



UNIVERSITI PUTRA MALAYSIA

**LEVEL OF PAIN AND SATISFACTION WITH PAIN MANAGEMENT
AFTER LOWER SEGMENT CAESAREAN SECTION AMONG
MALAYSIAN WOMEN IN TWO PUBLIC HOSPITALS**

THANAGESWARY A/P N.GOVINDASAMY

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By

THANAGESWARY A/P N. GOVINDASAMY

**Thesis Submitted to the School of Graduate Studies, Universiti Putra
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Science**

July 2019

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in
fulfilment of the requirement for the degree of Master of Science

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July 2019

Chair : Ms. Salimah Japar
Faculty : Medicine and Health Sciences

As compared to the vaginal delivery, the Lower Segment Caesarean Section (LSCS) operation is easier to perform but women who undergo LSCS experience a higher level of pain. Study done by the Institute for Public Health 2008, the Ministry of Health Malaysia reported that pain rating was greater among Indian women (28.4%) compared to Chinese (9.9%) and Malay (8.2%) women. It is important to provide adequate pain relief as early mobilization to prevent the risk of thromboembolic disease, which increases during pregnancy. Mothers need to be pain-free to care for their new-borns and breastfeed them effectively. Thus, this study aims to determine the level of pain and satisfaction with pain management after LSCS among Malaysian women in two public hospitals. This study employed a structured survey using interview to collect data from chosen respondents. Samples studies were selected from its population using cluster sampling technique. The respondents were 126 post LSCS mothers. The questionnaire consists, of 18 questions and divided into three main sections. Data were analysed using SPSS version 22. Level of pain was reported within and 24 hours after LSCS, showing that all respondents majority of them experiencing moderate level of pain. There was no statistically significant association (p -value=0.056) found between ethnicity and pain level within 24 hours after LSCS. However, there existed an association between different ethnicities and pain level after 24 hours of LSCS operation (p -value 0.002). Where as severe pain was approximately equally distributed (40%) for both Chinese and Indian women. The results of this study showed after pain management on types of analgesia had a statistically significant different management in hospitals, HSA and HSI, and overall dissatisfaction.

Keywords: Pain Score, Pain Level, LSCS, Ethnicity

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia
sebagai memenuhi keperluan untuk ijazah Master Sains

**TAHAP KESAKITAN AND KEPUASAN DALAM PENJAGAAN RAWATAN
SELEPAS *LOWER SEGMENT CAESAREAN SECTION (LSCS)* ANTARA
PESAKIT MALAYSIA DI DUA HOSPITAL KERAJAAN**

Oleh

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Berbanding kelahiran melalui vagina, pembedahan (*LSCS*) lebih mudah dilakukan tapi mengalami tahap kesakitan yang lebih tinggi. Kajian yang pernah dijalankan di Malaysia oleh Institut Kesihatan Awam 2008, KKM melaporkan bahawa sebanyak 28.4% wanita India mengalami tahap kesakitan yang tinggi, diikuti wanita Cina sebanyak 9.9% dan wanita Melayu sebanyak 8.2%. Ubatan tahan sakit harus diberi bagi pergerakan awal dan mencegah risiko *thromboembolic* Ibu perlu bebas dari rasa sakit untuk memudahkan penjagaan dan penyusuan anak. Kajian ini bertujuan mengenal pasti tahap kesakitan dan kepuasan hati terhadap pengurusan kesakitan selepas *LSCS* dalam kalangan wanita Malaysia di antara dua hospital awam. Kajian ini menggunakan kaji selidik berstruktur secara temubual. Teknik pensampelan adalah berkelompok. Responden kajian ini terdiri 126 kalangan ibu. Soalan kaji selidik berstruktur terdiri daripada 18 soalan terbahagi kepada tiga bahagian utama. Data telah dianalisis menggunakan SPSS versi 22. Tahap kesakitan dalam tempoh 24 jam pasca *LSCS* majoriti mengalami tahap kesakitan sederhana. Tiada kajian statistik ditemukan antara bangsa dan tahap kesakitan dalam tempoh 24 jam pasca *LSCS* ($p\text{-value}=0.056$). Terdapat perbezaan tahap kesakitan selepas 24 jam pasca pembedahan *LSCS* ($p\text{-value}=0.002$). Tahap kesakitan tinggi dialami secara sama rata oleh wanita Cina dan India sebanyak 40.0%. Hasil kajian menunjukkan jenis-jenis analgesia yang digunakan adalah berbeza di hospital iaitu HSA dan HSI, serta keseluruhan tahap kepuasan.

