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Hatta Sidi MBBS MMed DipSCH

Department of Psychiatry,
Universiti Kebangsaan Malaysia Medical Center
56000 Cheras, Kuala Lumpur, Malaysia
Tel: + 603 91456142; Fax: + 603 91737891

Co-Editor

Marhani Midin, MBBS MMed

Department of Psychiatry,
Universiti Kebangsaan Malaysia Medical Center
56000 Cheras, Kuala Lumpur, Malaysia
Tel: + 603 91456142; Fax: + 603 91737891

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Information for Authors

Email manuscript submissions to the Editor, The ASEAN Journal of Psychiatry at the following address:

Hatta Sidi MBBS MMed DipSHC.
Chief Editor, ASEAN Journal of Psychiatry (2009-2010)
Professor of Psychiatry, Department of Psychiatry,
Universiti Kebangsaan Malaysia Medical Center (UKMC)
56000 Cheras, Kuala Lumpur, Malaysia.
(www.aseanjournalofpsychiatry.org)

Email: chiefeditor@aseanjournalofpsychiatry.org

President's Message, AFPMH

It is a great pleasure for me to lead the AFPMH in the next two years, which is currently based in Kuala Lumpur, Malaysia from 2009 to 2010.

Historically, AFPMH was inspired in 1981 in Bangkok, Thailand after enthusiastic negotiations among the psychiatrists in the five original member countries of ASEAN (Malaysia, Thailand, Singapore, Indonesia and Philippines). The federation has since achieved many successes including our biennial congress and regular publications of the ASEAN Journal of Psychiatry, which may probably be the oldest regional journal in the Asian continent. I think it's the right time now to publish the journal as a permanent online publication to facilitate accessibility and ongoing continuity.



ASEAN Journal of Psychiatry was founded in 1991 and has since received many articles from the ASEAN region, which were later published as a way to disseminate current and contemporary knowledge in the field of mental health and psychiatry, which I think is very interesting for this region because of its cultural diversity.

Not only has AFPMH organised scientific meetings, conferences and published journals, but the AFPMH has also brought about a closer community of large numbers of psychiatrists in the ASEAN countries, now including the Indochina region, and in fact forged ties that go far beyond anyone's dreams 25+ years ago. AFPMH, the oldest regional psychiatric association, has gone beyond the region to forge links with China, Korea and Japan in 2006 through the "ASEAN Plus Three Partnership" and in 2007 the AFPMH joined as a founder member of the newly formed Asian Federation of Psychiatric Associations (AFPA).

I believe the future of ASEAN psychiatry will not depend on any single national psychiatric association, but relies heavily on the unity and commitments of all individual psychiatrists within the ASEAN region in order to pave a new way in managing and improving our people's mental health, blended with the unique multi-ethnic variety and different traditions within the countries.

Lastly, I wish to take this opportunity to sincerely thank Professor Hatta Sidi from Universiti Kebangsaan Malaysia Medical Center, Kuala Lumpur for agreeing to take up the new post as Chief Editor from 2009 to 2010 and to his newly appointed editorial team members from Malaysia. I also extend my special thanks to the Malaysian Psychiatric Association (MPA), especially on the financial aids to support the newly designed web system, in continuing the dreams of 1991.

Mohamad Hussein Habil MBBS MPM

President, ASEAN Federation for Psychiatry and Mental Health (2009 – 2010)
Head and Professor, Department of Psychological Medicine, Universiti Malaysia Medical Center, (UMMC), 59100 Lembah Pantai, Kuala Lumpur, Malaysia.

Chief Editor's Welcome Message

It has become a continuous challenge for the newly elected editorial board of the ASEAN Journal of Psychiatry to maintain and promote its journal to the region. Firstly, the editorial board members keep on changing every two years according to the rotation involving the participating countries. Secondly, a new web system for the journal has to be designed and made accessible online. Thirdly, there would be inevitable interruptions from the publications as the newly hosted website succeeded the previous one.



Nevertheless, it is a pleasure for me to be The Chief Editor of ASEAN Journal of Psychiatry, taking over from Thailand for the next two years. I see three main challenges in my tasks as an editor. First, I share the same view as the previous editor that the journal has not had tremendous change over many years, especially in its content. The second challenge lies in getting well balanced contributions of manuscript/papers from each ASEAN countries, which now include Laos and Vietnam, besides Malaysia, Thailand, Singapore, Indonesia and Philippines. Thirdly, to form and maintain a user-friendly web system that is highly accessible to the medical health professionals worldwide in line with the current trend of paperless journal publication.

I believe that we can achieve our main objectives of our journal especially in having a regular uninterrupted online publication. I think that it is an achievable objective for years to come as this effort can widen the dissemination of current psychiatric knowledge and reduces the cost of printing.

I wish to take this opportunity to sincerely thank Professor Mohamad Hussein Habil, President of the ASEAN Federation for Psychiatry and Mental Health (AFPMH) for his trust and invitation to me to be the Chief Editor of the ASEAN Journal of Psychiatry (2009 – 2010). I am honoured and delighted to shoulder this great responsibility with the strong support from the Malaysian Psychiatric Association (MPA). I also would like to thank Professor Mani Srisurapanont from Thailand for his excellence and charismatic good work as Chief Editor in the previous ASEAN Journal of Psychiatry (2008 – 2009).

Hatta Sidi MBBS MMed DipSHC

Chief Editor, ASEAN Journal of Psychiatry (2009 - 2010)

Professor of Psychiatry, Universiti Kebangsaan Malaysia Medical Center (UKMMC), 56000 Cheras, Kuala Lumpur, Malaysia.

ORIGINAL ARTICLE

PSYCHIATRIC RESEARCH AND ETHICS: ATTITUDES OF MENTAL
HEALTHCARE PROFESSIONALS IN SINGAPORE

Janhavi Vaingankar Rathi Mahendran** Elaine Pek**

* Research Unit, Institute of Mental Health, 10, Buangkok View, Singapore
539747

** Chairman, Medical Board, Institute of Mental Health, 10, Buangkok
View, Singapore 539747

ABSTRACT

Objective: This study assessed the opinion of mental healthcare professionals on ethical issues in psychiatric research and investigated whether previous research experience had an impact. **Methods:** Healthcare professionals at a psychiatric institution were invited to participate in this survey. Using a self-administered questionnaire, attitudes on statements covering ethical concerns and consent process in psychiatric research were assessed and responses of participants with and without research experience were compared. **Results:** Mental health professionals, irrespective of their research backgrounds, acknowledged the importance of training in research ethics and accepted placebo use in psychiatric research. More respondents with research experience felt that patients with mental illnesses are capable of making a decision about research participation, could provide written informed consent and even if involuntarily admitted, had the ability to participate in research. They also considered randomization of treatment to be justified in psychiatric research. **Conclusion:** Training and update on ethical regulations and requirements for research involving psychiatric subjects could bring about a change in the perspective towards ethical concerns in psychiatric research. *ASEAN Journal of Psychiatry, Vol.10, No.1, Jan - June 2009: 3-7.*

Keywords: Consent, vulnerable subjects, psychiatric research

Introduction

Increased focus on evidence-based practice in psychiatry has enhanced the need for psychiatric research and awareness of the complex ethical issues involved. While there is general consensus about the ethical

norms in psychiatric research, there still exists conflict between research aims and ethical requirements [1,2]. The concepts of surrogate decision-making and issues related to cognitively impaired research

subjects have been studied and discussed in available literature [3,4].

This challenge of ethically acceptable psychiatric research emphasizes a need to understand potential researchers' attitude towards ethical issues. A study that investigated psychiatrists' and patients' perspective towards ethical concerns in research, found that though both groups valued autonomous decision making in research participation, psychiatrists agreed more strongly than patients that vulnerable populations should be included in research [5].

In this paper we examine the opinions of mental healthcare professionals in an Asian hospital setting on select ethical issues in psychiatric research and examine whether these opinions differed with prior research experience.

The work presented here constitutes a component of a larger survey that was undertaken at the psychiatric institution to assess healthcare professionals' attitude to research related issues.

Methods

The study was approved by the Clinical Research Committee and Ethics Board, and conducted over a 4-month period (September to December 2005). Four hundred and sixty healthcare professionals at a psychiatric institution were invited; they included all physicians, allied health staff, nurses and administrators. Allied health professionals included counsellors, case managers, medical social workers, psychologists, pharmacists, occupational therapists, physiotherapists and research assistants. However, only nurses of designation staff nurse and above and

administrators who were executive level and above were selected. Some of the administrators were also physicians. Participants had no age restrictions.

A self-administered questionnaire was used to collect information and its return was accepted as implied consent. Sociodemographic profile of the respondents was captured. Participants were asked their opinion on six statements that covered select ethical concerns and issues in psychiatric research (Table 1). The participants could choose their response to the statements from 5 point Likert style answers ranging from 'strongly disagree' to 'strongly agree'. Information on respondents' past research experience was collected. Those with research participation experience as a subject or control were excluded. Anonymity was maintained to elicit open feedback.

For comparing opinions of participants with and without prior research experience, the responses to 'strongly disagree'/'disagree' and 'strongly agree'/'agree' were grouped together. Chi Square and t-tests were applied to the data using SPSS. Two tailed tests of significance were used with statistical significance set at $P < 0.05$.

Results

Of the 460 healthcare professionals invited to participate, 339 responded (73.7%). Excluding 10 survey questionnaires because of incomplete data, the overall response was 71.5% ($n=329$).

The mean age of the respondents was 38.9 (SD 12.4) years with 145 men (44.1%) and 183 women (55.6%). The

survey was completed by 22 (6.7%) physicians, 56 (17%) allied health workers, 19 (5.8%) administrators and 232 (70.5%) nurses. 208 (63.6%) of the survey participants were Chinese, 49 (15%) were Malays, 41 (12.5%) Indians and the remaining 29 (8.9%) belonged to other ethnic groups.

The proportions of participants stating opinions to ethical issues are shown in Table 1. Among the respondents, 271 (82.6%) participants agreed that training in research ethics is crucial for psychiatric investigators (Table 1) and this was irrespective of whether they had research experience (Table 2).

Table I: Respondents' opinions to ethical issues in psychiatric research

	Strongly Disagree %	Disagree %	Neither / nor %	Agree %	Strongly Agree %
1. Training in research ethics is crucial for psychiatric investigators	1.2	1.8	14.3	50.3	32.3
2. Patients with mental illnesses are capable of making a decision about research participation	4.6	22.5	28.3	38.3	6.4
3. Patients with mental illness can understand the process of written informed consent	2.7	18.6	39.3	37.2	2.1
4. Patients who are involuntarily admitted to psychiatric hospitals can take part in research	6.4	29.0	29.3	30.8	4.6
5. Use of placebo can be allowed in psychiatric research	2.1	8.9	40.4	41.6	7.0
6. Randomization of treatment is justified in psychiatric research	9.5	32.5	36.2	19.0	2.8

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

	Respondents with no research experience		Respondents with research experience		P value
	%	95% CI	%	95% CI	
1. Training in research ethics is crucial for psychiatric investigators	80.2	75.4 – 85.9	89.5	82.5 – 96.5	0.129
2. Patients with mental illnesses are capable of making a decision about research participation	37.9	27.8 – 48.0	64.0	51.1 – 76.9	<0.001*
3. Patients with mental illness can understand the process of written informed consent	33.5	23.3 – 44.0	55.8	41.5 – 70.5	<0.001*
4. Patients who are involuntarily admitted to psychiatric hospitals can take part in research	30.6	19.9 – 41.3	48.8	33.4 – 64.2	0.009*
5. Use of placebo can be allowed in psychiatric research	48.1	38.8 – 57.4	50.0	34.8 – 64.2	0.471
6. Randomization of treatment is justified in psychiatric research	17.1	5.3 – 28.9	34.9	17.5 – 52.3	0.002*

* Chi-square test

Eighty six (26.1%) of the respondents indicated that they had previous experience in research, which ranged from conducting academic research projects to undertaking multi-centre studies. Two hundred forty three (73.9%) respondents had no research experience. Socio-demographic profile of the two groups was similar. Mental health professionals irrespective of their research experience agreed to the use of placebo in psychiatric research. However, more respondents with research experience agreed that psychiatric patients are capable of making a decision about research participation, could provide written informed consent and even if involuntarily admitted, had the ability to participate in research. They also felt that randomization of treatment is justified in psychiatric research (Table 2).

Discussion

There is a paucity of literature on psychiatric researchers' views on ethics of research participation and to our knowledge none involving Asian researchers. While our findings are significant, the study has several limitations. Only about a quarter (26.1%) of the respondents had research experience. The participants are from a service delivery setting and had limited research involvement. Another limitation is the skewed distribution of respondents from different professional backgrounds. As most of the respondents (70.5%) were nurses, their views have contributed predominantly to the findings. In terms of socio-demography there were no differences between those with or without research experience but

we did not include level of education in the current analysis. Singhal et al have shown that gender and level of education are important mediating variables but these could be confounded by professional discipline [6].

Nonetheless, the findings provide an insight into mental healthcare professionals' ethical concerns and documents their views on select issues in psychiatric research ethics. Almost all the respondents realize the need for training in research ethics.

The findings are consistent with other studies that recognized the mentally ill subjects' autonomy and decision-making capacity in research participation [5]. A third (35.4%) were of the view that patients on involuntary admission can take part in research. In a study that investigated involuntary psychiatric patients' research participation, psychiatrists opposed the idea more strongly than patients⁵. Despite varying outlooks on the use of placebo in research, there are no reports on healthcare professionals' personal opinion on its use in psychiatric research. Our study found that though half the respondents endorsed placebo use, around 40% were undecided about it. However, our study did not investigate the opinion on placebo use in instances where an effective treatment was available.

Though there was a consensus on the importance of training in ethics and use of placebo, participants with prior research experience demonstrated a more tolerant attitude towards other ethical issues under study (Table 2). There are no documented reports that

deal with association between research experience and attitude towards ethical issues in research. A previous study that investigated differences in research utilization among research active and non-research active clinical nurses inferred that research active nurses were up to date with research findings in international publications and largely used evidence based knowledge, and hence, more successful in overcoming research barriers and dilemmas [7]. We could explain our observations similarly, that exposure to existing research and ethics framework ensured that the research active respondents were more aware of the available safeguards for the addressed ethical issues and hence more resilient towards accepting and overcoming ethical dilemmas and barriers.

Ethics and regulation are crucial in psychiatric research. Provision of training and updates on ethical regulations and requirements by the institution and ethics regulators are necessary. It would safeguard subjects' interests and enhance ethically conducted research.

Acknowledgement

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Correspondence Author: *Janhavi Vaingankar, Senior Clinical Research Coordinator, Research Unit, Institute of Mental Health, 10, Buangkok View Singapore 539747.*

Email: Janhavi_VAINGANKAR@imh.com.sg

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ORIGINAL ARTICLE

QUALITY OF LIFE ASSESSMENT OF OPIOID SUBSTANCE
ABUSERS ON METHADONE MAINTENANCE THERAPY (MMT)
IN UNIVERSITY MALAYA MEDICAL CENTRE

*Adeline Gong Wooi Huong**, *Ng Chong Guan***, *Amer Siddiq Amer
Nordin***, *Aida Syarinaz Ahmad Adlan***, *Hussain Habil***

* School of Medicine, University of Aberdeen, United Kingdom

** Department of Psychological Medicine, University Malaya Medical
Centre, Jalan Lembah Pantai, Kuala Lumpur, Malaysia.

ABSTRACT

Objective: In Malaysia, opioid abuse is an acknowledged problem with severe health and economic repercussions. Until recently, drug addicts were mainly criminalised and forcefully rehabilitated in correctional facilities. However, the high relapse rates of this approach, coupled with the high rates of blood borne infections among drug users, led to increasing acceptance of a healthcare-based approach in the rehabilitation of drug addicts. Methadone was among the medications introduced as substitution maintenance therapy in 2005 and Universiti Malaya Medical Centre (UMMC) is a centre for MMT. This study aimed to determine the effects of MMT on quality of life in patients here. **Methods:** The sample was 46 patients who attended the Psychiatric outpatient clinic in fill in UMMC. The instrument used to assess quality of life was the WHOQOL-BREF. **Results:** The study design was cross-sectional with retrospective elements. Baseline QOL scores were obtained from case records and follow-up scores from the month of September 2007. Statistically significant improvements in all four domains of WHOQOL-BREF were found. Physical: $p<0.01$, C.I. 1.46-3.05. Psychological: $p<0.01$, C.I. 1.44-3.11. Social: $p=0.03$, C.I. 0.66-3.05. Environmental: $p<0.01$, C.I. 0.85-2.24. **Conclusion:** Methadone maintenance therapy substantially improves quality of life in ex-opioid abusers. *ASEAN Journal of Psychiatry, Vol.10, No.1, Jan – June 2009: 8-18.*

Keywords: Methadone, Quality of Life, WHOQOL-BREF, Malaysia, opioid

Introduction

Substance abuse is a worldwide problem that causes significant damage to

individuals, families and communities. Statistics from the World Health Report 2002 show that 8.9% of total burden of disease worldwide is due to abuse of

psychoactive substances, which include tobacco, alcohol and illicit drugs.[1] Global estimates show that in 2002, there were 185 million illicit drug users, with psychoactive substance use higher in developed than in developing countries.[2] According to the United Nations Office on Drugs and Crime, cannabis, amphetamines, cocaine and the opiates are the most commonly used illicit drugs, in order of mention.[1]

On a global scale, opioid abuse in general populations is relatively lower than other illicit drugs, with an estimated 13.5 million people using it. However, opioid substance abusers make up a disproportionately large percentage of heavy drug users who seek treatment.[3] Opioid abuse causes a variety of problems. Opioid abusers are at risk of contacting bloodborne infections like human immunodeficiency virus (HIV) and Hepatitis C and also frequently experience fatal drug overdoses-mortality rates in this group may be up to 20 times higher than in a non-abuser population of same age and gender.[4]

Substitution therapy for opioid abusers utilises opioid agonists that bind to opioid receptors in the brain and reduce dependence on illicit drugs.[1] Apart from the physical benefits of reducing cravings and withdrawal symptoms, opioid substitution drugs also play a role in reducing other problems associated with opioid abuse. Their longer duration of action means they do not require frequent administration and hence enables patients to carry out activities of daily living without disruption. The spread of infectious bloodborne diseases is also curbed by the fact that they are usually administered orally.[4] Methadone and buprenorphine are the

two most commonly used opioid agonists for substitution maintenance therapy in opioid abuse.

Methadone is a synthetic opioid agonist with good bioavailability, long half-life and is well absorbed from the gastrointestinal tract.[5] These properties make it ideal for substitution maintenance therapy of opioid dependence. It is administered orally in once-daily doses and quickly achieves steady-state plasma levels after repeated administration.[5] When properly used, methadone is non-sedating, non-intoxicating and has few side-effects (constipation and increased sweating are the most common and they tend to diminish over time[6]) which affect less than 20% of clients.[5]

Methadone first came to prominence as a substitution therapy for opioid dependence in the USA through studies done by Dole and Nyswander.[7] Extensive research into methadone maintenance treatment has yielded consistent evidence that it is effective in reducing illicit opiate use, mortality rates by up to four times[8], HIV risk behaviours[9], transmission of Hepatitis B and C[10] and drug and property-related criminal behaviours.[8, 9] It also helps retain patients in treatment and is cost-effective.[5, 8, 10] There is positive correlation between methadone dose and reduction in heroin use[4], and long-term treatment is more effective in preventing relapse than shorter-term modalities.[10] However, a recent review of randomised controlled trials did not identify many studies that looked at quality of life particularly.[8]

Opioid abuse in Malaysia began as early as the 8th century and increased during

the British colonial era.[11] The extent of the problem was only acknowledged in 1983, when drugs were declared “Public Enemy Number One” and the Drug Dependents (Treatment and Rehabilitation) Act was passed, which allowed compulsory detainment of drug users for up to two years.[11] This was followed by the stated goal to be a drug free society by 2015, with harsh laws ranging from long-term incarceration to capital punishment for drug offenders.[12] Law enforcement officers vigorously arrested drug users who were initially sent to drug rehabilitation centres (DRCs) known as “Pusat Serenti”, while those with repeated relapses could be jailed and caned.[13]

Despite these severe measures, (one of the stiffest in Asia[13]) Malaysia’s drug problem continued escalating. Relapse rates in addicts discharged from DRCs were said to be as high as 90%, there was severe overcrowding in prisons,[13, 14] huge amounts of money were being spent on compulsory drug rehabilitation and Malaysia had the highest proportion of HIV infections related to injecting drug abuse in the Western Pacific region-77%.[12]

Until recently, harm reduction programmes such as substitution therapy were rejected in Malaysia as compromising its goal of becoming a drug-free nation.[14] However, combined pressure from medical professionals, non-governmental organisations and the public led to a review in treatment approach, with methadone maintenance therapy (MMT) being approved as a pilot programme in 2003.[11, 13, 14] In early 2005, methadone was formally registered as

maintenance therapy for opioid abusers.[11]

The aim of this study is to look at the effects of MMT on Quality of Life (QOL) of opioid substance abusers. While extensive research has been done into other parameters of health in substance abusers, the available literature was lacking in information on Quality of Life, which is surprising given the increasing use of QOL assessments as an indicator of the effectiveness of medical interventions.[15]

Methods

Sampling

The sampling frame of this study was the outpatient psychiatric clinic of University Malaya Medical Center (UMMC). UMMC psychiatry department is a tertiary center with full psychiatric services from child and adolescent psychiatry, adult and geriatric liaison psychiatry and addiction psychiatry. It is the first and established training center for Masters in Psychological Medicine (MPM) and will be Malaysia’s first training center for addiction sub-specialty in psychiatry.

The psychiatric clinic of the UMMC has 78 patients in its Methadone Maintenance Treatment (MMT) program. This program started in 2005 and has two phases to date namely Phase I (2005/2006) and Phase II (2006/2007). It is strictly governed by the national guidelines, which recommend suitability for treatment (opioid dependent, capable of informed consent, ages 18 years or older with proof of identity), contradictions to treatment, induction

and monitoring (self report, urine testing, clinical observation). Patients are required to complete two questionnaires at baseline, the Opiate Treatment Index and the WHOQOL-BREF prior to starting treatment. On induction of treatment, patients are monitored by two substance abuse consultant psychiatrist with help from trained psychiatric nurses on monthly to two monthly follow-ups as per the guidelines.

Study Design

This is a cross sectional retrospective study involving all patients who were treated in the MMT program of UMMC for the month of September (period of one month).

Ethical approval was obtained from the medical ethics of UMMC before study commencement. Written permission was obtained from World Health Organization (WHO) for the use of instrument WHOQOL-BREF.

