**ORIGINAL ARTICLE**

# FACTORS AFFECTING DECISION FOR HYSTERECTOMY: EXPERIENCE IN A TERTIARY TEACHING HOSPITAL IN MALAYSIA: A CROSS-SECTIONAL STUDY

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**ABSTRACT**

*Hysterectomy is one of the most common non-obstetric surgical procedures performed on women. Little is known about the factors affecting decision making process regarding hysterectomy in Malaysia. The study aimed to explore factors affecting women decision regarding hysterectomy among Malaysian women. This study has enrolled 100 women eligible for hysterectomy in the department of general gynecology ward in the university of Malaya hospital, Malaysia. A structured questionnaire was administered by interview. Descriptive analysis was used to obtain the frequencies. Chi square test and simple logistic regression test were performed to assess the association between variables. The majority of participants aged 41-50 years (52%) and married (74%). Twenty seven out of 100 participants made their decision on the operation within one month while 73 women decided after one month. Some complications were only known by the minority of patients such as injury to ureter (47%), injury to nerve (8%), incision hernia (18%), vault prolapse (21 %), and deep vein thrombosis (43%). Most of women delay their decision on the surgery (73%). Factors associated significantly with decision were ethnicity, religion, knowledge on complication, discussion with spouse and doctor.. Cultural factors, opinion of husband and doctors and knowledge of the complication play an important role in the decision of women. It is important to provide suitable information and social support for patients to help them in their decision-making. Participation and support from spouses and doctors should also be encouraged.*

***Keywords:*** *decision-making, hysterectomy, women, Malaysia*

## INTRODUCTION

Hysterectomy is the most common surgical procedure among women age 45–64 years and came second after Caesarean section for women of reproductive age [1,2]. Approximately 80-90% of hysterectomies are performed to treat non-malignant problems [3, 4]. Although hysterectomy may be the ultimate treatment for certain situation, it is not without negative consequences on physical, psychological and social aspects of women's lives. These may include loss of fertility, depression, stress, sexual dysfunction, deterioration of relationships, fatigue, sleep disturbance, eating disorders, lifestyle disruption and poor quality of life[5.] Williams & Clark, 2000 noted that fear of fibroids becoming malignant or becomes bigger, worry to loss the uterus and complications of surgery as among the factors in determining decision for surgery [6] . Adequate counseling and explanation by doctors were important factors influencing their decision [7, 8]. The role of men in the decision making process is debatable. Older study by Bernhard (1992) [8] found men played only a small role but a newer study by Donna et al (2000) [1] found supportive partners was an important deciding factor. Other factors that may affect the women decision were worries about their feminity, husband/family relationships, sexual life, menopause, as well as relatives' opinions [9].

The old concept of doctor knows best is over. Modern era demands an informed consent to be obtained before any surgical procedure being undertaken. The women are active partners with their doctors in the decision for hysterectomy. In benign cases, there is no urgency or compelling need to remove the uterus thus some will agreed within a week or two but others may take several weeks or even months before giving their consent, sometimes to the detriment of their general wellbeing. There is no previous study in Malaysia looking at these factors thus this study will try to evaluate this.

## METHODS AND SUBJECTS

### Study design and population

This cross-sectional study was conducted in the period from January to April 2013. We aim to recruit 100 women admitted for elective hysterectomy in the Department of Obstetrics and Gynecology, University of Malaya hospital. All eligible women will be approached, given the patient information sheet about the study and if agreeable to participate, signed the consent form and proceeded to have face to face interview. Exclusion criteria included patients with any malignancy, refuse to participate, unable to communicate with the interviewer or too ill to participate.