Kata Kunci: Skor kesakitan, tahap kesakitan, *LSCS*, Etnik

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I certify that a Thesis Examination Committee has met on 4 July 2019 to conduct the final examination of Thanageswary A/p N. Govindasamy on her thesis entitled “Level of Pain and Satisfaction with Pain Management After Lower Segment Caesarean Section among Malaysian Women in Two Public Hospitals” in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U. (A) 106] The Committee recommends that the student is awarded the Master of Science.

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LIST OF ABBREVIATIONS

N	Population
H ₀	Null hypothesis
PCM	Paracetamol drugs
LSCS	Lower Segment Caesarean section
HSA	Hospital Sultanah Aminah
HSI	Hospital Sultanah Ismail
KKM	Kementerian Kesihatan Malaysia
PRN	Taken as needed
BD	Twice a day
TDS	Three times a day
QID	Four times a day
NRS	Numerical Rating Scale
VAS	Visual Analogue Scale
VRS	Verbal Rating Scale
FPS-R	Faces Pain Scale Revised
VRSN	Verbal Numerical Rating Scale
IV	Intravenous
PCA	Patient-controlled analgesia

CHAPTER 1

INTRODUCTION

1.1. Background of the study

Lower segment caesarean section (LSCS), an alternative option to vaginal delivery, is a surgery done by a slit on the mother's abdomen and uterus to deliver a baby (Chavda, Godwam & Dudhrejiya, 2017). Initially, this choice is applied according to the mother and fetus's health status during labor, and often acts as a life-saving intervention in obstetric emergency. The most usual symptoms for LSCS delivery include failure to "progress", non-reassuring fetal status, cephalo pelvic disproportion, mal-presentation, prematurity and previous uterine surgery (Miller, 2010). The caesarean birth rate for Malaysia from the Health Management Information System (HMIS) 2006 was 15.7%. These increasing uses of the procedure are recognized to be the indication of liberalization for fatal "distress" as well as optional repeat sections. This may contribute to short and long-term health risks for both mother and the baby (Louis, 2017).

Compared to vaginal delivery, the LSCS operation is easier to perform. However, after the delivery, women who undergo LSCS experience higher level of pain than those through vaginal deliveries (Kainu, Halmesmaki, Korttila & Sarvela, 2016). Caesarean section usually induces moderate to severe pain for 48 hours. Other than that, Jasim (2017) concludes that CS rate is 28% among women in the obstetric unit of Hospital Pulau Pinang and the pain experienced by the research participants is mild. Moreover, the predictive factors for pain intensity may aid in identifying patients at greater risk for postoperative pain. This study concludes that the predictive methods proposed may aid in identifying patients at greater risk for postoperative pain.

The aim of postoperative pain treatment is providing subjective relief. It is important to provide sufficient pain relief as early mobilization to avoid the risk of thrombus-embolic disease, which increases during pregnancy. Besides, these patients must be free from pain to effectively care for and breast feed their newborns. Historically, administered analgesia for postoperative pain management should be determined by drug availability (Ismail, Shahzad & Shafiq, 2012).

Based on a study done in Malaysia by the Institute for Public Health 2008, the Ministry of Health Malaysia reported that pain rating was greater among Indian women (28.4%) compared to Chinese (9.9%) and Malay (8.2%) women. Different racial groups' pain rating had different responses. Although the terms

race, ethnicity, and culture are often used interchangeably, race is assumed to be determined biologically while ethnicity and culture are basically the social constructs (Tsui, Chen & Ng, 2010).

1.2. Problem statement

Caesarean section commonly induces moderate to severe pain for 48 hours. The aim of postoperative pain treatment is to provide subjective comfort. It is important to provide adequate pain relief as early mobilization to prevent the risk of thromboembolic disease, which increases during pregnancy. Besides, these patients need to be pain-free to care for their new-borns and breastfeed them effectively. Historically, administered analgesia for postoperative pain management should be determined by drug availability (Ismail, 2012).

Women who undergo LSCS experience higher level of pain after delivery compared to those going through vaginal deliveries. A retrospective analysis on pain charts of 400 caesarean deliveries in Penang Hospital reported that women who underwent caesarean section deliveries (both elective and emergency) reported the highest pain score at 12 hours after operation. Overall, within 48 hours of post operation, 33.6% of women experienced mild pain at rest and 63.7% of the patients experienced mild pain at movement (Jasim, Sulaiman, Khan & Rajah, 2017).

The study by Ene (2011) examined self-rated pain score and morphine usage towards 1034 women who underwent elective lower caesarean section (LSCS) for their deliveries. Data on pain scores and the amount of total morphine use according to patient-controlled analgesia were collected every 4 hours. Overall, the lowest pain scores were recorded 12 hours after surgery and highest at 24 hours. Morphine consumption was the highest within the first 4 hours and lowest between 12 and 16 hours. There were statistically significant ethnic group differences in pain scores ($p = 1.7 \times 10^{-7}$) and morphine usage ($p = 2.8 \times 10^{-15}$) between ethnic groups, with Indians having the highest mean pain score and using the highest amount of morphine. The ethnic differences in pain score and morphine self-administration persisted after controlling the age, body mass index, and duration of the operation.