All patients who attended the MMT program in the psychiatric clinic of UMMC for the month of September were approached. Verbal consent was obtained. Those who consented were recruited and asked to complete a short questionnaire designed by the study team looking at the socio-demographic details and asked to answer a quality of life questionnaire the WHOQOL-BREF in Malay. Patients who were unable to answer the questionnaires due to poor eyesight, lack of understanding or illiteracy, were assisted by the researchers to complete this. The administration of the WHOQOL-BREF was in accordance with guidelines formed by the WHO for its use. They were then given the opportunity to

elaborate on questions they had just answered or any issues related to their treatment which they wished to comment on. Baseline quality of life (QOL) was obtained from baseline WHOQOL-BREF obtained by the consultant psychiatrist on initiation of treatment. This method was employed as the study period was one month and clinic follow-ups were one to two monthly. Baseline data was needed as the study was primarily looking at MMT on QOL. Baseline and current QOL were subsequently compared allowing a 'before-after' model of studying methadone effectiveness.

Instrument

The original WHOQOL-100 instrument was developed to facilitate QOL research in different cultural settings across the world and was developed in 15 international field centres simultaneously. It is multi-lingual and different language forms of the WHOQOL are directly comparable. It has excellent validity and reliability for cross-cultural research.

The WHOQOL-100 is a comprehensive assessment of different domains which relate to QOL, It is however lengthy where respondent burden must be minimized. The WHOQOL-BREF was developed to counter this with items extracted from the WHOQOL-100. It contains twenty six questions encompassing four domains (physical, psychological, social relationships and environment) and two items from overall quality of life and general health facets. Each domain is given a score, which reflects the individual's perception of QOL in that particular domain, with higher score denoting higher QOL. All

four domains should be taken into account when evaluating overall QOL. Developed in 24 international field trial centre simultaneously, it is suitable for use as a generic QOL instrument across cultures and has been widely validated. Both WHOQOL-100 and WHOQOL-BREF version in Malay has been validated.[16,17]

Statistical Analysis

After data was collected, it was analysed using SPSS Version 15.0 for Windows (SPSS, Inc.) based on recommendations from the WHO[18]. Data was discarded if more than 20% was missing from an assessment, while domains with only one item missing would have the value substituted by the mean of other items in the domain. Each domain incorporates a different number of items, so the mean of all items in a domain was taken and multiplied by 4 to make it comparable with WHOQOL-100 scores. This was the **domain score** and ranged from 4 to 20. Means and standard deviations for all four domain scores were tabulated for

the baseline (before methadone) and follow-up. (after methadone). The scores of all domains were normally distributed, as indicated in the Shapiro-Wilk test of normality. Paired t-test was performed with the null hypothesis that MMT had no effect on QOL. The critical value of α was set at 0.05. p value was calculated, with the understanding that if p was less than or equal to α , the null hypothesis would be rejected.[19]

Results

Socio-demographic Characteristic

The total number of respondents in this study was initially 48, however two subjects had failed to complete at least 80% of the WHOQOL-BREF, and were discarded from further analysis. For the overall sample, the mean age of the subjects was 39 years (SD± 10.5 years). Most were men, Malay and achieved secondary education. Half were married and only a small number were unemployed (17.4%). (Table 1)

Table 1: Socio-demographic characteristics of study subjects (N=46)

	N	%
Age (years)		
20-29	8	17.4
30-39	18	39.1
40-49	12	26.1
50-59	4	8.7
60-69	3	6.5
Sex		
Male	44	95.7
Female	2	4.3
Ethnicity		
Malay	43	93.5
Chinese	3	6.5
Marital status		
Single	22	47.8
Married	23	50.0
Widowed	1	2.2
Occupation		

Professional/managerial	1	2.2
Agricultural/fishery/forestry	1	2.2
Military/police/fireman	2	4.3
Factory	1	2.2
Clerical/sales	2	4.3
Services	16	34.8
Own business	15	32.6
Unemployed	8	17.4
Education		
Primary	3	6.5
Secondary	39	84.8
Tertiary	3	6.5
Nil	1	2.2

Duration of Drug Use

Of the remaining 46, data on the age of first drug use and duration of drug use were available for only 31 subjects. The age of first drug use among the subjects range from 14 to 39 years old (mean = 22; \pm 6.2 years). The duration of drug use range from 1 to 40 years (mean=17; \pm 9.6 years).

Length of Treatment and Current Dosage in MMT

Most of the subjects were in the MMT for less than 6 months (Table 2). The mean length of treatment of the subjects in MMT was 10 months (SD=6.1 months). The mean of current dosage was 61 mg (SD = 15.9mg).

Table 2. Length of Treatment in MMT.

Length of Treatment (Month)	N	%
1-6	17	37.0
7-12	15	32.6
13-18	8	17.4
19-24	6	13.0

Change in Quality of Life (QOL)

There was significant improvement in all 4 domains of QOL scores for subjects in MMT ($p < 0.05$). (Table 3) The

improvements in the physical and psychological domains were the most marked, with increases of 2.26 (18.9%) and 2.28 (20.0%) respectively.

Table 3. Paired t-test comparison of all four domains in WHOQOL-BREF before and after methadone maintenance (N=46)

Domain	Range	Mean	S.D.	t	p	95% confidence interval for differences
Physical						
Baseline	7.43-18.86	11.96	2.14			
Follow-up	9.71-18.29	14.22	2.10			
Difference		2.26	2.69	5.69	<0.05	1.46 -3.05
Psychological						
Baseline	7.33-17.33	11.39	2.22			
Follow-up	6.67-18.00	13.67	2.38			
Difference		2.28	2.83	5.46	<0.05	1.44 -3.11
Social relationships						
Baseline	5.33-17.33	11.86	2.81			
Follow-up	4.00-20.00	13.71	3.01			
Difference		1.85	4.02	3.13	<0.05	0.66 -3.05
Environment						
Baseline	8.00-16.50	12.09	1.94			
Follow-up	9.50-20.00	13.63	2.18			
Difference		1.54	2.34	4.47	<0.05	0.85 -2.24

S.D.=standard deviation

Discussion

The characteristics of this sample were compared with national data on

Malaysian opioid abusers in the first six months of 2007, available from the *Agensi Dadah Kebangsaan* (National Drug Agency) [20]:

Table 4: Comparison of demographic profile of Malaysian drug users and study subjects

Demographic Profile	Agensi Dadah Kebangsaan (%)	MMT at UMMC(%)
Male	97.7	95.7
Malay	72.5	93.5
Aged 25-29	70.4	17.4
At least high school education	78.9	91.3
Employed	92.1	82.6

The only noteworthy difference is in the age profile of both groups. It appears that a majority of Malaysian drug users are in the category of 25-29 years of age, but this was not the case in this study.

There are two possible explanations: the first, externally-motivated factor, is the inherent nature of the MMT programme, with guidelines which specify an extended period of regular opioid use as

a condition of entry[11]. The second, internally-motivated factor, may be because older abusers are more keen than younger ones to have a drug-free, stable and healthy lifestyle, so they seek medical treatment for their problem. The WHO defines Quality of Life as “individuals’ perceptions of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns”.[18] It has a multi-dimensional nature, so it cannot be equated simply with terms like “life satisfaction”, “health status” or “well-being”.[18] The rationale behind the growing use of subjective evaluations as opposed to purely laboratory-based measures to assess the usefulness of health interventions stems from the recognition that we must judge therapy based on the difference it makes in how patients feel.[21] Clinicians often inaccurately assess patients’ quality of life[22] or fail to predict aspects of patients’ lives which patients themselves consider important.[23] These aspects, such as relationships, social activities[23], income, freedom or environment quality[15] may influence or be influenced by health status and yet not be strictly considered part of the health “domain”.[15,23] Moreover, there is tremendous variation among individual responses to similar states of health and disease,[15,22,23] which would render structured measures inaccurate or insensitive.[23] Information from QOL assessments can be used to initiate and monitor therapy[22], evaluate effectiveness of interventions, and as outcome measures in clinical trials.[23] They may either be generic- assessing multiple domains and providing a summary score[26],or

disease-specific- more precise in measuring specific outcomes and detecting small but important changes.[21,25]

Numerous studies have been done on the beneficial effects of methadone (detailed earlier) but only a few looked specifically at QOL. Ponizovsky *et al.*[26] concluded that methadone improved QOL within one month of induction, which remained stable until the end of the programme. The results from my study support this conclusion. Maremmani *et al.*[27] found that QOL was one of several outcomes which improved in opioid-addicted patients who completed at least three months of treatment. The only other study, to the best of my knowledge, which used the WHOQOL-BREF for assessment of QOL in opioid abusers was done by Padaiga *et al* in Lithuania.[28] This showed statistically significant improvements in physical, psychological and environmental domains of QOL but no statistically significant improvements in social domain. The results from this study roughly paralleled this pattern, with social domain showing the least significant improvement in QOL. In general, findings from this study were consistent with worldwide evidence of the benefits of methadone.

However, despite the demonstration of a statistically significant effect of methadone maintenance therapy on quality of life, this does not necessarily translate into practical or scientific significance. Improvements could equally well be due to other forms of intervention (psychosocial help comes to mind) or simply changes in life situation. In order to eliminate these other factors, a study comparing methadone and

placebo should be done. Other papers have been written comparing outcomes like withdrawal symptoms and drop-out rates[29,30], but none on QOL. However, in light of the body of current evidence supporting methadone use, such a study may be deemed ethically inappropriate. Alternatively, a study comparing methadone with no pharmacological therapy (that is, opioid abusers who do not desire to seek medical help) could be done.

As far as the researchers are aware, my work is the first of its kind in Malaysia, since methadone is a relatively new introduction on the local drug treatment front. The extent of research focus so far has been on objective health and laboratory measurements while subjective psychometric measurements such as quality of life have been relatively under-investigated. Although by no means a landmark project, the findings of my study will serve to reinforce strong international evidence that methadone maintenance therapy is a very effective pharmacological treatment for opioid abuse. Not only does it improve clinical outcomes as perceived by health workers and society in general, it also improves numerous other aspects of life as perceived by the drug abusers themselves. It is hoped that through this and similar studies, methadone maintenance therapy will gain increasing acceptance both by the health sector and government authorities in Malaysia. MMT should be made more widely available since the first two years of its implementation have shown good results, considering that the problem of opioid abuse continues to plague Malaysian society.

This observational study which investigated the quality of life in ex-opioid abusers on methadone maintenance therapy in University Malaya Medical Centre found that quality of life in a sample of 46 patients at the Psychiatric Clinic significantly improved after being on methadone maintenance therapy. This was true for all four domains assessed by the WHOQOL-BREF questionnaire and consistent with previous similar research. It is hoped that the Malaysian government will increase availability and accessibility of methadone to opioid abusers due to the success of its implementation in the last two years, to help tackle the high rates of drug addiction in the country.

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Correspondence Author: *Dr Ng Chong Guan, Department of Psychological Medicine, University Malaya Medical Centre.*

E-mail: chong_guan@hotmail.com

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ORIGINAL ARTICLE

**KNOWLEDGE IN STATISTIC AND EPIDEMIOLOGY AMONG
MALAYSIAN POSTGRADUATE STUDENTS: IS IT DIFFICULT
FOR OUR TRAINEES TO PERFORM ON THE MOCK
CRITICAL REVIEW PAPER?**

Azlin Baharudin*, Nik Ruzyanei Nik Jaafar*, Hatta Sidi*

***Department of Psychiatry, Universiti Kebangsaan Malaysia
Medical Centre, 56000 Cheras, Kuala Lumpur, Malaysia.**

ABSTRACT

Objective: Critical appraisal is a process of systematically examining research evidence to assess its validity, results and relevance before using it to form a decision. A basic knowledge in statistic and epidemiology is important among postgraduate students in psychiatry to acquire the skills for appraising clinical research evidence. This is a descriptive study that attempts to look into the level of knowledge among the postgraduate psychiatry students in terms of statistic and epidemiology. **Methods:** A total of 31 postgraduate students in their second (N= 26) and third year (N=5) Master of Medicine (Psychiatry) and Master of Psychological Medicine from three different universities, namely: Universiti Kebangsaan Malaysia, Universiti Malaya and Universiti Sains Malaysia participated in this research. The participants were asked to answer 7 questions within 30 minutes. The passing mark for this critical review paper is set at 25 out of 50. **Results:** Overall, only 32.3% passed the mock critical review paper. About 67.7% of the students passed their epidemiology component and only 19.4% passed the statistic component. **Conclusion:** We found poor performance in basic statistics among psychiatric trainees which highlights the need for further improvement in the subject's training. *ASEAN Journal of Psychiatry, Vol.10, No.1, Jan – June 2009: 19-31.*

Keywords: Postgraduate psychiatry, critical review, epidemiology & statistics

Introduction

Critical review paper is an essential part of postgraduate assessment that evaluates the students' ability in using research evidence for their clinical

practice. This includes the process of systematically reviewing methods and findings, appraising and acting on evidence of effectiveness. It allows us to make sense of research evidence and thus reduces the gap between research

and practice. In order to determine what the best evidence is, we need critical appraisal skills that will help us understand the method and results used in a research and subsequently assess the quality of the research. No research is perfect, and critical appraisal is not an exact science but it can help us to decide whether a reported piece of research is good enough to be used in decision making. If a research has flaws, it is up to readers to use their critical appraisal skills to decide whether this affects the usefulness of the paper in influencing their decision.

The critical review paper was first introduced into the MRCPsych examination in Spring 1999. It was primarily for educational reasons. The introduction of this paper has been associated with a change in the format of the traditional journal club (1). Many lecturers in psychiatry believe that the more stringent critical style is a good forum for teaching evidence-based medicine skills (1).

As The Conjoint Board for Postgraduate Psychiatry in Malaysia gradually evolved and established in early year 2000, the curriculum for the master in medicine (psychiatry) degree (equivalent to Royal College Psychiatrist (MRCPsych.) was revised accordingly. The critical review paper was later introduced in the Malaysian curriculum for the first time in 2005. The objective of critical review paper is to prepare the trainees in advancing themselves in the current knowledge in psychiatry and keeping abreast with the latest development in the field of medicine in general. It is also hoped to promote the trainees to undertake research activities in psychiatry with critical thinking. The

application of the knowledge would help to raise the levels of expertise and practice of mental health services in the society (2). As part of the training, the postgraduate trainees participated in revision courses in postgraduate psychiatry. The objective of the course is to help the postgraduate candidates to refresh their knowledge on basic sciences and psychopathology (3), which includes the subject of critical review in psychiatry.

As critical review paper is a newly introduced paper in the curriculum of postgraduate psychiatry training in Malaysia (2), the authors were interested to know the ability of trainees in psychiatry in answering the paper, which was adopted from the Royal College syllabus. The critical review paper usually consisted of questions testing the trainees' understanding on the research methodology and basic statistical concept as well as examining the candidates' critical thinking e.g. the usefulness of a research in relation to applied psychiatry. The critical review paper might focus on any of the study designs including cross-sectional, prospective, meta-analysis, randomized clinical trials and validation of new psychometric diagnostic tools in psychiatry. It is useful to evaluate the performances of the candidates sitting for this paper to help us identify the areas of strengths and weakness of our trainees in the subject matter. From this, we can further strategize to improve the training in the near future. In relation to this, we chose to study their performance in one of the mock (sample) critical review paper during a revision course.

Methods

This is a descriptive cross-sectional study. Verbal consent was obtained from the students at the early part of the workshop. The data were obtained from the answer sheets of a mock exam paper (see Appendix A) dated 6th April 2007 compared against its model answers. A total of 31 postgraduate students in their second (N= 26) and third year (N=5) Master of Medicine (Psychiatry) and Master of Psychological Medicine from three different universities, namely: Universiti Kebangsaan Malaysia, Universiti Malaya and Universiti Sains Malaysia participated in this research. The participants were asked to answer 7 questions within 30 minutes. The passing mark for this critical review paper is set at 25 out of 50.

Results

The total number of postgraduate students participated in this study is 31. Only 10 students (32.3%) passed the critical review paper. The highest score is 41 and lowest score is 11. The average scores (mean) is 22.9 and median is 20. Majority of the third year students (80%) and only 6 students (23.08%) of the second year students passed the critical review paper.

The questions 1 to 4 which tested on epidemiology (Epid) and questions 5 to 7 which tested on statistical knowledge (Stat) were further analyzed and described in the table 1. Overall the students performed better on epidemiological questions as compared to statistical knowledge questions.

Table 1: Comparison between epidemiological component and statistical component

N = 31	Pass	Fail
Epidemiology Component (Epid)	67.7%	32.3%
Statistic component (Stat)	19.4%	80.6%

Table 2 shows that majority of the students failed in question 5 (80.65%)

followed by questions 7 (77.42%) and 6 (64.52%). However most of the students managed to answer question 1 (96.77%).

Table 2: Distributions of passing rate per question

Questions	Pass	Fail
1. Questions on study design	96.77 %	3.23%
2. Questions on sampling method	64.52%	35.48%
3. Questions on sensitivity and specificity	58.06%	41.94%
4. Questions on prevalence	45.16%	54.84%
5. Questions on statistical tools & interpretation of Data	19.35%	80.65%
6. Questions on variables, confounders & statistical Test	35.48%	64.52%
7. Questions on statistical tests	22.58%	77.42%

Discussion

Critical review paper is the ability to judge the persuasiveness of the evidence in a research study. It provides a systematic way of assessing the validity, results and usefulness of published research papers. Several surveys in the 1980s demonstrated that practicing physicians, particularly those with no formal education in biostatistics and epidemiology, had poor understanding of common statistical tests and limited ability to interpret study results (4-6). Many physicians are likely to have increased difficulty today because more complicated statistical methods are being reported in the medical literature (7). They might be able to understand the analysis and interpretation of results in only 21% of research articles (7).

Therefore it is crucial for every psychiatry postgraduate student to have a basic knowledge in the statistic and epidemiology. The critical review paper tests vast areas of knowledge on critical thinking, based on the candidate's knowledge on medical statistic and clinical epidemiology. Unlike viva voce, short notes or MCQ, Critical review

paper has the advantages of assessing the breadth and depth of a candidate's knowledge and critical thinking on literature review. Based on the results, about 70% of our postgraduate students answering the Mock Critical Review Paper failed the exam. Majority of the students (80.6%) failed in the statistic component questions. Most of them failed (80.65%) in questions number 5 which asked specifically about statistical tools and interpretation of data. Basic statistics is usually considered a difficult subject during discussion because it is not encountered in the postgraduate student's everyday life (3). It is only discussed during journal club, critical appraisal sessions or as a subject in a formal lecture. The poor knowledge in biostatistics among our postgraduate students from the study results is likely to reflect insufficient training. Some trainees had never received biostatistics teaching at any point in their career. When training did occur, the majority of this took place during their preclinical undergraduate medical education and was not reinforced during working years.

Limitations of this study should be considered. First, our data is based on a

mock Critical Review Paper during a revision course and therefore may not be an accurate reflection of the true second part master in medicine (psychiatry) examination. Second, the mock Critical Review Paper sample were selected and reviewed by only one consultant psychiatrist. Therefore, this also might not reflect the exact questions in final examinations, as the final examinations questions were finalized by more than 10 senior consultant psychiatrists. Third, our study was brief, thus limiting our ability to assess the understanding of all biostatistical concepts and research results. Nonetheless, our questions focused on the most commonly used methods and results found in the contemporary literature. Fourth, the study only included those postgraduate students who were present at the time of the mock exam trial and some of them were only in their second year. Thus students from the second year might not have enough knowledge or experience in critical appraisal while the postgraduate students who did not attend, either by choice or by chance, might have scored differently. Despite these limitations, we would like to highlight that this is the first study in Malaysia on postgraduate psychiatry that looked into the candidates' performance in the knowledge of basic biostatistics and epidemiology among young medical doctors aspiring to become psychiatrists. It is difficult to research the real exam results among trainee psychiatrists, as this would involve confidentiality issues in officialdom, especially involving the three medical faculties of Universiti Kebangsaan Malaysia (UKM), Universiti Sains Malaysia (USM) and Universiti Malaya (UM).

Nowadays, more sophisticated statistical methods are being used in medical literature. However, it is important to note that basic concepts, frequently occurring tests, and interpretation of results are still poorly understood by psychiatrists. If a psychiatrist had difficulties in appraising clinical research evidence, the risk of incorrect interpretation may lead to erroneous clinical applications of research. Medical lecturers and senior psychiatrists should reevaluate the teaching-learning method and reinforced the knowledge in order to adequately prepare trainees for lifelong learning. Further research is also needed to examine the effectiveness of specific educational interventions. Examinations is hoped to drive trainees to learn more about statistics and epidemiology, and generate more interest among the future psychiatrist in appraising psychiatric literature.

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Correspondence Author: *Azlin Baharudin, Department of Psychiatry, Universiti Kebangsaan Malaysia Medical Centre, 56000 Cheras, Kuala Lumpur.*

Email: jelin72@hotmail.com

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Appendix A: Critical Review Paper Question

6TH APRIL 2007

DEPARTMENT OF PSYCHIATRY, UKM

Please answer ALL questions in 30 minutes

Paper:

THE PREVALENCE OF SEXUAL PAIN DISORDER AND THE POTENTIAL RISK FACTORS THAT MAY BE ASSOCIATED WITH SEXUAL PAIN IN THE MALAYSIAN WOMEN

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Hatta Sidi*, Sharifah Ezat WP , Marhani Midin*, Norni Abdullah

(Dept. of Psychiatry, UKM*; Dept. of Community Medicine, UKM^ε; Dept. of Psychiatry, Hospital Klang, Selangor^ĩ)

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SUMMARY

*Objective of this research paper is to investigate the prevalence of sexual pain disorder and the potential risk factors that may cause sexual pain in Malaysian women. This study was conducted at one of the government primary health care clinics located in Bandar Tun Razak, a rather busy suburban area of Kuala Lumpur, Malaysia. The respondents are women who attending the particular primary health clinic. It was conducted over a period of four months (March to June 2005). This study used a non-probability sampling (universal sampling) method. **Inclusion criteria** include: (i) female patients; (ii) aged between 18 and 70 years old; (iii) married and have a sexually active partner; (iv) ability to read and understand the study languages (Malay or English); (v) consent for participation in the study. **Exclusion criteria** include: (i) chronic and severe medical illness/illnesses; (ii) psychiatric illness/illnesses; (iii) pregnancy; (iv) postpartum period of 2 months; (v) inability to read and understand the study languages; (vi) consent refusal to participate in this study. The instruments used in this study were: 1. Sociodemographic and Marital Profile Form; 2. The Malay Version of Female Sexual Function Index (MVFSFI); 3. The Mini International Neuropsychiatric Interview (M.I.N.I.).*

Sociodemographic and Marital Profile Form: This is a brief questionnaire was devised to obtain respondents' sociodemographic and marital information. It includes name, age, educational level, employment status, monthly family income, medical history, menstrual history, duration of marriage, age of husband, number of children and frequency of sexual intercourse.

