

Cabbage compression early breast care on breast engorgement in primiparous women after cesarean birth: a controlled clinical trial

Lim, A. R., Song, J. A., Hur, M. H., Lee, M. K., & Lee, M. S.
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International Journal of Clinical and Experimental Medicine

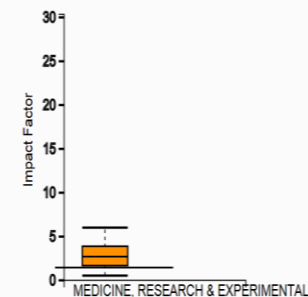
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2015	1,610	1.075	0.788	1.150	0.087	2,913							
2014	594	1.277	1.047	1.412	0.133	830							
2013	341	1.422	1.361	1.750	0.127	142							

MEDICINE, RESEARCH & EXPERIMENTAL			
JCR Year ▼	Rank	Quartile	JIF Percentile
2015	102/124	Q4	18.145
2014	96/123	Q4	22.358
2013	87/124	Q3	30.242

母乳哺餵

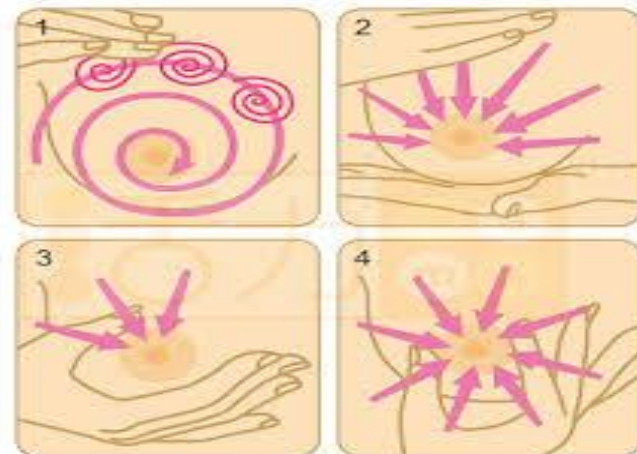
- 根據國民健康署全國性母乳哺育統計：6個月以下純母乳哺育率為49.6%，已接近世界衛生組織（WHO）設定全球2025年的50%之目標值（衛生福利部國民健康署，2015）
- 哺乳時常見乳房問題包括：脹奶、乳房腫脹、疼痛、乳暈水腫、乳腺阻塞、乳頭酸痛及乳頭皸裂
- 在病房中，產後第2~4天的產婦，常因夜裡未持續哺乳或哺乳姿勢不正確，導致乳房腫脹、疼痛
 - ▣ 脹奶時如何減輕乳房腫脹，是臨床重要課題





步驟一:研究探討的問題為何?

- 研究族群/問題(P):
剖腹產生產之初產婦
- 介入措施(I):
使用高麗菜冷敷(CCEBC)+早期乳房護理(EBC)
早期乳房護理(EBC)
- 比較(C):
一般乳房護理(GNBC)
- 結果(O):
乳房疼痛、乳房硬度
溫度(核心溫度、乳房皮膚溫度)
乳汁PH





步驟二:研究的品質有多好(內在效度?)

2-1招募(Recruitment)-受試者是否具有代表性?(P.21336)

Prior to the study, IRB approval was obtained (EU12-079). Primiparous women who wanted to breast-feed and underwent cesarean birth between 35 and 42 weeks of gestation in E University Hospital from June 1, 2012 to February 28, 2013 were selected for this study.

35~42週剖
腹生產後哺
乳之初產婦
婦女

1.通過IRB審核
2.參與研究產婦
進行研究說明，
取得書面知情同
意書

The women were able to communicate and provided written informed consent prior to participation in the study. Patients who had a previous pregnancy, delivery or puerperal complications, or cabbage allergy were excluded from this study. Because of the possibility of diffusion and contamination, the control and experimental groups were assigned at different times. The general nursing breast care (GNBC) group's data were collected first, followed by the data from early breast care (EBC) group, and CCEBC.

