRS) for severity of psychosis and Yale Brown Obsessive Compulsive Scale (YBOCS) for severity of obsessive compulsive (OC) symptoms. Socio-demographic data were obtained by direct interview.

The neurocognitive assessment was done using the following instruments:
1. Mini Mental State Examination\textsuperscript{15} for a brief screening of cognitive impairment

2. Rey Auditory Verbal Learning Test (RAVLT) to assessment of immediate recall and evaluates learning over successive trials.

3. Digit Span-to assess auditory verbal short-term (working) memory

All the scales used in the assessment have not been validated in Malaysian population.

All the assessments were done by the second authors. Statistical Package for Social Sciences (SPSS) was used to analyse the data.

**Results**

A total of one hundred and thirty subjects were eligible and agreed to participate in this study. However twenty one patients withdrew from this study during the initial stage of assessment. Another nine patients were later found to be too difficult to communicate due to the language barrier. The characteristics of the 100 patients are shown in Table 1.

### Table 1. Socio-demographic data of schizophrenic Patients

<table>
<thead>
<tr>
<th>Socio-demographic data</th>
<th>[n (%)] or Mean ± SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (year)</td>
<td>35.9 ± 10.3</td>
</tr>
<tr>
<td>Age of onset (year)</td>
<td>26.2 ± 8.6</td>
</tr>
<tr>
<td>Duration of illness (year)</td>
<td>9.7 ± 7.7</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>61(61%)</td>
</tr>
<tr>
<td>Female</td>
<td>39(39%)</td>
</tr>
<tr>
<td>Race</td>
<td></td>
</tr>
<tr>
<td>Malay</td>
<td>65(65%)</td>
</tr>
<tr>
<td>Chinese</td>
<td>24(24%)</td>
</tr>
<tr>
<td>Indian</td>
<td>11(11%)</td>
</tr>
<tr>
<td>Level of education</td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>4(4%)</td>
</tr>
<tr>
<td>Secondary</td>
<td>77(77%)</td>
</tr>
<tr>
<td>Tertiary</td>
<td>19(19%)</td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td>62(62%)</td>
</tr>
<tr>
<td>Non-Professional</td>
<td>35(35%)</td>
</tr>
<tr>
<td>Professional</td>
<td>3(3%)</td>
</tr>
</tbody>
</table>
Family History                            Yes                                                  21(21%)
of mental Illness                          No                                                   79(79%)

Psychotic Status                          Currently  Psychotic                         58(58%)
                                               Currently Not Psychotic                   42(42%)

OCD Status                                  Currently  OCD                                15(15%)
                                               Currently  no OCD                           85(85%)

Type of treatment                          Typical                                              41(41%)
                                               Atypical                                            39(39%)

Point prevalent of Schizophrenia with OCD
Fifteen schizophrenic patients (15%) have adequate criteria for a diagnosis of Obsessive compulsive Disorder (OCD) according to MINI in this study (Table 1).

Sociodemographic correlates
There was no significant different in term of mean age, gender and ethnic group, family history of schizophrenia between schizophrenic patients with OCD and without OCD. However schizophrenic patients with OCD were less likely to be employed as compare to schizophrenic patients who are not having OCD (Table 2).

Table 2. Characteristics of schizophrenic patient’s with and without OCD diagnosis

<table>
<thead>
<tr>
<th>Patient’s Factors</th>
<th>Currently OCD</th>
<th>Currently no OCD</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean(SD)/(%)</td>
<td>Mean(SD)/(%)</td>
<td></td>
</tr>
<tr>
<td>Mean age</td>
<td>31.47(±12.2 )</td>
<td>36.73( ±9.7  )</td>
<td>0.06</td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
<td>Female</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11 (18%)</td>
<td>4 (10.3%)</td>
<td>0.28</td>
</tr>
<tr>
<td></td>
<td>50 (82%)</td>
<td>35 (89.7%)</td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td>Malay</td>
<td>Chinese/Indian</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7 (10.8%)</td>
<td>8 (22.9%)</td>
<td>0.14</td>
</tr>
<tr>
<td></td>
<td>58 (89.2%)</td>
<td>27 (77.1%)</td>
<td></td>
</tr>
</tbody>
</table>
## Employment

<table>
<thead>
<tr>
<th></th>
<th>Unemployed</th>
<th>Employed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment</td>
<td>13 (21.0%)</td>
<td>2 (5.3%)</td>
</tr>
<tr>
<td>Unemployed</td>
<td>49 (79.0%)</td>
<td>36 (94.7%)</td>
</tr>
</tbody>
</table>

## Type of treatment

<table>
<thead>
<tr>
<th></th>
<th>Typical antipsychotics</th>
<th>Atypical antipsychotics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of treatment</td>
<td>2 (4.9%)</td>
<td>13 (22.0%)</td>
</tr>
<tr>
<td>antipsychotics</td>
<td>39 (95.1%)</td>
<td>46 (78%)</td>
</tr>
</tbody>
</table>

## Psychotic Status

<table>
<thead>
<tr>
<th></th>
<th>Psychotic currently</th>
<th>not-psychotic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychotic Status</td>
<td>14 (24.1%)</td>
<td>1 (2.4%)</td>
</tr>
<tr>
<td>currently psychotic</td>
<td>44 (75.9)</td>
<td>41 (97.6%)</td>
</tr>
</tbody>
</table>

## Severity of Psychosis (BPRS scores)

|              | 7.67±5.91 | 4.45±3.91 | <0.05* |

*Significant value

The presence of psychosis is significantly associated with the OCD in schizophrenic patients (Table 2). A significant number of Schizophrenics with OCD were treated with atypical antipsychotic as compared to those without OCD (Table 2).

There is a significant difference between the severity of psychosis (based on BPRS) and the presence of OCD in schizophrenic patients (Table 2).

### Neurocognitive correlates

The results of neuropsychological assessment show no significant different between schizophrenic patients with OCD and without OCD in most of the tests except in RAVLT test B. Schizophrenic patients with OCD did not show much improvement in learning as compared to schizophrenic patients without OCD even though individual different for each RAVLT test did not reach significant. However after interference (ie. RAVLT test B) the different was significant. This pattern is similar to amnestic disorder which indicate defect in new learning (Table 3).
Table 3. Neuropsychological Test Results of schizophrenic patient with the presence or absence of OCD

<table>
<thead>
<tr>
<th></th>
<th>Currently OCD N=15 Mean(s.d)</th>
<th>Currently no OCD N=85 Mean(s.d)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>MMSE</td>
<td>27.2 (± 3.9)</td>
<td>28.1(± 2)</td>
<td>0.93</td>
</tr>
<tr>
<td>Digit span</td>
<td>12.3(±4.8)</td>
<td>14.1(±3.0)</td>
<td>0.11</td>
</tr>
<tr>
<td>RAVLT 1</td>
<td>4.5(±1.9)</td>
<td>5.2(±1.6)</td>
<td>0.11</td>
</tr>
<tr>
<td>RAVLT 2</td>
<td>6.1(±3.6)</td>
<td>6.9(±2.1)</td>
<td>0.40</td>
</tr>
<tr>
<td>RAVLT 3</td>
<td>7.3(±3.5)</td>
<td>8.4(±2.6)</td>
<td>0.20</td>
</tr>
<tr>
<td>RAVLT 4</td>
<td>7.9(±4.5)</td>
<td>9.5(±2.8)</td>
<td>0.29</td>
</tr>
<tr>
<td>RAVLT 5</td>
<td>8.3(±4.6)</td>
<td>10.5(±2.5)</td>
<td>0.13</td>
</tr>
<tr>
<td>B LIST</td>
<td>3.4(±2.0)</td>
<td>4.9(±1.7)</td>
<td>0.00**</td>
</tr>
<tr>
<td>RAVLT 6</td>
<td>7.4(±4.0)</td>
<td>8.9(±3.1)</td>
<td>0.1</td>
</tr>
</tbody>
</table>

RAVLT = Rey Auditory Verbal Learning Test  ** Significant value

Discussion

The prevalence of OCD in schizophrenic patient in this study is 15%. This finding coincides with few previous studies. This finding is higher than the lifetime prevalence of OCD in the general population of 2 to 3%. This indicate that schizophrenic patient is having higher possibility to develop OCD as compared to the normal population. The gender distribution in patient with OCD is not significantly different in this study as also shown in other study. Age of onset and duration of schizophrenia is not significantly different between the two groups. This result is in keeping with the result of earlier study.

In term of employment, this study showed that schizophrenic patients with OCD less likely to be employed as compared to those without OCD. The possible explanations for this could be that schizophrenic patients with OCD have much impairment in their function because as we know the OCD symptoms are sometime time consuming and this aggravates their work impairment level that already being compromised by schizophrenic illness. The other reason for the impairment is due to the higher severity...
of psychosis among schizophrenic with OCD could impair their job performance.

Presence of psychotic symptoms and severity of them are significantly difference in schizophrenic patients with OCD as compared to those without OCD. The possible explanations for the high rate of psychosis among schizophrenic patients with OCD is that the patient with OCD symptoms are more resistant to antipsychotic treatment resulting in difficulty to achieve full remission of psychotic symptoms. The other possible explanation is the participants of these group are less compliance to their medication. This finding was also shown in the earlier studies. The higher proportion of schizophrenic patient who are treated with new antipsychotic developed OCD is something which is observed in schizophrenic patent probably that the serotonin pathways have a role in the pathological basis of OCD since the atypical antipsychotic have both serotonergic and dopaminergic pathways.