Malay Version of Female Sexual Function Index (MVFSFI) is a Malay translated version of the Female Sexual Function Index (FSFI) developed by Dr. Raymond Rosen. The original FSFI is a 19-item, multidimensional self-report measure of female sexual functioning. It covers 6 basic domains of female sexual functioning: desire, arousal, lubrication, orgasm, satisfaction, and pain. The reliability test for agreement using Pearson product-moment correlation coefficient (r) ranged from 0.767 to 0.973. The internal consistency using Cronbach's alpha ranged from 0.87 to 0.97. The cut-off score for domain of sexual pain was established at ≤ 7 for sexual pain disorder (sensitivity 86% and specificity 95%). The lower the scores, the more likely the women would suffer from FSD.

Mini International Neuropsychiatric Interview (M.I.N.I.) was used to exclude any respondents with psychiatric illness from this study. This is a brief structured interview for major Axis I psychiatric disorders in DSM-IV and ICD-10. It has been shown to have acceptably high validity and reliability when compared with the more lengthy diagnostic instruments as such as the SCID-P and the CIDI. This was administered by one of the authors who was trained to use the instrument. It has been used in local studies and found to have good inter-rater reliability. The inter-rater reliability for this study was ascertained by administering the instrument on 10 cases selected randomly. This was done by two of the authors and yielded a kappa value of 1. The relationship between the studies parameters were analyzed using appropriate statistical tests. Chi-square test (χ^2 - tests) were used to determine risk factors for FSD among categorical independent and dependent variables.

RESULTS

Two hundred and forty eight (248) patients who attended the Bandar Tun Razak primary care clinic, Cheras, Kuala Lumpur were invited to participate in the study. However, 18 patients were unable to complete the study because of multiple reasons such as unable to make time (4 patients), did not feel comfortable with the questions (7 patients) and did not bring their reading glasses to clinic (5 patients). The response rate was 93% with total subjects of 230. Two patients were screened and diagnosed to have anxiety disorder and major depressive disorder respectively by MINI were excluded.

The prevalence of SPD was 67.8% (156/230).

RISK FACTORS FOR WOMEN WITH SEXUAL PAIN DISORDER

The risk factors associated with women suffering from orgasmic dysfunction are shown in table 2.

Table 2. Risk factors associated with women with Sexual Pain Disorder (SPD)

Potential Risk factors	Variables		χ^2	p value
	Normal (n = 74)	SPD (n= 156)		
Age				
≤ 45 years old	61 (37.9%)	100 (62.1%)	8.0	0.005
> 45 years old	13 (18.8%)	56 (81.2%)		
Race				
Malays	63(36.0%)	112 (64.0%)	4.9	0.03
Non Malays	11(20.0%)	44 (80.0%)		
Salary (Malaysian Ringgit)				
< 1,875	36 (31.3%)	79 (68.7%)	0.08	0.78
≥ 1,875	38 (33.0%)	77 (67.0%)		
Duration of marriage				
Married less than 14 years	50(40.3%)	74(59.7%)	8.2	0.004
Married 14 years or more	24(22.6%)	82(77.4%)		
Academic status				
Higher academic	10(18.2%)	45(81.8%)	5.22	0.001
Lower academic	64(36.6%)	111(63.4%)		
Husband's age				
Age ≤ 42 years old	51(41.5%)	72(58.5%)	10.5	0.001
Age > 42 years or more	23(21.5%)	84(78.5%)		
Number of children				
Women with ≤ 3 children	51(36.2%)	90(63.8%)	2.67	0.10
Women with > 3 children	23(25.8%)	66(74.2%)		
Sexual intercourse				
< 3 per month	59 (29.6%)	140 (70.4%)	4.32	0.038
≥ 3 per month	15 (48.4%)	16 (51.6%)		
Dysmenorrhea				
Yes	20(30.8%)	45 (69.2%)	0.82	0.76
No	54(32.7%)	111(67.3%)		
Menopause				
Yes	1 (3.0%)	32(97.0%)	15.00	< 0.001
No	73(37.1%)	124(62.9%)		

QUESTIONS AND ANSWERS:

1. (a) What kind of study design is this? (2 marks)

Cross-sectional study

- (b) List 2 advantages and 2 disadvantages of this type of study.

Two advantages:

(i) Cheap,

(ii) Easy To conduct/Not time consuming

Two disadvantages: (i) Cannot establish causative factors,

(ii) Not very informative than prospective study.

(4 marks)

2. (a) What kind of sampling method is being used in this study?

Non-probability sampling (universal sampling)

(2 marks)

- (b) List 2 other sampling methods that you know.

(i) Cluster sampling,

(ii) Statified sampling

(2 marks)

- (c) Briefly outline 2 strengths and 2 weaknesses of the respondents' recruitment (especially looking at the inclusion criteria).

2 strengths

(i) high respondent rate (low refusal rate)

(ii) patients with severe physical disorder were excluded

2 weaknesses

(i) single sexually active respondent was excluded

(ii) 2 months postpartum period was quite long and may exclude other potential sexual pain

(3 marks)

3. The cut-off score for the sexual pain domain was established at ≤ 7 (sensitivity 86% and specificity 95%)using the MVFSI to detect sexual pain disorder among the respondents.

- (a) What are the meaning of sensitivity and specificity of a psychometric tool?

Sensitivity = ability to detect true positive (TP) rate;

Ability of a psychometric tool to detect caseness based on the gold-standard diagnosis

and

Specificity = ability to detect true negative (TN) rate.

Ability of a psychometric tool to detect non-caseness based on the gold-standard diagnosis

(4 marks)

(b) Interpret the meaning of MVFSI in diagnosing sexual pain disorder at 86% and 95% sensitivity and specificity respectively.

The MVFSI was able to detect both 86% and 95% cases and non-cases respectively based on the gold standard diagnostic tools.

(4 marks)

4. In this research, it was found that the prevalence of sexual pain disorder was 67.8%.

(a) What kind of prevalence is this?

Point prevalence

(2 marks)

(b) List 2 types of other prevalences that you know.

1. Period prevalence
2. Lifetime prevalence

(2 marks)

5. (a) χ^2 -test was used as a statistical tool. What is the objective of a χ^2 -test?

A χ^2 -test is a non-parametric test that being used for (i) goodness to fit test and (ii) to find out association between the observed (O) and exposed (E) variables.

(2 marks)

(b) Explain the meaning of the data below,

Compared to women with frequency sexual intercourse (SI) more than 3 times per month, women with SI less than 3 times per month has significant different risk of having sexual pain (70.4% vs. 51.6%) with very significant statistical findings ($\chi^2=4.32$, $p < 0.05$).

(4 marks)

(c) How are you going to interpret it to your non-medical colleague (in non-scientific term)?

Women with infrequent sexual activity has high risk of having sexual pain.

(2 marks)

Potential Risk factors	Variables		χ^2	p value
	Normal (n = 74)	SPD (n= 156)		
Sexual intercourse < 3 per month	59 (29.6%)	140 (70.4%)	4.32	0.038
≥ 3 per month	15 (48.4%)	16 (51.6%)		

6. (a) List two dependent variables of this study.

Sexual pain, No sexual pain

(2 marks)

- (b) List two confounders of this study.

Age
Race
Salary (Malaysian Ringgit)
Duration of marriage
Academic status
Husband's age
Number of children
Sexual intercourse
Dysmenorrhea
Menopause

(2 marks)

- (c) What kind of statistical test can be used to assess the predictor outcome of the various significant independent variables?

Logistic regression analysis.

(1 mark)

7. An intervention was conducted and an average of 3 cognitive-behaviour therapy (CBT) sessions were attended by 10 patients with sexual pain while 8 patients did self-reading on how to overcome their sexual problems. Out of 10 patients attending CBT, 8 improved; whereas out of 8 patients who did the self-reading, only 2 improved.

- (a) Draw the 2 x 2 table (status of overall improved/not improved outcome versus intervention for the patients with sexual pain). (2 marks)

Status of improvements Interventions	Improved	Not improved	Total
CBT	8	2	10
Self-reading	2	6	8
Total	10	8	18

(b) Calculate the absolute benefit increase of CBT intervention over self-reading. Show your calculation.

Absolute benefit increase (ABI) is a difference between the experimental event rate (EER) and control event rate (CER).

Improvement rate for CBT group, $EER = 8/10 = 0.8$

Improvement rate for self-reading, $CER = 2/8 = 0.25$

$ABI = EER - CER = 0.8 - 0.25 = 0.55$.

(3 marks)

(c) How many patients do you need to attend CBT sessions in preventing one patient from having subsequent sexual pain disorder? Show your calculation.

Numbers of patients that needed to attend CBT in preventing one patient from having subsequent sexual pain is based on the concept of numbers needed to treat, NNT; and NNT is a reciprocal of ABI.

$NNT = 1/ABI = 1/0.55 = 1.8$. It going to be rounded as 2.0.

Two patients are needed to attend CBT to prevent one patients from having subsequent sexual pain.

(2 marks)

(d) Comment on the significance of the above result?

This result, $NNT = 2$ is significant, because it is ≤ 10 . The CBT was effective.

(2 marks)

(e) Your junior colleague asked you to explain this statement:

" $NNT=2$ for patients needed to attend CBT for sexual pain, with 95% $CI^{\&}$: 1.2 – 4.9."
[confidence interval[&]]

"Two patients are needed to participate in the CBT session in preventing one patient from having subsequent sexual pain, and I if I'm going to repeat this study 100 times, I'm 95 times confidence that the value of the NNT (ie. 2 patients) would ranged from 1.2 to 4.9, and the findings are statistically significant."

(3 marks)

(Total 50 marks)

ORIGINAL ARTICLE

POST TRAUMATIC STRESS DISORDER (PTSD) SYMPTOMS,
COPING STYLES AND SOCIAL SUPPORT AMONG SURVIVORS
OF THE DECEMBER 26TH 2004 MALAYSIAN TSUNAMI
DISASTER

*Ponnusamy Subramaniam**, *Chin Hak Ying***, *Shazli Ezzat Ghazali**,
*Aishvarya Sinniah****, *Raynuha Mahadevan****

***Health Psychology Unit, Faculty of Allied Health Sciences, Universiti
Kebangsaan Malaysia, Jalan Raja Muda Abdul Aziz, 50300 Kuala
Lumpur, Malaysia**

****Permanent Secretary, Royal Malaysian Police Headquarter, 50560
Bukit Aman, Kuala Lumpur, Malaysia**

*****Department of Psychiatry, Universiti Kebangsaan Malaysia
Medical Centre, 56000 Cheras, Kuala Lumpur, Malaysia.**

ABSTRACT

Objective: This study examined the symptoms of PTSD among survivors of the December 26th 2004 Malaysian tsunami disaster, as well as differences among sexes in terms of coping styles and availability of social support. **Methods:** A total of 64 (28 males and 36 females) respondents from several affected districts of Kuala Muda and Langkawi in Kedah and Batu Maung, Pulau Pinang were recruited through purposive sampling. The Detailed Assessment of Posttraumatic Stress (DAPS) was used to measure the posttraumatic stress disorder/symptoms, while the Social Support Questionnaire and Significant Others Scale (Form A) were used to measure the quality and quantity of social support. The COPE Questionnaire was used to measure two coping styles; adaptive and maladaptive coping. **Results:** Fifty two (81%) respondents did not fulfill the DAPS-PTSD criteria while only 12 (19%) fulfilled the criteria. There was no significant difference between men and women in terms of posttraumatic stress-total, and the quantity and quality of social support. However, there is a significant difference in adaptive and maladaptive coping styles among victims who fulfill the PTSD diagnosis and those who did not. It was also found that there is no relationship between PTSD symptoms and emotional support, whereas there is a significant relationship between PTSD symptoms and practical support. **Conclusion:** This research showed that only a small number of respondents fulfilled the diagnosis of PTSD following their experience of a disaster. There were no difference between genders in terms of PTSD symptoms and social support. Among victims who fulfill the

PTSD diagnosis and those who do not, there is a significant difference in the adaptive and maladaptive coping styles. As for the relationship between PTSD symptoms and social support, there is a significant relationship between PTSD symptoms and practical support but not with emotional support. *ASEAN Journal of Psychiatry, Vol.10, No.1, Jan – June 2009: 32-42.*

Keywords: Tsunami, PTSD, coping styles, social support

Introduction

December 26th 2004 was an unforgettable day as tragedy struck in the form of a tsunami, caused by a massive earthquake in Aceh, Indonesia, measuring 9.0 on the Richter scale. The tsunami swept across several countries, causing more than 200,000 deaths, while over 300,000 thousand people were injured, and thousands were missing and unaccounted for. Malaysia was affected as well although she fortunately escaped the kind of damage that struck some of the other countries. The country's worst affected areas were the northern coastal areas and outlying islands like Penang and Langkawi. The death toll from the tsunami in Malaysia stood at 68, the majority being in Penang and Kedah.

Several empirical studies have explored the relationship between natural disasters phenomena and developing Posttraumatic Stress Disorders (PTSD). Lim [1] conducted a study on psychological distress, anxiety, depression and PTSD among 71 fire-fighters involved in the rescue operation following the collapse of Highland Towers, compared with a matched control group of 30 persons from non-firemen population. A significantly higher proportion of sample subjects (70%) had at least one symptom of PTSD as compared to the control group.

Shore and colleagues [2] studied survivors of the Mount St Helens volcanic eruption, comparing them with residents nearby not affected by the event, and found relative increases in rates of depression and generalized anxiety disorder in the sample exposed to the eruption with a lifetime rate for PTSD of 3.6%, and 2.6% in those not exposed. Yang et al [3] reported that posttraumatic symptoms were still prevalent three months after the devastating Chi-Chi earthquake in central Taiwan, with the rate of PTSD being 11.3%, and partial PTSD, 32%. Variables associated with the presence of psychiatric morbidity and posttraumatic symptoms included female gender, old age, and financial loss, obsessive and nervous traits.

Stein et al [4] reported that although characteristics of the traumatic stressors have been shown to influence risk for PTSD, these fail to explain much of the variance in PTSD rates among exposed persons. According to them, most studies have shown that the female gender and low IQ increase risk for PTSD, in addition to some premorbid personality characteristics such as neuroticism and preexisting anxiety or depressive disorders. This is supported by Smith et al [5] who concurred that level of exposure as well as sex of survivors is a strong predictor of

increased symptomatology of PTSD, with blame and anger as the means of coping, and there is low social support. Social support has been found to have a positive impact on people's health and well-being, as well as their ability to adjust to the trauma of illness or injury [6]. Wang et al [7] found that inadequate social support accounted for the higher occurrence of PTSD. It has been reported that emotional support when coupled with either informational or instrumental support, having a close confiding reciprocal relationship are associated with more positive outcomes. It was found that seeking social support generally reduced subsequent levels of PTSD, except when the perception of available social support was of poor quality. People are more susceptible to PTSD if they have poor coping skills or lower levels of psychological functioning. Having a poor "track record" at handling difficult situations leaves certain people at increased risk [13].

Since the tsunami is the first natural disaster of its kind in Malaysia, this study gives an opportunity to look into the effects of the aftermath of a disaster of such a nature. The outcome of this research will be able to provide information to the general public that the tsunami not only caused loss of lives, properties and livelihood but long-lasting psychological impact as well. It will provide an insight that survivors of the tsunami not only require immediate assistance but also continuous support in both physical and mental aspects. The findings will also assist mental health professionals to be more focused in helping disaster victims of such nature. More specifically, this study aims to study how women and men cope when

they are exposed to such a disaster; the availability of social support (quantity and quality) for the tsunami victims; and the different styles of coping used by victims of the disaster.

Methods

This is a cross sectional study, looking at the relationship between the identified variables, and at the same time, comparing the sex differences in coping skills and use of social support. Fieldwork was conducted 6 months after the tsunami disaster, in the three worst hit areas in Kuala Muda and Langkawi in Kedah, and some parts of the coastal areas of Penang.

The study sample consisted of 28 males (44%) and 36 females (56%). Subjects selected were survivors who lived or were at the location of the incident, mostly along the shoreline of Penang – namely around Batu Maung and Bayan Lepas – and the coastal areas in Kuala Muda, Sungai Petani and Kuala Triang, Langkawi, Kedah. The sampling method used was purposive sampling whereby subjects chosen had been predetermined by the researcher (namely all available survivors of the December 2004 tsunami incident. Inclusion criteria were (i) survivors of the tsunami disaster; (ii) aged 18 and above; (iii) gave consent to participate. Exclusion criteria were (i) subjects involved in other traumatic experience(s) after the tsunami incident but within six months before this study; (ii) subjects who did not give consent.

Socio-demographic information was obtained via the use of a form and based on given information allowed the researcher to set the inclusion and exclusion criteria. The following

psychological tools were used in the research: (a) The Detailed Assessment of Posttraumatic Stress (DAPS) [9] is a self-report questionnaire, a 104-item test of trauma exposure designed for use by individuals who have undergone a specific psychological stressor. It has two validity scales and evaluates a range of trauma-related parameters, including lifelong exposure to traumatic events, immediate cognitive, emotional, and dissociative responses to a specified trauma, the symptoms of PTSD and Acute Stress Disorder as defined by the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR) [10]. It is a 5-point scale (1=never, 2=once or twice, 3=sometimes, 4=often, 5=very often), and each item is rated according to its frequency of occurrence. The DAPS is divided into 3 parts. Part 1 consists of the Trauma Specific Scale – high scores indicate the experience of more than one type of potentially traumatic event. It also evaluates the onset of the trauma. Part 2 measures the Posttraumatic Stress Scales which include the domains of Reexperiencing (RE), Avoidance (AV), Hyperarousal (AR), Posttraumatic Stress – Total (PTS-T) and Posttraumatic Impairment (IMP). Part 3 measures the Associated Feature scales which include the domain of Trauma-Specific Dissociation (T-DIS), Substance Abuse (SUB), and Suicidality (SUI). The DAPS has two validity scales – Positive Bias evaluates the extent to which respondents deny low-level psychological symptoms; Negative Bias assesses the willingness to present oneself as especially symptomatic. For the purpose of this study, the scores of the PTS-T were used to look at the severity of the PTSD symptoms. According to Briere [9], severity is

defined on the PTS-T scale as follows: T-score less than 60 = non-significant; T-score 60 -64 = mild; T-score 65 -74 = moderate; T-score 75 and above = severe. The DAPS has shown good reliability and validity; (b) The Short Form Social Support Questionnaire (SSQ6) [11] is a self-administered scale with a 6-point scale ranging from 1 (very dissatisfied) to 6 (very satisfied). Two scores are obtained from the questionnaire: the quantity and quality of support. For each question, the number of support score ranged from 0 (no supporting individual identified) to 9 (9 individuals identified), with the range of possible scores being 0 to 54. The satisfaction with support score ranged from 1 (very dissatisfied) to 6 (very satisfied), with the total score ranging from 6 to 36. The SSQ6 is reported by Sarason et al [11] to show satisfactory psychometric properties; (c) Significant Other Scale (SOS) [12] (simplified version – Form SOS (A) which assesses four different social support functions (two emotional and two practical) in 7 people (including spouse/partner, father, mother, closest sibling, closest child, and best friend). For each of the four support functions, each individual is rated in terms of the level of support received and the ideal level of support. Ratings were on seven-point scales ranging from 1 (never) to 7 (always). This is a self-administered scale as well. Powel et al [12] indicate satisfactory reliability and validity for SOS; (d) COPE [13] is used to assess situational coping (responses to a specific situation or during specific time period) or dispositional coping (typical responses to stressors) or both. This self-administered inventory has a four-point scale with a minimum score of 1 (“I usually don’t do this at all”) to a maximum score of 4 (“I usually do this a

lot”). COPE [13] generally has good psychometric properties.

Prior to data collection, information regarding the worst hit areas was gathered from media sources. Assistance from government agencies was sought to locate temporary shelter/homes for the victims. Data collection took about three months (after the six months period but before the nine months period). Oral consent was obtained from the subjects as most of them were fishermen, after which the DAPS [9] was personally administered by the researcher. Subjects were placed in groups of 4 and administration of the questionnaire was

conducted simultaneously. The Social Support and COPE [13] questionnaires were either administered by the researcher or were self-reported by subjects who were able to read and understand the questionnaires. Translated versions (Malay) of the questionnaires were used. Data were analyzed using the Statistical Package for Social Sciences (SPSS) with an appropriate statistical test.

Results

The general characteristics of the subjects are presented in Table 1.

Table 1. General characteristics of subjects

Variable	n (N=64)	%
Age		
Adolescent (below 19 years)	2	3
Young adulthood (20 – 40 years)	30	47
Middle adulthood (41 – 64 years)	26	41
Late adulthood (65 years and above)	6	9
Gender		
Male	28	44
Female	36	56
Marital status		
Single	13	20
Married	41	64
Divorced	3	5
Widow/widower	7	11
Education		
No education	11	17
Primary	13	20
Secondary	40	63
Employment status		
Unemployed	29	45
Employed	34	53
Student	1	2
Location during tsunami incident		
At home	37	59
In a shop	2	3
At the office	1	1
Others	24	38
Losses		
None	2	3
Family member(s) only	3	5
House/property only	54	84
Family member(s) and house/property	5	8

Injury		
Injured	10	16
Not injured/minor scratches	54	84

Results show that only 12 or 19% of respondents fulfilled the DAPS-PTSD decision rule (Table 2).

Table 2. Respondents' PTSD diagnosis

Gender	PTSD		Diagnostic
	No	Yes	
Male	24	4	
Female	28	8	
Total	52 (81%)	12 (19%)	

Table 3 represents the Posttraumatic Stress – Total (PTS-T) scale which is the sum of Reexperiencing (RE), Avoidance (AV), and Hyperarousal (AR) scale scores, and thus reflects the total extent of PTSD symptoms endorsed by the respondents.

Table 3. Severity of PTSD symptoms among respondents

Severity of PTS-T	n (N=64)	%
Not significant	43	67
Mild	4	6
Moderate	6	9
Severe	11	17

Table 4. T-test analysis comparison of Posttraumatic Stress Total (PTS-T) between male and female

Gender	n	Mean	SD	df	t
(N=64)					
Male	28	50.21	20.6	62	-.434*
Female	36	53.00	28.7		

*p < 0.05

The Independent Groups T-test was used to analyze the scores of social support between male and female victims.

