Abstract of the dissertation entitled

**Psychosocial antenatal education programme to reduce postnatal depression**

among Hong Kong pregnant women

submitted by

**Chan Yi Mei**

for the degree of Master of Nursing

at the University of Hong Kong

July 2014

Pregnancy is a great change and challenge to mothers, and some women may not be able to adapt to the transition. Discord among family members, low social support, stress, poor partner support and maternal role incompetence is significantly inter-related, and feelings of depression may arise and indeed bring about the condition known as ‘postnatal depression’. Preventive measures are therefore needed to minimize such feelings. Evidence in the literature suggests that a psychosocial antenatal education programme can contribute to reducing the risk of postnatal depression.

The implementation potential of a psychosocial antenatal intervention was explored after a literature review, and found to be applicable to Chinese women in Hong Kong, with high transferability and feasibility. Clinical guidelines on a psychosocial antenatal education programme to be conducted in a maternity ward
are then developed. Before incorporating the innovation in the maternity ward of a
private hospital, thorough communication, pilot study and implementation plans
are formulated.

The whole programme will last for a year and a half, and covers obtaining
approval from the hospital, planning and preparation, providing a training
programme for staff, a pilot study, data collection and further analysis and
evaluation.
Psychosocial antenatal education programme

to reduce postnatal depression among Hong Kong pregnant women

Chan Yi Mei

BNurs (Hons) (HKU), RM (HK), RN (HK)

A dissertation submitted in partial fulfilment of the requirements for
the degree of Master of Nursing
at the University of Hong Kong
August 2014
Declaration

I declare that this thesis represents my own work, except where due acknowledgement is made, and that it has not been previously included in a thesis, dissertation or report submitted to this University or to any other institution for a degree, diploma or other qualification.

 Chan Yi Mei
Acknowledgements

I would like to express my deepest gratitude and respect to Dr Ngai Fei Wan, for her encouragement, guidance and support from the preliminary to the concluding stages of my work. It was a great pleasure to have Dr Ngai as my supervisor in the University’s postgraduate programme.

I am also very grateful to my husband Cho Kit, whose love, understanding and continued support throughout the programme enabled me to tackle difficulties in completing the dissertation. A great proportion of my success is due to him.

Last but not least, I would like to offer sincere thanks to my family and friends for their love, patience and ongoing encouragement in every respect during the completion of the project.
## Content

*Abstract*  
*Declaration*  
*Acknowledgements*  
*Table of Contents*  

### Chapter 1: Introduction

1.1 Introduction  
1.2 Background  
1.3 Affirming Needs  
1.4 Research Question  
1.5 Objectives  
1.6 Significance

### Chapter 2 Critical Appraisal

2.1 Search strategies  
2.2 Appraisal strategies  
2.3 Summary and synthesis of findings  
2.4 Conclusion

### Chapter 3 Translation and Application

3.1 Implementation Potential  
3.2 Transferability of the Finding  
3.3 Feasibility
3.4 Cost-benefit Ratio of the innovation

3.5 Conclusions

Chapter 4 Implementation Plan

4.1 Communication Plan

4.2 Initiation the change

Chapter 5 Pilot Study Plan

5.1 Objectives

5.2 Study design

5.3 Setting

5.4 Participants

5.5 Duration

5.6 Evaluation

Chapter 6 Evaluation Plan

6.1 Process evaluation

6.2 Outcome evaluation

6.3 Criteria of effectiveness

6.4 Sample Size

6.5 Data Analysis

6.6 Conclusion

References

Appendices

Appendix 1 Table of search result

Appendix 2 Table of evidence

Appendix 3 Summary of the Methodology of Studies
Appendix 4 The checklist of Scottish Intercollegiate Guideline Network (SIGN) P.72

Appendix 5 Intervention Guidelines P.93

Appendix 6 Level of evidence and grades of recommendations by The Scottish Intercollegiate Guideline Network (SIGN) 2012 P.104

Appendix 7 Timeline of the communication plan P.105

Appendix 8 Timeline of the entire program P.106

Appendix 9 Rundown of midwives training program P.107

Appendix 10 Skill audit form for the psychosocial antenatal talk P.108

Appendix 11 Timeline of the pilot study P.109

Appendix 12 Rundown of psychosocial antenatal program P.110

Appendix 13 Satisfaction survey used to assess the participant’s level of satisfaction P.111

Appendix 14 Satisfaction survey used to assess the staff’s level of satisfaction P.112
CHAPTER 1- INTRODUCTION

1.1 Introduction

Pregnancy should be an enjoyable and happy time. However, it is a great challenge to the mother. Some women may not be able to adapt to the transition and feelings may arise that induce postnatal depression (Gao et al., 2012; Leung & Lam, 2012). To avoid the adverse effects of such depression, preventive measures must be taken to minimise the chances of suffering from it. Evidence has been gathered from psychosocial education programmes, and the results repeatedly show the contribution of such effective antenatal programmes to reducing the risk of postnatal depression (Gao et al., 2012; Milgrom et al., 2011; Ngai et al., 2009; Leung & Lam, 2012; Mao & Chan, 2012). The purposes of this paper are (1) to report the effectiveness of a psychosocial antenatal education programme in reducing postnatal depressive symptoms, (2) to establish an evidence-based guideline, (3) to assess an implementation plan and (4) to develop an evaluation plan for applying such a programme to Hong Kong women in the hospital where I currently work.

