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Manit Srisurapanont, MD.
Department of Psychiatry, Faculty of Medicine, Chiang Mai University
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Manit Srisurapanont, MD.
Department of Psychiatry, Faculty of Medicine, Chiang Mai University
Muang, Chiang Mai, Thailand 50200
Email: msrisu@yahoo.com

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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.
- *Opinions:* This category is intended for articles expressing views, judgments, and/or advices on the matters relevant to mental health and psychiatry. Opinions 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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The title page should carry the following information:

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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.

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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.
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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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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.

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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].

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More than six authors:
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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.
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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
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• 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).

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

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

UNPUBLISHED MATERIAL

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• 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.

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• 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

Tables

Tables capture information concisely, and display it efficiently; they also provide information at any desired level of detail and precision. Including data in tables rather than text frequently makes it possible to reduce the length of the text.

Type or print each table with double spacing *on a separate sheet of paper*. Number tables consecutively in the order of their first citation in the text and supply a brief title for each. Do not use internal horizontal or vertical lines. Give each column a short or abbreviated heading. Authors should place explanatory matter in footnotes, not in the heading. Explain in footnotes all nonstandard abbreviations. For footnotes, use the following symbols, in sequence: *,†,‡,§,‖,¶,**,††,‡‡

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Figures should be numbered consecutively according to the order in which they have been first cited in the text. Type or print out legends for illustrations using double spacing, starting *on a separate page*.

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A farewell message from the AFPMH President

Dear Colleagues,

It is my great honour to have served as the President of the AFPMH during the last two years.

In that time the AFPMH has achieved many goals; for example,

- expanding the relationship between the AFPMH and the four societies of East Asia (Chinese Society of Psychiatry, Japanese Society for Psychiatry and Neurology, Korean Neuropsychiatric Association, Taiwanese Society of Psychiatry) under the programme called "AFPMH plus East Asian" partnership programme
- joined the World Psychiatric Association (WPA) by organising a symposium at the WPA Regional Meetings in both Seoul and Shanghai between 18-20 April and 20-23 September 2007 respectively. We have also joined the WPA International Congress in Melbourne between 28 November – 2 December 2007 where we organised a workshop on "Postgraduate Training in ASEAN: Similarities and Differences from the West"
- printing the ASEAN Journal of Psychiatry on time, 2 issues per year, and it is the first time that readers can now access the journal through our website at www.afpmh.net. I would personally like to express my sincere thanks to Prof. Manit Srisurapanont, an editor of the ASEAN Journal of Psychiatry for his hard work in getting this journal released on time and full of very interesting and high quality papers
- opening our organisation website which is fully supported by the Psychiatric Association of Thailand (PAT). This website serves as a gateway to access our journal, our congress and links to other national associations throughout ASEAN.
- organising the great success of the 11th AFPMH Congress in Bangkok, Thailand between 26-29 August 2008.

Last, but not least, I have to thank you all, the staff of the AFPMH council who have joined with me to make all of the good activities happen during the past two years. I do hope that the new AFPMH President, Prof. Mohamad Hussain Habil will carry on the success and even bring higher achievement over the next two years.

With all the best

Prof. Pichet Udomratn, MD
President, ASEAN Federation for Psychiatry and Mental Health (AFPMH)

ASEAN Journal of Psychiatry 2008;9 (2):54.

A farewell message from the Editor

"If we don't change, we don't grow. If we don't grow, we aren't really living." Gail Sheehy

Over the years, it has become customary for a departing Editor to write a few words about the past, present, and future of the journal – where it come from, its current state, and its future possibilities. In addition, I wish to take this opportunity to thank a number of people who kindly support me and the journal.

After the founding of ASEAN Federation for Psychiatry and Mental Health (AFPMH), its official journal, *ASEAN Journal of Psychiatry*, was launched in 1991. Since then, this journal has become a place for exchanging skills, knowledge, experience, and opinions among psychiatrists and mental heal professionals, in particular those working in South East Asia. Despite so many difficulties, the journal still survives in the era of countless scientific journals.

Although the journal has not had a tremendous change over the past two years, it still has some achievements, especially on the regularity of journal issuing. The solving of this problem is important in encouraging authors to submit their manuscripts for publication. The online publication of this journal is also more or less useful in expanding the journal readers. However, the journal still has a number of limitations. As a less prestige journal not indexed by a medical database, it is not an attractive journal for high quality articles. The unaffordable cost of printing and mailing is also an obstacle in providing a hard copy to each AFPMH member. Taken together with the advancement of internet technology, an online publication only of this journal may be a choice in the future.

Before the step down from the editorship, I wish to take this opportunity to sincerely thank many people appreciably contributing to the journal. First, Professor Pichet Udomratn, President of the Psychiatric Association of Thailand (PAT) and the President the AFPMH (between mid 2006 and mid 2008), who invited me to be the editor, encouraged me to do this job, and provided much-needed support. Second, the Advisory Board, the Associated Editors, and the Editorial Board, who have done a marvelous job in reviewing the manuscripts and preparing the printed copies of the journal. Last, but not the least, all authors, who submitted their work to the journal.

Although my time at the journal is over, I am honored and delighted to have been Editor for the past 2 years. With increasing contributions and an excellent new Editor, Professor Mohamad Hussain Habil, University of Malaya, Kuala Lumpur, Malaysia (email: hussain_habil@um.edu.my), I look forward to the beginning of new and exciting era for the *ASEAN Journal of Psychiatry*.

Manit Srisurapanont, MD
Editor (2007-2008)
ASEAN Journal of Psychiatry
Professor of Psychiatry,
Department of Psychiatry,
Chiang Mai University,
Chiang Mai, Thailand
msrisu@yahoo.com

ASEAN Journal of Psychiatry 2008;9 (2):55-64.

ORIGINAL ARTICLE

Impact of domestic violence: a study in communities of Bangkok Metropolitan, Thailand

RONNACHAI KONGSAKON[1], DAOCHOMPU BHATANAPRABHABHAN[1], & NARUMON POCHAM[2]

[1] *Department of Psychiatry, Faculty of Medicine, Ramathibodi Hospital, Mahidol University. Bangkok, Thailand.*
[2] *Faculty of Law, Eastern Asia University. Pathumthani, Thailand.*

Abstract
Introduction: Domestic violence, now a national health concern, has pervasive effects at both individual and social levels. The objective of this study was to survey the prevalence of DV, the characteristics and the impact of the violence among married women living in the slum communities of metropolitan Bangkok, Thailand. *Methods:* A cross-sectional survey was carried out. A total of 580 married women aged 15 years and above were randomly sampled from seven slum communities in Bangkok. Information on age, education, occupation, income, family size, alcohol use, and experience of DV were collected. *Results:* The prevalence of DV was 27.2%. Most of the violent episodes were triggered either by factors related to personal characteristic of the couples, such as bad temper (89.9%) and being grumpy (83.5%), or circumstantial factors, such as financial problems (74.7%) and suspicion of adultery (28.5%). Twelve per cent of the abuse episodes were moderate violence, and 34.2% was severe violence. The impacts of victims of violence included mental, family, and social problems. The mental impacts, e.g., anxiety, stress and nervousness were found in 79.1%. Others were sad, unhappy, and depressed at 68.4%. Of those, 50.3% could not control their emotion, got angry easily, and threw things. Other important mental episodes were that they wanted to harm others or revenge at 19% and injured themselves or committed suicide at 17.1%. The last was negative attitude about sex at 12.2%. *Conclusion:* DV is common in slum communities and highly related to socioeconomic status, personality characteristics, and alcohol consumption of the couples.

Keywords: *abused women, alcohol consumption, domestic violence, partner*

Introduction

Domestic violence (DV) is one of the most prevalent causes of injury in women. Men who abuse women generally subscribe to the idea of male superiority over women, and the violence is usually used to create and enforce gender hierarchy, as well as to be regarded as punishment for transgressions. The damaging impact of DV is tremendous on woman health. In addition to immediate health effects, long-term health consequences of violence include depression, suicide attempts, and psychiatric disorders.

In USA, it is estimated that one in four families may face DV [1], and 35% of women who seek treatment at the emergency room (ER) faced DV [2]. To estimate the severity of this problem, studies in

Correspondence: Ronnachai Kongsakon, Department of Psychiatry, of Medicine, Ramathibodi Hospital Rama 6 Road, Ratchatewi, Bangkok 10400 Thailand.
E-mail: rarks@mahidol.ac.th

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many countries have found that at least one of three women was beaten, sexually forced, or harmed at least once in her lifetime [3]. The impact of DV on society is very extreme. In the respect of medical expenses, after controlling other factors, medical cost of a woman with physical or sexual violence is 2.5 times higher than that without the violence [4]. Moreover, there are costs incurred by police, court, and legal services for lawsuit and by men who need therapy for their violence. A Cabinet Resolution dated June 29, 1999 objectively paid attention to the issue of DV in Thailand. The resolution was to issue the criteria in solving the problems of violence against children and women and to impose every November to be the month of 'stopping violence against children and women'. This is to encourage the society to be aware of violence against children and women. However, the Friend of Women Foundation gathered information about violence against children and women from five newspapers in 2003 and found that, of 184 cases, 148 cases died. Thirty cases were beaten to death by their husbands, and 13 wives committed suicide [5].

Although DV causes many impacts, it is always seen by the society as a personal problem. This attitude is deeply held and therefore difficult to change. In viewing DV as a personal problem, research has been limited and the magnitude of the problem may not have been discovered. Victims of the DV hardly tell the problem and only come to the hospital or ask for helps when they have physical injuries. Because of this, solving the problem may be difficult. Moreover, some violence may cause death as shown in the newspapers. Therefore, the information collected in the community is very important to help estimate the problem size, especially mental impact which can happen in the early period of violence and lead to the resolution.

The objectives of this study were to estimate the prevalence of DV and to study the characteristics and the impacts of violence among married women living in the slum communities of Bangkok Metropolitan, Thailand.

Methods

This cross-sectional interview survey was conducted in seven slum communities located in Bangkok Metropolitan between March and December 2005. The study was approved by the Institutional Review Board of the Faculty of Medicine, Ramathibodi Hospital, Mahidol University.

All participants provided written informed consent. The study population included community members of 1,164 households. We aimed to select 600 married women, aged > 15 years and were residents in the communities. This number was calculated based on a formula [10] to ensure the 95% confidence interval (CI) of detecting a prevalence rate of DV of 23%, with an error between ±0.03% and ±0.04%.

A sample of 600 households was selected by systematic sampling. A married woman aged > 15 years old in each household was randomly selected as a respondent. The investigator team visited each household and asked for the participant's consent before the interview. Prior to the interview, the study team, including social workers and nursing students, were trained to look out for appropriate characteristics, which could influence the women in their disclosure of violent histories. After the training, the interviewers were able to communicate with people from difficult backgrounds and ask about sensitive issues. Participants were interviewed face-to-face without the presence of their partners, and confidentiality was safeguarded. A structured questionnaire was developed by the research team, which included a psychiatrist, a medical epidemiologist, nurses and social workers who were experienced in taking care of victims of intimate partner violence. The questionnaire included information on age, education, occupation, monthly family income,

family size, regular alcohol consumption of either women or their partners (> two days per week), history of partner violence, frequency of the violence, events triggering the assault, and type/severity of abuse. The questions on woman's experience of violence were about whether in the past 12 months she had been intimidated (belittled, slapped, kicked, beaten, forced to have sex, physically or psychologically or emotionally hurt) by her partner. Those who answered "yes" were asked further on the frequency of the occurrence. The questionnaire was tested in the field before actual data collection.

Results

A total of 580 women participated in the survey (response rate 96.7%). The demographical characteristics of the participants are shown in Table I. Age of participants ranged between 17 and 78 years (mean 42.9 years, SD 12.7 years). More than half of the women were aged ≤45 years. Most of the participants had primary school education or higher. More than half (57.8%) had a monthly income of 125 USD or less. Of the participants, 46.1% reported that their incomes were usually not enough for their daily expenses. Nearly one-fifth of the respondents reported that their partners regularly drank alcohol, and approximately 4% of the women reported themselves as regular alcohol consumers. Overall, 158 (27.2%) of 580 participants reported having experienced DV in the past 12 months.

Table 1 shows the characteristics of five hundred and eighty female interviewees aged 17-87 years old. Over a half of them were under 45 years old (mean=43 years old; range=17-78 years old). Most respondents completed primary education. Over a half of them earned less than 5,000 Baht per month. Two out of three respondents had alcohol consumption in the family. In previous year, there was physical and mental abuse in 158 families (27.2%), and verbal abuse in 197 families (34%).

Table 2 reveals that there were many characteristic features of violence, i.e., look down, insult, treat, force, confine, slap, hit, kick, punch, use material/weapon and sexual force. One hundred and fifty-six cases

Table 1: General characteristics of the samples (N=580)

Characteristics the study population	**Number (%)**
Age group (year)	
<35	153 (26.4)
35-44	171 (29.5)
45-54	156 (26.9)
>=55	100 (17.2)
Education	
No Education	39 (6.72)
Primary School	321 (55.3)
High School	120 (20.7)
Vocational	100 (17.2)
Occupation	
Not working/ housewife	188 (32.4)
Government official/ state enterprise/ self employed	229 (39.5)
Other types of employment	163 (28.1)
Incomes (Thai Bahts)	
<5000	336 (57.9)
5001-10000	122 (21.0)
>10000	122 (21.0)
Alcohol consumption in family	
Yes	375 (64.7)
No	205 (35.4)
In the past year, there has been physical and psychological violence in the family	
Yes	158 (27.2)
No	422 (72.8)
In the past one year, there has been verbal abuse in the family	
Yes	197 (34.0)
No	383 (66.0)

Table 2: Characteristics of physical and psychological violence in the families within the past year (N=158)

Characteristic of the Violence	Number (%)	Frequency of the violence			
		Almost everyday	*Once a week*	*At least once a month*	*Not specified*
		Number (%)	*Number (%)*	*Number (%)*	*Number (%)*
Psychological violence	156 (98.7)	42 (26.6)	36 (22.8)	74 (46.8)	4 (2.5)
Physical violence	35 (22.2)	1 (0.6)	0	17 (10.8)	17 (10.8)
Sexual violence	7 (4.4)	0	0	2 (12.0)	5 (3.2)

Note: For a violence event, violence type might be more than one. Each physical harm event caused more than one type of impact. Psychological violence includes verbally abusing, intimidating, forcing and confining. Physical violence includes slapping, kicking, and using weapons. Sexual violence includes rape.

Table 3: Physical injury of the DV victims within the past 1 year (N=158)

Physical injury	Number (%)
No physical injury	123 (77.9)
Minor injury	25 (15.8)
Minor injury which has to be sent to hospital	7 (4.4)
Major injury which has to be sent to hospital	3 (1.9)

Table 4: Impacts on victims of violence within the past 1 year (N=158)

Impact	Amount (%)	
	Yes	*No*
Mental Impacts		
Worry, stress, nervous and insomnia	125 (79.1)	33 (20.9)
Sad, unhappy and depressed	108 (68.4)	50 (31.1)
Loss of control one's emotion, get angry easily or throwing things	79 (50.3)	78 (49.7)
Harming others or taking revenge	30 (19.0)	128 (81.0)
Self injury / suicidal behavior	27 (17.1)	131 (82.9)
Having negative attitude towards sex	19 (12.2)	137 (87.8)
Family plus social Impacts		
Economic problem	93 (58.9)	65 (41.1)
Family breakdown	27 (17.1)	131 (83.9)
Children engaging in gambling, drug addictions, run away from home or being prosecuted for criminal behavior	21 (13.3)	137 (86.7)
Death, disability or injury of family	20 (12.7)	138 (87.3)
Unemployment or job loss	20 (12.7)	138 (87.3)

of the respondents (98.7%) had been mentally abused. Focusing on the frequency, it was found that such mental abuse occurred almost every day in a fourth of all victims and once a week in a fourth of all victims. Physical abuse such as slapping, hitting, kicking and punching occurred in 22.2% of the respondents. Half of these reported the frequency as being at least once a month, the other half of them did not disclose. Sexual abuse occurred in 4.43% of the respondents and most of them did not specify the frequency of abuse.

Table 3 shows that 77.85% of women who experienced being beaten and other forms of DV did not sustain physical injury. For those who were injured, most of them experienced minor injury (15.8%) only. Whereas 4.4% experienced minor injury and were sent to the hospital, 1.9% experienced major injury and were also sent to the hospital.

Table 4 shows that impacts on victims of violence could be separated into 2 parts, which were mental impact and family plus social impact. The mental impacts with higher frequency were being worry/stress/ nervousness at 79.1% and sad/unhappy/depressed at 68.4%. In addition, 50.3% could not control their emotion, got angry easily and threw things. Other important mental impacts included wanting to harm other or revenge at 19.0%, injure themselves or commit suicide at 17.1%, and have negative attitude about sex at 12.2%.

As for the family plus social impacts, economic problems were the most common at 58.9%. Next was family breakdown at 17.2%, followed by gambling problems, drug problem, run away from home, criminal behavior or members in family death, disability and job loss at 12.0%-13.0%.

Table 5 shows opinions on direction to solve DV. Of the interviewees, 85.7% recommended to have a particular law. For punishment, 55% recommended that offenders should receive punishment in accordance with the laws, and 80% recommended that offenders should receive mental therapy.

Table 6 shows the results of attitude study. For the attitude of power relation, the participants agreed to have right to choose a friend at 53.8%, that man should show the power in house at 33.1%, a good wife should obey her husband at 32.2%. They also agreed that the husband could beat his wife, if he found that she had an affair at 47.2%, she did not obey her husband at 22.1%, either wife or husband suspect the other having affair at 17.9%, she denied to have sex at 14.1%, and he was unsatisfied with her housework at 9.6%.

Regarding attitude towards the resolve of problems, most of the sample suggested that the family problem should be consulted among family members at 77.8%, and although the husband did not behave well towards his wife, others should not be involved at 62.8%.

For attitude towards sex, wife could refuse to have sex with her husband if: she was unwell at 86.9% as the highest; he did not treat her well at 80%; he drank at 71.6%; she did not want to have sex at 66% and she asked him to use a condom but he refused at 64.6 as the lowest. The sample did not agree that a wife had a duty to respond to husband's sexual desire at 46.7%.

Discussion

In this study survey on opinions and characteristics of behavior leading to DV, the information was collected from a group of women who had low income and education.

One forth of women aged 15 years old or more experienced mental or physical violence, which was a similar finding to that of other studies. For example, a study conducted by the Institute for Population and

Table 5: Opinions on direction to solve DV (N=580)

Statement	Agree	Some	Not agree	Not specified
	Number(%)	*Number(%)*	*Number(%)*	*Number(%)*
1. There should be specific laws that will help solve the issue of DV	497 (85.7)	38 (6.6)	39 (6.7)	6 (1.0)
2. Offenders should receive punishment in accordance with the laws	317 (55.0)	88 (15.2)	168 (29.0)	7 (1.2)
3. Offender should receive mental therapy	464 (80.0)	59 (10.2)	51 (8.8)	6 (1.0)

Table 6: Attitude towards the role of men and women (N=580)

Attitude	Percentage of agreement	Percentage of disagreement	No answer
1. Attitude on relationship In term of power			
1.1 Right to choose a friend even if her husband does not agree with her relationship with her friend	312 (53.8)	187 (32.2)	81 (14.0)
1.2 Man should show the power in the family	192 (33.1)	362 (62.4)	26 (4.5)
1.3 A good wife should obey her husband	187 (32.2)	329 (56.7)	64 (11.1)
1.4 Husband can beat his wife if:			
1.4.1 she has an affair	274 (47.2)	241 (41.6)	65 (11.2)
1.4.2 she does not obey her husband	128 (22.1)	399 (68.8)	53 (9.1)
1.4.3 either the wife or husband suspect the other partner of having an affair	104 (17.9)	431 (74.3)	45 (7.8)
1.4.4 she denies to have sex	82 (14.1)	443 (76.4)	55 (9.5)
1.4.5 he is unsatisfied with her housework	55 (9.6)	500 (87.6)	25 (4.3)
2. Attitude towards solving family problems			
2.1 Family problems should be consulted only among family members.	451 (77.8)	97 (16.7)	32 (5.5)
2.2 If a husband does not treat his wife well, people who are not family members should be involved in solving the problem.	162 (27.9)	364 (62.8)	54 (9.3)
3. Attitude towards sex			
3.1 A woman who is married can refuse to have sexual activity with her husband when			
3.1.1 she is not well	504 (86.9)	65 (11.2)	11 (1.9)
3.1.2 the husband does not treat her well	464 (80.0)	92 (15.9)	24 (4.1)
3.1.3 the husband is drunk	415 (71.6)	122 (21.0)	43 (7.4)
3.1.4 she does not want to have sex	383 (66.0)	146 (25.2)	51 (8.8)
3.1.5 she asked him to use condom but he refused	372 (64.6)	142 (24.7)	66 (11.4)
3.2 The wife has a duty to respond to husband's sexual desire	240 (41.4)	271 (46.7)	69 (11.9)

Social Research, Mahidol University, in cooperation with Foundation for Women (FFW) found that 23% of women faced DV [6]. Further information collected by the World Health Organization (WHO) from many countries such as Bangladesh, Brazil, Ethiopia, Peru, Namibia, found that DV occurred in each country at a rate of 23.0%-49.0%. However, the prevalence is low in some country, such as Japan (3.8%) and England (4.2%) [7,8]. This may be caused by the fact that these countries have lower risk factors, such as high education, low level of economic problems [9].