Regarding the neuropsychological test, the anterograde episodic memory was not significantly different between OCD and non OCD schizophrenic patient. This is in keeping with the finding in previous study. Schizophrenic patients with OCD did not show much improvement in learning as compared to schizophrenic patients without OCD even though individual different for each RAVLT test is not significant. However after interference(i.e. RAVLT test B) the difference was significant. This indicate a defect in new learning in schizophrenic with OCD, a pattern is similar as found in amnestic disorder.

Conclusions

This study was able to highlight an important issue that there is a possibility of high occurrence of OCD in schizophrenic patients with point prevalence around 15%. In this study Schizophrenia with OCD group showed a lower rate of employment than those without OCD. There is no significant different in the sociodemography of OCD and non OCD schizophrenic except in term of function where the schizophrenic with OCD has greater impairment than those without OCD. This is in keeping with the severity of psychosis seen in schizophrenic patient with OCD. Generally there is no significant different in the cognitive function test between OCD and non OCD schizophrenic.

There are some limitations to this study. The small sample size might affect the accuracy of the prevalence rate and factors associated with OCD in schizophrenic patients. Furthermore, the hospital base population does not represent national data on schizophrenic patients.

References


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Prevalence & Experience of Contact with Traditional Healers among Patients with First-Episode Psychosis in Hospital Kuala Lumpur

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\textsuperscript{3}Department of Psychiatry & Mental Health, Hospital Kuala Lumpur, Malaysia

Abstract

Introduction: Patients with mental disorders in Malaysia often seek help from traditional healers prior to consulting psychiatric service. The objective of the study is to determine the prevalence and experience of contact with traditional healers among patients with first-episode psychosis in Hospital Kuala Lumpur (HKL). Methods: This is a hospital-based cross-sectional descriptive study of 50 in-patients with first-episode psychosis in HKL. Structured Clinical Interview for DSM-IV Clinical Version for Axis I Disorders (SCID-CV) was used for establishing diagnosis. Socio-demographic data, information on help-seeking pathways, and experience of contact with traditional healers were determined through face-to-face interview and semi-structured questionnaires. Results: Twenty seven (54\%) of the patients had at least one contact with traditional healers prior to consulting psychiatric service, and it was the most popular first point of non-psychiatric help-seeking contact (48\%). About a quarter of them (24\%) had 3 or more contacts with traditional healers prior to consulting psychiatric service. The most common type of traditional treatment received was prayer (25, 96.3\%). Only 2 patients (7.41\%) reported having some beneficial effects from traditional treatments. There were two patients who reported having adverse experience with traditional healers. Among those who had sought help from traditional healers, one third was recommended by at least one of their traditional healers to seek medical help. Conclusion: History of contact with traditional healers prior to consulting psychiatric service was common among inpatients with first-episode psychosis in HKL. There may be potential meaningful collaborations between psychiatrists and traditional healers for better management of patients.

Keywords: Traditional healers, first-episode psychosis
Introduction

“Traditional Medicine” is a comprehensive term used to refer both to traditional medicine systems such as traditional Chinese medicine, Indian ayurveda and Arabic unani medicine, and various forms of indigenous medicine1. Consulting traditional healers for treatment of illness is popular in Malaysia. The first National Health and Morbidity Survey (1986) reported that Malaysian made 0.1 visits per person per year to traditional healers as compared to 1.4 visits per person per year to out-patient clinics1.

It is even more popular among patients with mental illness. In a study by Salleh in Kelantan that compared a group of out-patients with mental illness against those attending the outpatient department, 73.1% of the former group had consulted a traditional healer, as compared to 25% in the latter3. A more recent study in Kelantan showed similar trend; 61.7% of out-patients with first-episode psychosis had consulted traditional healer as compared to 26.7% among patients with epilepsy4.

Even in University Malaya Medical Centre (UMMC) that is serving a highly urbanized population in the heart of Kuala Lumpur, 24% of in-patients with first-episode psychosis sought help from traditional healers first before seeking psychiatric treatment5. All these findings are not surprising as this could be influenced by the multi-cultural beliefs that accommodate the role of evil spirits and supernatural forces in the causality of mental illness6.

The objective of this study is to determine the prevalence and experience of contact with traditional healers among patients with first-episode psychosis in HKL. This has implication in planning more holistic mental health services for early detection and treatment of patients with psychosis.

Methods

This is cross-sectional descriptive study conducted in the Department of Psychiatry & Mental Health, Hospital Kuala Lumpur (HKL). HKL is the largest hospital in the country and Kuala Lumpur is the capital city of Malaysia. HKL offers specialist psychiatric service, and is gazetted for compulsory psychiatric admission. Ethical approval for the study was obtained from the Medical Research & Ethics Committee, National University of Malaysia (UKM). Permission to conduct the study was obtained from HKL, and the study was registered with National Medical Research Registry (NMRR).

Sample

The target group of interest here is those patients with history of contacts with traditional healers. Studies in the South-East Asian countries had shown that as high as 90% of patients with mental illness sought help from traditional healers before consulting psychiatric service. The sample size calculation was based on the formula for estimating a single proportion (i.e. prevalence): $N = \frac{1.96^2 \times P \times (1- P)}{d^2}$ ($N =$ sample size, $P =$ ‘best guest’ of expected proportion, $d =$ determining precision). Therefore, $n = 1.96^2 \times (0.9 \times 0.1)/ 0.09^2= 43$.

A sample size of around 43 patients was required so that the prevalence of contact with traditional healers could be estimated to within round 10 percentage points of the true value with 95% confidence. Naing et al.7 suggests that $d$ should appropriately be 0.05. However, if there is resource limitation, as in this study, researcher may use a larger ‘$d’ (> 0.1). The researcher in
this study chose a ‘d’ value of 0.09 and was fully aware of the sample size limitation.

A convenient sampling was conducted twice a week to identify newly diagnosed inpatients with first-episode psychosis. The sampling period was a consecutive period of 4 months. The inclusion criteria were all inpatients with first-episode psychosis, including substance-induced psychosis and other organic psychosis. Those with language barrier, no family members around to verify history, and refused consent were excluded. Altogether 50 in-patients were finally recruited in the study.

Assessment

SCID-CV (Structured Clinical Interview for DSM-IV Clinical Version for Axis I Disorders) was used to confirm diagnosis. SCID-CV is a semi-structured interview for making the major Diagnostic & Statistical Manual of Mental Disorders, 4th edition (DSM-IV) Axis I diagnoses. Socio-demographic data, information on help-seeking pathways, and experience of contact with traditional healers were determined through face-to-face interview and semi-structured questionnaire. Experience of contact with traditional healers that were assessed are: i) Types of traditional treatments, ii) Effect of treatments, iii) Cost of treatments, and iv) Recommendation to seek medical help. In order to get more accurate history, the key friend or family members caring for patient prior to psychiatric contact were identified for interview.

Data analysis

The data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 12. Descriptive and non-parametric statistical tests were used for analysis. Statistical significance was set at $\alpha < 0.05$.

Results

Socio-demographic data

The age of the patients ranged from 15 to 70 years old. The mean ($\pm$ SD) age was 33.1 ($\pm$ 14.1) years old. Most of the patients fell into the age group of 21-30 years old (40%). As for gender, 31 (62%) were males, and 19 (38%) females. Most of them were Malay (22, 44.0%) followed by Chinese (14, 28.0%), Indian (6, 12.0%) and others (8, 16.0%). Only seventeen (34.0%) of them were married. As for the pre-hospitalization living arrangement, 48 (92.0%) of them were staying with others, and 4 (8.0%) were staying alone. Less than half (23, 46.0%) of the patients were employed.

Diagnosis

Table 1 shows the DSM-IV diagnostic categories of the patients. When regrouped, 19 (38%) of the patients had Schizophrenia Spectrum Disorder (Schizophrenia & Schizophreniform Disorder), 6 (12%) had Mood Disorder (Bipolar I Disorder or Major Depressive Disorder) with psychotic features, 13 (26%) had Substance-Induced Psychosis, and 12 (24%) had other types of psychosis (Brief Psychotic Disorder and other organic psychosis). Three (6%) of the patients had a dual diagnosis of either Schizophrenia Spectrum Disorder or Bipolar I Disorder with substance abuse.
Table 1: DSM-IV Diagnostic categories of patients with first episode psychosis

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>(N = 50)</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schizophrenia</td>
<td>15</td>
<td>30%</td>
</tr>
<tr>
<td>Schizophreniform Disorder</td>
<td>4</td>
<td>8%</td>
</tr>
<tr>
<td>Bipolar I Disorder with psychosis</td>
<td>2</td>
<td>4%</td>
</tr>
<tr>
<td>Major Depressive Disorder with psychosis</td>
<td>4</td>
<td>8%</td>
</tr>
<tr>
<td>Brief Psychotic Disorder</td>
<td>6</td>
<td>12%</td>
</tr>
<tr>
<td>Delusional Disorder</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>Substance-Induced Psychosis</td>
<td>13</td>
<td>26%</td>
</tr>
<tr>
<td>Other psychotic disorder</td>
<td>5</td>
<td>10%</td>
</tr>
</tbody>
</table>

Contact with traditional healers

The most common first point of contact in help-seeking pathway was with traditional healer 24 (48%), followed by 12 (24%) with general practitioner, and only 14 (28%) of the patients sought help directly from psychiatric service. Overall, 27 (54%) of the patients had at least one contact with traditional healer prior to their first consultation with psychiatric service.