排除條件：

- 1.經產婦
- 2.分娩時有生產併發症
- 3.對高麗菜過敏者

預防各組間染污，實驗組
與控制組分配在不同時間

評讀結果：☒是 ☐否 ☐不清楚



步驟二:研究的品質有多好(內在效度?) ?

2-2分派(Allocation)-方式是否隨機且具隱匿?(P.21336)

Prior to the study, IRB approval was obtained (EU12-079). Primiparous women who wanted to breast-feed and underwent cesarean birth between 35 and 42 weeks of gestation in E University Hospital from June 1, 2012 to February 28, 2013 were selected for this study. The women were able to communicate and provided written informed consent prior to participation in the study. Patients who had a previous pregnancy, delivery or puerperal complications, or cabbage allergy were excluded from this study. Because of the possibility of diffusion and contamination, the control and experimental groups were assigned at different times. The general nursing breast care (GNBC) group's data were collected first, followed by the data from early breast care (EBC) group, and CCEBC.

- 1.對照組和實驗組在不同時間分配。
- 2.先收集一般護理乳房護理組 (GNBC) 的數據，然後再收集來自早期乳房護理 (EBC) 組和 CCEBC 的數據。

評讀結果: ☐是 ☒否 ☐不清楚

步驟二:研究的品質有多好(內在效度?) ?

2-3各組在研究時的情況是否相同?(P.21338)

Table 1. Homogeneity of general characteristics and pregnancy-related characteristics among three groups

Category	Early breast care plus cabbage compress (n=20)	Early breast care (n=20)	General nursing breast care (n=20)	F or χ^2	P
	Mean \pm SD	Mean \pm SD	Mean \pm SD		
Age (yr)	32.7 \pm 2.78	31.6 \pm 4.10	31.5 \pm 3.71	0.73	.49
Gestation period (days)	261.4 \pm 12.67	258.2 \pm 10.44	262.1 \pm 8.35	0.75	.48
Pre-pregnancy body weight (kg)	55.3 \pm 10.53	57.7 \pm 10.05	56.6 \pm 10.49	0.26	.77
Body weight at term (kg)	69.3 \pm 9.82	73.7 \pm 13.03	69.5 \pm 9.32	1.03	.37
	N (%)	N (%)	N (%)		
Education					
High school	5 (25.0)	7 (35.0)	4 (20.0)	9.45	.31
College	10 (50.0)	9 (45.0)	16 (80.0)		
College above	5 (25.0)	4 (20.0)	0 (0.0)		
Job					
Yes	10 (50.0)	8 (40.0)	8 (40.0)	0.54	.76
No	10 (50.0)	12 (60.0)	12 (60.0)		
Religion					
Yes	14 (70.0)	12 (60.0)	9 (45.0)	2.61	.27
No	6 (30.0)	8 (40.0)	11 (55.0)		
Fetus					
Single	14 (70.0)	15 (75.0)	18 (90.0)	2.55	.28
Twin	6 (30.0)	5 (25.0)	2 (10.0)		
Type of nipple					
Normal	16 (80.0)	16 (80.0)	19 (95.0)	2.35	.31
Flat/Inverted	4 (20.0)	4 (20.0)	1 (5.0)		
Breast-feeding plan					
<6 months	10 (50.0)	5 (25.0)	7 (35.0)	5.15	.27
6-12 months	7 (35.0)	12 (60.0)	7 (35.0)		
>12 months	3 (15.0)	3 (15.0)	6 (30.0)		

P值>0.1

三組在研究對象的特
徵上沒有顯著差異

評讀結果: ☒是 ☐否 ☐不清楚



步驟二:研究的品質有多好(內在效度?) ?