To consider the details of DV occurrence, this study covered physical, mental, and sexual abuse. It was found that almost all of them had been mentally abused (98.7%). This was a very high incidence compared with the physical abuse (22.2%). According to a long-term research, mental abuse always happens before physical abuse [10]. Therefore, victims of mental abuse have a higher chance of being physically abused. If the doctors can find this problem in the early stage, they may be able to prevent the following physical abuse. However, mental abuse is often difficult to detect compared with physical abuse and is not the reason for victims to seek treatment or ask for help, but it can make a patient see a doctor for unspecific physical symptoms. For example, the research from which information was gathered from the victims of DV in Family Physician Department showed that physical symptoms always happening in victims of mental abuse are headache, palpitation, chest pain, and stomachache [11]. Asking a simple question, such as "how is your relationship with your partner?", may help to get information to assess whether they are facing mental abuse. There is a study which has found that women (the victims) are pleased to answer the questions, but most doctors or nurses hardly ask their patients [12,13].

For the results of DV on physical injury, there were not many physical injuries occurred. However, there had been major and minor injuries that had to be sent to hospitals. The percentage was 4.4% and 1.9% respectively. If physical injury happened, emergency rooms would be the first place to take care of the victims. A study collecting information from female patients visiting an emergency room found that 37% of them had DV problems [14]. Although there is no follow-up if these victims receive further assistance, whether this problem is taken care of, this will help reduce the physical and mental symptoms as well as to prevent the violence to occur again.

To collect the information of mental impacts, a half of the victims of DV chose to answer the worst case which is stress and worry. In this study, it was found that the highest was worry, stress, sleeplessness at 80%. Next was sadness, worthlessness, self-blame and depression at 70%. These figures are close to the research which found that mental illnesses commonly found in the victims of DV are anxiety and depression [15,16]. The most importance is that 19% of the victims would like to hurt others, which is slightly higher than those to hurt themselves (17.0%) leading to physical abuse and may cause death. In the USA, there is a report that, everyday, more than 3 women are killed by their husbands [17]. In the year 2000 there were 1,247 women killed by their husbands. The research also found that pregnant women have a higher risk to be abused leading to death, and the death of these women is higher than other causes, such as cancer or asphyxiation decease [18]. Hence, paying attention to DV is very important for these problems.

As for the impact on family and society, it was found that economic problems were the highest area of concern at 58.9%. Although details of the problem were not clearly specified, it revealed that DV affected work effectiveness and reduced in-

come. In the USA, there is a report that 30% of women of DV lose their jobs [19]. Moreover, not only direct victims are affected, children who witness DV may have learning problems as well. Other problems such as separated family, injury in family members, and loss of jobs are around 12.0%-17.0% [20]. Other important impacts including gambling problems, drug addiction, runaway from home, and criminal behavior are at 13.0%. Therefore, it was found that being around DV could increase children aggression and anti-social behavior. Moreover, anxiety, depression, and behavior problems are easy to be found in children who witness or are involved with DV [21].

The opinions to solve this problem were as follows: i) 85.7% suggested to have particular law to solve the issue of DV (The current relevant law is that offenders are punished like a prisoner for acts of DV); ii) 29.0% of respondents disagreed with this law; and iii) 80,0% agreed that the offenders should undergo mental therapy with the reason that most offenders have already had mental problems such as jealousy, low tolerance for stress, low self-control, unstable emotions, and an attitude in line with the use of violence to solve the problem [22]. Therefore, mental therapy for the offenders may reduce the DV and maintain relationships within the families.

Attitude towards the role of male and female can be divided in 3 topics: i) attitude to the power relationship, ii) to resolve the family problem, and iii) to sexuality. For the first attitude, most women do not agree that men should take a dominating role or beat their wives. However, in the case in which a woman had an affair, 47.2% agreed that men could beat their wives. This shows that almost a half of women agree that, in certain circumstances, DV is acceptable. The attitude towards solving the problem revealed found that most of the respondents agreed that family problems should be consulted amongst family members (77.8%), and 62.8% agreed that others should not be involved, if the husbands did not treat wives fairly well. The last attitude is related to sex. In general, most of them agreed that wives could refuse to have sex with their husbands and almost half of them did not agree that it was the duty of a wife to respond to her husband's sexual desire. It is important to consider these attitudes when taking care of the victims of DV. It should depend on the victims to plan to solve the problem. Expressing the opinions is to show that they are aware of their rights and to encourage the victims to be out of the unwilling situations and change for better lives [23]. However, attitude to solve the problem that most women agreed is to consult among the family members. This may mean that emphasis needs to be placed on the importance of consulting a professional body from a women's organization to assist in finding a better solution to the problem of DV [24].

The positive aspects of this research include the fact that 50% of the families in target communities were interviewed and that the interviews were conducted by direct interview methods, whereby the team traveled to the communities. The team was well-trained to interview female patients of the emergency room, which is the way other research has been conducted.

However, the weakness of this research is that it is limited to the collecting of information from women only, and therefore only the women's opinions were expressed. This research was only able to collect initial information from the respondents and may not be able to asses clearly the seriousness of the problem. In addition, this study was conducted in slum communities in Bangkok having medium to low socio-economic status. The information received may be different from a group who has a different socio-economic status or from a different location. This research, however, could be applied to other crowded communities or slums which have similar popula-

tion and socio-economic status.

Recommendations for further research are: i) for the problem magnitude, studies should be carried out in Thai families at all social levels to understand the whole problems, not only at a specific level. For causes of the problem, it should study offenders (husbands) to get information about factors leading to DV, and determine what actions would assist in solving the problem of DV. For mental impact, it would be useful to use a detailed questionnaire to estimate the seriousness of the problem. For example, using clinical diagnosis for mental illnesses may help explore the problem more clearly and lead to systematic resolutions of the problem.

Conclusion

A quarter of families studied experienced DV. This reflects that Thai society may lack the awareness on DV problem and its impact. Most of them ignore and accept DV as a norm. Although physical abuse is a criminal offence, most of the offenders still live normally. Further, the victims often defend the offenders because of the family relationship and acceptance of being abused. This may be due to mental factors or other institutes not being able to assist fully.

From the basic information, most of the women with low socio-economic level and low education are facing DV. Most of them live in slum. A low socio-economic level appears to be both the cause and the result. For example, a woman with low socio-economic level has a lower chance of being educated or finding a good job. A low socio-economic woman tolerates the abuse and gradually internalizes it. As it does not often have obvious physical impacts, most victims try to face the problem of DV by themselves, which can cause and increase their mental health problems.

The researcher concludes and recommends as follows:

1. to publish the basic information of the violence found in Thai society to increase the awareness of this problem;
2. to encourage the victims, surrounding community and society to know that DV includes physical as well as mental, psychological and sexual abuse. And to emphasize that physical abuse is a criminal offence, not a family matter;
3. to encourage that the law relating to DV should also focus on mental therapy for the offenders.

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ORIGINAL ARTICLE

Stress and psychological wellbeing among parents of children with autism spectrum disorder

AZLINA WATI NIKMAT[1], MAHADIR AHMAD[2], NG LAI OON[2], & SALMI RAZALI[1]

[1] *Unit of Psychological and Behavioral Sciences, Faculty of Medicine ,University of Technology Mara, Shah Alam, Selangor, Malaysia.*
[2] *Unit of Health Psychology, Faculty of Allied Health Sciences, Universiti Kebangsaan Malaysia Kuala Lumpur, Malaysia.*

Abstract
Objective: To investigate the prevalence of parental stress and psychological wellbeing among parents with autistic children and their associations with dimensions of support system. *Methods:* This is a preliminary cross sectional study which randomly selected parents with clinically diagnosed autistic children. Those parents who attended psycho-education session on management of autistic children at Health Psychology Unit were randomly selected to enroll in the study. Psychological wellbeing, parental stress and dimensions of support system were assessed by using the General Health Questionnaire (GHQ-28), the Parenting Stress Index (PSI) and the Provision Social Relation (PSR), respectively. *Results:* Of 52 parents with autistic children (34 female and 18 male), about 90.4% of parents had significant parenting stress, and 53.8% of parents showed clinical disturbance in psychological wellbeing. Gender (t=1.67, p=0.02) and occupation (F=4.78, p=0.01) showed statistically significant association with psychological wellbeing. No association found between other socio-demographic factors, parental stress and psychological wellbeing with dimensions of support system among parents with autistic children. *Conclusion:* Parents with autistic children have high prevalence of stress and psychological disturbances. Interactions of various factors need to be acknowledged and considered in order to reduce the burden of parents with autistic children.

Keywords: *parental stress, psychological wellbeing, autism, social support*

Introduction

There is strong evidence from research literature that parents of autistic children face a high level of stress. Given that parenting a child with autism is uniquely challenging and can be extremely stressful [1, 2, 3], understanding factors that contribute to parental well-being is of utmost importance. In comparison to parents of typically developing children, parents raising children with disabilities experience more parenting stress [4] and have higher rates of depression [1,5]. Even among parents raising children with disabilities, parents of children with autism report significantly higher levels of stress [1, 2] and are more likely to experience depression [6,7].

Another study [8] has also indicated that parenting an autistic child may have an impact on the parents' health and well-being. Given the multiple roles demand that working and nonworking mother experience [9, 10, 11], mothers with typically developing children or children with special needs unrelated to autism may also experience this

Correspondence: Salmi Binti Razali, Faculty of Medicine, University of Technology MARA (UiTM), Level 20, S&T Tower 1, 40450, Shah Alam, Selangor, Malaysia.
Email: drsalmi@gmail.com

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global sense of guilt tied to a belief of not doing enough for their children. Many parents of children with pervasive developmental disorders reported experienced feelings of intense anger, guilt, depression or anxiety most of the time [12]. Apart from that, having a child with autism can drain a family's resources due to expenses such as evaluations, home programs, and various therapies [13]. Other than that, the source of stress may be a matter of strained emotional relationships, necessarily limited family activities and reduced career aspirations, reduced opportunities for social and leisure pursuits, problems of fitting to treatment demands and appointments, educational disadvantages, and the ongoing difficulty in coming to terms with the disability [14].

However, study reported that social support has differentiated high and low stressed mothers of children with autism [15]. Mothers who perceive social support as more accessible report fewer stress-related problems and depressive symptoms [16]. Apart from that, parents who receive social support relate better emotionally to their children and engage in more positive interactions with them [17].

Therefore, it is important for parents to have a good support system [18, 19]. With the lack of social support, the outcomes can be negative and disturbed the psychological wellbeing of the parents such as depression, social isolation and spousal relationship difficulties [20]. According to Holroyd and McArthur in examining mother's report of stress when raising children with autism, Down's syndrome and children being seen in an outpatient psychiatric clinic, they found that mothers with autistic children commonly engage in poor health, depressed mood, inordinate time demands and pessimisms in relation to their children's future [21].

Methods

This was a preliminary cross sectional study which examined the parental stress, psychological wellbeing and dimensions of support system of parents with autistic children. The children were initially assessed by using Gilliam Autistic Rating Scale (GARS) and diagnosed with Autistic Spectrum Disorders by experience child psychologists in Health Psychology Unit, Universiti Kebangsaan Malaysia (UKM) following Diagnostic and Statistical Manual of Mental Disorder (DSM IV) criteria. The GARS has four subtests with 14 items for each: i) stereotype behaviors, ii) communications, iii) social interactions and iv) developmental disturbance. The GARS demonstrates a strong internal consistency ranged between 0.88 and 0.96 and item validity between 0.72 and 0.88.

The parents of these children who attended psycho-education sessions on management of autistic children in February 2006 were randomly selected. The subjects were given patient information sheet and explained about the study. The participation was on voluntary basis. Those parents aged between 30 and 60 years old, who had children with autism spectrum disorders aged between 2 and 12 years old were enrolled in this study. Exclusion criteria included parents with any history of psychological disorders such as depression or anxiety disorders and having any general medical conditions that might affect the study.

The parents were asked to assess their perceived severity of their children's autistic symptoms using a severity score of high, above average, average, below average and low. The psychological wellbeing, parental stress and dimensions of support system were assessed using General Health Questionnaire (GHQ-28), Parenting Stress Index (PSI) and Provision Social Relation (PSR), respectively. The GHQ-28 had been used widely, and the test-retest reliability for GHQ-28 ranges between 0.51 and 0.90 with the internal consistency of.78 [22] It has been validated in Malaysia by Abdul Hamid and Hatta in 1996 [23]. The PSI

contains 36 items and can be divided into 3 subscales: Parental Distress (Pd), Parent-Child Dysfunction Interaction (Pcdi) and Difficult Child (Dc). The PSI has been transculturally validated [24,25] and the reliability coefficients for the two domains and the Total Score Scales were 0.90 or greater. Whereas the PSR is a 15-item instrument designed to measure components of social support (attachment, social integration, reassurance of worth, reliable alliance and guidance), and it has good internal consistency, with alphas ranging between 0.75 and 0.87.

The data was analyzed by using the Statistical Package for Social Studies (SPSS) Version 11.5. Descriptive analysis was used to measure the parental stress levels and psychological well-being among parents with autistic children. As for the relationship between parental stress, psychological wellbeing and dimensions of support system received by parents with autistic children were evaluated by using correlation. Regression analyses on the other hand predicted the outcomes of social support received by the parents (independent variable) based on stress level and psychological wellbeing of the parent (independent variable). Student-t test was employed to see the differences between parental stress and psychological wellbeing between gender, where else ANOVA was used to see the differences in occupation.

Results

Prevalence of socio-demographic data, parental stress and psychological well being

A total of 52 parents with autistic children consented to participate in this study. Table 1 presents socio-demographic and psychosocial profiles of the subjects. Out of 52 subjects, 34 (65.4%) subjects were female and 18 (34.6%) were male. The age group was evenly distributed with 24 subjects (46.2%) falls within 21 to 30 years old and 28 subjects (53.8%) falls within 31 to 40 years old. As for ethnic groups, 65.4% of the subjects were bumiputras and 34.6% were non-bumiputras. Of the 52 subjects, 94.2% come from urban area and 5.8% come from rural area. Among them, 34 (65.4%) subjects completed a tertiary educational level and 18 (34.6%) completed a secondary educational level. Majority of the subjects worked with private sectors (n = 31), followed by government sector (n = 14) and housewife (n = 7). Fifty percent of the subjects earned above RM2500, 9.6% earned between RM1600 RM2500, 23.1% earned between RM1000 and RM1500 and 17.3% earned below RM1000. In relation to the objectives of this study, most subjects did not involve with a support group (n = 28) and only 24 involved with support groups.

In terms of psychological well being and parental stress, high proportion of parents i.e. 90.4% (n = 47) of them were stressed up and more than half 53.8% (n = 28) of them showed poor psychological well being (Table 2).

Severity of autistic symptoms

More than half of the parents perceived that their child has average to high severity of autistic symptoms. Of the 52 subjects, 29 (55.8%) subjects perceived that their child's symptoms were within the average level, 15 (28.8%) subjects perceived it at below average level, 4 (7.7%) subjects perceived it at high level, 3 (5.8%) subjects perceived it at low level and only 1 (1.9%) subject perceived that his/her child's symptoms above the average level (Table 3).

Factors contributing to parental stress and psychological disturbances

Investigation on the associations between socio-demographic data with psychological well being and parental stress, revealed a significant difference between gender and psychological wellbeing of the parents with autistic children (t=1.67, p=0.02) but no significant association found between gender and parental stress

Table1: Socio-demographic characteristics of the respondents

Variables		Frequency (n)	Percentage (%)
Gender	Male	18	34.6
	Female	34	65.4
Age	21-30	24	46.2
	31-40	28	53.8
Ethnic group	Bumiputras	34	65.4
	Non-bumiputras	18	34.6
Housing area	Urban	49	94.2
	Rural	3	5.8
Occupation	Housewife	7	13.5
	Private Sectors	31	59.6
	Government	14	26.9
Total household income	Below Rm1000	9	17.3
	Rm1000-Rm1500	12	23.1
	Rm1600-Rm2500	5	9.6
	Above Rm2500	26	50.0
Level of Education	Primary	0	0.0
	Secondary	18	34.6
	Tertiary	34	65.4
Support group	Yes	24	46.2
	No	28	53.8

Table 2: Prevalent of the psychological well being and parental stress among parents of autistic children

Variables	Significance	
	N = 52	(%)
Psychological well being (GHQ ≥ 3)	28	53.8
Parental stress (PSI ≥ 69)	47	90.4
Parental distress (Pd ≥ 25)	37	71.2
Parent-child dysfunctional interaction (Pcdi ≥ 19)	52	100.0
Difficult child (Dc ≥ 25)	46	88.5

Table 3: The severity of autistic symptoms perceived by the parent of autistic children

Variables	Frequency (n)	Percentage (%)
High	4	7.7
Above average	1	1.9
Average	29	55.8
Below average	15	28.8
Low	3	5.8

Moreover there was a significant difference between occupation and psychological wellbeing of the parents with autistic children (F=4.78, p=0.01) .However, there was no significant difference between the levels of parental stress and occupation.

No significant association was found between other socio-demographic factors (i.e. parental age, ethnic group, housing area, occupation, total household income and education level), parental stress, psychological wellbeing and dimensions of support system received by parents with autistic children.

There was no significant correlation between severity of autistic symptoms perceived by the parents and parental stress, psychological wellbeing, and dimensions of support system received by parents with autistic children.

Moreover, comparing the factors that might contribute to the stress (Table 2), all of them (n=52) agreed that their stress was particularly contributed by parent-child dysfunctional interaction which focused on the degree to which the child was reinforcing to the parent and the degree to which the child met the parent's expectation. Apart from that, 46 (88.5%) subjects also agreed that their stress might be contributed by a difficult child factor, which represented behavior that children often engaged in that might make parenting easier or more difficult. This was followed by parental distress factor (n=37), which measured the distress that parents felt about their parenting role in light of other personal stress.

Discussion

Our findings reveal that 90.4% of parents with autistic children have significant stress, and 53.8% of the parents show clinical disturbance in psychological wellbeing. These results confirm the earlier findings, which report that parents of children with disabilities have more stress than parents of children without disabilities [26]. There is a call for further comprehensive study to explore their stress, and proper program should be applied to help them managing their stress. However, we did not find significant relationships between parental stress, psychological wellbeing, severity of autistic symptoms perceived by the parent and dimensions of support system received by parents with autistic children in this study. Possible explanations for these associations include the coping strategies [27, 28] and self efficacy of the parents [29-31].

In this study also, the results revealed that mother report greater impact on psychological wellbeing compared to father. This finding is supported by earlier findings of Abbeduto and colleagues, who reported that mothers of youths with Down Syndrome were less pessimistic about their children's future and reported greater reciprocated closeness with their child than do mothers of the youths with fragile X syndrome (FXS) or autism [4]. Mothers of autism spectrum disorder children also reported significantly greater depression [32, 33], greater social isolation [34] and a lower level of marital intimacy when compared to mothers of normal children and mothers of Down's syndrome children [35].

Regarding the differences between maternal and paternal stress found in families of children with disabilities, research has produced inconsistent results. Some studies found that mothers reported higher levels of intrapersonal stress as well as stress relating to the children's characteristics [36, 37]. As for father, higher stress was related to low acceptability of the child and low family harmony. Acceptability of the children's characteristics had a significant impact on family harmony and parent stress. Contrary, in this study, maternal and paternal PSI stress scores did not differ significantly. This result was similar to that of a study on parents of elementary-school-aged children with disabilities [38]. In their study, they found that fathers and mothers experienced similar levels of stress. This may indicate cultural shifts in middle class families, such that fathers now take more responsibility for the direct care and nurturing of their children [39].

Inverse relationships between socioecono-

mic status (SES) and health outcomes are well documented [40-42]. In these studies, in comparing parental stress and psychological wellbeing with occupation, type of occupation did not have an impact on parental stress. However, it did have an impact on parental wellbeing. In the literature on job design, occupational stress and ergonomics, various aspects of work influence workers' health and wellbeing in positive or negative ways [43]. Apart from that, for mothers, SES has a significant inverse relationship to stress and family harmony. Higher SES has previously been found to mediate stress for mothers [44,45], who seem to be in a better position to meet the overall needs of children with disability. Given the multiple role demands that working and nonworking mothers experience [10,11], mothers with typically developing children or children with special needs unrelated to autism may also experience this global sense of guilt tied to a belief of not doing enough for their children.