Table 5 shows that there is no significant difference in the number of social support between male and female respondents ($t = -1.355$, $df = 62$, $p < 0.05$).

Table 5. T-test analysis comparison of social support between male and female

	Gender	n	Mean	df	t
(N=64)					
Number of support	Male	28	13.86	62	-1.355*
	Female	36	16.58		
Level of Satisfaction	Male	28	31.07	62	-1.801*
	Female	36	33.14		

*p < 0.05

From Table 6, the result shows that there is a negatively significant difference in the use of adaptive coping styles of respondents who fulfilled the DAPS-PTSD criteria and those that did not ($t = -2.603$, $df = 62$, $p < 0.01$).

Table 6. T-test analysis comparison of PTSD and coping styles

Coping Styles	PTSD Diagnosis	n	Mean	SD	df	t
(N=64)						
Adaptive	No	52	82.17	21.16	62	-2.603**
	Yes	12	79.83	21.30		
Maladaptive	No	52	15.85	15.85	62	-.466**
	Yes	12	26.00	5.72		

**p < 0.01

Social support was divided into subscales of emotional and practical support. Analysis using the Pearson bivariate on both subscales was conducted (Table 7).

Table 7. Correlations between social support and PTSD symptoms

	r
PTSD symptoms and emotional support	.065*
PTSD symptoms and practical support	.964**

* $p < 0.05$

** $p < 0.01$

Discussion

The present study found that based on the DAPS assessment, 12 out of 64 respondents developed PTSD. This can be seen in that 56 (83%) of respondents received not only instrumental aids, but mental health professionals from various organizations also assisted in offering counseling and psychotherapy services. The findings of this study are quite consistent with the studies at the Psychological Care Center of Hyogo Prefecture [14] after the Kobe earthquake in 17 January 1995, whereby out of 1,956 cases seen after the earthquake; those who developed PTSD according to DSM-IV were 2.5%. However, prevalence was 4.5% among those who lost their homes, and 13.1% among those who lost their family members. The prevalence of PTSD was clearly related to the severity of damage incurred. People exposed to an objectively traumatic event involving the death of someone close might develop both PTSD and traumatic grief. Prigerson et al [15] reported that many symptoms associated with being devastated by another's death appear to

resemble symptoms of PTSD.

Based on the DAPS, only 12 or 19% of respondents fulfilled the DAPS-PTSD decision rule while the remaining 53 or 81% have some symptoms of PTSD but insufficient for a PTSD diagnosis. This is supported by studies comparing rates of PTSD across different stressors, exposures to fires, disasters, and other hazards, with PTSD in 5 – 8% of cases. Disasters were found to less likely cause PTSD [16]. In general, human-made traumatic events (as opposed to natural disasters) have been shown to cause more frequent and more persistent psychiatric symptoms and distress [17]. Clinical studies suggest that the psychiatric consequences following trauma are influenced by the meaning ascribed to the event by individuals, families and communities. Beliefs about the cause of the disaster and the ramifications of these beliefs can produce or buffer psychological distress [17].

Out of the 12 respondents who are diagnosed with PTSD, 8 or 67% of them are women. Therefore, findings with regards to gender have been fairly consistent. Breslau et al [18] studied 1007 young adults in Detroit, Michigan, and found sex differences regarding the development of PTSD. In the total sample, 6% of men and 11% of women developed PTSD, while prevalence among those who had experienced trauma was 14% for men and 31% for women. In another large prevalence study, Kessler [19] found that 10% of the women developed PTSD and 5% of the men developed PTSD during their lifetime. The PTSD rate among those exposed to trauma was 20% for women and 8% for men. In discussing the sex

differences in PTSD, Kessler et al [19] pointed out that while men are more likely than women to experience at least one trauma overall, women are more likely than men to experience a trauma associated with a high probability of PTSD (e.g. sexual assault). It appears that women are at greater risk of psychological distress, measured by a range of outcomes, when exposed to disasters. These findings are similar to those from general population studies highlighting the relative vulnerability of women when exposed to traumatic events plus the perception of the events by men and women which are also different [18,19].

Even though there was no significant difference in the PTS-T between male and female respondents, the mean score for female respondents was higher. This is supported by findings of a study by Zlotnick et al [20] who wrote that despite theoretical formulations about gender differences in response to trauma, including gender differences in brain morphology or in social interpretations of trauma, empirical evidence from their report suggests that the manifestations of PTSD among male and female patients are more similar than different.

While there is no significant difference in the number of social support between the genders, the mean number of social support for female is slightly higher than the male. This can mean that women have a tendency to confide more either to family members, relatives or friends. Gender differences observed between social support patterns of men and women may be significant and the type of support that is protective following a crisis may differ between the sexes. Women have been reported to gain

emotional support from wide groups of confidants with partners less heavily relied on. They appear to place greater importance on providing emotional support to others. In contrast, a man relies more heavily on his partner as his sole confidant and places greater value on practical support from friends [21]. In terms of level of satisfaction from the social support, there is no significant difference between the genders. It is possible that poor social support affects how the victim of trauma processes and copes with the event. However, because of the avoidance and withdrawal that accompany PTSD, victims isolate themselves from possible sources of support. The problem with studying the effects of social support at any one given point in time is that support may wax or wane depending upon the apparent needs of the victims and their willingness to accept help and support. Social support is an ongoing process that reflects an interaction between people and is not easily captured in most cross-sectional research projects [22]. Murphy [23] observed that the frequent complication in studying social support following trauma is that the trauma itself may include the loss of an important support figure.

There is no real difference in the use of adaptive coping styles between those who fulfilled the DAPS-PTSD criteria and those who did not. This could be because respondents in this study may have used avoidance type coping, therefore avoiding reporting appropriate symptoms. In studies conducted with victims of motor vehicle accidents, rape, domestic violence, or combat, researchers have all found that symptoms and continued distress (PTSD, depression, and/or social

adjustment) are associated with avoidance type coping [24]. The present study also shows that respondents who have PTSD used maladaptive coping styles.

It was found that high emotional support is not associated with symptoms of PTSD. On the other hand, PTSD symptoms positively correlated with practical support. Research on traumatic stress has demonstrated a relationship between social support and trauma outcomes across populations. Davidson et al [25] conducted a population study of PTSD in North Carolina with 2,985 participants identifying social support and development of PTSD. Although they found no difference in quantitative social support, those with PTSD had less social interaction (qualitative social support) and perceived inadequate social support. Liederman-Cemiglia [26] reported that resistance to PTSD symptoms was associated with a greater degree of perceived social support and optimism, a more internal locus of control, and the use of fewer emotion-oriented and avoidance-oriented coping strategies.

This research showed that only a small number of respondents fulfilled the diagnosis of PTSD following their experience of a disaster. It was highlighted that there were no differences between genders in terms of PTSD symptoms and social support. There is a significant difference though in adaptive and maladaptive coping styles among victims who fulfill the PTSD diagnosis and those who do not. As for the relationship between PTSD symptoms and social support, there is a significant relationship between PTSD symptoms and practical support but not

with emotional support. Research of this nature should be conducted on a large scale. A continuation of this research can be done cross-sectionally every six months and subsequently, every year. Psychological screening should be carried out since it also provides opportunities to identify other disorders such as depression.

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Correspondence author: *Aishvarya Sinniah, Department of Psychiatry, Universiti Kebangsaan Malaysia Medical Centre, Jalan Yaacob Latif, Bandar Tun Razak, 56000 Cheras, Kuala Lumpur Malaysia.*

Email: aishvarya_arun@yahoo.com.my

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ORIGINAL ARTICLE

SEXUAL DESIRE AND SEXUAL AROUSAL IN MALAYSIAN
WOMEN: ARE THEY OF THE SAME ENTITY?

Nik Ruzyanei Nik Jaafar, Marhani Midin*, Sharifah Ezat Wan Puteh**,
Ramli Musa***, Hatta Sidi**

Department of Psychiatry, Universiti Kebangsaan Malaysia Medical Centre, 56000 Cheras, Kuala Lumpur, Malaysia. **Department of Community Medicine, Universiti Kebangsaan Malaysia Medical Centre, 56000 Cheras, Kuala Lumpur, Malaysia. *Department of Psychiatry, Kulliyah of Medicine, Islamic International University of Malaysia (IIUM), 25150 Kuantan, Pahang Darul Makmur.*

ABSTRACT

Objective: To investigate the correlation between sexual desire and sexual arousal among Malaysian women in a primary care setting. **Methods:** The Malay Version of Female Sexual Function Index (MVFSI) was used to assess low sexual desire and lack of sexual arousal among the respondents. A total of 230 married women aged 18 – 70 years old participated in this study. Their sociodemographic, marital profiles and correlation between low sexual desire and lack of sexual arousal were examined. **Results:** More than 60% respondents with low sexual desire have co-exist low sexual arousal and 94.4% respondents with high sexual desire do have high sexual arousal ($\chi^2=79.6$, $p < 0.001$), with correlation of $r = 0.852$. **Conclusions:** The strong correlation between sexual desire and arousal has both diagnostic and therapeutic indications, and may also strongly support the circular model (Basson-inspired model) of sexual response among women. *ASEAN Journal of Psychiatry, Vol.10, No.1, Jan – June 2009: 43-53.*

Keywords: Correlation, sexual arousal/desire, Malaysian women.

Introduction

A woman's sexual desire and/or sexual arousal may begin for one of a number of reasons [1-4]. These include seeking for love and affection, looking for approval in a relationship and enhancing positive feelings derived from a rewarding relationship. One may not even aware of her sexual desire during

this stage as these motivations may be subconscious. However, the willingness to be receptive to sexual stimuli in the appropriate context allows the person to realize her potential sexual arousal—both subjective arousal and awareness of genital physiological responsiveness [1-4]. The sexual desire/ arousal threshold is influenced by many biopsychosocial

factors; which may lead to final sexual excitement – the orgasm [1-5]. Arousal that continues sufficiently long and is enjoyed, may achieve sexual satisfaction that is psychologically and physically rewarding though not necessarily lead to orgasmic release [1-5].

Traditionally, a woman's sexual response is described in distinct phases (desire, arousal, orgasm, and resolution) that always begin with sexual desire [1-3]. However, it is now recognized that this is not necessarily so as these phases may overlap [1-4]. The strong correlation found between sexual desire and sexual arousal [6,7] is very interesting and perhaps has redefined the female sexual response cycle. Clinically, sexual desire and arousal are two totally different entities [7], but also commonly found to co-exist [8], that probably form the "sexual drive" component.

Discussing sexual desire, unlike desire for food or lifestyles, is considered 'difficult', not only in the West [9], but more so among Malaysian women [10]. Even among couples who face persistent sexual desire/sexual arousal problem(s), they usually do not discuss it openly, as it is still considered a taboo topic in Malaysian culture and many feel embarrassed to talk about it [10]. Not surprisingly, understanding sexual desire and arousal is one of the most difficult tasks in the area of psychosexual medicine and in the arena of academic sexology [5]. Nevertheless, it is worth exploring as it would help physicians' to understand the complexity of female sexual desire better and perhaps unravel ways to improve marital satisfaction and quality of life.

The objective of this research paper is to investigate the correlation between sexual desire and sexual arousal in Malaysian women.

Methods

This study was conducted at one of the government primary health care clinic located in Bandar Tun Razak, Cheras (BTR) a busy urban area in Kuala Lumpur, the capital city of Malaysia. This primary health care clinic operates five days a week from Monday to Friday, consisting of morning and afternoon session for each day. This clinic is run by two groups of staff. One group handles the patient with given clinic appointments (with existing medical illness) and another group serves the walk-in patients (usually without existing medical illness). More than half of the patients who utilized BTR Primary Care Clinic were Malays (76.1%) with the remaining being Chinese (13.9%), Indians (8.7%) and others i.e. Indonesian (1.3%). The criteria for patients to be seen in this clinic are: (a) residents of Bandar Tun Razak area, (b) all patients who are discharged from wards and living nearby the clinic, (c) all referred cases from nearby private practitioners (d) non-emergency cases. For this study, only those without serious existing medical illness (i.e. illness which does not impair daily and occupational function) were involved.

This was a cross-sectional study conducted at the Bandar Tun Razak (BTR) Primary Care Clinic in Bandar Tun Razak, Cheras, Kuala Lumpur from the first week of March 2005 to the last week of June 2005. This clinic provides free services to the government servants,

school students, children below one year old, adults aged 55 years and above and retired government servants. On average, about 150 patients were seen per day in the morning session and 50 patients per day in the afternoon session. This study was carried out with the permission of the Director of Federal Territory, State Health Department, Kuala Lumpur.

This study used a non-probability sampling (universal sampling) method. The **inclusion criteria** include (i) female patients; (ii) aged between 18 and 70 years old; (iii) married and have a sexually active partner; (iv) able to read and understand the study languages (Malay or English); (v) gave consent to participate in the study. The **exclusion criteria** include (i) patients who were suffering from chronic and severe medical illnesses, (ii) patients who were suffering from any psychiatric illness, (iii) patients who were pregnant or within 2 months postpartum period. (iv) refused to give consent to participate in this study.

All patients that fulfill the inclusion and exclusion criteria were given an explanation about the study and a written consent was obtained from them. They were assured with regards to their anonymity and the confidentiality of the data obtained. A coding system was used to identify the subjects. The socio-demographic form and the Malay Version of Female Sexual Function Index (MVFSFI) [11] were given to each subject to be filled up in a room with some privacy. The researcher was available outside the room in case the patient wanted to ask something regarding the questionnaire. After the MVFSFI was completed, the patient was interviewed using the clinical interview:

Mini International Neuropsychiatric Interview (M.I.N.I.) [12] for exclusion of the other psychiatric illnesses.

Instruments used in this study were: 1. Biodata and sociodemographic profile form 2. The Malay Version of Female Sexual Function Index (MVFSFI), 3. The Mini International Neuropsychiatric Interview (M.I.N.I.).

A brief questionnaire was devised to obtain information from the patient. The variables included name, age, educational level, employment status, monthly family income, medical history and menstrual history.

The Malay Version of Female Sexual Functioning Index [11] is a translated and validated version of Female Sexual Function Index (FSFI) [12] developed by Dr. Raymond Rosen, and FSFI is the only published instrument validated and has been shown to have discriminate reliability between women with and without female sexual dysfunction (FSD) on each of six domains: *desire*, *arousal*, *lubrication*, *orgasm*, *satisfaction*, and *pain*. It is a brief, multidimensional self-report measure of sexual functioning that has been validated on a clinically diagnosed sample of women with female sexual arousal disorder (FSAD) [12]. It consists of 19 items and can be divided into 6 basic domains in female sexual dysfunction such as desire, subjective arousal, lubrication, orgasm, satisfaction and pain.

The FSFI [12] was validated in year 2005 to a Malay language version (MVFSFI) [11] by a group of consultant psychiatrists and medical officers in the Department of Psychiatry, Faculty of

Medicine, UKM with the permission by Dr. Rosen and was done in multiple aspects including the face, content, concurrent (criterion – specificity and sensitivity) and discriminant validity [11]. The reliability test for agreement using Pearson product-moment correlation coefficient (r), ranged from 0.767 to 0.973. Internal consistency using Cronbach's alpha ranged from 0.87 to 0.97. The higher the scores, the higher the women would suffer from sexual dysfunction [11]. The cut-off score of ≤ 7 is taken as cases for the low sexual desire (*sensitivity 95% and specificity 89%*) and ≤ 9 for low sexual arousal (*sensitivity 77% and specificity 95%*) [11].

The M.I.N.I. [13] was used to exclude any respondents with psychiatric illness from this study. It was designed as a brief structured interview for major Axis I psychiatric disorders in DSM-IV and ICD-10. Validation and reliability studies have been done comparing the M.I.N.I. to the SCID-P for DSM-III-R and the CIDI (a structured interview developed by the World Health Organization for lay interviewers for ICD-10). The results of these studies showed that the M.I.N.I. has acceptably high validation and reliability scores and can be administered in a much shorter time. The rating was done at the right of each question by circling either Yes or No. The interviewer was trained in the use of the M.I.N.I. by a senior psychiatrist who has had experience in the use of the treatment. It has been used in local studies and found to have good

inter-rater reliability. The inter-rater reliability for this study was ascertained by randomly taking 10 cases and interviewing them. Both the senior psychiatrist and the author had a kappa of 1 [11].

Analysis of the data was done using SPSS 12.0.1 for Windows (SPSS Inc., 2003, Chicago [14].

Results

Two hundred and forty eight (248) patients who attended the Bandar Tun Razak primary care clinic, Cheras, Kuala Lumpur were invited to participate in the study. However, 18 patients were unable to complete the study because of multiple reasons such as unable to make time (4 patients), did not feel comfortable with the questions (7 patients) and did not bring their reading glasses to clinic (5 patients). The response rate was 93% with total subjects of 230. Two patients were diagnosed to have anxiety disorder and major depressive disorder (MDD) respectively by MINI and were excluded.

The distribution of the respondents' age group involved in this study is shown in table 1.

Table 1: Socio-demographic and marital characteristics of the 230 respondents

Variable	Characteristics	<i>n</i> (%)	Mean (SD)
Age (year)	< 30	50 (21.7)	39.2 (10.5)
	30-39	82 (35.7)	
	40-49	56 (24.3)	
	≥ 50	42 (18.3)	
Race	Malay	175 (76.1)	
	Chinese	32 (13.9)	
	Indian	20 (8.7)	
	Others	3 (1.3)	
Education level	None	2 (0.9)	
	Primary	53 (23.0)	
	Secondary	142 (61.7)	
	Tertiary	33 (14.3)	
Family income (RM/month)	<1000	30 (13.0)	2165 (1552)
	1000-1999	92 (40.0)	
	2000-2999	67 (29.1)	
	≥3000	41 (17.8)	
Frequency of sexual intercourse	<Once a month	23 (10.0)	2.6 (0.89) times/week
	1-2 times a month	74 (32.2)	
	1-2 times a week	102 (44.3)	
	3-4 times a week	26 (11.3)	
	>4 times a week	5 (2.2)	
Menopause	Yes	33 (14.3)	
	No	197 (85.7)	
Number of children	<2	92 (40.0)	3 (2)
	2-5	100 (43.5)	
	>5	38 (16.5)	
Husband's age (year)	<30	38 (16.5)	42.7 (11.3)
	30-39	62 (27.0)	
	40-49	63 (27.4)	
	≥50	67 (29.1)	
Duration of marriage (year)	<14	124 (53.9)	15.5 (11.3)
	≥14	106 (46.1)	

Figure 1: Reliability analysis of the MVFSI scoring domains

	Mean if Item Deleted	Scale Variance if Item Deleted	Scale Item- Total Correlation	Corrected Alpha if Item Deleted
D1	60.1652	253.4398	.7731	.9658
D2	60.2435	256.9798	.7743	.9661
A3	59.8609	252.2338	.7608	.9659
A4	60.1130	252.5024	.8133	.9654
A5	59.9870	250.6942	.8273	.9652
A6	59.6870	247.7880	.8105	.9652
L7	59.4783	247.1065	.7954	.9654
L8	58.9870	243.7247	.8522	.9646
L9	59.6000	249.2454	.7743	.9657
L10	59.0391	243.9155	.8276	.9650
O11	59.7478	242.2855	.8607	.9645
O12	59.2261	239.0753	.8445	.9649
S13	59.3609	245.3146	.7902	.9655
S14	59.1739	245.4369	.8138	.9652
S15	59.0783	246.5091	.8146	.9651
S16	59.1348	247.2088	.7936	.9654
P17	59.1261	255.9185	.6045	.9676
P18	58.9522	257.4082	.5859	.9678
P19	58.9696	259.4445	.5303	.9684

Overall Cronbach's Alpha value for all items = **0.968**

Reliability Coefficients, N of Cases = 230.0

N of Items = 19

[**Desire domain** = item 1,2; **Arousal domain** = item 3,4,5,6; **Lubrication domain** = item 7,8,9,10; **Orgasm domain** = item 11, 12; **Satisfaction domain** = 13,14,15,16; **Pain domain** = item 17,18,19]

Table 2. Relationship between sexual desire and sexual arousal in total sample (N = 230).

Desire Arousal	Low	High	Total
Low	91(65.0%)	49(35.0%)	140(100.0%)
High	5(5.6%)	85(94.4%)	90(100.0%)
Total	96(41.7%)	135(58.3%)	230(100.0%)

($\chi^2 = 79.6$, d.f. = 1, $p < 0.001$)

Table 3. Inter-domain correlations in total sample

Correlations of each domain in total samples (n=230)

		Desire	Arousal	Lubrication	Orgasm	Satisfaction	Pain
Desire	R	1					
Arousal	R	.852(*)	1				
Lubrication	R	.749(*)	.790(*)	1			
Orgasm	R	.750(*)	.819(*)	.816(*)	1		
Satisfaction	R	.685(*)	.768(*)	.752(*)	.817(*)	1	
Pain	R	.434(*)	.477(*)	.588(*)	.529(*)	.447(*)	1

*Correlation is significant at the 0.01 level (two-tailed).

Discussion

Research in the area of female sexuality is very new in Malaysia, particularly in examining the relationship between sexual desire and arousal among women. Such studies are scarce and still at an infantile stage in this country [15]. The strong correlation found between sexual desire and arousal in women is an important contribution to our contemporary understanding of female sexuality – partly in explaining various empirical models on sexual response cycle, in particular the Basson's circular model [1-4]. The co-existence of the two previously thought distinct phases, was debated extensively by the experts in the area of sexology in the international scientific community [16]. This has resulted in the *Summary of Recommendations of Sexual Dysfunction in Women* by the American Foundation of Urological Disease [AFUD]'s International Definitions Committee [16]. This committee of 13 experts from seven countries proposed new definitions and concept of sexual functioning [16]. Further deliberations and piloting on the issue have led to several conclusions: the high correlation

between desire/arousal may be explained as they may precede each other and once sexual stimulation have been triggered, both sexual arousal and desire co-occur and reinforce each other [17-19], therefore do not follow a sequential concept in terms of phases [20].

This research is an attempt to look at such relationship in Malaysian women in a primary care setting. In our reliability analysis of scoring domains of each MVFSI items, the reliability was high, Cronbach's Alpha value for all items is more than **0.95** (Figure 1). We also found that Malaysian women who reported low sexual desire also had lack of sexual arousal and vice versa ($r > 0.8$; 65% low vs. 94.4% high desire/arousal, $p < 0.001$). Moreover, the correlation between sexual desire and sexual arousal ($r=0.852$) appeared to be the strongest among the different domains studied. This finding implies that there is a considerable overlap between the dimensions of female sexual arousal and female sexual desire, which is consistent with the clinical observations, although in contrast from the findings from studies of male sexual functioning [21]. These findings can also be interpreted

that women with low sexual desire may also lack sexual arousal as two distinct clinical entities which are well correlated with each other, in other words they are independent of each other but commonly occur together. In the validation of the questionnaire used in this study, i.e. the Malay version of FSFI (MVFSI), we were able to demonstrate that both face and content validity the questionnaire could actually measure what it was supposed to measure (i.e. in the aspects of desire and arousal). For example, the nurses (respondents) and expert panel consisted of senior consultant psychiatrists in National University of Malaysia's hospital agreed that "...desire and arousal have distinct different meanings" [11].