**Instruments**

A structured questionnaire was designed for the purpose of this study after extensive review of the literature[1, 2, 3, 4]. The questionnaire was checked by clinicians and tried on several patients, undergone few modifications before coming out with the final one used in this study. The researcher administered the questionnaire by interviewing patients. The questionnaire consisted of several parts. The first part included questions on the socio-demographic and economic factors such as age, marital status, race, religion, monthly income, education, occupation, and parity. The second part assessed if the patient understood the complications and consequences of the surgery. This part included questions such as " Do you know what organ(s) or tissues that will be removed?", " Will the surgery render you menopause?", "are you still able to have babies after the surgery?", "Have you been explained about the possible complications?" (The complications listed were bleeding, blood transfusion, injury to neighboring organs, incision hernia, vault prolepses, infection, and deep vein thrombosis). The third part assessed the expected quality of sexual life after the operation. The answer options included ("as before", "less than before", and "more than before", "not sure", "not applicable") The fourth part assessed either the patient agreed on the operation immediately(Early decision was defined as the agreement of patient to do the operation within less than four weeks). . The last part investigated the importance of the following factors in the decision: own decision, husband doctor, relatives and friends.

**Statistical analysis**

Analysis was performed using Statistical Package of Social Sciences (SPSS®) (version 16.0, IBM, Armonk, NY). Descriptive analysis was performed for all variables in this study. Chi-square test was conducted to compare the proportions and to obtain the OR. In case of variables with three categories, simple logistic regression was used to obtain the OR. The accepted level of significance was set below 0.05 ($p<0.05$).

**Ethical issues**

Approval of the study was obtained from the medical ethic committee of University of Malaya Medical Centre reference number 890.5 dated 18th January, 2012. The objectives of the study were explained to the participants orally and in the information sheet. Confidentiality was assured and consent was signed by all the participants

**RESULTS**

One hundred women participated in the study. The racial composition representing the typical mixed of women treated in this hospital. The mean (±SD) age was 50.6 (±8.3) and the age ranged from 30 to 72 years. The majority aged 41-50 years (52%), married (74.0%) had Secondary education (51.0%), and unemployed (house wife) (50.0%). Indian and Malay were distributed equally (34% each) with a minority of Chinese (28%). The majority were not workers (50%). The demographic data were as shown in Table 1..

Table 1: Socio-demographic characteristic of the participants

| Variables | Frequency, n=100 | Percentage (%) |
|---|---|---|
| **Age** | | |
| 30-40 | 5 | 5.0 |
| 41-50 | 52 | 52.0 |
| >50 | 43 | 43.0 |
| **Ethnicity** | | |
| Malay | 34 | 34.0 |
| Chinese | 28 | 28.0 |
| Indian | 34 | 34.0 |
| Others | 4 | 4.0 |
| **Marital status** | | |
| Single | 6 | 6.0 |
| Married | 74 | 74.0 |
| Divorced / widowed | 20 | 20.0 |
| **Religion** | | |
| Muslim | 35 | 35.0 |
| Christian | 16 | 16.0 |
| Hindu | 26 | 26.0 |
| Buddhist | 22 | 22.0 |
| Others | 1 | 1.0 |
| **Education** | | |
| Primary | 27 | 27.0 |
| Secondary | 51 | 51.0 |
| Tertiary (diploma and above) | 22 | 22.0 |
| **Occupation** | | |
| House wife | 50 | 50.0 |
| Government | 34 | 34.0 |
| Private sector | 16 | 16.0 |
| **Parity** | | |
| 0 | 10 | 10.0 |
| 1-2 | 29 | 29.0 |
| 3-4 | 47 | 47.0 |
| ≥ 5 | 24 | 24.0 |

Twenty seven of the participants (27%) consenting for hysterectomy within four weeks of suggestion by their physician whilst another 73% delayed it for more than four weeks. Only ethnicity and religion show significant influent on the decision for hysterectomy .The Chinese seems to decide earlier compared to Malays women (OR= 2.1, 95% CI 1.2-3.5, p= 0.018). Similar trend noted on the Buddhist (OR=1.9, CI 1.4, 2.2, p =0.014) and Christianity (OR= 1.3, 95% CI 1.2-3.1, p=0.005,) in comparison to Muslims (Table 2).