Provision of social support on the other hand is a positive strategy that can reduce the effect of a child's disability on the family. A study demonstrated that a lack of social support could lead parents withdraw from larger communities because of the negative characteristics associated with their children's ability [2]. However, in contrast to our hypothesis, the results showed that social support did not influence parental stress or psychological wellbeing. An unconstructive trend was also noted through the study done by Konstantareas and Homatidis whereby mother's stress scores were negatively correlated with both the number and degree of supports [46]. This finding is further supported by Quittner's study [47]. In this study, she found that neither socioeconomic status nor social support had any direct effects on father's stress. In her analyses, Quittner found that the relationship between parental stress and psychological distress did not vary as a function of level of social support. In contrast, social support did not moderate or alter the strength or direction of the relationship between parental stress and psychological distress.

Limitations and recommendations

Various factors contributing to parental stress and their psychological wellbeing, parental background of adverse life events, family problems, financial problems, etc., might affect their stress. Moreover there are other co-morbidities such as learning disabilities, attention deficit hyperactive disorder, medical problems, etc., that the authors did not exclude in recruiting the subjects. By excluding those co-morbidities, it may not reflect the natural aspects of the illness, and it may result in losing many subjects. Sampling bias did occur because we recruited samples from a tertiary center providing care for autism. As a preliminary study, only small sample recruited, we hope to continue with larger sample and more comprehensive studies to delve further the complex factors that contribute to parental stress. We suggest a proper program to reduce and ease the burden of parents particularly mothers with autistic children.

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ORIGINAL ARTICLE

Family functioning in children with attention-deficit/ hyperactivity disorder

KANOKWAN RUANANUKUN & ORAWAN LOUTHRENOO

Department of Pediatrics, Faculty of Medicine, Chiang Mai University, Chiang Mai, Thailand.

Abstract

Background: Attention-deficit/hyperactivity disorder (ADHD) affects many aspects of a child's life. It impacts not only on the child, but also on parents and siblings, causing disturbances to family functioning. *Objective:* To evaluate family functioning in the parents of children with ADHD. *Methods:* Families of children with ADHD and those of comparison controls were administered 2 forms of family functioning questionnaire; the Chulalongkorn Family Inventory (CFI) and general function scale from the McMaster Family Assessment Device (FAD). Both are self-report questionnaires designed to measure how families interact, communicate, and work together. *Results:* The sample consisted of 44 families of children with ADHD and 45 control families. The mean age of the children was 10.84±2.33 years in the ADHD group and 10.38±2.61 years in the control group. The sociodemographic characteristics were not significantly different between both groups. The families of children with ADHD scored higher at the level of unhealthy functioning than those of controls on the general function scale of the FAD. Whereas, the CFI scores were lower in the families of children with ADHD, reflecting poorer function, especially on the problem solving scale. *Conclusion:* The family functioning scores of ADHD families were less healthy than those of the control group. Family assessment should be included in the management of ADHD.

Key words: *family functioning, attention-deficit, hyperactivity disorder*

Introduction

Attention-deficit / hyperactivity disorder (ADHD) is one of the most common behavioral problems in children. It occurs in approximately 8-12% of school age children [1]. The diagnosis is based on the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) [2] with symptoms of inattention, hyperactivity, and impulsivity [3,4]. The disease may impact upon many aspects of the child's life, including academic difficulties, social skill problems, and peer relationships. Furthermore, the children are at greater risk of negative outcome, such as lower educational and employment attainment [5]. ADHD impacts not only on the child, but also on parents and siblings, causing disturbances to family and marital functioning [5,6]. Management including pharmacotherapy, behavioral therapy, and environment modification helps children in learning, coping with, and having good relationships with others [1,7,8].

Children with ADHD have an impact on family functioning because their parents may have difficulties in controlling and disciplining them. They tend to use a punitive approach in child rearing [9]. Therefore, the parents may have problems in interpersonal relationship and conflicts in

Correspondence: Kanokwan Ruananukun, Department of Pediatrics, Faculty of Medicine, Chiang Mai University, Chiang Mai, 50200, Thailand.
Email: kruananu@mail.med.cmu.ac.th

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their marriage. It was found in a study by Johnston and Mash that the presence of a child with ADHD resulted in disturbances to family and marital functioning, disruption in parent-child relationships, reduction in parenting efficacy, and increased levels of parental stress [6]. In this context, family plays an important role in helping children and determining the prognosis [6,10]. Family functions involve the relationship and behavior of family members. Some studies have related to family functioning models and one of these is the McMaster model [8,11], which defines specific dimensions such as problem solving, communication, family role, affective responsiveness, affective involvement, and behavioral control.

The objective of this study was to assess family functioning in parents of children with ADHD and compare it with parents of comparison controls.

Methods

Parents of children with ADHD, aged 7-15 years in the Behavioral Pediatric Clinic and those of healthy controls without ADHD or other chronic illnesses were recruited at Chiang Mai University Hospital during 2007-2008. ADHD was diagnosed by using DSM-IV diagnostic criteria. Written informed consent was obtained from all parents.

The parents of children with ADHD and those of comparison controls were asked to complete two forms of family functioning questionnaire; the Chulalongkorn Family Inventory (CFI) [12] and the McMaster Family Assessment Device (FAD). Both are self-report questionnaires designed to assess self perception of their family. The Chulalongkorn Family Inventory was developed by Umaporn Trunkasombat, MD. Derived from the McMaster Family Assessment Device, it consists of 36 questions in the Thai language and is adjusted to Thai culture. Higher scores of the CFI indicate healthier family functioning.

The McMaster Family Assessment Device (FAD) is divided into seven dimensions including problem solving, communication, family roles, affective responsiveness, affective involvement, behavioral control, and general overall functioning. The FAD describes structural and organizational properties of the family and patterns of transactions among family members with good reliability and variability [8,13]. Parents rated their agreement or disagreement of how well each item described their family with a response range of 1 to 4 with. In this study, only the general overall function subscale, which consists of 12 questions selected from subsets of items in six dimensions was used to assess overall health/ pathology of the family [11]. The general functioning scale had good psychometric properties of reliability and validity [14]. Contrary to the CFI, higher scores in FAD indicated less healthy family functioning in the dimension.

The study protocol was reviewed and approved by the Ethics Committee, Chiang Mai University Hospital.

Data were analyzed by using the SPSS program. Chi square and student t-test were used to compare the two variables. A p-value of <0.05 was considered as statistically significant.

Results

The sample included 44 families of children with ADHD and 45 families of controls. The mean age (±SD) of the children was 10.8±2.3 years in the ADHD group and 10.4±2.6 years in the controls. Of the 44 children with ADHD, 7 were the inattentive type, 4 were the hyperactivity-impulsivity type, and 33 were the combined type. The sociodemographic characteristics were not significantly different between both groups, except for marital status. Demographic characteristics of parents and children with ADHD are summarized in Table 1.

Table 1: Demographic characteristics of parents and children with ADHD vs comparison controls

	ADHD (n=44)	**Controls (n=45)**	***p*-value**
Children's age (y)	10.84 ± 2.33	10.38 ± 2.61	0.39
Gender (% male)	34 (77.3%)	31 (68.9%)	0.37
Father age (year)	41.38 ± 7.06	41.64 ± 6.40	0.85
Mother age (year)	38.77 ± 7.49	38.29 ± 5.79	0.74
Father education (year)	10.79 ± 4.36	11.51 ± 3.06	0.39
Mother education (year)	10.32 ± 4.37	11.44 ± 4.08	0.21
Number of children	1.73 ± 0.59	1.93 ± 0.62	0.11
Family income/ month (baht)	21451 ± 18362	21247 ± 17640	0.96
Marital status, married	36 (81.9%)	43 (95.6%)	0.05
Age at diagnosis (year)	8.35 ± 1.76	NA	NA

Table 2: Psychological family characteristics by the Family Assessment Device

	Families of ADHD (n=44)	**Families of controls (n=45)**	***p*-value**
CFI total score	109.23 ± 15.78	114.76 ± 16.32	0.11
Problem solving	2.99 ± 0.65	3.34 ± 0.66	0.01
Communication	3.21 ± 0.60	3.27 ± 0.55	0.61
Roles	3.14 ± 0.53	3.19 ± 0.57	0.65
Affective responsiveness	3.05 ± 0.65	3.31 ± 0.61	0.06
Affective involvement	3.04 ± 0.69	3.22 ± 0.63	0.20
Behavioral control	2.72 ± 0.49	2.71 ± 0.42	0.91
General functioning	3.07 ± 0.52	3.27 ± 0.60	0.10
FAD General functioning	2.19 ± 0.35	1.99 ± 0.44	0.03

Table 2 shows the result of the family functioning in 7 domains of the CFI score and the general function scale of the FAD. The CFI scores were lower in the families of children with ADHD, indicating poorer function, especially on the problem solving scale. The families of children with ADHD scored higher at the level of unhealthy functioning than those of controls on the general function scale of the FAD.

Regarding families in the ADHD group, there were no significant differences in functioning among 3 subtypes of ADHD.

Discussion

In this study there were no differences in parent and child characteristics between the 2 groups, although married families were fewer in the ADHD group, which may indicate that children with ADHD cause disturbances to family and marital functioning [5]. In Brown and Pacini's study, more parents of ADHD children were separated or divorced than those of the control group [15]. However, it is not clear whether ADHD is linked causally to marital discord, or if discordant marriages affect child management of disruptive behaviors such as ADHD.

The general functioning score of the FAD was higher in the families of children with ADHD, which reflected a less healthy function. Contrary to the CFI, in which lower scores implied an unhealthy function, parents of ADHD were also found to be less healthy than those of controls. The problem solving score was significantly lower in families with ADHD children. These findings were not surprising because having a child with ADHD in the family results in disturbance of parent-child relationship and less effective parental skills. This circumstance may aggravate stressful situations in daily life and disturb normal family activity. Similar findings were found in other reports, in which parents of children with hyperactivity were more stressed and disturbed than those of control children [6,15]. Mothers with ADHD children were found to be poorer at monitoring child behavior and less effective at problem solving regarding child rearing issues [16]. However, there were some studies did not replicate the link between disturbed family functioning and ADHD [17]. Children with ADHD were reported to cause depression in their mothers, [15,18] but unfortunately that information was not included in this study design.

There were no differences in family functions among the 3 subtypes of ADHD or between ADHD with and without comorbidity. This may be due to the small number of ADHD children with comorbidity in this study. In the study of Kilic and Senar [19], it was found that families of children with ADHD+ODD/CD scored highly at the level of 'unhealthy functioning' in the roles and behavior control subscales of the FAD.

There were some limitations in this study. First, there were fewer married families in the ADHD group, although proper controls were recruited. We could not be sure whether this was a consequence of ADHD interfering with the functions of the family or co-existence. Second, the findings in this study represent only one treatment center from which the children were recruited. And third, the small sample size limited the precision of results and statistical power of tests. Therefore, larger number of samples would provide more information.

In summary, it was found in this study that the family functioning scores of ADHD families, compared to those of the control group, were less healthy. Family assessment should accompany the management of children with ADHD.

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ORIGINAL ARTICLE

Psychiatric morbidity and quality of life among family caregivers of hospice patients with cancer: a home based community preliminary study

OSMAN CHE BAKAR[1], EIZWAN HAMDIE YUSOFF[2], & AINSAH OMAR[1]

[1] *Faculty of Medicine, Universiti Teknologi, MARA, Malaysia.*
[2] *Department of Psychiatry, Klang General Hospital, Selangor, Malaysia.*

Abstract
Objective: This descriptive cross-section, community-based study examined the prevalence of psychiatric morbidity and quality of life (QOL) and the associated factors among family caregivers of hospice patients with cancer. *Methods:* Subjects were 50 family caregivers of cancer patients under the care of Hospice Malaysia homecare. Home visits were done in Klang Valley. Psychiatric morbidity was detected using GHQ-30 English and Bahasa Malaysia versions, and the QOL was assessed by the Short Form 36 items (SF-36) questionnaire. *Results:* The study results showed that 54% of respondents had psychiatric morbidity. The educational status and the relationship between family caregivers and the cancer patients were statistically significant ($p<0.05$) associated with psychiatric morbidity. Among the respondents, scores of all domains of QOL were lower than those of the general Malaysian population. There were statistically significant associations between the relationship of family caregivers and cancer patients, as well as bodily pain and mental health domains ($p<0.05$) and between gender and social functioning domains ($p<0.05$). *Conclusion:* This study demonstrates that caregivers of cancer patients are at risk for psychiatric illnesses and low QOL.

Key words: *psychiatric morbidity, quality of life, hospice, Malaysia*

Introduction

As a result of the ongoing changes in the current health care system, most aspects of general cancer care have been shifted to outpatient management, which rely on family, community and social service resources [1]. Caring for a chronically ill person, especially a cancer patient, is generally a stressful task. Physical, emotional, instrumental and social problems associated with care giving are the source of poor emotional well being, quality of life (QOL), and could lead to the development of psychiatric morbidity [2]. The understanding and evaluation of caregivers' QOL are particularly important given the increasing responsibility for patient care shouldered by patient's family [3]. Recent research suggests that it is essential to extend QOL assessment to key family members, because they are the primary support of patient, and because the adjustment of family members seems to have a significant effect on the adjustment of patients towards their illnesses [4]. Few studies have been done to evaluate the QOL of family caregivers in hospice settings [5].

To our knowledge, there have been few studies examining the psychosocial issues of hospice community program in Malaysia since it was first established in1992. The

Correspondence: Osman Che Bakar, Faculty of Medicine, Universiti Teknologi MARA, 40450 Shah Alam, Selangor, Malaysia.
Email: ocbaaaah@yahoo.com.my

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objective of this study is to determine psychiatry morbidity and QOL, as well as the associated factors among family caregivers of patients with cancer.

Methods

Study design

This was a community (home-based) cross-sectional descriptive study conducted in family caregivers of cancer patients, who were under the care of Hospice Malaysia.

Sample

At the confidence level of 95%, with the power of 80% and the psychiatric morbidity of (unexposed) population as 11% and the worst acceptable frequency from previous study (exposed) as 65%, the calculation based on Epi-Info 6 software found an estimated sample size of 50.

Samples were recruited based on cancer patients referred to Hospice Malaysia during March 1 and May 31, 2004. Telephone calls were made to invite the caregivers to participate in the study at least 2 calls were made for each house, once during the day time and one in the evening (if the first call was not answered). Home visits were made on appointment dates set after the caregivers agreed to join the study.

All caregivers of hospice home based cancer patients aged 18 years old or above. They gave consent and could communicate in Bahasa Malaysia or English. We excluded those who were not at home or had passed away during the study period.

Collected data included self generated demographic data questionnaire, Short Form 36 items (SF-36) Quality of life Questionnaire [6] and General Health Questionnaire (GHQ) [7]. The GHQ-30 was translated into Bahasa Malaysia versions and was validated in local population. The cut-off score of 7/8 for the Bahasa Malaysia version has a specificity of 86.0% and the sensitivity of 93.3%) [8]. In the local population, the English version at the threshold value of 6/7 had specificity and sensitivity of 92% and 84%, respectively [9]

Family Caregivers

Adults aged 18 years old or above who took care of hospice cancer patients at home for at least eight hours a day without payment [10]. Participants had to be identified family caregivers of the patients [5,11]. In this study they were related to patients by marriage/blood.

Financial status

House income is the sum of household income and/or household income in kind, which was regularly received [12] divided by number of permanent family members in the house.

Psychiatric morbidity

This term was defined by a response with scores of 8 or more of the Bahasa Malaysia version or of 7 or more in the English version of GHQ-30.

Alternative Therapy

Any form of therapy not considered as modern (allopathic) treatment in the hospital.

Ethical consideration

This study was approved by the Research and Ethical Committee, Faculty of Medicine, Universiti Kebangsaan Malaysia.

Statistical analysis

Data were analyzed by using the Statistical Package for Social Studies (SPSS). Independent t-test and Chi-square test were used to determine the significant difference between two groups. Non-parametric tests, i.e, Mann-Whitney U-test, Kruskal-Wallis test were applied for data not normally distributed. Parametric tests, i.e, independent t-test, were used for data with normal distribution. Multiple linear regression was used for multivariate analysis.

Results

Demographic data

Hospice Malaysia received 203 referrals between March 1 and May 31, 2004. Five were not cancer patients. Seven were excluded due to missing forms (2), no diagnosis (1) and no telephone number (4).

Thirteen were discharged from the services due to the fact that patient/caregivers were not keen for the service or not compliance with the services, and the patients were moved out of the coverage area. One patient was admitted to the hospital and two caregivers refused to participate. Six caregivers were unable to communicate either in Bahasa Malaysia or English. Nineteen did not answer the phone calls. A total of 108 patients died before and during the data collection or the home visit period. Thus the total number of respondents was 50 (Table 1).

Age of cancer patients'

The age range was between 31 and 90 years old. The mean age was 57.4±13.7 years old. Table 1 shows patients' and caregivers' socio-demographic data.

Type of cancer

Table 2 shows common cancers found in the patients, which were lung cancer (30%), breast cancer (16%) and colorectal cancer (12%).

Psychiatric Morbidity

Twenty-seven of 50 patients (54%) had psychiatric co-morbidity.

Multivariate analysis

- Psychiatric morbidity: Factor significantly associated with psychiatric morbidity were educational status (p<0.05) and the relationship of family caregiver and patients (p<0.05) (Table 3).
- QOL: In comparison to the general Malaysian population, respondents had lower scores on all domains of QOL. There were statistically significant association between the relationship of family caregivers and the cancer patients, as well as between bodily pain and the Mental Health domain (<0.05) and between gender and the Social Functioning domain (p<0.05) (Table 4).

Table 1: Socio-demographic characteristic of patients and their caregivers

Variables (patients)	**n (%)**
Gender	
Male	25 (50)
Female	25 (50)
Age (years)	
Mean (Range)=57.4 (31-90)	
Variables (caregivers)	**n (%)**
Ethnic	
Malay	25 (50)
Chinese	17 (34)
Indian	8 (16)
Gender	
Male	19 (38)
Female	31 (62)
Relationship	
Spouse	16 (32%)
Non-spouse	34 (68%)
Educational status	
High education	34 (68)
Low education	16 (32)
Employment status	
Employed	28 (56)
Unemployed	22 (44)
Age (years)	
Mean (Range)=37.8 (18-69)	
Duration of care (weeks)	
Mean (Range)=5.75 (2-52)	
Time spent at home (days)	
Mean (Range)=20.0 (8-20)	
Educational status (years)	
Mean (Range)=11.0 (3-16)	
Patients' number of symptoms	
Mean (Range)=7.5 (1-12)	
Total income (RM/per year)	
Mean (Range)=525 (350-40000)	
Availability of maid	
Yes	7 (14)
No	43 (86)
Alternative therapy	
Yes	35 (70)
No	15 (30)
Insurance coverage	
Yes	11 (22)
No	39 (78)

Table 2: Types of cancer among the patients.

Type of cancer	n (%)
Gastrointestinal	
Male	1 (2)
Prostate	
Male	3 (6)
Oropharynx	
Male	1 (2)
Breast	
Female	8 (16)
Nasophrynx	
Male	1 (2)
Female	1 (2)
Lung	
Male	7 (14)
Female	8 (16)
Myeloma	
Male	1 (2)
Endometrium	
Female	1 (2)
Colo-Rectal	
Male	3 (6)
Female	3 (6)
Hepatoma	
Female	2 (4)
Non Hodgkin's Lymphoma	
Male	4 (8)
Leukaemia	
Male	2 (4)
Chlolangiocarcinoma	
Male	2 (4)
Ovary	
Female	1 (2)
Hypopharyngyl	
Female	1 (2)

Discussion

Out of 50 samples, 27 respondents (54%) in this study had psychiatric morbidity. This is consistent with a previous study, which reported that a half of caregivers providing at least 21 hours of care for cancer patients per week experienced depressive symptoms [13]. The prevalence rates of psychiatric morbidity among these samples were much higher than that in the general population [13]. The educational status and patient-caregiver relationship, which involved with the spouses, were found to be significantly associated with psychiatric morbidity. Ambigga 2002 also found that educational level was significantly associated with the presence of probable depression [14].

Spousal caregivers were expected to show higher levels of distress than other caregivers as they provided four times the amount of care provided by non-spousal family caregivers. As such, they lacked of social activities outside the houses, which could act as a buffer against the stress. They also suffered from age-associated physical illnesses or disabilities [15].