1.2 Background

The prevalence of postnatal depression in Hong Kong

Maternal mental health problems have become a major healthcare concern all
over the world. According to a meta-analysis by Gavin et al. (2005), the prevalence of postnatal depression is estimated to extend to 19.2% of women, from all different races, during the first three months postpartum. It affects approximately 19% of women in mainland China (Xie et al., 2009) and 11.2% of women in Hong Kong (Lee et al., 2001).

**Types of postnatal emotional changes**

According to the American Psychological Association (2013), there are three types of postnatal emotional change, postnatal ‘blues’, postpartum depression and postnatal psychosis. Many women experience blues in the first few days after delivery. They feel stressed, sad and anxious, but these feelings will fade away by themselves after a certain period of time (O’Hara & Swain, 1996). Unlike postnatal blues, postnatal depression is defined as clinical depression occurring after delivery and may last as long as a year (O’Hara & Swain, 1996). Women may suffer from severe mood swings, frequent episodes of crying, loss of interest in daily activities, feelings of inadequacy and pessimism about the future (O’Hara & Swain, 1996).

**Risk factors contributing to postnatal depression**

More Chinese women are nowadays experiencing ‘role overload’ because of having their own jobs, housework and childcare (Zhang, Hannum & Wan, 2008).I
In addition to a possible relationship discrepancy between husband and parents-in-law, this makes women feel exhausted (Gao et al., 2012). Consistent findings show the contribution of psychosocial risk factors to the etiology of postnatal depression. One meta-analysis identifies psychosocial risk factors, including antenatal anxiety, low self-esteem, a poor marital relationship, inadequate social support and coincidental stressful life events, which are significantly inter-related and contribute to postnatal depression (Wong & Fisher, 2009).

Postnatal depression has a negative impact not only on mothers, but also on families and children (Siu et al., 2012; England & Sim, 2009). More effort should therefore be put into preventive programmes against the condition, as we all know that prevention is always better than cure.

**The prevention of postnatal depression**

Nowadays, there are different interventions to prevent postnatal depression. Prophylactic antidepressant medication for women who have had postnatal depression before is one such measure, but there is limited evidence to show its effectiveness (Kumar & Oyebode, 2005; Alwan et al., 2011). As mentioned before, psychosocial factors clearly have significant effects in increasing the risk of postnatal depression. Psychosocial intervention is defined as ‘a
non-pharmacological maneuver intended to alter the environment of a patient or a reaction to reduce the impact of a mental disorder’ (Dennis & Creddy, 2008). There are a few psychosocial interventions showing significant effects in preventing postnatal depression (Sockol, Epperson & Barber, 2013). They include peer support, partner support, non-directive counseling (Dennis & Dowswell, 2013), interpersonal psychotherapy (Dennis & Creddy, 2008), cognitive behavioural therapy (Hollon, Stewart & Strunk, 2006) and learned resourcefulness theory (Ngai et al., 2009). Interpersonal psychotherapy can assist in modifying a relationship and its expectations in order to encourage adaptation to the change (Gao et al., 2010). Cognitive behavioural therapy aims to reduce depressive symptoms by modifying negative behaviour and thoughts (Austin et al., 2008), while learned resourcefulness therapy aims at self-regulation of emotions and negative thoughts by using cognitive behavioural skills to discourage depressed behaviour (Ngai et al., 2009).

With growing evidence of the impact of postnatal depression, psychosocial antenatal education programmes are essential. The presence of psychosocial risk factors can be reduced and prevent postnatal depression (Gao et al., 2012; Milgrom et al., 2011; Ngai et al, 2009; Leung & Lam, 2012; Mao & Chan, 2012). With psychosocial antenatal talk, it can enhance the ability of women to solve
problems themselves, adapt to role transition, obtain more social support and reduce postnatal depression, promoting the well-being of women, infants and families. (Gao et al., 2012; Milgrom et al., 2011; Ngai et al, 2009; Leung & Lam, 2012; Mao & Chan, 2012).

1.3 Affirming needs

In Hong Kong, the majority of mothers will be discharged from hospital one to two days after the delivery (Ho & Holroyd, 2002) and will be followed up in a Maternal and Child Health Centre (MCHC) a few days after discharge. Routine postnatal services for women include screening by means of the Edinburgh Postnatal Depression Scale (EPDS), baby care (e.g. of the cord), an immunization programme, examining for newborn jaundice, education on breastfeeding, wound checking etc. (Hong Kong Department of Health, 2013).

EPDS screening is used to identify the presence of any postnatal depression (Cox et al., 1987). Once a woman has an EPDS score higher than 13, further referral to a psychiatrist would be arranged (Hong Kong Department of Health, 2013). However, compared with other countries, Hong Kong provides only limited community midwifery services, few hospitals, for instance, having midwife clinics. Women in the antenatal and postnatal periods do not enjoy regular home visits to follow up their physical and psychological health, to provide supports or to hold
group meetings etc., and so women will be easily isolated and the incidence of postnatal depression may rise (Ho & Holroyd, 2002).

A review of Ho and Holroyd (2002) shows that local current antenatal talks are mainly hospital-based. They focus on an approach which delivers information about different stages of labour, including labour processes, newborn caring skills, pain relief methods etc. Usually obstetricians, midwives and nutritionists participate in the talk. The current approach to antenatal talks used in Hong Kong usually involves an unfavourable environment like a large hall or lecture theatre where a great many people can attend at one time, resulting in a rather formal teaching method with a low degree of interaction. There are four or five sessions of such antenatal talks during the whole pregnancy period, with each session lasting two to three hours.