Other findings also revealed that there were strong correlations of the domains of sexual desire/ arousal/ lubrication and sexual satisfaction/orgasm which are similar to the findings in the West, therefore validating the circular model of sexual response cycle [1-4]. The recognition of the co-existence of sexual desire and arousal in particular, supports the circular model of sexual response cycle, which has a number of clinical implications. For diagnostic purpose, this introduces a new concept of "sexual drive", which may consist of sexual desire and sexual arousal (both subjective and genital) [2,3]. It emphasizes the importance of physician to focus on sexual arousal as well when taking history from female patients with sexual desire problems. For treatment purposes, understanding such concept of the sexual response may aid clinicians in their treatment focus of the sexual dysfunction and improve the art and knowledge of sex therapy. Contextual factors such as eroticism, privacy and

appropriateness for sex which influence sexual arousal and desire should be given priority in understanding and managing sexual issues in women [1-10].

In term of respondents, only married women were included because it is considered a social taboo to talk about sexual activity among unmarried women [15, 22]. Therefore, it is unsurprising that although those who were single, divorced or widowed but sexually active were approached during the pilot stage, they were reluctant to participate. Even so, it is acknowledged that there are many unmarried women who are sexually active in Malaysia [10]. Patients who were within 2 months postpartum were excluded in this study as they observed *nifas* – a period where sexual activity is generally forbidden due to religious prohibition among Malay Muslims [22]. The studied urban Malaysian population were relatively young (mean age=39.2), with high level of educational background (primary and secondary education of 40% and 29.1% respectively). Their monthly family income was fair with slightly more than half of them had been married for more than 10 years. More than half of the subjects were pre-menopausal with nearly half of them were very active sexually, with frequency of sexual intercourse 1 – 2 times/week. Only primary or natural menopausal women were included in this study. Secondary menopausal causes including premature menopause due to surgical/gynecological or other iatrogenic causes were excluded in this study. Two patients suffered from psychiatric disorder (one had anxiety disorder and another had major depressive disorder) were also excluded

from the study – because mental health problems can profoundly influence normal sexual functioning [23].

There were few limitations in this study. Firstly, we recognized that studies related to sexual issues especially among Malay women can be very difficult to conduct, particularly in a busy government clinic setting. The logistic set-up and a conservative view of the society of the subject matter could have affected the study responses. A study found that patients did not easily disclose their sexual symptoms and reluctant to ask questions during evaluation even when good rapport was established [25]. Ronald (2003) [25] also commented that another contributing factor was the perception or the actuality that the physician was too busy, or not approachable. Similarly, most health care providers fail to address sexual history as a part of the medical history [25]. To minimize such effects, the respondents were assured that their responses in the questionnaires would be treated with strict confidentiality. Secondly, the relationship issues eg. marital satisfaction between couples, were not explored, as disclosing sexual desire and arousal could be translated as problems of lack of intimacy between couple. Thirdly, we lacked the information about the male sexual function in our research as we did not examine the sexual functioning of the subjects' spouses. This is an important variable as the female sexual function was found to be associated with husbands' sexual performance, especially in the presence of erectile dysfunction [24].

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Correspondence author: *Nik Ruzyanei Nik Jaafar, Department of Psychiatry, Universiti Kebangsaan Malaysia Medical Centre, 56000 Cheras, Kuala Lumpur, Malaysia.*

Email: nikruzyanei@yahoo.com

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ORIGINAL ARTICLE

**VALIDATION OF THE MALAY VERSION OF
AUDITORY VERBAL LEARNING TEST (MVAULT) AMONG
SCHIZOPHRENIA PATIENTS IN HOSPITAL UNIVERSITI SAINS
MALAYSIA (HUSM), MALAYSIA**

***Ruzita Jamaluddin*, Zahiruddin Othman*, Kamarul Imran Musa** &
Muhammad Najib Muhammad Alwi******

***Department of Psychiatry, Universiti Sains Malaysia (USM),
Kubang Kerian Medical Campus, 16150 Kelantan, Malaysia**

****Department of Community Medicine Universiti Sains Malaysia
(USM), Kubang Kerian Medical Campus, 16150 Kelantan, Malaysia**

*****Department of Psychiatry, Cyberjaya University College of
Medical Sciences 63000 Cyberjaya, Selangor.**

ABSTRACT

Objective: Many studies have emphasized the significance of verbal memory for the functional outcome in schizophrenia. A preserved capability to encode and recall verbal information is essential for the long-term efficacy of psychoeducational programs and other psychological intervention to ensure the successful transfer of newly acquired skills or knowledge into everyday life. Aims of this study aimed to validate the MVAULT among schizophrenia patients in HUSM. ***Methods:*** The subjects were 15 schizophrenia patients conveniently selected from the patients that attended follow up at the psychiatry clinic in HUSM or inpatients who have been admitted during the study period and 15 healthy control subjects as a comparison. Reliability and validity of the MVAULT were analyzed. ***Results:*** The validation study showed that the Malay version Auditory Verbal Learning Test (MVAULT) had a good validity (factor analysis 0.66 to 0.98) and test-retest reliability (pearson correlation ranged from 0.24 to 0.84) and has been shown to be sensitive in discriminating between normal and schizophrenia patients. In line with the previous research, the schizophrenia patients performed significantly worse than healthy control in all indexes measured in MVAULT. ***Conclusion:*** The screening of deficits in verbal learning and memory among the schizophrenia patients is important, for early detection and treatment since it can be helpful for clinicians and psychologists in their counseling sessions. Subsequently, it helps patients to reduce such cognitive difficulties and their impact by using specific rehabilitation with the usage of newer antipsychotic agents. *ASEAN Journal of Psychiatry, Vol.10, No.1, Jan – June 2009: 54-74.*

Keywords: Auditory Verbal Learning Test, Schizophrenia, validation

Introduction

There is no local version that has been validated for local use at the moment. It is important to have a reliable and valid study instrument before conducting a study. In order to reduce cultural bias, the World Health Organization / University of California, Los Angeles (WHO / UCLA) version of the Auditory Verbal Learning Test [1] was developed and validated in English and had been widely used in English speaking countries in which they are socio-culturally different from us. All test items were selected from five categories (body parts, animals, tools, household objects and transportation vehicles) and presumably have universal familiarity. There are 15 items, three examples from each category. The administration format is the same as that described for the standard version. When both forms were given to individuals in Germany, correlations were in the moderate range (0.45 – 0.55). In addition, comparison among normal subjects in Thailand, Zaire, Germany and Italy suggested that the WHO / UCLA AVLT is freer of cultural influences than the traditional RAVLT. For those reasons, we preferred to validate the WHO / UCLA AVLT version for the use of our population.

The Rey Auditory Verbal Learning Test (RAVLT) [2] which was developed in the West may not be suitable for the local population because of language barrier and cultural difference. The lack of suitable instruments for detection of memory dysfunction is one of the reasons of under recognition. Therefore, there is a need for validation of this test and to look at how acceptable the test is to our Malaysia population especially among schizophrenia patient whom

mostly have a very low academic achievement and have difficulty in understanding English words.

On top of that, our understanding about the importance of verbal and learning memory and its contribution to the functional outcome of schizophrenic patients is quite limited. Furthermore, despite a lot of advantages of this RAVLT [2], this test is rarely used in our clinical practice due to insufficient knowledge about it. This study gives a very clear idea for us to conduct further research in future.

This study aimed to determine the validity and examine the reliability of the Malay version of Auditory Verbal Learning Test (MVAULT) for Malaysian population use and to determine the level of performance of the test among schizophrenia patients in HUSM.

Methods

Study sample

The subjects were 15 schizophrenia patients conveniently selected from the patients that attended follow-up at the psychiatry clinic in HUSM or inpatients who have been admitted in the ward during the study period (December 2007 till May 2008) and 15 healthy control subjects as a comparison. The schizophrenia patients should fulfill the diagnostic criteria based on DSM-IV and aged 18 to 60 years old. They should be cooperative and able to understand the Malay language. The patients were excluded from the study if they could not give a valid test performance or were untestable because of acute psychotic state or severe medical comorbidity,

those who score 5 (moderately severe) or more in the BPRS item, those with evidence of an organic central nervous system disorder (e.g. epilepsy, cerebrovascular accident, meningoencephalitis, brain tumour or traumatic brain injury); and those clinically mentally retarded.

The study protocol was approved by the Research & Ethics Committee, Universiti Sains Malaysia. A single researcher trained in psychiatric interview and examination, administered the test and interviewed all the subjects individually.

Construction of the MVAULT

The RAVLT was translated into the Malay language using the translation and back translation method. The translation process was carried out by a senior lecturer and psychiatrist from Cyberjaya University College of Medical Sciences, Dr. Muhammad Najib Muhammad Alwi (MNMA) (2005, personal communication).

Among several variance of RAVLT, the WHO / UCLA version of the AVLT was chosen in this study because it is freer of cultural influences than the traditional RAVLT. A few words were omitted and replaced by new words which were more appropriate in the constructed Malay list. These changes were made because some of the words were deemed inappropriate following direct translation into the Malay language. Retaining these words would provide "verbal clues" for subjects to remember them better. This may affect the validity of the test. The arrangement of the words were changed in order to avoid monotony and also to make sure the test was not dominated by

words that begin with "k", such as happened in the direct translation of the items. However, all test items used or selected still adhered to the five categories recommended by the WHO / UCLA version of the RAVLT (body parts, animals, tools, household objects, and transportation vehicles) and presumably have universal familiarity. All the changes were based on patients' response and feedback following a simple pilot study using a direct translation of the original WHO / UCLA RAVLT.

The first stage of the construction of the MVAULT translation was a forward translation into the Malay language. This consists of a single translation which included the new words conducted by N.A. in consultation with a linguist, who was blind to the study. It was then back translated into English by another linguist and medical personnel who worked on the translation independently. Translators reported any difficulties encountered. A group of experts then compared the back translation and forward translation and amendments were made according to the differences from the forward translation and back translation versions. From this, a consensus pre-final Malay version was produced.

Content validity

Content validity was measured by giving the questionnaire to three medical personnel who have experience in using the RAVLT which include two senior lecturers and psychiatrists from the Psychiatry Department and a psychologist and lecturer from Neuroscience Department of Universiti

Sains Malaysia. Both of them agreed with the content of the test.

Face validity

Face validity was measured by giving the test to six subjects who include healthy control subjects and schizophrenia patients who received treatment in Hospital Universiti Sains Malaysia. The hospital staffs served as healthy control subjects and screened for previous psychiatric and neurological disturbances. The test was reassessed and conclusion was made that the test appears to measure what it is supposed to measure and it seem like a reasonable way to gain the information the researches are attempting to obtain.

Construct validity

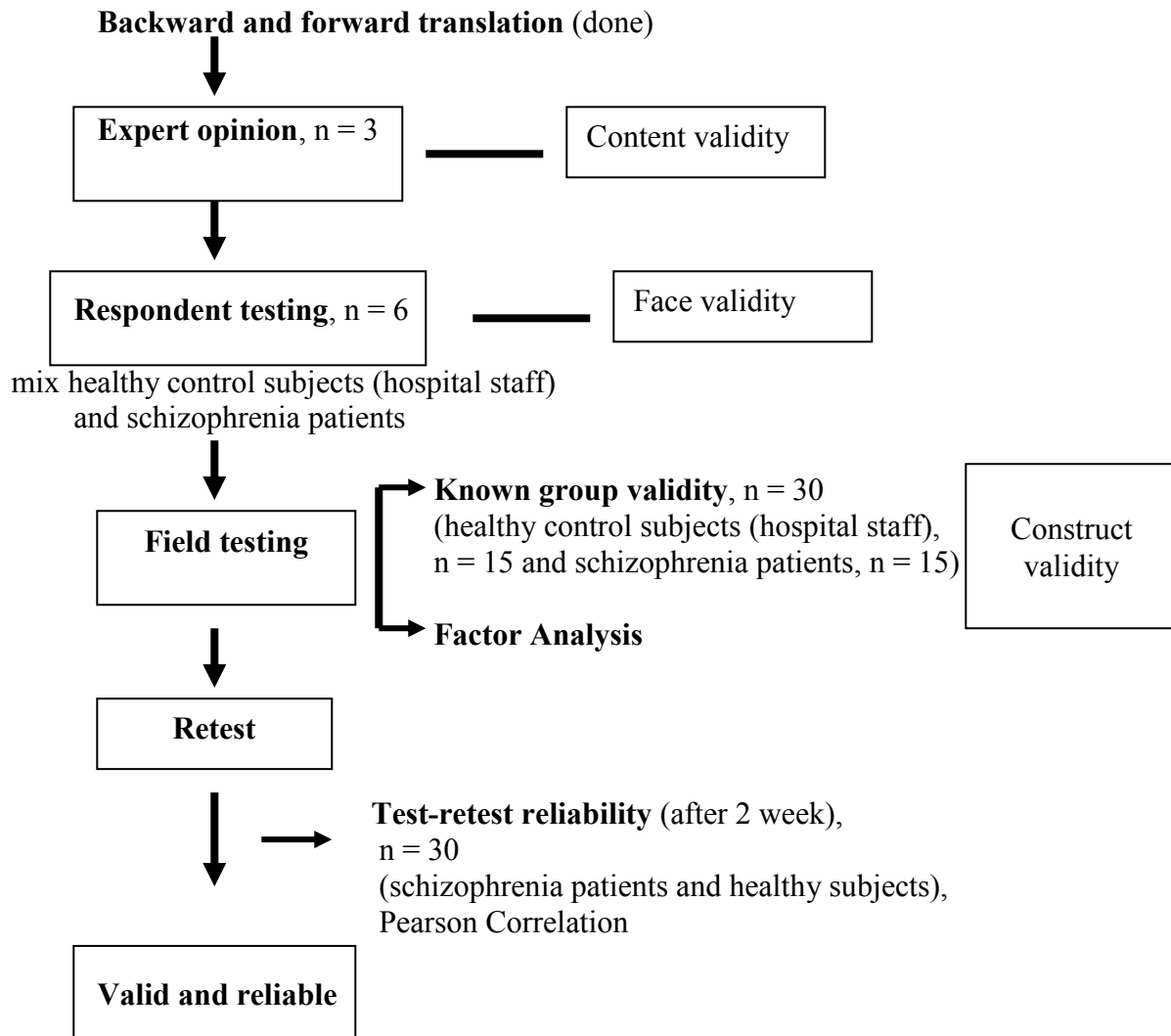
Construct validity was measured by using factor analysis and known group validity. Data were subjected to principal component factor analysis with varimax rotation using a single factor, as suggested by the previous factor analytic studies. Known group validity was analyzed using independent t-test to

assess the ability of the test to discriminate between normal and schizophrenia patients.

Test-retest reliability

Test-retest reliability was conducted on 30 subjects including 15 schizophrenia patients conveniently selected from the patients that attended follow up in psychiatry clinic in Hospital Universiti Sains Malaysia or inpatient who have been admitted in the ward during the study period and 15 healthy control subjects. The reason why the healthy control subjects were involved in this phase was because the researcher wanted to get some idea regarding the level of performance of the test in the normal participants and to know whether the test was able to discriminate both of the groups involved. The test was administered by the same interviewer who was trained by the expert and was re-administered again after two weeks interval. The test-retest reliability was determined by using pearson correlation and factor analysis.

Flow chart of pilot study on validation of Malay Version Auditory Verbal Learning Test (MVAULT).



Data Analysis

The results were analyzed using SPSS version 12.0.1. The scores in the MVAULT was taken as dependent variables. The sociodemographic variables (such as age, gender, ethnicity, marital status, educational and occupational level) and patients clinical variables (such as number of hospitalization, duration of illness, types of antipsychotics, comorbid medical illness, substance use, concurrent

medications, medication compliance, BPRS and Malay version CDRS score) were taken as independent variables. Statistical analysis started with descriptive statistics which included frequency, percentage, mean, standard deviation and range accordingly for sociodemographic characteristics, clinical presentation and MVAULT scores for each domain level. Factor analysis was determined and test-retest reliability was evaluated using pearson correlation.

Results

Subject characteristics

Table 1 : Sociodemographic and clinical characteristics of pilot study of MVAVLT.

Demographic and clinical variables (N = 30)	Characteristics	n (%)	Mean (SD)
Age (years)			38.2 (9.52)
	<30	6 (20.0)	
	30 – 40	9 (30.0)	
	41 – 60	15 (50.0)	
Gender			
	Male	14 (46.7)	
	Female	16 (53.3)	
Race			
	Malay	30 (100.0)	
	Chinese	0	
	Others	0	
Marital status			
	Single	10 (33.3)	
	Married	19 (63.3)	
	Divorced	1 (3.3)	
Occupation			
	Unemployed	12 (40.0)	
	Self employed	2 (6.7)	
	Government servant	16 (53.3)	
	Private sector	0	
Education level			
	Primary school	1 (3.3)	
	Secondary school	20 (66.7)	
	College / university	9 (30.0)	
Concurrent medical illness			
	With medical illness	4 (13.3)	
	Without medical illness	26 (86.7)	
History of substance abuse			
	Yes	4 (13.3)	
	No	26 (86.7)	
Concurrent medication			
	Yes	4 (13.3)	
	No	26 (86.7)	

Demographic and clinical variables (N = 15)	Characteristics	n (%)	Mean (SD)
a)Psychiatric status and history			
Illness duration (years)			6.7 (5.00)
	< 2	3 (20.0)	
	2 – < 5	5 (33.3)	
	5 - < 10	1 (6.7)	
	≥ 10	6 (40.0)	
Types of antipsychotic			
	Typical	8 (26.6)	
	Atypical	6 (20.0)	
	Clozapine	0	
	Both	1 (3.3)	
Number of hospitalization			
	< 2	2 (6.7)	
	2 - < 6	8 (26.7)	
	≥ 6	5 (16.7)	
Use of anticholinergic medication			
	Yes	7 (46.7)	
	No	8 (53.3)	
Followup			
	Regular	5 (16.7)	
	Defaulter	10 (33.3)	
Drug compliance			
	Yes	5 (16.7)	
	No	10 (33.3)	
b)Clinical presentation			
BPRS score			29.7 (4.75)
	< 30	9 (60.0)	
	≥ 30 – 50	6 (40.0)	
CDRS score			1.9 (2.63)
	0 – 6 (no depression)	14 (93.3)	
	≥ 7 (depression)	1 (6.7)	

Content validity

The Malay version AVLT was concluded to have good content validity as reported by 3 medical personnel who include two senior lecturers and psychiatrists from the Psychiatry Department and a psychologist and lecturer from Neuroscience Department of Universiti Sains Malaysia, who have experience in using this test. All of them agreed that the content of the test covers all relevant aspects about auditory verbal learning memory in schizophrenia patients.

Face validity

The Malay version AVLT was also concluded as having good face validity and appropriate in assessing the intended purpose. All the six respondents had no difficulty to understand the word lists and could answer the test administered to them.

Construct validity

a) Factor analysis

A large number of factor analytic studies provide evidence of concurrent and criterion validity for the RAVLT. Ideally, the standard measurement tools use as comparison include three Wechsler Adult Intelligence Scale, Revised (WAIS-R) Verbal subtests (Information, Vocabulary, and Similarities), three WAIS-R Performance subtests (Picture Arrangement, Block Design, and Digit Symbol), subtests of the Wechsler Memory Scale (WMS), and three RAVLT scores (Ryan et al., 1984). The three measures from the RAVLT included Trial I-V Total, Trial VI, and recognition memory. Data were obtained from this study, and were subjected to principal component factor analysis with varimax rotation using a single factor, as suggested by the previous factor analytic studies. All MVAULT indexes in this study loaded on the first factor with loadings of 0.66 to 0.98. The results of single factor, factor analysis of MVAULT for 7 indexes are shown in table 2.

Table 2 : Factor Analysis of Malay Version Auditory Verbal Learning Test (MVAULT).

MVAULT trials	Factor Loading
A1	0.834
A5	0.944
Total A1 – A5	0.975
B1	0.664
A6	0.913
A7	0.941
Recognition	0.818

Extraction Method: Principal Component Analysis.

a 1 components extracted.

% of variance 76.678

(b) Known group validity

In addition to this factor analysis, the MAVLT has been shown to be sensitive

to discriminate well between normal and schizophrenia patients using independent t-test. The results of the analysis are shown in table 3.

Table 3 : Malay Version Auditory Verbal Learning Test (MVAULT) scores in normal healthy staffs and schizophrenia patients.

MVAULT trials	Normal healthy staffs (n = 15) Mean (SD)	Schizophrenia patients (n = 15) Mean (SD)	Mean differences (95% CI)	P value
A1	8.5 (2.20)	5.9 (2.09)	2.5 (0.93, 4.14)	0.003
A5	12.2 (1.78)	8.2 (3.05)	4.0 (2.13, 5.87)	< 0.001
Total A1-A5	53.2 (7.72)	34.5 (12.09)	18.7 (11.08, 26.26)	< 0.001
B1	5.0 (1.60)	3.3 (1.53)	1.7 (0.56, 2.91)	0.005
A6	11.0 (2.51)	7.1 (3.20)	3.9 (1.79, 6.08)	0.001
A7 (delayed recall)	11.1 (2.49)	6.7 (2.74)	4.4 (2.44, 6.36)	< 0.001
Recognition	14.3 (0.88)	11.5 (2.92)	2.7 (1.12, 4.35)	0.002

** Independent samples test is significant at the 0.05 level (2-tailed).

This study found that each of these MVAULT scores discriminated between these two groups better. As shown in table 4.3, the mean score of MVAULT among normal healthy staff were 8.5 words and 12.2 words respectively for Trial A1 and A5. These results were consistent with the previous normative data where most young adults (ages 20-39) recall six or seven words on Trial A1 and achieve 12 or 13 words by the fifth trial (Trial A5). The change in number of words recalled from Trial A1 to A5 show the capability of learning among this group of individuals. The mean

score of MVAULT among schizophrenia patients were much lower. The minimal words recalled shows that schizophrenia patients have little or no learning ability.