The results also showed that, among family caregivers of patients with cancer, the scores of all domains of QOL were lower than those of the general Malaysian populations [6]. This revealed that the QOL of primary caregivers of hospice patients with cancer was negatively affected by the care giving, and the findings were similar to those of a previous study [11]. The analysis of QOL found that there was a significant difference on gender and the Social Functioning domain and the patient-caregiver relationship and bodily pain and mental health. A previous study also noted that beoing a female was associated with poorer emotional well-being [16]. Women were expected to exhibit greater psychological distress than men because they (female) provided more personal assistance and more likely to be primary caregivers, as well as more likely to experience social pressure compared to male [15].

The strength of this study was its community-based research. The important limitations of this study were no control group and a small sample size. Literature review showed that many studies on hospice caregivers also have small sample sizes [17-19]. Like previous studies, the main problem was almost a half of the target sample passed away during the study period. This

Table 3: The relationship of psychiatric morbidity of caregivers and socio-demographic profile

		Psychiatric morbidity		Statistical significance
		Case	*Non-case*	
Gender	Male	10 (20%)	9(18%)	$\chi2$=0.023
	female	17 (34%)	14(28%)	(p=0.56)
Relationship	spouse	12 (24%)	4(8%)	$\chi2$=4.18
	nonspouse	13 (26%)	19(38%)	(p=0.04*)
Education status	tertiary	14 (28%)	2(4%)	$\chi2$=10.63
	nontertiary	13 (26%)	21(42%)	(p=0.001*)
Employment	yes	15 (30%)	13(26%)	$\chi2$=0.005
	no	12 (24%)	10(20%)	(p=0.59)
Maid	yes	2 (4%)	5(10%)	$\chi2$=1.10
	no	25 (50%)	18(36%)	(p=0.15)
Insurance	yes	7 (14%)	4(8%)	$\chi2$=0.527
	no	20 (40%)	19(38%)	(p=0.35)
Alternative treatment	yes	7 (14%)	4(8%)	$\chi2$=0.311
	no	20 (40%)	19(38%)	(p=0.40)
Age	mean±SD	36.5±11.8	36.5±11.8	t=0.074 (p=0.47)
Symptoms of cancer patients	mean±SD	7.7±2.6	7.2±2.1	t=0.658 (p=0.51)

was not surprising as most patients referred to hospice were at advanced stages. Khoo (2002) carried out a study in a hospital-based palliative care unit of Penang General Hospital in a northern state of Malaysia involving 156 samples. Due to the cross-sectional nature of the study, the causal effects could not be established and it would be better if there was a control group. There were other important factors that could influence the psychiatric morbidity and QOL, such as the co-morbid of physical or psychiatric illnesses among the patients, as well as the caregivers. However, these were not examined in this study. This study demonstrated that the caregivers of cancer patients were at a high risk of developing psychiatric illnesses and psychosocial difficulties. Special programs which include counseling and psychosocial intervention were offered routinely to this group of population.

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Table 4: The Relationship between quality of life and socio-demographic profile.

Variables		**QOLdomains**							
		PF	*RP*	*BP*	*GH*	*VT*	*SF*	*RE*	*MH*
Alternative therapy	Yes	26.2±9.9	50.7±37.6	64.9±26.4	47.1±13.7	58.4±19.0	63.6±19.7	26.8	58.9±19.3
	No	23.7±7.3	31.7±40.6	63.8±20.1	50.7±16.8	59.7±15.8	58.3±22.0	22.43	57.8±26.6
	p	ns	ns	ns	ns	ns	ns	ns	ns
Insurance	Yes	27.5±8.9	54.5±41.6	61.5±27.4	50.9±13.8	61.4±13.6	60.2±14.6	28.7	57.2±23.0
	No	24.9±6.9	42.3±38.5	65.4±23.9	47.4±15.0	58.1±19.0	62.5±21.8	24.6	57.8±16.6
	p	ns	ns	ns	ns	ns	ns	ns	ns
Employment status	Yes	25.7±6.6	43.8±41.2	63.3±26.1	45.7±14.1	55.7±18.4	62.5±23.1	24.6	57.0±21.2
	No	24.9±6.3	46.4±37.2	66.14±22.7	51.4±15.0	62.7±16.8	61.4±16.7	26.6	57.8±22.6
	p	ns	ns	ns	ns	ns	ns	ns	ns
Maid	Yes	31.6±4.9	57.1±34.5	70.9±18.9	50.7±13.4	66.1±13.9	60.7±15.9	25.6	56.6±22.7
	No	24.5±4.4	43.0±39.8	63.5±25.3	47.8±14.9	61.3±21.3	58.5±18.4	23.3	62.3±13.2
	p	ns	ns	ns	ns	ns	ns	ns	ns
Relationship	Spouse	22.8±5.6	37.5±41.8	53.3±20.3	44.7±13.8	53.1±17.1	60.2±22.5	20.4	44.8±21.7
	Non-spouse	26.8±5.0	48.5±37.9	69.9±24.7	49.9±14.9	61.5±17.9	62.9±19.6	27.9	63.3±19.1
	p	ns	ns	0.02	ns	ns	ns	ns	ns
Gender	Male	25.4±7.9	47.4±43.2	69.2±25.4	48.7±13.3	60.3±14.8	71.7±19.5	24.7	59.0±19.2
	Female	25.6±6.9	43.6±37.1	61.7±47.9	57.9±19.8	57.9±19.8	56.2±18.7	26.0	56.4±23.2
	p	ns	ns	ns	ns	ns	0.01	ns	ns

Note: PF=Physical Functional, RP=Role Physical, BP=Bodily Pain, GH= General Health, VT=Vitality, SF=Social functioning, RE=Role Emotion, MH=Mental Health
ns=not significant

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ORIGINAL ARTICLE

Students' perception of schooling in associations with externalizing/internalizing syndromes and truancy

NIK RUZYANEI NIK JAAFAR[1], TUTI IRYANI MOHD[1], SHAMSUL AZHAR SHAH[2], ROZHAN SHARIFF MOHAMED RADZI[2], & HATTA SIDI[1]

[1] *Department of Psychiatry, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.*
[2] *Department of Community Health, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.*

Abstract
Objectives: To determine the association of students' perception of schooling with externalizing/internalizing scores; and to examine the different perceptions related to truancy. *Methods:* A total of 373 predominantly 16 year-old students attending three high risk schools in Pudu, Kuala Lumpur completed the questionnaires on schooling variables (four items) and externalizing/internalizing syndromes (Youth Self-Report, 112 items). *Results:* Certain negative perceptions (uncertainty of the schooling purpose, thinking schooling as time wasting) were significantly associated with higher internalizing ($p<0.05$), externalizing ($p<0.005$) and total problem ($p<0.005$) scores. Truants were significantly associated with disliking school (OR=2.52, 95% CI=1.01-6.20), lower educational goals (OR=2.03, 95% CI=1.18-3.49) and uncertainty of the schooling purpose (OR=3.14, 95% CI=1.47-6.67). Among truants, those who thought schooling as time wasting scored significantly higher on externalizing ($p<0.005$) and total problems ($p<0.005$). *Conclusions:* Certain negative perceptions of schooling are associated with self-reported emotional/behavioral problems and truancy. Positive schooling experience may correct schooling misperceptions and solve related emotional and behavioural problems.

Key words: *perception of schooling, externalizing/ internalizing syndromes, truancy*

Introduction

Adolescents' view towards schooling influences their emotion, the way they behave and ultimately their success in school. Negative perception is said to reflect poor commitment to education [1]. This in turn predisposes to greater likelihood of engaging in delinquency or problematic behaviour such as truancy [1,2]. In Malaysia, a survey in 14 to 17 years old students also found that problematic students have more negative aspirations of themselves with regard to schooling. They reported lower goals in educational attainment and fewer of them aimed to be professionals compared with the non-problematic students [3].

Truancy is often a first indicator of problematic students. Truancy that becomes persistent can lead to many adverse outcomes. Extensive research available suggests that many students who were habitually truant also behaved disruptively [4] and engaged in delinquent behaviors including smoking, alcohol and drug use

Correspondence: Nik Ruzyanei Nik Jaafar, Department of Psychiatry, Faculty of Medicine, Universiti Kebangsaan Malaysia, Jalan Yaacob Latif, 56000 Cheras, Kuala Lumpur, Malaysia.
Email: nikruzyanei@yahoo.com

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[5,6]. The consequences of truancy include failure in school [7], unemployment [8], adult antisocial tendencies, conviction of offences and criminal involvement [9-12]. Across the regions, studies have shown that truancy is associated with emotional and behavioural problems [7,13,14]. Likewise, negative perception of schooling may be detrimental to the students' mental health and perpetuate truancy.

On the other hand, school factors have also been shown to affect adolescents' psychological functioning. Conduct disorders for example, were found higher in poorly organized, unfriendly schools with low staff morale, high staff turnover and poor school contact with parents [15]. School environment can give rise to students' feelings of normlessness, powerlessness and meaninglessness that is reflected in their behaviour [16]. Schools in urban areas in particular, were found to have a serious increase of students exhibiting antisocial behaviour [17] indicating the role of community and urbanization effect. Lippman *et al.* reported that students in urban schools tend to engage in more risk-taking behaviors, require more teacher discipline, and are more often absent from school than students in suburban or rural environments [18]. This was also true in a survey in Malaysia, which showed the higher percentage of school absence in Kuala Lumpur city (26%), as compared to Terengganu (18%), a state in the east coast [19].

This study aims to investigate the association between students' perceptions of schooling and emotional/behavioural problems; whether these perceptions were more pronounced in students who regularly truant; and also looks at the perception of schooling in relation to emotional and behavioural problems among those who truant. As such, the roles of schools as a base for prevention and intervention strategies in addressing psychologically troubled adolescents (particularly prevalent in high risk setting) can be further explored.

Methods

Study design and settings

A cross sectional study was conducted upon 469 Form Four students (consisted of predominantly 16 year-old students) who attended three 'high risk' schools from the Pudu area of Kuala Lumpur from January 2005 onwards. 'High risk' schools are identified and defined by Kuala Lumpur Federal Territory Education Department [20] as 'schools with high rates of disciplinary problems and/or located in high-risk areas. The schools identified in this study serve low to middle working class areas whereby the types of housing are predominantly flats built by Kuala Lumpur municipal council, low-cost apartments and, to a lesser extent, single/double-storey houses. The school locations are part of central Kuala Lumpur with many major shopping complexes in the vicinity. Generally, the infrastructure of the area is adequate but overcrowding is a concern.

Research tools

1) Demographic and schooling variables: The demographic variables include information about gender, ethnicity and the education level of both parents. The school variables that referred to "perception of schooling" are 'feeling about school', 'students' goal in education', whether they think they 'know the purpose of schooling' and whether they think that 'schooling is a waste of time'.

2) Youth Self Report (YSR) [21]: This consists of 112 items from which 2 main syndrome scales are constructed, i.e., the internalizing and externalizing syndromes. The internalizing syndrome refers to "problems that are mainly within the self" thus reflected the emotional problem of the child. The Externalizing syndrome refers to "problems that mainly involve conflicts with other people and with their expectations for the child" referring to the behavioural problem of the child. The Total Problems scores comprised of the sum of the scores of the two syndromes plus social

problems, thought problems and attention problems. The YSR questionnaire was translated to Bahasa Malaysia and back translated independently (with the permission obtained from the author) by a team consisting of a Child and Adolescent Psychiatrist, two psychiatrists, a trainee psychiatrist, a clinical psychologist, a child and adolescent counselor. Necessary language changes which took substantial consideration of the local context were then made. The local internal reliability coefficient (Cronbach Alpha) of the scale tested during the pilot study conducted on 22 students from a secondary school (that was not included in this study) for the three domains ranged from 0.85 to 0.90.

Definition of truancy

'Truants' are identified as those who were "absent from school on official schooling day without verbal or written reasons from parent(s) or guardian or a medical doctor" for a total of 20 days or more (moderate to severe truancy) based on the guidelines by Kuala Lumpur Federal Territory Education Department [20]. The days of truancy per student (between January and August, 2005) was obtained from the school records.

Data collection

The survey was conducted in groups. Subjects were given 40 minutes to an hour to complete the survey. The teachers were not present during the survey sessions. This was important to ensure that the students were comfortable to disclose their answers. Each subject received a soft drink and stationery as token of appreciation for participating in the study.

Statistical analyses

Data analysis (descriptive and analytic) was done using the Statistical Package for Social Studies (SPSS) software version 12.0 [22]. Chi-square was used to compare groups and determine the associations between the variables. Only differences significant at $p<0.05$ are reported.

Results

A total of 373 subjects out of 469 eligible students (79.5% response rate) completed questionnaires on school variables (4 items) and emotional and behavioural problems (Youth Self-Report, 112 items) [21]; from which, 79 students were identified as truants. Those who were absent on the days of survey (n=54); present without the return of parents' written consent (n=7), both absent and did not return the parents' consent (n=26), and/or has learning disabilities, e.g., dyslexia (identified by the teacher) (n=0) were excluded from the study. Nine students out of 382 subjects (2%) who answered the YSR questionnaires did not complete them.

The study sample consisted approximately equal number of male (56.6%, n=211) and female (43.4%, n=162) subjects. The racial distribution of the study sample was 63% Malay (n=234), 26% Chinese (n=100), 9% Indian (n=33) and 2% other (n=6). Overall, the subjects came from a rather homogenous socio-economic background whereby majority of the parents only had up to secondary school education (85%-fathers; 92%- mothers). Majority (n=211, 85%) of the subjects who knew their fathers' education levels (n=248) had fathers who studied only up to secondary school levels while 92% (n=257) of the subjects who knew their mothers' educational background (n= 280) had mothers with the same education levels. About a third of subjects (n=125, 34%) did not know their fathers' education levels, and one fourth (n=93, 25%) were not aware of their mother's education levels.

Subjects who reported not understanding/ uncertain of the purpose of schooling (Table 1) and thought going to school as a waste of time (Table 2) had significantly higher internalizing ($p<0.05$), externalizing ($p<0.005$) and total problem ($p<0.005$) scores compared with those with positive views. On the other hand, their feelings toward school and education goals were not

Table 1: 'Understanding the purpose of schooling' and YSR syndrome scores

YSR Syndromes	Yes (n=335)		No/ uncertain (n=38)		χ2	*p*-value
	Mean	*SD*	*Mean*	*SD*		
Externalizing score	16.8	8.3	20.8	6.9	-2.908	0.004
Internalizing score	17.1	7.7	20.1	7.7	-2.319	0.021
Total problem score	57.9	22.4	69.9	18.6	-3.187	0.002

Table 2: 'Schooling as time wasting' and YSR syndrome scores

YSR Syndromes	Yes (n=335)		No/ uncertain (n=38)		χ2	*p*-value
	Mean	*SD*	*Mean*	*SD*		
Externalizing score	19.8	7.8	14.95	7.9	5.886	0.000
Internalizing score	18.6	8.0	16.3	7.3	2.900	0.004
Total problem score	65.4	22.2	53.7	20.9	5.213	0.000

Table 3: Perceptions of schooling between non-truants (n=294) and truants (n=79)

Variables	Answer	Non-truant N (%)	Truant N (%)	Chi-Square	*p*-value
Feeling about school	Like school very much	61 (20.7)	10 (12.7)	5.000	**0.025***
	Like school	104 (35.4)	27 (34.2)		
	Like school a little bit	113 (38.4)	32 (40.5)		
	Dislike school	15 (5.1)	10 (12.7)		
	Dislike school very much	1 (0.3)	0 (0.0)		
Goals in education	Lower than secondary school	7 (2.4)	2 (2.5)	7.566	**0.006***
	Secondary school	35 (11.9)	14 (17.7)		
	Certificate	42 (14.3)	19 (24.1)		
	Diploma	40 (13.6)	12 (15.2)		
	Degree	59 (20.1)	15 (19.0)		
	Master	37 (12.6)	3 (3.8)		
	PhD	70 (23.8)	13 (16.5)		
Understanding the purpose of schooling	Yes, I understand	272 (92.5)	63 (79.7)	11.098	**0.001***
	No, I don't	8 (2.7)	2 (2.5)		
	Uncertain	14 (4.8)	14 (17.7)		
'Schooling as time wasting'	Yes	17 (5.8)	5 (6.3)	3.497	0.061
	Sometimes	112 (38.1)	39 (49.4)		
	No	165 (56.1)	35 (44.3)		

*$p<0.05$

significantly associated with either syndrome or total problem scores.

In comparing non-truant and truant students, there were significantly greater proportion among truants in those who reported disliking school (OR=2.52, 95% CI=1.01-6.20), aimed for lower educational goals (up to diploma level) (OR=2.03, 95% CI=1.18-3.49) and were uncertain of the purpose of schooling (OR=3.14, 95% CI=1.47-6.67) compared with non-truants (Table 3). Both groups did not differ significantly in their perception of schooling as a waste of time.

When the truant group was further analysed, those who thought schooling as a waste of time were found to have significantly higher externalizing (p<0.001) and total problem scores (p=0.001) while they did not differ significantly in other items of their perceptions of schooling.

Discussion

This study firstly demonstrates the associations between perceptions of schooling (i.e., uncertainty of the purpose of schooling and viewing schooling as wasting time) and two broadly grouped psychological domains: externalizing and internalizing syndromes. It also looked further into the possible association of these perceptions with truancy, a common presenting problem among adolescents. The findings may provide an insight to the roles of school as a base for prevention and intervention of adolescence mental health problems.

Perceptions of 'not knowing/ uncertain of the purpose of schooling' and 'schooling as a waste of time' may be linked to students' behaviour and emotion in many ways. Students' behaviour may be an expression of feeling helpless in the school environment and that schooling is meaningless [23]. The students' view that the academia is meaningless can be understood by way of one's feeling that school work is immaterial to his future and therefore perceived as non-rewarding [[16]. The lack of positive reinforcement from the school situation may lead to students' engaging in negative behaviours in their attempts to revolutionize the existing school atmosphere [16]. Feeling of helplessness, worthlessness and other forms of emotional disturbance may also be similarly attributed to such unrewarding school experience. On the other hand, adolescents' emotion and/or their behaviour might affect their views of schooling. An emotionally troubled adolescent is inclined to think negatively which thus influences his view on the task of schooling. Similarly, such troubled behaviour may be perceived negatively by parents, peers, teachers or school staff whose negative reactions may perpetuate the students' unpleasant schooling experience.

Two interesting questions arise from this analysis. Firstly, are these negative perceptions more prevalent among those who more than often avoid school like truants? Two, among those who are frequently truant, is viewing schooling negatively associated with greater emotional and behavioural problems compared to truants with more positive perceptions?

In this study, a significantly greater proportion of those who disliked school, aimed for lower education goals and uncertain of the reason for schooling were found among truants compared with non-truants. Similar results were found in a local survey even though the latter defined truancy more loosely and relied heavily on the respondents' self-report [3]. Abroad, Hawkins and colleagues also found that a low degree of commitment to education is related to delinquent behaviour [2].

Studies have consistently showed that truant students were more likely to drop out from school [8,24]. Contrary to common belief that economic hardship is the main cause for dropping out of school, Cervantes noted that only about 3 % of the students quit schooling due to financial constraint

[25,26]. Perhaps, of greater importance are the influence of other psychosocial factors like students' own view on education, the child's psychological wellbeing, peer acceptance and parental support [16].

Conclusions

In this study, it is shown that negative perceptions like disliking school, aiming for lower educational goals and uncertainty regarding the purpose of schooling were more prevalent among truants than non-truants. Furthermore, the externalizing syndrome and total problem scores were greater in truants who viewed schooling as time wasting compared to truants who thought otherwise. For research purposes, it is a complex task to ascertain the causal factors of the interrelation of the students' attitude, psychological wellbeing and school truancy while the relationship clearly exists.

Nevertheless, we can conclude that both negative perceptions and school truancy are factors that can affect or be affected by one's psychological wellbeing, which in turn can lead to further deviation in both perceptions of schooling and school attendance. From this conclusion, more importantly, are the school roles in fostering a positive school experience that can be protective against the emotional and behavioural problems.

Implications/recommendations

An important school role is to nurture a student socially and emotionally that helps develop one's self-esteem and self-concept [16,27]. This focuses on the student's personal, psychological and emotional development so that one acquires not only academic qualification but also emotional intelligence and social competence. However, many schools may inadvertently neglect this role as opposed to the more academic-oriented goals. The strong motivation of overt economic reward causes a school's success be measured by its academic achievement, leads to the school's more traditional role of teaching skills and imparting information be prioritized. An extensive survey done on over 4,000 teachers and male students in the United States showed that both teachers and boys rated socialization and transmission of cultural values as two aspects that were given the lowest amount of emphasis in the school setting [28]. In Malaysia, very small percentage of students (18%) attending high risk schools saw school counselors for their problems compared to those who sought help from friends (92.8%), suggesting the need for further enhancement of the role of school counselors [29].

