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The ASEAN Journal of Psychiatry is a peer-reviewed psychiatric and mental health journal published twice a year by the ASEAN Federation for Psychiatry and Mental Health. The journal aims to provide psychiatrists and mental health professionals with continuing education in basic and clinical sciences to support informed clinical decisions. Its print version is sent to the Psychiatric Associations of Indonesia, Malaysia, The Philippines, Singapore, and Thailand.

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Type the manuscript on one side of white A4 paper (8.5 * 11 in.), with margins of at least 1 in. Double-space all portions of the manuscript, including title page, abstract, text, acknowledgements, references, individual tables, and figures. Each section should begin on a separate page. Number pages consecutively in the upper right-hand corner, beginning with the title page.

The following describes the different types of submissions published in *The ASEAN Journal of Psychiatry,* including specific requirements for each, such as maximum word count and number of tables and figures allowed. These restrictions are enforced so the Journal can publish as many papers in each issue as possible.

Categories of Papers

- *Original articles:* This category is intended for full-scale basic or clinical studies. Original articles should not exceed 5,000 words (not including structured abstracts of up to 250 words, 3-5 key words, references, tables, and figures) with a maximum of 5 figures and 5 tables in total.
- *Review articles:* This category is for scholarly, comprehensive reviews that summarize and critically evaluate research in the field addressed and identify future implications. Review articles should not exceed 5,000 words (not including structured abstracts of up to 250 words, 3-5 key words, references, tables, and figures) with a maximum of 5 figures and tables in total.
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- *Short reports:* This category is for smaller, self-contained laboratory or clinical studies, including preliminary reports and case series. Single cases will not be considered in this category and should be submitted as Case reports. Manuscripts in this category should contain no more than 1,500 words (not including structured abstracts of up to 150 words, 3-5 key words, references, tables, and figures).
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- *Letters to the Editor:* These should briefly respond to recent articles. Letters to the Editor should not exceed 750 words (including text and references) with a maximum of one table or figure.
- *Editorials and Book reviews:* The body of these articles should not exceed 500 words (including a maximum of 5 references) without tables or figures.

Title page:

The title page should carry the following information:

1. Title, which should be concise but informative without using acronyms.
2. Authors, including first name, middle initial, and last name along with highest academic degree(s) and institutional affiliation(s) of each author.
3. A Running Head of 45 characters or less (count letters and spaces).
4. A Corresponding Author with full address, telephone and fax numbers, and email address.
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Abstract:

The abstract should include: *Objective:* purpose of the study or research question; *Methods:* study design, sample selection, setting, subjects, interventions(s) if any and main outcome measure(s); *Results:* main findings (giving their statistical significance, if possible); and *Conclusions*.

Text:

Introduction

Provide a context or background for the study (i.e., the nature of the problem and its significance). State the specific purpose or research objective of, or hypothesis tested by, the study or observation.

The main and secondary objectives should be made clear, and any pre-specified subgroup analyses should be described. Give only strictly pertinent references and do not include data or conclusions from the work being reported.

Methods

The Methods section should include only information that was available at the time the plan or protocol for the study was written; all information obtained during the conduct of the study belongs in the Results section.

- Selection and description of participants: Describe your selection of the observational or experimental participants (patients or laboratory animals, including controls) clearly, including eligibility and exclusion criteria and a description of the source population. The guiding principle should be clarity about how and why a study was done in a particular way.
- Technical information: Identify the methods, apparatus (give the manufacturer's name and address in parentheses), and procedures in sufficient detail to allow other workers to reproduce the experiment. Give references to established methods, including statistical methods (see below); provide references and brief descriptions for methods that have been published but are not well known; describe new or substantially modified methods, give reasons for using them, and evaluate their limitations. Identify precisely all drugs and chemicals used, including generic name(s), dose(s), and route(s) of administration. Authors submitting review manuscripts should include a section describing the methods used for locating, selecting, extracting, and synthesizing data. These methods should also be summarized in the abstract.
- Statistics: Describe statistical methods with enough detail to enable a knowledgeable reader with access to the original data to verify the reported results.

Results

Present your results in logical sequence in the text, tables, and illustrations, giving the main or most important findings first. Do not repeat in the text all the data in the tables or illustrations; emphasize or summarize only important observations. When data are summarized in the Results section, give numeric results not only as derivatives (for example, percentages) but also as the absolute numbers from which the derivatives were calculated. Restrict tables and figures to those needed to explain the argument of the paper and to assess its support. Use graphs as an alternative to tables with many entries; do not duplicate data in graphs and tables.

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Emphasize the new and important aspects of the study and the conclusions that follow from them. Do not repeat in detail data or other material given in the Introduction or the Results section. For experimental studies it is useful to begin the discussion by summarizing briefly the main findings, then explore possible mechanisms or explanations for these findings, compare and contrast the results with other relevant studies, state the limitations of the study, and explore the implications of the findings for future research and for clinical practice. Avoid claiming priority and alluding to work that has not been completed.

Acknowledgements

This section may include: i) acknowledgements of financial and material support; ii) contributions that need acknowledging but do not justify authorship; iii) acknowledgement of technical help; and iv) indications of previous presentation.

References

Authors are responsible for the accuracy and completeness of the references. Avoid using abstracts as references. References to papers accepted but not yet published should be designated as "in press" or "forthcoming". Information from manuscripts submitted but not accepted should be avoided but, if necessary, may be cited in the text as "unpublished observations". Avoid citing a "personal communication" unless it provides essential information not available from a public source, in which case the name of the person and date of communication should be cited in parentheses in the text.

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Example citations
Depression is a disease state affecting both the body and the brain, and it contributes to direct and indirect healthcare costs via consequent disability and reduced productivity [1]. Depression affects nearly 340 million people worldwide at any given time [2,3]. In clinical population with depression, physical symptoms are common [4-6].

The reference style should be in concordance with the International Committee of Medical Journal Editors Uniform Requirements for Manuscripts Submitted to Biomedical Journals (full details are available at http://www.nlm.nih.gov/bsd/uniform_requirements.html). Examples are as follows:

Articles in Journals
1. *Standard journal article*
List the first six authors followed by et al. (Note: NLM now lists all authors.)
• Halpern SD, Ubel PA, Caplan AL. Solid-organ transplantation in HIV-infected patients. N Engl J Med. 2002;347:284-7.
More than six authors:
• Rose ME, Huerbin MB, Melick J, Marion DW, Palmer AM, Schiding JK, et al. Regulation of interstitial excitatory amino acid concentrations after cortical contusion injury. Brain Res. 2002;935(1-2):40-6.
2. *Organization as author*
• Diabetes Prevention Program Research Group. Hypertension, insulin, and proinsulin in participants with impaired glucose tolerance. Hypertension. 2002;40(5):679-86.
3. *Both personal authors and an organization as author*
• Vallancien G, Emberton M, Harving N, van Moorselaar RJ; Alf-One Study Group. Sexual dysfunction in 1,274 European men suffering from lower urinary tract symptoms. J Urol. 2003;169(6):2257-61.
4. *No author given*
• 21st century heart solution may have a sting in the tail. BMJ. 2002;325(7357):184.
5. *Volume with supplement*
• Geraud G, Spierings EL, Keywood C. Tolerability and safety of frovatriptan with short- and long-term use for treatment of migraine and in comparison with sumatriptan. Headache. 2002;42 Suppl 2:S93-9.
6. *Issue with supplement*
• Glauser TA. Integrating clinical trial data into clinical practice. Neurology. 2002;58(12 Suppl 7):S6-12.
7. *Volume with part*
• Abend SM, Kulish N. The psychoanalytic method from an epistemological viewpoint. Int J Psychoanal. 2002;83(Pt 2):491-5.
8. *Issue with part*
• Ahrar K, Madoff DC, Gupta S, Wallace MJ, Price RE, Wright KC. Development of a large animal model for lung tumors. J Vasc Interv Radiol. 2002;13(9 Pt 1):923-8.
9. *Article published electronically ahead of the print version*
• Yu WM, Hawley TS, Hawley RG, Qu CK. Immortalization of yolk sac-derived precursor cells. Blood. 2002 Nov 15;100(10):3828-31. Epub 2002 Jul 5.

Books and Other Monographs
10. *Personal author(s)*
• Murray PR, Rosenthal KS, Kobayashi GS, Pfaller MA. Medical microbiology. 4th ed. St. Louis: Mosby; 2002.
11. *Editor(s), compiler(s) as author*

• Gilstrap LC 3rd, Cunningham FG, VanDorsten JP, editors. Operative obstetrics. 2nd ed. New York: McGraw-Hill; 2002.

12. *Author(s) and editor(s)*

• Breedlove GK, Schorfheide AM. Adolescent pregnancy. 2nd ed. Wieczorek RR, editor. White Plains (NY): March of Dimes Education Services; 2001.

13. *Chapter in a book*

• Meltzer PS, Kallioniemi A, Trent JM. Chromosome alterations in human solid tumors. In: Vogelstein B, Kinzler KW, editors. The genetic basis of human cancer. New York: McGraw-Hill; 2002. p. 93-113.

14. *Dissertation*

• Borkowski MM. Infant sleep and feeding: a telephone survey of Hispanic Americans [dissertation]. Mount Pleasant (MI): Central Michigan University; 2002.

Other Published Material

15. *Newspaper article*

• Tynan T. Medical improvements lower homicide rate: study sees drop in assault rate. The Washington Post. 2002 Aug 12;Sect. A:2 (col. 4).

16. *Audiovisual material*

• Chason KW, Sallustio S. Hospital preparedness for bioterrorism [videocassette]. Secaucus (NJ): Network for Continuing Medical Education; 2002.

17. *Dictionary and similar references*

• Dorland's illustrated medical dictionary. 29th ed. Philadelphia: W.B. Saunders; 2000. Filamin; p. 675.

Unpublished Material

18. *In press*

• Tian D, Araki H, Stahl E, Bergelson J, Kreitman M. Signature of balancing selection in Arabidopsis. Proc Natl Acad Sci U S A. In press 2002.

Electronic Material

19. *CD-ROM*

• Anderson SC, Poulsen KB. Anderson's electronic atlas of hematology [CD-ROM]. Philadelphia: Lippincott Williams & Wilkins; 2002.

20. *Journal article on the Internet*

• Abood S. Quality improvement initiative in nursing homes: the ANA acts in an advisory role. Am J Nurs [serial on the Internet]. 2002 Jun [cited 2002 Aug 12];102(6):[about 3 p.]. Available from: http://www.nursingworld.org/AJN/2002/june/Wawatch.htm

ASEAN Journal of Psychiatry 2007;8 (1):1.

Message from the President of the ASEAN Federation for Psychiatry and Mental Health (AFPMH)

Dear Readers,

The ASEAN Federation for Psychiatry and Mental Health (AFPMH) has just celebrated its Silver Jubilee last year. We have achieved many successes during the past twenty six years, including publication of the *ASEAN Journal of Psychiatry*, which may be the oldest regional journal in the Asian continent.

The journal was started in 1991 and since that time the editorial office has been transferred every two years from one country to another making for some difficulties in continuity. However, many papers in the ASEAN region have been published making all of us understand the mental health situation and cases which have occurred in this part of the world including some that are unique to the region.

Publication of the journal, not only stimulates our colleagues in ASEAN to write and share their clinical experiences or research reports but also broaden the horizon in exploring the psychiatric situations with the complexity of dynamic development of current society life in ASEAN.

The publication and distribution of this journal is available through the enormous support both in cash and in kind from the Psychiatric Association of Thailand (PAT).

Finally, I would like to express my sincere thanks both to Professor Manit Srisurapanont, the editor and also the entire editorial staff of this journal.

Yours sincerely,

Professor Pichet Udomratn, M.D.
President, ASEAN Federation for Psychiatry and Mental Health &
President, the Psychiatric Association of Thailand (PAT)

ASEAN Journal of Psychiatry 2007;8 (1):2.

Greetings from the new Editor

Upon receiving this journal, you may realize that, under the support of the Psychiatric Association of Thailand (PAT), the *ASEAN Journal of Psychiatry* has been served by a new editorial team. Between 2007 and 2008, I have the pleasure and the honor of taking over the editorial responsibility for the journal. I am grateful to the Advisory Board, in particular Professor Pichet Udomratn, for entrusting me with this scientific journal. In addition, I wish to take this opportunity to share the plans and ideas of our editorial board.

After 17 years of publishing and rigorous efforts of the former editorial boards, the *ASEAN Journal of Psychiatry* is still a small scientific journal in the fields of psychiatry and mental health. There have been many difficulties in running this journal. The two major ones seem to be the limited resources available for the journal and the shifting of the editorial offices every two years. While we will not be able to solve these problems in the next two years, our editorial board has a plan to improve the journal in many ways. Firstly, although all papers will be peer-reviewed, we will do our best to shorten this process. As you can see in this issue, some papers got acceptance within a few weeks after the submission. Secondly, with the support of the PAT and the enthusiasm of the editorial board, we still hope that we would be able to publish the journal regularly at the rate of two issues a year. Lastly, the journal will be accessed easier via the internet at www.med.cmu.ac.th/dept/psychiatry/ajp.htm.

While the editorial board is an important part of the journal, the journal readers and contributors, especially the authors, play a more important role for its success. We are confident that the journal sections that we have (i.e., original articles, review articles, opinions, short reports, case reports, letters to the editor, editorials, and book reviews) would be able to match any kind of your paper. We, therefore, wish to encourage you to consider the *ASEAN Journal of Psychiatry* as a first-line journal of your paper submission.

These are some of my initial thoughts and ideas as we engage in this exciting adventure together. I am eager to have input from our journal audience. Please don't hesitate to send an email to msrisu@yahoo.com or address mail to me if you have any question, advice, or idea regarding the journal.

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ASEAN Journal of Psychiatry 2007;8 (1):3-8.

