



Effectiveness of Standard post-operative Care on Post-operative Outcome Evaluation among Women Undergone Lower Segment Cesarean Section in Selected Hospital: A Narrative Review

Prabha Kumari^{1*}, Maharaj Singh¹ and Sunita²

¹Department of Nursing, NIMS University, Rajasthan, Jaipur, India.

²Department of Gynecology and Pediatric Nursing, Govt. of NCT of Delhi, India.

Authors' contributions

This work was carried out in collaboration among all authors. Author PK designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors MS and Author S managed the analyses of the study. Author S managed the literature searches. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/JPRI/2021/v33i33A31775

Editor(s):

(1) Dr. Carlos M. Contreras, Universidad Veracruzana, Mexico.

Reviewers:

(1) Kamal Singh, India.

(2) Saleh Al Omar, University of Tabuk, Arabia.

Complete Peer review History: <http://www.sdiarticle4.com/review-history/69468>

Review Article

Received 10 April 2021

Accepted 17 June 2021

Published 24 June 2021

ABSTRACT

Background: Present study focuses on effectiveness of standard post-operative care on post-operative evaluation among women undergone lower segment cesarean section in selected hospitals. Standard post operative care basically stands for list of non-pharmacological or pharmacological measures, procedures and methods adopted by the investigator/care giver during post-operative period of women undergone lower segment cesarean section for the reduction of negative post-operative outcomes or complications and to fasten recovery. Present study encompasses articles on post-operative care in terms of one, two or more than two or three measures or interventions as post-operative care measures adapted to reduce post-operative complications like use of music therapy, foot-hand massage therapy, planned early ambulation, planned ambulation techniques etc. for post-operative complications and pain relief.

Objective: To identify various post-operative measures or care which can be included in standard

*Corresponding author: E-mail: prabhakashyap1@gmail.com;

post-operative care list and its effectiveness on post-operative outcome evaluation among women undergone Lower segment cesarean section in selected hospitals.

Methods: Articles were searched in Google scholar, Pub-med, Medline and research gate by using keywords post-operative care of cesarean section, post-operative outcomes of cesarean section and Cesarean mother.

Result: Review includes seven articles showing different non-pharmacological or pharmacological measures or techniques to overcome post-operative complications for early recovery and better outcomes. These measures can be included in standard post-operative care list for positive post-operative maternal and fetal outcomes. These measures include early planned ambulation, planned ambulation techniques, music therapy, Foot and hand massage therapy and use of certain analgesia for pain management in post cesarean women if needed, as per the patient's condition.

Conclusion: Conclusion of the review revealed that there are various measures which can be standardized in post-operative outcome evaluation among women undergone lower segment cesarean section.

Keywords: Post-operative care of cesarean section; Post-operative outcomes of cesarean section; Cesarean mother.

1. INTRODUCTION

Partum is considered as physiological phenomenon but it has impact on mother's overall health status, post-pregnancy and post-partum. There are incidences where mother has complications during the pregnancy in different forms either due to mother's pre-morbid state associated or gestational associated. Whatever the cases may be if, it leads to application of invasive method for child birth like cesarean section; concern for mother's health post-operatively is always prime and unavoidable. When concern is towards post-operative health of women undergone lower segment cesarean section, must providing act includes meticulous, specific, standard and positive outcome driven post-operative care. Standard post-operative care means inclusion of those pharmacological or non-pharmacological measures which are standardized and having significant association with positive post-operative outcomes. There is lack of study reflecting various measures' effectiveness on post-operative outcome evaluation. Synthesis of these measures' effectiveness under one single study would benefit researchers in regard with their effectiveness and significance comparison. Implementation adherence to these measures into normal practice would benefit the patient in their early recovery and post-operative complication management. Inclusion of these measures into standard protocol care list would encourage its adherence to normal practice. Hence, aim of this review is to identify various post-operative measures or care which can be included in standard post-operative care list and its effectiveness on post-operative outcome