In the private hospital where I work, the approach to antenatal talks is similar to the one mentioned above. The sessions are held in a classroom which houses about fifty people at one time. There are only two sessions for the woman before her delivery and each lasts about two hours, with the content being much the same as at public hospitals in Hong Kong. Midwives and nutritionists are the main speakers at these talks.

The present situation of antenatal talks in hospitals in Hong Kong, described
above, shows us that such talks mainly focus on providing information about delivery and the techniques of child caring, in a limited theoretical way. They also cover only a few psychosocial issues such as role adaption, the importance of social support and emotion management (Ngai et al., 2009). With such deficits, the effectiveness of this kind of routine antenatal talk has been criticized - while the teachers follow the principles of adult education, they fail to help the pregnant women apply the knowledge effectively in practice (Ho & Holroyd, 2002). A clearer and more comprehensive framework, which includes psychosocial issues involving parenting, problem-solving skills and social support, is therefore essential to make improvements in the effectiveness of antenatal talks (Ho & Holroyd, 2002; Gao, 2012; Ngai et al., 2009; Milgrom et al., 2011).

The crude birth rate in Hong Kong is increasing, and between 2003 and 2011 went up from 7 to 13.5 per 1,000 of the population (Census and Statistic Department, 2011). The attendance rate at local antenatal talks is high, especially among first-time childbearing women (Ho & Holroyd, 2002), and the needs and demands of these talks are constantly expanding.

With the aim of obtaining accreditation from the Australian Council on Healthcare Standards programme (ACHS), my hospital keeps introducing evidence-based practice to our routine duties. When the auditors of ACHS
reviewed the practices in the maternity ward, they found that we lack preventive measures against postnatal depression. Therefore this is an appropriate time for us to revise the antenatal talk content. A psychosocial antenatal education programme should be introduced to increase the quality of nursing services, the standard of nursing practice and the hospital’s reputation.

1.4 Research question

The clinical question is: does a psychosocial antenatal programme reduce postnatal depression better than traditional antenatal talks for pregnant women in Hong Kong?

1.5 Objectives

1. To gather and review the evidence on the effectiveness of psychosocial antenatal education programmes in reducing postnatal depression.

2. To work out from the evidence recommendations for the implementation of a psychosocial antenatal programme, and to establish evidence-based guidelines.

3. To assess the implementation plan and then to carry out a psychosocial antenatal programme for pregnant women in Hong Kong.

4. To evaluate the effectiveness of that programme.

1.6 Significance

The adverse effects of postnatal depression do not bear merely on the woman herself, affecting her own well-being and recovery after the birth, but may also
hinder the normal development of her child in both mental and physical aspects (Chun & Panos, 2004) and damage the harmony of relationships within her family (Hickey et al., 2005). Postnatal depression occurs when the infant is maximally dependent on the mother’s caring and on good bonding with her. Children may have mood disorders and suffer significant stress if they have poor interaction with their mothers (Hickey et al., 2005; Talge et al., 2007). Children with depressed mothers usually have lower scores in academic performance, poorer temperaments, slower motor development and so on (Hickey et al., 2005; Talge et al., 2007). A mother’s postnatal depression worsens the relationship with her partner (Hickey et al., 2005) and also directly relates to an elevated rate of his depression (Gao, Chan & Mao, 2009).

This vicious cycle may worsen if there is no corresponding assistance, such as the implementation of a psychosocial approach. The antenatal period is a good opportunity to prevent the occurrence of postnatal depression by introducing a psychosocial education programme to maintain the well-being of both mother and infant-to-be.

Such a programme is beneficial to women, nurses, midwives and the hospital (Musters, McDonald & Jones, 2008). For pregnant women, it targets psychosocial factors and decreases their exposure, extends their social network and enhances
their problem-solving skills. For nurses and midwives, it is an opportunity to review, evaluate and make improvements in antenatal talks with a more systematic approach. They should conduct small, interactive classes with open discussion, and introduce specific perspectives to the programme, including coping skills, the importance of cultural beliefs like hot or cold food preferences, and mental preparation for the role transition to come (Ho & Holroyd, 2002). Through these antenatal talks, they can enhance the quality of service by providing evidence-based practice to pregnant women.

As for the hospital, the quality of nursing service should be improved by providing the talks, and the reputation of hospital therefore enhanced (Ho & Holroyd, 2002).

With consistent evidence showing the effectiveness of psychosocial interventions in reducing depression, now is the time for Hong Kong to introduce such interventions through antenatal talks.
Chapter 2 Critical appraisal

In this chapter, the effectiveness of psychosocial antenatal education programme is reviewed and compared with the standard antenatal talks aimed at reducing postnatal depression among Hong Kong women. By means of a literature review, data from search strategies and quality assessment, and the summary and synthesis of data will be discussed, helping to implement the innovation in the current setting.

2.1 Search strategies

Database search

The search process lasted from November 2012 to April 2013. Four electronic databases were used in the systemic search: Science Direct (sciVerse) (1995-2013), Pubmed (1947 -2012), PsycINFO (1872- 2013) and EBSCOhost (1976 -2013). The search was limited to papers published within the past ten years.

Keywords

The keywords were set according to the type of study design, population group, intervention and outcome.

The target population is “pregnant women”, and the intervention “psychosocial antenatal education programme” or “antenatal programme” or
“antenatal class”; the search terms concerning outcomes are “postnatal” or “postpartum” or “parental” or “maternal depression”, and concerning study design are “randomized controlled trial” or “RCT”. Appendix 1 shows a table of search results.

**Inclusion criteria**

- **Type of studies**

  No limit on the type of studies or on the language of papers, to increase the sensitivity.