ORIGINAL ARTICLE

The mortality and outcome of delirium, dementia and other organic disorders: a two-year study

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Abstract
This is a cross-sectional, two-year follow up study. The authors determined the varied presentations of delirium, dementia and other organic disorders to assess their mortality and outcome. They described the diagnosis of patients suffering from the psychiatric effects of those organic states and compared their symptom resolution and mortality between those with the acute and chronic varieties during their index hospitalization and again, 24 months later. Although mortality rates did not differ, patients with the acute syndrome had significantly better outcomes in terms of symptom resolution as compared to those with the chronic syndrome (p=0.001). Patients with symptom resolution upon discharge did not show statistically significant lower mortality rates.

Key words: *delirium, dementia, symptom resolution, mortality, outcome*

Introduction

Diseases of the brain are frequently manifested by psychiatric symptomatology, a condition conventionally termed 'Organic Brain Syndrome' (OBS). Given the complexity of the nervous system and the vast range of pathological processes that can affect it, a broader view that there exist a number of different and distinct organic brain syndromes seems more likely. OBS is not a specific neurological diagnosis although it remains a standard diagnostic category. One justification for the use of the term is as a kind of abbreviated phrase to refer to the full range of abnormal mental symptoms commonly associated with definable neurological disease [1]. It should be stressed that OBS are defined in psychiatric terms and not in neurologic terms. They are purely descriptive and carry no specific aetiologic implications [2]. Symptoms suggestive of cognitive impairment may even persist in a proportion of cases long after the initial episode, especially when the cerebral insult is irreversible [3]. The aims of our study were to assess the symptom resolution and mortality of these neuropsychiatric episodes during a two-year period.

Methods

Sample

A total of 196 patients were referred to our Consultation-Liaison (C-L) Psychiatry services of the Department of Psychological Medicine, University of Malaya Medical Centre (UMMC) between 1st March and 30th September, 1998, the period the principal author was posted there. Of this number, 59 patients were diagnosed to have

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OBS and this sample constituted the focus of this study. Being a cross-sectional, follow-up study, the 3 patients whose case notes were not traceable were excluded from the sample.

Materials

The data were collected from the referral records and further information was obtained from the patient's case notes. Based on the case notes, all cases were assessed during the index admission and those who were diagnosed to have acute or chronic OBS were selected for this study. Their diagnosis and progress, in terms of symptom resolution, were recorded. The data were used for specific sub-diagnoses according to the Diagnostic and Statistical Manual of Mental Disorders – 4th Edition (DSM-4) [4] and the fatality rates were determined. The case notes were examined further to see the follow-up progress of patients after two years. The patients who had defaulted follow-up were contacted for enquiries about their condition and treatment. Data was then entered into a proforma and validated.

Statistical analysis

The data was analyzed using the Statistical Package for the Social Sciences (SPSS) 7.5. For the categorical data, this was done using the Pearson's Chi-square test (2-sided) for differences between the acute and chronic groups or the Fisher's exact test (2-sided), where appropriate. The level of significance is $p = < 0.05$.

Results

Demographic data

37 patients were male (66.1%) and 19 were female (33.9%). Mean age (SD, range) of the total patients was 48.8 (18.2, 16-87) years old. 44 of the total number of patients were below the age of 65 (78.6%) and 12 were above 65 (21.4%). The mean age of the elderly group was 75.5 years, and the below 65 group was 42.1 years.

Descriptive data

1. Liaison psychiatry diagnosis:

A clear organic triggering factor could be found for all patients. 49 (87.5%) of them had acute OBS an only 7 (12.5%) had the chronic variety. The respective DSM-4 diagnoses, with specific coding, were given (see Table 1)

2. Total symptom resolution (upon discharge):

34 (60.7%) of the total had symptom resolution on discharge and 22 of them (39.3%) did not. The breakdown of symptom resolution for the specific subgroups found

- Delirium: 33 of the 45 (73.3%) had total symptom resolution, while the 13 that did not consisted of 2 with hyperglycaemia, 2 with intracranial bleeds, 2 with alcohol withdrawals, 2 with uremia, 1 with cerebral hypoxia, 1 with burn injury, 1 with metastasis, 1 with post-ictal state and 1 with delirium on dementia;
- Dementia: 5 of the 10 (50.0%) with dementia had no symptom resolution, and those that did have resolution were those with delirium superimposed on dementia. Of the chronic group, none had resolution;
- Organic psychotic disorder: 1 with post-ictal state and 1 with Cushing's disease had symptom resolution but the 1 with uremia did not;
- Organic mood syndrome: only the 1 with post-operative state recovered while the other 2 (with SLE and myocardial infarct) did not improve fully and
- Transient amnestic disorder: the 1 with this disorder had total resolution of symptoms.

3. Mortality:

19 of these patients (33.9%) had passed away during the two-year period and another 19 had defaulted follow-up. There were only 18 (33.9%) alive at the end of this stu dy (see Table 2). A high number of them had passed away, most of them during their period of stay in the hospital due to the fulminating nature of their physical illnesses. They were:

- 16 deliriums due to multiple severe medical problems;
- Both Alzheimer's disease with delirium and
- 1 mood disorder due to post-operative

Table 1: Liaison psychiatry diagnoses

Acute:	
293.0	There were 44 with delirium due to various causes: - Head trauma – 6 - Uremia – 4 - Post-ictal state – 4 - Post-operative state – 2 - Brain metastasis – 2 - Hyperglycaemia – 2 - Burn trauma – 2 - Anaemia – 2 - Cerebral infarction – 2 (1 with alcohol-induced persisting dementia – **291.2**) - Hepatic encephalopathy – 1 - Septicaemia – 1 - Multiple myeloma – 1 - Cerebral lupus – 1 - Cerebral hypoxia – 1 - Hyponatremia - 1 (with co-existing thyrotoxicosis)
291.0	Alcohol withdrawal delirium – 6 (1 with co-existing delirium due to hypoglycaemia – **293.0**)
292.81	Steroid-withdrawal delirium – 2
290.11	Dementia of Alzheimer's type, early onset, with delirium due to post-operative state – 1
290.11	Dementia of Alzheimer's type, early onset, with delirium due to non-convulsive status – 1
290.3	Dementia of Alzheimer's type, late onset, with delirium due to carcinoma – 1
292.81	Opioid intoxication delirium – 1
293.81	Psychotic disorder due to Cushing's disease, with delusions – 1
293.82	Psychotic disorder due to end stage renal failure – 1
293.83	Mood disorder due to acute myocardial infarction – 1
293.83	Mood disorder due to post-operative state – 1
293.83	Mood disorder due to cerebral lupus – 1
Chronic:	
290.40	Uncomplicated vascular dementia – 2
290.42	Vascular dementia with delusions – 1
290.43	Vascular dementia with depressed mood – 1
290.20	Dementia of Alzheimer's type, late onset, with delusions – 1
290.0	Dementia of Alzheimer's type, late onset, uncomplicated – 1
294.0	Alcohol-induced amnestic disorder, chronic – 1

state.

4. Follow-up:
Only 15 were compliant to follow-up visits. They were:

- 13 with deliriums due to various causes;
- 1 with psychotic disorders due to a general medical condition and
- 1 with mood disorder due to a general medical condition.

Statistical data
1. Association between psychiatric diagnosis and symptom resolution upon discharge:
Those patients with the Acute syndrome had significant symptom resolution as compared with those having the Chronic syndrome (p=0.001). However, the elderly patients had no significant decline towards symptom resolution as compared to the younger age group (p=0.127).

Table 2: Mortality

Mortality	Frequency	Percentage (%)
Dead	19	33.9
Alive	18	32.1
Defaulted	19	33.9

2. Effect of psychiatric diagnosis and mortality:
There was no difference in terms of mortality between those with the Acute or Chronic varieties of OBS, as determined by a value of p=1.000. Even in older patients with OBS, a value of p=0.124 showed that there was no significant difference in mortality as compared to those younger than 65 years old.

3. Association between symptom resolution upon discharge and mortality:
There was no significant association between these two variables. A value of p=0.842 proved that even in those with symptom resolution, mortality was not affected.

Discussion
Medical records provide a useful source of information and diagnoses based on medical records are acceptable as long as they are considered a substitute of diagnoses obtained from a direct interview. Telephone interviewing is also considered an acceptable alternative method and it has been reported that comparable diagnostic information is obtained through face-to-face and telephone interviews [5]. We had used both modalities and they had their limitations, as would be discussed later.

We tackled the confusion surrounding the acute-chronic dichotomy by carrying on the initial diagnosis given during index admission and going by the possible reversibility of a particular condition instead of the rapidity of its development or resolution. Put simply, the primary cause of the acute impairment is usually 'outside the brain' and that of the chronic syndrome normally 'within the brain'**.** The distinction between these two organic conditions is most clearly derived from the history of the mode of onset of the disorder. A short history and firm knowledge of an acute onset will make a chronic reaction unlikely and onset in association with a physical illness is strongly suggestive of an acute organic reaction [6]. The use of specific diagnoses is helpful as although most chronic organic disorders cannot be reversed, a small number are potentially treatable [7]. Acute disturbances of cerebral function may, in time, progress to the development of irreversible structural pathology with an admixture of features specific to both. The two may coexist when a chronic dementing process is complicated by another concomitant or superimposed disease [6]. Symptom resolution was defined as the complete reversal of symptoms for which each patient was referred. Therefore, those with delirium superimposed on dementia were designated as acute as their symptoms in their index admission were those of a delirious nature. As expected, it was found that symptom resolution occurred with significance in the acute group as compared to the chronic group (p=0.001). However, the younger age group did not show any statistical significance toward symptom resolution as compared to the older group. Delirium has poor outcomes in hospitalized older patients [8]. It has multiple aetiologies and a poor long-term prognosis [9]. Advancing age increases the risk and those over 60 years are at highest [10]. The older the patient and the longer the delirium, the outcome is a longer resolution of symptoms. A complete resolution of confusional symptoms is not usually achievable in prolonged confusional states that are superimposed on dementia. Improvement from severe to mild confusion or merely a reduction of symptoms would be a more realistic goal [11]. However, in our study, it was found that those who had delirium on dementia had resolution of their confusional symptoms. Even with treatment, there was no improvement in their dementing features, as may be expected.

We found no significant difference in mortality rates between the acute and chronic groups, possibly due to the small number of patients assigned to the latter group. This was in keeping with observations made by Inovye [12] that there were no significant associations between delirium and mortality and between delirium and the length of hospital stay. That study, however, found delirium to be a significant predictor of

functional decline at both hospital discharge and at follow-up, therefore making it an important independent prognostic determinant of hospitalization outcomes. Our findings disagreed with the generally held concept that the occurrence of delirium was associated with a high mortality rate in the following year, mainly because of the serious nature of the provoking medical conditions. Even the mortality in the elderly within the sample showed no statistical significance as compared to those who were younger than 65 and this finding was not in keeping with related literature. Huang [13] investigated the rate of delirium, reasons for admission, clinical features, aetiologies and mortality during a two-year follow-up and found that the incidence of delirium was higher in their geriatric group. However, the older patients had a higher mortality rate during the two-year follow-up period and that stressed the importance of after-discharge care in those patients. Higher death rates had also been found among the cognitively impaired elderly patients than those aged-matched patients with functional psychiatric illnesses and the cognitively intact elderly. Rabins & Folstein [14] also found that cognitively impaired individuals had higher fatality rates than cognitively intact individuals. Koponen [15] was of the same school of thought and associated delirium with a significant rate of mortality. Our results, however, were not in line with their findings. There was also no significant association between symptom resolution upon discharge during the index admission and mortality.

Only 15 of our patients afflicted with these conditions were compliant to follow-ups. There were only another 3 alive and they were those who defaulted follow-up and whose conditions were documented in their case notes when they were subsequently admitted for other problems unrelated to that of their index admission. Thus, there were still 19 of them whose status at two years was unknown. The problem was mainly with those having alcohol-related disorders and it has been found that patients with alcohol delirium have been known to have higher mortalities and have been known to be more difficult to follow-up [15]. Of the eight with these disorders, two had passed away, four were not contactable and the two that were eventually contacted had not turned up for follow-ups**.** This large number of dropouts where follow-ups were concerned caused difficulties in assessing the mortality rate after two years. It proves to be a major issue in C-L Psychiatry and needs to be addressed to ensure more comprehensive post-discharge care to this group of patients. This study was intended to promote practical awareness and possibly, improve the understanding and treatment, of patients afflicted with organically-induced psychiatric conditions. Its implications for clinical practice raise several questions. We hope this report will stimulate renewed interest in this field and although the findings do not contribute to a new conceptual understanding of OBS, they do suggest directions for further research.

Although the methods by which data were obtained in this study have been validated previously [14], the questionable reliability of the data collected from the medical records forms the 1st limitation. There was also little information on the outcome of these patients in the records and as earlier mentioned, telephone calls revealed no new information. The 2nd limitation was that length of hospitalization was not studied, therefore making comparisons with related literature not possible [12,13]. Although all cases were only assessed by members of the C-L team who were consistent with their approaches to patients with OBS, the absence of incorporating assessment scales that would have provided more standardized and reliable measurements pertaining to diagnosis and symptom resolution, therefore disqualifying discussion on issues related to selection biases and validity, makes this the 3rd limitation. The final limitation to this study was that our sample was confined only to the UMMC. Thus, we were not able to apply the results as representing a whole region. Also, the relatively small

number of patients with a diagnosis that suited the criteria for the Chronic syndrome had caused difficulties in statistical analysis, as did the high rate of dropouts on establishing the mortality rate after two years.

Conclusions

Mortality rates did not differ between patients with the acute and chronic syndromes. Those with the acute syndrome had significantly better outcomes in terms of symptom resolution. Also, patients with symptom resolution upon discharge did not show statistically significant lower mortality rates.

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ORIGINAL ARTICLE

A review of carbamazepine and valproate use in a psychiatric hospital in Thailand

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Abstract
Objective: To review the clinical use of carbamazepine (CBZ) and valproate (VPA) in a psychiatric hospital in Thailand.
Design: Retrospective medical record review.
Setting: An outpatient department of a psychiatric hospital in the central part of Thailand.
Participants: Patients prescribed either CBZ or VPA in January 2005 and continued the medications for at least six months.
Results: There were 277 cases receiving either CBZ or VPA during the study period, 57.8% were male. CBZ was prescribed in 92 cases, VPA 185 cases. Mood stabilizing was the most common indication. However, more than 50% were prescribed the medications for other off-license indications. The doses were not slowly titrated. Means of current dose were lower than the recommended doses. A small number of minor adverse drug reactions were found. Weight gain was under recognized.
Conclusion: Off-license uses of CBZ and VPA were common. Sub-therapeutic doses were frequently prescribed. The benefits of lower doses in this off-license use need an extensive evaluation. Guidelines for the use of CBZ and VPA in psychiatric patients may be useful for rational drug use program.