As for Trial A6, the mean score of MVAULT among normal healthy staff was 11.0 words with a different of 1.2 words from Trial A5 whereas the scores were significantly lower among the schizophrenia patients. This finding was consistent with the previous normative data, where in general, approximately 1.5 words are lost from Trial A5 to Trial

A6 following the interference trial list (Trial B1).

There were little loss of words occurs between Trial A6 and A7 among normal healthy staff and this was consistent with the previous normative data. As for recognition trial, usually no more than one error shows up and this was similar with our finding which the mean score for normal healthy staff was 14.3 words as compared to schizophrenia patients. This may elicit evidence that the schizophrenia patients cannot keep track of what they have learned or make order out of it. Further, recognition scores below 13 are relatively rare among intact persons under age 59 [2], and scores

under 12 are infrequent among 55 to 69 year olds [3].

Test-retest reliability

The test-retest reliability of the MVAULT was measured at two weeks interval by using pearson correlation. Test-retest correlations ranged from 0.24 to 0.84. Data from this study suggest good reliability for Trials A5, A1-A5 Total, B1, A6 and A7 (delayed recall), with correlations ranging from 0.69 to 0.84. Test-retest reliability was lower for Trials A1 and recognition. A correlation for these trials was 0.23 and 0.24 respectively. The results of test-retest reliability of MVAULT are shown in table 4.

Table 4 : Test-retest reliability (Pearson correlation) of Malay Version Auditory Verbal Learning Test (MVAULT).

MVAULT trials			Pearson Correlation				P value
			Repeat trials (2 weeks interval) (N = 30)				
	A1	A5	Total A1-A5	B1	A6	A7	Recognition
A1	0.234						0.214
A5		0.716					< 0.001
Total A1-A5			0.725				< 0.001
B1							
A6				0.686			< 0.001
A7 (delayed recall)					0.777		< 0.001
						0.841	< 0.001
Recognition							
						0.240	0.201

Correlation is significant at the 0.01 level (2-tailed).

Discussion

Although a range of cognitive and information-processing deficits have been consistently observed in schizophrenia, a meta-analysis of neuropsychological studies found that the largest effect sizes for cognitive dysfunction in schizophrenia are for verbal learning and memory [4]. Interest in verbal memory dysfunction has increased in recent years. In addition, verbal memory deficits have been linked to difficulties with self-generated organizational strategies in which patients fail to use semantic information to facilitate verbal encoding and retrieval [5].

In the era of giving the best standard of care in schizophrenia patients particularly the cognitive intervention, the problem of valid instrument to be used in different cultures is still an issue. The WHO / UCLA AVLTL group has put a lot of effort to produce an instrument to assess Auditory Verbal Learning Test (AVLT) cross culturally. However, different culture values and languages become the barrier of using the same instrument. Therefore, it is vital to have a validated translated test into languages that can be understood by most of the people in each country and the validation process must follow a standard procedure. The MAVLT is shown to have good face validity and content validity. The MAVLT indexes is loaded strongly on the first factor (0.66 - 0.98) as measured by using principle component with varimax rotation and number of factor set at one.

Factor analytic studies indicate that the RAVLT loads primarily with other verbal memory tests (for example, those

found on the Wechsler Memory Scale) [6]. The RAVLT, however may measure a construct that is not singularly verbal in nature. Factor analyses of variable sets that include the RAVLT indicate that memory variables load together regardless of whether they are verbal or nonverbal measures [7]. Further, the learning measures of the AVLTL (V, VI, recognition) correlate significantly (mostly in the 0.50 to 0.65 range) with other learning measures [8].

A large number of factor analytic studies provide evidence of concurrent and criterion validity for the RAVLT. Smith et al., 1992 performed a factor analysis of general intelligence and memory measures of a non clinical elderly sample (N = 338) [7]. From the Wechsler Adult Intelligence Scale, Revised (WAIS-R), they selected the Information, Vocabulary, Arithmetic, Block Design and Object Assembly subtests. Mental Control and several memory scores (Figural Memory, Digit Span, Visual Span and immediate and 30 minute delayed scores for Paired Associates, Logical Memory, Visual Association and Visual Reproduction) were taken from the Wechsler Memory Scale, Revised (WMS-R); Trial I-V Total and delayed recall were taken from the RAVLT; and similar scores were taken from the Visual Spatial Learning Test (VSLT). They found that the RAVLT measures had very strong loadings (0.77 for Trial I-V Total and 0.84 for delayed recall) on the memory factor. Figural Memory did not have a strong primary loading on any factor, but the other WMS-R memory scores had loadings of 0.57 to 0.80 on this general memory factor.

A factor analysis of scores made by 146 normal volunteers for Trials I,V,B,VI,VII, recognition and a temporal order measure produced three basic factors : retrieval, storage and acquisition (short-term memory) [9]. The first factor included performance on temporal order and trials VII, B and V; the second factor included only the recognition score; and trials I and B entered into the third factor.

In this study, the test-retest reliability of the MVAVLT was measured at two weeks interval by using Pearson correlation. Test-retest correlations ranged from 0.24 to 0.84. Data from this study suggest good reliability for Trials A5, A1-A5 Total, B1, A6 and A7 (delayed recall), with correlations ranging from 0.69 to 0.84. Test-retest reliability was lower for Trials A1 and recognition. A correlation for these trials was 0.23 and 0.24 respectively.

Several studies provide test-retest data for the individual trial scores of the RAVLT. Geffen et al., 1994 [10] have presented test-retest data in a study aimed at demonstrating the equivalence of a parallel form they developed. Subjects were volunteers from non clinical settings. The test-retest interval ranged from 6 to 14 days. Half of the subjects received the original form of the test first, and the other half received the new parallel form first. Test-retest correlations ranged from 0.12 to 0.85 which was not much difference from our study. Data from this study suggest good reliability for Trials IV,V, VI, delayed recall and recognition for List A words, with correlations ranging from 0.20 to 0.85 (median $r = 0.60$). Test-retest reliability was lower for Trials I, II, III and B. Correlations for these trials

ranged from 0.12 to 0.53 (median $r = 0.44$). The Geffen et al., 1994 data suggest that scores for later learning trials are more stable than those for earlier trials and our study also support the finding [10]. Low recognition memory reliability in our study as compared to the other trials scores is probably related to the relatively low variability which resulted in restricted range of the score.

The RAVLT has high test-retest reliability. Using alternate forms with a retest interval of one month, correlations ranged from 0.61 to 0.86 for trials I-V and from 0.51 to 0.72 for delayed recall and recognition [11]. Test-retest reliability correlation coefficients after one year ranged from 0.38 (for trial B) to 0.70 (for trial V) [12].

The MVAVLT also was able to discriminate between healthy control participants and schizophrenia patients. Schizophrenia patients performed significantly worse than healthy controls in all indexes measured in MVAVLT. The pattern of the impaired performance in the MVAVLT is suggestive of a primary memory dysfunction because if the memory impairment is due to the secondary consequence of deficits in word generation (verbal fluency), deficits in free recall but not recognition would have been expected.

In line with previous research, the schizophrenia patients performed significantly worse than healthy control in all indexes measured in MVAVLT. A study by Mungas (1983) found diminished RAVLT performance in schizophrenia [13]. A recent meta-analysis of memory studies in schizophrenia found moderate effects on

recognition performance and large effects on recall performance [14]. Further exploration of recognition memory has suggested that patients with schizophrenia might rely more on familiarity rather than recollection of the event.

In general, the relative severity of memory deficits in schizophrenia depends on the specific conditions under which information is learned and the way in which retrieval is tested. For instance, during encoding, it seems that patients typically do not use semantic encoding strategies to facilitate encoding and retrieval [15]. This might reflect an underlying failure in the self generation of organizational strategies [5,16].

Our finding was consistent with a previous study done by Hill et al., 2004 [17]. They found that schizophrenia participants performed significantly worse than healthy individuals on measures of verbal learning, short and long term memory, and immediate attention. They also found that the deficits in recall were related to reduced use of organizational strategies to facilitate verbal encoding and retrieval. From their study, they concluded that deficits in consistency of learning over several trials, as well as a strong relationship between semantic organizational strategies and reduced learning capacity, implicate prefrontal dysfunction as a contributor to verbal memory deficits in schizophrenia.

There were a few limitations in this study. First, the sample size was small and the samples were conveniently selected from outpatient and inpatient schizophrenia patients from psychiatric unit at a selected hospital, which was

HUSM. Therefore, the generalizability is limited because schizophrenia patients that did not turn for our follow up during the study period or patients that sought treatment in Hospital Raja Perempuan Zainab II (HRPZ II) were not included in this study. The patients receiving treatment from this hospital may differ in their socio-economic status and illness chronicity from those receiving treatment from the state government hospital. Recruiting only those patients or the accompanying relative who gave consent, thus excluding patients with more serious condition. However, this cannot be overcome as this test should only be administered to individuals who are capable of cooperating with the test procedures.

The interval of test-retest from the previous studies were not standardized which ranging from 2 hours to 1 month. The duration of 1 to 2 weeks is actually being used in most of the studies internationally. Furthermore, most of the patients especially those who were treated as out patient had difficulty to come to clinic just for doing the retest as compared if they have appointment with the doctor or to get treatment. Therefore, only those who stay nearby and very cooperative were offered to do the retest. In addition to this, the practice effects when readministering the test could also significantly influence our findings.

Finally, the fact that the same interviewer rated all the patients could also introduce systematic bias. This can be minimize if the individuals administering the RAVLT be trained and qualified in the administration of the test.

It is recommended that Malay Version Auditory Verbal Learning Test (MVAULT) be used in other study of verbal learning and memory in Malaysia as it is easy to administer and a valid instrument. However, it is better if the test could be validated in larger and more diverse samples in Malaysia with inter-rater agreement.

Conclusion

The MVAULT is one of the neuropsychological assessment instrument which is used to measure a person's ability to encode, consolidate, store or retrieve verbal information and has been found to be a sensitive test of verbal learning and memory. It is brief, easily administered test that uses a fixed order word list and can be used any time whenever a measure of verbal learning and memory is needed, such as in routine neuropsychological evaluations or in psychological evaluations where cognitive functions are screened for impairment. This study shows that MVAULT is a valid instrument that can be used in our population. It is also freer of cultural influences than the traditional RAVLT.

In line with the previous researches, the schizophrenia patients performed significantly worse than healthy control in all indexes measured by MVAULT.

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Correspondece author: Dr Ruzita Jamaluddin, Department of Psychiatry, Universiti Sains Malaysia (USM), Kubang Kerian Medical Campus, 16150 Kelantan, Malaysia.

Email: ruzitajam@yahoo.com

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Appendix 1 : WHO / UCLA version of the Auditory Verbal Learning Test.

<i>List A</i>	<i>List B</i>	<i>Recognition items</i>	
<i>Arm</i>	<i>Boot</i>	<i>Mirror</i>	<i>Lips</i>
<i>Cat</i>	<i>Monkey</i>	<i>HAMMER</i>	<i>Tree</i>
<i>Axe</i>	<i>Bowl</i>	<i>KNIFE</i>	<i>ARM</i>
<i>Bed</i>	<i>Cow</i>	<i>Candle</i>	<i>Nose</i>
<i>Plane</i>	<i>Finger</i>	<i>Motorcycle</i>	<i>Sun</i>
<i>Ear</i>	<i>Dress</i>	<i>AXE</i>	<i>Truck</i>
<i>Dog</i>	<i>Spider</i>	<i>CLOCK</i>	<i>EYE</i>
<i>Hammer</i>	<i>Cup</i>	<i>CHAIR</i>	<i>Fish</i>
<i>Chair</i>	<i>Bee</i>	<i>PLANE</i>	<i>EAR</i>
<i>Car</i>	<i>Foot</i>	<i>Turtle</i>	<i>BIKE</i>
<i>Eye</i>	<i>Hat</i>	<i>HORSE</i>	<i>Snake</i>
<i>Horse</i>	<i>Butterfly</i>	<i>Leg</i>	<i>Stool</i>
<i>Knife</i>	<i>Kettle</i>	<i>DOG</i>	<i>Bus</i>
<i>Clock</i>	<i>Mouse</i>	<i>Table</i>	<i>BED</i>
<i>Bike</i>	<i>Hand</i>	<i>CAT</i>	<i>CAR</i>

Appendix 2 : Table comparing words from the original RAVLT (WHO / UCLA version) and the changes made to the MVAVLT.

WHO/UCLA version	Direct translation	N.A version
List A	List A	List A
<i>Arm</i>	<i>Lengan</i>	<i>Kapak</i>
<i>Cat</i>	<i>Kucing</i>	<i>Harimau</i>
<i>Axe</i>	<i>Kapak</i>	<i>Siku</i>
<i>Bed</i>	<i>Katil</i>	<i>Katil</i>
<i>Plane</i>	<i>Kapal terbang</i>	<i>Telinga</i>
<i>Ear</i>	<i>Telinga</i>	<i>Kapal</i>
<i>Dog</i>	<i>Anjing</i>	<i>Anjing</i>
<i>Hammer</i>	<i>Tukul</i>	<i>Tukul</i>
<i>Chair</i>	<i>Kerusi</i>	<i>Kerusi</i>
<i>Car</i>	<i>Kereta</i>	<i>Ayam</i>
<i>Eye</i>	<i>Mata</i>	<i>Mata</i>
<i>Horse</i>	<i>Kuda</i>	<i>Kereta</i>
<i>Knife</i>	<i>Pisau</i>	<i>Pisau</i>
<i>Clock</i>	<i>Jam</i>	<i>Jam</i>
<i>Bike</i>	<i>Basikal</i>	<i>Basikal</i>

WHO/UCLA version	Direct translation	N.A version
List B	List B	List B
<i>Boot</i>	<i>Kasut Boot</i>	<i>Mangkuk</i>
<i>Monkey</i>	<i>Monyet</i>	<i>Monyet</i>
<i>Bowl</i>	<i>Mangkuk</i>	<i>Kasut</i>
<i>Cow</i>	<i>Lembu</i>	<i>Lembu</i>
<i>Finger</i>	<i>Jari</i>	<i>Jari</i>
<i>Dress</i>	<i>Baju</i>	<i>Baju</i>
<i>Spider</i>	<i>Labah-labah</i>	<i>Semut</i>
<i>Cup</i>	<i>Cawan</i>	<i>Cawan</i>
<i>Bee</i>	<i>Lebah</i>	<i>Tebuan</i>
<i>Foot</i>	<i>Kaki</i>	<i>Itik</i>
<i>Hat</i>	<i>Topi</i>	<i>Topi</i>
<i>Butterfly</i>	<i>Rama-rama</i>	<i>Kaki</i>
<i>Kettle</i>	<i>Cerek</i>	<i>Cerek</i>
<i>Mouse</i>	<i>Tikus</i>	<i>Tikus</i>
<i>Hand</i>	<i>Tangan</i>	<i>Tangan</i>

WHO/UCLA version	Direct translation	N.A version
Recognition	Recognition	Recognition
<i>Mirror</i>	<i>Cermin</i>	<i>Cermin</i>
<i>HAMMER</i>	<i>Tukul</i>	<i>Tukul</i>
<i>KNIFE</i>	<i>Pisau</i>	<i>Pisau</i>
<i>Candle</i>	<i>Lilin</i>	<i>Lilin</i>
<i>Motorcycle</i>	<i>Motosikal</i>	<i>Beca</i>
<i>AXE</i>	<i>Kapak</i>	<i>Kapak</i>
<i>CLOCK</i>	<i>Jam</i>	<i>Jam</i>
<i>CHAIR</i>	<i>Kerusi</i>	<i>Bulan</i>
<i>PLANE</i>	<i>Kapal terbang</i>	<i>Kapal</i>
<i>Turtle</i>	<i>Penyu</i>	<i>Penyu</i>
<i>HORSE</i>	<i>Kuda</i>	<i>Ayam</i>
<i>Leg</i>	<i>Kaki</i>	<i>Kaki</i>
<i>DOG</i>	<i>Anjing</i>	<i>Anjing</i>
<i>Table</i>	<i>Meja</i>	<i>Meja</i>
<i>CAT</i>	<i>Kucing</i>	<i>Harimau</i>
<i>Lips</i>	<i>Bibir</i>	<i>Bibir</i>

Truck	<i>kereta trak</i>	<i>Lori</i>
EYE	<i>Mata</i>	<i>Mata</i>
Fish	<i>Ikan</i>	<i>Telinga</i>
EAR	<i>Telinga</i>	<i>Basikal</i>
BIKE	<i>Basikal</i>	<i>Ular</i>
Snake	<i>Ular</i>	<i>Bangku</i>
Stool	<i>Bangku</i>	<i>Bas</i>
Bus	<i>Bas</i>	<i>Katil</i>
BED	<i>Katil</i>	<i>Kereta</i>
CAR	<i>Kereta</i>	<i>Tangan</i>

Appendix 3 : Malay Version of Auditory Verbal Learning test (MVAVLT)

Malay Version of WHO Auditory Verbal Learning Test ©

Helaian Markah

Nama: _____

Tarikh: _____

Pemeriksa: _____

<i>Cubaan Mengingat</i>						<i>Cubaan Mengingat</i>				
Senarai A	A1	A2	A3	A4	A5	Senarai B	B1	A6	A7	Senarai A
Kapak						mangkuk				Kapak
Harimau						Monyet				Harimau
Siku						Kasut				Siku
Katil						Lembu				Katil
Telinga						Jari				Telinga
Kapal						Baju				Kapal
Anjing						Semut				Anjing
Tukul						Cawan				Tukul
Kerusi						Tebuan				Kerusi
Ayam						Itik				Ayam
Mata						Topi				Mata
Kereta						Kaki				Kereta
Pisau						Cerek				Pisau

Jam Basikal						Tikus Tangan				Jam Basikal
Jumlah										
Tambahan										

Senarai Mengenali

	Ya	Tdk		Ya	Tdk
Cermin			Bibir		
TUKUL			Pokok		
PISAU			SIKU		
Lilin			Hidung		
Beca			KERUSI		
KAPAK			Lori		
JAM			MATA		
Bulan			Ikan		
KAPAL			TELINGA		
Penyu			BASIKAL		
AYAM			Ular		
Kaki			Bangku		
ANJING			Bas		
Meja			KATIL		
HARIMAU			KERETA		

Jumlah	Tepat Senarai (Hit)	Tepat Bukan (CR)	Tidak Kenal (Mis)	Tiada Dikenal (FP)

Hit = Tepat seperti dalam senarai

CR = Tepat dikenali sebagai bukan dalam senarai

Mis = Tidak dikenali walaupun dalam senarai

FP = Dikenali walaupun tiada dalam senarai (false positive)

Arahan:

1) Untuk cubaan A1:

"Saya akan membacakan senarai beberapa perkataan. Sila dengar baik-baik kerana sebaik sahaja saya tamat membacaknya, anda dikehendaki menyebut kembali sebanyak mungkin perkataan yang boleh anda ingati. Anda tidak perlu menyebut perkataan-perkataan itu mengikut turutan. Cuma cuba mengingat sebanyak yang mungkin. Jika anda sudah bersedia, saya akan mulakan sekarang..."

Setiap perkataan hendaklah disebut dengan selang kira-kira satu saat di antara satu sama lain.

2) Untuk cubaan A2 – A5:

"Sekarang saya akan membaca semula perkataan –perkataan tadi. Sekali lagi, sebaik sahaja saya tamat, anda dikehendaki menyebut semula perkataan-perkataan itu sebanyak yang mungkin. Tidak mustahak perkataan mana yang disebut dahulu. Baik, saya akan mulakan sekarang..."

3) Selepas cubaan A5, pemeriksa akan membacakan senarai B:

"Sekarang, saya akan membacakan satu lagi senarai beberapa perkataan. Sila dengar baik-baik kerana sebaik sahaja saya tamat membacaknya, anda juga dikehendaki menyebut kembali sebanyak mungkin perkataan yang boleh anda ingati. Anda tidak perlu menyebut perkataan-perkataan itu mengikut turutan. Cuma cuba mengingat sebanyak yang mungkin. Jika anda sudah bersedia, saya akan mulakan sekarang..."

4) Sebaik sahaja tamat cubaan di atas, pemeriksa akan menyuruh pesakit mengulangi semula sebanyak yang mungkin, perkataan-perkataan daripada senarai pertama (Senarai A) tanpa mengulangi kepada pesakit perkataan-perkataan itu (seperti A1 – A5):

"Sekarang sebutkan kepada saya semua perkataan yang anda ingati daripada senarai pertama tadi"

5) Selepas 20 minit yang dipenuhi dengan aktiviti lain, minta pesakit sekali lagi mengulangi semua perkataan daripada Senarai A:

"Sebentar tadi, saya sudah membacakan perkataan daripada suatu senarai beberapa kali dan meminta anda mengulanginya beberapa kali. Sekarang beritahu saya perkataan-perkataan itu."

6) Akhir sekali lakukan ujian Senarai Mengenali dengan membacakan perkataan-perkataan tersebut dan minta pesakit menyatakan "ya" atau "tidak" sama ada perkataan itu terdapat dalam Senarai A.

Keseluruhan Ujian ini sepatutnya mengambil masa kira-kira ½ jam (termasuk selang 20 minit).

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Ref: Satz, Chervinsky and D'Elia (1990)

ORIGINAL ARTICLE

PATTERN OF PRESCRIBING ANTIPSYCHOTIC DRUGS IN THAILAND

Pichet Udomratn, Sorayut Vasiknanonte**

***Department of Psychiatry, Faculty of Medicine, Prince of Songkla University, Hat Yai, Songkhla 90110, Thailand.**

Abstract

Objective: There has been a trend of prescribing new second generation antipsychotics (SGAs) as a first-line treatment for psychosis in many developed countries. However, there has been very few studies concerning this topic in a developing country such as Thailand. This study examined the pattern of prescribing antipsychotic drugs by Thai psychiatrists in a tertiary hospital. **Methods:** Active clinical psychiatric outpatient files (n=1750) between January and March 2003 from Songklanagarind Hospital, a tertiary university hospital in southern Thailand, were retrospectively reviewed. **Results:** Most patient (82.9%) who were prescribed an antipsychotic received only one oral medication. Among patients with schizophrenia and schizoaffective disorder, the majority (67.9%) received a first generation antipsychotic (FGA). Fewer patients were prescribed a SGA alone (13.1%) or a depot preparation alone (6.4%). Of those patients on a SGA, the most commonly prescribed drugs were a generic form of clozapine (64.7%), risperidone (19.6%) and olanzapine (15.7%). For patients on a FGA, the most commonly prescribed medications were perphenazine (52.8%) and chlorpromazine, CPZ (19.7%). The mean dose was significantly higher for males (209.14 ± 197.49 mg/d of CPZ equivalent) than females (158.57 ± 163.45 mg/d) ($t=3.61$, $p < .001$). **Conclusion:** SGAs are not yet widely prescribed in our hospital perhaps due to the high drug cost and the availability of medication. Thai patients may respond to a lower dosage compared to dosages reported in Western studies. Further systematic research is needed before conclusions on this topic can be drawn. *ASEAN Journal of Psychiatry, Vol. 10, No.1, Jan – June 2009: 75-82.*

Keywords: prescribing pattern, antipsychotics, Thailand

Introduction

Over the past decade, awareness of the risk and serious side effects of conventional or the first generation antipsychotics (FGA) such as haloperidol has increased, while many new second-generation antipsychotics

(SGA) have become available [1] Important changes that might influence the use of antipsychotic drugs have emerged in psychiatric practices. Some practice guidelines recommend choosing SGA as the initial treatment for schizophrenia [2,3]. They also recommend switching from FGA to

SGA for patients who do not have a good treatment response. Other recommended prescribing trends for antipsychotics include using the lowest effective dose and limiting antipsychotic polypharmacy [4].