The study by Edwards et.al (2012) explored aspects of culture, knowledge, and belief and their influence on pain management from Australian perspective. Nurses who were not aware of these differences were likely to fall into the trap of ethnocentrism and assumed that each patient perceived and expressed pain as they did. It is important to understand other cultures but has awareness of personal bias and perspective on pain as well.

1.3. Significance of the study

This study may provide some cultural insights for nurses as a guide when caring for patients of different cultural backgrounds in Malaysia; Malay, Chinese and Indians. Nurses also need to understand a woman's cultural expression and perception as well as pain assessment and management by having the knowledge on researched cultural trends. This study might be able to provide information to nurses and doctors related to the expectation of different ethnicity towards pain of postoperative caesarean section. The result might positively affect the implication of pain management as well as to relieve the pain. It is also worth highlighting the need for resources to evaluate and characterize the pain on post-caesarean section, aiming at reaching a humanized care during the postpartum and adequate resources for its treatment.

Level of pain and satisfaction on pain management after LSCS are an important need to be concerned by health providers as they need to constantly monitor and take care of patients' needs. This study is important for care givers to provide services of handling patients from different background in order to assess treatments accordingly from the level of pain felt by patients after LSCS.

Moreover, in this research, the researcher had access to baseline information on hospital practices and management that led to patients' satisfaction with pain. This was due to different hospitals providing different types of drugs according to hospital procedures. The hospital can achieve a greater result if pain management is parallel with other hospitals as hospitalization will benefit patients financially while reducing hospital costs. The hospital also gains benefits as they are continually facing challenges of providing cost-effective services to patients and the community.

1.4. Research objectives

1.4.1. General objective

This study aims to determine the level of pain and satisfaction with pain management after lower segment caesarean section (LSCS) among Malaysian women in public hospitals are determined.

1.4.2. Specific objectives

1. To determine the level of pain within and after 24 hours of post LSCS women.
2. To compare the level of pain within and after 24 hours of post LSCS between races.
3. To identify other contributing factors of pain level within and after 24 hours of post LSCS.
4. To describe the satisfaction level on pain management among women who underwent LSCS.
5. To determine the association between level of pain post LSCS and level of satisfaction on pain management among women who underwent LSCS.

1.4.3. Research questions

1. What is the level of pain within and after 24 hours of post LSCS women?
2. What the differences of level of pain within and after 24 hours are of post LSCS between races.
3. What the contributing factors of pain level within and after 24 hours are of post LSCS?
4. What is the satisfaction level on the pain management among women who underwent LSCS?
5. What the association is between levels of pain post LSCS and level of satisfaction on pain management among women who underwent LSCS?

1.5. Null hypotheses

H0₁: There is no difference between level of pain within and after 24 hours of post LSCS among ethnicities.

H0₂: There is no association between level of pain post LSCS and level of satisfaction on pain management among women who underwent LSCS.

1.6. Operational definitions of study variables

i. Pain level

Pain level in this study is operationally defined based on the Numeric Rating Scale 0-10 (NRS-10) with '0' indicating no pain at all and '10' indicating the worst pain possible (McCaffery, 1989). The pain level is then categorised according to the Ministry of Health Malaysia (2008); no pain (0), mild pain (1-3), moderate pain (4-6), and severe pain (7-10).

ii. Pain management

The way you improve a patient's life can be a rewarding forte of good pain management. Once diagnosing and assessing of the pain is done, a pain management physician may treat the pain in various ways including physical therapy, oral medication, epidurals, massage therapy, acupuncture and trigger point injections (Santiago, 2018). Effective pain relief is important for the management of post LSCS patients. In this study, pain management medicine is categorised into non-steroidal and narcotic analgesia. Non-steroidal does not contain steroids or cortisone or called as Non-Steroidal Anti-Inflammatory drugs (NSAID), for example, Mefenamic Acid tablet and Paracetamol tablet. Narcotic analgesia is an agent that relieves pain without causing loss of consciousness such as Fentanyl, Morphine and Oxycodone (Farlex, 2019).

iii. Satisfaction on the pain management

Patient satisfaction is the most important concept in medical care, because patient satisfaction and dissatisfaction could create different responses with regards to medical services and care. Satisfied patients generally accept and follow up the treatment and recommend the others to do the same. Patient satisfaction with nursing services gains even more importance, since owing to the nature of nursing practice, patients may judge the overall quality of hospital services on the basis of their perceptions of the nursing care received. It is clear that maternal satisfaction is multidimensional and is influenced by both medical and social (emotional and ethical) factors. Some factors that influence satisfaction are related to aspects of the caring relationship. These include an attentive attitude by care providers, time taken for care including waiting time and time taken with the women, the provision of information and communication continuity of care (emotional and ethical aspect of satisfaction). Overall, quality maternal care is defined as an appropriate, satisfactory, low-cost and accessible service that makes women capable of choosing a healthy life (Azari, 2016).