Key words: *carbamazepine, valproate, psychiatric hospital*

Introduction

Carbamazepine (CBZ) and valproate (VPA) have been recognized for their psychotropic efficacy for more than three decades [1,2]. CBZ has been observed its efficacy for reducing affective symptoms in epilepsy and decreasing violent behavior in psychotic patients based on the concepts of kindling phenomena [3], while VPA has actions on GABA and serotonin that link to anti-aggression [4,5]. Clinicians have increasing prescribed either VPA or CBZ to control explosive behavior, mood disorders, violence and agitation in all age groups including children, adolescent and elderly groups [5-8]. However, there was no strong evidence supporting the use of VPA and CBZ in the maintenance phase of bipolar disorder [4,9-11]. An augmentation of CBZ and VPA in schizophrenia is not recommended in clinical practice [9,12-14]. There have been many reports of CBZ and VPA reducing agitation in dementia [8,15-23]. However, a systematic review revealed that VPA could not be recommended to treat agitation in dementia due to an unac-

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ceptable rate of adverse events [11]. In fact, VPA and CBZ have been approved in USA for the treatment of acute manic phase of bipolar disorder [7,24]. Many studies focused on VPA and CBZ to control mania in short-term treatment even though most episodes of bipolar disorder are depression [6,25-28]. The efficacy among CBZ, VPA and lithium in acute mania does not significantly differ [28]. However, CBZ and VPA have not yet been approved for long-term treatment of bipolar disorder [29].

This study is a part of rational drug use improving program in a psychiatric hospital. It aims to examine the prescription and monitoring of CBZ and VPA in a naturalistic clinical setting. We examined the clinical indications, doses, titration patterns and side-effect monitoring by comparing the findings with the available evidence-based guidelines [7,30].

Methods

We conducted this study at a state psychiatric hospital located in the central part of Thailand. All prescriptions from outpatient department in January 2005 containing either CBZ or VPA, and then the corresponding medical records were reviewed. Only cases who continued medication until May 2005 were analyzed. Each case was reviewed for demographic data, clinical diagnosis according to the ICD-10 system, indications for prescribing the medications, initial and current doses, titration pattern, initial and current body weight, adverse drug reactions (ADR), blood tests (i.e., complete blood count or CBC, liver function test or LFT) and blood levels of CBZ and VPA. Patients who had been receiving the same doses from the beginning to one month without increasing of doses were categorized as "no titration". Clinical indications were classified into 4 groups i.e., mood stabilizer, behavior control, epilepsy and could not be identified. Readmission after the prescription was also considered. Mean, frequency and percentage were calculated.

Results

There were 300 patients receiving the drugs during January 2005, 277 (92.3%) were eligible for further analysis (see Table 1). Mean age was 40.8 ± 15.6 years old. One-hundred and fifty-eight were male (57.8%) and 119 female (43.2%). Top three diagnoses were schizophrenia 93 (33.0%), mood disorders 93 (33.0%) and epilepsy 36 (12.8%). The clinical indications were for mood stabilizer 130 (36.3%), behavior control 97 (27.1%), epilepsy 42 (11.8%), 89 (24.9%) could not identify the specific indications. VPA was prescribed in 185 cases and CBZ in 92 cases. Mean initial daily doses (mg/day) of VPA and CBZ were 662.43 ± 290.81 and 453.26 ± 210.9, respectively. Mean current daily doses of VPA and CBZ were 756.22 ± 356.2 and 602.17 ± 284.8, respectively. The drugs were prescribed without dose titration in 211 cases (76.2%). Seventy-five (40.5%) of patients with VPA were prescribed the highest doses at 500 mg/day or less. Thirty-eight (41.3%) of those with CBZ received the highest doses at 400 mg/day or less.

To compare the prescribed daily doses with the recommendations, doses of both medications were categorized into three groups i.e., <10 mg/kg/day, 10-20 mg/kg/day and 20-30 mg/kg/day. There were 166 (89.7%) cases with VPA and 71 (77.2%) with CBZ that body weight were available for calculating daily doses (mg/kg/day). VPA was prescribed at proper doses (20-30mg/kg/day) in 10/166 (6%) and CBZ (10-20mg/kg/day) in 21/71 (38%). About 49% of VPA and 58% of CBZ were prescribed less than 10 mg/kg/day. This means that most of the subjects were prescribed at the doses lower than the recommendations.

CBC and LFT were performed in 52 (18.4 %) and 9 (3.2%) cases, respectively. Transient leukopenia (WBC ≤ 3000 cell/mm^3) was found in one case with VPA. There were 3 cases receiving CBZ with clozapine, and CBC was regularly checked, and no hematological problem was found. Only

Table 1: Characteristics of subjects, diagnoses, indications and doses of carbamazepine and valproate

	Carbamazepine (%) n = 92 (33.2)	**Valproate (%) n = 185 (76.8)**
Gender		
Male	51 (55.4)	107 (57.8)
Female	41 (44.6)	78 (42.2)
Age mean	38.0 (SD 13.9)	42.6 (SD 16.2)
Diagnosis		
Schizophrenia	33 (35.9)	60 (32.4)
Bipolar	12 (13.0)	78 (42.2)
Epilepsy	26 (28.3)	10 (5.4)
Schizoaffective	1 (1.1)	16 (8.6)
Mental retardation	8 (8.7)	3 (1.6)
Organic brain syndrome	5 (5.4)	5 (2.7)
Dementia	1 (1.1)	7 (3.8)
Alcohol related disorder	2 (2.2)	5 (2.7)
Other anxiety disorder	4 (4.3)	
Could not identified		1 (0.5)
Indications		
Mood stabilizer	17 (18.5)	97 (52.4)
Behavioral control	30 (32.6)	37 (20.0)
Seizure control	20 (21.7)	12 (6.5)
Could not identified	25 (27.2)	39 (21.1)
Titration		
Yes	31 (33.7)	35 (18.9)
No	61 (66.3)	150 (81.1)
Maintenance dose (mg/kg/d)	N=71	N=166
<10	41 (57.7)	82 (49.4)
10-20	27 (38.0)	74 (44.6)
20-30	3 (4.2)	10 (6.0)

18/185 (9.7%) VPA-treated cases and 2/92 (2.1%) CBZ-treated cases had blood levels checked. Twelve of 18 VPA-treated cases receiving more than 20 mg/kg/d had VPA blood levels higher than 50 mg/L. CBZ levels were 6 mg/l in two cases with epilepsy, while others did not have blood levels tested

The ADR record forms showed that 56 cases had mild and transient reactions such as skin rash (0.4%), nausea/vomiting (1.1%), reduced WBC (0.4%), tremor and dizziness (3.2%). Initial and current body weight were recorded in 230 (81.3%) and 243 (85.9%) cases, respectively. Clinically significant weight gain, defined as 7% changes occurred after starting drugs [31], was found in 84 cases (34.5%), 62 (73.8%) VPA-treated cases and 22 (26.2%) CBZ-treated cases. However, this information did not appear in the ADR record form.

Discussion

The primary limitation of this naturalistic study is that the findings may not be able to generalize outside of the research setting, given the uncontrolled extraneous variables. However, it is useful to assess the actual practices and compare them to those reported and/or recommended in the international literature or in the manufacture drug lists. This potentially has an implication for clinical and educational procedures.

According to the medication licenses, CBZ and VPA have been approved for the treatment of epilepsy and bipolar disorder.

In this study, nearly half of the subjects (47.3%) were prescribed for off-license or off-label uses. Off-license use of these medications should weigh between the beneficial effects and ADRs. Currently there was no strong evidence supporting the indication other than acute mania although there were many randomized control trial studies of VPA and CBZ in aggressive, explosive behavior in all age groups [4,7,8,11,13,22, 32-34]. Further large sample sizes of randomized case controlled studies are needed [9,12,13]. The daily doses of both medications did not comply with previous recommendations [7,30] and the drug lists. Although the efficacy of low dose VPA was reported in cyclical disorder, the study was limited by its small sample size [35]. There has been no report regarding efficacy of low dose CBZ for psychiatric disorders. Slow dose titration is generally recommended for CBZ [36] and VPA [37] in treating epilepsy. However, loading of VPA was safe and effective in acute mania [38,39]. In this study, 76.2% of cases received the medications without titration in spite that only small number of cases received either drug for acute mania, which loading doses might be necessary. This reflected that dose titration was inadequately concerned when the medications were prescribed for off-label indication.

Blood monitoring including CBC, LFT and blood level was rarely performed. ADRs especially idiopathic liver impairment due to VPA could not be prevented by routine LFT check up [40]. Clinical symptoms such as nausea, malaise may be more sensitive than blood tests, however, in specific cases LFT may be necessary [41]. To early detect leucopenia and thrombocytopenia, CBC is recommended at the beginning and monthly for three months [40]. This recommendation was not adequately followed. CBC was carried out in only 18% of cases. In other words, hematological ADRs were less aware in comparison to other ADRs. Blood level analysis should be the trough level [42].This study did not have any data from medical records to indicate whether the result was a peak or a trough level. Blood level monitoring should be considered if epilepsy could not be controlled when compliance and poly-pharmacy involved [43]. In general, toxicity from drug overdose can be detected by signs and symptoms [40]. Therefore routine blood level monitoring of VPA and CBZ are not necessary comparing that of lithium in psychiatric cases [10,44]. About one-third of cases experienced clinically significant weight gain but received no attention.

In conclusion, CBZ and VPA were commonly prescribed for psychiatric disorders apart from acute mania and epilepsy. Dosing and titration patterns were not compile with the recommendations. ADR monitoring was not adequately aware. Educational programs and practice guidelines for the use of CBZ and VPA in psychiatric patients may be useful for rational use of these medications.

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ORIGINAL ARTICLE

The role of clinical pathways in the delivery of acute care in a tertiary psychiatric hospital in Southeast Asia

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Abstract
Objective: The hospital introduced its first clinical pathway (CP) in 2002 to standardize delivery of evidence-based treatment and to ensure that both quality and safety issues were an integral part of the care. This paper describes the development of CPs in the hospital and associated clinical outcomes and resource utilization.
Methods: Data on the use of CPs were collated manually and outcome data was analyzed.
Results: Eleven CPs have been implemented to cater to the top ten percent of diseases treated at the hospital. There has been a significant increase in the utilization of CPs in the management of patients. Significant outcomes have included reductions in the average length of stay and in unplanned readmissions for patients managed on CPs.
Conclusion: CPs have proved useful in this tertiary hospital and have enabled the clinical teams to design relevant treatment programs for the patients and promote better care.

Key words: *clinical pathways, psychiatric healthcare, tertiary psychiatric hospital*

Introduction

As psychiatric healthcare advances there is a need to ensure that the services are relevant, cost-effective and efficient [1]. Public expectations have risen and psychiatric care teams like many medical specialties have adopted clinical pathways (CPs) that have significantly impacted clinical practice [2]. Yet CPs actually had their origins from the 'critical path method' developed in the 1950s to manage and coordinate large construction and engineering projects [3,4]. It was only in the 1970s that healthcare workers reviewed these concepts for standardizing clinical care and only in the 1980s that an interdisciplinary team successfully developed a care pathway for patients care at the New England Medical Centre in Boston [5]. Early use of the CPs were very much aligned to nursing care models but over the years they have been adapted to standardize care, ensure more patient-focused care, improve resource utilization and increasingly to ensure care delivery is comprehensive, cost-effective and of a high quality [6].

CPs have been criticized as "cook book" medicine and their usefulness in benefiting patients with complex needs, questioned. But it has been recognized that the formulation of a pathways-to-care model offers a useful way to understand health care use. With the incorporation of strategies to reduce treatment delays and the addition of services to better suit patients' needs, pathways can also serve as an evidence-based quality tool for patient care [7]. Another factor that promotes its use is that

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CPs offer a multidisciplinary, systematic approach to patient care in daily treatment, diagnostics, education, and discharge planning [8]. In other words, patients will receive an organized system of care, therefore avoiding inconsistencies, which usually result in delay, unnecessary cost and wastage of resources. Clinical Pathways involve the whole multidisciplinary team in the care of the patient. This is extremely important in the care of psychiatric patients who may often fail to seek the help they need or not avail themselves of resources in the hospitals, treatment centers and in the community.

The primary aim of CPs is to provide a guide to deliver quality care in a cost efficient method. It cannot replace good clinical judgment when treating an illness [9]. Instead CPs are an enhanced way of visualizing patient care processes [10].

The Institute of Mental Health / Woodbridge Hospital (IMH/WH) is the only psychiatric hospital in Singapore providing tertiary and sub-specialized psychiatric care for acute and chronic patients. It is 1,800 bedded and provides inpatient and outpatient services. Average bed-occupancy is 82%. The hospital saw 10,587 new cases and had 2,173 new admissions and 5,975 readmissions in 2006. New services have been introduced and programs developed to benefit patients over the years. But as in any other hospital and/or institution, care could at times be fragmented. Inappropriate service utilization was noted at different service delivery points such as the Emergency Room and clinics and clinical practice was sometimes variable.

In 2002 the hospital introduced the first clinical pathway for first episode schizophrenia to standardize care and ensure it was comprehensive and addressed the needs of the patients. Since then ten more pathways have been developed, nine for acute inpatient care and one for outpatient care. They are the pathways for Relapsed schizophrenia, major depression, mania/hypomania, alcohol dependence, opiate dependence, drug dependence, benzodiazepine dependence, dementia, psychiatric rehabilitation and attention deficit hyperactive disorder.

