PSYCHOLOGICAL MORBIDITY POST MISCARRIAGE: A QUESTIONNAIRE BASED STUDY AMONG WOMEN IN HOSPITAL TENGKU AMPUAN AFZAN, KUANTAN

BY

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A dissertation submitted in fulfilment of the requirement for the degree of Masters of Obstetrics and Gynaecology

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ABSTRACT

This study was conducted to determine the psychological outcomes following miscarriage up to 3 months in patients who sought treatment in Hospital Tengku Ampuan Afzan and to identify risk factors related to it. A cross-sectional study was designed involving the patients who were seeking treatment for miscarriage at our centre. The study comprised of a combination of a self-filled written questionnaire the General Health Questionnaire 12 (GHQ12) and Depression Anxiety Stress Scales 21 (DASS 21) immediately and 3 months post miscarriage after getting informed consent. Patients who fulfilled the inclusion criteria as stated below were eligible to participate in the study. Data was analyzed using IBM (SPSS) version 16.0 and a [p] value of < 0.05 was considered statistically significant. Chi-square and sample 't' test was also used to determine the socio-demographic characteristics and psychological morbidities. Among 150 women, using the General Health Questionnaire (GHQ 12) 24.7% of respondents had some psychological distress just after miscarriage and the incidence came down to 8% 3 months after the miscarriage. Using the DASS 21 questionnaire, overall there were about 28.7% of respondents who had psychological morbidity immediately after the miscarriage. These include depression (16.7%), anxiety (26.7%) and stress (6%) symptoms. After 3 months of miscarriage it was seen that the overall percentage came down to 11.3%. The risk factors associated to women who were prone to psychological distress were history of previous miscarriage, history of infertility, assisted conception and older age group. Our study showed that even after 3 months post miscarriage, some of these women were still affected psychologically. However the prevalence of distress reduced over time. Women who are at risk should be identified and followed up by the gynaecologist and referred appropriately.

ABSTRACT IN ARABIC

أشهر 3 إلى تصل الإجهاض التالية النفسية النتائج لتحديد الدراسة هذه أجريت :الهدف عوامل وتحديد Afzan امبوان تنكو مستشفى في للعلاج سعوا الذين المرضى في على تنطوي التي مستعرضة دراسة تصميم تم :والأساليب المواد.بها المتعلقة الخطر من مزيج من تتألف الدراسة .مركزنا في الإجهاض لعلاج يسعون كانوا الذين المرضى والقلق والاكتئاب (GHQ12) 12 العامة الصحة استبيان كتابة الذاتي مليئة استبيان على الحصول بعد الإجهاض بعد أشهر 3 و الفور على (DASS 21) 21 الموازين الإجهاد أدناه المبين النحو ىعل الاشتمال معايير الوفاء الذين المرضى كان .المسبقة الموافقة 16.0 النسخة IBM (SPSS) باستخدام البيانات تحليل تم .الدراسة في للمشاركة مؤهلة 't'وعينة كاي مربع اختبار استخدام تم .إحصائية دلالة ذات اعتبرت 0.05> قيمة [ص]و :النتائج.فسية المرضية والحالات والديموغرافية الاجتماعية الخصائص لتحديد أيضا من 24.7٪ و كان (GHQ 12) العامة الصحة استبيان باستخدام وذلك ،امرأة 150 ينب من أشهر 3 بعد 8٪ إلى أسفل وقوع وجاء الإجهاض بعد النفسي الضيق بعض المستطلعين المشاركين من 28.7٪ حوالي هناك كان وعموما ،DASS 21 الاستبيان باستخدام .الإجهاض من الاكتئاب هذه وتشمل .الإجهاض بعد مباشرة نفسيال الاعتلال معدلات لديهم الذين أن واعتبر الإجهاض من أشهر 3 بعد .الأعراض (6٪) والإجهاد (26.7٪) والقلق ،(16.7٪) كانوا الذين النساء المرتبطة الخطر عوامل وكانت .11.3٪ إلى نزل الإجمالية النسبة وكبار المساعد الحمل ،مالعق والتاريخ ،السابق الإجهاض تاريخ نفسية للمعاناة عرضة وبعض ،الإجهاض بعد أشهر 3 بعد حتى أنه دراستنا أظهرت :الخلاصة.العمرية الفئة السن .الزمن مر على تخفيض الشدة انتشار ومع .نفسيا تتأثر تزال لا النساء هؤلاء من ،النساء أمراض طبيب قبل من ومتابعتها خطر في هم الذين النساء تحديد وينبغي .مناسب بشكل وأشار