The number of contacts with traditional healers ranged from 1 to 10. The mean (± SD), median and mode number of contacts for the patients who had at least one contact with traditional healer (n = 27) were 3.4 (± 2.8), 2.0 (IQR = 1.0 to 5.0) and 1.0. About a quarter of them (24%) had 3 or more contacts with traditional healers prior to consulting psychiatric service. History of contact with traditional healer was not found to be associated with age, gender, ethnic and education level (P < 0.05).

Experience with traditional healers

As shown in Figure 1, of the 27 (54%) respondents who had sought help from traditional healers, the most common type of treatments received from at least one of the traditional healers was prayer (25, 96.3%), followed by use of holy water (21, 77.8%), do good-avoid evil (morality-based) advice (9, 33.3%), dietary advice (7, 29.5%), massage (3, 11.1%), and herbs (2, 7.4%).

Among those who had sought help from traditional healer (n = 27), 92.59% of them overall either did not benefit (10, 37.04%) or did not get worse (15, 55.56%) after receiving traditional treatments. Only two patients (7.41%) reported having some beneficial effects from traditional treatments. Two patients reported having adverse experience with traditional healers. One sustained minor injury over the body that resulted from burning joss sticks used to exorcise spirits. The other one was cheated RM 12 000 for unhelpful traditional treatments.

Of those who had contacted traditional healers, 19 (70.4%) had made at least one payment to the traditional healers either on voluntary basis or as part of service charge. The total amount of payment made by each respondent ranged from RM 0 to RM 12 000.00. The median amount of payment made was RM 50.00 (IQR = RM 0 to RM 150.00). Eight of the 27 respondents (29.6%) did not make any payment to the traditional healer. The most common range of amount of money paid was RM 0 to RM 50.00 (n = 14, 51.9%), followed by RM 101 to RM 500 (n = 9, 33.3%), RM 51.00 to RM 100.00 (n = 2, 7.4%), and more than RM 500 (n = 2, 7.4%).

About one third (33.3%) of them had been recommended by at least one of their
traditional healers to seek medical help for their abnormal behavior. Similarly, about one third (29.63%) of them had at least one traditional healer who attributed their abnormal behavior to medical or psychological causes.

**Figure 1:** Types of traditional treatments received by patients

![Types of traditional treatments graph](image)

**Discussion**

In this study, 27 (54%) of the respondents had at least one contact with traditional healer prior to first contact with psychiatric service, with about a quarter of them (24%) having 3 or more contacts. In fact, traditional healer was the most popular choice of first non-psychiatric contact (48%). This is in contrast to a local study by Koh\(^5\) in the same city, whereby only 24% of the respondents had sought help from traditional healers prior to contact with psychiatric service. Study in Singapore also showed that only 24% of the respondent had sought help from traditional healer before consulting psychiatrist service\(^9\). This is possibly explained by the relatively lower socio-economic status of respondents in this study, and therefore possibly greater faith in traditional treatments. In-patient psychiatric service in HKL was completely subsidized by the government, thus naturally attracted more patients from a lower socio-economic group. However, it is interested to note that in this study, history of contact with traditional healers was not associated with education level.

The higher prevalence of contact with traditional healers was also probably attributed by the relatively more hostile patients in this study; 54% of the patients were violent, 68% were verbally abusive on admission, and all the patients were admitted involuntarily. So, family members could have difficulty in bringing patients to psychiatric service. Consulting traditional healer was much easier, as some of healers were willing to do home visit or even consultation by proxy to offer treatments. This is of course much more convenient, and acceptable to patients and family members. Hence, consulting traditional healer was a more popular choice of first help-seeking contact (48%) as compared to general.
practitioner (24%) or psychiatric service (28%).

Local studies, and several studies in other Asian countries such as Bali, Philippines, and India had evidently supported the popularity of traditional treatments among patients as first line of option for treating mental illness. It is understandable due to the relative lack of mental health resources and awareness in these countries. This is different from the pathways to care pattern observed in developed countries such as Japan, Canada, New Zealand and United Kingdom, whereby health or social agencies were the more popular point of contacts prior to contact with psychiatric service.

In view of that, we should try to recognize some of the positive roles played by traditional healers in managing psychiatric patients. Majority of the treatments offered by the traditional healers in this study such as prayer (96.3%), holy water (21, 77.8%), do good-avoid evil (morality-based) advice (33.3%), dietary advice (29.5%), massage (11.1%), and herbs (2, 7.4%) were harmless. Surprisingly, a third (33.3%) of the respondents who consulted traditional healers was recommended by at least one of their healers to seek medical help for their abnormal behavior. Thus, traditional healers may be our alliance just like general practitioners in referring patients with psychosis. Furthermore, the traditional healers overall did not charge very much for their treatments. 59.3% of the respondents paid a total of not more than RM 100 for the service. In fact, 29.4% of them did not have to pay any amount of money, and many of the payments made were offered voluntarily.

In a developing country like Malaysia, whereby mental health professionals are very limited, we should consider having meaningful collaboration with traditional healers. This is in keeping with the Ministry of Health’s policy (to integrate traditional and complementary medicine in government hospitals. This had been started in 3 local hospitals; Kepala Batas Hospital in Pulau Pinang, Sultan Ismail Hospital in Johor Bharu, and Putrajaya Hospital for non-psychiatric disorders. Some traditional healers may be helpful to formulate a more holistic concept of psychosis by integrating psycho-spiritual principles. The alternative neo-concept of psychosis may be more easily understandable and acceptable for patients and family members, especially those from lower socio-economic background.

Some studies have suggested that traditional treatments can be effective for treating neurosis among patients with mental disorders. As a result, there can be mutual benefits when traditional healers and psychiatrists consent to collaborate with one another, even for psychotic disorders. Traditional healers can refer psychotic patients for acute management. On the other hand, psychiatrists can refer certain patients after a period of acute psychosis e.g. those with drug-induced psychosis to traditional healers for follow-up and psycho-spiritual counseling. This may be better in terms of accessibilities and acceptance of treatment. In this way, workload of psychiatrists may also be reduced, without compromising on the effective care of patients with psychosis.

Even though collaborative work with traditional healers is suggested, one should also be aware of the potential harms that can be caused by traditional healers. In this study, 2 patients had adverse experience with traditional healers; one was burned with joss sticks to exorcise spirits, and one was conned more than RM 12 000. This is sufficient to caution us that not all
traditional healers are safe, and can be effective collaborator.

To put things in perspective, it had actually been shown in a local study in Kelantan that frequent consultation with traditional healers in Malay psychiatric patients was associated with poor compliance with medications and follow-ups. But such study needs replication before its conclusion can be generalized into a highly urbanized setting as in this study. The urban population may be using traditional treatments as complement instead of replacement for psychiatric treatments. This is not totally new, as it had been observed in the Malaysian society that patients tend to view the different medical systems as complementary rather than antagonistic.

This hypothesis deserves further studies, and has significant implication in implementing a holistic system of psychiatric treatment.

Though it was mentioned that one third of the respondents in this study was recommended by traditional healers to seek medical help, and therefore possibility of collaborative work, this should be interpreted cautiously. As more than half (54%) of the respondents were physically violent during admission, and all admissions were involuntary indicating relatively severe psychosis, the traditional healers probably had no choice but to refer them to other sources for help. If the respondents were from outpatients with less severe psychosis, the traditional healers might not have referred them to psychiatric service at all. There could have just persisted with traditional treatments or even dissuade them from consulting psychiatric service.

Up to now, most studies related to traditional appear to focus more on frequency of contacts with traditional healers, and whether it contributes to treatment delay. It is time for research to progress to new frontiers of how we can effectively collaborate with some traditional healers for mutual benefits. Future research should look at things more from the perspective of traditional healers, with the aim of potential collaborative work. Useful research questions could be on: the types of traditional healers and treatments, their frequency of contacts with psychotic patients, their understanding of psychosis, their willingness to work with psychiatrists, their perception of psychiatric treatment, their perception of other traditional healers etc. With such research, we can be more precise, and effective in collaborating with traditional healers to improve on our mental health system.

This study has several limitations. The sample size was rather small. It involved only in-patients in a highly urbanized area, and many patients had substance-induced psychosis (26%). Therefore, the findings may not be generalized to patients in other settings.

**Conclusion**

History of contact with traditional healers prior to consulting psychiatric service was common among in-patients with first-episode psychosis in HKL. There may be potential meaningful collaborations between psychiatrists and traditional healers for better management of patients. Future research to explore such collaborative work is recommended.