A clinician champion usually a consultant psychiatrist, develops each pathway together with a multidisciplinary team. The team gets feedback from end users, studies the available literature and casemix findings of the disease, does benchmarking of care processes, develops the pathway, holds road-shows and training sessions for all staff before implementing the pathway. Once CPs are implemented, there is close monitoring and tracking of predetermined clinical outcomes; feedback on these is provided to the teams as well as clinical chiefs and senior management. The clinicians are also encouraged to regularly review and revise the CPs in use to ensure they remain relevant to clinical practice and user-friendly to obtain better clinical outcomes.

In the initial phase of developing a CP, the clinician champion and his team will decide on the objectives of the pathway. Some of the objectives of pathways that have been developed include:

- to reduce variability in treatment;
- increase efficiency;
- enhance the sharing of information between members of the multi-disciplinary treatment team;
- document progress more effectively; and
- improve overall patient care.

These objectives will also define the Key Performance Indicators (KPI) in which the team will set for the pathway. Some of the KPIs might include process indicators such as the time frame within which treatment plans have to be made by the multidisciplinary team, or more clinical indicators such as unplanned readmissions to the hospital within a specified period of time. Tracking

of these KPIs becomes crucial to the success in reviewing the CPs and ensuring their relevance to clinical practice.

In addition, the clinician champion and his team will decide on the inclusion and exclusion criteria for patients to be placed on the pathway. An example of an inclusion criterion would be that the patient must fulfill the ICD –9 criteria of the pathway diagnosis. Exclusion criteria are usually to exclude patients who have co-morbid psychiatric conditions or unstable medical conditions, which will affect the management in terms of clinical needs and hence impact length of hospitalization stay or resources used. The CPs are usually drawn up to cater to the phases of treatment and involve care in the acute phase, continuation phase and discharge planning phase.

Methods

The clinical pathways are closely monitored and regularly audited for their clinical outcomes. Not all the data has been reviewed; only selected CPs and certain outcomes have been analyzed as requested by the clinician champions and as needed for reviews on the pathways. The audit/survey tools for the CPs were developed following discussions with the clinician champions. Data collection was retrospective and analyses was performed using SPSS 13.0 with statistical significance set at $p<0.05$.

In general for most of the CPs, relevant outcomes include the number of patients placed on the pathway, average length of hospital stay, unplanned readmission rates and fulfillment of ward-based clinical activities such as psychoeducation and family education sessions. Descriptive statistics were presented using frequencies and logistic regression was performed to identify predictors of readmission in the relapsed schizophrenia patients group.

Results

Since the introduction of CPs in the hospital in 2003, there has been a significant increase in the utilization of the pathways in the management and care of the patients. There were 935 patients on pathways in 2003, 1,885 in 2004, 2,221 in 2005 and 2,961 in 2006 (see Table 1). There was also a reduction in the average length of stay of patients placed on CPs (see Table 2). The third significant clinical outcome was the reduction in unplanned readmission rates within 28 days. In IMH/WH, unplanned readmissions refer to patients readmitted because of a relapse of their illness; the definition excludes those who are readmitted because of side-effects or other problems unrelated to their previous admission or because of social reasons. The hospital set a 28 day target as a measure of successful management and proper discharge planning and the hospital's KPI for unplanned readmission rates is 9%. Patients on CPs however, achieved much lower unplanned readmission rates of 4.7% in 2004 and 3.9% in 2005.

The audit results on individual pathways also showed significant results:

Table 1: Number of patients placed on clinical pathways

Clinical pathways	Year		
	2004	**2005**	**2006**
Relapsed schizophrenia	1451	1466	1683
Major depression	107	90	93
First episode schizophrenia	83	83	123
Mania/hypomania	9	169	181
Alcohol dependence	117	79	79
Opiate dependence	112	224	219
Dementia	6	75	140
Psychiatric rehabilitation	ND	18	226
ADHD	ND	17	199
Benzodiazepine dependence	ND	ND	12
Drug dependence	ND	ND	6
Total	1885	2221	2961

ND = not developed

Table 2: Average length of stay of patients on clinical pathways (2004-2006)

Clinical pathways	2004	2005	2006
	No. of days	No. of days	No, of days
Relapsed schizophrenia	21.1	20.1	20.1
Major depression	10.2	11.1	7.7
First episode schizophrenia	17.9	16.6	15.2
Mania/hypomania	NA	15.5	13.5
Alcohol dependence	20.4	14.6	13.9
Opiate dependence	14	11.2	11.5
Dementia	NA	28.3	23.9
Benzodiazepine dependence	ND	ND	12
Drug dependence	ND	ND	6

ND = not developed
NA = not analyzed

Table 3: Significant predictors for readmission

Factor	OR (95% CI)	Unadjusted P value	Adjusted P value
Gender: male	2.7 (1.1-6.3)	0.009	0.023
Living arrangement: alone	5.4 (1.2-23.5)	0.15	0.024
Duration of illness: >5 years	5.5 (1.6-19.1)	0.003	0.008
Duration of illness: >10 years	4.8 (1.5-15.6)	0.003	0.01
TCU attendance: did not come for TCU	3.0 (1.2-7.1)	0.002	0.014

1. In a group of 307 patients who had completed the Relapsed Schizophrenia pathway, predictors for readmission were identified. Males were most likely to be readmitted (p=0.023), as were patients who lived alone (p=0.024) or defaulted on their appointments (p=0.014) as well as those with <5 years (p=0.008) and >10 years (p=0.01) duration of illness (see Table 3).
2. Within a group of 45 patients on the Alcohol Dependence Clinical Pathway audited in 2004, 80% had 10 years of drinking history; of these 74% had a previous admission to the hospital and 29% had suicidal ideation.
3. In a review of 23 cases placed on the opiate dependence clinical pathway, 78.3% received psychoeducation, 65.6% of patients received family education, 82.6% were referred to a support group. Subsequently, 91.3% returned home upon discharge and 8.7% to half way house. Only one patient was readmitted before 28 days. Based on these outcomes, the length of stay for the revised CP was shortened from 24 days to 21 days.
4. Amongst 40 patients on the Dementia Clinical Pathway, 65% lived in Nursing Homes with males 4.05 times more likely to live in such accommodation (p=0.041)

Conclusion:

Clinical Pathways provide a systematic process to manage a disease. They enhance care through their standardized and evidence based format and ensure a holistic approach to the patient. The clinical indicators ensure patients receive the treatment and care that is vital to their recovery and also provide the hospitals management with information on care activities, resource utilization and outcomes. Clinical Pathways have proven to be use-

ful tools in the management of our psychiatric patients and their relevance will depend on the ongoing efforts to review their use and outcomes achieved in our clinical practice.

In addition, good teamwork, continuous training and staff education, staff buy-in and participation, feedback and monitoring are other crucial elements for success. The hospital was able to persuade clinical teams to use CPs, thus ensuring comprehensive and standardized care for the patients.

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ORIGINAL ARTICLE

Depressive, anxiety and stress levels among mothers of ADHD children and their relationships to ADHD symptoms

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Abstract
Introduction: To date, there are limited published literatures addressing behaviors of Attention Deficit and Hyperactive Disorder (ADHD) children and their parents' psychological characteristics. It is also crucial to know the relationship between characteristics of ADHD behaviors on their parental psychological impacts.
Objective: To determine the level of stress, anxiety and depressive among mothers of ADHD children compared to control group and also to determine the associations between domains of children's behaviors (externalizing or internalizing) that gives most impact to these maternal psychological aspects.
Method: This is a cross-sectional study. Seventy mothers of ADHD children who came to Child and Adolescent Clinic, Universiti Kebangsaan Malaysia Hospital completed self-rating questionnaires of Child Behavior Checklist (CBCL), Parenting Stress Index (PSI) and Hospital Anxiety and Depressive Scale (HADS). Seventy mothers of asthmatic children were recruited as a control group.
Results: Mothers with ADHD children are more anxious, depressed and stressed ($p<0.001$). Odd ratios are 3.8, 6.4 and 6.4 respectively. ADHD children displayed difficult behaviors in almost all CBCL subscales than asthmatic children. Externalizing behavior caused significant anxiety, depressive and stress levels ($p<0.05$), whereas internalizing behaviors caused significant in stress level but not to anxiety and depressive levels.
Conclusions: Mothers of ADHD children are more psychologically distressed. Their psychological distress is contributed mainly by externalizing behaviors of their ADHD children.

Key words: *stress, anxiety, depressive, ADHD*

Introduction

Attention deficit hyperactivity disorder (ADHD) is among the most common neurodevelopmental disorders of childhood and adolescence. The prevalence of ADHD among the school age children is about 10% of boys and 4% of girls [1]. ADHD children are highly associated with other forms of psychiatric disorders and comorbidities. As high as two thirds of the total cases of ADHD had other psychiatric comorbidities such as learning difficulties (40%), conduct disorder (30-40%), substance abuse (20-30%) and oppositional defiant disorder (30-60%) [2]. About 70% of hyperactive children would continue to have hyperactive and inattentive features during their adulthood. Between 18 to 23%

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of children with ADHD would develop antisocial personality disorder in later part of their lives [3]. These are the plausible factors that could impose substantial psychological distress to their carers, especially their mothers.

In the literature research, there are limited studies that have been done to specifically look at the prevalence of depression, anxiety and stress level among the parents or caretakers of ADHD children and also its relationship with ADHD behaviors. Befera and Barkley have concluded from their study that mothers of children with ADHD show higher rates of depressive symptoms in comparison to mothers of normal children [4]. Families of ADHD children are more likely to have more stress, feeling of parental incompetence, marital discord, social isolation and marital disruption. The present study further explores this association by categorizing behaviors of ADHD children into internalizing and externalizing behaviors.

The main objective of this study is to determine the level of stress, anxiety and depressive scores among mothers of ADHD children compared to the control group. Additional objective is to determine the associations between domains of ADHD behaviors (internalizing behavior or externalizing behavior) that gives most impact to stress, anxiety and depressive levels.

Methods

This study was reviewed and fully approved by the Institution Review Board of Universiti Kebangsaan Malaysia (UKM). It had been conducted in the Child and Adolescent Psychiatric clinic and General Pediatric clinic UKM Hospital. Informed consents of the participants were obtained after the nature of the procedures had been fully explained.

Subjects

Study subjects are mothers of ADHD children (new and old cases) whom came to Child and Adolescent Psychiatric clinic UKM Hospital during the period of study. For control group, subjects were chosen among all the mothers who accompanied their asthmatic children to General Pediatric clinic.

Inclusion criteria of mothers with ADHD children:

1. All mothers of ADHD children (aged between 6 and 18 years old) who came to Child Psychiatric Clinic UKM Hospital during that one year period of study (from March 2005 to February 2006) regardless whether they were new or old cases.
2. The diagnosis of ADHD was ascertained based on the Diagnosis and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) criteria applied by at least one experienced child and adolescent psychiatrist in the department.

Exclusion criteria of mothers with ADHD children:

1. The cases would be excluded from the study when the diagnosis of mental retardation, autism and other developmental disorders were made on ADHD children.
2. Those ADHD children who fulfilled for other major psychiatric diagnoses such as schizophrenia, major depressive disorder or bipolar affective disorder would also be excluded from the study.

Inclusion criteria for control group:

All mothers of children with a diagnosis of bronchial asthma who came to the general pediatric clinic for follow up would be enrolled as control subjects. The children would be matched for their age, sex and race.

Exclusion criteria for control group:

The subjects should not suffer from any serious or terminal illness, such as leukemia, or any congenital abnormalities, such as metabolite abnormalities.

Procedures

Psychiatric diagnoses were established

through clinical evaluation based on DSM-IV criteria and administration of the Conner's Parent Rating Scale. The administration of Child Behavior Checklist (CBCL), Parenting Stress Index (PSI) and Hospital Anxiety and Depressive Scale (HADS) were done by a single person (main investigator) to ensure the standardizing of scores.

Statistical Analysis

Demographic data, levels of anxiety, depression/stress and children's behaviors were analyzed by using Mann-Whitney, Chi-Square and Student-t tests.

Results

Socio-demographic data

Subject characteristics and socio-demographic data are shown in Table 1.

Demographic comparisons of two groups (study and control groups) were comparable in various aspects; age, race distribution, family income, educational level, marital status, gender of subjects and number of children ($p > 0.05$).

Table 2 shows means and standard deviations of anxiety, depressive and stress scores between study and control groups. All scores for anxiety, depressive and stress in study group were significantly higher ($p<0.001$) as compared to control group.

Analysis of the scores shows that 80% of mothers with ADHD children were anxious, 63% were depressed and 63% were stressed, as compared to 51%, 21% and 21%, respectively, for mothers with asthmatic children. Possible anxiety and depressive cases were defined when subjects scored 7 and more for HADS anxiety and depressive subscales. Odd ratios for anxiety, depressive and stress in comparison between ADHD group and its control group were 3.8, 6.4 and 6.4, respectively. These signify that mothers with ADHD

Table 1: Socio-demographic variables

	ADHD n=70	**Asthma n=70**	**P value***
Age (median)	8	7	0.51**
Sex Male	54 (77%)	51 (73%)	0.56
Female	16 (33%)	19 (27%)	
Race			
Malay	36 (51.4%)	38 (54.3%)	0.12
Chinese	33 (47.1%)	31(44.3%)	
Indian	1 (1.4%)	1 (1.4%)	
Fathers' education (Secondary Education)	33 (47%)	37 (53%)	0.21
Mothers' education (Secondary Education)	35 (50%)	43 (61%)	0.35
Family income			
Low income group	29 (41%)	27 (39%)	0.56
Middle income group	18 (26%)	22 (31%)	
High income group	23 (33%)	21 (30%)	
Number of children			
1-2	47 (68%)	34 (49%)	0.16
>2	22 (32%)	36 (51%)	
Marital status (Married)	69 (98.6%)	70 (100%)	0.24
Number of patients on medications	48 (69%)	NA	

* Chi-Square test for all comparisons, except age

** Mann-Whitney U test

Table 2: Levels of anxiety, depression and stress between study and control groups

	Group	n	Mean	Standard deviation	P value
Anxiety score	ADHD	70	9.31	3.45	<0.001*
	Asthma	70	6.10	2.27	
Depressive Score	ADHD	70	7.70	3.42	<0.001*
	Asthma	70	4.14	2.36	
Stress score	ADHD	70	108.21	20.03	<0.001*
	Asthma	70	79.91	15.11	

*Independent sample t-test

children are four to six times more distress as compared to mothers with asthmatic children.