Table 2: Socio-demographic factors affecting decision for hysterectomy

| Variables | < 4 weeks N (%) | ≥ 4 weeks N (%) | P value |
|---|---|---|---|
| **Age** | | | |
| 30-40 | 4 (19.0) | 17 (81.0) | Reference |
| 41-50 | 15 (28.3) | 38 (71.7) | .411 |
| >50 | 8 (30.8) | 18 (69.2) | 0.657 |
| **Ethnicity** | | | 0.036 |
| Malay, n=34 (reference) | 6 (17.6) | 28 (82.4) | Reference |
| Chinese, n=28 | 13 (28.3) | 15 (53.6) | 0.018 |
| Indian, n=34 | 8 (30.8) | 26 (76.5) | 0.550 |
| Others, n=4 | 0 (0.0) | 4 (100.0) | 0.999 |
| **Marital status** | | | |
| Single | 0 (0.0) | 6 (100.0) | Reference |
| Married | 18 (24.3) | 56 (75.7) | 0.999 |
| Divorced / widowed | 9 (50.0) | 11 (50.0) | 0.075 |
| **Religion*** | | | |
| Muslim (reference) | 4 (11.4) | 31 (88.6) | |
| Christian | 8 (50.0) | 8 (50.0) | 0.005 |
| Hindu | 6 (23.1) | 20 (76.9) | 0.232 |
| Buddhist | 9 (40.9) | 13 (59.1) | 0.014 |
| Others | 0 (0.0) | 1 (100.0) | 1.000 |
| **Education** | | | |
| Primary | 6 (22.2) | 21 (77.8) | Reference |
| Secondary | 14 (27.5) | 37 (72.5) | 0.451 |
| Tertiary (diploma and above) | 7(31.8) | 15(68.2) | 0.706 |
| **Occupation** | | | |
| Home maker | 15 (30.0) | 35 (70.0) | Reference |
| Government | 8 (23.5) | 26 (76.5) | 0.701 |
| Private sector | 4 (27.3) | 12 (73.0) | 0.910 |

Spouse opinion and doctors' advice were the only important factors significantly helping the women to decide for surgery. Patients were asked about factors that influence their early decision on surgery. The most frequent factor were advice of my doctor (91%) (OR =1.37, 95% CI 1.22-1.55, p= 0.004), followed by approval of husband (61%) (OR=4.45, 95% CI1.74-11.40, p=0.001), then worry about cancer (60%) then completed family (49%) (Table 4). About 48.1% reported that bleeding is most important unbearable symptom. There was no significant association between the information provided understanding and awareness on post surgical effect to the decision for surgery (Table 5, 6).

## DISCUSSION

Decision for any surgical procedure is normally not taken lightly by any patient. There will be some concern of possible complication, anxiety, and uncertainty on post operative pain. Proper explanation by the surgeon usually lessened this uncertainty. However, hysterectomy involves removal of the uterus, an important organ of any woman, especially during their reproductive years. Psychologically it may affect the feminity of being a woman, just like losing a breast during mastectomy. Therefore, it is normal to see women may try to delay making the decision in hoping to avoid it altogether. Some would try alternative treatment after maximizing medical therapy.