International research has demonstrated a variance between the prescribing guidelines and everyday practice. In a study of antipsychotic prescribing practices in the New York region of the Veteran's Healthcare Administration from 1998 until 2000, SGAs were prescribed more commonly than FGAs [5]. However the results also showed a low rate of clozapine use and a high rate of polypharmacy. In many developed countries, there has been a trend of prescribing these new SGAs as first-line treatment for psychosis [6,7]. However, there has been very few studies concerning this topic in developing country such as Thailand [8,9,10]. Our previous research found that the passive dissemination of clinical guidelines for treatment-resistant schizophrenia did not impact on Thai psychiatrists' attitude toward treatment [10]. Therefore the objective of this report is to study the pattern of prescribing antipsychotic drugs by Thai psychiatrists in the real world setting at a tertiary hospital.

Methods

This study is a descriptive and retrospective report. All active clinical outpatient files for patients of psychiatric clinic at the Songklanagarind Hospital, which is the only university hospital in southern Thailand were audited for the period January to March 2003. The data was collected and entered into specifically designed software by a research assistant. The data collected included relevant patient information (gender, age, ethnicity) and medication

prescribing patterns (eg. type of medication, route of administration, dose and frequency). Of the 1,751 adult patients prescribed psychotropic drugs during the audit period, 1,750 had meaningful data for analysis.

Prescribed daily dose (mg/day) for all antipsychotics was converted to a standard chlorpromazine equivalent (CPZe) for comparison. The concept of chlorpromazine equivalence is controversial but useful where aggregated data is represented to show broad trends across patient groups. Although the CPZe derivation differs by up to 500% in the literature [11], for the FGAs conversion data related to dopamine (D2) affinity and therapeutic response is commonly available. The introduction of the SGAs required new equivalence estimates. Woods explored the range of published CPZe estimations and proposed a set of equivalences based on a proxy method of calculation in the absence of studies designed to estimate atypical therapeutic dose equivalence [12]. The conversion used in this study lies within the range of published estimates and has been chosen after reviewing a number of widely quoted references [2,11,12].

Data analysis was conducted using SPSS version 11.0 in order to minimise the likelihood of type I error (given the number of comparisons performed), the alpha level required to demonstrate significance was set at 0.01 Post hoc analysis was conducted using Turkey's HSD test.

This study was approved by the Ethics Committee, Faculty of Medicine, Prince of Songkla University.

Results

The proportion of males in the sample was 43.2% (n=756) and the mean age

was 45.68 years (SD=15.35; range=18-92). The majority (89.3%) were Buddhist (n=1563), with significantly fewer being Muslim (n=142) or Chinese (n=45).

Of the 1,750 cases, 38.2% (n=668) were prescribed antipsychotics during the audit period. When considering the patient population overall, the mean CPZe dose per day was 183.63mg (SD=182.74). A chi-square analysis indicated a higher trend in the rate of antipsychotic prescribing for males compared with females ($\chi^2=17.76$, $p<0.001$). Similarly, the mean CPZe daily dose was higher for males (X=209.14, SD=197.49) than females (X=158.57, SD=163.45; $t(666)=3.61$, $p<0.001$). Among patients with psychotic illnesses (schizophrenia, schizoaffective, bipolar disorder, functional & organic psychoses), the overall mean CPZe dose differed significantly [F(4,511)=13.28, $p<0.001$]. Post-hoc analysis indicated that patients with schizophrenia received higher mean neuroleptic doses than patients with functional psychosis ($p<0.01$), organic/drug psychoses ($p<0.01$) or bipolar disorder ($p<0.001$).

Patients with schizoaffective disorder received significantly higher mean neuroleptic doses than those who had bipolar disorder ($p<0.001$).

Table 1 examines the mean CPZe neuroleptic doses according to the diagnosis and route of administration. In the group in which patients received only oral medication, there were significant differences in patients taking oral antipsychotic mediations alone. Schizophrenia patients received higher oral doses than did patients with functional psychosis and organic/drug psychosis but they received less than schizoaffective disorder. In the group in which patients received both oral and depot forms, it was found that schizophrenic patients received much higher doses than schizoaffective disorder patients. However, there were no statistical differences in mean doses for depot preparations and combined oral and depot preparations according to diagnosis. Post hoc analyses indicated that patients with schizophrenia or schizoaffective disorder received significantly higher mean oral doses than those with bipolar disorder ($p<0.001$).

Table 1: Doses of antipsychotics for patients with psychotic disorders according to route of administration

Diagnosis	Mean (SD) Dose (CPZe mg/day)		
	Oral Alone ^a (N=459)	Depot Alone ^b (N=23)	Oral+Depot ^c (N=34)
Schizophrenia	239.50 (159.61)	151.81 (121.03)	440.40 (316.68)
Schizoaffective disorder	265.41 (191.55)	150.83 (111.07)	261.67 (134.04)
Functional psychosis	154.68 (175.05)	-	-
Organic/drug psychoses	128.51 (93.93)	-	-
Bipolar disorder	131.01 (157.03)	135.00 (21.21)	337.50 (-)

a (F(4,454)=12.65, $p<0.001$) *b* (F(2,20)=.02, $p=.98$) *c* (F(2,31)=0.64, $p=.53$)

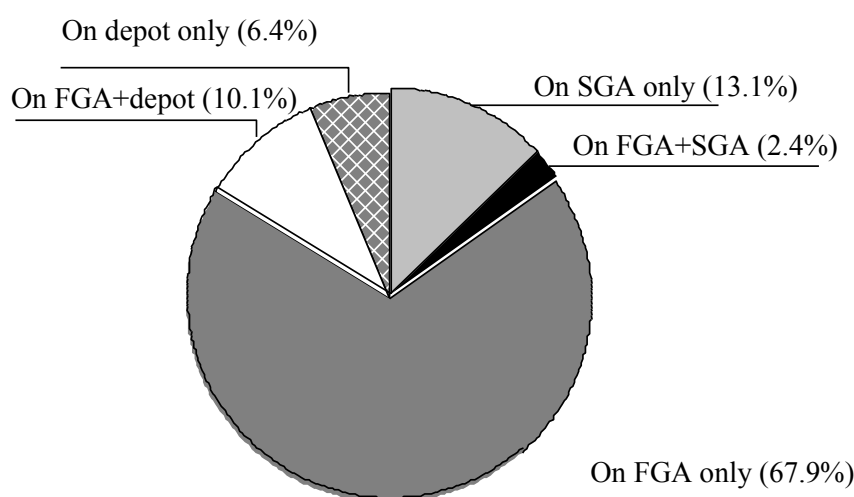
Of those patients diagnosed with either schizophrenia or schizoaffective

disorder, the majority (92.9%, n=327) were prescribed antipsychotic medications. Figure 1 illustrates the

neuroleptic mixture for patients with schizophrenia and schizoaffective disorder. The majority received FGA alone (67.9%; n=222). Fewer patients were prescribed SGA alone (13.1%), a

depot alone (6.4%), FGA and a depot (10.1%), or SGA in conjunction with FGA (2.4%). There were no patients taking a depot preparation in combination with SGA.

Figure 1: Antipsychotics prescribing for patients with schizophrenia and schizoaffective disorder



The mean doses of prescribed antipsychotics for patients with schizophrenia are shown in Table 2. The mean CPZe daily dose was higher

in males (X=274.58, SD=196.51) than females (X=228.48, SD=176.70), although this trend only approached significance (p=.03).

Table 2: Doses of antipsychotic medications for patients with schizophrenia

Antipsychotics	Mean Dose (SD)		CPZe (SD)		N
	(mg/day)	range	(mg/day)	range	
Oral FGA					
Chlorpromazine	160.17 (107.89)	25-500	160.17 (107.89)	25-500	59
Haloperidol	7.81 (6.23)	1-30	390.74 (311.64)	50-1500	27
Pimozide	5.89 (3.51)	1-15	388.67 (231.85)	66-990	18
Perphenazine	16.28 (10.24)	2-48	203.48 (127.96)	25-600	158
Thioridazine	99.74 (77.49)	10-300	99.74 (77.49)	10-300	19
Trifluoperazine	13.05 (7.89)	5-30	261.11 (157.69)	100-600	18
Oral SGA					
Clozapine	174.09 (79.28)	25-300	174.09 (79.28)	25-300	33
Olanzapine	9.06 (4.21)	5-15	271.88 (126.38)	150-450	8
Risperidone	1.95 (1.21)	0.5-4	177.27 (110.20)	45-364	10
Depot FGA					
Flupenthixol IM	1.51 (1.07)	0.3-6	158.84 (112.61)	33-600	25
Zuclopenthixol IM	6.30 (1.57)	2.4-9.5	132.32 (32.92)	50-200	29

As Table 2 indicates, the majority of patients with schizophrenia received treatment with oral FGA, rather than SGA or depot preparations. The number of patients receiving SGA was low, with no significant differences in the mean CPZe doses ($p=0.03$). However, there was a trend for the mean CPZe dose of olanzapine to be higher than that for clozapine. Of those receiving FGAs, the most commonly prescribed medication was perphenazine (52.8%), followed by chlorpromazine (19.7%). The mean CPZe doses differed significantly [$F(5,252)=9.18$, $p<0.001$]. Post-hoc analyses indicated that the mean CPZe doses for haloperidol and pimozide were significantly higher than thioridazine ($p<0.001$) or perphenazine ($p<0.001$), and that the mean CPZe dose for chlorpromazine was significantly

lower than perphenazine ($p<0.01$). The mean CPZe for depot preparations did not differ significantly according to medication ($p=0.23$).

In terms of ethnicity, an examination of the proportion of patients prescribed neuroleptics by type found no significant differences across ethnicities for FGAs ($p=0.84$), as shown in Table 3. There was a trend for a higher proportion of Chinese patients to be prescribed depots (35.7%) compared with Thai patients (15.0%) although this difference was not significant ($p=0.04$). Comparisons for the proportion of patients on SGAs could not be conducted due to the small number of schizophrenic patients of Chinese and Muslim ethnicities.

Table 3 Proportion of patients on oral antipsychotics by ethnicity

Ethnicity	FGAs		SGAs		Depots	
	N	%	N	%	N	%
Thai	205	74.8	42	15.3	41	15.0
Muslim	16	80.0	1	5.0	0	-
Chinese	11	78.6	2	14.3	5	35.7

The mean CPZe doses for both types of oral antipsychotic are illustrated in Table 4. A comparison of the mean dose revealed no significant

differences across ethnicities for FGAs ($p=0.19$), SGAs ($p=0.23$) or depot preparations ($p=0.22$).

Table 4 Mean CPZe doses according to antipsychotic type and ethnicity

Ethnicity	FGAs	SGAs	Depots
Thai	256.81	187.81	145.57
Muslim	221.88	25.00	-
Chinese	155.82	145.45	150.00

Discussion

There are several findings from this study. First, FGAs alone are still prescribed more often than SGAs alone in our clinic (67.9% and 13.1% respectively), which contrasts with studies from developed countries such

as Keks *et al* who audited an inner urban community psychiatric service in Australia and found 53% of the prescriptions of antipsychotics to be SGAs [6]. Humberstone *et al* conducted a retrospective chart review for all outpatients files in the three health sectors of Auckland, New Zealand and

found that the rate of prescribing SGAs was 58.9% [7]. In Korea, where the outpatients prescription for patients with schizophrenia in Seoul National University Hospital found that 88.1% of 825 patients received SGAs [13]. Perhaps the major factor that affect prescription of SGAs in our hospital in Thailand are cost and availability of medications. At the time of this survey, only three types of SGAs were available *i.e.* generic clozapine, original olanzapine and original risperidone. Regarding the price; for example, the price of the original risperidone 2mg in our hospital is eight times higher than the generic clozapine 100 mg and is 74 times higher than the generic haloperidol 5 mg [14]. Hence, the prescribing patterns are strongly influenced by whether SGAs have been approved under the national or hospital pharmaceutical benefit schemes, which will affect out-of pocket costs for patients and families.

In respect of the type of antipsychotics, our study found that prphenazine was the most commonly prescribed FGAs (52.8%) perhaps due to the medium potency of medication which have favorable side effects. For SGAs the most commonly prescribed drugs were a generic form of clozapine (64.7%), risperidone (19.6%) and olanzapine (15.7%) which contrasted to a study from outpatients at Seoul National University Hospital where risperidone was prescribed most frequently (39.0%) and followed by clozapine (29.0%), again due to the cost of medication which has mentioned earlier.

Second, the overall mean CPZe dose of antipsychotic medications in this study (183.63 mg) were not high compared with studies from Auckland, New Zealand (312±207 mg) (7). There was no single patient who received a high dose of antipsychotics, defined as CPZe

above 1,000 mg. In contrast to studies in six countries and territories in Asia which comprised of mainland China, Hong Kong, Korea, Japan, Taiwan and Singapore which found that the rate of prescribing antipsychotic dosage in schizophrenia higher than 1,000 mg of CPZe was 17.9% in 2001 [15] which decreased to 6.5% in the later survey of 2004 [16]. The reasons why our patients received a lower dosage is perhaps due to the stable condition of most patients.

There was a study by Chong *et al.* [17] found that the dosage of clozapine appears to be lower in Asian compared to Caucasian patients (a mean daily dose of 160 mg/day for the Singaporean patients compared with 408 mg/day for the Canadian counterparts). A study by Ng *et al.* investigated clozapine dosage, plasma clozapine and metabolite levels in Singaporean vs. Australian patients with chronic schizophrenia who were on stable maintenance treatment. Although Singaporean patients received significantly lower mean clozapine (176 mg/day) than the Australian group (433 mg/day) the plasma clozapine levels were similar between both groups [18]. One likely explanation was that Asian patients seemed to have significant lower clozapine clearance compared to Caucasian patients. In our study, the mean daily dosage of clozapine was 174.09 mg/day, which is close to 176 mg/day of the Singaporean patients in the study of Ng *et al.* (18). Perhaps Thai patients joined with other Asian subjects have lower clozapine clearance compared to their Caucasian counterparts.

There are some limitations to our study. First, we did not collect any data concerning the phase of drug treatment or severity of symptoms. As the dosage of medication might be different for various phases and severity. This report

is only a part of the overall audit of psychotropic drugs, so did not previously plan to collect data specifically related to schizophrenia or any specific psychotic illnesses. Second, the results from our report could not be generalized to other hospitals in Thailand. Mental hospitals or other tertiary hospitals might have variations in prescribing patterns. As prescribing patterns would be changed when time has passed, a further 5-10 year study is recommended to see an emerging trend of this pattern.

Conclusions

Our study revealed that FGAs were prescribed more often than SGAs. Reasons why SGAs are not yet widely prescribed are perhaps due to the availability of medication and high drug cost. The dosage of prescribed antipsychotics in our hospital were not high compared to Caucasian patients. It seems that Thai patients may respond to lower dosages compared to those reported in Western studies. However, before conclusions can be drawn, further research is needed for a comparative study of dosages while controlling for other variables.

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Corresponding Author: *Pichet Udomratn, Department of Psychiatry, Faculty of Medicine Prince of Songkla University, Hat Yai, Songkhla 90110, Thailand.*

E-mail : upichet@medicine.psu.ac.th

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SHORT REPORT

GAZA: SIX DAYS IN THE WORLD'S LARGEST PRISON

Mohamed Hatta Shaharom, Senior Vice President (Academic), Psychiatrist & Dean, Faculty of Medicine, Cyberjaya University College of Medical Sciences (CUCMS), 63000 Cyberjaya, Selangor, Malaysia.

Abstract

This is a personal experience with MERCY Malaysia's Team 7 during its six-day sojourn in Gaza immediately after the 22-day war. It was a mission cut short. We were asked to evacuate as Israel intensified its shelling. This paper is divided into two main parts: First, my observations as a psychiatrist and humanitarian volunteer; and second, a plan for a psychosocial programme in Gaza. *ASEAN Journal of Psychiatry, Vol. 10, No.1, Jan – June 2009: 83-88.*

Introduction

This personal account is a significant departure from the standard approach of a scientific journal. Perhaps the only justification for its existence in a scientific journal is the paucity of information recorded by the very few non-Palestinian psychiatrists who entered Gaza immediately after Israel's 22-day (27 December 2008 – 17 January 2009) Operation Cast Lead [1] against Hamas [2] and the Gazans. This planned assault against the "inmates" of the largest open-air prison in the world [3] was deemed as being executed without clear objectives [4]. It came on top of 19 months of blockade, rendering many people unemployed, and leaving tens of thousands of people homeless.

Zionist Israel rationalised the war-cum-carnage as a compulsory strategy to destroy

Hamas' military arsenal and ability to assemble home-made Qassam rockets. After the Gaza Massacre, Hamas' military prowess maybe somewhat reduced and its defence shield dented, but Qassam rockets still landed on Israel's southern fields and houses, while hostilities between the two enemies continued unabated, albeit with lesser ferocity. Hamas and the Gazans not only remained defiant, they claimed victory over the aggressor. During the Gaza Massacre, about 1,300 Palestinians died, mostly civilians including women and children [5], while more than 5450 were wounded [6].

Gaza is arguably the most densely populated territory on earth where 1.5 million defenceless Palestinians live in an area of about 360 square km while their every move is constantly monitored by Israel through its state-of-the-art military surveillance. They

are still not allowed to leave or enter their blockaded land and sea by Tel Aviv.

Method

This paper is divided into two main parts: My observations as a psychiatrist and humanitarian volunteer; and a plan for a psychosocial programme in Gaza.

1. My Observations

1.1 Arrival

We had to sign two statements of release from responsibility and liability –first, at the Kuala Lumpur International Airport (addressed to MERCY Malaysia); second, at the Egyptian Immigrations (on our exit form) at the Rafah Crossing. Our six-member (five are veteran volunteers and four are doctors and specialists) Team 7 of MERCY Malaysia [7] arrived in Gaza as twilight set in at the Egypt-Gaza Rafah crossing, accompanied by the muezzin's call for the maghrib prayer. It was Wednesday 28 January 2009, 11 days after the ceasefire was declared. Our plan was an eight- to nine-day mission in Gaza. We had no problem communicating with our hosts for many spoke workable to excellent English. Our translators were extremely helpful when my own poor Arabic failed. We were also aided by an England-trained Gaza University linguistic professor and Khan Yunis Municipality representative. This excellent guide and interpreter proved yet again that Palestinians are a resourceful group of people.

1.2 Hospitality

Everywhere we went, Gazans charmed us with their unfailing hospitality, despite their heart-wrenching plight. Regardless of the war and hardship, Gaza remained fertile. A bountiful harvest was visible when we were there. Everywhere, farmers were reaping their harvest oblivious of the occasional menacing Israeli F-16 which was trying to assert weighty authority in the blue Mediterranean sky.

1.3 Volunteers

We had the chance to discuss with other Malaysian volunteers who arrived many days earlier and were about to leave Gaza. We were also in contact with European and Arab medical specialists (of various faiths) and NGOs like Forward Thinking and its co-founder and director, Oliver Mc Ternan, whose team is promoting conflict resolution and interfaith dialogue. Between the second (29 January) and fifth day (1 February), we were busy meeting policymakers (including the team led by the mayor of Khan Yunis who enquired whether we could help his governorate of 350,000 people buy a bulldozer to clear the rubble!) and important doctors (including the Dean and members of the Faculty of Medicine, Islamic University of Gaza, and the Nasser Hospital's medical director and his team).

1.4 Missiles

It was also here, about 11:00 hrs, 29 January, when, as we ended our first meeting with the Nasser hospital medical director, we heard a loud explosion in the

hospital compound. A few Hamas guards with AK-47s at the ready rushed towards its entrance. It was actually a drone-launched missile that hit the road surface (about 50 metres from where we were sitting) severely injuring two riders on a motorcycle opposite the hospital's entrance and 16 passers-by including 13 schoolchildren (who were returning from or going to school). On the third day (31 January), after the congregational dawn (fajr) prayer, as I was hanging my washed pair of pants at the third floor balcony of our Rafah lodging-cum-HQ (which we shared with the landlord's family and other international guests), I heard a very loud explosion that shook the four-storey building. I saw white smoke about 1.5 km away, at the site where an F-16 missile landed on a Rafah trench. On the fifth night, from about 22:58 hrs, six F-16 missiles landed not far from our HQ, in fairly regular intervals lasting for 40 minutes. By then, through short text messages, we received separate instructions from the Malaysian Embassy in Cairo, and also the MERCY Malaysia base camp in Cairo, to evacuate the next day. Thus, this was a mission cut short. We couldn't fulfil our promises to have more meaningful meetings and visits planned for the next two days. I regretted for not being able to visit more psychiatrists and psychiatric centres; by then I only had a phone conversation with a senior psychiatrist and discussed briefly in person with Gaza's sole forensic psychiatrist who said with a smile, "Everybody here needs psychotherapy, including the psychiatrists". The other professional colleague whom I met was a young British Muslim psychiatrist. We had the chance to exchange

information for only less than a minute since we were scurrying off to separate meetings. With heavy hearts, we left Gaza, knowing full well that this was a mission, almost unaccomplished. The borders were still closed as this article was published in early May 2009.

2. Psychosocial Programme

2.1 Intention

Based on my previous experiences during relief missions in Iraq (1991), Kosovo (1999), Afghanistan (2001), Iran (2004), Indonesia (2005-2006), and Malaysia (2004-2005), I mentally prepared a comprehensive psychosocial programme. This time, my intention was to understand the situation in Gaza, and to find out whether I would be able to help treat patients there and plan a psychosocial programme supported by MERCY Malaysia.