In the Child Behavior Checklist (CBCL) there are three main subscales of children's behaviors; internalizing, externalizing and other behaviors. *Internalizing behavior* is a total score of anxious/depressed subscale, withdrawn/depressed subscale and somatic complaints. *Externalizing behavior* is a total score of rule-breaking behavior subscale and aggressive behavior subscale. *Other Behaviors* is a total score of social problems subscale, thought problems subscale, attention problems subscale and other problems subscale.

Table 3 shows mean differences between study and control groups in all behavioral subscales. ADHD children were different in all subscales of behavior as compared to asthmatic children except in somatic complaints. ADHD children had significantly higher scores in all subscales asthmatic children ($p<0.001$). For somatic subscale, study and control groups had total means of 2.99, and 2.43, respectively. Nevertheless it was not statistically significant ($p>0.05$). This indicates that both groups of children have similar tendency to complain about somatic presentations.

Table 4 shows that internalizing behaviors of the ADHD children significantly raised the stress level of their mothers ($p<0.05$). However, internalizing behaviors did not significantly raise the anxiety and depressive scores ($p>0.05$). Externalizing behaviors of ADHD children caused psychological impacts in all aspects of their mothers. This included the raise of anxiety, depressive and distress levels ($p<0.05$).

Discussion

Awareness and vigilance on the issue of psychological impacts on the parents of ADHD children are still low. In Malaysia, public awareness on the illness itself is minimal. Most parents regard behaviors exhibited by these children as "naughty behaviors". Results in this study support the notion that parents of ADHD children suffer substantial psychological distress as a result of difficulties faced by them in nurturing these children.

As observed in the results of this study, demographic data between study and control groups are comparable in various aspects. These include aspects of age of the children, gender, race distributions, parental educational levels, number of children in family and marital status. This indicates that the control group which is recruited in this study is comparable control group, and it is suitable to use in analyses of the hypotheses. In this study, three important demographic variables were controlled in the recruitment of the control group. They are age of the subjects, race and gender. These three factors are needed to be controlled as it would determine the level of burden, fulfillment of children's needs, and

Table 3: Children's behavior subscales

Subscales	Group	Mean	Standard. deviation	P value
Anxious	ADHD	6.53	3.922	<0.001**
	Asthma	3.79	2.792	
Withdrawn	ADHD	4.10	2.687	<0.001**
	Asthma	2.31	2.171	
Somatic complaints	ADHD	2.99	3.100	0.230**
	Asthma	2.43	2.313	
Social problems	ADHD	8.70	3.913	<0.001**
	Asthma	4.27	2.823	
Thought problems	ADHD	7.19	4.480	<0.001**
	Asthma	2.13	2.245	
Attention deficit	ADHD	11.47	3.238	<0.001**
	Asthma	4.77	3.163	
Rules breaking	ADHD	6.01	4.500	<0.001**
	Asthma	3.23	2.989	
Aggressiveness	ADHD	13.43	6.305	<0.001**
	Asthma	7.26	5.342	
Other problems	ADHD	8.19	4.635	<0.001**
	Asthma	4.84	3.068	
Internalizing	ADHD	13.61	7.863	<0.001*
	Asthma	8.53	5.503	
Externalizing	ADHD	19.44	10.151	<0.001*
	Asthma	10.49	7.798	
Others	ADHD	35.54	13.502	<0.001**
	Asthma	16.01	9.335	
Total scores	ADHD	68.60	28.744	<0.001**
	Asthma	35.03	20.447	

* t-test (normally distributed)
** Mann-Whitney U test (not normally distributed)

Table 4: Relationships between children's internalizing and externalizing behaviors with their mothers' psychological aspects.

	Anxiety	Depressive	Stress
Internalizing	0.098	0.06	0.006**
Externalizing	0.031*	0.035*	0.004**

P values by Chi-Square tests with 95% CI
*/ ** indicate significant p values (<0.05)

they would eventually influence the results on parental psychological distress in taking care of their children. Since all demographic data between two groups are comparable, we can conclude that there is an association between the high levels of anxiety, depressive and stress among mothers of ADHD children with difficulties in nurturing of these children.

Anxiety, depressive and stress levels

Not many studies previously paid attention to the anxiety levels of parents with ADHD

children. In this study, it has been proven that there is a significant level of anxiety among mothers of ADHD children as compared to mothers of asthmatic children. Eighty percent of mothers with ADHD children had significant scores on HADS anxiety subscale (total score 7 or more on this subscale).

Results of this study revealed that 63% of mothers of ADHD children displayed significant depressive scores as compared to mothers of asthmatic children, where the score is only 21%. The odds ratio is 6.4. This means that the risk of mothers with ADHD children to have depression is about six times more compared to mothers of asthmatic children. Further analysis of depression scores shows that although majority of respondents' scored moderate in depressive subscale, there were mothers in ADHD and asthmatic groups who scored quite high and considered severely depressed.

These groups of mothers (63% in cases and 21% in controls) are suggestive cases of depression. However, further evaluation is needed to ensure whether they are really fulfilled the diagnosis of depression. By identifying whether they meet the criteria of depression, subsequently therapeutic interventions can be done to limit their morbidities. The finding that 63% of mothers with ADHD children were depressed is enormously high as compared to the study done by Harrison and Sofronoff [5], which found only 21%. In a study carried out by Cunningham [6], which used different depressive scales, about 23% of mothers with ADHD children rated in their depressive scales with significant scores.

Another study carried out by Cunningham and colleagues, which compared both parents (fathers and mothers) with ADHD children and parents of normal children, they found that total scores of Beck Depression Inventory and total amount of alcohol consumption in families with ADHD children were significantly higher than families with normal children [7].

The high percentage of mothers who were depressed in this study may be due to the cut-off score of 7, which was used in the HADS scale instead of 8. Other explanation regarding the disproportionate figure as compared to other studies is that this study was conducted in a hospital. A large percentage of depressive mothers could be obtained from a hospital-based study as compared to a population-based study.

In this study, 63% of mothers with ADHD children scored significant stress levels, whereas scores in control group is only 21%. It is a statistically significant ($p<0.0005$). The conclusion that can be derived from this result is that mothers of ADHD children are more stressed as compared to mothers of asthmatic children. The stress faced by parents of ADHD children are very much related to burden of care that they have to endure. As the nature of ADHD itself, which is pervasive and chronic, it is not surprising that many of these parents find this disorder and its comorbidities are extremely difficult to manage and eventually find themselves distressed. Previous observational studies have concluded that ADHD children imposed extra burden to their parents, siblings, teachers and peers [7,8,9,10].

In this study, the result supports the evidence that the stress level is higher in parents of ADHD children with a high odds ratio of 6.4. This figure indicates that the risk of mothers with ADHD children to have stress is about six times more compared to mothers of asthmatic children. The main findings in this study are in keeping with most studies in the past which support the notion that mothers of ADHD children are suffering more distress. Breen and Barkley also used Parenting Stress Index, and again it showed that mothers of hyperactive girls scored higher to mothers with normal girls [7]. Johnson & Reader used

different form of measurements to look into parental psychological aspects [11]. They utilized the Disruptive Behavior Stress Inventory (DBSI) and the Family Stress Survey (FSS) also come with similar findings. However the figure of 63% mothers with ADHD children being distressed in this study is also high in comparison with other studies. In a study done by Harrison and Sofronoff [5], 24% of their respondents were stressed even though they used the same questionnaire, which is Parenting Stress Index.

Mothers of ADHD are not only affected psychologically but also in various aspects of their lives. There is a complex interaction of environmental factors and psychological characteristics of parents with ADHD children. Other studies concluded that this group of mothers is not only depressed due to the burden to take care of their ADHD children, but ADHD behaviors had also affected other aspects of their lives, such as poorer general health, lower sense of competence and restrictiveness in parenting role [10, 12]. Stress experienced by parents of ADHD children also comes from other demands placed on parents [20]. The difficulties confronting parents of ADHD children would adversely affect other aspects of individual, marital, and family functioning [4,10,13,14].

Maternal psychological distress in relation to children's behaviors

A few studies in the past affirmed that there is a relationship between parental psychological effects with behavioral patterns of ADHD children. Substantially higher level of stress among ADHD mothers has been associated with disruptive and externalizing behaviors of their ADHD children. The results of this study support the above statement as p values were statistically significant. This result indicates that stress among mothers with ADHD children in this study is not only contributed by externalizing behavior, but also by internalizing behavior of ADHD children.

Looking into a broader perspective, symptoms of ADHD such as inattention, impulsivity and overactivity may result problems in family interaction and integration. Other studies have established the link between maternal depression and externalizing behaviors of their ADHD children. However they failed to control other confounding factors [14,15,16]. In this study, authors managed to control three main possible confounders such as number of children in the family, socioeconomic status and marital status (single or married).

Limitations

Parental psychological distress suffered by mothers of ADHD children may not be solely caused by externalizing or internalizing behaviors of their children. It could also imposed by other comorbidities such as conduct disorder, substance abuse and learning disabilities, which cover a substantial proportion of children with ADHD. In this study, the author did not exclude these comorbidities in recruiting the subjects as these comorbidities are very common among ADHD children. It can be part and parcel of ADHD. By excluding those comorbidities, it may result in non-naturalistic of the study and losing many subjects.

The significant psychological impairments suffered by mothers of ADHD and asthmatic children might have also caused by any recent adverse psychosocial events happened in their lives. This factor was not measured in the study. However more important confounding factors, in particular, family demographic characteristics (such as income, educational level, marital status) and number of children were controlled and neutralized.

Mothers of asthmatic children that are used in this study may not be an ideal control group. Asthma is a physical illness and the attacks can be relatively brief, whereas ADHD is a developmental disorder. However the similarities between these two ill-

nesses are that they are chronic, not a terminal illness, commonly found and respond well to medications. It is therefore fairly reasonable to be chosen as a control group.

Implications of the study

The needs to help out and ease the burdens of mothers with ADHD children are essential. Psychological incompetence of mothers in this group is one of the adversities that may hamper good parental nurturing. Disruption in positive parenting increases negative behaviors in children. Difficult behaviors exhibited by children with ADHD are significant family stressors. These stressors are associated with negative outcomes to the children and generally to the family. Therefore giving extra-attention to the psychological well-being of parents would help them to adopt more adaptive parental nurturing. In fact, suggestion has been made to consider assessment of the parental psychological aspects together with the assessment of ADHD children in developing a comprehensive treatment programme. In treating ADHD children, one must not ignore the possible psychological distress suffered by this group of mothers. Harrison and Sofronoff proposed that interventions for ADHD not only aimed at children's behavior but also paying equal attention to their mothers [5]. This can be done by screening their mothers for any psychological morbidities and delivering the necessary interventions. Healthy nurturing of the children only comes from healthy mothers.

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ORIGINAL ARTICLE

Nurses' perspective on the ethical issues of research in mentally ill patients

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Abstract
Objectives: To examine the opinions of nurses working in a tertiary psychiatric hospital on ethical issues in psychiatric research.
Methods: A self-administered survey questionnaire was used to gather socio-demographic data and opinions on ethical and other common issues. A Likert scale was used for responses.
Results: There was a 71.5% response to the survey with 232 nursing staff and 97 non-nursing staff. The nurses were significantly different in terms of older age and racial distribution. Nurses more than non-nursing staff believed that consent should be sought before research participation. However the nurses were less likely to consider mentally ill patients capable of decision making and understanding the process on making an informed consent.
Conclusion: This is the only study of nurses' perspectives on research in mentally ill patients in an Asian setting. It is useful for the hospital in that it highlights the need for training and education on the issues in research in the mentally ill.

Key words: *psychiatric research, mentally ill patients, nurses perspective on research*

Introduction

There has been much concern about ethical aspects of research and in particular psychiatric research [1]. The issues of patient's competency to understand and give informed consent are derived from the fundamental concepts of autonomy and beneficence [2]. These have been extensively studied and demonstrated that individuals with mental illnesses have greater difficulty with consent decisions [3]. Impairments of cognitive and executive functioning may impair the patients' ability to provide consent. This impairment may be stable with little variation over time but there is also the possibility that fluctuations may occur in a person with schizophrenia, or that the impairment may progressively worsen for example in a person with Alzheimer's disease [4]. Also important is the nature of the relationship and understanding between the researcher and the patient [5].

There are however few studies on how psychiatric healthcare workers view patients participation in psychiatric research. In one study patients endorsed the feeling of hope associated with research involvement, a perspective underestimated by psychiatrists although, in this study, psychiatrists more strongly agreed than patients that vulnerable populations should be included in research [6]. Similar findings have also appeared in other studies indicating that psychiatrists do not fully understand the overall positive quality of research experience and altruistic orientation of their schizophrenic patients who volunteer for research

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studies [7].

Other health care workers are also involved in psychiatric research but there are no studies to our knowledge on their perspectives and/or attitudes towards psychiatric patients' research participation. The Institute of Mental Health/Woodbridge Hospital is the only tertiary psychiatric hospital in Singapore; it provides inpatient and outpatient care in various subspecialty areas and staff are actively involved in training and research. A large survey was undertaken in 2005 to assess the healthcare professionals' attitude to research related issues [8,9]. In this paper we examined the opinions of the hospitals nurses on ethical and other common issues in psychiatric research.

Method

The study was approved by the Institute of Mental Health / Woodbridge Hospital's Clinical Research Committee and the National Healthcare Group's Domain Specific Review Board and conducted over a four month period from September to December 2005. The responses of the nursing staff were compared with the non-nursing staff that comprised of physicians, allied health staff and administrators of executive level and above. Participation in the survey was voluntary, and anonymity was preserved to ensure open feedback.