evaluation among women undergone Lower segment cesarean section in selected hospitals. Some studies revealed that introduction of music during peri-operative period of women underwent lower segment cesarean section would alleviate pain and anxiety while some other studies in this regard didn't find any significant benefit of introducing the same (Ebnesahidi & Mohseni, 2008). Contradictory result of these studies attributed to multiple methodological problems existed in those studies with significant time of intervention introduction (Ebnesahidi & Mohseni, 2008). Intervention introduced like patient selected music therapy in early post-operative period of cesarean women significantly reduces post-operative pain and reduces the need for post-operative analgesia and opioid requirement (Ebnesahidi & Mohseni, 2008). Planned early ambulation among women with post cesarean section improves selected postnatal activities and hence, enabling women for resumption of activities of daily living, self care and new born care (Dube, Kshirsagar & Durgawale, 2013). Yet another study shows effectiveness of early ambulation post-operatively on selected aspects of post-operative recovery like activities of daily living and sense of wellbeing among women underwent cesarean section (M & Salunkhe, 2014). Many studies showed effectiveness of complementary methods or alternative medicine of pain reduction such as aroma therapy, soothing music, massage, hypnosis, reflexology, relaxation techniques and so on, among all this foot and hand massage for post-operative pain reduction among women with cesarean section gained significant attention because of its several advantages over others (Abbaspoor, Akbari &

Najar, 2014). An observational study on effectiveness of post-operative pain management among women underwent elective cesarean section revealed ineffective pain management protocol on international standard (Ismail, Shahzad & Shafiq, 2016). Prospective descriptive survey conducted in Uganda on assessment of post-operative pain severity among post-cesarean section women, its management with analgesia and patient satisfaction revealed inadequately demonstrated pain management protocol with patient satisfaction (Kintu, Abdulla & Lubikire et al., 2019). Quasi experimental study on effectiveness of early ambulation among post cesarean women shows improved activity of daily living with fasten post-operative recovery (Paul, Narayan & Kaur, 2019). Present study focuses identification of post –operative measures which can be included in standard post-operative care list and to assess its effectiveness on post-operative outcome evaluation among post-cesarean women.

2. METHODS

Method adapted for this review were systematic and based on 'PRISMA'(From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and MetaAnalyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097- Prism a) flow

chart of study search and selection. An electronic search of 140 published articles with the study period of 2008-2019, were carried in database Pubmed, Google scholar, Medline and research gate by using keywords 'post-operative care of cesarean section', 'post-operative outcomes of cesarean section' and 'cesarean mother'. Articles identified up to the topic were 130. Articles excluded- 30, because of duplication out of 100 screened articles. Articles screened for eligibility were 70. Eligibility criteria for study inclusion were: i.) Articles pertaining to the topic of study. ii.) Availability of free full text articles. iii.) Within the study period of 2008-2019. iv.) Online published articles. 64 articles were excluded because of non-eligibility. Full text articles included for the review were 06. Additional full text article meeting the set eligibility criteria identified from the reference was 01. In aggregate full text articles included for the narrative review were 07. Summary of articles searched process shown in Fig. 1, as per 'PRISMA' recommendation.

3. RESULTS

In aggregate, 07 articles were included. Article extracted from the reference because of matched eligibility criteria was one. Among 07 included articles three are randomized control trials, two are quasi experimental, one is observational and one is prospective descriptive survey.