- **Type of participant**

  The target group consists of singleton pregnant women with a gestation range of 12 to 36 weeks, above 18 years old, with no specific requirement on educational level, and able to attend the psychosocial antenatal education programme.

- **Type of intervention**

  A psychosocial antenatal education programme.

- **Type of outcome measure**

  Outcomes measured in term of postnatal depression.

**Exclusion criteria**

Pregnant women who are diagnosed with any mental illness or any
pregnancy-related complication will be excluded from the programme.

After the search is checked against the inclusion and exclusion criteria, and using the search keywords, the studies are integrated, with five from Pubmed, two from the EBSCOhost research database, four from PsycINFO and nine from Science Direct. Nine studies appeared to overlap and these were examined and reviewed. Finally, a total of seven papers were selected, six randomized controlled trials and one a quasi-experiment. All data from the seven studies are summarized in the table of evidence in Appendix 2.

2.2 Appraisal strategies

The quality and level of evidence of the seven selected studies were critically appraised by means of the Scottish Intercollegiate Guideline Network (SIGN) (2012, version 2.0). The ‘methodology checklist 2: controlled trial’ was used to examine all seven papers. Appendix 3 illustrates a summary of the methodology of the studies, while Appendix 4 shows their SIGN checklists.

**Internal validity**

Of the seven papers selected, six are randomized controlled trials: Austin et al., 2008; Gao et al., 2012; Milgrom et al., 2011; Munoz et al., 2007; Leung & Lam, 2012; Mao & Chan, 2012. The single quasi-experimental paper is Ngai et al., 2009. All seven address an appropriate and clearly focused question. The effect of
psychosocial antenatal education programmes in reducing postnatal depression was well defined and matched the topic.

The six RCTs reported clearly the assignment of subjects as randomized to intervention and control groups in order to minimize selection bias, while the one quasi-experimental paper had no randomization.

However, not all the studies showed the method of allocation, but concealed the allocation of subjects from the researcher. Of the six studies mentioned, permuted block randomization was carried out without the research assistant’s involvement (Leung & Lam), variable-length permuted block randomization by an independent person was used (Milgrom et al.), a blocked randomization procedure was used (Munoz et al.), a third party kept a computer-generated list (Mao & Chan) or used a randomization table (Austin et al.). Another study did not make clear its method of randomization (Gao et al.). Ngai et al. used convenience sampling.

As regards blinding methods, four papers described their adequate concealment methods clearly, ensuring the researchers were unaware of receiving treatment by subjects when they were assessing the outcome (Milgrom et al.; Leung & Lam; Ngai et al.; Austin et al.). Double blinding was used by Milgrom et al., research staff members who collected baseline and follow-up data were
blinded to group allocation in Leung & Lam, trained midwives were blinded to pre-test scores and had no involvement with the women in Ngai et al., the researcher was blinded to the groups in Mao & Chan, and assistants were blinded to the allocation of subjects when they administered the screening tool in Austin et al.. However, two papers (Gao et al. and Munoz et al.) did not describe their concealment methods clearly.

All the studies showed no difference in the characteristics of subjects between control and intervention groups at the beginning of the trial, and the only difference was due to the interventions.

In all studies, relevant outcomes were measured and generated by standard, reliable and valid tools, such as the EPDS, a standard measurement tool to identify postnatal depression and used in most related studies.

According to SIGN, the drop-out rate was acceptable if it was below 20%. The drop-out rates at the completion of each study ranged from 9 to 18.5%, and were regarded as acceptable. All studies adopted the aim of using an analysis which maintained the comparability of groups through randomization, and which were carried out in one site. All papers used power analysis to ensure adequate sample size.
Quality assessment

The quality appraisal process among all seven selected papers rated three RCTs 1++ as they consisted of high quality evidence with a low risk of bias (Leung & Lam, 2012; Mao & Chan, 2012; Milgrom et al., 2011), and four as 1+, those with a medium level of evidence and low risk of bias (Austin et al., 2008; Gao et al., 2012; Munoz et al., 2007; Ngai et al., 2009).

Studies with high levels of evidence

The quality and the level of evidence of three studies were critically appraised by SIGN and rated as 1++, all three using the concealment of allocation by randomization and double blinding methods, so that researchers could minimize bias. Permuted block randomization (Leung & Lam, 2012; Milgrom et al., 2011) and a computer-generated randomization list were used (Mao & Chan, 2012). The characteristics of intervention and control groups were not significantly different. Drop-out rates ranged from 9% to 12.8%, which were acceptable, and the intention-to-treat principle was adopted during analysis. Results of the studies indicated the effectiveness of a psychosocial antenatal education programme in reducing postnatal depression, with p-values less than 0.05 and precise confidence intervals.
Studies with medium levels of evidence

In four of the seven studies, some of the criteria were fulfilled while others were not clearly mentioned or described, although the results were unlikely to be altered. They were rated 1+ after critical appraisal for quality and level of evidence by means of SIGN (Austin et al., 2008; Gao et al., 2012; Munoz et al., 2007; Ngai et al., 2009).