All nursing and non-nursing staff at the tertiary hospital were invited to participate in the survey. Survey forms were distributed in person to various departments via departmental representatives and to wards with the assistance of respective nurse managers. An invitation letter that included a brief outline, purpose, importance and requirements of the study was enclosed along with each form. A self-administered survey form and questionnaire was used to collect information, and its return was accepted as implied consent. Completed forms were collected after two consecutive days to ensure greater feedback. Details of staff on leave during the initial round of invitations were kept. Another round of invitations and distribution of survey forms followed two weeks after the first to account for those on leave. The invitation and feedback process was conducted over a period of three months. The socio-demographic profile of the respondents was captured, and participants were asked to respond to opinion statements that covered selected ethical concerns and issues in psychiatric research (refer Table 2). A five-point Likert scale was used with answers ranging from 'strongly disagree' to 'strongly agree'. Information on respondents past research experience was collated. Those with research participation experience as a subject or control were excluded.

Statistics

Statistical analysis was performed by using SPSS 13.0. The responses to 'strongly disagree'/'disagree' and 'strongly agree'/ 'agree' were grouped together for analysis. Ordinal regression was performed to identify the overall trend of responses of participants to the statements. The effect of age, gender, type of profession and previous research experience were factored into the models. Comparisons between opinions of participants with nursing and non-nursing backgrounds were performed using Chi Square and Man-Whitney U tests. Two-tailed tests of significance were used with statistical significance set at $p<0.05$.

Results

In total, 460 healthcare professionals at the psychiatric hospital were invited to participate and 329 responded (71.5%). The socio-demographic profile of the respondents is shown in Table 1. There were 232 nursing staff and 97 non-nursing staff. Amongst the nursing staff, 172 (74.1%) were staff nurses/senior staff nurses, 36 (15.5%) were nurse managers, 19 (8.2%) were nurse clinicians, 1 (0.4%) an advanced practice nurse and 2 (0.9%) were assistant directors of nursing. 57.4% of the nurses were graduates, diploma to masters level. Among the non-nursing staff, there

were 19 (19.6%) administrators, 22 (22.7%) physicians and 56 (57.7%) allied health personnel. There was a significant age difference ($p<0.001$) with the nurses being older than the non-nursing staff. There were no significant gender differences; but there were significant differences in racial distribution, with more Malays in the nursing group compared to non-nurses ($p<0.001$). In terms of research experience there were significantly more nurses without research experience amongst the respondents ($p<0.001$).

Older respondents exhibited a more positive attitude towards psychiatric research as they were more likely to agree ($p<0.05$) to statements 1, 3, 6, 9, 10 and 12 (refer Table 2 for statements). Men tended to agree to the use of placebo, having interest in conducting research and giving clinical research high priority, more than the women ($p<0.05$). Respondents with no prior research experience were more likely to disagree to the statements that mentally ill patients were capable of making a decision about research participation ($p=0.002$), understanding consent process ($p=0.016$) and encouraging patients to participate in a research study ($p<0.001$). In addition, allied health professionals were found to be more likely to agree that patients with mental illness can understand the consent process ($p=0.002$), and that clinical research should be given high priority ($p=0.008$) as compared to the nurses.

There were significant differences between the nurses and the non-nursing staff on ethical concerns and issues in research with mentally ill patients. Significantly more nurses agreed that research should be undertaken only after consent had been taken ($p=0.023$). This survey statement included both patient and family/caregivers consent and this was endorsed by 83.6% of the nurses. However they were less likely to feel that patients with mental problems are capable of decision making and understanding the process of written informed consent.

Half the nurses (51.3%) accepted placebo use in psychiatric research. However, a smaller proportion (18.8%) felt treatment randomization is justified in research with mentally ill patients. Both these findings however were not significantly different from the non-nursing staff.

The nurses were not keen in conducting research although they recognized that research should be given high priority as it improved care and treatments for patients. They also strongly recognized that training in research ethics is crucial for psychiatric investigators (81.8%) and more than half (62.4%) were willing to encourage patients to participate in research (Table 2).

Discussion

This study delves into a little researched area particularly amongst Asian researchers and hospital healthcare workers, and that is

Table 1: Socio-demographic profile of respondents

	Nursing (n=232) n (%)	**Non-nursing (n=97) n (%)**
Age [mean (SD)]*	41.3 (12.6)	33.4 (9.9)
Gender		
Male	104 (45.0%)	41(42.3%)
Female	127 (55.0%)	56 (57.7%)
Ethnicity**		
Chinese	127 (55.0%)	81 (84.4%)
Malay	47 (20.3%)	2 (2.1 %)
Indian	31 (13.4%)	10 (10.4%)
Others	26 (11.3%)	3 (3.1%)
Past research experience **		
Yes	35 (15.1 %)	46 (47.4 %)
No	197 (84.9 %)	51 (52.6 %)

*p <0.001 (Mann-Whitney U Test)
**p <0.001 (Pearson Chi Square Test)

Table 2: Proportion of respondents agreeing to perceptions on ethical concerns

	Nursing			Non-nursing			P value
	Dis-agree	Neither /nor	Agree	Dis-agree	Neither /nor	Agree	X^2
1. Ethics in psychiatric research are more important than in any other research	15.2	29.4	55.4	12.5	33.3	54.2	0.709
2. Ethical requirements in mental health research are too complicated	19.1	47.4	33.5	13.4	52.6	34.0	0.435
3. All forms of research, no matter how minor, should be carried out only after both patient and family / caregivers, have given consent.	6.5	9.9	83.6	15.5	12.4	72.2	0.023
4. Patients with mental illnesses are capable of making a decision about research participation	31.9	26.7	41.4	15.5	32.0	52.6	0.009
5. Patients with mental illness can understand the process of written informed consent	25.1	39.8	35.1	12.4	38.1	49.5	0.012
6. Use of placebo can be allowed in psychiatric research	11.3	37.4	51.3	10.3	47.4	42.3	0.234
7. Randomization of treatment is justified in psychiatric research	41.5	39.7	18.8	43.3	27.8	28.9	0.052
8. Training in research ethics is crucial for psychiatric investigators	2.6	15.6	81.8	4.1	11.3	84.5	0.486
9. Clinical research should be given high priority in order to consistently improve standards of patient care and current treatments	6.5	22.4	71.1	4.1	14.4	81.4	0.149
10. Participating in research gives psychiatric patients a sense of hope	10.8	34.5	54.7	12.4	36.1	51.5	0.846
11. I have keen interest in conducting research	18.2	49.4	32.5	17.5	26.8	55.7	<0.001
12. If approached for advice, I (will) encourage patients to participate in research study	7.0	30.6	62.4	3.1	36.1	60.8	0.294

their attitudes and perspectives on research undertaken with mentally ill patients. Nurses are an integral part of the healthcare team which cares for individuals with mental illness. They play an important role in referring patients to research studies, assist in the care of patients on clinical trial protocols and even those who are discontinued from clinical trials. It is therefore heartening that the nurses in this study readily endorse patient participation and recognize the role of research in improving patient care and treatments. The nurses also recognized that research participation gave patients a sense of hope, a feature not fully recognized by healthcare workers in other studies [6].

Clinical research with vulnerable groups such as mentally ill patients requires that researchers understand what ethical procedures are [10]. Overall the nurses shared core values about the role of ethics in psychiatric research. They were however less sure about issues dealing with informed consent and patients decision making capacity. We have not established whether this is related to 'overprotection' and hence a failure to recognize patients' autonomy [11]. The nurses were also significantly older; a paternalistic view may have colored their perspectives on informed consent and decision making capacity as they had also endorsed the need for consent from not only the patient but the family/caregiver.

These findings are all the more significant as the majority of the nurses did not have research experience. It is likely that caring for patients involved in research which is quite extensively undertaken in the hospital could have shaped their positive attitudes towards research participation.

While the strength of this study is that it focused on the views of nurses who are involved in the care of mentally ill patients, there are also limitations that need to be acknowledged. The survey is on self-reported attitudes and not actual decisions or behaviors; there may be inherent issues such as a halo effect. Furthermore the staff members were from a service delivery setting, and there is a possibility that limited direct research involvement may have contributed to a lack of depth in understanding the issues involved. Another limitation is that there is a skewed distribution of respondents with nurses forming almost two-thirds of the respondents; hence the non-nursing comparator is not a truly representative sample of that group. The study could have been further enhanced by analyzing the impact of gender and educational variables upon nurses' perspectives. Studies have shown that these are important mediating variables in research with vulnerable populations [12].

Nevertheless the findings are of relevance to our setting. They highlight the need for education and open discussions on the issues of research with the mentally ill. Informed consent and decision making capacity are difficult issues in any setting and become more so when dealing with vulnerable populations like mentally ill patients. More education about the research process may be needed. The perspectives of nurses should be explored as they have important implications on patient recruitment and support, as well as nursing support for research.

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OPINION

ASEAN Psychiatry: past, present, and future

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Abstract
The Association of South East Asian Nations (ASEAN) was formed in 1971, and 10 years later the ASEAN Federation for Psychiatry and Mental Health (AFPMH) was formally launched. This article reviews the objectives, structure, membership, and the principles of rotational participation and responsibility of the AFPMH, which has just celebrated its jubilee anniversary last year. Twenty-six years have passed, and the AFPMH has achieved many successes, including the congress, which is currently held every two years, and the ASEAN Journal of Psychiatry, which may be the oldest regional journal in the Asian continent. The bright future of ASEAN psychiatry is expected but relies heavily on the unity and commitment of all individual psychiatric associations within the ASEAN.

Introduction

The term ASEAN refers to the political, economic and social grouping of Association of South East Asian Nations formed in 1971. Initially, ASEAN composed of five countries i.e. Indonesia, Malaysia, Philippines, Singapore, and Thailand. Later, ASEAN enlarged its membership to form a larger group of 10 countries in Southeast Asia that now include Brunei Darussalam, Cambodia, Laos, Myanmar and Vietnam. Taken together, ASEAN has a population of about 520 million people with a wide range of GNPs and incomes. The ASEAN region is geographically situated at the heart of Southeast Asia and generally has a tropical climate but is extremely diverse in political, religious, linguistic, and ethnic origins. Food, customs, and culture too vary widely. Politically, four of the countries experienced British colonial rule, three were under French colonial rule, another was under Dutch rule, one was under the Spanish and later American rule, and one has had no colonial past. The ASEAN region comprises low, middle-low, middle-high, and high income countries. There are approximately 2,200 psychiatrists in the ASEAN countries at present.

The ASEAN Federation for Psychiatry and Mental Health (AFPMH) was formed in 1981 in Bangkok, Thailand after more than 10 years of contacts, discussions, and negotiations among the psychiatrists in Indonesia, Malaysia, Philippines, Singapore, and Thailand, the five original member countries of ASEAN.

It was the far –sightedness of the Founding Father of the AFPMH and its first president Prof. R. Kusumanto Setyenegoro that brought the psychiatrists of the original five countries together in the early and mid-

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seventies at national meetings of psychiatrists in Jakarta, Indonesia to start the dialogue towards the forming of AFPMH. After several attempts in 1973 in Kuala Lumpur, a tentative decision was made to form an Association of Psychiatrists of ASEAN. An ASEAN Forum on Child and Adolescent Psychiatry (AFCAP) was started in 1977 in Jakarta and is held every two years in turn in each of the 5 ASEAN countries. But the idea of an ASEAN Psychiatric Association ran into some problems, and it was not until 1981 that the AFPMH was formally launched in Bangkok. The First AFPMH Congress was held in Bangkok in 1987 along with the 6th ASEAN Forum on Child and Adolescent Psychiatry. Since then the AFCAP has always been held concurrently with the ASEAN Congress. The language of the congress was in English but later in subsequent congress offered other local language sessions in some ASEAN countries.

Objective

The AFPMH was formed to improve the psychiatry and mental health in ASEAN countries through better collaboration between psychiatrists in member and joint meetings, discussions, and conferences.

The Presidency of the AFPMH has been held in turn by the following psychiatrists from its founding in 1981 to date. (Table 1)

Structure

The structure of the AFPMH may be described as both cordial and user friendly. It is perhaps better described by words such as "mai pen rai" in Thai, or "tidak apa" in Malay, (meaning it does not matter) with a minimum of bureaucracy and even less politics; and in many ways it reflects the cultures of the region. The simple constitution was formulated by consensus and friendly compromise. The structure was deliberately kept simple and essentially a federation of intact national associations to encourage exchanges and not restrict exchanges at a regional level.

AFPMH membership

Membership of the AFPMH is open to national psychiatric associations of ASEAN countries. There is no individual membership. Members of all national associations which are AFPMH members are at liberty to attend the conferences or workshops of the AFPMH with preferential fees. In 2006, Prof. Pichet Udomratn, the current President of the AFPMH, proposed to the AFPMH council to accept national psychiatric associations of China, Japan and Korea to be the official partners of AFPMH,

Table 1: List of presidents and congresses of the AFPMH

President	Country	Years	Congress	Year
Prof. R. Kusumanto Setyenegoro*	Indonesia	1981-84	------	-----
Col. Dr. Aroon Showanasai	Thailand	1984-87	Bangkok	1987
Prof. Tsoi Wing Foo	Singapore	1987-89	Singapore	1989
Assoc Prof. M. Parameshvara Deva	Malaysia	1989-91	Kuala Lampur	1991
Dr. Efferen Reyes	Philippines	1991-93	Manila	1993
Prof. Dadang Hawari	Indonesia	1993-95	Bandung	1995
Dr. Chutitaya Panpreecha	Thailand	1995-97	Bangkok	1996
Dr. Selvadurai Jeyarajah	Malaysia	1997-99	Petaling Jaya	1998
Dr. Ng Li Ling	Singapore	1999-01	Singapore	2001
Prof.Cornelio Banaag	Philippines	2001-03	Cebu	2003
Dr. G. Pandu Setiawan	Indonesia	2003-06	Jakarta	2006**
Prof. Pichet Udomratn	Thailand	2006-Present	Bangkok	2008

* Founder president

** The congress was postponed from 2005 due to the Tsunami

which got along with the ASEAN policy framework to include those 3 countries under the name called "ASEAN Plus Three". The AFPMH is not a member of WPA, but it is in official relationship with the ASEAN Secretariat in Jakarta in which it has been registered as an NGO and recently joined the Asian Federation of Psychiatric Associations (AFPA) in 2007.