APPROVAL PAGE

I certify that I have supervised and read this study and that in my opinion, it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Master of Obstetrics and Gynaecology.

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DECLARATION

I hereby declare that this dissertation/thesis is the result of my own investigation, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

Lakshmi Paramananda

Signature……. Date ….....

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LIST OF ABBREVIATIONS

IIUM	International Islamic University of Malaysia
HTAA	Hospital Tengku Ampuan Afzan
GHQ 12	General Health Questionnaire 12
DASS 21	Depression Anxiety Stress Scales 21

CHAPTER ONE

INTRODUCTION

Children are gifts from god. There are many couple who desire to have a child. However not every pregnancy is successful leading to delivery of a beautiful child. Approximately 10% of all pregnancies ends up in spontaneous miscarriage, mainly occurring within the first three months (Athey & Spielvogel, 2000; Friedman & Gath, 1989). These pregnancies, complicated with miscarriages can cause devastating psychological morbidity such as grief, depression and anxiety.

Spontaneous miscarriage is a pregnancy loss prior to period of viability of less than 24 weeks gestation or <500grams (Farquharson, Jauniaux, & Exalto, 2005). The experience of loss following miscarriage tends not to be recognized by many people especially the women's gynaecologist. Just like post partum depression, psychological morbidity post miscarriage should be addressed and taken seriously. What is even worse, it is common clinical picture not to give any further follow up to patients following a miscarriage. Thus, whether these patients have any residual psychological morbidity has never been known.

Women may perceive themselves as a 'failure' for not having produced a healthy baby and may question their reproductive capability (Herz, 1984). Many a time the women may feel like they have lost a loved one even at an early stage of pregnancy.

It is rarely life-threatening and the medical procedures involved in treating it are comparatively simple, especially with the introduction of medical evacuation(T. Chung, Cheung, Sahota, Haines, & Chang, 1998; T. K. H. Chung, Lee, Cheung,

Haines, & Chang, 1999). This fact may hide the psychological impact affecting these unfortunate women. Medical professionals with their busy schedule are more worried with the physical complaints rather than the more shattering and lasting effect of psychological complaints. Studies have suggested that grief and depression after miscarriage are often unrecognized and frequently overlooked by medical professionals (Friedman, 1989).

In Hospital Tengku Ampuan Afzan, Kuantan there were a total of 642 spontaneous miscarriages in the year 2013. The total delivery for the same year was 9974. Thus, spontaneous miscarriage accounted for 6.4% of pregnancies in the hospital.

There is no published report of psychological morbidity of miscarriage in our local population in Malaysia. Therefore it is an interesting area of study to know the incidence in our local settings as the incidence of miscarriage has been increasing over the years.

We conducted the present study to determine the prevalence of psychological morbidity, examine the pattern of psychiatric morbidity which are depression, anxiety and stress up to 3 months following miscarriage as well as to identify the risk factors for women who are prone for these psychiatric condition, patients at risk can be followed up closely. Thus, with such information, patient can assist the clinician in counselling patients following miscarriage.

CHAPTER TWO

LITERATURE REVIEW

The psychological impact following miscarriage has received very little interest in the form of proper description and study. This may be due to the assumption that women usually rarely become so attached to their babies at such an early stage.