Table 3: Factors determining decision for surgery

| Variables | <4 weeks | ≥4 weeks | OR (95% CI) | P value |
|---|---|---|---|---|
| | N (%) | N (%) | | |
| **Maximize non surgical treatment** | | | 1.5(1.29-1.78) | 0.002 |
| Yes | 0 (0.0) | 21(100.0) | | |
| No | 27(34.2) | 52(65.8) | | |
| **Afraid of surgery /post operation pain** | | | 2.2 (1.63-3.04) | < 0.001 |
| Yes | 0 (0.0) | 51(100.0) | | |
| No | 27 (55.1) | 22(44.9) | | |
| **Symptoms is bearable** | | | 1.56(1.32-1.85) | < 0.001 |
| Yes | 0 (0.0) | 25 (100.0) | | |
| No | 27 (36.0) | 22 (64.0) | | |
| **Seeking second opinion** | | | 1.47(1.27-1.71) | 0.008 |
| Yes | 0(0.0) | 16 (100.0) | | |
| No | 27 (32.1) | 57 (67.9) | | |
| **Alternative treatment method** | | | 0.11 (0.14-0.86) | 0.013 |
| Yes | 1 (5.0) | 19 (95.0) | | |
| No | 26 (32.5) | 54 (67.5) | | |
| **Discuss and obtain spouse approval** | | | 0.14 (0.002-0.11) | < 0.001 |
| Yes | 1 (1.8) | 54(98.2) | | |
| No | 26 (57.8) | 19(42.2) | | |
| **Discuss with relative/ friends** | | | 2.00 (1.53-2.61) | < 0.001 |
| Yes | 0 (0.0) | 46(100.0) | | |
| No | 27(50.0) | 27(50.0) | | |
| **Concerns on menopause** | | | 0.04 (0.006-0.343) | < 0.001 |
| Yes | 1 (2.9) | 34 (97.1) | | |
| No | 26 (40.0 | 39 (60.0) | | |
| **Concern on womb removal** | | | 0.09 (0.011-0.699) | 0.005 |
| Yes | 1 (4.3) | 22 (95.7) | | |
| No | 26 (33.8) | 51 (66.2) | | |

In this cohort of the 100 participants, majority had delayed their decision to more than a month. The most common cited reason was to discuss with their spouses, the symptoms were still bearable and afraid of surgery. However, ethnicity and to a certain extend religion, play an important role. The Chinese tend to agree for surgery earlier compared to the Indians and the Malays seems the slowest to decide. This may need further evaluation such as focus group discussion or a bigger study to understand the possible cultural differences.

Table 4: Social support and decision of surgery

| Variables | <4 weeks | ≥4 weeks | OR (95% CI) | P value |
|---|---|---|---|---|
| | N (%) | N (%) | | |
| **Spouse** | | | 4.45 (1.74-11.40) | 0.001 |
| Not important | 15 (48.4) | 16 (51.6) | | |
| Important | 12 (17.4) | 57 (82.6) | | |
| **Relatives** | | | 1.46 (0.57-3.69) | 0.427 |
| Not important | 10 (32.3) | 21 (67.7) | | |
| Important | 17 (24.6) | 52 (75.4) | | |
| **Friends** | | | 0.62 (0.20-1.88) | 0.398 |
| Not important | 21 (25.3) | 62 (74.7) | | |
| Important | 6 (35.3) | 11 (64.7) | | |
| **My doctor** | | | 1.37 (1.22-1.55) | 0.004 |
| Not important | 0 (0.0) | 1 (100.0) | | |
| Important | 27 (27.3) | 72 (72.7) | | |

Decision for surgery were also influenced by trying to avoid surgery if possible and this may come in the form of maximizing medical therapy, trying alternative treatment or looking for

second opinion. Women try to live with their problems if the symptoms are still bearable. When they finally agreed for surgery, anxiety on post operative pain, operative complications, on being menopause and sexuality became an issue. Explanation and understanding of complications may make women agreed or disagreed for surgery, depending on how they look at it. Our study showed that awareness on common complication like blood transfusion, bleeding, injury to bowel, injury to bladder, infection and menopause; do not make them delay their consent. However, awareness on complications like risks of vault prolapse, incisional hernia, injury to ureter, deep vein thrombosis and injury to nerve seem to have a delaying influent to the participants. They make look as these complication as more serious and can be more troublesome compared to the others. This could be avoided if health personnel spend more time to explain the indication and the procedures to the patients. This was clearly shown by Chou et al (2006) [3] that patients wanted to be involved in decision making process and good communication skills is important in providing reassurance and explanation to lessen patients anxiety.