Munoz et al. (2007) used blocked randomization, while Austin et al. (2008) used a randomization table. Another study was a randomized controlled trial but did not mention the method of randomization, and possibly resulted in sampling bias. Ngai et al. (2009) adopted a quasi-experimental approach and had no randomization. The midwife was blinded to pretest scores and had no involvement with the women in Ngai et al., while the assistant was blinded to the allocation in Austin et al.. Although the other two studies did not give any further detail, and bias might have arisen, all characteristics in both intervention and control groups were similar, with the dropout-rates still acceptable at 9% to 18.5%. Power analysis was performed in all four studies and ensured adequate sample size, giving results with p-values less than 0.05 and precise confidence levels (Austin et al., 2008; Gao et al., 2012; Munoz et al. 2007; Ngai et al., 2009).
2.3 Summary and synthesis of findings

Year and place of publication

All seven selected papers were published between 2007 and 2012. One study was conducted in the USA (Munoz et al., 2007), two in Australia (Austin et al., 2009; Milgrom et al., 2011), two in China (Mao & Chan 2012; Gao et al., 2012) and two in Hong Kong (Leung & Lam, 2012; Ngai et al., 2009).

Recommendation

Since four of the seven studies were carried out in China or Hong Kong, the results can safely be generalized to Chinese populations (Mao & Chan 2012; Gao et al., 2012; Ngai et al., 2009; Leung & Lam, 2012).

Study design and sample size

Six studies were randomized controlled trials, while one was quasi-experimental. Sample size ranged from 41 to 1,087 participants.

Participants’ characteristics

The characteristics of participants were clearly described in all studies, with no significant differences. Among all studies, the period of gestation ranged from 12 to 36 weeks, and only singleton mothers over 18 were recruited. In four of the seven studies, mothers who were diagnosed with mental illness or pregnancy complications were excluded (Gao et al., 2012; Ngai et al., 2009; Leung & Lam,
Milgrom et al. recruited subjects with screening scores higher than 13 on the EPDS, and participants with even numbered birthdates and low screening scores were recruited.

Austin et al. recruited women with EPDS scores higher than 10 or reporting a history of postnatal depression. The Munoz et al. study specifically targeted pregnant women at high risk of developing depression, such as those with a previous history of postnatal depression or with a score of more than 16 on the Centre for Epidemiological Studies Depression Scale (CES-D), aiming to test the intervention on a high-risk population.

**Recommendation**

After summarizing the information, the gestation period of women to be targeted should range from 12 to 32 weeks in order to complete the whole programme. Those over 18 and singleton mothers were also targeted, but those diagnosed with mental illness or pregnancy complications were excluded (Gao et al., 2012; Ngai et al., 2009; Leung & Lam, 2012; Mao & Chan, 2012).

**Intervention period**

Five studies conducted only antenatal interventions, the intervention period ranging from 12 to 35 weeks of gestation (Austin et al., 2008; Milgrom et al.,
2011; Ngai et al., 2009; Leung & Lam, 2012; Mao & Chan, 2012). Two conducted both antenatal and postnatal interventions (Gao et al., 2012; Munoz et al., 2007). Gao et al. provided antenatal education over 28 weeks of gestation, and telephone follow-up within two weeks postpartum. Munoz et al. conducted antenatal classes over 12 to 32 weeks of gestation and booster sessions at 1, 3, 6 and 12 months postpartum.

**Number of sessions and duration of the intervention**

Four out of the seven studies separately conducted four to six intervention sessions lasting one and a half or two hours (Austin et al., 2008; Gao et al., 2012; Leung & Lam, 2012; Mao & Chan, 2012). Three held weekly sessions (Austin et al., 2008; Leung & Lam, 2012; Mao & Chan, 2012), and one two 90-minute sessions (Gao et al., 2012). In two studies, a telephone follow-up session was added within four months postpartum (Austin et al., 2008; Gao et al., 2012). In Ngai et al., the intervention comprised three one-hour sessions right after the core sessions of the routine programme. One of the studies reported that the intervention consisted of nine units with a self-help workbook, with subjects reading one unit per week followed by a half-hour weekly telephone call (Milgrom et al, 2011). Another study consisted of twelve weekly courses and four booster sessions at the first, third, sixth and twelfth month postpartum, but did not
mention the duration of each session (Munoz et al., 2007).

**Recommendation**

Two of the studies with a high level of evidence (Leung & Lam, 2012; Mao & Chan, 2012), suggested that four to six weekly sessions of antenatal talks, lasting from one and a half to two hours, were to be recommended.

**Number of participants in each intervention group**

The number of participants ranged from eight to ten in three studies (Gao et al., 2012; Leung & Lam, 2012; Munoz et al., 2007). In another, each group included ten couples (Mao & Chan, 2012), and the programme sessions in the other three studies included large groups of participants (Austin et al., 2008; Ngai et al., 2009; Milgrom et al., 2011).

**Recommendation**

Among the three studies with high levels of evidence, the number of participants varied. In the study by Leung and Lam, the group consisted of seven people, and in that by Mao and Chan of ten couples. Milgrom et al. (2011) included a large group of participants. In the majority of studies, then, the number of participants in each intervention group ranged from eight to ten and used an approach similar to current practice in my hospital, focusing more on women.
Main content of the intervention

Four common points of emphasis in the education programme were mentioned by all seven studies: providing social support to women, helping women adapt to the role transition by introducing parenting skills, helping them develop their problem-solving abilities and developing techniques for managing emotion. Some were based on theories such as cognitive behaviour therapy (Austin et al., 2008; Mao & Chan, 2012; Munoz et al., 2007), interpersonal psychotherapy (Leung & Lam, 2012; Gao et al., 2012) or learned resourcefulness theory (Ngai et al., 2009).

Recommendation

Studies mainly focused on the provision of social support, adaptation to the role transition by introducing parenting skills, the development of skills in problem-solving and the ability to manage emotion. All these aspects will be included in the innovation.