Our findings suggest that some aspects of the school setting may be improved for schooling to be perceived in a more positive manner. Since such perceptions are linked to emotional and behavioural problems as well as truancy, more efforts that focus on psychosocial growth may contribute to the betterment of schooling experience. For example, some hypothesized that rigid, academically confined school curriculum resulted in children with poorer academic ability becoming disaffected from education [30].

Nevertheless, future research on the mechanisms involving in these associations are required so that more specific changes (e.g., teaching method, reward/ punishment system, school curriculum, time spent/duration of schooling) can be made in the school environment to form strategies to make schools more appealing and rewarding to the adolescents.

Study limitations

This is a small-scale study on a selected population, i.e., 16-17 years old students attending 'high risk' schools in Pudu, Kuala Lumpur. Firstly, the resultant selection bias regretfully restricts the generalizability of the study findings. Secondly, the cross-sectional study means that the causality of matters remains vague. A better way of sampling would be using multi-stage method that draws from a bigger target popu-

lation and wider age group. Also, further research that looked into the development of psychological outcomes over time may enlighten us on specific mechanisms of several aspects of school setting that are detrimental to mental health.

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ORIGINAL ARTICLE

Psychotropic prescribing pattern in Thai bipolar outpatients

PRAMOTE SUKANICH & RONNACHAI KONGSAKON

Department of Psychiatry, Faculty of Medicine, Ramathibodi Hospital, Mahidol University, Bangkok, Thailand.

Abstract

Objective: To study the pattern of psychotropic prescription among Thai bipolar outpatients by using cross sectional study. *Methods:* This is a cross-section study of bipolar outpatients treated in 4 general and psychiatric hospitals during January to March 2005. *Results:* Two hundred eighty-four outpatients with the age of 15 year olds or more were enrolled. The psychotropic prescribing pattern in Thai bipolar patients is similar to those found in US and UK studies. Valproate was the most frequently prescribed medication followed closely by lithium. Aypical antipsychotics were the third. The only exceptions are the smaller number of antidepressant uses and the more frequent use of typical antipsychotics in Thai patients. *Conclusions:* The study shows the similar psychotropic prescribing pattern given to Thai bipolar outpatients as compare to those in US and UK. The major differences are that Thai clinicians prescribed more typical antipsychotics and less antidepressants.

Keywords: *bipolar disorder, prescribing pattern, lithium, valproate, antipsychotics*

Introduction

Bipolar disorder is a psychiatric disorder which impacts patients' functioning and well-being. The natural history of bipolar disorder is characterized by frequent relapse and recurrence [1], with impaired patient functioning and well-being even after symptomatic recovery [2-7]. Bipolar I disorder is one of the most complex psychiatric conditions characterized by recurrent mood episodes and varied course. It affects at least 1% of the population and is associated with morbidity and mortality [8]. World Health Organization estimation has suggested that bipolar disorder was the fifth leading cause of disability worldwide amongst young adults in the year 2000 [9].

There had been no specific treatment for bipolar disorder until the efficacy of lithium was first discovered in 1950's [10]. About 40 years later, valproate became the second medication that has been approved to be use in bipolar disorder. Following the success of valproate, there have been many positive and negative trials in the attempt to bring other novel anticonvulsants into psychiatry, but so far only carbamazepine and lamotrigine [12] have received the FDA approval.

The third wave of medication treatment in bipolar disorder occurred in the late of second millennium by the introduction of serotonin-dopamine antagonist or "second generation antipsychotic" like olanzapine, quetiapine or risperidone into the treatment of both acute and maintenance of this disorder [13]. Since then, the use of this group of antipsychotics became the new standard of therapy although they still cannot replace the first-line agents.

Correspondence: Pramote Sukanich, Department of Psychiatry, Faculty of Medicine, Ramathibodi Hospital, Rama VI Road, Ratchatewi, Bangkok 10400 Thailand.
E-mail: rapsu@mahidol.ac.th

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The expanding varieties of pharmacological treatment for bipolar disorder has confused many inexperienced clinicians and also caused the increase use of medications. These phenomena have brought the surging of cost and medication adverse events. There have been many treatment guidelines published in the hope to solve these problems. Whether the clinicians will change their prescribing patterns remains doubtful.

In 2006, Ghaemi reports the pharmacological treatment patterns at study entry for the first 500 STEP-BD participants recruited in 1998-1999 that at intake, 71.9% of the cases were in standard mood stabilizers (lithium, valproate or carbamazepine), 40.6% were on antidepressants, 31.8% on novel anticonvulsants, 27.2% on second generation neuroleptics and 25% were on benzodiazepines [14]. It should be noted that only 11% of the cases were treated with standard mood stabilizer monotherapy. Most of samples (63.4%) were euthymic, 24.6% were depressed and the rest 12% were either manic, hypomanic or mixed state.

The more recent and larger study done by Baldesserani using 2002-2003 US National Market Scan Research Database including only the initial prescribed monotherapy reveals that, of the 7,760 bipolar disorder subtypes, the most commonly prescribed drug class was antidepressants (50%), followed by mood stabilizers (25%: anticonvulsants, 17%, lithium 8%), sedatives (15%) and antipsychotics (11%) [15]. At the study midpoint, only 44% of the patients were receiving monotherapy.

Levine (2000) [16] reports the study of psychotropic prescription patterns among patients with bipolar I disorder during 1995/96, lithium was the most commonly prescribed mood stabilizer (50%) followed by valproic acid (40%). Only 18% of the subjects received monotherapy. In fact, nearly 50% received three or more agents.

The data from Maudsley Bipolar Disorder Project reported by Frangou (2002) confirms that lithium was prescribed in about a half of the patients [17]. This study also reports the more frequent use of antipsychotics among the patients with psychotic symptoms and multiple manic episodes. The combined treatment was very common and did not follow the practice guidelines.

Since the approval of valproic acid for bipolar disorder in the 1990's, there has been a downward trend in the use of lithium due to its narrow range of therapeutic range and frequent adverse side effects, especially when combined with typical antipsychotics.

The other interesting study carried out by Blanco (2002) focusing on the trend of bipolar treatment given by outpatient psychiatrists [18]. The data derived from 1992-1995 and 1996-1999 National Ambulatory Medical Care showed that during those periods, over one third of bipolar patients did not receive a mood stabilizer, while there was a decreased use of lithium from 50.9% to 30.1%. Antidepressants were prescribed alone in about one fifth of the cases.

The goal of this study was to examine the psychotropic prescribing pattern for bipolar disorder given by Thai outpatient psychiatrists.

Methods

Study design and population

This study was carried out in 4 psychiatric clinics between 1 January 2005 and 31 March 2005. Male and female patients with bipolar disorder in the maintenance phase and aged over 15 years old were enrolled consecutively into the study. Exclusion criteria were medical and psychiatric comorbidity.

Statistical analysis

Data were entered into Excel spreadsheet (Microsoft Corporation) and analyzed by using SPSS (version 11.5; SPSS, Inc., Chicago, IL). Categorical data were described

as number and percentage – n (%). Continuous data were presented as mean±standard deviation (SD) and median (range). Statistical analysis of continuous data was performed with one-way analysis of variance (ANOVA) or non-parametric methods as appropriate. Chi-square ($\chi 2$) test was used for the analysis of discrete data. A *p*-value less than 0.05 was considered as statistical significance.

Results

There were 284 cases included in this study, females (female:male ratio=3:2) was predominate. Patients within the age range of 25-54 years old comprises 66.2% of total samples. Table 1 shows other characteristics of the studied population.

At the point of data entry shown in Table 2, independence of the stages and severity of bipolar illness, 100 cases (35.2%) were receiving monotherapy, while the rest (184 cases or 64.8%) were treated with 2 or more medications.

Lithium and valproate were two of the most common agents used, either as monotherapy (34 of all lithium cases or 26.9%; 39 of all valproate cases or 30.0%, respectively) or combined with any other type of medications. (91 of all lithium cases or 72.2%; 91 of all valproate cases or 70%, respectively). These two agents were combined in 21 cases, and the total number of cases using both medications was 214 (75.3%).

Atypical antipsychotic drugs (clozapine, risperidone, olanzapine and quetiapine) was ranked third with the total of 90 cases (31.7%), while most of the time (68 of all atypical antipsychotics cases or 75.5%), they were combined with either lithium or valproate. Surprising results were the still quite frequent use of typical antipsychotic agents (perphenazine, haloperidol and chlorpromazine) in 75 cases (26.4%).

Table 1: Characteristics of 284 bipolar outpatients included in this study

Characteristics		N	%
Sex	Male	111	38.9
Age	15–24 years	38	13.6
	25–34 years	56	20.1
	35–44 years	62	22.2
	45–54 years	66	24.0
	55–64 years	33	11.8
	>64 years	23	8.2

Table 2: Pattern of psychotropic drug prescriptions in 280 cases

	Mono	**Combination (n)**							
	(n)	*Val*	*Typ*	*Atyp*	*Cbz/ Top*	*Atd*	*Lit*	*Sed/ Oth*	*Total*
Lit	34	21	27	34	0	2	0	8	126
Val	39	0	29	32	3	2	21	4	130
Typ	12	29	0	4	0	2	27	1	75
Atyp	8	32	4	4	6	1	34	2	90
Atd	1	2	2	1	1	0	2	1	10
Cbz/Top	3	3	0	6	1	1	0	2	16
Sed/Oth	3	4	1	2	2	1	8	0	21
Total	100	91	63	83	13	9	91	18	-

Lit=lithium, Val= valproate, Atyp= atypical antipsychotics, Typ= typical antipsychotics, Cbz/Top= carbamazepine or topiramate, Atd=antidepressants, Sed/Oth= benzodiazepines or anticholinergics

Antidepressants were used in only 10 cases. The unexpected finding was that amitriptyline was the only antidepressant prescribed (we will discuss about this issue in the Discussion) in all 10 cases. Not a single SSRI or other novel antidepressant was recorded.

Carbamazapine and topiramate were grouped together due to the low number of using (3 as monotherapy and 13 as combined therapy) with the total of 16 cases.

Benzodiazepines and anticholinergic drugs had 21 entries in the Sed/Oth group while there were three cases taking sedative drugs alone.

Discussion

The results of this study are mostly similar to other studies reviewed earlier. About two thirds (64.8%) of bipolar patients were treated with two or more psychotropic agents while the other 35.2% were on a single agent. The later figure is larger than 18% of cases receiving monotherapy reported by Levine [16].

Lithium and valproate were two of the most commonly prescribed medications in this report. This finding is similar to Ghaemi's study [21]. Similar to the findings of Levine's and Frangou's studies [16,17], lithium was prescribed in about a half of our studied cases.

Although this study are not reporting and cannot predict the declining trend of lithium use, it can be seen from the data that the valproate prescriptions were slightly more frequently than the lithium ones (130 cases VS. 126 cases).

The other interesting observation is the surging use of atypical antipsychotics in bipolar disorder, either as a single mood stabilizer or in combination with lithium or anticonvulsants, during the past decade. The number of patients receiving atypical antipsychotics was relatively large in this report (90 cases or 31.7%). This figure is larger than those reported by Ghaemi *et al.* (27.2%) and Baldesserani *et al.* (11%). Valproate and atypical antipsychotics are long known as a cause of weight gain and metabolic syndrome either using alone or in combination [19,20]. In this report, 156 (54.9%) cases were either on valproate or atypical antipsychotics, 32 cases on the combination of these agents while the other 4 cases took two atypical drugs concomitantly. Concerning these trends, like what we have found in schizophrenic patients, metabolic syndrome may become a common problem in bipolar patients. The emphasis of this phenomenon in medical education and a more in-depth study in managing this iatrogenic complication are needed.

A much smaller number of case in our study (only 10/284 cases) were on antidepressants alone or with other agents compared to Ghaemi's study (40.6% or two fifth) and Blanco's study (about one fifth).

Two results from our study that are different from previous reports, especially from the US and UK, are the more frequent use of "older, cheaper but less studied and more troublesome side effects" medications like typical antipsychotics in 75 (26.4%) cases, as well as tricyclic antidepressants, especially amitriptyline. Tricyclic antidepressants have been reported that it is more likely to cause polarity switching in bipolar patients. The explanations can be: i) the limitations of the study in which only two medications were recorded, ii) the patients' financial problems, or iii) that those cases were probably refractory to the novel antidepressants.

It is not yet known whether the use of typical antipsychotics has derived from the Thai clinicians' sensitiveness to the financial status of a patient. Anyway, there has been no report on the success of using these agents in the maintenance phase of bipolar disorder. Furthermore, long-term use of typical agents is associated with higher in-

cidence of tardive dyskinesia compared to the use of atypical ones [21-22]. Hence, this group of medications should be used only in short-term, especially for psychotic symptoms or severe mood episodes.

It has long been known that bipolar illnesses can increase the suicidal risk during both polarities [23]. Although it is still inconclusive [24], tricyclic antidepressants may induce mania and accelerate the cycles more often than SSRIs [25,26]. Therefore, the frequent use of tricyclic antidepressants in this study does alarm our worries about the risk of overdose and patients' outcomes. Thai clinicians should pay more attention and be cautious on the use of tricyclic antidepressants in bipolar patients.

Limitations

1. The study record included only names of the first 2 agents written on the prescription. Thus, these two agents could not be considered as the main medications for each case. Moreover, as it has been reviewed that most of the bipolar patients receive 3 or more medications, these data could not represent the whole picture of the treatment pattern.
2. The samples were in their maintenance phases of treatment, but the records did not show the diagnostic subtype and the number of episodes patients had experienced at entry (most of the studies we have reviewed do not show these data as well). These factors have been known to have some influences on the prescription. Hence, the medications used in this report might reflect specifically to none of the above mentioned factors.
3. Female predomination in our samples is different from other studies that bipolar I disorder has a rather equal male to female ratio [27]. Unfortunately, we did not have data telling us that our samples were largely Bipolar II [28], which has the same sex ratio as our study, or not. This can influence the generalization of our report.

Conclusions

This study is one of the pioneers in describing the real picture of Thai prescribing pattern of psychotropic medications for bipolar disorder. Despite some limitations of our study, we can still observe some remarkable pattern of the prescriptions. Follow-up studies in this area with a better data collection should be done to follow the prescription trend. The benefits will shine their lights in creating a more reasonable and more cost-effective treatment for bipolar patients.

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ORIGINAL ARTICLE

Post-traumatic stress disorder in Thai children living in area affected by the tsunami disaster: a 3 years follow-up study

VINADDA PIYASIL[1], PANOM KETUMARN[2], SIRIRAT ULARNTINON[1], NANTHAWAT SIDTHIRAKSA[2], NUTTORN PITYARATSTIAN[3], TIRAYA LERTHATTASILP[3], WALLAPA BUNPROMMA[3], THANVARUJ BOORANASUKSAKUL[3], SUNSANEE REUANGSORN[2], SALAKCHIT TEERANUKUL[2], WANRAWEE PIMRATANA[2]

[1] *Department of Child and Adolescent Psychiatry, Queen Sirikit National Institute of Child Health, Thailand.*
[2] *Department of Psychiatry, Siriraj Hospital, Mahidol University, Bangkok, Thailand.*
[3] *Department of Psychiatry, King Chulalongkorn Memorial Hospital, Chulalongkorn University, Bangkok, Thailand.*

Abstract
Objective: To study the prevalence of post-traumatic stress disorder (PTSD) in Thai children and adolescents studying in the area affected by the December 26th, 2004 tsunami disaster. This prospective study was carried out during the 3 years period after the disaster. *Methods:* One thousand, six hundred and twenty-five surviving students from two schools in Takuapa district of Phang-nga Province participated in this cross-section study. Screening was done by using the Pediatric Symptom Checklists (PSC), the Childhood Depressive Intervention (CDI) and the Revised Child Impact of Events Scales (CRIES-8). DSM-IV PTSD was diagnosed by child and adolescent psychiatrists. Data were analysed by using SPSS version 10.0. *Results:* The prevalence rates of PSTD in the students facing the tsunami disaster were 57.3%, 46.1%, 31.6%, 10.4%, 7.6% and 4.5% at 6 weeks, 6 months, 1 year, 1 1/2 year , 2 years and 3 years after the disaster, respectively. Female to male ratio was 1.7:1. The peak age was 9-10 years old. Twenty-one cases (8.5%) still exhibited a wide range of PTSD symptoms but not fulfill the DSM-IV diagnostic criteria for PTSD. *Conclusions:* The prevalence of PSTD in students was 57.3% at 6 weeks after the disaster. It declined sharply at 1 year after the event. Despite receiving financial, rehabilitation and mental health supports, 4.5% of the victims still fulfill the diagnostic criteria for PTSD after 3 years of the disaster.

Key words: *tsunami, disaster, Thailand, PTSD, children*

Introduction

Disasters like tidal waves may cause a number of psychiatric consequences on the victims, e.g., sadness, depression, worry, panic attack, adjustment disorder and stress-related physical illnesses. Post disaster psychiatric morbidity in children may continue for years and present with various types of psychopathology. Common psychiatric illnesses include PTSD, depressive disorders, and anxiety disorders, non specific distress such as elevation of PTSD symptoms (re-experience, avoidance or hyper-arousal symptoms), externalizing behavior, cognitive impairment and school dropout. For injured children, PTSD is usually overlooked and not treated.

Correspondence: Vinadda Piyasil, Department of Pediatric, Queen Sirikit National Institute of Child Health, Bangkok 10400, Thailand.
Email: meaw17@gmail.com

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The incidence rates of PTSD in children are between 6% and 25 % [1,2] and associated with the increased risk of drug addiction in child, adolescent and adult victims [3-5]. Life-long medical symptoms are found at the rates of 10.3% among men and 18.3% among women.

This prospective study was carried out during the 3 years period after the disaster. It aimed to examine the prevalence of post-traumatic stress disorder (PTSD) in Thai students studying in the area affected by the December 26th , 2004 tsunami disaster.

Methods

After the tsunami event on December 26th, 2004, an emergency team was dispatched to tally and report personal losses among students of each school. Among the six most devastated provinces, the number of deaths was largest in Phang-Nga Province. In Phang-Nga, Bang Muang and Suthin Anusorn Schools in Takuapa district were selected for the surveillance of PTSD. These two schools were chosen because 37.5% of the student deaths in Phang-Nga were from these two schools.

One thousand, six hundred and twenty-five students surviving from the incidence were pre-screened and divided into two groups: i) those who were directly suffered from the tidal waves and ii) those who suffered indirectly through other children (e.g., school mates), who had personal losses.

Screening tests were done by using the Pediatric Symptom Checklists [6,7], the Childhood Depressive Intervention (CDI) and the Revised Child Impact of Events Scales (CRIES-8).

PTSD cases were monitored for 3 years from 2004-2006. The medical team developed a rehabilitation program starting 10 days after the tsunami, provided initial psychological first aids and conducted several group supports for students and their parents. As it was deemed necessary that the schools should involve, school teacher orientation, education and training sessions were provided to the teachers, who were aware of and understand PTSD and depression. A psychiatric team also provided medical and psychotherapy supports throughout the period of follow-up, where the schools served as the central administration of care and monitoring the children. Not only 57% of the students faced direct personal losses, the teachers and their families also injured and/or loss many valuables, including homes and family members. These teachers also received supports. Parents were invited to meet with the psychiatric team to educate for the awareness of PTSD and gain new knowledge on its interventions. Treatment also provided for parents with PTSD. Financial supports were made available for victim families, including student scholarships. The psychiatric team visited the schools 12 times to monitor, counsel and provide medical care during 3 years after the disaster. School psychologist worked with teachers in school and developed activities to support them.

In this study, psychiatric evaluations were done by child and adolescent psychiatrists. PTSD was diagnosed by using the DSM-IV diagnostic criteria. The results were presented as percentage (%).

Results

Bang Muang School was not destroyed and 627 students could survive. However, it lost a total of 51 students. This death toll is the highest among the schools in Takuapa district. One of 31 teachers also died. One hundred and one students lost their parents and/or homes.

Suthin Anusorn School is a private school located in Takuapa district and was not structurally destroyed. Out of the total of 998 students, 22 students were reported death or missing, 16 lost their parents and 95 lost their homes. Out of 46 teachers and 12 assistants, 3 of them were directly im-

pacted. One hundred and twenty-seven children lost their parents and/or homes.

Further evaluations were performed on 1,615 students at 6 weeks after the disaster. Of 316 students directly affected by the disaster, 181 cases (57.3 %) suffered from PTSD. A female to male ratio was 1.7:1. PTSD was common in grade 4-6 students. By using the CDI, 35.5% of PTSD children had the scores more than 20 points, and 18 of them (or 20% of these children) were also diagnosed as major depressive disorder. Nine of 20 patients (45%) suffered from both diseases for 2 years and were given necessary prescription in combination with cognitive behavior therapy.