Table 5: Explanation and understanding of surgery complication

| Variables | <4 weeks | ≥4 weeks | OR (95% CI) | P value |
|---|---|---|---|---|
| | N (%) | N (%) | | |
| **Bleeding** | | | 0.72 (0.634-0.815) | 0.505 |
| Explained | 27 (28.1) | 69 (71.9) | | |
| Unexplained | 0 (0.0) | 4 (100.0) | | |
| **Blood transfusion** | | | 0.74 (0.26-2.07) | 0.564 |
| Explained | 20 (25.6) | 58 (74.4) | | |
| Unexplained | 7 (31.8) | 15 (68.2) | | |
| **Injury to ureter** | | | 0.71 (0.29-1.73) | 0.446 |
| Explained | 11 (23.4) | 36 (76.6) | | |
| Unexplained | 16 (30.6) | 37 (69.8) | | |
| **Injury to bladder** | | | 0.72 (0.166-3.09) | 0.654 |
| Explained | 24 (26.4) | 67 (73.6) | | |
| Unexplained | 3 (33.3) | 6 (66.7) | | |
| **Injury to bowel** | | | 1.04 (0.336-3.240) | 0.940 |
| Explained | 22 (27.2) | 59 (72.8) | | |
| Unexplained | 5 (26.3) | 14 (73.7) | | |
| **Injury to nerve** | | | 1.70 (0.377-7.66) | 0.778 |
| Explained | 3 (37.5) | 5 (62.5) | | |
| Unexplained | 24 (26.1) | 68 (73.9) | | |
| **Incisional hernia** | | | 0.483 (0.128-1.823) | 0.275 |
| Explained | 3 (16.7) | 15 (83.3) | | |
| Unexplained | 24 (29.3) | 58 (70.7) | | |
| **Vault prolapse** | | | 0.382 (0.103-1.420) | 0.140 |
| Explained | 3 (14.3) | 18 (85.7) | | |
| Unexplained | 24 (30.4) | 55 (69.6) | | |
| **Infection** | | | 0.667 (0.247-1.803) | 0.423 |
| Explained | 19 (25.0) | 57 (75.0) | | |
| Unexplained | 8 (33.3) | 16 (66.7) | | |
| **Deep vein thrombosis** | | | 0.57(0.228-1.443) | 0.235 |
| Explained | 9 (20.9) | 34 (79.1) | | |
| Unexplained | 18 (31.6) | 39 (68.4) | | |

Salkovskis et al (2004) also showed that involving the patient in the decision making improves patient satisfaction on their health experience and contribute to better outcomes [10]. Patient involvement has been the practice in the United Kingdom for many years where patients were explained of their options and the details of the procedures or therapies involved [11].

Other factors that affect the women decision in our study were the opinion of the spouse and their physicians. Previous study found that doctors influence women's decisions by giving emphasis to the benefits of the surgery, rather than the symbolic importance of the uterus [12, 13]. Research has also demonstrated that spouse understand the need of their spouse for surgery may need time to get better. However, there was some anxiety on how the procedure will affect their sexual identity as well as the loss of capacity for childbearing [14, 15]. Therefore, a supportive spouse is important in determining the women sexual life after hysterectomy. Positive support was associated with better

outcomes, such as earlier resumption of sex life. Similarly, Chang et al (1998) [12] found that husband's support was a vital factor in their wives post-surgical degree of sexual satisfaction.

Table 6: Understanding on the consequences of the intended surgery

| Variables | <4 weeks | ≥4 weeks | OR (95% CI) |
|---|---|---|---|
| | N (%) | N (%) | |
| **Surgery will make you menopause** | | | 0.577 |
| Yes | 14(22.6) | 48(77.4) | |
| No | 5(38.5) | 8(61.5) | |
| Unsure | 3(37.5) | 5(62.5) | |
| Already menopause | 5(29.4) | 12(70.6) | |
| **Pregnancy after surgery** | | | |
| Yes | 0 (0.0) | 2(100.0) | 0.525 |
| No | 26(27.7) | 68(72.3) | |
| Unsure | 1(25.0) | 3(75.0) | |
| **Expectation of Sexual life after surgery** | | | 0.188 |
| As before | 6(15.8) | 32(84.2) | |
| Less than before | 10(29.4) | 24(70.6) | |
| Non-applicable | 10(38.5) | 16 (61.5) | |
| Not sure | 1(50.0) | 1(50.0) | |