2-4維持(Maintenance)-各組是否給予相同治療?(P.21336)

- The process is required three times a day for a period longer than 10 minutes prior to breast-feeding from the 2nd to the 4th postpartum day.
- Mothers are recommended to massage their breasts using their hands. The group I mothers breast-fed after the early breast care.
- Cabbage leaves were washed and refrigerated for more than 3 hours at 2~5°C before use. The leaves were then applied to the whole breast area, other than the nipple, three times a day for 20 minutes from the 2nd to the 4th postpartum day.

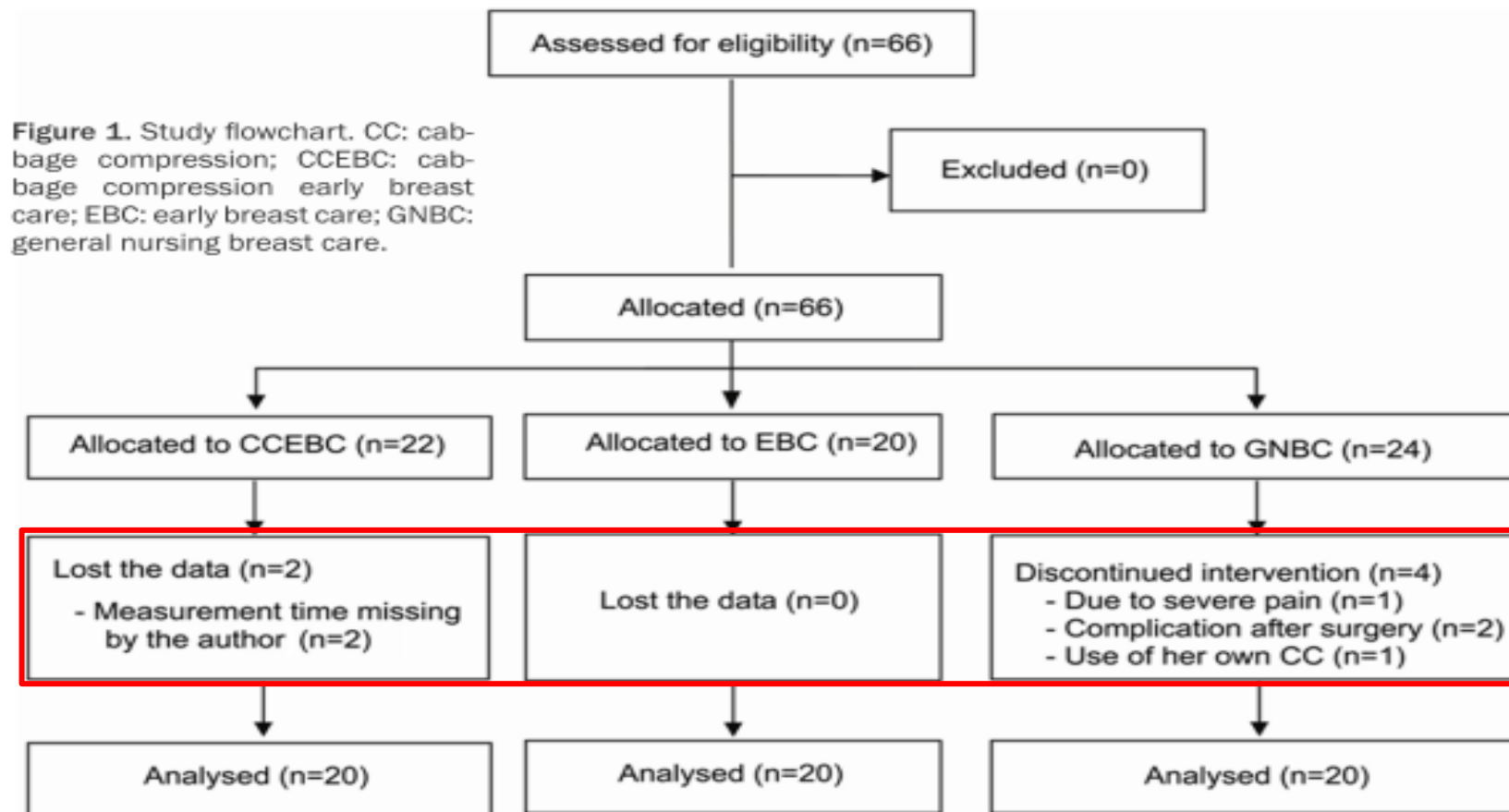
EBC : 產後2-4天
於哺乳(脹奶)前開始，每天3次，每次10分鐘，使用雙手按摩乳房。