At 3 years after the tsunami, 11 cases (4.5% of the victims) still met the diagnostic criteria of PTSD. Figure 1 depicts the point prevalence rates of PTSD among the student victims over a 3-year follow-up period, from 57.3% to 4.5 %.

Partial remissions of PTSD were found in 21 cases (or 8.5% of the victims). Although they still had a wide range of PTSD symptoms (re-experiencing of the incident, avoidance of reminders and hyper-arousal response), their severity did not fully meet the DSM-IV criteria for PTSD. Of 21 students, 12 students reported more than one of 5 symptoms of re-experience criterion. Of these, 7 students reported more than three symptoms of re-experience criterion. Twelve students reported more than 2 symptoms of hyper-arousal criterion. One student had all 5 symptoms of hyper-arousal criterion. However, there were only one student in this partial remission group met the requirement of avoidance criterion, which needed 3 of 7 symptoms of avoidance criterion. Fourteen students with partial remissions reported only 1-2 symptoms of avoidance criteria.

Overall, 6 students with partial remissions had 6-8 PTSD symptoms but not reached the threshold of PTSD diagnosis, which required more than 3 symptoms of avoidance criterion. However, we found that some students still had profound symptoms of

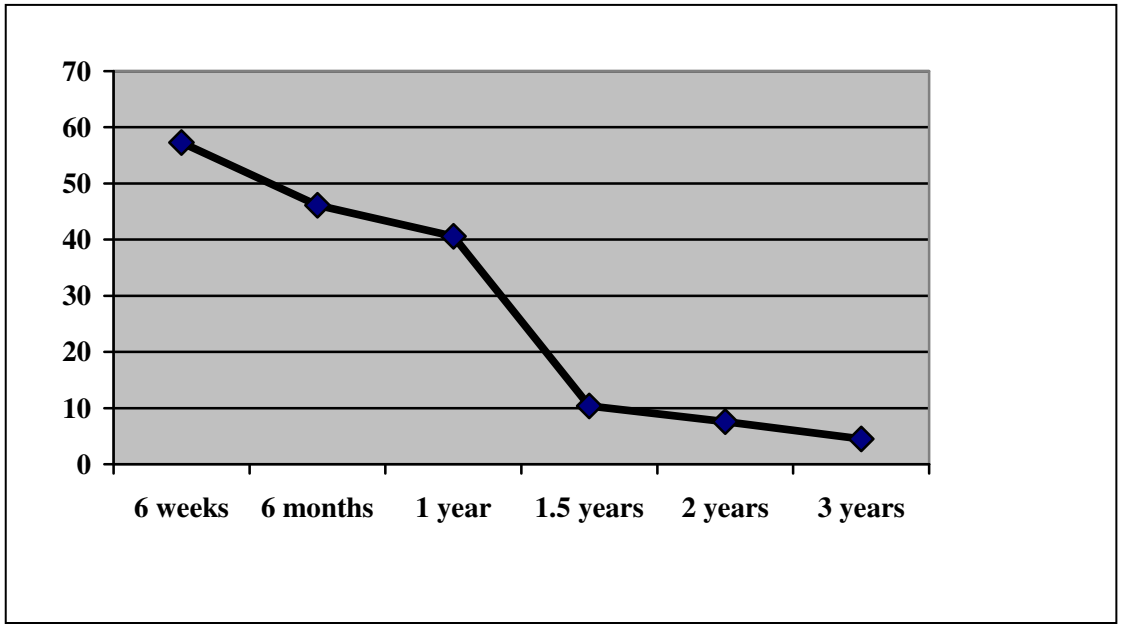

Figure 1: Percentages of students with post-traumatic stress disorder at different points of time during 3 years follow-up.

intrusion and hyper-arousal dimensions and needed treatment.

Discussion

In other parts of the world, PTSD has been found in 25% of the disaster or crisis victims [1-3]. It is believed that the prevalence of PTSD is highly correlated with the severity of disaster encountered, level of family and community devastation and rescue effectiveness and quality [3].

Similar to other countries facing the tsunami disaster [8-10], PTSD and its symptoms found in this study improved over time. The results of this study are also the same. The percentages of students with PTSD decreased over a 3-year follow-up period, in particular between 1 and 1 1/2 years after the disaster.

The prevalence of PTSD in this study was lower than other reports [3-8]. It might be the result of our rehabilitation programme, which included screening for a high risk group, early intervention, continuous supports and coordination with teachers [5,10-15].

In conclusion, the prevalence of PSTD in children was 57.3% at 6 weeks after the disaster. It declined sharply between 1 year and 1 1/2 years after the disaster. Three years after the event, 4.5% of the victims still met the diagnosis of PTSD despite continuous receiving of financial, rehabilitation and mental health supports.

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ORIGINAL ARTICLE

Diagnostic Interview for Genetic Studies (DIGS): validity, inter-rater and test-retest reliability of the Thai version (Th-DIGS)

NANTAWAT SITDHIRAKSA, SUPACHOKE SINGHAKANT, WORAPHAT RATTAAPHA, NATTHA SAISAVOEY, & SUNANTA CHANTAKARN

Department of Psychiatry, Siriraj Hospital Mahidol University, Bangkok, Thailand.

Abstract

Objective: To study the diagnostic validity, inter-rater reliability, and test-retest reliability of the Th-DIGS. *Methods:* The DIGS was translated into Thai. The accuracy and understandability was assured by back translation, consensus review and a pilot interview. The studied subjects were recruited from three major referral mental health centers in central Thailand. We recruited a total of 170 subjects with clinical psychiatric diagnoses and 33 controls. The referral psychiatric diagnoses were schizophrenia (n=33), major depressive disorder (n=31), bipolar I disorder (n=32), alcohol dependence (n=39), amphetamine dependence (n=35). To study validity and inter-rater reliability, we interviewed the subjects with the Th-DIGS by a trained interviewer in the presence of a co-rater who simultaneously completed the Th-DIGS. Approximately four weeks later, we re-interviewed the subjects using the Th-DIGS by a third independent interviewer to study the test-retest reliability. We then calculated the diagnosis concurrent validity, inter-rater and test-retest reliability of the Th-DIGS. *Results:* The overall kappa of concurrent validity was 0.82 with 93.6% sensitivity and 95.0% specificity. The overall kappa coefficients of inter-rater reliability and the test-retest reliability were 0.89 and 0.78, respectively. The excellent validity and reliability are robust to most diagnoses. The concurrent validity of alcohol dependence and the test-retest reliability of controls, major depressive disorder and alcohol dependence were in fair-to-good range. Moreover, the Th-DIGS also reliably discriminated normal controls from subjects with psychiatric disorders. *Conclusion:* The Th-DIGS has been developed. The study in Thai subjects demonstrated a good-to-excellent validity, inter-rater and test-retest reliability. This indicates that the Th-DIGS is a highly valid and reliable instrument for use in psychiatric studies, and studies of a variety of psychiatric disorders including alcohol dependence and amphetamine dependence.

Key words: *validity, reliability, semi-structured interview, psychiatric diagnosis, alcohol and amphetamine dependence*

Introduction

Both genetics and environments influence the observed phenotypic characteristics of an organism [1,2]. The process of defining and identifying the psychiatric phenotypes is still under debating and evolving [3,4]. Despite of this, identification of clinical psychiatric phenotypes is still the most common and probably the best tool to recruit a subject for a psychiatric genetic research [2,4].

Correspondence: Nantawat Sitdhiraksa, Department of Psychiatry, Siriraj Hospital Mahidol University, 2 Prannok Road Bangkoknoi Bangkok 10700 Thailand.
Email: sinsk@mahidol.ac.th

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The discrepancy and inconsistent results of previous psychiatric genetic studies could be explained partly as the results of differences in phenotypic assessment, diagnostic criteria, diagnostic misclassification and etiological heterogeneity [4]. This is further complicated by the significant heterogeneity and phenocopy to a psychiatric phenotype [4,5]. Furthermore, symptoms of substance use could modify and/or mimic psychiatric phenotypic assessment complicating the authentication of the subjects and interpretation of the results. There is a need to develop a diagnostic instrument to reduce this inaccurate assessment and to improve validity and reliability of psychiatric phenotypic assessment [1,4,6,7]. Several semi-structured interviews have recently been developed for these purposes. Among the few are the Schedule for Affective Disorders and Schizophrenia – Life time version (SADS-L) (Endicott and Spitzer 1978), the Schedules for Clinical Assessment in Neuropsychiatry (SCAN) (Wing et al. 1990), the Comprehensive Assessment of Symptoms and History (CASH) (Andreasen et al. 1992), the Semi-Structured Assessment for the Genetics of Alcoholism (SSAGA) [8], and the Diagnostic Interview for Genetic Studies – (DIGS) [9].

The DIGS was originally developed by the National Institute of Mental Health (NIMH) to collect comprehensive databases of psychiatric symptoms, signs, current and life-time psychiatric history for the assessment of major mood disorders and psychotic disorders. The DIGS is a semi-structured interview, designed to more accurately collect and assess wide spectrum of phenotypes of psychiatric disorders [9]. Since it was introduced in 1994, it has been widely used in literatures to cover wide ranges of other psychiatric illnesses. There are several advantages of the DIGS. Firstly, it incorporates several features of other previously validated defined instruments including the SADS-L, Structured Clinical Interview for DSM-III-R (SCID), Diagnostic Interview Schedule (DIS), and CASH [9]. Secondly, it was designed to collect extensive information on the course and chronology of co-morbid conditions. Most importantly, it was also designed to show the temporal correlation between substance use and psychiatric disorders and thus reducing a contamination of its influence over the collected psychiatric phenotypes. Lastly, the DIGS has capable features of collecting data both cross-sectional and longitudinal manners with clear diagnostic criteria which are all crucial to make a firm psychiatric diagnosis [9,10].

The original English version of the DIGS was tested and shown to have a good validity, inter-rater and test-retest reliability [9]. The DIGS has been translated into several languages including French, Hindi, and Korean [5,11,12]. The validity, inter-rater and test-retest reliability of each version was tested before using in genetic study field work in each country. The goal of this study was to translate the DIGS into the Thai version (Th-DIGS) and to test its validity, inter-rater and test-retest reliability.

Methods

Sample

The patients and controls were recruited from the three psychiatric referral centers in Bangkok and Chonburi province. These included psychiatric outpatients from Siriraj Hospital of Mahidol University and inpatients from Bangkok Naval Hospital and Arpakorn Kiattiwong Hospital in Chonburi province (n=170). All patients met the criteria of each psychiatric illness according to the DSM-IV [13] criteria and the diagnoses were confirmed and validated by the referral psychiatrists. The control subjects (n=33) without a psychiatric diagnosis were recruited from outpatient units of departments of dermatology, otolaryngology and ophthalmology at Siriraj Hospital Mahidol University. The control subjects were assured by psychiatrists and must have a negative result on the psychiatric assessment. All patients and/or their guardians and controls provided written informed consent.

The study protocol was approved by Siriraj Hospital Ethics Committee.

Instrument

The original English version of the DIGS (version 3.0) was translated into Thai and back translated into English by a group of psychiatrists, social workers, and post-graduate students at Washington University in St. Louis, Missouri, USA. Comparison to validate the accuracy between the original DIGS and the back-translated version was done with help from postdoctoral fellows at Department of Psychiatry, Washington University. There was a slight modification of the Th-DIGS for the appropriateness of Thai language and culture. The preliminary pilot interview study was performed in 30 Thais in St. Louis for accuracy and understandability of the instrument with a support of the Department of Psychiatry, Washington University in St. Louis (unpublished data). Feedbacks from the pilot subjects regarding vocabularies and understandability of the instrument were also integrated. The consensus review was finalized by a team of Thai psychiatrists at the Department of Psychiatry Siriraj Hospital Mahidol University in Bangkok for its cultural appropriateness and fit for use with Thai laypersons [14].

Procedures

We intensively trained three interviewers for six weeks to be proficient with psychiatric diagnostic systems and capable of administering the Th-DIGS. The training process assured that efficacy and confidentiality were obtained. All three interviewers were over 21 years old and had a university degree in Bachelor of Art.

The Th-DIGS interview was done in a semi-structured manner, allowing interviewers asking further questions, exploration and noting as needed.

To test the concurrent validity of the Th-DIGS, the consensus between the diagnosis obtained from the Th-DIGS and the referral psychiatric diagnoses was compared. The interviewers had been blinded for the subjects' diagnoses before they interviewed subjects.

We performed both inter-rater and test-retest studies for reliability of the Th-DIGS [15]. All interviewers were blinded for the diagnoses. For inter-rater reliability, the diagnoses concurrently obtained from the Th-DIGS from two interviewers were compared. One interviewer interviewed the subject while the other was observing. Both interviewers simultaneously and independently completed the Th-DIGS.

For the test-retest reliability, the first interviewer interviewed the subject. Approximately four weeks later, the different interviewer who had not known the diagnosis obtained from the first interviewer repeated the interview with the Th-DIGS. The diagnoses obtained from the Th-DIGS from two different interviewers at this two different time were compared. To assure quality, each interview was recorded and reviewed by independent reviewers who were not present during the interview. To make clinical diagnosis from the Th-DIGS interview, two psychiatrists who were blinded to the subjects' identification and diagnoses would independently and thoroughly reviewed the Th-DIGS interviewed booklets and completed the diagnostic data sheet. When there was a disagreement with the diagnosis, the independent psychiatrist would reconcile with the others. The diagnosis with at least two-third consensus was used for the final diagnosis.

Analysis

We used frequency report for demographic data. For concurrent validity, a 2 by 2 table for each referral diagnosis was constructed based on clinical diagnosis from the Th-DIGS and referral psychiatric diagnosis as the gold standard. The kappa statistic was used to measure concordance diagnosis between referral clinical diagnosis and clinical diagnosis obtained from the Th-DIGS.

Sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) were also calculated to evaluate the concurrent validity [7]. The inter-rater and test-retest reliability were analyzed by kappa statistics [7]. A 2 by 2 table of each diagnosis vs all other diagnoses was made to calculate the kappa. Agreement was considered as excellent when kappa coefficient (k) was greater than 0.75, fair-to-good when k was between 0.40 and 0.75, and poor when k was below 0.40 [16]. 95% confidence interval of the kappa was calculated [17].

Results

We recruited a total of 170 patients and 33 controls. The primary psychiatric diagnoses were schizophrenia (n=33), major depressive disorder (n=31), bipolar I disorder (n=32), alcohol dependence (n=39), and amphetamine dependence (n=35). ~~150~~ One hundred and fifty patients and 30 controls returned for second interview. Sixty five percent of subjects were male (128/203). Mean age of the subjects was 36.6 year-old (range 19-74 year-old). The mean years in school were 11.1 years. Most subjects were recruited from outpatient units (160/203). Fourteen alcohol dependence subjects and 29 amphetamine dependence subjects were recruited from inpatient chemical dependency treatment facilities. The mean duration between the first and the second interview was 30.4 days (range 14-203 days). The demographic and characteristics of subjects are presented in Table 1.

Concurrent validity of the Th-DIGS

A total of 203 subjects were included in the validity study. When compared the diagnosis from the Thai DIGS with the referral diagnosis (gold standard), the overall concurrent validity between the Th-DIGS-obtained diagnoses and referral psychiatric diagnoses was excellent with kappa coefficient of 0.82 (Table 2). The sensitivity and specificity of the Th-DIGS to detect or rule out the psychiatric illnesses were 93.6% and 95.0%, respectively. This indicated that the Thai version of the DIGS was excellent in identifying subjects with referral clinical psychiatric diagnoses, and it was also ex-

Table 1: Demographic and characteristics of subjects

Characteristic	Control	SCZ	MDD	BPD	Alc Dep	Amp Dep	Total
Subjects							
Inpatient	0	0	0	0	14	29	43
Outpatient	33	33	31	32	25	6	160
No. of subjects at 1st interview	33	33	31	32	39	35	203
No. of subjects at 2nd interview	30	30	30	30	30	30	180
Mean retest interval ±SD (days)	28.0 ±6.8	35.6 ±17.2	29.8 ±7.1	31.5 ±14.4	32.8 ±19.3	23.9 ±6.6	31.4 ±18.8
Mean age ±SD (years)	38.5 ±12.2	34.1 ±8.9	44.2 ±11.3	41.6 ±11.0	39.4 ±11.3	21.5 ±1.3	36.6 ±12.5
Male	12	22	11	13	38	32	128
Female	21	11	20	19	1	3	75
Mean years in school ±SD (years)	14.7 ±4.0	11.4 ±4.2	9.0 ±5.0	12.2 ±6.2	9.2 ±3.6	9.4 ±2.6	11.1 ±4.7

Abbreviations; SCZ: schizophrenia, MDD: major depressive disorder, BPD: bipolar I disorder, Alc Dep: alcohol dependence, Amp Dep: amphetamine dependence

Table 2: Validity, inter-rater reliability, test-retest reliability of the Thai version of the DIGS

	Control	SCZ	MDD	BPD	Alc Dep	Amp Dep	Total
Concurrent validity kappa)	0.96	0.89	0.77	0.85	0.66	0.87	0.82
95% C.I.	0.90-1.00	0.78-1.00	0.63-0.92	0.72-0.97	0.51-0.81	0.76-0.98	0.77-0.87
Sensitivity (%)	100	87.9	90.3	84.4	100	97.1	93.6
Specificity (%)	98.8	98.8	94.2	98.3	83.5	95.8	95.0
Positive predictive value (%)	94.3	93.6	73.7	90.0	59.1	82.9	78.8
Negative predictive value (%)	100	97.7	98.2	97.1	100	99.4	98.7
Number of subjects	33	33	31	32	39	35	203
Inter-rater reliability (kappa)	0.92	0.92	0.80	0.83	0.90	0.94	0.89
95% C.I.	0.82-1.00	0.83-1.00	0.66-0.94	0.70-0.96	0.81-0.99	0.86-1.00	0.84-0.93
Number of subjects	33	33	31	32	39	35	203
Test-retest reliability (kappa)	0.73	0.85	0.65	0.85	0.70	0.91	0.78
95% C.I.	0.58-0.89	0.72-0.97	0.48-0.82	0.72-0.97	0.54-0.86	0.81-1.00	0.72-0.84
Number of subjects	30	30	30	30	30	30	180

Abbreviations; SCZ: schizophrenia, MDD:major depressive disorder, BPD: bipolar I disorder, Alc Dep: alcohol dependence, Amp Dep: amphetamine dependence

cellent in detecting subjects that did not have clinical psychiatric disorders. The overall PPV was 78.8%, indicated that if the subject had a psychiatric diagnosis from the DIGS interview, it was very likely that subject had correspondent psychiatric diagnosis. The overall NPV was 98.7%, indicated that if the subject did not have any psychiatric diagnoses from the DIGS interview, it was likely that the subject would not have correspondent clinical diagnosis. The kappa values for control, schizophrenia, major depressive disorder, bipolar I disorder and amphetamine dependence were excellent (k = 0.77-0.96). However, the concurrent validity of alcohol dependence was in fair-to-good range with kappa of 0.66.

The concurrent validity was highest in normal controls, with kappa coefficient of 0.96, 100% sensitivity and 98.8% specificity. The concurrent validity was lowest in alcohol dependence, with the kappa coefficient of 0.66 which reflected fair-to-good range of agreement. The sensitivity and specificity of alcohol diagnosis were 100% and 83.5% respectively, which meant that all the subjects with referral diagnosis of alcohol dependence would have positive alcohol dependence result from the DIGS interview. The PPV of alcohol dependence was 59.1% which meant that 59.1 % of subjects with positive alcohol dependence by the DIGS interview would have referral clinical diagnosis of alcohol dependence. The NPV of alcohol dependence was 100%, which meant that if there was no diagnosis of alcohol dependence from the DIGS interview, the subject would not have clinical diagnosis of alcohol dependence. The validity of the Thai DIGS when compared the diagnoses obtained from the Thai DIGS to the psychiatrists' referral clinical diagnoses is presented in Table 2.

Reliability of the Th-DIGS

- Inter-rater reliability

The inter-rater reliability of the Th-DIGS was excellent. The kappa coefficients were all above 0.75 (Table 2). The overall kappa coefficient of the Th-DIGS was 0.89. The highest consensus was found in subjects with amphetamine dependence (k=0.94, 95% CI=0.86-1.00) and the lowest in subjects with major depressive disorder (k=0.80, 95% CI=0.66-0.94). Table 2 presents the inter-rater reliability of the Th-DIGS.

- Test-retest reliability

The stability of the Th-DIGS-derived diagnoses over time was used to indicate the test-retest reliability (Table 2). The mean duration between the first and the second interview was 30.4 days (range 14-203 days). A total of 3 controls and 20 patients dropped out from the second interviews. The drop-out rate was highest in alcohol and amphetamine dependence group (14 subjects from total of 23 drop-out subjects).