Social support of woman by her spouse, relatives and friends was important but support from one's partner was shown to be more important [6]. A previous study in Taiwan showed that two-thirds of decision making was of combined and/or the husband's decision [4]. Our study also showed similar trend where consent or discussion with the women spouse is important to the women prior to agreeing for hysterectomy. Therefore, encouraging the spouse to be around during counseling should be the standard practice starting from the initial consultation to avoid unnecessary delay in decision making. This study had some limitations. The cross-sectional design might affect the causal relationship. This study was conducted in one center in Malaysia which may affect its generalizability.

## CONCLUSION

This study found that the majority of patients delay their decision on surgery for more than one month and the common cause cited were symptoms was bearable and need to maximize other options and looking for others' opinion . Factors that affect women decision were ethnicity, religion, knowledge on certain grave complication, spouse, and doctor opinions.

### Recommendations

Educational material and a support service should be readily available in order to help improve communication between physicians and patients. It is important to provide emotional support and suitable information for patients to help them in their decision-making. Participation and support from spouses should also be encouraged to ease anxiety and reduce unnecessary hesitation. A research with bigger sample size and from multiple representative centers in Malaysia is recommended.

## REFERENCES


1. Donna L Richter, Robert E Mckeown, Sara J Corwin, Carol Rheaume, Jacquie Fraser. The role of male partners in women's decision making regarding hysterectomy. *Journal Of Women's Health & Gender-Based Medicine* 2000; 9:15-25.

2. Wu SM, Chao S, Yu YM, Yang CF, Che HL. Decision-making tree for women considering hysterectomy. *Journal of Advanced Nursing* 2005; 51:361–368.

3. Chou CC, Lee TY, Sun CC, Lin SS, Chen LF. Husbands' experiences before wives' hysterectomy. *Journal of Nursing Research* 2006;14:113-22.

4. Rowe M.K, Kanouse DE, Mittman BS, Bernstein SJ. Quality of life among women undergoing hysterectomy. *Obstetrics and Gynecology* 1999; 93: 915–921.

5. Skrzypulec V, Tobor E, Drosdzol Awosielski K. Biopsychosocial functioning of women after mastectomy. Journal Clinical Nursing 2009; 18: 613-619.

6. Williams RD, Clark AJ. A qualitative study of women's hysterectomy experience. *Journal of Women's Health & Gender-based medicine* 2000; 9:15-25.

7. Galavotti C, Richter DL. Talking about hysterectomy: the experiences of women from four cultural groups. *Journal of Women's Health & Gender-based medicine* 2000; 9:63-67.

8. Bernhard LA. Consequences of hysterectomy in the lives of women. *Health Care for Women International* 1992; 13: 281-291.

9. Reis N, Engin R, Ingec M, Bag B. A qualitative study: beliefs and attitudes of women undergoing abdominal hysterectomy in Turkey. *International Journal of Gynecology and* Cancer 2008; 18:921-928.

10. Salkovskis PM, Wroe AL, Rees MC. Shared decision-making, health choices and the menopause. *Journal of the British Menopause Society* 2004; 10: 13–17.

11. Worthington R. Clinical issues on consent: some philosophical concerns. *Journal of Medical Ethics* 2002;28: 377–380.

12. Chang J, Chang CH, Hu YH. A study of information given by doctors before a hysterectomy. *The Journal of Women and Gender Studies* 1998; 9:115–144.

13. Wang XQ, Lambert CE, Lambert VA, Anxiety, depression and coping strategies in post-hysterectomy Chinese women prior to discharge. *International Nursing Review* 2007;54: 3

14. Webb C, Wilson-Barnett J. Hysterectomy: Dispelling the myths - 2. *Nursing Times* 1983; 6:44-6.

15. Helstrom L, Sorbom D, Backstrom T. Influence of partner relationship on sexuality after subtotal hysterectomy. *Acta Obstetrica et Gynecologicia Scandinavica* 1995; 74: 142-146.