CCEBC : 2°C~5°C冷藏
3小時高麗菜，避開乳頭，敷於整個乳房，每天3次，持續20分鐘。

評讀結果: ☒是 ☐否 ☐不清楚

步驟二:研究的品質有多好(內在效度?) ?

2-5維持(Maintenance)-是否有足夠的追蹤? (P.21337)



評讀結果: ☒ 是 ☐ 否 ☐ 不清楚

步驟二:研究的品質有多好(內在效度?) ?

2-6評估(Measurement)-受試者與評估者是否對治療方式及評估目的維持盲法(blind)?

- A ward nurse, who was unaware of the study, provided the control group, EBC, and cabbage compress plus EBC with the hospital's standard breast-feeding education on the first postpartum day.
- The control group's use of professional massage and the use of hot packs or cabbage compress were not restricted due to ethical reasons; however, any subjects who received these treatments were excluded from the study.
- This study has several limitations, including small sample size, and lack of an equivalent control group for estimating the expectation effects. Moreover, no random sequence generation and allocation concealment increase the risk of bias and may exaggerate the real effects of experimental interventions.



評讀結果: ☐是 ☒否 ☐不清楚



步驟三:研究結果的意義為何?

Table 2. Comparison of breast pain and hardness after experimental treatment

Outcomes	Time	Early breast care plus cabbage compress (n=20)	Early breast care (n=20)	General nursing breast care (n=20)	F (p) (LSD)
Breast pain					
2 nd postpartum day					
	Pre feeding (7 pm)	0.85±2.03	1.65±2.87	1.35±2.08	0.586 (.560)
	Post feeding (9 pm)	0.45±1.00	1.35±2.74	1.65±2.21	1.750 (.183)
3 rd postpartum day					
	Pre feeding (7 pm)	1.75±2.29	1.90±2.47	3.30±2.43	2.542 (.088)
	Post feeding (9 pm)	1.50±1.93	1.50±2.67	3.00±2.27	2.813 (.068)
4 th postpartum day					
	Pre feeding (7 pm)	1.80±2.09	1.40±1.88	3.10±2.95	2.852 (.066)
	Post feeding (9 pm)	1.00±1.65	1.05±1.88	2.60±2.70	① 3.660 (.032) a, b<c
② Time: 3.091 (P=.016); G*T: 0.599 (P=.812); Group: 3.903 (P=.026)* ③					
Breast hardness					
2 nd postpartum day					
	Pre feeding (7 pm)	4.29±3.19	7.20±2.64	7.68±2.94	7.824 (.001) a<b, c
	Post feeding (9 pm)	3.56±3.20	6.88±3.09	7.71±3.31	9.409 (<.001) a<b, c
3 rd postpartum day					
	Pre feeding (7 pm)	5.73±3.37	8.28±4.96	9.53±3.77	4.492 (.015) a<b, c
	Post feeding (9 pm)	4.20±3.55	6.46±2.94	9.08±3.40	10.935 (<.001) a<b, c
4 th postpartum day					
	Pre feeding (7 pm)	5.28±2.97	7.63±3.44	7.81±2.86	4.125 (.021) a<b, c
	Post feeding (9 pm)	3.88±3.08	6.43±3.40	8.86±2.90	12.649 (<.001) a<b, c
④ Time: 4.932 (P=.001) G*T: 1.841 (P=.062); Group: 12.460 (P<.001)* ⑤					

Values are expressed as mean ± standard deviation. * Repeated measures of ANOVA; LSD post hoc analysis.