The overall kappa coefficient of the test-retest reliability was 0.78. The kappa coefficients were excellent for schizophrenia (k=0.85, 95% CI=0.72-0.97), bipolar I disorder (k=0.85, 95% CI=0.72-0.97) and amphetamine dependence (k=0.91, 95% CI=0.81-1.00). The kappa coefficients were fair-to-good for controls (k=0.73, 95% CI=0.58-0.89), major depressive disorder (k=0.65, 95% CI=0.48-0.82), and alcohol dependence (k=0.70, 95% CI=0.54-0.86). There was no poor test-retest reliability.

Discussion

In this study, we translated DIGS into the Thai version (Th-DIGS). The quality of the Th-DIGS was validated at several levels. First, we back-translated the Th-DIGS into English and assured that it accurately maintained the original contents. Second, we also considered potential cultural factors and modified slightly some questions in the original DIGS. This slight modification did not alter the intentions of original questions. Third, we conducted a pilot study for accuracy and understandability. This was finalized by critical reviews by a committee of Thai psychiatrists of Department of Psychiatry Siriraj Hospital in Bangkok, Thailand. Eventually, we introduced Th-DIGS as an instrument for Thai patients and controls. According to our knowledge, this has been the largest published study of non-English DIGS. The results of the study validated excellently the use of this instrument to diagnose various psychiatric illnesses and to identify normal phenotypes in research study. The inter-rater reliability was excellent. The test-retest reliability was fair-to-good and none of the tested psychiatric illness gave a poor reliability.

The kappa scores of Th-DIGS to diagnose psychiatric illnesses were in excellent results and varied from 0.87 to 0.99 with close to perfect sensitivity and specificity (Table 2). The high NPV indicated that negative clinical finding from the Th-DIGS strongly predicted normal clinical phenotype. The high PPV indicated that positive clinical finding from the Th-DIGS was highly associated with a clinical psychiatric diagnosis. The high concurrent validity of the Th-DIGS corroborates the previous study of the Korean version of DIGS [11], but is superior to the original English, the French, and Hindi version of the DIGS (Table 3) [5,9,12]. However, for alcohol dependence, the concurrent validity was in fair-to-good range, with kappa coefficient of 0.66, with 100% sensitivity and NPV, suggesting the invaluable use of Th-DIGS to exclude alcohol dependence. The PPV of alcohol dependence was 59.1%, which indicated that only 59.1% of the subjects with the Th-DIGs diagnosis of alcohol dependence were diagnosed as alcohol dependence by the referral psychiatrists. These low kappa coefficient and PPV were partly explained by under recognition and treatment of this condition by the physicians and undocumented medical records as suggested previously [18].

The inter-rater reliability was previously published in only the French and Korean

Table 3: Comparison of validity (kappa coefficients)

	Thai DIGS	English DIGS	French DIGS	Korean DIGS	Hindi DIGS
Number of subjects	203	179	136	53	20
Overall	0.82	n/a	0.52	0.84	0.56
Control	0.96	n/a	0.35	n/a	n/a
Schizophrenia	0.89	0.47	0.35	0.85	n/a
Major depressive disorder	0.77	0.86	0.54	1.00	n/a
Bipolar I disorder	0.85	0.74	0.58	0.78	n/a
Alcohol dependence	0.66	n/a	0.68	1.00	n/a
Amphetamine dependence	0.87	n/a	n/a	n/a	n/a

n/a: not available

Table 4: Comparison of inter-rater reliability (kappa coefficients)

	Thai DIGS	English DIGS	French DIGS	Korean DIGS	Hindi DIGS
Number of subjects	203	179	136	24	20
Overall	0.89	n/a	0.87	0.79	n/a
Control	0.93	n/a	1.00	n/a	n/a
Schizophrenia	0.94	n/a	0.88	0.60	n/a
Major depressive disorder	0.81	n/a	0.93	0.83	n/a
Bipolar I disorder	0.85	n/a	0.85	1.00	n/a
Alcohol dependence	0.91	n/a	0.79	1.00	n/a
Amphetamine dependence	0.98	n/a	n/a	n/a	n/a

n/a: not available

Table 5: Comparison of test-retest reliability (kappa coefficients)

	Thai DIGS	English DIGS	French DIGS	Korean DIGS	English SSAGA
Number of subjects	180	81	99	17	154
Duration(days)	31.4	4-10	42	1-50	7
Overall	0.78	n/a	0.60	0.82	n/a
Control	0.72	n/a	0.65	n/a	n/a
Schizophrenia	0.85	0.75	0.72	1.00	n/a
Major depressive disorder	0.63	0.94	0.59	1.00	n/a
Bipolar I disorder	0.80	0.96	0.63	0.74	n/a
Alcohol dependence	0.71	n/a	0.73	n/a	0.84
Amphetamine dependence	0.72	n/a	n/a	n/a	0.70

n/a: not available

DIGS [5,11]. The Th-DIGS, French and Korean DIGS gave excellent inter-rater reliability in all tested psychiatric illnesses except for Korean DIGS which gave only fair-to-good result in patients with schizophrenia (Table 4). Several factors could potentially contribute to these results. The larger the sample sizes are the higher validity and reliability will become. The highest inter-rater reliability found in the amphetamine dependency group in our study could be attributed to the interviewers' recalling biases as most of the patients in this group were recruited from the inpatient chemical dependency treatment facilities from of the Royal Navy Hospitals. Although we could not exclude the interviewer's factors as the backgrounds of the interviewers might influence the results, our good-to-excellent validity and reliability results suggested that employing well-trained interviewers without psychology backgrounds was efficacious and efficient. The high validity and reliability of this and previous studies could also be explained by the fact that DIGS was used to examine the referral clinical subjects from psychiatrists rather than population subjects determined by general practitioners, a phenomenon similar to channeling bias. Table 3 presents the comparison of the validity from the various versions of the DIGS [5,9,11,12, 18].

The data of test-retest reliability of Th-DIGS and the other versions are quite heterogeneous (Table 5). Multiple factors including duration between initial test and retest, clinical changes, change of meaning of the question in the instrument to the patient, recall bias and order effect affected these results [15,19]. Consistent with the previous studies, the length of the test-retest interval had the important effect on the test-retest reliability of mood disorders but not schizophrenia [5]. In our study, the schizophrenia group also had the excellent test-retest reliability (k=0.85), while major depressive disorder group had fair-to-good test-retest reliability (k=0.65) (Table 2). There were no available data on test-retest reliability amphetamine dependence in the original English version, the French, the Korean and the Hindi versions of the DIGS. However, our data on test-retest reliability of amphetamine dependence was comparable with the data from the reports on reliability of the SSAGA (Semi-Structured Assessment for Genetics of Alcoholism) [8]. The test-retest reliability of alcohol dependence from our study was also comparable with the reports from the French version of the DIGS and the SSAGA [8,18].

There are limitations in our study. Our study recruited only subgroups of psychiatric disorders and the validity of Th-DIGS might not be generalized to other conditions. These selected psychiatric illnesses are the illnesses of our interests and will be the focus of the future genetic studies using Th-DIGS as one of screening instruments for subject identification. The administration of Th-DIGS interview takes time. In our study, the average time required to finish the Th-DIGS interview is 2 hours (data not shown). This mandates the consistent cooperation from patients. Most of our recruited patients were outpatients who had relatively stable diseases and could maintain their focuses throughout the interviewing processes. This helped to explain the low drop-out rates in all groups except for patients with alcohol dependence. It still remains to be proven whether Th-DIGS is suitable for inpatients who have less stable diseases. The diagnostic information obtained from DIGS is unilateral and dependent on patient recalls. It does not include detailed information from medical records and patient's relatives which comprise the most reliable process in obtaining clinical information and diagnoses [9]. Lastly, it has to be noted that DIGS is an instrument which complements clinical information obtained from health providers in the outpatient and hospital settings. The DIGS has never been proven to be a good tool for screening diseases in the general population setting.

In summary, the Thai version of the DIGS demonstrated excellent validity and inter-rater reliability. The test-retest reliability was fair-to-good. The Th-DIGS allows the collection of comprehensive lifetime history of psychiatric illnesses and will be a powerful research tool for future psychiatric researches in Thailand.

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OPINION

Teaching of psychiatry: customising the curriculum of medical students for ASEAN

PICHET UDOMRATN

Department of Psychiatry, Faculty of Medicine, Prince of Songkla University, Songkhla, Thailand.

Abstract
The need for effective education in psychiatry for all doctors is as great in developing countries as in developed ones, especially in ASEAN, where many psychiatric cases are managed by non psychiatric doctors. The curriculum must be designed to ensure that physicians have the ability to diagnose and treat the most common psychiatric disorders but it may be customised to the data or needs of each specific country in ASEAN. Three topics that have been proposed for inclusion in the curriculum are disaster psychiatry/mental health, ethnopsychopharmacology, and critical appraisal of publications. Integrating psychiatry within other disciplines and using problem based learning (PBL) in undergraduate students may be an alternative approach in the teaching of psychiatry.

Key words: *psychiatry, education, curriculum*

Introduction

The World Health Organisation (WHO) estimates about 450 million people worldwide suffer from some kind of mental disorder [1]. Many of these conditions go undetected, or if detected remain untreated. If this situation is to improve then all future doctors must be sympathetic to patients with psychological problems, able to detect mental disorders and treat simple cases, and be aware when to seek specialist help. The need for effective education in psychiatry for all doctors is as great in developing countries as it is in developed ones. Indeed it is even greater in countries like those in ASEAN in which a greater proportion of psychiatric disorders have to be managed by doctors who are not psychiatrists.

What should medical students learn about psychiatry?

The broad outline of a curriculum is widely agreed but it is less easy to reach an agreement on the amount of detail that should be included. Medical teachers have to decide what the newly qualified "all-purpose" doctor needs to know. In broad terms the requirements of a curriculum for medical students are as follows: to understand the nature of psychiatric disorder, to be able to detect it, to manage simple problems, and to know when to arrange for specialist help. Details will vary in different parts of the world, depending on patterns of morbidity, disease burden, and on the way in which care is provided.

Recently, the WHO has just released a publication entitled "Disease Control Priorities Related to Mental, Neurological, Develop-

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Correspondence: Pichet Udomratn, Department of Psychiatry, Faculty of Medicine, Prince of Songkla Unviersity, Hat Yai, Songkhla 90110 Thailand.
Email: upichet@medicine.psu.ac.th

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mental and Substance Abuse Disorders" [2]. In this book it revealed that the regions which had the most total disease burden of selected major psychiatric disorders were South Asia (408,655) and East Asia and the Pacific (346,941) which were four times higher than the high-income countries (149,161) in terms of thousands of DALYs. Moreover, if we look at the percentage of neuropsychiatric disease burden of four major psychiatric disorders in South Asia, and East Asia and the Pacific region, we find that the top four are depression (38.6%, 32.7%), schizophrenia (7.7%, 9.2%), bipolar disorder (6.0%, 7.3%), and panic disorder (2.9%, 3.3%) respectively.

The emphasis on content, therefore, is more likely to be on depressive and anxiety disorders, schizophrenia, and bipolar disorder. However, as this WHO publication does not include other conditions, which are commonly found in general practice, such as adjustment disorder, delirium, dementia, alcohol and substance use disorders suggesting these topics should also be included in the curriculum both at the undergraduate and postgraduate level.

The World Psychiatric Association (WPA) report that has been published in the 'Current Opinion in Psychiatry', and is available at the WPA website [3], shows the large measure of agreement that exists concerning the aims and methods of teaching between psychiatrists from different countries. It is an unfortunate paradox that the countries in which there are least resources for teaching psychiatry are generally those in which the need is greatest. This is because in these countries a greater proportion of psychiatric patients are likely to be seen by general practitioners because there are few psychiatrists.

In developing countries where the emphasis must be on training primary care physicians in psychiatric skills, the curriculum must be designed to ensure ready mastery of the ability to diagnose and treat the most common psychiatric disorders. The first step for achieving this in developing countries is the creation of a curriculum that addresses the most common disorders, their sociocultural contexts and their pharmacological management.

The learning content should obviously be relevant to the problems that they are likely to meet when they begin to work as doctors and the way in which care is provided in their settings. Wide differences exist across the world in both the structure and adequacy of general health and psychiatric services and the role that a primary care doctor is expected to play. The gap between the present situation within developed and developing countries is so large that what seems practically feasible, with some additional effort, by the former is too distant a goal for the latter to be of much immediate relevance. For example, even nowadays it is not usual in the majority of developing countries for medical students to receive post-graduate instruction before they become general practitioners of primary care. From the perspective of these countries, the supplementary module containing additional material for management of psychiatric morbidity in primary care is as relevant as the core curriculum itself. However, the paucity of psychiatry services in most developing countries makes it necessary for primary health care doctors to not only manage a majority of psychiatric problems themselves but also to train and supervise primary health workers in this task. Management of psychiatric emergencies is also an essential part of this set-up.

Professor Michale Gelder, a guru in psychiatric education, once emphasised, in the forum "Psychiatry in Medical Education", the necessity of teaching information giving skills [4]. This inadequately addressed area is responsible for many treatment failures, excess hospital days, and even increased mortality. Since a high percentage of the world population is functionally illiterate, and many illiterate or only partially

literate people are ashamed of this problem and have become adept at hiding it, information giving skills become even more important if treatments are to be helpful. However, information giving is time consuming, and the capacity to engage patients in such a way as to determine that they fully understand the treatment process, the important role they play in it, and the risks to them if they do not follow through.

Although I partly agree with Toma Tomov from Bulgaria [5] who wrote the following sentence: *"A core curriculum in psychiatry of universal acceptance is a dream for all of leadership calling in the field. And yet the world is so varied and communities so persistently surprise us with the norms and practices they adopt without warning that designers of curricula need to be alert all of the time"* in so far that some parts of the curriculum content should be based on the data and context in that specific country. I disagree that a core curriculum in psychiatry of universal acceptance is a dream. Let's have a look at the "Core Training Curriculum for Psychiatry" published by the WPA in 2002 [6]. This core curriculum is composed of topics in seven major groups such as basic science, diagnostic assessment, core competencies, etiopathogenesis, therapeutic, prognosis, prevention and mental health promotion, and general aspects which should all be taught to students or trainees in every country.

Proposed content of the curriculum

I would like to add, however, another three topics to the psychiatric education both for undergraduate and postgraduate levels. These three topics are:

i) Disaster psychiatry/mental health. Many countries in ASEAN are prone to natural disasters such as typhoons, flooding and earthquakes. Moreover, man – made disasters such as car bombing, rape, etc. are also increasing. Doctors and psychiatrists, if they have been properly trained, can play an important role in assisting individual and communities to recover. While general doctors can offer mental health first aids, psychiatrists will bring a unique set of skills and experiences that can be invaluable in minimising morbidity and facilitating recovery. The Asian Tsunami which occurred on December 26th, 2004 serves as a potent reminder of the need to engage a disaster psychiatry/mental health topic into the psychiatric training curriculum, in order to achieve the greatest benefit when a disaster does strike [7].

ii) Ethnopsychopharmacology. This may be a subset of psychopharmacology but it is important that anyone prescribing psychotropic drugs for Asian patients should be aware of inter-individual as well as ethnic differences in drug metabolism. In fact, Dr.Chee Ng and I have just finished writing a chapter on "Outpatients Prescribing Practices in Asian Countries" in a book titled "Ethno-psychopharmacology: Advance in Current Practice" which is soon to be published by the Cambridge University Press [8]. The conclusion from our reviewing data suggests that Asian patients with mental disorders need lower doses of psychotropic drugs than other ethnic groups to achieve a clinical response. Moreover, a variation in the drugs prescribed was found in Asia. Besides the efficacy of medication, patients' beliefs regarding both the cause of an illness and the knowledge and skills of doctors who prescribed them, all play a vital role in the prescription and acceptance of medication by Asians.

iii) Critical thinking ability, critical appraisal of publications and evidence-based practice. As we all know today, we are in the "information explosion" age, the ability to appraise publications critically or the so-called evidence-based practice is crucial. Evidence–based practice involves the conscientious, explicit and judicious use of current best research evidence to guide decisions about the care of patients. All doctors need to know how to perform systematic reviews of publications, critically appraise, and synthesize evidence from many research studies weighted by quality and use this approach in a routine practice. A

study from Korea suggests there is a need to infuse critical thinking activities as early as possible as a way of encouraging students to develop their thinking abilities earlier [9].

At the undergraduate level, there is now a tendency to integrate psychiatry within other disciplines, integrating both preclinical and clinical subjects, using various methods of teaching, and learning such as lectures, problem-based learning (PBL), and small group discussion. This new curriculum is no longer organized according to traditional disciplines such as surgery or psychiatry but is organized according to human life cycles or health related issues such as diseases of the adults and elderly, health promotion and prevention. Psychiatry will not be taught as a separate discipline but students will learn psychiatry integrated with other subjects in various blocks such as the new curriculum at Prince of Songkla University (PSU), Thailand [10].

Conclusion

Psychiatric curriculum both at the undergraduate and postgraduate level should have a core content as described in the WPA recommendations but it may be customised to the data or needs of each specific country in ASEAN. Three topics that have been proposed for inclusion in the curriculum are disaster psychiatry and mental health, ethnopsychopharmacology, and critical appraisal of publications. For the undergraduate level, integrating psychiatry within other disciplines and using problem–based learning may be an alternative approach in the teaching of psychiatry.

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OPINION

Dissociative identity disorder: an attempt to understand the disorder in Malaysian context

STEPHEN T JAMBUNATHAN, JESJEET SINGH GILL, SHARMILLA KANAGASUNDRAM, & KOH ONG HUI

Department of Psychological Medicine, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia.

Abstract

Dissociation, including multiple personality disorder, has long been a controversial topic. Patients with suggestive symptoms are often misdiagnosed as malingering or even having schizophrenia. The former as a result of the overlooking of a clinician on the fact that suggestibility itself plays a key role in the emergence and perpetuation of this illness and the latter due to the lack of knowledge of the whole dissociative disorder spectrum, often resembling that of a psychotic disorder. Another contributing factor to the small number of patients with this diagnosis is due to the reluctance of a psychiatrist to do so because of his/her lack of experience and also fear of humiliation of being accused of seeking fame from diagnosing this somewhat glamorous phenomenon. In Malaysia, various culture bound syndromes often present with similar symptoms too. This article will attempt to understand this dissociation on the local context using case studies as a reference point.

Keywords: *dissociative identity disorder, multiple personality disorder, culture bound syndromes*.

Introduction

Dissociative states, including dissociative identity disorder (DID), are still hotly disputed conditions with much skepticism and disbelief from many psychiatrists. At one time with its origins from beliefs such as the wandering uterus, DID was even thought to be due to being possessed by two demons where the affected person presents with strange and unaccustomed symptoms that were not at all curable by ordinary or natural remedies. In the same context of beliefs, hypnotism a condition closely related to dissociation and DID was, and is still in certain places linked to the mysterious and supernatural [1]. It is impossible not to compare these now scientifically acceptable states to the ambiguous and relatively unknown phenomenon called culture bound syndromes. In Malaysia, with a multi-ethnic, multi-cultural population, there are numerous conditions that are attributed to possession and traditionally accepted conditions among others, Latah and Amok. Narcolepsy and related disorders, such as sleep paralysis, hypnogogic and hypnopompic hallucinations, too are attributed to many different forms of possession. In the era of modern psychiatry Pierre Janet at the Salpetriere Hospital in Paris hypothesized that dissociation was due to the lack of nervous energy that maintained integration in a person [2]. Hypnotism and suggestibility of patients are also controversial factors in the etiology and management of DID. Going back in history, Mar-

Correspondence: Stephen T. Jambunathan, Department of Psychological Medicine, Faculty of Medicine, University of Malaya, Kuala Lumpur 50603 Malaysia.
Email: koyaka@hotmail.com; stephen@um.edu.my

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quis de Puysegur, a disciple of Anton Mesmer referred to hypnotism as "perfect crisis" or "magnetic sleep", something that was not accepted by Anton Mesmer himself [3]. Even as far back as the 17th century and probably much earlier the whole spectrum of hypnosis and autosuggestibility was already a phenomenon associated with much dispute. Where the culture bound syndromes we see world wide today stands in context to the above mentioned syndromes is still a question unanswered.

The fact that hysterical patients suffer from repressed memories of upsetting and traumatic events so distressing that they cannot face the associated emotions [4], one can only wonder if culture bound syndromes with the similar clinical presentation of amnesia and automatism and also recall of otherwise unknown events and memories is a spectrum of the same psychological reaction. Dissociation itself as much as it is a controversial psychological state is considered to be a normal reaction that occurs in otherwise healthy people. Occurring at different levels, the ability to do two things at the same time like driving a car or playing the piano and holding a conversation concurrently maybe be a milder form of dissociation, something a person may not be able to do if brought to conscious awareness. To dissociate means to sever the association from one activity to the other and in very often the case to dissociate one activity from another simultaneously occurring activity [5]. The cases discussed below are examples of how patients dissociated within the local cultural context in order to cope with possible conflicting sociocultural beliefs. In all cases the problems were eventually resolved with the collective support from family and reinforced traditional beliefs.