2.2 Crisis

The incessant series of human crises in Palestine are unlike any other in the world. Studies done on Palestinians suffering from occupation and the unending violence range from psycho-physical traumas experienced by adult victims of tortures to traumatised children showing unbelievable energy and flexibility that science cannot explain. Findings by research groups like the Gaza Community Mental Health Programme (GCMHP) [8] are in themselves portrayals of the strivings of the human spirit. In all of the studies that the GCMHP conducted, it was found that Palestinian parents, their

inner conflicts notwithstanding, have not stopped trying to give love and affection (core emotions in Palestinian parents) and provide security for their children. The GCMHP research refuted the claim that Palestinian parents pushed their children to war [9]. It was also observed that trauma patients at the GCMHP demonstrated a peculiar syndrome characterised by prominent delusions, thought intrusions and/or obsessional thinking that they knew was abnormal; thus prompting Van Eenwyk, El Massry and Abu Tawahena to suggest a new diagnostic category named “Adaptation Disorder” or “The Gaza Syndrome” [10].

2.3 Programme

The following plan is partly based on my discussions with a psychologist-lecturer of Iemar Society [11] during a whole day field visit in the devastated environs of Khan Yunis and the Gaza- Israeli occupied border hamlet of Khiza‘ah, and the unpublished Iemar proposal paper (consisting of English and Arabic parts) which was e-mailed to me about a fortnight after we left Gaza.

The objectives of the programme focused on the rehabilitation of the victims of war and violence are to

- i. relieve their pain and suffering;
- ii. provide them with the needed psychological support;
- iii. provide them with social skills training;
- iv. strengthen their resilience in facing future challenges;

- v. provide psychosocial aid to their families;
- vi. provide special aid to the affected children; and
- vii. provide research facilities.

To realise these objectives, the following steps are to be taken:

- i. The formation of a working team comprising manager, administration staff, psychiatrists, psychologists, social workers, spiritual instructors (sheikhs);
- ii. The establishment of a centre capable of providing a comprehensive service to the victims and their families;
- iii. The establishment of communication with the outside world and the reopening of the borders to ensure the swift flow of humanitarian aid.

The estimated budget for the establishment of this project ranges from US\$100,000 to US\$120,000 per year. The whole project should be reviewed by the 11th month of its operation.

Conclusions

My conclusions can be summarised as follows:

1. Psychosocial programmes (which are not new to Palestine) need the direct aid of the world community and its international humanitarian agencies;
2. A comprehensive survey must be done on the need for additional psychiatrists, psychologists and psychiatric drugs;

3. The closed borders of Gaza made it impossible for swift humanitarian aid to enter the blockaded strip of land; Apart from making sure that their own projects get off the ground, volunteers could help other needy agencies (personal communication: Malaysians were approached by our team members to sponsor a new bulldozer for the Khan Yunis governorate).

Acknowledgements

I would like to thank MERCY Malaysia for sponsoring my journey to Gaza in January-February 2009. Thanks are also due to many Gazans of various ages and their international guests, my fellow team members, my own family and CUCMS colleagues and students, who have made my journey a unique and memorable one. It reminds all of us that with adversity comes opportunity. My highest praise is to the Almighty Allah.

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1. After a Hanukkah poem by Israeli poet Hayyim Nahman Bialik (1873-1934).
2. Hamas (which means in Arabic: spirit to struggle) is the transliteration of the Arabic acronym for Harakat al-Muqawwamah al-Islamiyyah (Islamic Resistance Movement) formed by the extremely popular Muslim Brotherhood in Gaza, Palestine during the first intifada (uprising) of 1987.
3. Being a forensic psychiatrist, I am

familiar with a few prisons in Kuala Lumpur and Malaysia's Selangor state (where I work) and the Victoria state of Australia (where I trained). Gaza has many characteristics of a huge open-air prison; foremost among them is the lost of freedom for its inhabitants.

4. American University international relations Professor Robert Pastor, senior adviser to the Carter Center, noted that Hamas was willing to extend the ceasefire if Israel's siege of Gaza was lifted. To him it remained unclear why Israel chose to launch war rather than extend the ceasefire. After the war, Hamas appeared stronger. This 23 January 2009 report is available from: <http://www.middle-east-online.com/english/?id=29950>.

5. This Palestinian Center for Human Rights report quoted by Ben Hubbard and published by the Associated Press on 30 January 2009 is available from: <http://gazabodycount.com/>.

6. This 18 January 2009 Palestinian Ministry of Health report is available from: <http://english.wafa.ps/?action=detail&id=12541>.

7. The Malaysian Medical Relief Society (MERCY Malaysia) was founded in 1999, when its first team led by its founding President, Dr Jamilah Mahmood, headed for Kosovo (during the aftermath of Serbian ethnic-cleansing atrocities) in June 1999. I joined the second team of the Kosovo mission two months later.

8. The main office of this NGO is in the vicinity of Gaza City opposite the Gaza municipality beach on the approximately 40-km Mediterranean shoreline. Emerging in 1990 to respond to escalating mental health needs from the stress of occupation and violence, GCMHP provides essential mental health services to Gaza's traumatised population.

9. Samir Qouta. Father let us hide. This brief article is available from: http://www.gcmhp.net/File_files/Fatherletus.html. Among the many published studies on war, violence and their traumas on Palestinians is "The Impact Of Conflict On Children: The Palestinian Experience", a research by Dr Samir Qouta, Head of Research Department of GCMHP, and Dr J

Odeh, the Director of Palestinian Happy Child Centre, in Jerusalem. This study was published in The Journal of Ambulatory Care Management 2004.

10. Samir Qouta, Eyad El Sarraj. Trauma and PTSD. In Ahmed Okasha, Mario Maj (eds). Images in psychiatry: An Arab perspective. Cairo: Scientific Book House & World Psychiatric Association 2001; pp 131-141.

11. According to the unpublished 2009 proposal paper, Lemar Society has experiences in the socio-physical and psychospiritual rehabilitation of Gazans who were victims of many Israeli attacks. It has coordinated these rehabilitation efforts with local and international societies and institutions.

Correspondence Author: *Mohamed Hatta Shaharom, Senior Vice President (Academic), Psychiatrist & Dean, Faculty of Medicine, Cyberjaya University College of Medical Sciences (CUCMS), 63000 Cyberjaya, Selangor, Malaysia.*

Email: hatta@cybermed.edu.my

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EDUCATION SECTION

MODEL ANSWER FOR CRITICAL REVIEW PAPER: CONJOINT EXAMINATION FOR MASTER OF MEDICINE (PSYCHIATRY) AND MASTER OF PSYCHOLOGICAL MEDICINE, MAY 2009.

Rosdinom Razali, Hatta Sidi*,*

**Department of Psychiatry, Universiti Kebangsaan Malaysia (UKM)
Medical Centre, 56000 Cheras, Kuala Lumpur.*

PAPER:

MALAYSIAN POSTGRADUATE TRAINING IN PSYCHIATRY – ARE OUR TRAINEES HAVING CONSISTENT PROBLEM IN BASIC SCIENCE?

ASEAN Journal of Psychiatry 2008: 9(1): 6 – 13

Abstract

This is a model answer of Critical Review paper for Malaysian postgraduate examination in psychiatry. This model answer was used for marking the review paper for Master of Medicine (Psychiatry) and Master of Psychological Medicine, May 2009. *ASEAN Journal of Psychiatry, Vol. 10, No.1, Jan – June 2009: 89-94.*

Materials, Methods and Results

This is a descriptive and cross-sectional study which was carried out on data obtained from a group of postgraduate psychiatry students from Universiti Kebangsaan Malaysia (UKM) and Universiti Malaya (UM) who attended a revision course organized by the UKM Department of Psychiatry on January 2005 and Mac/ April 2006.

The candidates attending this revision course are psychiatry trainees from UKM, UM and USM. For January 2005, a set of MCQs (consisting of 45 items, totaling in $45 \times 5 = 225$ statements) was

retrieved from a large MCQ mock examination question bank randomly, consisting of well-balanced questions on neuroanatomy, neurophysiology, psychology, statistics and epidemiology, genetics, immunology and neuropathology. For the revision course in 2006, another set of 40 item MCQ (a total of 200 statements) was again retrieved from a large MCQ mock examination question bank. Each MCQ item has 5 statements (A, B, C, D and E) to be answered true or false. A marking system is used, where a minimum mark of 0 or a maximum mark of 5 is given for each item. If a statement is answered wrongly, a minus mark is given, with a

minimum mark of 0 for each item (e.g. if a candidate has 2 correct answers and 3 incorrect answers on 5 statements, he will get a mark of -1 but it would be considered as 0 for that item).

In January 2005, all 11 candidates who attended this MCQ workshop and

participated in this study were from UKM. All 11 candidates attempted all 45 questions given to them (session 2005). The total scores were calculated based on 11 candidates who made the attempt, e.g. for one item, the maximum score would be $5 \times 11 = 55$.

Table 1. The percentage median scores of postgraduate students in year 2005 and 2006.

		Postgraduate Candidate (Percentage median scores)	
Domains		Year 2006 %	Year 2005 %
1	Neuroanatomy*	47	30.9
2	Neurophysiology*	54.1	47.3
3	Neurochemistry	45.3	31.8
4	Neuropathology	33.5	40.9
5	Psychology*	43.5	31.8
6	Aetiology & psychiatric genetics	43.5	40.9
7	Stress & immunology	38.2	37.3
8	Psychopathology & general psychiatry	34.7	50.9
9	Psychopharmacology	52.9	46.4
10	Statistics	34.1	36.4
11	Epidemiology	41.2	47.3
Total average		42.7	40.3

(Mann Whitney U-Test, * statistically significant, $p < 0.005$)

ANSWER ALL QUESTIONS (Total 20 marks). Bring along your own calculator.

Q1. You were given the following result of MCQ scoring marks of 2006 postgraduate students:

24,25,29,29,29,30,30,32,34,34,35,35,35,36,36,37,37,38,39,39,40,40,40,41,41,42,42,42,43,43,45,45,45,45,45, 46,47,48,50,64

Find out the mean, median and mode (1.5 marks)

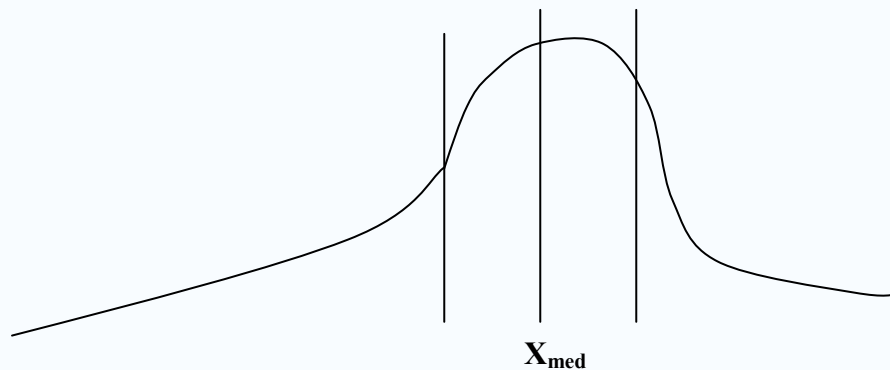
Means (X_m) is equal to $1557/40 = 38.9$

Median (X_{med}) is equal to $39 + 40$ divided by $2 = 39.5$

Mode (X_{mod}) is equal to 45

(i) Draw your distribution curve based on the above mean, median and mode.

(2 marks)



(ii) Do you think that the distribution of the scores: is it positive or negatively skewed? Give your reasons. (2 marks)

It is . because $X_m < X_{med} < X_{mod}$

Q 2. (i) Briefly conclude your findings in table 1. (not more than 50 words) (2 marks)

Based on table 1, postgraduate students in year 2006 was found to have higher (or better) scores in discipline of neuroanatomy, neurophysiology and psychology and it is statistically significant compared to the results of the postgraduate students in year 2005.

(ii) Mann-Whitney-U test was used to assess scoring marks for postgraduate candidate in both years. Briefly outline what kind of test this is? (2 marks)

Mann-Whitney-U test is a non-parametric test which is used when the sample size is small and when it is not normally distributed (skewed distribution), for example using median rather than mean scores.

(iii) Give 2 advantages and 2 disadvantages of this statistical test compared to the student's t-test. (2 marks)

As compared to student's t-test, the Mann-Whitney-U test is simple, does not need to assume a normal distribution, and can be applied in a small sample size. However, its disadvantages include that it is not as strong as the parametric test, and it may increase the type-I error.

Q 3. (i) State the null hypothesis for the above research methodology. (1mark)

H_0 = "There is no difference between the postgraduate students MCQ performance in both years 2005 and 2006."

(ii) List one kind of statistical error that you are going to commit, and explain the meaning of this error (1 mark).

Type-I error: Rejecting the null hypothesis when it should not be rejected (or when it is true). Type-II error: Accepting the null hypothesis when it should not be accepted (or when it is false).

Q4. Postgraduate candidates in year 2006 and 2005 scored median scores of 47% vs. 31% respectively for their neuroanatomy, with $p < 0.05$. What do you understand the meaning of $p < 0.05$ in this context? (2 marks)

$P < 0.05$ = Postgraduate students in year 2006 scored better or higher (47% vs. 31%) than the students in the previous year, and this was statistically significant –

the probability of committing a type-I error is less than 1 if the statistical test is being repeated 20 times.

Q 5. If the same postgraduate students attending a revision course in neuroanatomy scored 31% in year 2005 and also attended another revision course in 2006 and scored 47%, how many postgraduate students are needed to attend another postgraduate revision course in order to prevent one student from failing neuroanatomy section on MCQ exam? (2 marks)

$$\text{NNT} = 1 / (47\% - 31\%) = 1 / 0.16 = 6.25 \Rightarrow$$

Answer = 7

Q6. Study the following data and statement below:

“A revision course was offered to all postgraduate candidates who sat the March/April 2006 Mock MCQ Exam 3 months later, with a new passing rate of x% median scores. Four postgraduate students are needed to attend the postgraduate revision course in order to prevent one student from failing the MCQ exam.”

Find out the value of x (to be expressed as percentage). (2 marks)

$$\text{NNT} = 4 = 1 / (x\% - 0.43) \Rightarrow 4 = 1 / (x\% - 1/42.7\%) ;$$

$$\Rightarrow x - 0.43 = 1/4 \Rightarrow x - 0.43 = 0.25$$

$$\Rightarrow x = 0.68$$

$$\Rightarrow x = 68\%$$

What variable is x% being called in an epidemiological study? (1 mark)

Experimental event rate (EER)

or Control event rate (CER) also can be accepted.

Q6. Outline 1 limitations/weaknesses of this research finding. (1 mark)

[Any of the below answers is acceptable]

(1) This study is only a Mock MCQ Exam and may not reflect the true first part postgraduate MMed examination.

(2) Our MCQ samples were selected and reviewed by only a few psychiatrists and lecturers and these were not reflective of the questions in the final examination itself.

(3) USM candidates were excluded in the 2006 Mock MCQ Exam and this may not be reflective of all the postgraduate psychiatric candidates sitting for their part I examination.

(4) The sample size for this research was small.

Correspondence author: Rosdinom Razali, Department of Psychiatry, Universiti Kebangsaan Malaysia (UKM) Medical Centre.

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CASE REPORT

OBSESSIVE COMPULSIVE SCHIZOPHRENIA (OCS) REVISITED: A FIVE-YEAR CASE REPORT

Nik Ruzyanei Nik Jaafar, Marhani Midin*, Jaya Prakash Reddy**

**Department of Psychiatry, Universiti Kebangsaan Malaysia Medical Centre, 56000 Cheras, Kuala Lumpur, Malaysia.*

Abstract

Objective: This is a case report discussing the comorbidity of obsessive compulsive disorder (OCD) and schizophrenia. Such clinical phenomenon merits recognition as a distinct subgroup of schizophrenia with unique challenges and treatment needs. **Method:** A case report presenting schizophrenia with preceding obsessive-compulsive disorder over five years. **Results:** This report describes the clinical course and treatment challenges of a patient with obsessive compulsive schizophrenia (OCS). **Conclusion:** This case illustrates that OCS is a complex disorder with atypical clinical characteristics. In managing this patient, several clinical dilemmas including diagnostic ambiguity, problems with pharmacotherapy and difficulties in his rehabilitation were highlighted. *ASEAN Journal of Psychiatry, Vol. 10, No.1, Jan – June 2009: 95-98.*

Keywords: Obsessive Compulsive Disorder (OCD), schizophrenia spectrum

Introduction

Dual diagnosis of OCD and schizophrenia is of great interest to clinicians as it poses multiple clinical challenges. Increasingly, evidence showed that obsessive compulsive schizophrenia is clinically distinctive as it has a grave clinical course, poor treatment response, worse functional impairment [1], worse overall psychopathology, prominent negative symptoms and possibly greater prefrontal pathology [2].

At present, it remains controversial whether it is part of a spectrum of schizophrenia or

there is overlap in psychopathology between the disorders. The pathogenesis of obsessive compulsive schizophrenia remains vague. It possibly arises from substantial overlap of the proposed functional circuits involving complex interactions between the systems of the neurotransmitters (particularly serotonin and dopamine) and their dysfunctions [3]. The presence of tics in particular, indicates the involvement of dopamine system [4]. Diagnosing this subgroup of patients is difficult. Recent findings suggest that obsessive-compulsive symptoms may

warrant a new diagnostic entity within the OCD-Schizophrenia spectrum [2,5].

Case report

A 29 year-old Chinese single man had his first contact with us in 2002 at the age of 23. Although he had obsessive-compulsive symptoms since adolescence, he was irregular with treatment sought from several private psychiatric clinics. He presented with anger outbursts and low mood caused by distressing obsessive thoughts (about contamination and orderliness) together with compulsive rituals (e.g. bathing and other tasks). His medical history revealed presence of simple motor tics. There was no family history of psychiatric disorder. Physically, he was aesthenic built and had occasional head and neck motor tics. The rest of systemic examinations were unremarkable.

A diagnosis of Obsessive Compulsive Disorder with depression was made. At this point, diagnoses of schizophrenia and Gilles de la Tourette were also considered. We adopted a holistic approach including neuromedical assessment, pharmacotherapy and behavioural therapy (graded exposure response prevention). Medications were titrated to an eventual regime of fluoxetine 80 mg daily, haloperidol 2.5mg twice daily (started primarily to control his tics) and clonazepam 1mg thrice daily. Significant positive response on obsessive-compulsive symptoms was seen after about 6 weeks in the ward. However, as the patient progressed, he had spells of relapses observed during a few trials of home leave. During these short periods of home stay, his family complained that he continued to have

anger outbursts in response to his obsessive thoughts although his compulsion has significantly reduced. Subsequently, a few family sessions were conducted with the emphasis on psychoeducation and behavioural techniques to be employed at home. He was finally discharged in early 2003 and maintained well until mid 2005. During this period, he was compliant with treatment and came for the follow-up regularly while attending a day care centre daily for occupational therapy.

Then, in early 2006, he developed psychosis in the form of third person auditory hallucination (derogatory in nature), persecutory delusions and delusions of reference. His obsessive-compulsive symptoms were relatively well controlled. His diagnosis was reviewed and changed to schizophrenia. He developed oculogyric crisis when haloperidol dose was increased. Quetiapine was then introduced, to which he responded well. However, as its dose was titrated higher, it unmasked his obsessive-compulsive symptoms and the illness took a worsening turn. A few trials of atypical antipsychotics (including risperidone and olanzapine) followed but failed to achieve symptoms remission. While the psychosis improved, the patient continued to experience distressing obsessive-compulsive symptoms. Fluoxetine then was switched to clomipramine. Clozapine was finally introduced with the condition deemed as treatment resistant. The response of the patient to clozapine and clomipramine combination therapy was positive.

However, as the symptoms remitted, again we faced difficulty discharging him. We

identified high expressed emotion in the family; comprising his parents and two other siblings. This had also contributed to unsuccessful trials of home leave during his prolonged hospitalizations. While his family members were supportive, there were great expectations for him to be fully well. These led to critical interactions and stressful hostile environment at home. Recognizing there is a need to reduce the patient's contact hours with his family as well as considering his psychosocial needs and his family's roles, he was finally discharged to a nursing home that also offers occupational training.

A year has passed since his last admission. He has since become quite well, although occasionally still affiliated with some residual obsessive-compulsive symptoms. We acknowledged that the treatment pathway has been a roller coaster ride for the patient, his family and clinicians. His progress in the near future is monitored with apprehension as we continue our efforts to understand a baffling illness.

Discussion

The comorbidity of schizophrenia and OCD or Obsessive-compulsive Schizophrenia (OCS) is not as rare as previously believed [2]. The Epidemiologic Catchment Area (ECA) study found that the rate of OCD with schizophrenia was 12.2% [6] while others reported prevalence rates between 7.8% and 25% [5].

Clinically, patients with OCS have characteristics distinctive from patients with non-OCD schizophrenia. These are described as greater negative symptoms, worse overall psychopathology and

significantly more impaired executive functioning [2,7]. Lysaker et al. (2000) [7] also found greater positive symptoms and emotional discomfort in these patients. Interestingly, like this patient, half of the patients had OCD before psychosis [8] although at least 2 other clinical variations identified [3], reflecting its heterogeneity and further complicating the diagnosis. Overall, the findings consistently showed a graver clinical picture within the schizophrenia spectrum [1,2]. Regarding treatment, patients with OCS were reported to have poorer response than do neurotic obsessive-compulsive patients [1] and non-OCD schizophrenia [8].

The data on pharmacotherapy are limited; mostly based on case reports and uncontrolled clinical trials. Generally, conventional antipsychotics are not recommended as they have poor serotonergic effect [8]. Interestingly, we noted in our case that oral haloperidol did not protect him against the development of psychosis despite his good compliance. One important issue of pharmacotherapy in patients with OCS is the contradicting reports in the usefulness of atypical antipsychotics. Atypical antipsychotics have been implicated to induce or exacerbate preexisting obsessive-compulsive symptoms in patients with schizophrenia, as occurred in this case [8]. In contrast, there is early evidence to indicate favourable responses with clozapine either alone or in combination. For combination therapy, either with SSRIs or clomipramine, Poyurovsky [8] suggested that obsessive-compulsive symptoms in schizophrenia should be targeted secondary to psychosis

and only when their severity is clinically significant. Psychosocially, our difficulties in his rehabilitation also highlighted the need for resources that meet these needs.

Overall, we recognized that OCS had poor clinical course, lower functioning and longer hospitalization as demonstrated here. Furthermore, it required an intricate balance of psychopharmacotherapy and psychosocial rehabilitation.

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Correspondence: *Nik Ruzyani Nik Jaafar, Department of Psychiatry, Universiti Kebangsaan Malaysia, 56000 Cheras, Kuala Lumpur, Malaysia.*

Email: nikruzyanei@yahoo.com

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