**Acknowledgment**

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VALIDITY AND RELIABILITY OF THE MALAY VERSION OF DUKE UNIVERSITY RELIGION INDEX (DUREL-M) AMONG A GROUP OF NURSING STUDENT

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²Department of Psychological Medicine, University Malaya Medical Centre, Kuala Lumpur, Malaysia

Abstract

Background: Duke University Religion Index (DUREL) is a brief and easy to use instrument for measurement of religious commitment. Objective: The aim of this study was to validate the Malay version of DUREL (DUREL-M) among a group of nursing students. Methods: This is a cross-sectional validation study conducted in a nursing school involved a group of year 1 nursing students. The students were given the Malay version of DUREL, Malay version of General Health Questionnaire (GHQ), Malay version of Brief COPE, Malay version of Depression Anxiety Stress Scale (DASS21), English version of DUREL. A week later, they were again given the Malay version of DUREL. Results: The instrument displayed good parallel reliability (0.70), test-retest reliability (0.68) (Spearman’s rho, \( p < 0.01 \)) and fair internal consistency (Cronbach’s alpha = 0.45). The positive correlation with the positive items in Brief COPE and negative correlation with the Malay version of GHQ and DASS confirmed its validity. Exploratory factor analysis using principle component extraction indicated that a single factor structure of the 5-items DUREL-M. Conclusions: The Malay version of DUREL demonstrated good psychometric properties in measuring religious commitment among a group of nursing student. It could be used on young educated Malaysian adolescents.

Keywords: Religious commitment, Validation, Malay version, Psychometric properties

Introduction

Religion involves beliefs, practices and rituals related to the sacred. Religious commitment is defined as the degree to which a person adheres to his or her religious values, beliefs, and practices and uses them in daily living. Religious commitment has been operationalized and measured in several ways, including participation in religious organizations, the degree of participation in religious activities (such as frequency of attending church), the attitudes and importance of religious experience, and belief in traditional religious creeds.¹
DUREL is a brief, comprehensive, easy-to-use instrument for measurement of religiosity. It measures the three major dimensions of religiosity which include organizational religious activity, non-organizational religious activity, and intrinsic religiosity (or subjective religiosity). DUREL consists of 5-item which measure religious commitment. The DUREL has been used in over 100 published studies and is available in 10 languages.2

This study aims to translate the DUREL into Malay language (denoted DUREL-M) and to examine the psychometric properties of the translated version among a group of nursing students.

Methods

Ethical approval from the director of nursing school, University Malaya Medical Centre (UMMC) was obtained prior to commence of the study. Permission for translation was obtained from the original author of DUREL.

Stage 1
The translation process of DUREL was carried out by four independent bi-lingual translators who are fluent in English and Malay. Forward translation was done by two Malay native speakers and backward translation was done by the other two Malay native speakers and backward translation was done by the other two Malay native. The forward and back translated versions were reconciled and sentence by sentence revision was done. A harmonized version of DUREL-M was produced.

Stage 2
The DUREL-M version was pilot tested among 10 Malay natives among the graduate student from Master of Nursing Science course at University of Malaya. Flaws identified were then corrected. The finalized version was reviewed by one psychiatrist and two nursing lecturers to ensure satisfactory face, semantic, criterion and conceptual equivalence. Items no. 1, “How often do you attend church or other religious meetings” and no.2, “How often do you spend time in private religious activities, such as prayer, meditation or Bible study” was adapted to suit for Muslim, Buddhist and Hindu religious affiliation.

Stage 3
A group of year 1 diploma nursing students from University Malaya were approached for the validation study. 173 students agreed to participate. All the participants were bi-lingual. The participants were given the following questionnaires:
1. The Malay version of General Health Questionnaire (GHQ)
2. The Malay version of DUREL
3. The Malay version of Brief COPE
4. The Malay version of Depression Anxiety tress Scale 21 items (DASS21).

The English version of DUREL was given immediately after the initial assessment to the participants. The sequence of Malay version of DUREL was shuffled and given to the participants again one week after the initial assessment.

Instruments

Malay Version of General Health Questionnaire (GHQ)
This instrument is widely used to measure psychological well-being in detection of emotional disorders. It assesses the ability to carry out normal functions and the level of distress in a person. This measure was translated into Malay and validated.3
Malay Version of Brief COPE
It consists of 14 items to measure the religious coping pattern of the respondent. The scale consists of seven positive coping items and seven negative coping items. The positive items were generated from seven different subscales from the original COPE: spiritual connection, seeking spiritual support, religious forgiveness, collaborative religious coping, benevolent religious reappraisal, religious purification and religious focus. Meanwhile, the seven negative items originate from five different subscales: spiritual discontent, punishing God reappraisal, interpersonal religious discontent, demonic reappraisal and reappraisal of God’s power. It was translated into Malay and validated.4

Malay Version of Depression Anxiety Stress Scale 21 items (DASS21)
It is a self-rated questionnaire designed to measure the depression, anxiety and distress concurrently. There are 21 items (7 items for each emotional state) in the questionnaire. Higher scores indicate greater level of distress. The scale was translated into Malay and the psychometric properties was shown to be good.5

Table 1. Correlation (Spearman’s Rho) between DUREL-M and the Brief COPE, DASS, GHQ

<table>
<thead>
<tr>
<th></th>
<th>COPE P</th>
<th>COPE N</th>
<th>DASS21</th>
<th>GHQ</th>
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<tbody>
<tr>
<td>DUREL</td>
<td>0.42**</td>
<td>0.02</td>
<td>-0.16*</td>
<td>-0.22**</td>
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COPE P; positive items of Brief COPE, COPE N; negative items of Brief COPE, DASS; Depression Anxiety Stress Scale-21 items, GHQ; General Health Questionnaire.

* p< 0.01
** p< 0.05

Statistical analyses
All the data were analyzed using Statistical Package Social Science version 15.0 (SPSS 15.0).

Results
All the 173 students consented to participate in the study. Their age ranges from 18 to 24 years old with (mean = 18.29, SD = 0.89). 160 were female and only 13 were male. Most of the participants were Malays (165) and the rest were 4 Chinese, 2 Indian, 1 Siamese and 1 Punjabi. Majority of the participants are Muslim (165 people) and there were only 5 Buddhist, 2 Hindu and 1 Christian.

Validity
The Spearman’s correlation between the total DUREL-M and the participant’s respective scores for GHQ, DASS21, Brief COPE were presented in Table 1. The DUREL-M was positively correlated with positive items of Brief COPE (p<0.05) and inversely related to the total score of GHQ (p<0.05) and DASS21 (p<0.01). There was no significant correlation between DUREL-M and negative items of Brief COPE.

Reliability
The internal reliability of DUREL-M was moderate with Cronbach’s alpha of 0.45. The parallel form of reliability was high (Spearman’s rho = 0.70, p<0.01). The test-retest reliability after 1-week interval was moderate (Spearman’s rho= 0.68, p<0.01).

Factor analysis
The researchers conducted an exploratory factor analysis to explore the factor structure of DUREL-M. The Barlett’s test of sphericity was significant (p<0.01) and the Kaiser-Meyer-Olkin measure of sampling adequacy for the 5 items of DUREL-M was
0.68. Therefore, it is appropriate to proceed to factor analysis. Factors were extracted with principal component extraction. Only one factor was extracted (eigenvalue > 1.00) which indicate a single factor structure of the scale.

Discussion

The results of the present study showed the translated Malay version of DUREL is a valid and reliable instrument among the diploma nursing students nursing school in University of Malaya. The construct validity of the instrument was demonstrated through the significant negative correlation with the validated GHQ (p<0.05) and DASS (p<0.01). These findings showed that people who were committed to religion have better mental well-being and lower distress level. The concurrent validity of the instrument was demonstrated through the significant correlation between DUREL-M and positive items of Brief COPE. This result showed that respondents who committed to religion were using more positive religious coping pattern. However, there was no significant relation between negative items of Brief COPE and DUREL (r= 0.02). This finding suggested people who were using negative religious pattern were not related to their commitment to religion. There was high parallel reliability. The test-retest reliability was moderate with spearman’s rho of 0.68 indicate a moderate stability. The internal consistency of DUREL-M was fair (Cronbach’s alpha=0.45) indicated there is variability among items in the scale. However, there were only 5-items measured in DUREL-M. According to Shuttleworth (2009), the coefficient alpha is higher in instrument with more items.6 Factor analysis only generated one factor and confirmed the single factor structure of the instrument.

Conclusion

The Malay version of DUREL displayed good psychometric performance in measuring the religious commitment among the diploma nursing students in University of Malaya. It could be used for assessment in the educated Malaysian adolescents.

References


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CASE REPORT

Borderline Personality Disorder: More than Meets the Eye

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Abstract

Living with borderline personality disorder (BPD) involves a lot of emotional suffering which may be hidden behind the complex and controversial nature of the condition and treatment. The condition is still largely under-diagnosed, undertreated and stigmatized. This paper described the emotional battle faced by a patient living with the disorder and the application of psychosocial treatments in helping her to recover.

Keywords: Borderline personality disorder, psychosocial treatments, recovery

Introduction

The journey travelled by the patient reported here is similar to those travelled by some 50,000 people in Malaysia. She travelled the journey of living with BPD. The condition is estimated to be occurring in 2% in the general population (1) and up to 20% in the psychiatric inpatient population (2, 3). For reasons such as controversies surrounding the diagnosis and concern that patients may get stigmatized, the condition is reluctantly diagnosed among patients, leading to improper treatment and complications such as iatrogenic drug dependence, suicide attempts, heavy usage of services and distress among treating doctors in addition to disruptions in the patients’ lives. This paper aimed to illustrate a long hidden suffering of a patient with the condition and her journey to recovery through evidence-based treatment.

Case Report

RS is now a 24 year-old married Malay lady with 2 children. She first presented to a university hospital in 2005 with worsening depressive symptoms since her marriage 3 years earlier following her difficulty in adjusting to her new role as a wife and a mother. At the initial presentation, she had a 1 year-old girl and was pregnant with her second child. She had almost all the features of major depression, in addition to other features described below.