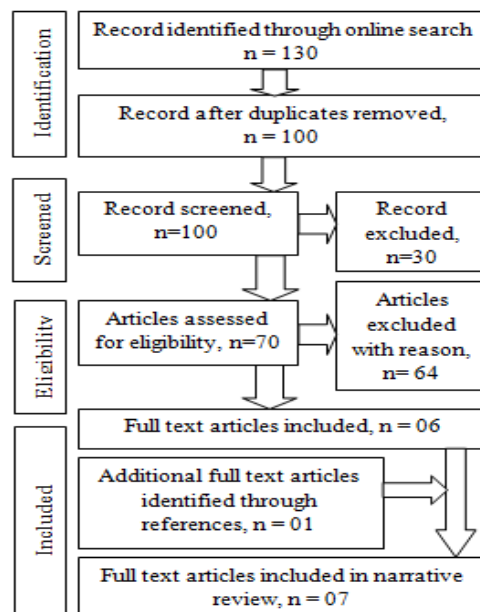


Fig. 1. Modified prisma flow chart for study selection

Among all three study were carried in india, one in uganda, one in pakistan and two were in iran. Summary characteristics of all included studies are shown in Table 1; patient selected music in early post-operative period significantly reduces post-operative pain score in experimental group when compare to control group with $p < 0.05$ and reduces the need for post-operative analgesia and opioid requirement when given for 30 min via headphones but at the same time this didn't have any significant difference on post-operative anxiety score and hemodynamic profile of women underwent lower segment cesarean section with $p > 0.05$ (ebneshahidi & mohseni, 2008). Planned early ambulation among women with post cesarean section significantly improves selected postnatal activities in experimental group compared to control group with $p < 0.05$, hence, enabling women for resumption of activities of daily living, self care and new born care (dube, kshirsagar & durgawale, 2013). Yet another study coating effectiveness of early ambulation post-operatively on selected aspects of post –operative recovery like activities of daily living and sense of wellbeing among women underwent cesarean section (m & salunkhe, 2014). Effectiveness of foot and hand massage on post-cesarean pain relief was conducted in an obstetric unit of mustafa khomeini hospital, elam, iran, randomized control trial was used as research design with 80 sample, 40 in each experimental and control group; foot and hand massage was conducted to each foot and hand for 5-5 min and pain intensity was measured using visual analog scale before, immediately and 90 min after introducing foot and hand massage; result revealed significant reduction in intensity of pain after intervention when compared with: pain intensity before intervention, both group and request for analgesic among groups by $p < 0.001$ (abbaspoor, akbari & najar, 2014). An observational study on post-operative pain management effectiveness among patient underwent elective cesarean section was conducted with 263 patients in an obstetric unit of aga khan university hospital, pakistan; revealed post-operative management of pain was started and followed by obstetric team of aga khan university hospital but it was not much effective to meet international standards of pain management which says uniformly low pain score should not be more than 3 out of 10 at rest or on movement, intensity of pain measured post-operatively using visual analog scale (vas); on movement post-operatively vas was 4-6 in 33.1% of patient whereas; 7-10 in 6.8% of patient (ismail, shahzad & shafiq, 2016). Post-operative

pain assessment, it's management with analgesic and patient satisfaction after cesarean section; a prospective descriptive survey was conducted in obstetric ward referral hospital, kampala, uganda with 333 post- cesarean patient, pain assessment was done using vas (0-100) at 0, 6 and 24 hrs post-operatively; highest pain score were reported at 6 hrs while 68% patient were satisfied with pain control (kintu, abdulla & lubikire et al., 2019). Effectiveness of early ambulation on post-operative recovery among post-cesarean women; a quasi experimental study was conducted in himalayan hospital's postnatal ward, dehradun, india, with 60 participants- 30 in each group experimental and control, revealed improvement in activities of daily living post-operatively with post-operative recovery enhancement among post-caesarean women (paul, narayan & kaur, 2019).

Study identified non-pharmacological measures such as music therapy, foot-hand massage therapy, early ambulation and planned ambulation techniques during post –operative period had significant positive influence on post-operative pain and complication relief leading to fasten and adequate recovery.

4. DISCUSSION

Present study identified various post-operative pharmacological and non-pharmacological measures affecting post-operative outcome evaluation directly and in-directly among post-cesarean women. These measures can be used in framing standard post –operative care list for maximum positive post-operative outcomes among women who underwent cesarean section. Non-pharmacological measures identified in this review were 'early ambulation, planned early ambulation, patient selected music exposure during post-operative period for 30 min and foot and massage therapy whereas; pharmacological measures includes use analgesia and opioid group of drugs for post-operative pain management. Study revealed non-pharmacological measures of postoperative complications management doing well and reduces patient's demand for analgesics and fasten recovery in many of the study with the $p < 0.05$ and 0.001. Study showed marked reduction in post-operative pain score after foot and hand massage for 5-5 min in each foot and hand with $p < 0.001$ when compared with control group (Abbaspoor, Akbari & Najar, 2014). Similarly, early ambulation and planned early ambulation enhances the activities of daily living,