Three studies used cognitive behaviour theory (Austin et al., 2008; Mao & Chan, 2012; Munoz et al., 2007) and two interpersonal psychotherapy (Leung & Lam, 2012; Gao et al., 2012). After summarizing and synthesizing the results, it was revealed that the second of these methods was more effective in reducing postnatal depression. The application of interpersonal psychotherapy will
therefore be my first priority.

**Implementation of the intervention**

As reported in all studies, the common process of implementing the intervention started from lectures, discussions, reviews, demonstrations and then skills practice. In some studies, additional written materials were given to subjects in the intervention group (Milgrom et al., 2011).

**Recommendation**

Lectures, discussions, reviews, demonstrations and skills practice will be included, as in all seven studies.

**Measures**

The Edinburg Postnatal Depression Scale (EPDS) is a self-completed report with 10 items to identify postnatal depression. It was used to measure and access depressive symptoms in six of the selected studies. It is a measurement tool with high validity and reliability. The Depression Anxiety Stress Scale (DASS), and Parenting Stress Index (PSI) were used to measure depression, anxiety and the functioning of parent-child relationships in the study by Milgrom et al. (2011). In that by Leung and Lam (2012), the Perceived Stress Scale (PSS) was used to measure stress, with a high level of validity. The PHQ-9 was used to measure depressive levels, with satisfactory validity and reliability, in the study by Mao
and Chan (2012). The Perceived Social Support Scale (PSSS), with good validity and reliability, was also used to measure the degree of perceived social support (Gao et al., 2012). Apart from EPDS, the Centre for Epidemiological Studies Depression scale (CES-D) was also used (Munoz et al., 2007).

Effect size

Four of the selected studies showed significant effects in reducing the risk of postpartum depression (p< 0.01 or P =0.01) if the subjects received the psychosocial antenatal education programme; the significance level was set at 0.05 and the range of effect size was 0.3-0.5 (Gao et al., 2012; Milgrom et al., 2011; Ngai et al., 2009; Leung & Lam, 2012). In the study by Mao and Chan (2012), the risk of postnatal depression was significantly lower (p<0.05). In the other two studies there is no significant difference between groups in reducing the risk of postpartum depression, using EPDS as a measuring tool (Austin et al, 2008; Munoz et al., 2007).

2.4 Conclusion

Among the seven studies, there are six randomized controlled trials and one quasi-experiment. The information was summarized and synthesized and the quality of studies was critically appraised. Recommendations were retrieved and were useful in the implementation in Hong Kong of a psychosocial antenatal
programme to reduce the risk of postnatal depression.
CHAPTER 3-Translation and Application

3.1 Implementation potential

Evidence-based practice can increase the quality of nursing care. From the studies reviewed, consistent evidence shows the effectiveness of a psychosocial antenatal education programme in reducing postnatal depression. Before the implementation of the programme guidelines in the maternity ward of this private hospital, considerations of the transferability, feasibility and cost-benefit ratio of the innovation are needed (Polit & Beck, 2008), and will be discussed in this chapter.

Target setting

The proposed guidelines will be implemented in the department of obstetrics in a private hospital in Hong Kong. This unit provides comprehensive antenatal, labour and postnatal care and holds two ‘traditional’ programme sessions each month, conducted by midwives in a seminar room for Hong Kong Chinese women. All pregnant women who will give birth in this private hospital are welcome to attend the programme. According to the hospital’s birth records, around 150 pregnant women give birth per monthly, and 1,800 women could therefore benefit from the innovation annually.
**Target audience**

The target group is Hong Kong Chinese singleton pregnant women with gestation periods ranging from 12 to 32 weeks, who are over 18, with no specific requirements on educational levels, who are able to communicate in Chinese and can attend the programme. Pregnant women who are diagnosed with any mental illness or any pregnancy-related complication will be excluded from the programme.

**3.2 Transferability of the findings**

Transferability will be discussed in terms of setting and audience, philosophy of care, patient benefit from the innovation, and the time required to implement it.

**Similarity of setting and target population**

The antenatal talks in the reviewed studies were given in the antenatal units of healthcare centers or hospitals, places similar to the target setting. The proposed talks could thus be transferred to and implemented in this private hospital.

The participants in the seven studies are similar in type to our hospital’s target audience. In these studies, the gestation period ranged from 12 to 36 weeks. In two of them, recruitment was limited to Hong Kong Chinese singleton pregnant women over 18, with no specific requirement on education level, who were able to communicate in Chinese (Ngai et al, 2009; Leung & Lam, 2012). Another two
studies recruited women from mainland China (Gao et al., 2012; Mao & Chan, 2012). In four of the seven studies, mothers who were diagnosed with mental illness or had a pregnancy complication were excluded (Gao et al., 2012; Ngai et al, 2009; Leung & Lam, 2012; Mao & Chan, 2012). Although one study was conducted in the USA (Munoz et al., 2007) and two in Australia (Austin et al., 2009; Milgrom et al., 2011), the other four studies were conducted in China and Hong Kong (Mao & Chan 2012; Gao et al., 2012; Leung & Lam, 2012; Ngai et al., 2009), and could be appropriately applied to Chinese women in Hong Kong.

**Philosophy of care**

The mission of the private hospital is expressed as ‘I made myself all things to all men’, meaning that the hospital staff will dedicate themselves to serving every human being in need. With this patient-centred care mission, the hospital continues to enhance quality and maintain the highest standard of services by using evidence-based nursing practice to emphasize and satisfy the needs of the patient. And the philosophy of the psychosocial antenatal education programme is itself to provide an evidence-based intervention, mainly focusing on the needs of pregnant women to increase their awareness in pregnancy in both physical and psychosocial areas. In this way, it fits the potential philosophy of care of the target setting. With both the inspiration and direction of the target hospital and the
evidence-based education programme providing high-quality patient-centred care, the objective of reducing postnatal depression can possibly be achieved in this hospital through the implementation of the innovation.