RS’s unhappiness had dated back since she was 6 years old. She felt brief periods of happiness while at school, when her intelligence and creativity got recognized by her teacher and given due attention: a privilege she did not received at home. Her unhappiness worsened at 12 years old after she obliged to her parents’ decision not to continue secondary school. Being at home...
most of the time without television, magazines or friends made her feel bored, empty and alone. The feelings persisted as she grew older, fluctuating in intensity. At the depth of her emptiness, she would feel lost, “not being part of anything” with “no one to help”. This sense of near non-existence was associated with physical sense unreality that made her do things like feeling the water running against her skin or knocking her head against the wall to confirm the reality of her own body parts.

As a result, she was afraid of being alone. She coped by efforts to relive the moments of being with people. She also had imaginary friends with whom she had mental conversations whenever she needed them. This imaginary friend/s appeared very vividly in her mind. She would respond fully to these conversations in her mind that she would appear to others as occupied and inattentive. She, however, could not hear with her ears the person/s talking or see her/him with her eyes.

She also had the tendency to cling onto others. She would rush to get close to people who showed warmth to her. She was so scared of being abandoned as this would confirm her sense of being unlovable that she could engage in behaviors that caused pity and sense of duty to care in others, like being sickly, which was usually followed by uneasiness in others. In relationship, she would expect others to be all good and caring all the time that unintentional deviation of attention from others would be perceived as neglect. She coped unconsciously by projecting her feelings of being unloved into hatred to the person and would consciously feel that he/she was the worst person of all. These idealization and devaluation had become the pattern of her attempted relationships that made her avoid relationship, if she could, for some sense of control to avoid the emotional pain being abandoned.

RS had difficulties in controlling her anger. She could physically attack her friends whom she thought had wronged her. She stopped this behaviour since her adolescence as she knew it was unacceptable, however, the tendency to feel intense anger remained which was now only limited as thoughts, images & impulses only, even though, it usually got reflected behaviourally in the form of stubbornness and hurtful words. When in this mood, she could have sadistic or murderous thoughts/images/impulses like chopping a person’s body into pieces. Following this, her distress would escalate even further as anger and aggression were perceived as invalid, wrong and sinful, and would eventually be followed by a deep sense of guilt. “Guilt was what differentiated me from those who kill”.

When in distress, typically following a perceived abandonment she could develop psychotic-like symptoms like vividly seeing the hurting person in her mind (not with her eyes) everywhere she goes which made her feel scared. This was accompanied with a sense being watched and a potential danger. This led to marked anxiety symptoms like palpitation, tremor and restlessness.

She also had thoughts of self-harm when in distress. Initially, her religious values had stopped her from executing her thoughts. However, over the recent years when she faced more life challenges with her distress level mounting to a greater height, she started cutting herself mainly on the arms and thighs. This would usually give her some relief as it served to confirm her aliveness and change the “invalid” emotional pain to a “valid” physical one.
She also had transient manic symptoms about 4-6 times a year lasting for 1-2 days each time. These include elated mood, unusual optimistic views of herself, increased energy, a lot of ideas, decreased need for sleep and over-talkativeness. The change in her was noticeable by parents who would typically criticize her for being out of character.

RS had always been struggling with her sense of identity. Her needs for approval would drive her to be pleasant and obliging to others. However, when her own needs to be cared for was not met, she could totally change to be the opposite uncaring self. Her family believed she had a “kembar harimau” (tiger twin) in her which could be an explanation for the uncontrollable conflicting nature, which, she later explained as rooting from her inability to accept and integrate her “good self” and “bad self”. She also had conflicting views of herself in terms of her sexuality, aspirations, intelligence and capability.

RS’s borderline symptoms were only recognized 1 year after she presented at the center after a failure of conventional treatment approach for her Axis I diagnosis of bipolar disorder. Following that, RS was offered a structured dialectical behavior therapy which improved her skills in tolerating distress and self-regulating emotions and followed by transference-focused therapy which improved her skills in managing relationships. Time had witnessed her continuous recovery over the recent years.

**Discussion**

Life has become more meaningful for this patient after being helped with the right treatment approach. Dialectical behavior therapy and transference-focused therapy are two among others which have been shown to be useful in treating BPD (3,4). It is believed that there are many others with the condition who are still undiagnosed, undertreated and stigmatized for their difficult behaviours (5). Clinicians’ proactive approach in dealing with this issue would help shorten and alleviate the hidden suffering in people like RS.

**References**


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CASE REPORT

Antidepressant induced Mania and Steroid Psychosis in a Patient with Bell’s Palsy

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Abstract

Steroid is commonly used for various connective tissue diseases and immunological related disorders. Psychiatric side effects are common in patient with systematic treatment of steroid. The reported prevalence ranges from 6% to 28%. Antidepressant-induced mania occurs when the mood of a patient switches to manic or hypomanic from depression after the use of antidepressant. We reported a case of a 55 year old lady, who presented with agitation and grandiosity after the treatment with antidepressant. She was initially diagnosed as having Bell’s palsy with unilateral facial muscle weakness. Oral prednisolone was prescribed for seven days where she became depressed, having auditory hallucination and delusion of guilt. She was then started on antidepressant where she became irritable, agitated and developed grandiose delusion. The antidepressant was withheld and she was started on atypical antipsychotic. Her condition improved and discharged well after three days of stay in the ward.

Keywords: Steroid, psychosis, antidepressant-induced mania

Introduction

Bell’s palsy is an idiopathic palsy of the facial nerve (VII) resulting in a usually unilateral facial weakness or paralysis. The incidence rate of this disorder is about 23 per 100,000 annually, or about 1 in 60 or 70 persons in a lifetime. The pathogenesis of the paralysis is unclear and the diagnosis is made by excluding other causes which may cause facial palsy such as infection (Ramsay Hunt Syndrome, Lyme disease, HIV, Meningitis, Polio, TB), brainstem lesions (Brainstem tumour, Stroke, Multiple sclerosis), cerebello-pontine angle lesions (Acoustic neuroma) and systemic disease (Diabetes Mellitus, Sarcoid, Guillain-Barre). Within a few days of onset of Bell’s palsy, high doses of prednisolone (0.5mg/kg/12h PO for 5 days) should be given to reduce nerve edema, hence preventing the progression of weakness to total paralysis.

Corticosteroid is a class of steroid hormone that is produced in the adrenal cortex. It involves in a wide range of physiological processes such as stress response, immune response and regulation, carbohydrate...
metabolism, protein catabolism and electrolyte homeostasis. There were two major groups of corticosteroid which is the glucocorticoids group that control carbohydrate, fat and protein metabolism and anti-inflammatory; and mineralcorticoid group that control electrolyte and water homeostasis in the body⁴.

Synthetic pharmaceutical drugs with corticosteroid-like effect are used in a variety of conditions, ranging from brain tumors to skin disease. Dexamethasone and its derivatives are almost pure glucocorticoids, while prednisolone and its derivatives have some mineralcorticoid action in addition to the glucocorticoid effect. Synthetic corticosteroid such as prednisolone is used in the treatment of arthritis, temporal arteritis, dermatitis, allergic reactions, asthma, hepatitis, systemic lupus erythematosus, inflammatory bowel disease, sarcoidosis and Bell’s palsy⁴.

Corticosteroids have been used in ophthalmology for almost 50 years. Hench, in 1949, was the first to report on the beneficial effects of ACTH and cortisone on rheumatoid arthritis⁵. Now, prednisolone is widely prescribed for various medical conditions. However, there are a number of well-known side effects with corticosteroid. They include increase blood glucose, Cushing’s syndrome, weight gain and osteoporosis⁵.

In addition to physical side effects, corticosteroids often induce psychiatric syndromes. Glaser divided the steroid induced psychiatric side effects in to two categories: (a) a primary affective disorder of either elation or depression, and (b) a more complex reaction with organic reaction and psychosis⁶. These symptoms are collectively known as “steroid psychosis”. The reported incidence range from 6% to 28% depends on severity⁵. Most often, the patient who received short term corticosteroids will have hypomania and euphoria. In contrast, a long term corticosteroids therapy is related to depressive symptoms. A serious paranoid state or depression with risk of suicide can be induced, particularly in patients with a history of mental disorder, however, is not a definite predictor for occurrence⁵. Female has an increase risk of develop the psychiatric disturbance with the unknown reason. Most of the neuropsychiatric disturbances occur during the early corticosteroid therapy. However, these disturbances can happen any time, even after stopping the corticosteroid therapy.

Case report

Mrs T is a 55 years old, Chinese lady, who works as a primary school teacher. She was admitted to University Malaya Medical Centre (UMMC) with a presenting complaint of irritability, talking irrelevantly, having auditory hallucination and grandiose delusion.

Mrs T was diagnosed to have Right Bell’s Palsy ten days prior to admission. MRI showed no significant abnormality except small old influx in the right temporal lobe. She was then treated with oral prednisolone 40mg daily for seven days. She complained of poor sleep and depressed mood associated with irritability after she was started on prednisolone. She also developed delusion of guilt whereby she felt excessive burden to her family for no reasons. Later, Mrs T started to have auditory hallucination where she heard “evil” talking to her and threatening to harm her. She was seen by a psychiatrist in a private hospital and diagnosed to have depression with psychotic features. She was treated with antidepressant (Fluoxetine 20mg daily).
After taken the medication, she became very irritable and agitated. She developed grandiose delusion where she claimed that she is the Jesus Christ and the ruler of the world. She commanded people to bow and pray to her in order to save the world.