AFPMH council

The council of the AFPMH is made up of the followings:

- President –from the country nominated to head the Secretariat of the AFPMH,
- Vice President – from the next country to host the Secretariat of the AFPMH,
- Hon. General Secretary – from the country of current president,
- Hon. Treasurer – from the country of current president,
- Council members – from the serving presidents of all national associations,
- Editor of the newsletter, Journal by a separate rotation by country, again by consensus

Presidency and the secretariat

Posts of President, Secretary, and Treasurer and the establishing of a secretariat are the responsibility of the psychiatric association of the nation to whom the current AFPMH Council has given the task. So as to give time for the national associations to form the structure, the next President is chosen two years earlier as the AFPMH Vice president. The reason for giving the three posts of President, Secretary, and Treasurer to the country hosting the secretariat is that it allows easy communication between the president and key members, who will run the AFPMH Secretariat for the next two years.

The presidency and secretariat moves by consensus from one country to the next. Once a national association is given that task, it is the duty of that association to come up with a suitable name as decided by the national association. The chosen person may be a person of stature in that country's psychiatric association, and not necessarily the serving president of the national association. At that time that country's psychiatric association is also given the task of choosing its own AFPMH Secretary and Treasurer. The selection of the future AFPMH president is the responsibility of the national psychiatric association and not the other ASEAN countries or the council. The running and expenditures of the secretariat of the AFPMH will then be the responsibility of the President and the national association. The national association and the President will also be the organizers of the next ASEAN Congress of Psychiatry and AFCAP.

Council members

They are normally the presidents of member associations of the AFPMH. They may on occasion send representatives to the meetings if they can not attend in person. They may serve on the council for longer than two years if they continue to be the national presidents.

Editor

The editor is chosen by the country that (also in rotation) hosts the ASEAN Journal of Psychiatry, which may not coincide with the ASEAN Presidency. Table 2 shows the editor list of the journal.

Term

All posts of office bearers in the council of the AFPMH are for two years. The national association members of the council may be on the council if they are concurrently elected Presidents of their own national associations for more than two years. (it must be accepted that individual country associations have different terms for their own presidents and secretariat, but that this should not interfere with the running of the AFPMH or the secretariat). The two positions of President or Secretary or Treasurer may or may not be concurrent or may only partially overlap. In any case the same person should serve the AFPMH for the entire

Table 2: Editor list of the ASEAN Journal of Psychiatry

Editor	Country	Years	Volume	Number of Journal
Assoc.Prof.Kok Lee Peng	Singapore	1991-1993	1-3	4 (twice a year)
Prof.Suwatana Aribarg	Thailand	1993-1995	3-4	4 (twice a year)
Prof.M.Parameshvara Dava	Malaysia	1995-1997	4-5	4 (twice a year)
Dr.Anna Josefina Vazquez-Genuino	Philippines	2003	6	1 (only one copy)
Dr.Danardi Sosrosumihardjo	Indonesia	2006	7	1 (only one copy)
Prof.Manit Srisurapanont	Thailand	2007-Present	8	expect to be twice a year as usual

There were some problems to continue the journal from 1997-2003

two years term, except in case of emergency.

Council meetings

It is the responsibility of the President of AFPMH and his secretariat to call for and host a council meeting every year during his term of presidency, usually in his own country. In practice this means that the council meeting is held once with the congress at the end of the term of the president and one on a non-congress year. This other meeting is usually held in conjunction with a national meeting. Because of the advance of information technology, the council now communicates through email, so the council meeting started to meet face to face once every two years from the year 2001.

It is the responsibility of the President to arrange for passage, accommodation, and meals for all invited members of the council, and usually this means that they also do not pay for the congress fees if any. For airfare, it started from 2006 that the local organizing committee could not support for the airfares of the Presidents of national associations to attend the congress. And this has been accepted by the AFPMH council.

ASEAN traveling fellowship program

The AFPMH in its 1989 Council meeting held in Singapore accepted a plan to encourage young psychiatrists to travel to each other's countries under the ASEAN Traveling Fellowship Program to understand psychiatric practices, problems, and innovations in services and training. This was carried on several occasions by some young psychiatrists' visits to Indonesia, Vietnam, Cambodia, and Thailand. Under this scheme, the sending country bears travel expenses, and the receiving country provides local hospitality and arrangements for lectures and visits while the young psychiatrist bears pocket expenses. The scheme has great potential and can help cement ties among the future leaders in psychiatry in the region.

Expansion of the AFPMH membership

Although ASEAN has 10 member countries, the rotation of AFPMH presidents and hosting of congresses is still limited to the five original member countries, namely, the PDS-KJI, MPA, PAT, PPA and SPA from Indonesia, Malaysia, Thailand, Philippines, and Singapore, respectively. The remaining five newer ASEAN countries though known to the original five and have participated in the ASEAN congresses of psychiatry on several occasions have not actively participated in its deliberations on a regular basis. There are several reasons for this. Brunei, Cambodia, and Laos have no psychiatric associations yet, while Vietnam and Myanmar, for other reasons, have not formally joined AFPMH activities. However contacts between psychiatrists from all these countries at a personal level are not only regular but fairly strong.

AFPMH congress

The ASEAN Congress of Psychiatry now coming to its 11th Session, is held biennial

and by tradition ends the term of the serving AFPMH president. It is organized and held in his country and hosted by that country's national association. All funds for the congress organization and all profits or losses sustained by the congress are the responsibility of the host country and its association. The Child Psychiatry Forum is now moving towards its 15th Session and held concurrently with the AFPMH congress at the same venue as the AFPMH congress.

The Future

The AFPMH has just celebrated its Silver Jubilee last year in Jakarta where its Founding Father and the first President, Prof. R Kusumanto Setyenegoro was honoured. Twenty-six years has passed since the AFPMH was first established in 1981. Our federation has achieved many successes such as the congress held every two years and our journal, the ASEAN Journal of Psychiatry, which was started in 1991. This may be the oldest regional journal of psychiatry in Asia, comparing with the South Asian Journal of Psychiatry, the upcoming SARRC Psychiatry Journal, or the Asian Journal of Psychiatry. However, due to the transfer of the editorial office every two years, following the rotation of the Presidency, there are some obstacles in continuing this journal.

But more than scientific exchanges, conferences, and journals, the AFPMH, which started over 26 years ago, has brought about a closer community of over 2,200 psychiatrists in ASEAN countries and in fact forged ties that have gone far beyond anyone's dreams in 1981. Following the devastating Tsunami of December 2004, the steady stream of Malaysian psychiatrists from the Malaysian Psychiatric Association provided psychiatric assistance to the survivors in Acheh, Indonesia. The AFPMH, as the oldest regional psychiatric association, has gone beyond the region to forge links with China, Korea, and Japan in 2006 through the ASEAN Plus Three Partnership, and in 2007 the AFPMH joined as a founder member of the newly formed Asian Federation of Psychiatric Associations (AFPA) alongside the SAARC Psychiatric Federation (SPF) The South Asian Forum for Mental Health and Psychiatry – International (SAFMHP-I) and the soon to be launched East Asian Psychiatric Federation. In the 21st century also called the Asia-Pacific Century, it is the cooperation among countries and partnerships that will be the bedrock of progress. In this, the AFPMH has pioneered the formation of Asian regional psychiatric bodies in an age when individualism was the order of the day. For that we have our early presidents, Prof R. Kusumanto Setyenegoro and General Aroon Showanasai to thank.

The future of ASEAN psychiatry does not depend on any single national psychiatric association or any psychiatrist in the ASEAN region but relies heavily on the unity and commitments of all individual psychiatric associations within the ASEAN to open up a new way to improve the mental health of our people.

Editor's note

Prof. Pichet Udomratn and Prof. M Parameshvara Deva are President and Past President of the ASEAN Federation of Psychiatry and Mental Health, respectively.

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OPINION

Symptoms, diagnoses, and pharmacotherapy in psychiatry

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Abstract
Clinical drug trials have been employing "one size fits all" approach based on DSM diagnostic categories and standard rating scales. The conclusion or outcome has been similar two thirds response for all. Treatment strategy should focus on individual patients with understanding of their pathophysiology and their psychosocial factors to achieve more than two thirds response.

Introduction

In medicine diagnosis is preferably made according to known *aetiology* or elucidated *pathophysiology*. In addition, nowadays, management follows certain *'evidence-based medicine'* guideline or algorithm established by some *consensus* and recommended as the gold standard or bench mark.

In psychiatry, mental disorder or diagnosis is generally based on *cluster of symptoms* (which could be evolving and hierachical) or *syndrome* with a (arbitrary) *duration criterion* as well. Treatment is thus more or less *symptomatic* or on understanding of *pathophysiology*. With advance in *biological* psychiatry e.g., psychopharmacology and neuro-imaging, pathophysiology of mental illness is thought to be understood in terms of neuro-anatomy, neuronal/neural circuitry, neurotransmitters and receptors systems. *Specific class of psychotropic drugs is developed for specific category of mental disorders*. However, the brain structures and their functioning could be altered and influenced by the individual's psychic experience, physical needs and environmental stimuli.

Strangely, in clinical drug trials the response rates of common mental disorders such as anxiety, depression and schizophrenia, respectively, to each drug within the specific psychotropic class investigated have been about *two thirds* (not excluding placebo effect). The standard conclusion is that within each class of drugs the *efficacy* for each disorder is about the *same* i.e., antipsychotic A is as effective as antipsychotic B in treatment of schizophrenia and antidepressant X is as effective as antidepressant Y in treatment of major depression. The main difference or selling point is in the *side effect profile* or *adverse reaction* of the drug.

Despite the two thirds response phenomenon, diagnostic categories are becoming *more* differentiated, perhaps, taking into consideration multi-factorial causes and varied manifestations. This might suggest specific *nosological* entity. However in recent years, psycho-pharmacotherapy has become *less* differentiated. Drugs *registered* originally for *specific* mental disorders are now promoted to treat other categories of mental disorders that may probably have *similar/shared common symptoms*

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or *pathophysiology* such as hallucination, delusion, disturbed behaviour or mood and suicidal risk as in schizophrenia, affective disorder and organic brain syndromes. This is so despite the exclusion criteria of other co-morbid conditions or secondary symptoms in research. The *crossing over* of drug treatment is likely to be driven by expiry of the *patent* for a specific disorder and *market forces*. Nevertheless, it would also mean a *necessity to review* the diagnosis of mental disorder, clinical drug trial and the so called evidence-based medicine in management.

Diagnosis

It is generally agreed that the cause of mental disorder is *multi-factorial* spanning across the individual's physical, psychological, social and spiritual attributes and development. These attributes *inter-relate, interact, integrate* or *disintegrate/dissociate* from the time of the individual's conception to the time of consultation. Mental disorder is present when there is abnormal subjective experience and anomalous behaviour observed. The in vogue and rapid advance in brain imaging have provided colourful and impressive findings but they do not explain fully the cause and effect, mechanism or process or the actual pathophysiology of mental disorders which are too *complex* and *dynamic* to be pigeon holed. The individual's mental functions and psychopathology are too inter-related, interactive, integrated or disintegrated/dissociated, affecting his behaviour and his environment. In other words, the whole personality is involved. *Diagnosis* that is based on symptoms and duration criterion alone is *not the end all* but part of the total assessment in the approach to holistic management.

Clinical drug trials

'Evidence-based medicine' in psychiatric treatment derives mainly from *clinical randomized, double blind and placebo controlled drug trials* which have been carried out on diagnostic categories *dominated by DSM's definition and criteria, selected questionnaires* or *rating scales on symptoms, limited patient populations, fixed period of time* and *complex statistical analyses*. Individual patients are reduced to a *consensus generic diagnosis* and given *uniform regime of drug treatment*. This may satisfy the scientific requirement of drug trial but distract from proper holistic management of individual patients. Psychosocial factors and stressors, cultural and environmental influence are ignored. So far research and clinical trials focus primarily on *symptoms reduction as evidence of efficacy*. However absence of symptoms does not mean capability to function and presence of symptoms does not preclude reasonable functioning. More recently there is a shift of therapeutic aims to *subjective indices* such as patient's report on *quality of life*. Apart from objective research finding and subjective report of satisfaction, a third possible area for inquiry could be the *carer's or family's view* on therapeutic outcome.

It is often asked whether all antipsychotics, antidepressants, anxiolytics, anticonvulsants and mood stabilizers are respectively the same. The more appropriate question to ask is whether all psychotic, depressed, bipolar and anxious patients are respectively the same.

Evidence based medicine in psychiatry

The multi-levels guideline or algorithm of treatment is introduced and recommended supposedly based on evidence of clinical research. In psychiatry, the aims of such guidelines are symptoms reduction or symptomatic treatment. They are really *one size fits all, mono-dimensional, guided trial and error management*. The fact that in clinical practice various classes of psychotropic drugs have been tried out on various diagnostic categories with some efficacy means that there is a *lack of specificity in specific drug for specific diagnosis* on which clinical drug trials with exclusion criteria are based. Thus benzodiazepines,

SSRIs, TCAs, beta-blockers, anticonvulsants, mood stabilizers, conventional or atypical antipsychotics have all been tried and used on anxiety disorders, mood disorders and schizoaffective disorders with variable significant efficacy or up to similar two thirds response (but *not necessarily the same two thirds* for each drug). This is not surprising as there is *interplay* of multiple neuronal/neural circuits in different regions of the brain and various neurotransmitters and receptors systems involved in each disorder. However in *holistic management, thorough biopsychosocial evaluation* and *understanding of the specific individual patient* and his *dominant symptoms* or *psychopathology* would help to decide on the *specific* drug *most suitable* for him/her and the *stage* of *specific disorder* he/she suffers from.

The same may apply to *ECT* which is recommended, diagnostic wise, mainly for severe depression with suicidal risk in particular. However, in practice it has been widely prescribed more often for *management indications* such as self harm behaviour or threat/violence towards others that are not responding to medication, regardless of diagnosis. It is like rebooting the computer.

Paradigm shift (individualized treatment)

Instead of treating all patients according to clinical guide of specific diagnosis with specific drug following standard order of levels, perhaps, we should focus more on the *individual* patient and his *biopsychosocial profile*. It is just as important to know the patient and understand his problems besides his diagnosis. When active psychosocial intervention is included in the management the outcome should improve further.