步驟三:研究結果的意義為何?

Table 3. Comparison of body temperature after experimental treatment

Outcomes	Time	Early breast care plus cabbage compress (n=20)	Early breast care (n=20)	General nursing breast care (n=20)	F (p)
Core temperature					
	2 nd postpartum day				
	Pre feeding (7 pm)	37.07±.49	36.86±.42	37.02±.56	1.022 (.366)
	Post feeding (9 pm)	36.96±.50	36.86±.49	36.90±.50	0.204 (.816)
	3 rd postpartum day				
	Pre feeding (7 pm)	36.79±.29	36.79±.39	36.63±.25	1.736 (.185)
	Post feeding (9 pm)	36.72±.36	36.66±.36	36.60±.27	0.726 (.488)
	4 th postpartum day				
	Pre feeding (7 pm)	36.86±.26	36.73±.30	36.75±.26	1.443 (.245)
	Post feeding (9 pm)	36.78±.30	36.59±.32	36.71±.29	2.004 (.144)
Time: 3.774 (P=.005); G*T: 0.699 (P=.723); Group: 1.589 (P=.213)*					
Breast skin temperature					
	2 nd postpartum day				
	Pre feeding (7 pm)	37.22±0.94	36.84±0.51	37.22±0.58	1.914 (.157)
	Post feeding (9 pm)	36.55±2.00	36.58±1.78	37.20±0.73	1.037 (.361)
	3 rd postpartum day				
	Pre feeding (7 pm)	37.22±0.72	37.01±0.64	36.73±0.73	2.430 (.097)
	Post feeding (9 pm)	37.05±0.62	37.02±0.58	36.83±0.74	0.628 (.538)
	4 th postpartum day				
	Pre feeding (7 pm)	37.51±0.50	36.56±1.93	36.90±0.81	2.998 (.058)
	Post feeding (9 pm)	37.17±0.59	37.05±0.63	36.95±0.71	0.568 (.570)
Time: 0.878 (P=.502); G*T: 1.554 (P=.131); Group: 1.023 (P=.366)*					

Values are expressed as mean ± standard deviation. *Repeated measures of ANOVA.

結論(內在效度&結果)

1.招募(Recruitment)-受試者是否具有代表性?

YES

2.分派(Allocation)-方式是否隨機且具隱匿?

NO

3.各組在研究時的情況是否相同?

YES

4.維持(Maintenance)-各組是否給予相同治療?

YES

5.維持(Maintenance)-是否有足夠的追蹤?

YES

6.評估(Measurement)-受試者與評估者是否對治療方式及評估目的維持盲法(blind)?

NO



Cochrane
Library

Cochrane Database of Systematic Reviews



Treatments for breast engorgement during lactation (Review)

Mangesi L, Zakarija-Grkovic I

Mangesi L, Zakarija-Grkovic I.

Treatments for breast engorgement during lactation.

Cochrane Database of Systematic Reviews 2016, Issue 6. Art. No.: CD006946.

DOI: 10.1002/14651858.CD006946.pub3.

Treatments for breast engorgement during lactation (Review)

Roberts 1998

Methods	Double-blind randomised controlled trial.
Participants	<p>39 lactating, postpartum women with breast engorgement recruited from postnatal wards at Royal Darwin Hospital and Darwin Private Hospital, Australia. <u>Breast engorgement defined as hard, warm, painful breasts with difficulty feeding</u></p> <p><u>Exclusion criteria: Aboriginal women (tend to have less breast engorgement), women allergic to roses or the cabbage family of plants</u></p> <p>Majority were multiparas with prior breastfeeding experience, who reported the appearance of engorgement symptoms on day 3 postpartum. Significantly more primiparas were in the intervention group</p>
Interventions	<p><u>Intervention group (21 women): base cream with 1% cabbage leaf extract (according to British Pharmacopoeia formulation)</u></p> <p><u>Control group (18 women): base/placebo cream only.</u></p> <p>Rosewater added to both creams to camouflage residual odour of cabbage</p> <p>1 tube of cream was applied liberally to both breasts and left on for 2 hours. The 2-hour period was chosen since cabbage leaves had been shown to act within this period of time, and it could be done within the inter-feeding period</p> <p>Mothers were asked to refrain from showers, analgesia and feeding the baby during this period</p>