Due to her condition, she was then referred to UMMC psychiatry department. Due to her unmanageable behavior, she was given parenteral diazepam 10mg and haloperidol 5mg in the emergency department and admitted to the psychiatric ward. She was started on atypical antipsychotic (Quetiapine XR 100mg ON). Her condition settled down on the second day of admission and she was discharged well after three days in the ward. For family history, Mrs T’s elder brother is a known case of depression and was on treatment.

**Discussion**

In the nineteenth century, Emil Kraepelin coined the term “manic-depressive insanity” which initially referred to all kinds of mood disorder, including episodic depression, mania, hypomania, cyclothymic disorders and many other mood variations. In 1957, Karl Leonhard, a German psychiatrist, further split the manic depressive insanity into major depressive disorder (unipolar depression) and bipolar disorder. This conceptualization was later adopted by the DSM first edition. Young and Klerman further sub-classified Bipolar disorder into 6 subtypes, namely Bipolar I: Mania and depression, Bipolar II: Hypomania and depression, Bipolar III: Cyclothymic disorder, Bipolar IV: Hypomania or mania precipitated by antidepressant drugs, Bipolar V: Depressed patients with a family history of bipolar illness, Bipolar VI: Unipolar Mania. In DSM-IV-TR, the occurrence of manic symptoms during treatment with antidepressants was termed as substance-induced mood disorder (with manic or mixed features).

The rate of antidepressant-associated mania in unipolar depression (1% - 6%) is much lower than in bipolar disorder (20% -40%). The mechanisms of “switching” from depression to mania are not completely understood. However, there are evidence revealing the involvement of central catecholamine especially dopamine and serotonin. Studies have shown that the assumption of cocaine and sleep deprivation therapy can induce manic or hypomanic episodes through dopaminergic pathway. Serotonin can mediate Methylenedioxymethamphetamine (MDMA) which produce exciting and euphorizing effects.

Some authors argued that antidepressant-induced mania occurs solely among individuals with a pre-existing susceptibility to bipolar, hence, environmental factors (such as sleep deprivation in our case) will evoke the switch process from depression to mania or hypomania, this is termed bipolar diathesis model. In contrast, some authors viewed this type of mania more as adverse events of antidepressant because it typically resolves with antidepressant cessation although time-limited symptomatic management may still be needed. This concept is adopted by DSM-IV-TR, in which antidepressant-induced manias are classified as substance-induced mood disorders rather than as a subtype of bipolar illness. Back to our case, Mrs. T was fully recovered from the manic episode after the withdrawal of the antidepressant. Therefore, her manic episode could be an iatrogenic side effect of antidepressant.

Many family-pedigree studies suggest that bipolar and unipolar probands may represent the same underlying disorder, the only
differences are the severity in between them. Blacker et al found that depressed relatives of bipolar patients had a higher threshold of having bipolar features\textsuperscript{13}. Mrs. T has a brother who also has depression and has been on antidepressant for many years.

Therefore, Mrs. T may already have some genetic loading which made her vulnerable to antidepressant-induced mania.

Although antidepressant-induced mania was first described in connection with the use of tricyclic antidepressants, the safety of the newer antidepressants such as selective serotonin reuptake inhibitor (SSRI) eg fluoxetine, paroxetine and SNRI eg venlafaxine, duloxetine still remains unknown. There are evidences that tricyclic antidepressant will exacerbate the acute symptoms of agitation and psychosis on patients who have steroid-induced psychiatric disturbances but little information is available for newer antidepressants\textsuperscript{14}. Some even recommend if an antidepressant is needed for the treatment of steroid-induced psychiatric disturbance, SSRI such as fluoxetine, 20mg/day is the drug of choice\textsuperscript{14}. However, Mrs. Teh developed manic symptoms while she was given flouxetine for her steroid-induced psychiatric disturbances.

Minimal information was found on the treatment of steroid-induced psychiatric disturbances, most of the management strategies were based on case reports and anecdotal evidences. Despite that, the prognosis of steroid-induced psychiatric disturbances is good with complete recovery in more than 90\% of the people. Treatment of steroid-induced psychiatric disturbances should begin with dose reduction or discontinuation of the steroid. Psychiatric disturbances will commonly resolve slowly, ranging from days to 6 weeks, after discontinuation of the steroid drugs\textsuperscript{15}. Davis et al found that neuroleptics in low doses led to rapid symptom resolution in 83\% of the patients who had steroid–induced psychiatric disturbances\textsuperscript{16}. Now newer atypical agents such as olanzapine which are rarely associated with dystonic reactions or extrapyramidal side effects, are proven useful in treating psychiatric symptoms during steroid therapy and are recommended as first-line-treatment\textsuperscript{15}. In this case, Mrs. T had completed her seven days’ course of prednisolone and her fluoxetine were withheld. She then recovered fully from the illness after she was treated with an antipsychotic medication.

In summary, systemic corticosteroids should be prescribed with care in those who are predisposed to psychiatric reactions, including those who have previously suffered from corticosteroid-induced psychosis, or who have a personal or family history of psychiatric disorders. Antidepressants should probably be avoided as first-line treatment in persons with mood symptoms likely secondary to steroid. Atypical antipsychotics generally are safe and effective in treating steroid-induced psychiatric disturbances.

References


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Psychological Distress Among Infertile Women: Exploring Biopsychosocial Response To Infertility

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Abstract

Previous studies have shown that the experience of infertility is linked with psychological responses such as depression, anxiety, guilt, social isolation, and decreased self-esteem in both men and women. The prevalence of depression among infertile women ranges from 8% to 54%. Treating gynecologists and healthcare professionals seldom recognized the psychosocial distress in women undergoing fertility treatment. Therefore this paper reviewed the bio-psychosocial response towards infertility among women with infertility.

Keywords: Infertility, depression, women, related stress

Introduction

The International Conference on Population and Development, ICPD (1994) has declared the reproductive and sexual health as the fundamental rights to individuals, couples and families all over the world. They called for infertility as one of the basic issues of reproductive health care in their ‘Program of action’ which should be reached for all by the year of 2015.

The WHO estimates that 8–12% of couples around the world experience difficulty conceiving a child. Approximately one in five (20%) couples will experience infertility – or the inability of a couple to conceive or carry to live birth a pregnancy after one year of regular sexual relations without the use of contraceptives. Approximately 75% of couples diagnosed with infertility will seek some type of treatment. Of those who seek medical treatment, it is estimated that 50% to 60% will eventually conceive; compared to only 5% who would conceive if they did not seek medical interventions.

Prevalence rates show that 40% of infertility is primarily attributable to female factors (e.g., tubal factors, endometriosis), 40% is attributable to male factors (e.g., low sperm count, impotence), and the remaining 20% is attributable to an interaction between the two partners. Studies examining the psychological consequences of infertility have shown that infertility leads to emotional distress such as depression, anxiety, guilt, social isolation, and decreased self-esteem in both men and women.
Infertility is universally described as a stressful experience for patients, affecting all aspects of their lives: marital, social, physical, emotional, financial, and spiritual. In a comparison to patients with other medical conditions, psychological symptoms associated with infertility are similar to those related to cancer, hypertension, and cardiac rehabilitation. Infertile women, in comparison with control group, showed higher scores on the depression and anxiety scales. Commitment to intense treatment which is time consuming may lead to a disruption in family, work, and social activities, as well as the protracted nature of treatment, which may go on for years. Infertility stress impacts the marital relationship by depleting sexual intimacy.

Over the past two decades, researchers have developed a greater understanding of the relationship between infertility and psychological distress. During this time, over 100 quantitative studies and 26 qualitative studies have been published on this topic. Findings from these studies consistently indicate that infertility is associated with increased psychological distress for both men and women. Majority of studies examining the coping strategies of infertile men and women rely on general measures of psychological distress (e.g., depression, anxiety) and marital adjustment as outcome variables. Very few studies use infertility-specific measures that capture the complexity of stress directly related to the infertility experience.

**Prevalence of Depression among Women with Infertility**

Almost 21% of the female population experience major depression in their life. Female depression has higher risk on first onset, can last longer, and often recur. Data from the National Comorbidity Survey, a population-based epidemiological study, show that the prevalence of a major depressive disorder (MDD) is 21.3% in women and 12.7% in men. This sex gap begins in adolescence and continues to midlife, approximating the span of the childbearing years in women.

In a study done by Chen et al. found that 26.8% of the women undergoing Artificial Reproductive Technology (ART) met criteria for a mood disorder, 17% for major depression and 9.8% for dysthymia.

Many authors have reported that depression is a common consequence of infertility. Few articles exist examine the relationship between depression and infertility. Some studies showed that there is no relation between duration of infertility and depression or psychological factors. Another study showed those who had 2–3 years infertility had more depression/anxiety than those who had this problem for a year or more than 6 years. Peak of depression could be seen during third year of infertility. After six years there will be a reduction in psychological symptoms in women. Those who have social support, positive personal characteristics, and have a satisfactory life with their spouse show no signs of anxiety/depression.