The choice of the first line drug should be according to his psychopathology or symptomatology, family and medical history, past response and affordability. When the effective drug is determined the dosage should be *titrated* to provide *maximal relief of symptoms* with *minimal side effects* and *no adverse reaction*. *Dosing* and *timing* should take into consideration each patient's lifestyle and daily routines e.g. shift work, safety factor. On recovery and remission the patient should be *maintained on minimal medicine spread over a safe maximal interval*. However the patient should *at all times* be *protected with adequate* or *additional dosing* when faced with life events, stress and situations of increased activity and arousal. Such dosing could only be carried out appropriately *in anticipation* if the patient's personal psychosocial circumstances, cultural practice and environmental factors are known and understood. For instance when festivals, examinations, task assignments, employment problems, financial hardships, personal and family crises are approaching or impending suitable dosing and timing of drugs should be advised to prevent a relapse. Even attending an important interview, visiting someone difficult, shopping in a crowded mall or going for a holiday may be helped with additional dosing before starting off. As *anxiety* is the *'mother of psychopathology'* and frequently a *precursor* or *trigger, reinforcing* or *exacerbating factor* and *associated* or *secondary symptom* of many mental disorders, an anti-anxiety drug is often useful to ameliorate most mental disorders and therefore widely prescribed at the primary health care level. *Polypharmacy* though *not* to be encouraged is therefore unavoidable when symptoms are *dynamic*.

Clinical research and drug trials could thus explore on *specific drugs for specific dominant symptoms/psychopathology* or *pathophysiology* rather than specific diagnosis. To illustrate my point, based on personal *anecdotal cases* a combination of a conventional antipsychotic and a SSRI may be more effective for persistent auditory hallucination and delusional idea. The hy-

pothesis is that these psychotic symptoms may have an underlying unconscious or subconscious recurrent thought (i.e., *unconscious rumination*) akin to *conscious obsessional rumination*. Tianeptine acting through the HPA system may be more effective for *stress induced* rather than *trait* anxiety and depression and thus protect against high expressed emotion. Mirtazepine, a NASSA with $5HT_2$ antagonist combined with a conventional antipsychotic (D_2 antagonist) may *simulate* expensive atypical antipsychotic (with D_2 and $5HT_2$ actions) and help to cut cost.

It could be concluded that there is a *time* and *place* for *every drug*, *old* or *new* whether in *monotherapy* or in appropriate *polypharmacy*. The human person is so *complex* that one should avoid forcing square pegs into round holes. The fact that there are many *different* rating scales or measuring instruments and diagnostic inventories or schedules used indicates that no one has exclusive answers. *There can be universal truth and application derived from the careful studies of single cases. But on the other hand what is scientific and statistically correct and significant may have no predictive value for specific individuals.*

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SHORT REPORT

One-year incidence of diabetes mellitus in Thai schizophrenic patients

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Abstract

Objective: The association between schizophrenia and diabetes mellitus (DM) has been recognized, but its underlying reasons are unclear and likely to be multifactorial. This prospective study aimed to assess a one-year incidence rate and risk factors of DM in Thai schizophrenic patients.

Method: We screened all DSM-IV schizophrenic patients who visited the psychiatric clinic between February 2003 and May 2004. A fasting plasma glucose level (FPGL) of 126 mg/dL or more was applied for a diagnosis of DM. Each subject was assessed at baseline, 6 months, and 12 months.

Results: During the one-year follow-up period, four of 43 subjects (9.3%) developed DM (FPGL $\geq$ 126 mg/dL). One and three participants developed DM at 6 and 12 months, respectively.

Conclusion: Thai schizophrenic patients may develop DM rapidly. Long duration of schizophrenia and long-term antipsychotic treatment may play a role in increasing risk for DM in this population.

Key words: *diabetes mellitus, schizophrenia, prevalence, incidence.*

Introduction

Diabetes mellitus (DM) is a metabolic disease characterized by hyperglycemia, and is defined by fasting plasma glucose (FPG) levels of 126 mg/dL or more. Defects in insulin secretion, insulin action, or both are the causes of this glucose dysregulation. DM is an issue of concern due to its high prevalence, serious consequences, and high cost of treatment.

Recently, attention has focused on a potential link between schizophrenia and diabetes. It has been found that schizophrenic patients are approximately twice as likely to develop DM as the general population [1]. One key to this vulnerability model is in the manner in which schizophrenia patients store excess fat. It is hypothesized that a tendency towards abdominal or visceral adiposity places schizophrenia patients at risk for the development of DM, and eventually for Type 2 DM through the correlation with insulin sensitivity [2,3]. Factors increasing the risk for obesity also probably increase the risk for DM, including inactive lifestyle, poor dietary choices, and side effects of psychotropic medications [4-6].

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Most of the studies of DM in schizophrenic patients have been carried out in Western countries, so evidence is relatively sparse in the Asian schizophrenic population. We therefore proposed conducting a prospective study of the one-year incidence rate of DM in Thai schizophrenic patients.

Methods

Study location

This study was carried out at a psychiatric clinic in Chiang Mai University Hospital, Chiang Mai, Thailand, which is a general hospital providing tertiary care for people in northern Thailand. The study was approved by the Ethics Committee for Research, Faculty of Medicine, Chiang Mai University.

Subjects and criteria

We screened all DSM-IV schizophrenic patients who visited the psychiatric clinic for their eligibility to participate in the study. The inclusion criteria were patients aged 18 years old or more and an intake of antipsychotics for at least three months. The exclusion criteria were: i) hospitalization due to physical illnesses during one month prior to the visit; ii) pregnancy; iii) regular treatment of renal hemodialysis; iv) schizophrenic patients who took medications for DM, dyslipidemia, or hypertension; and v) patients who have DM at baseline.

Assessment and outcomes

All subjects received fasting plasma glucose reassessment at 6 (range 5-7) months and 12 (range 11-13) months after baseline evaluations. The one who missed the 6-month assessment was still allowed to have a 12-month evaluation. A fasting plasma glucose level (FPGL) of 126 mg/dL or more was applied for the diagnosis of DM.

Statistical analyses

Percentages of subjects who developed DM were calculated. For the risk assessment, significant differences in proportions were determined by using Fisher's exact tests, and mean differences were assessed by using the Student-t tests. The p-values were two-tailed, and the term statistically significant implies a p-value of $<.05$.

Results

Characteristics of the participants

Of 101 schizophrenic patients who visited the clinic, 25 patients (24.8%) did not give consent. Thirteen patients (17.6%) could not visit by themselves. Six patients (5.9%) were excluded because of taking medications for DM, dyslipidemia, or hypertension. Fifty-seven patients participated in the study, but five of them (14.0%) were excluded due to the finding of DM at baseline. In total, 52 subjects (19 men and 33 women) participated in this study.

Incidence of DM

Forty-three subjects were assessed at 6 and 12 months. During the one-year period, four of 43 subjects (9.3%) developed DM (FPGL $\geq$ 126 mg/dL). Due to the small sample size, only the raw data for subjects developing DM were presented (see Table 1).

Discussion

This study found that four of 43 Thai schizophrenic patients (9.3%) developed DM during a one-year period. This figure is much higher than that of the general population in Thailand (female and male were 0.2 to 12.7 per 1000 and 0.5 to 25.6 per 1000) [7].

The limited sample size prevents us from using the statistics to analyze the risk factors, but the data show that early age of onset of schizophrenia and long term use of antipsychotics may be suspected as risk factors for schizophrenic patients developing DM. Other limitations of this study include a large proportion of excluded patients, a small sample size, the lack of a control group, and a high drop-out rate. In this study, selection bias was minimized by including all patients who visited our clinic. The participants would be similar to schi-

Table 1: Main characteristics of subjects developing diabetes mellitus during one-year follow-up in comparison to all subjects

	Subjects developing diabetes mellitus				All subjects (n=43)
	Subject 1	**Subject 2**	**Subject 3**	**Subject 4**	
Sex	Male	Female	Male	Female	
Age	35	36	28	54	35.5 ± 11.9
Age of the first episode	21	23	20	38	26.8 ± 11.1
Duration of antipsychotic treatment	14	13	3	16	8.1 ± 6.3
Obesity (BMI ≥30 kg/m^2)	Yes (37.32 kg/m^2)	No (15.60 kg/m^2)	No (25.62 kg/m^2)	No (22.23 kg/m^2)	2
Family history of DM	No	No	Yes	No	6

zophrenic patients seen in everyday clinical practice.

In conclusion, Thai schizophrenic patients may be at risk of developing DM. The findings support the importance of FPGL monitoring in schizophrenic patients, especially those receiving atypical antipsychotics [8].

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CASE REPORT

Fluoxetine plus insight meditation therapy for an SLE patient with depressive disorder: a two-year follow-up

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Abstract
Treatment of SLE with comorbid mood disorder is relatively challenging. We report the improvement of both disease activity and mood symptoms in a female patient treated with fluoxetine and insight-meditation therapy (IMT). Her clinical and mood symptoms, assessed with the Hamilton Rating Scale for Depression (HAM-D) and the Hamilton Anxiety Rating Scale (HAM-A), improved continuously and both went down from 33 and 26 to 3 and 0 within 2 years of the combination treatment. Psychological distress in SLE may be a condition which responds well to fluoxetine and insight-meditation.

Key words: *systemic lupus erythematosus, depressive disorder, disease activity, fluoxetine, insight-meditation.*

Introduction

Many SLE patients have psychiatric complications such as depressive disorder, psychotic disorder, and cognitive disorder. Depressive disorder is a common problem in these patients. Eighty-five per cent of SLE patients have depressive disorder [1].

Possible pathogenic hypotheses include direct activity of the disease on the central nervous system by autoantibodies, side-effects of medication or anxious reaction to a chronic and potentially lethal illness. Patients with major depression have a trend towards having greater severity of SLE disease activity compared to those without major depression [2].The management of the patients should include treatment of the disease itself and specific psychotropic treatment.

At present, there is no study about medication for depression in SLE. Serotonergic antidepressants are considered as first-line drugs for depressive symptoms [3]. However, similar to other antidepressants, serotonergic antidepressants have a propensity to induce a manic/hypomanic episode [4], especially in patients with organic brain disease such as SLE [5]. Psychosocial support may play a buffering role in the adjustment to a chronic disease [6].

In Thailand, insight-meditation is a very common practice used to develop moment-by-moment awareness, approaching ongoing experience with an attitude of non-judgment and acceptance. IMT is a cognitive technique applied to train patients to be relaxed and concentrate on the mind. The ultimate goal of the therapy is to understand the fundamental characteristics of life, in particular the impersonality or "no-self". IMT enhances well-being, mood, at-

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tention, mental focus, and decreases stress tolerance. Proper training and everyday practice play a role in maximizing the benefits. Recent findings have shown that meditation practice is associated with structural changes in apparent cortical plasticity [7].

Taken together, treatment of depressive disorder in SLE is relatively challenging and is not well established. In this report, we present a case of SLE with underdiagnosed depressive disorder who responded well to antidepressant treatment and IMT. When SLE patients were clinically inactive, they showed lower levels of psychological distress.

Case report

In January 2005, a 33 year old SLE patient with a one-year-history of insomnia and many years of irritable mood was referred to our psychiatric outpatient clinic. Hashimoto's thyroiditis had been diagnosed in October 1994. SLE was finally diagnosed three years later. She previously had psychological stress which had never been explored. During the first visit to the psychiatric department, the patient had depressed mood. She had a long history of depressed mood and markedly diminished interest in her daily activities, felt tired, worthlessness, impaired concentration and lack of appetite, with a one year history of insomnia. She could not work at all.

In the past 11 years, her disease activity had fluctuated. She always presented with thyroiditis, oedema, puffy eyelids, polyarthritis, malar rash, dry eyes, anaemia and proteinuria. After she received high dose steroids, chloroquine and eltroxin, her clinical condition improved for a couple of months. After tapering her steroid dose, her clinical both depression and SLE recurred. She had received prednisolone 5-30 mg/day.

Ms A was diagnosed as having DSM-IV-TR major depressive disorder. Her HAM-A was 33 and her HAM-D was 26. She was given 10-20 mg/day of fluoxetine combined with supportive psychotherapy. However, she became irritable, had insomnia and developed a hypomanic episode within two months of fluoxetine treatment. We reduced her fluoxetine to 10 mg/day and added lorazepam 0.5 mg to improve her sleep problem. We trained her to practice insight-meditation and to observe her mind-body relationship. After practising IMT, she could gradually observe how her clinical SLE and depression seemed to recur if she felt under stress.

In the first few months after practice, she gradually calmed down, relaxed and concentrated with her emotion. After 6 months, she became calm, did not felt stress as the result rarely developed active SLE again. After combined medication/IMT for two years, not only did her depressive symptoms improve but also her SLE disease activity also improved gradually. Her rheumatologist was able to taper down her steroids and she received prednisolone 2.5-5 mg/day. She felt better than before. She returned to study and improved her quality of life. Her HAM-A was 3 and her HAM-D was 0.

Discussion

Psychiatrists should keep in mind that chronic medical illnesses such as SLE can have depressive comorbidity. SLE is a disorder where in addition organic brain change may enhance that risk. Diagnosis of depression in SLE could lead to a better adapted prescription of corticosteroids and/or immunosuppressive drugs and specific psychotropic drugs, contributing to avoiding drug-induced psychiatric problems in SLE. The existence of psychiatric manifestations in SLE constitutes an indisputable clinical reality that each practitioner must be able to recognize and treat.

Understanding the effect of psychosocial factors in SLE may improve patient outcomes through psychosocial interventions

aimed at reducing clinically-active SLE and increasing coping skills and social support. Significant differences were found when we compared the patient's level of anxiety depressive scores and the number of clinically active SLE flare-ups before and after psychosocial treatment. We conclude that in SLE patients, psychiatric and psychosocial disorders during acute episodes seem in part to be related to the psychological impact of disease activity on patients.

Medication treatment combined with psychotherapy is significantly better than psychosocial intervention or medication alone in reducing the severity of depression comorbid with SLE. As there has been no well established treatment of SLE-depression comorbidity, further clinical trials of medication plus psychosocial intervention for this condition are warranted.

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