**Patient benefits from the innovation**

The obstetric unit serves approximately 300 pregnant women per month. In 2012, the patients attending the antenatal talks would most likely give birth in the same hospital. It is not expected that the number of women will change significantly after the antenatal talks. A significant number of pregnant women can therefore benefit from the implementation of antenatal talks.

**Estimated time required**

It will take around a year and a half to implement the innovation and to evaluate the programme. One month is needed to obtain approval from the general manager of the hospital and the obstetric department head, another for planning and preparation, and a third for training staff. The planning and training stages will start from December to January, which is the non-peak labour season. Seven months will be needed for the pilot study, and eight months for actual implementation after the pilot, with ongoing evaluation started from the pilot study and continued to the end of the entire programme. Appendix 8 illustrates the complete timeline.
3.3 Feasibility

Different elements should be brought together to address the feasibility of the proposed guidelines before their implementation. Organizational climate, administrative support, the availability of staff and other resources, training, and possible obstacles and their solutions will all be included and discussed.

Organizational climate

The pilot obstetric unit provides a supportive and constructive environment for the development of evidence-based nursing care. With the hospital’s mission in mind, we need to focus on the needs of the client and achieve higher standards of service. Moreover, with the aim of gaining accreditation from the Australian Council on Healthcare Standards (ACHS), the obstetrics department head keeps encouraging staff to introduce evidence-based practice in their routine duties and welcomes any constructive change in nursing practice. The department frequently sponsors staff to take different courses to achieve higher levels of education. An education programme which can reduce postnatal depression is being introduced and is expected to be welcomed by the hospital. The development of evidence-based nursing guidelines and antenatal talks will contribute to the development of the nursing profession.
Administrative support

Any guidelines and new interventions should be approved by the head of the obstetrics department and by the hospital. The head of department always encourage nursing care that not only focuses on the physiological but also on the psychological side of pregnant women. And the head always encourages and sponsors staff to undergo regular training with study days off, allowing them to attend courses to accumulate CNE points and count points yearly. Through study, staff can introduce new concepts and knowledge to build up more evidence-based nursing care and practice to enhance the hospital’s general quality of care. The senior nursing officer and nursing officers revise the nursing ward manual yearly and invite staff to incorporate updated evidence-based nursing practice in the manual to maintain the high quality of nursing care. The proposed guidelines consist of an implementation plan which includes the benefits, potential risks and barriers, and costs. The nurse administrators and managers of the hospital will discuss the feasibility of these guidelines.

Nursing staff availability

The availability of nursing staff is an important element in the implementation of any innovation. There are 18 nurses in the target obstetrics unit ward, one nursing officer and 17 midwives, all of whom are registered nurses
and/or midwives. Nearly half of them have served over 10 years in the ward.

The education programme is conducted by midwives, for of whom rotate and hold a traditional antenatal talk monthly. The proposed new talks do not require additional work as midwives are indeed already holding them as a matter of routine. All are experienced in delivering education talks to clients.

**Availability of resources**

The antenatal talks will be held in a seminar room. Basic equipment such as projectors, computers and microphones are already available, and leaflets and written materials can be printed in the ward. A bag of souvenirs, including milk powder, baby-care lotion and booklets, will be given to each participant at the end of programme, sponsored by baby-care companies. With this availability of resources, the proposed guidelines are highly feasible.

**Training**

The training sessions mainly focus on intervention skills - those concerned with presentations, communication and problem-solving. Advice will be sought from clinical psychologists and obstetricians from the hospital. The training courses will consist of four sessions, eight hours in total, held on a weekly basis. Further arrangement will be discussed with the implementation plan.
Possible obstacles

There are certain obstacles to be overcome when implementing a psychosocial antenatal education programme. At the individual level, the new programme involves communication skills and problem-solving techniques. Training is important, but staff may think it will increase their workload and they will have to spend extra time on it. Lack of self-confidence among staff is also an obstacle. They may consider themselves lacking the ability to implement the programme because it takes time for them to learn and adapt. For these reasons, staff may not have the incentive and motivation to carry out the innovation, increasing the difficulties of implementation.

At the organizational level, the head of department has to consider the resources, costs, training time, course fees and allocation of staff the programme involves. With limited resources, the head of department needs to have a comprehensive proposal covering overall feasibility before approval and funding can be granted by the hospital.

Possible solutions

At the individual level, increasing incentives and the motivation of staff are most important in gaining their support. With positive reinforcement, staff will be more willing to work on the programme. Discussing with the head of department
the chances of gaining continuing nursing education (CNE) points after attending
the training course might increase their motivation, and the arrangement of study
days can attract staff to attend the course as an incentive. Written information and
leaflet about the programme should also be provided to staff, allowing them to
review it before the training course and implementation. This is an opportunity to
review, evaluate and make improvements in antenatal talks with a more
systematic approach. Through the talks, midwives can become more confident in
their teaching and more autonomous in their nursing care to enhance their quality
of service in providing evidence-based practice to pregnant women.

Before the implementation of the programme, the head of department can
hold a briefing session to explain clearly and introduce the benefits of the
innovation to all staff to enhance their understanding and clear up any confusion.
An evidence-based programme of this kind is beneficial to patients, nurses, the
hospital and the healthcare system alike. This should be explained to the hospital,
the head of department and all staff in the maternity ward so as to increase overall
morale.