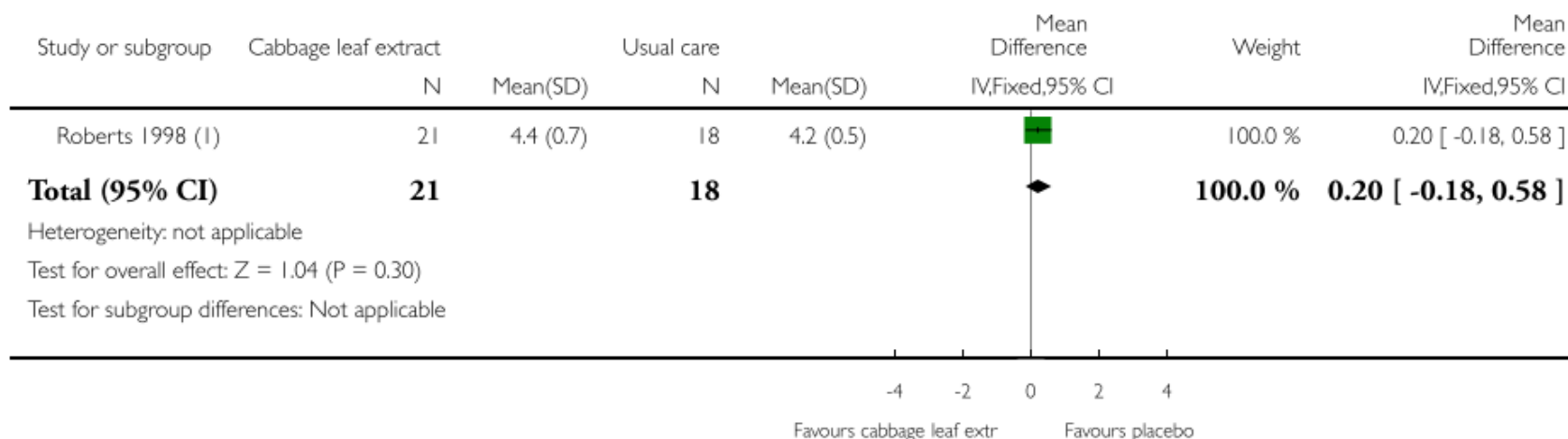
Treatments for breast engorgement during lactation (Review)

Analysis 2.1. Comparison 2 Cabbage leaf extract versus placebo, Outcome 1 Breast engorgement (Hill and Humenich Breast engorgement scale).

Review: Treatments for breast engorgement during lactation

Comparison: 2 Cabbage leaf extract versus placebo

Outcome: 1 Breast engorgement (Hill and Humenich Breast engorgement scale)



(1) Higher score indicates more engorgement - scale from 0 to 6, with 0 representing soft, no change in breasts and 6 representing very firm, very tender.