Studies have been done which showed that women respond differently to miscarriage. For many, it may represent the loss of a future baby, of motherhood and even the ability to procreate in the future (Neugebauer et al., 1992). These consequences may have serious implication to a woman which can lead to psychiatric disorders and even become a threat to her life. Emerging data and evidence has suggested that miscarriage could be associated with significant and possibly long-term psychological consequences. As many as 50% of women with early pregnancy loss suffer from some form of psychological morbidity in the weeks and months post miscarriage (Ingrid H Lok & Neugebauer, 2007).

Depressive symptoms are common, with 20-55% of women reported to have elevated levels of depressive symptoms shortly after their miscarriage (Janssen & Cuisinier; Neugebauer et al., 1992; Ptettyman, Cordle, & Cook, 1993; Seibel & Graves, 1980). Neugebauer et al (1992) documented that in the early weeks after loss 36% of patients were found to have moderate to severe depressive symptoms (Neugebauer et al., 1992).

Levels of anxiety have been reported to be elevated in 22-41% of women immediately after miscarriage which dropped to 18% by 6 weeks (Janssen & Cuisinier; Ptettyman et al., 1993). Women who have been given a medical explanation

for their pregnancy loss have significantly lower levels of anxiety than those who were not given (Tunaley, Slade, & Duncan, 1993).

A.Sham et al. (2010) have described that those having history of infertility, history of depressive illness and of a younger age group were more prone to developing depressive symptoms (Sham, Yiu, & Ho, 2010). Other studies have showed a higher rate of psychological morbidity in women who have no living child at the time of miscarriage (Friedman & Gath, 1989; Ptettyman et al., 1993; Thapar & Thapar, 1992; Tunaley et al., 1993). Some studies have showed no difference in psychological impact with increased gestational age (Neugebauer et al., 1992; Tunaley et al., 1993). However, other studies have reported increased psychological distress with increased gestational age (Janssen & Cuisinier).

Women at most risk for depressive symptoms post miscarriage are those who attribute high personal significance to the pregnancy, lack social support, have lower emotional strength, use passive coping strategies, have lower incomes and do not conceive or give birth by one year after loss (Swanson, 2000).

Freda (2003) has described women's experiences of miscarriage after infertility treatments. It showed that most women who miscarry after infertility treatment, feels that they are profoundly alone and grieve intensely. They are worried that they might have caused the miscarriage and feel hopeless for future fertility (Freda, Devine, & Semelsberger, 2003).

Recently, many studies have been performed to look at partner's response on miscarriage. Most of the time people assume that the partners are not affected by the loss. Now studies have shown that men do grieve after miscarriage. However they grieve less intensely and for a shorter period (Beutel, Willner, Deckardt, Von Rad, & Weiner, 1996). Beutel et al (1996) also reported that women who were still depressed

at 6 months post miscarriage were more likely to have partners who were not supportive and who avoided discussing the loss.

Psychological symptoms could persist for up to 6 months to 1 year after miscarriage (Ingrid H Lok & Neugebauer, 2007). Medical personnel should be aware of the possible worsening effect of clinical practices such a surgical evacuation and ultrasound findings in the psychological impact on a miscarrying woman. Doctors and nurses are usually more concern about the patient's medical condition rather than the psychological distress that these women are going through.

Risk factors should be identified by medical personnel to determine which patients are more prone for psychological distress. Appropriate action and follow up can then be given to the patient with appropriate referral if indicated.

CHAPTER THREE

METHODOLOGY

This study was conducted at the Obstetrics and Gynaecology Department in Hospital Tengku Ampuan Afzan, Kuantan from 1st July 2013 till 31st March 2014. This hospital is a university affiliated, tertiary referral hospital that performs over 8000 deliveries a year.

It was a cross sectional study that included women who had spontaneous miscarriage who seeked consultation and treatment at our centre during the stated duration above. Patients were seen either at the early pregnancy assessment unit (EPAU) or the gynaecology ward.