1.7. Conceptual framework

The conceptual framework of socio-demographic characteristics and characteristics of variables in identifying the differences in the level of pain (Figure 1.1), pain management and satisfaction of pain management of post-LSCS women from the points of ethnicity (Malay, Chinese and Indian). Pain Numerical Rating Scale (NRS) to identify level of pain of post-LSCS mothers. Pain management and satisfaction of pain management of medicine analgesics, hospital protocol and medical staff support play very important roles here. Other than that, pain perception can be influenced by other confounding factor, such as hospital environment air conditioner or fan in the wards. Other factors may influence level of pain include psychological and personality-related factors such as previous pain experiences, emotionality and cognition, somatisation and catastrophizing, the presence of acute and chronic stressful life events, fatigue, anxiety, fear, boredom and anticipation of more pain and social support.

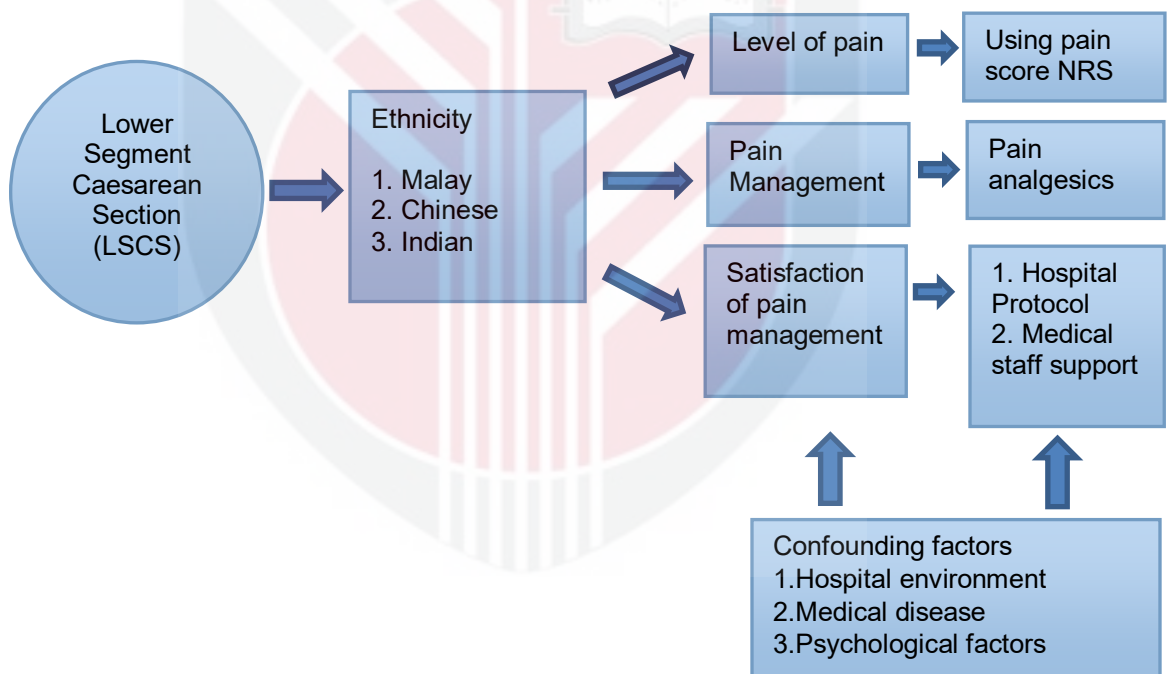


Figure 1.1: Conceptual framework

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I was registered as a postgraduate student of Master of Science in Universiti Putra Malaysia since 2014. Besides studying, I am working as a nursing Lecturer at Health Science College Johor Bahru since 2010. I have been studying part time for 4 years. Before joined the academic arena, I have experienced working in clinical as a staff nurse at the Intensive Care Unit and Cardiothoracic Unit at *Pusat Perubatan Universiti Kebangsaan Malaysia* for 15 years old. I received my bachelor's degree of Nursing at Open Universiti Malaysia. I have also been working as a clinical supervisory for 2 years at Hospital Taiping Perak. I am active in Malaysian Nursing Association and Nursing Tutor Society. I am married with 4 kids and my family stays in Johor Bahru. I would love to finish my master's for my future life and good experience in my job. That is me ambition and to fulfil my late father's wishes. Thank you.





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