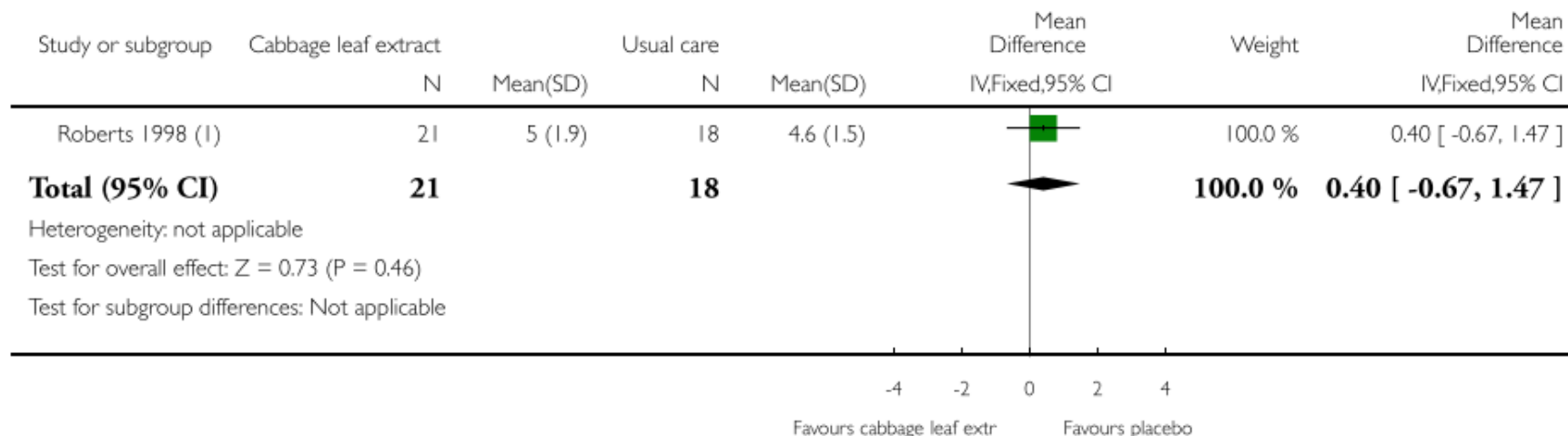
Treatments for breast engorgement during lactation (Review)

Analysis 2.2. Comparison 2 Cabbage leaf extract versus placebo, Outcome 2 Breast pain (Bourbonaise pain scale).

Review: Treatments for breast engorgement during lactation

Comparison: 2 Cabbage leaf extract versus placebo

Outcome: 2 Breast pain (Bourbonaise pain scale)



(1) Higher score indicates more pain - scale from 0 to 10, with 0 representing no pain and 10 representing excruciating pain.



The effectiveness of cabbage leaf application (treatment) on pain and hardness in breast engorgement and its effect on the duration of breastfeeding.

Bio, B., Koh, S., & Gail, D (2012).The effectiveness of cabbage leaf application (treatment) on pain and hardness in breast engorgement and its effect on the duration of breastfeeding. *The Joanna Briggs Institute Library*, 10(20), 1185-1213.

- Overall results showed that cabbage leaf treatment used on women with breast engorgement did reduce pain, the hardness of the engorged breasts and increased the duration of breast feeding.
- Cabbage leaf may be useful in the treatment of breast engorgement. The chilled cabbage leaf may be used for breast engorgement in breastfeeding women but there is insufficient evidence to suggest the generalized use of cabbage leaf in protocols for the treatment of breast engorgement.



Effect of two different nursing care approaches on reduction of breast engorgement among postnatal women

Khalefa. El Saidy., & Mohamed. Nabil. Aboushady.(2016). Effect of two different nursing care approaches on reduction of breast engorgement among postnatal women. *Journal of Nursing Education and Practice*, 9(6), 18-28.

- Based on the findings of the present study, an application of **cold cabbage leaves and warm compresses** are effective for relieving breast engorgement.
- In addition, there was a statistically significant difference between the pretest and posttest of the pain score and engorgement score for the cold cabbage group and the warm compresses group ($p < .001^*$).
- Both the two approaches of nursing care were successfully implemented in the clinical setting. As both the treatment modalities are **low cost** and available.
- It can be implemented by the nurses in the day to day practice at the **hospital** as well as **at home** to reduce breast engorgement.



臨床應用

強化
自我信念



討論 是否建議產後2-4天婦女於脹奶前， 使用高麗菜葉冷敷乳房來減輕乳房脹痛？



- 建議：18人
- 需再評估：30人
- 不建議：4人