Table 1. Included article's summary characteristics

Author's name/ year	Aim of study	Study design	Study setting	Sample size	Duration of intervention/ time of intervention	Study period	Tool used in study	Conclusion	Recommendation
Paul, reema., narayan,j.p.p riya., & kaur, harleen [1]	To assess effectiveness of early ambulation on post operative recovery among the women with caesarean section.	Quasi experimental	Postnatal ward of himalayan hospital, Dehradun, India.	60, 30 in each experimental & control group.	24 hrs. After Cesarean section.	Not specified.	Likert scale.	Conclusion of the study state that early ambulation improves activity of daily living with enhancement of post operative recovery after caesarean section.	Not specified.
Kintu, Andrew., Abdulla, Sadiq., Lubikire, Aggrey., et al. [2]	To assess severity of postoperative pain after cesarean section and its management with analgesic medications and patient satisfaction.	Prospective descriptive survey.	Obstetric ward Referral Hospital, kampalaU ganda.	333	Survey has been taken at 0, 6 & 24 hrs. After surgery.	November 2014- January-2015	Vas	Post cesarean section pain management is inadequately demonstrated by significant Numbers of participant.	Not specified.

December 2008

Author's name/ year	Aim of study	Study design	Study setting	Sample size	Duration of intervention/ time of intervention	Study period	Tool used in study	Conclusion	Recommendation
Ismail, Samina., Shahzad, Khurram., & Shafiq, Faraz. [3]	To observe the effectiveness of postoperative pain management of patients undergoing elective cesarean section.	Observational research design.	Obstetric unit of aga khan university hospital, pakistan.	263	Not applicable.	to may 2009	Vas	Conclusion revealed that post-operative management of pain was started and followed by obstetric team but it was not much effective to meet international standards of pain management.	Not specified.
Abbaspoor, Zahra., Akbari, Malihe., & Najar, Shanaz. [4]	To determine the effect of foot and hand massage in post-cesarean section pain control.	Rct	Post-operative obstetric unit of mustafa khomeini hospital, elam, iran.	80	For 5 min. In each hand and foot.	April 1 to july 30, 2011.	Vas	Study revealed significant reduction in pain intensity after 5 min of intervention on each foot and hand measured after 90 min of introducing intervention as compared	Study recommended Further trial to monitor pain for a longer period and to assess the impact of massage frequency on effectiveness

Author's name/ year	Aim of study	Study design	Study setting	Sample size	Duration of intervention/ time of intervention	Study period	Tool used in study	Conclusion	Recommendation
M, Suvarna., & Salunkhe, Jyoti. [5].	To assess the effectiveness of early ambulation on selected aspects of post operative recovery among the women who have undergone lscs at krishna hospital, karad.	RCT	Maternity ward of Krishna Hospital, Karad, Maharashtra, India.	60, 30 in each experimental and control group.	From day one of post-operative section to till day 4 th . Duration of intervention not specified.	Not specified.	Observational schedule of recovery measured in terms of restoration of activities of daily living and sense of well being.	to intensity measured before and immediately after cesarean section by using vas. Conclusion of the study revealed that early ambulation post lscs helps women to achieve early activities of daily living and good sense of well being.	Of massage in pain reduction after cesarean section. Recommendation has been made to replicate the study on large number of sample, different setting and with different aspect of health status.
Dube J.V., Kshirsagar, N. S., & Durgawale, P. M. [6]	To evaluate the effect of planned early ambulation on selected post-natal activities of post-caesarean patients.		Tertiary Care Hospitals of Jalgaon, India.	500, 250 in each experimental and control group.		Years 2010 to 2013.	Post caesarean activity rating scale.	Study revealed significant differences in	Not specified. Recommendation

Author's name/ year	Aim of study	Study design	Study setting	Sample size	Duration of intervention/ time of intervention	Study period	Tool used in study	Conclusion	Recommendation
Ebneshahidi, Amin., & Mohseni, Masood. [7]	To explore the effectiveness of patient-selected music on early postoperative pain, anxiety and hemodynamic profile of women after cesarean section.	Quasi experimental with multiple time series design.	Sadi Hospital, Isfahan, Iran.	80, 40 in each experimental and control group.	Three times a day with the interval of 3-4 hrs. Starting from the day of surgery to first five post-operative days. 30 min, 15 min post-cesarean section.	Not specified.	Vas	activities carried by experimental and control group as showed by better activities of experimental group. Study revealed significant reduction in pain intensity post-cesarean but no significant differences in anxiety and hemodynamic profile of women undergone cesarean section.	duration has been made to evaluate the optimal Duration for a music session and its effect of repeated sessions On postoperative anxiety and pain alleviation, live versus recorded music or the presence of a music therapist.
		RCT							