In a local study, Sherina et al. (2008) found a significant association between depressive symptoms and history of having a miscarriage within the last 6 months (p = 0.001) and difficulty of getting pregnant (p = 0.43). The odds of having depressive symptoms was 5 times higher for women who had suffered a miscarriage within the last 6 months compared to women who didn’t and was found to be a potential risk factor for depressive symptoms. Depressive symptoms were significantly associated with education level (p = 0.036). The odd of...
having depressive symptoms was two times higher for women with no formal education compared to those with formal education.\(^\text{18}\)

However, the vast majority of individuals coping with fertility problems do not exceed clinical thresholds for depression and some couples agreed that infertility strengthened their relationship and brought them closer together.\(^\text{19}\) Consistent with bio-psychosocial models of infertility, the reactions to fertility problems may be best characterized by the interplay between interpersonal relationships, physiological parameters, risk and protective factors, cultural expectations, and individual coping resources.\(^\text{20}\) Since depressive symptoms are common in infertile women, psychological interventions aimed at reducing depressive symptoms need to be implemented, especially for women with a definitive diagnosis and for those with durations of 2 to 3 years of infertility.\(^\text{21}\)

**Reproductive Mood Disorders in Women**

Women are at their greatest lifetime risk for mood disorders during their childbearing years.\(^\text{22}\) Mood, or affective, disorders include unipolar depression and bipolar disorder, premenstrual syndrome and premenstrual dysphoric disorder (PMDD), depression during pregnancy, postpartum depression, menopause and depression.\(^\text{23}\) Women are more prone than men to depression, and this increased vulnerability has been ascribed to events arising from changes in the endocrine control of the reproductive system. These changes occur during the menstrual cycle (PMDD), after parturition (postpartum depression), and during the menopause (perimenopausal and menopausal syndrome). Attention has been given to women who develop these disorders are susceptible to changes in hormonal balance, which in turn are believed to affect the activity of certain neuronal systems (particularly the serotonin-specific ones). This interpretation is favored by evidence indicating the existence of the effect of the sex hormones on serotonin-specific neurotransmitter function, and on mood.\(^\text{24}\) Biological responses to stress are known to suppress reproductive function across the human life course. For example, the frequency of intense exercise in adolescent athletes has been correlated with delayed menarche as well as postpartum depression.\(^\text{25}\)

Stress causes an increased secretion of hypothalamic corticotropin-releasing factor, increased pituitary adrenocorticotropic hormone release, and augmented secretion of adrenal cortex hormones, including cortisol. Therefore, it can be assumed that stress has a direct effect on cortisol level production and therefore, a negative effect on fertility. Thus, it is apparent that psychological functioning interacts with endocrinological levels, which significantly influence fertility.\(^\text{26}\) From a physiological perspective, there is research of the effects of stressful stimuli on hormonal secretions. The distress experienced as a result of infertility has been found to be involved with physiological reactions that actually interfere with successful treatments for infertility e.g. during *in-vitro* fertilization (IVF) in which high anticipatory cortisol levels negatively influenced the outcome of IVF. Conception is difficult in these patients because the invasive procedure of IVF does not overcome cortisol barriers.\(^\text{26}\)

High circulating stress hormones can interfere with the timing of ovulation and shorten the luteal phase. Diminished progesterone availability in the luteal phase post-conception lessens the likelihood of a successful implantation; a 12-day luteal phase and \(\geq 8\) mm endometrial thickness
have been put forward as minimums for fertility. Accordingly, the circulation of elevated levels of stress hormones during the period between pre-conception and early pregnancy may prevent implantation and early pregnancy maintenance by luteal phase defect mechanisms. Depressive symptoms usually occur with the onset of menses. Fertility problems may also negatively affect a woman’s self-esteem by inducing a sense of failure. Although male factor subfertility is a contributing element in almost 40% of the infertility cases, studies also suggest that infertility is a more stressful experience for women than men with lower score on self-esteem, were more depressed, were more likely to blame themselves for their infertility, and reported lower life satisfaction regardless of which partner was diagnosed with the reproductive impairment. Distress from the infertility experience and treatments will further contribute to the couple’s difficulties with conception.

Infertility Related Stressors

Women have been found to exhibit more symptoms of distress and experience more infertility treatments, it seemed important to explore what moderates distress levels as it pertains to the experience of infertility. There is a need to evaluate the relationship of infertility related stressors and depression in infertile women. While previous literatures focused on the overwhelming amount of research studies on infertile women, in actuality, there have been very few methodologically sound studies examining infertility related stressors in these women and its association with depression.

Couples commonly report encountering a number of stressors associated with the medical diagnosis of infertility. These stressors can include, but are not limited to, stress related to their sexual functioning, stress related to the endurance and quality of their relationship, and stress related to changes in their social and family networks. Griel and colleagues (1988) found that infertile women view infertility as a central focus for identity. Others associate infertility with feelings of loss of control and attempts to regain control, feelings of defectiveness and reduced competence, stress on marital and sexual relations at the same time that there exists a counter-tendency for infertility to "pull couples together", a sense of social stigma, and stressful nature of the treatment process itself. Infertility may threaten self-esteem due to its potentially stigmatizing nature if infertility is experienced as stigmatizing this may isolate people from potential sources of support.

Whitford and Gonzalez (1995) found that couples without children receive comments that they perceive as unsupportive and result in more fear around disclosure, feelings of isolation and withdrawal from social situations, which could then impact on emotional status.

Socio-Cultural Influence on Infertility

Infertility places a barrier between the couples and their ability to fit into the gender roles prescribed by their culture. Women who are infertile have no ability to meet the cultural expectation of motherhood, and men who are infertile have no ability to demonstrate the culturally taught aspects of their manhood. Not only has the couple lost their expectation and hope of having a biological child, but they have also lost a part of their socialized identity. Their identity, which they have formed over the course of their lives, is now in question. In response to the direct attack on one's
identity, men and women frequently experience a change in their interpersonal relationships and social interactions. The socio-demographic factors of age, gender, marital status, education, and income have consistently been identified as important factors in explaining the variability in the prevalence of depression. The influence of culture plays an enormous role in individual responses to infertility.

Infertility places a barrier between the couples and their ability to fit into gender roles prescribed by their culture. Parents, family tradition, social norms, and religion all play an important role in the transmission of values and gender roles to them.

The way in which people deal with infertility is at least partly affected by the values and socio-cultural norms of the community in which they live. To Vietnamese people, family is the most important unit and for women childbearing is associated with stabilizing their marriage and closer bonds with his family. Socio-cultural context is an important consideration in the meaning of and responses to infertility. In Nigeria, the major cause of infertility is sexually transmitted disease. Women are often blamed for infertility, and men may divorce their wives or engage in polygamy or both in an effort to have children. Adoption in this culture is generally not socially acceptable, and there are medical, ethical, and legal implications to infertility treatment.

The importance of fertility among Muslim women is exemplified by the social pressure on newly married women to become pregnant as soon as possible, especially to have sons. Infertile women may be stigmatized, divorced, or forced to agree to polygamy. In some traditional settings and cultures, women have been shown to carry a greater burden of infertility and are often blamed for infertility and where there have been social pressures and expectations for women to procreate.

In some cases, childless women have been excluded from some important social activities and ceremonies. Sandelowski and Jones (1986) included situations where participants were: (a) “forced to tell” about their fertility problem in order to explain their childless state, (b) obliged to hide negative feelings in order to sustain a relationship (e.g., attend a baby shower for a friend or ignore insensitive comments), and (c) constrained in or excluded from interactions with others because of the fertility problem.

**The Effect of Infertility on Sexual Satisfaction**

Sexual dysfunction may have an etiological role in infertility or it may be a consequence of the disorder secondary to psychological stress in either or both partners, sexual and relationship abnormalities we detected are secondary to infertility. Sexual infertility stress has been defined as loss of enjoyment of sexual relations, feelings of pressure to schedule sexual relations, and loss of sexual self-esteem.

Infertility may interact with a couple’s or individual’s sexuality and sexual expression in two main ways. Sexual problems may be caused or exacerbated by the diagnosis, investigation, and management of infertility (or subfertility) or they may be a contributory factor in childlessness. Any examination of a couple’s difficulty in conceiving must include clear questioning about their sexuality. Although a recent study demonstrated that overall levels of stress are related to treatment success, it also found that certain forms of infertility-related...
stress (e.g., stress on the sexual relationship) were more strongly linked to treatment outcome than others.

Sexual infertility stress can interfere with early medical interventions (e.g., medication coupled with timed intercourse) and with infertility evaluations associated with the use of more advanced technologies. Some studies demonstrate that depression, stress, low self-esteem and sexual dissatisfaction may be psychological outcomes of infertility. There was a negative correlation between sexual satisfaction and depression. Infertility is associated with decreased sexual activity and the decrease appears to increase as the number of childless years grows.

**Losses Experienced by Infertile Couples**

Multiple losses experienced by infertile couples include loss of sexual identity; loss of the childbearing and child-rearing experience and the elusive child they never were able to conceive; loss of the parental identity; loss of close relationships with a spouse, extended family members, and friends; loss of status or prestige; loss of a sense of control over one’s life, loss of trust in one’s body; loss of genetic legacy; loss of a grand-parenting relationship; loss of a sense of spirituality and hope for the future; and loss of feelings of self-worth. Couples may experience the loss of feeling connected to society as it appears that so many other couples produce children easily. Women may also question their femininity and sexual attractiveness and men may feel impotent or like a failure. In addition to the direct attack on one’s identity, couples frequently experience a change in their interpersonal relationships and social interactions.