The objective of this study was to determine the prevalence of psychological morbidity among woman who had spontaneous miscarriage. The specific objectives are to describe the socio-demographic characteristics of the respondents, to describe and compare prevalence of psychological outcome at 0 month and 3 months post miscarriage and to identify risk factors for women having any type of psychological morbidity. Miscarrying women should be assessed for risk factors predisposing to psychological morbidity and proper counselling can be given. This thus will avoid long term psychological effect if tackled early. A proper protocol can then be shaped and counselling and further interventions can be offered.

The term miscarriage in this study refers to a spontaneous pregnancy loss before 24 weeks of gestation or fetal weight less than 500g (Farquharson et al., 2005). All patients were managed according to the hospital protocol. Complete miscarriage was treated conservatively whereas those who had missed miscarriage underwent

medical evacuation or surgical evacuation as they wished. Patients with incomplete miscarriage were treated with surgical evacuation. The exclusion criteria includes threatened miscarriage, ectopic pregnancy, molar pregnancy, termination of pregnancy, history of psychiatric illness, difficult to come for follow up and unwilling to participate.

The estimated sample size was 147 based on the local prevalence of miscarriage and confidence interval (CI) of 95%. The formula used was as below.

Sample size n = [DEFF*Np(1-p)]/ [$(d^2/Z^2_{1-\alpha/2}$*(N-1)+p*(1-p)] = 147 ~ 150

Population size (for finite population correction factor (N) = 100000

Hypothesized % frequency of outcome factor in the population (p) = 25% +/-7

Confidence limits as % of 100(absolute +/-%) (d) = 7%

Design effect (for cluster surveys – DEFF) = 1

Patient's socio-demographics and clinical characteristics were collected by means of semi-structured interview using the questionnaires prepared. Psychological outcomes were assessed using the validated 12-item General Health Questionnaire (GHQ-12) (D. P. Goldberg, 1978; D. Goldberg & Williams, 2000) and validated 21 item Depression Anxiety Stress Scales (DASS-21) questionnaires (Musa, Fadzil, & Zain, 2007) immediately and 3 months later. The validated Malay version of the GHQ-12 and DASS-21 were used. The women will be informed regarding the study and verbal and written consent taken (Appendix 1 and 2). If the woman fails to come back after 3 months to fill up the questionnaire, they were contacted via telephone.

It included demographic details (age, ethnicity, education level, monthly income, smoking habits and alcohol consumption), duration of marriage, history of infertility, number of previous miscarriages, gestation of pregnancy, conception method as well as whether it was a planned and wanted pregnancy. Other additional

questions included whether they think they did something wrong that may have caused the miscarriage, whether they blamed themselves and whether there was fear to get pregnant again.

The data obtained was analysed using the IBM SPSS version 16.0. Basic descriptive statistics and frequency calculations were performed on all the variables. Frequency and percentage was used for categorical variables and Mean with Standard Deviation were used for numerical variables. Pearson's Chi-square and independent 't' sample test were used to determine the socio-demographic characteristics and psychological morbidities. P value of < 0.05 was considered statistically significant.

CHAPTER FOUR

RESULTS

During the duration of 9 months from 1st July 2013 to 31st March 2014, a total of 166 women who had miscarriage and consented were interviewed. However only 150 women fulfilled the inclusion criteria and were included in this study. The respondents profile is summarized in Table 4.1.

Table 4.1 Respondent profile (n=150)

Characteristics	n (%)
Ethnicity	
Malay	117 (78)
Chinese	21 (14)
Indian	9 (6)
Others	3 (2)
Age years	
<20	10 (6.7)
20-29	67 (44.6)
30-39	63 (42.0)
≥40	10 (6.7)
Education level	
No education	3 (2.0)
Primary school	9 (6.0)
Secondary school	41 (27.3)
Tertiary education	97 (64.7)
Smoking	
Yes	4 (2.7)
No	146 (97.3)
Alcohol consumption	
Yes	2 (1.3)
No	148 (98.7)
Medical illness	
Yes	8 (5.3)
No	142(94.7)
Total family income (RM)	
<1000	11 (7.3)
1000 - 5000	106 (70.7)
5001 – 10000	31(20.7)
>10000	2 (1.3)

Majority of the respondents were Malays (78%) followed by Chinese (14%) and Indian (6%). More than two-thirds (67%) were aged from 20-29 years and 64% were educated up to tertiary level either in college or university. Only 2.7% and 1.3% were smokers and consume alcohol respectively. Only 5.3% had underlying medical illnesses such as bronchial asthma, hypertension, diabetes mellitus and hyperlipidaemia.