mother-baby bonding with early post-operative recovery from any sort of complications if, happened or liable to happen among women with the same condition (Paul, Narayan & Kaur, 2019). Study revealed significant reduction in pain intensity post-cesarean after introducing patient selected music during early post-operative period with $p < 0.05$ and reduces the need for post-operative analgesia and opioid requirement but no significant differences in anxiety and hemodynamic profile of women undergone cesarean section (Ebneshahidi & Mohseni, 2008). After introducing planned early ambulation techniques among post-cesarean women, study revealed significant differences in activities carried by experimental and control group as showed by better activities of experimental group (Dube, Kshirsagar & Durgawale, 2013). Study revealed that early ambulation post LSCS helps women to achieve early activities of daily living and good sense of well being (M & Salunkhe, 2014). Study revealed post cesarean section pain management by analgesic medications was inadequately demonstrated on significant numbers of participant (Kintu, Abdulla & Lubikire et al., 2019).

5. LIMITATION OF THE STUDY

Present study limited to free online published articles pertaining to the topic of study which might not represent holistic measures. Present study based on articles published in english language only, searched in between years 2008-2019.

6. CONCLUSION

All studies included in this review revealed that there are various alternative measures/ non-pharmacological measures which gives promising result in post-operative complications reduction among post- cesarean women. These measures are cost –effective as well free from its side effects which markly evident in pharmacological measures.

Various recommendations were also made in all these included studies, these are as follow:

- Further trials should be carried to monitor pain for a longer period and to assess the impact of foot and hand massage frequency on effectiveness of massage in pain reduction after cesarean section (Abbaspoor, Akbari & Najjar, 2014).

- Study should be replicated on large number of sample, different setting and with different aspect of health status (M & Salunkhe, 2014).
- Study should be re-investigated for the optimal duration for a music session and its effect of repeated sessions on postoperative anxiety and pain alleviation, live versus recorded music or the presence of a music therapist (Ebneshahidi & Mohseni, 2008).

Current study recommends further study in this regard with the use of more systematic approach. A systematic review can be done to develop effective standard post-operative care protocol for fasten post-operative recovery among women undergone lower segment cesarean section.

DISCLAIMER

The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

CONSENT

It's not applicable.

ETHICAL APPROVAL

It's not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Reema P, Priya JPN, Harleen K. Effectiveness of early ambulation on post operative recovery among the women with caesarean section. *Inter J trend scientific research dev.* 2019;3(3):851-55. ISSN: 2456-6470
2. Andrew K, Sadiq A, Aggrey L, Mary TN, et al. Postoperative pain after cesarean section: assessment and management in a tertiary hospital in a low-income country.

- BMC H services research. 2019;1-6.
Available: <https://doi.org/10.1186/s12913-019-3911>
3. Samina I, Khurram S, Faraz S. Observational study to assess the effectiveness of post-operative pain management of patients undergoing elective cesarean Section. J Anesth Clin Pharmacol. 2016;28(1):36-40.
 4. Zahra A, Malihe A, Shanaz A. Effect of foot and hand Massage in post-cesarean section pain control: A randomized control trial. American society pain Management Nurs. 2014;15(1):132-136.
Available:<http://dx.doi.org/10.1016/j.pmn.2012.07.008>
 5. Suvarna MV, Jyoti AS. A study to assess the effectiveness of early ambulation on selected aspects of post operative recovery among the women who have undergone LSCS at Krishna hospital, Karad. Intern J Health Sciences Resear. 2014;4(12):230-239.
ISSN: 2249-9571
 6. Jyoti VD, Kshirsagar NS, Durgawale PM. Effect of planned Early ambulation on selected post-natal activities of post-caesarean patients. Intern J Health Sciences Resear. 2013;3(12):110-118.
 7. Amin e, Masood m. effect of patient-selected music on early post-operative pain, anxiety and hemodynamic profile in cesarean section surgery. J Alt Complem medi. 2008;14(7):827-831.
DOI: 10.1089/acm.2007.0752

© 2021 Kumari et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:
The peer review history for this paper can be accessed here:
<http://www.sdiarticle4.com/review-history/69468>