**The Effect of Infertility on the Couple’s Relationship**

Greil (1997) found that differences in the way couples commonly view infertility can lead to tension and anger in marital relationships. Previous qualitative studies among couples in fertility treatment have shown that infertility and treatment at the same time can be seen as a threat or a challenge for the couple and as a situation that can bring the partners closer together and strengthen the marriage. For half or most of the couples involved in these qualitative studies the infertility experience had strengthened their marriage and had improved the partners’ mutual connection.

**Shortcomings of Previous Studies**

According to Griel, 1997, one important shortcoming of previous literature is an overemphasis on women, small sample size with methodological flaws. Heavy reliance on self-reports can cause social desirability bias especially in clinic samples because couples may feel pressure to appear "normal" in order to make sure health care professionals will treat their infertility as a medical, rather than a psychological, problem.

However the biggest problem with regard to sampling is that people who do not seek treatment have been left unstudied. Without studying non-treatment seekers, it is extremely difficult to sort the effects of infertility from the effects of infertility treatment. And since non-treatment seekers have different demographic profiles than treatment seekers, it is impossible to generalize from studies of treatment seekers.

Another methodological problem in the study of the psychological consequences of
infertility has to do with timing. Infertility is not a stable trait but a process with an uncertain trajectory. Studies of the experience of infertility must take the temporal factor into account. It is crucial to know where individuals being studied stand in the infertility process. There exists some evidence that the effects of infertility vary over time.

The Hynes et al. (1992) study demonstrates both how important to examine the psychological consequences of infertility, there are actually two temporal variables i.e. duration of infertility and duration of treatment. The two may well be related to psychological stress in very different ways and may even interact. For example, it is not at all farfetched to entertain the possibility that infertility stress will diminish over time for those who are no longer seeking treatment but not for those who are still actively pursuing treatment.

Most studies have been cross-sectional rather than longitudinal in design which makes it difficult to sort out cause and effect. Several authors have discussed clinical approaches to working with infertile couples. Shapiro (1982) advocated that therapists help couples move through the stages of the grieving process. McDaniel, Hepworth and Doherty (1992) use a biopsychosocial model in their treatment approach that emphasizes the use of outside support systems.

**Conclusion**

Findings from the previous studies enhance our understanding of how depression among women with infertility is related to infertility stress and what are the factors in the infertility that can be associated with either symptoms of depression or diagnosis of Major Depressive Episode which warrants further bio-psychosocial intervention. The reason why some women with infertility didn’t develop depression can be explained either by the complex interaction of Hypothalamic-Pituitary-Ovary axis, sex hormone and serotonin specific neurotransmitter functions as well as the psycho-social interaction such as education level, occupation; and also based on patient’s social support, coping skills and mutual understanding between both husband and wife. The quality of life of women with fertility problems could be further improved if appropriate psychological interventions form an integral part of the care plan in the management of female infertility. “Reproductive failure in humans is not often a single entity event but the result of complex interdependencies of demographic, physiological and psychological risk factors” (Nakamura et al., 2008).

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BRIEF COMMUNICATION

Circle of Care Project: A Tool for Growth in Psychosocial Interventions in Malaysia

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Abstract

This short report aims to describe the Circle of Care (COC) Project in Malaysia. This is an example of smart partnership between the Malaysian Psychiatric Association (MPA) and Johnson and Johnson which began in 2003. By means of philanthropic funds from an industrial company, many people have benefited in many different aspects through the project. It consists of three main psychosocial activities: education and support programme for carers and families of people with mental illness; psychosocial rehabilitation for patients with mental illness; and mass education for the people in promoting mental health and prevention of mental health problems and illness. To date, the project has either fully or partially funded hundreds of activities along the line of these three objectives. While there has been growth of psychosocial interventions in the country contributed by the project, it is faced with a few challenges which are becoming the next focus of actions of MPA.

Keywords: Circle of Care, psychosocial interventions, family intervention, rehabilitation, mental health promotion

Introduction

Over the recent decades, treatment of mental illnesses had shifted from a sole focus on the use of medications to the integration of psychosocial interventions to facilitate recovery of patients. For a successful recovery, it is understood that patients and their families need to be helped on psychosocial aspects to promote functioning, social network and quality of life. This is especially so for those who suffer from severe mental illnesses. This fact is supported by numerous studies in the literature¹-¹⁰.

While the evidence for the usefulness of psychosocial interventions is extensive, the development of these activities had been relatively slow as compared to the development of other services in Malaysia. One of the biggest challenges faced by service providers had been inadequate financial budget. This smart partnership between Malaysian Psychiatric Association, Johnson and Johnson, and the
end users through the COC project has facilitated the development of this aspect of treatment in the country and benefited thousands of people in the country.

**Circle of Care (COC) Project**

The COC Project was initiated in 2003 by AKAB (third author). An amount of financial grant was secured from Johnson and Johnson (through its Janssen Cilag branch) during that year. Up to now, this dedicated budget which comes from a philanthropic Give2Asia Grant of the industrial company is still coming regularly and reaching its users for the promotion of mental health and recovery from mental illness in the country. It was agreed that the fund be managed by the Malaysian Psychiatric Association (MPA), as a non-partitioned professional organization upholding the importance of mental health and recovery from mental illness in the population. To ensure a smooth running in securing, distributing and monitoring the use of the budget, MPA receives valuable technical support from the Janssen Cilag Malaysia. Important to note here, that the company is not involved in any decision making on the selection of fund recipients and the approval of any program.

The society had unanimously decided on three main objectives in the use of the funds. This is in parallel to three main activities to be carried out by the fund recipients. These activities are: 1. Education and support program for carers and families of people with mental illness; 2. Psychosocial rehabilitation for patients with mental illness and; 3. Mass education for the people in promoting mental health and prevention of mental health problems and illness. The use of the funds was decided to be strictly for psychosocial interventions and not for use in any pharmacological-related program. This is to ensure non-violation of any ethical issue that may arise from a partnership with a pharmaceutical company such as this.

Application for budget is opened to psychiatric centers and organizations which run services in line with the three objectives and activities. A standard application form and guideline on how to apply for the budget were devised and disseminated through the website of the society. Approval of the budget is done on consensus basis among the committee members during their monthly meetings. The approval of a project is only considered after a thorough assessment on the accountability of the fund recipients and their programs where there is ambiguity to avoid misuse of the funds. From 2003 to 2010, funds amounting from as low as RM 500 to as high as RM 20000 have been given out for specific activities along the line of the three project’s objectives and activities targeting specific group and number of participants.

Up to date, the COC has funded hundreds of specific programmes at many different mental health and public facilities including the mental and general hospitals, primary health care centers and others. Activities carried out include family interventions for those with severe mental illnesses, and a wide range of psychosocial rehabilitative activities including supported employment for the same group of patients; both of which are evidence-based treatments. Other activities include de-stigmatizing and educational programs targeted to the public or specific populations at risk for mental health problems, for example, public forums, counseling for youth, mental health walk and others. On a few occasions, the media
has been involved during these events for better dissemination of important messages. While most activities are organized by doctors and mental health supporting staffs, carer groups and other non-governmental organizations also take the lead in delivering certain activities. The COC project has funded either fully or partially the above-mentioned activities. For longer-term activities, particularly the rehabilitation programs, COC funds are either approved for the initiation, sustenance or expansion of the same or different programs. It is not the scope of this article to discuss the details of each specific program.

On the monitoring end, MPA requires a program report using a pre-devised format to be submitted to the society on completion of the programme after the stipulated time. The society also does random visits to any of the programme centers from time to time. As a form of monitoring and sharing of the whole COC project and individual programmes at different sites, MPA regularly opens channels of communication through project presentations either during the society’s annual conference or stand-alone workshops. Through these channels of information sharing, the COC project has been seen to have contributed to the growth of activities promoting mental health and recovery of patients from mental illness in the country.

Despite the success of the COC project felt by mental health providers involved in carrying out the approved activities, the society realizes the need for a more careful assessment of its outcome, not only at the programme level, but also at the level of individuals receiving the interventions. On this note, it is MPA’s plan in the future to embark on a research studying COC project outcome at individual user level using a more scientifically acceptable study methodology. Another challenge faced by MPA as the organizer of the project is the difficulty in getting timely reports from the fund recipients. A more strict enforcement of de-listing of fund recipients who have not submitted their previous reports on time may improve this situation. These are the next focus of actions of the society with regard to the project, besides ensuring continuous flow of the project’s funds coming from its funder.

**Discussion**

Psychosocial interventions have long found their place in the treatment of individuals with mental illness in order to achieve a meaningfully optimum recovery\(^6,8\). Either delivered to the ones suffering from the illness, their families and the society, specific interventions may bring important improvement in the patients’ milestones of recovery. In Malaysia, as we struggled to ensure enough medications and other basic services for the patients, these interventions faced a challenge of budget limitation for their growth and expansion.

The COC project, a smart partnership for service development between MPA and Johnson and Johnson, has contributed significantly to the development of these interventions in the country. Encouragingly, more and more such interventions are mushrooming at the different centers in Malaysia. However, whether the COC has contributed to the promotion of mental health of the targeted Malaysians and the recovery of the people suffering from mental illness, this needs to be answered through a proper research with scientifically sound methodology,
which the society recognizes and planning to embark.

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