Case Studies

Case 1 - M and her two alter egos

M was a 28-year-old single Indian woman who presented with a complaint of two-year history of headache. Over the last five months the headaches had increased in severity, associated with changes in behaviour and lapses in memory. She often misplaced things and left many house chores uncompleted, not being able to give an explanation for her behaviour. She was at times speaking like a little child who claimed to be her younger self, with her mother always in the kitchen and, at times as a very angry adult woman named K, who was seeking revenge for a broken relationship. M had no recollection of these episodes but always complained of a severe headache and blurring of vision before these changes occurred. On her eighth birthday, her mother committed suicide by drinking poison in front of her after an argument with her father. She was then labeled as the black sheep of the family, the cause of bad luck and also the cause for her mother's death. The fact that this occurred on her birthday made it even more traumatic for her.

M's problems were numerous. Beginning from the trauma of being given away at the age of two and subsequently being physically and emotionally abused she also experienced two episodes of a recurrent intraorbital tumour that required surgical removal twice at a very tender age without supportive parents. M was also traumatized by the suicide of her mother on her eighth birthday and the subsequent blame for it. This may have been too much for her to bear consciously, leading to her eventual dissociative states that served as a protective response to both past and ongoing overwhelming trauma. Although not presenting with symptoms suggestive of depression, her dissociative states may have been serving as a barrier from working through her unresolved internal conflicts. Her apparent "self-effacing" good behavior also suggested unexpressed emotions. Her headache may have symbolized the repressed conflicts she faced as a child surfacing now as the "return of the repressed" as she faced more conflicts as an adult, possibly that of a broken down relationship

with a colleague at work. The younger self that emerged may have been an alter ego that kept her happy at the age when her mother was still alive and K the person who helped her cope with the current emotional turmoil that she experienced. Her family believed that she was actually possessed by an evil spirit

After exhausting much energy and finances in numerous unsuccessful exorcism rituals, she was eventually brought to a psychiatric unit for help. All investigations like blood tests, urine toxicology screening, computerized tomography scan (CT scan) of the brain and electroencephalogram (EEG) revealed no abnormalities. Subsequently the diagnosis of DID was made. Her changes in behaviour brought much attention to her. Her father and brothers began spending much time with her during this period. The initial plan of psychoeducation for her family and psychodynamic psychotherapy for her was short-lived as they all collectively requested discharge to go back to traditional treatment. Issues pertaining to her traumatic childhood and unhappy adulthood were eventually re-addressed by exorcism. With the new found social support and concern, the healing process was successful. Her alter egos of the young happy child and the vengeful adult had been successfully dealt with amicably.

The DSM IV diagnostic criteria for DID requires the presence of two or more distinct identities or personality states which recurrently take control of the patient's behaviour, with unexplainable forgetfulness. These symptoms should not be due to direct effect of a substance or a general medical condition [6]. DID may present initially as anxiety or panic attacks or with multiple somatic complaints and other non-specific symptoms such as periods of amnesia, emotional lability, mood alterations and even hallucinations. Often missed are the periods of amnesia not spontaneously reported, and frequently minimized as they have come to be accepted or ignored. [7].Various types of dissociative experiences may manifest as a presenting symptom such as multiple suicidal attempts, self mutilation, intractable head aches, pseudoseizures, mood swings, cognitive lapses, periods of amnesia and changes in behaviour [8]. The fact to be noted here is that patients with DID may be easily misdiagnosed as having other psychiatric disorders due to the varying and ambiguous presentation. Early trauma or abuse, physical or emotional in nature, is a prominent predisposing factor leading to DID [9-12]. In this patient the emotional and physical trauma and perceived abuse she experienced was immense. Another issue that needs to be addressed is the various differential diagnoses that are often considered such as multiple sclerosis, epilepsy, narcolepsy and other organic conditions that are often over looked [14]. Schizophrenia has often been a common misdiagnosis due to the frequent complaints of hallucinations and apparent disorganized behaviour seen [7,14-16].

Case 2 – Love possesion

Miss C was a 26 year old lady who suddenly developed severe headache. At times she spoke irrelevantly and experienced visual and auditory hallucinations. She believed that one particular man had caused her to be possessed by what she described as "Love Possession".

She also felt that there was an invisible man sleeping beside her and at times she woke up surprised to see herself naked in bed. Similar to case one, she had distinct periods of recurrent amnesia. She first sought the help of a traditional Malay healer called "Bomoh" to no avail. She then was referred to a neurologist via the primary care services. All neurological investigations were negative. Subsequently she was referred to a psychiatrist. Numerous sessions with the psychiatrist proved futile as she denied having any conscious problem. Her stressors were possibly sexual in origin as she was lonely, single and under pressure from here family to get married. Premorbidly she was

described as an introvert with very few friends.

Her unexplainable problems persisted for a period of three months without relief. Her resistance to continue therapy only indicated the possibility of some form of resistance. Her family eventually came to see the psychiatrist six months later to thank him and update him on the patient's progress. She was now totally well after a series of faith healing by a priest in church. She was said to have been possessed by the spirit of a dead young man.

Case 3 – The reincarnated

Miss L was 26 years old when she developed of amnesia and fainting spells. During these attacks she would lash out at the nearest person and scratch them. She claimed that she was a reincarnation of a prostitute who was dependent on drugs and alcohol. Miss L however never used alcohol or any illicit substance. This was eventually verified through blood and urine tests and corroborative information from family and friends. This particular woman who had been "reincarnated:" as L had passed away at the young age of 26. L's relationship with a particular male friend seemed to be the source of her woes as he denied any intimate relationship with her but she on the other hand demonstrated strong histrionic and disinhibited behaviour towards this "friend". When possessed she would make strong sexual advances to this friend and later deny it all. This behaviour went on for a period of eight months.

After thorough medical investigations and neurological assessment, she was referred to a psychiatrist. Unfortunately she failed to return for more psychological assessment after the first session. In this case the unexplainable symptoms were possibly a manifestation of yet again unresolved or unacceptable unconscious drives. Attribution to a culturally acceptable cause such as possession gave her an outlet to vent her feelings.

Case 4 – Satan

A young man began experiencing tightness around the chest and as if being pushed from behind at the age of 13. He also saw the image of a man calling him and beckoning at him. He believed that this man was the Satan. He also experienced many other visual hallucinations such as flashes of fire and bright lights. While in the classroom at school he often felt someone was peeping at him from outside and this person could drain his energy. This was his explanation to why he often felt very weak. He also felt that the person was challenging him about his belief in Jesus.

He and his family were devout Christians who believed in the existence of Satan. Therefore collectively they believed that he was being affected by Satan. They questioned his faith in god and attributed all the abnormal experiences as caused by the Satan to his lack of conviction. Similar to the other case describe above all medical and neurological tests were negative. This young man was not referred to psychiatry as his parents refused due to the stigma attached to psychiatry. His contact with the hospital was via a fellow church member who was a neurologist.

No stressor or conflict was identified in this young man except for the speculation of his religious expectation from the family. With simple reassurance and clarification about his symptoms and prayer the abnormal feelings and hallucinations eventually stopped occurring. He has since been perfectly well.

Case 5- The pagan (the word 'the pagan' is an addition)

Miss L, a 26 year old woman began having involuntary movements of her upper limbs and shoulders associated often with a sharp shriek. She was first seen at a neurology clinic and subsequently by a psychiatrist. She had no medical or substance use history. All routine and specific investigations were normal. Both the neurologist and psychiatrist agreed that she may have a com-

plex tic disorder with both motor and vocal tics. However the nature of her tics, which included flailing of her upper limbs and the type of scream that often accompanied the so-called tics made both the physicians doubt the accuracy of diagnosis. They both seriously considered a strong differential of a conversion disorder. She was empirically prescribed a psychotropic drug called 'Risperidone'. Her compliance to the medication was good as her family supervised the drug intake. Despite the medication there was no change in her symptoms. Her family actually felt that her tics had worsened.

Her friends from a church believed that this problem was due to her previous 'pagan' beliefs. She had recently converted from Buddhism to Christianity with a very charismatic church sect. Her family on the other hand believed that this problem was due to her conversion to Christianity. She was convinced that her problem was due to her previous "pagan" believes as a Non-Christian. There was great controversy within the family regarding her choice to convert to Christianity as her whole family was devout Buddhists.

In this case neither spiritual healing nor exorcism worked. She continues to have these symptoms. Various medications have been used without a favourable outcome. Why she felt the need to convert, and what other unresolved issues that she carries with her are still unknown.

Discussion

In DSM IV, culture bound syndromes denotes recurrent, locality specific patterns of aberrant behaviour [6]. Although some of these syndromes can be directly compared, symptom-wise, with a DSM IV diagnosis, many are not diagnosable. Similarly, although from a different locality thousands of miles away, some of these syndromes seem very alike but with different names and attributed causative factors. In Malaysia, some of the commoner known culture bound syndromes are like Latah and Amok. Latah is a syndrome where a person begins to do things automatically if they are surprised or shocked. Koro, a phenomenon where a male feels that his penis is retracting into his body, is uncommon now. It is believed to have originated from Malaysia. Amok or "Mengamok" in Malay, was once a conscious form of violent behaviour regarded as a useful phenomenon in war and defense when in danger, and hence considered "ego integrated". It has since become an unconsciously motivated syndrome, possibly due to the negative sanctions of society. At one time it may have been a "standardized" form of emotional release accepted by society and even expected of an individual who was placed in a difficult situation [17]. Similarly nowadays, similar forms of emotional responses are regarded as simply dissociative states where in the individual with intense and unmanageable emotions finds catharsis alone without the support or collective beliefs of many individuals. Latah and Koro also seem to be fading away possibly due to the changing cultural beliefs. Latah may in fact be a less deep and more easily triggered partial form of dissociation.

However the syndrome of possession, which is relevant some forms of religion, is still very much encountered. This may be due to the fact that religious beliefs worldwide have common ideologies. This would suggest that cross-cultural syndromes, which share a common belief, may have that supporting and maintaining factors of religion. Hindu beliefs in polytheism and reincarnation are assumed to have a pathoplastic effect on believers that results in possession syndrome in India, representing the parallel to dissociative disorders in the west [18]. People with dissociative states of all nature have sought treatment from both psychiatrists and religio-cultural or otherwise known as traditional healers. Both forms of treatment have had positive outcomes when dealing with the affected person. The difference here is the boundary

between sciences and religions. A traditional healer approaches the problem in conventional terms, which is more traditional and spiritual in nature [19]. The lack of permeability of boundary between sciences and religions often prevents either healer to successfully heal and maintain mental well being in their patients due to the dichotomous attitudes. Modern scientific medicine has been described as mechanistic, impersonal, organ-oriented and individualistic emphasizing on the disease process rather than the total man [20]. In the case of the first patient described, the initial traditional approach failed numerous times possibly due to the absence of adequate family supports and collective beliefs. On subsequent admission and the successful congregation of her support system and further fuelled by the mechanical rigid approach of the doctors, she was eventually and successfully healed by a subsequent traditional healer. An important point to note here is the deletion of the term neuroses in psychiatric classification, which eventually leads to the loss of the term 'character neurosis', which emphasized more on the psychosocial aspects of a disorder rather than the clinical presentation and symptoms alone [21]. Hence the shift of diagnostic trend to DSM-IV criteria rather than an approach to an illness from the cultural background from which it came. The patient experienced the dichotomous approach of both worlds eventually finding comfort and relief from that with the traditional attributes. In Malaysia, traditional healers still play a major role in healing the psychological problems. A study done at the University Malaya Medical Centre showed that more than 50% of psychiatric patients sought traditional help before coming to the hospital.

There is no doubt that many culture bound syndromes are variants of dissociative states comparable to the "intra-psychic splitting" described by Melanie Klein. An avenue to vent repressed and upsetting emotions, culture bound syndromes offer a culturally sanctioned manner in which this could happen. By attributing the phenomenon to a particular causative factor, often spiritual in nature, the causative factor in medical terms is often undisclosed. The past traumatic event, if present is masked or buffered by the cultural belief enabling a particular community to go on functioning intact and smoothly. Global modernization has led to the changing of social and family structure, which in turn has possibly caused the changes in psychopathology of culture bound syndromes. What used to be a communal phenomenon now lacks the social backing. Thus we see a reduction in many previously common culture bound syndromes. Miss M in more than one way lost her social and family support, leading to the need for an intra-psychic level of dissociation rather than the culturally sanctioned possession syndrome. This lead to the failure of the initial attempts of traditional interventions. The psychiatric approach, not being adequate for her and the family eventually, lead to successful traditional healing, finally. Miss M and her family got back together to bind and resolve this issue culturally where the psychiatric services failed. Similarly, the other three patients discussed experienced similar emotional pressures in terms of unresolved emotional, sexual and religious conflict that were resolved when reassurance and attribution objects were effectively dealt with. The fifth patient however did not improve with either form of treatment suggesting the need for closer teamwork between the culture-magical and medical worlds.

Malaysia, a multi-cultural society, has numerous types of traditional treatment. One type often negates or even undermines another, claiming to be better or safer. There is no doubt that traditional healing plays an important role. But, when patients are told not to take hospital medicine because of the alleged toxicities, the patients suffer. Psychotherapeutic interventions too become less effective when patients are repeatedly told by others that their problems are purely

super-natural in origin.

In conclusion, the syndrome of dissociative disorders seems to be facing increasing skepticism in Malaysia and also in modern psychiatry in many other countries worldwide due to various reasons, including the hesitation of psychiatrists to make such a diagnosis due to peer pressure and the lack of supporting investigational evidence. The lack of understanding of this phenomenon in the context of cultural beliefs and the tendencies to adhere to the rigid, common practice of using internationally accepted diagnostic criteria also plays a big role in the under diagnosis of this disorder with psychiatrists slotting patients into the pre-empted diagnosis. The view that dissociation occurs only in one person and not at different levels involving a group of people or a whole community only further complicates the issue of whether dissociative disorders are after all only culture bound syndromes of different communities worldwide. Whether they are one of the same or totally different entities is highly controversial and perhaps not of any clinical importance. What psychiatry needs in Malaysia and perhaps in other countries where traditional healing still plays a important role and influence is a system where the traditional-cultural approaches are incorporated in the bio-psycho-social approach for healing the mind. The discussed cases are examples of how psychiatric syndromes and culture bound syndromes may cause confusion therapeutically from the bio-psycho-social aspect. The need for renewed attention into the psychiatric approach to culture bound syndromes is very apparent. The lack of permeability of boundary between sciences and religions needs to be redefined in order to enable either healers to successfully heal and maintain mental well being in their patients, overcoming the dichotomous attitudes still encountered, clearly described in these case reports. The described cases are examples of the 'tip of the Iceberg' phenomenon of a whole plethora of psychiatric syndromes that are restricted in terms of therapy due to rigid diagnostic criteria and possible lack of emphasis on the cultural and traditional approaches to mental health. The syndrome of dissociative disorders and culture bound syndromes may need to be re-classified in order to enable psychiatry to deal with issues diagnosis, management and also co-morbidities. Where is the line drawn? Is there a line to be drawn? More analysis needs to be done on a larger scale to enable new views and approaches in therapy of these syndromes.

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CASE REPORT

Anorexia nervosa with comorbid borderline personality disorder, major depression and homosexuality in a young Malay man: a case report

OSMAN CHE BAKAR & AINSAH OMAR

Department of Psychiatry, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.

Abstract
We aimed to report the first case of anorexia nervosa in a young Malaysian Malay homosexual man with underlying borderline personality disorder and major depression. Patient and parents were interviewed. The Structured Clinical Interview for DSM IV was used to generate Axis-I diagnosis. The Hamilton Depressive Rating Scale was used to assess the severity of depression. His parents had marital discord. His father was overinvolved. Regarding anorexia nervosa, he had 163 cm height, 46kg weight and a body mass index (BMI) of 17 kg/m^2. His four limbs had multiple scratch marks. Laboratory test results showed anemia, leukocytosis and hypoalbuminemia. Family pathology, borderline personality disorder and homosexuality could be the risk factors of anorexia nervosa in this patient.

Key words: *anorexia nervosa, borderline personality disorder, homosexuality*

Introduction

Anorexia nervosa is an alarming psychiatric disorder with high mortality rate and serious psycho-social/medical complications. A multidisciplinary team consists of psychiatrist, psychologist, physician and dietitian can help this complex disorder. Dr Richard Morton described the first case report of a man with anorexia nervosa in 1689 [1]. Since then various sporadic case reports were published in the literature. Here is our report of the first case of young Malay homosexual man, who had anorexia nervosa, borderline personality disorder and major depression.

MY was a 19 years old bright, Malay male student. He was the youngest son with three elder brothers and a product of mixed parentage. His mother is an English Katherina, while his father is a Malay, Yusof.

MY had behavior problems since he was 13 years old. His father and mother did not get along well since their marriage. Their relationship became worse over the last six years. MY was closed to his father, whom was rather over-involved but distant towards his mother. His mother had a history of treatment for major depression. At the beginning, MY was a very good student and able to obtain a good grade in his school examinations. During his adolescence period, he was a school debater and overcritical towards his parents. He adopted a passive aggressive behavior. He begun to eat poorly and restricted his food. He mainly took fruits and salad. He would induce vomiting and started to exercise vigorously whenever he felt that he had

Correspondence: Osman Che Bakar, Department of Psychiatry, Faculty of Medicine, Universiti Kebangsaan Malaysia, Jalan Yaacob Latif, Bdr Tun Razak, Cheras, 56000, Kuala Lumpur, Malaysia.
Email: ocbaaaah@yahoo.com.my

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eaten too much. However, he was not binge or use laxatives or diuretics. In the last six years, his weight reduced significantly from 66 kgs to 46kgs. At the age of 16 years old, his father often left home to work outstation. MY was angry towards his father for abandoning him. His father and mother had even thought of separation for many times. MY had expressed resentment towards them for being unable to resolve their conflicts. MY revealed that he was very depressed, lost of interest, easily tired and slept poorly. He became very manipulative and impulsive. He ran away from home many times and had more than ten suicidal attempts, which led to several hospitalisations. His academic performance was deteriorated. At school, he has no friend. His homosexual relationship was characterized by two homosexual partners, MY revealed that he often acted as a passive partner. As a muslim, MY felt excessively guilty over it. This made his depression worsened.

On examination, his height and weight were 163 cm and 46 kg, respectively (BMI of 17 kg/m^2). His blood pressure was 84/58 mmHg with a pulse rate of 56/min. He was pale, and his limbs were full of scratch marks. MY reluctantly agreed to receive treatment, including 20 mg fluxetine once in the morning, 10 mg olanzapine before bedtime and 400 mg sodium valproate 400mg twice a day. He was referred to a physician and a nutritionist. He also engaged in a cognitive-behavioral therapy directly focusing on current individual and family situations. The techniques used include self-monitoring with a food diary, emphasizing on regular intake of nutritional and balance diet and stimulus control. The patient was also taught on the effects of his emotional state, familial relationship and his homosexual tendency on his self-perception. He was also taught on positive coping skills, assertive and anger management control. Over the one year follow-up, his weight fluctuated between 52 and 56kg.

Discussion

Over the years, there were only few reports of men with eating disorders [2]. At present, it is well accepted that eating disorders are not rare among men [2]. A recent literature review reported that 0.2% of adolescent and young adult males are anorexia nervosa [3]. To our knowledge, this is the first case of man with anorexia nervosa reported in Malaysia. Traditionally eating disorders have been described as culture-bound syndromes associated with western societies. However, current research from Asia has disapproved this [4]. Asian reports of eating disorders were mainly from Japan [5], Hong Kong [6] and Thailand [7]. Eating disorders are commonly associated with mood, anxiety, substance use and personality disorders [8]. It was reported that there is high incidence of major depression (55%), personality disorders (24%) and family history of parental affective disorders in men with anorexia nervosa [2]. In this case, the patient had major depression, borderline personality disorder with homosexuality. Homosexuality has been recognized a risk factor of anorexia nervosa found in men [2]. In this patient, since he admitted that he was a passive partner and would try to be attractive. Combined psychotherapy and pharmacotherapy is the treatment of choice. Psychotherapy is in the form of interpersonal, cognitive psychotherapy, as well as family therapy, to deal with the dysfunctional beliefs, family dynamic and frustration. It had to involve medical and nutritional evaluations and interventions. Although this patient was a bright student, it was not an easy task because the patient had a strong denial, poor impulse control and poor interpersonal relationship. Homosexuality was an important poor prognostic factor in this case. In this case we gave fluxetine and sodium valproate to treat depression and impulse control disorder, respectively [8]. Olanzapine is another adjunctive treatment for impulse control disorder, which can cause weight gain [8].

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