Table 4.2 Gestational age during miscarriage and number of living children

	Range	Mean	SD
Age	20 - 39	29.25	6.521
Gestational age during miscarriage	8 - 12	10.07	2.03
Number of living children	2 - 3	2.817	2.071

The mean age of the respondents was 29.25 and the mean gestational age during miscarriage was 10 weeks. The mean number of living children was 2.817. Marital and pregnancy details of these women are as per Table 4.2.

Table 4.3 Marital and pregnancy details (n=150)

Marital details	n (%)
Parity of the patient	
Para 0	53 (35.3)
Para 1-5	85 (56.7)
Para > 5	12 (8.0)
Number of previous miscarriage	
0	85 (56.7)
1	51 (34)
2	11 (7.3)
≥ 3	3 (2.0)
Duration of marriage	
<1 year	33 (22)
1-5 years	78 (52)
> 5 years	39 (26)
History of infertility	
Yes	22 (14.7)
No	128 (85.3)
Conception method	
Spontaneous	143 (95.3)
Assisted	7 (4.7)
Planned pregnancy	
Yes	113 (75.3)
No	37 (24.7)

Majority of the women interviewed were multiparous women of para 1-5 (56.7%). It was noted that 56.7% of these women were experiencing their first miscarriage and 2% had recurrent miscarriage. There were 14.7% who had history of subfertility before this current conception and about 75.3% were planned pregnancies (See Table 4.3).

Table 4.4 GHQ12 scoring at 0 and 3 months post miscarriage

		Period after miscarriage			
		at 0 month		at 3 months	
		Count	%	Count	%
GHQ12 score	Less than 4	113	75.3%	138	92.0%
	4 or more	37	24.7%	12	8.0%

Table 4.4 above shows the General Health Questionnaire 12 (GHQ 12) scores of patients just after the miscarriage and 3 months post miscarriage. Scores less than 4 shows that the respondents are not psychologically affected by their miscarriage. Whereas scores 4 or more shows that the respondents have some general psychological distress. It was noted that 24.7% of respondents had some psychological distress just after miscarriage and the incidence came down to 8% 3 months after the miscarriage.

Table 4.5 DASS21 depression scores at 0 and 3 months post miscarriage

		Period after miscarriage			
		at 0 month		at 3 months	
		Count	%	Count	%
DASS21 depression score	Normal	125	83.3%	142	94.7%
	Mild	21	14.0%	8	5.3%
	Moderate	4	2.7%	0	0.0%
	Severe	0	0.0%	0	0.0%
	extremely severe	0	0.0%	0	0.0%

The DASS21 depression scores showed that 14% of respondent had mild depression and 2.7% of the respondent had moderate depressive symptoms immediately after the miscarriage. Three months after the miscarriage 8 out of the 150 respondents (5.3%) had mild depressive symptoms, whereas none had moderate to extremely severe depression. Out of the 21 women who initially had mild depressive symptoms, 8 of these 21 women still had mild depressive symptoms. Out of the 4 women who had moderate symptoms, all 4 still had symptoms but reduced to mild depressive symptoms after 3 months of miscarriage (See Table 4.5).

Table 4.6 DASS21 anxiety scores at 0 and 3 months post miscarriage

		Period after post miscarriage			
		at 0 month		at 3 months	
		Count	%	Count	%
DASS21 anxiety score	Normal	110	73.3%	137	91.3%
	Mild	28	18.7%	13	8.7%
	Moderate	12	8.0%	10	83.3%
	Severe	0	0.0%	0	0.0%
	extremely severe	0	0.0%	0	0.0%