At the organizational level, the head of department and the administration of
the hospital will be concerned not only with the feasibility of implementation but
also, and mainly, with costs and resources required. For the hospital, the focus is
on the process of gaining accreditation from the Australian Council on Healthcare Standards. Through introducing the innovation, the quality of nursing service can be improved by providing evidence-based practice, and the reputation of the hospital enhanced as a result. A proposal with a clear explanation of the costs and resources required by the programme is necessary in order to persuade the head of department and administration that it is cost effective, and thus to gain their support.

3.4 Cost-benefit ratio of the innovation

In the cost-benefit section of the innovation, potential risks and benefits, the risks of maintaining current practice, and material and non-material costs will be discussed.

Potential risks

As no medical procedures are involved, there is minimal potential risk to the client in attending the antenatal talks. However, the quality of the talks may vary and would be difficult to standardize, as they may be delivered by different midwives. But regular evaluation and discussion of the difficulties with other midwives would help to control the quality of care.

Potential benefits

The talks bring benefits to pregnant women, nursing staff and the hospital
itself. The innovation can help to reduce postnatal depression among women and hence to promote their well-being and maintain good mother-infant bonding. Midwives can increase their own confidence in teaching and acquire more knowledge themselves on completion of training. Implementation of the evidence-based guidelines can also bring job satisfaction and increase their autonomy in nursing care. The hospital’s reputation can be enhanced after implementation of the guidelines, with improved quality of service. It will also be the first private hospital to deliver psychosocial antenatal talks.

Risks of maintaining current practice

According to a study by Lee et al. (2001), postnatal depression affects approximately 11% of women in Hong Kong. If we continue the current traditional talks, there will be no room for improvement in nursing care. The prevalence of postnatal depression may continue to increase, not only affecting the well-being of women but maternal-infant bonding as well.

Costs

The biggest material cost in delivering the innovation is that of releasing four midwives to attend the eight-hour course. According to the pay scales of the target hospital, the estimated median monthly salary of each midwife is HK$40,000. The hourly rate is around HK$210 [(HK$ 40,000 X 12) / (52 X 44)], the cost of each
midwife attending the course is therefore HK$1,680, and the total expense for all four is HK$6,720. In addition, printed materials will be necessary, including teaching notes, instruction leaflet and evaluation forms. The long-term costs will cover printing materials like ink and paper.

Also, midwives must spend time on discussion in monthly meetings, each of which lasts for around an hour; the total expense for one meeting will amount to the hourly rate for four midwives, HK$840.

3.5 Conclusion

After reviewing the transferability of studies, the feasibility and the cost-benefit ratio of the proposed antenatal talks, it is clear that pregnant women, nursing staff and hospital can all gain benefits from the innovation that outweigh the costs involved. In other words, it is highly feasible to implement the programme in the target obstetrics unit.
CHAPTER 4-Implementation Plan

With growing evidence of the effectiveness of psychosocial antenatal talks in reducing postnatal depression, implementing the programme in the target obstetrics unit seems both desirable and eminently feasible. In the following chapters, the implementation plan, as a pilot study, will be discussed.

4.1 Communication plan

The communication plan is important as it covers the identification of stakeholders, the implementation methods and the timing, all to enhance the smoothness of the process.

Identification of stakeholders

The stakeholders should first be identified. They may be individuals or groups and include the decision-makers in the innovation, the people who carry it out and those who will be affected by it. At the management level, they include the senior nursing officer and the head of department, who are the key people concerned with the project’s feasibility and costs. Trainers include clinical psychologists, obstetricians, nursing officers and frontline midwives. The main users are of course the women who attend the antenatal talks.

Communicating with stakeholders

The communication process is divided into four levels: the management,
trainers, frontline nurses and clients.

**Communication with the management**

Every innovation programme should obtain approval from the management, the purpose being to establish agreement and support - resources and staff allocation - to implement the programme. The nursing officer who is the department head of the obstetrics ward has experience in nursing care and decision-making. The proposal containing the evidence supporting the innovation and the guidelines will be given to the nursing officer first, for the initial review.

After that review, a one-hour meeting will be held with department head and senior nursing officer to present the innovation. With the help of Power Point, the proposal will be presented to them, its background, significant needs, evidence to support the antenatal talks, transferability and feasibility of the innovation, costs and benefit ratio, with clear budget plans – all aimed at gaining the support and approval of the management. Decision-makers will be encouraged to put forward their comments and suggestions in a question-and-answer session. The proposal and guidelines will be amended and funds applied for after approval from the senior nursing officer, a process expected to take two weeks.

**Communication with trainers**

The nursing officer and one senior nurse will lead the implementation of the
programme. As this is a psychology- and obstetrics- related programme, the clinical psychologist and obstetricians will be consulted and asked to provide relevant professional information from their respective fields. The meeting which one will be held immediately after approval is secured, in the second weeks. Thereafter, the nursing officer and senior nurse, who are experienced in carrying out the new guidelines, will assist in the training sessions, provide precise instructions and co-operate with the psychologist and obstetrician. They need to overcome the barriers with effective solutions, and provide support and encouragement to the frontline staff to increase their understanding and motivation to accept and adapt to the use of the new programme.

**Communication with frontline staff**

After approval from the management is obtained, an announcement will be made during the handover time in the obstetrics ward. As four midwives will be the ones to receive training and implement the antenatal programme, it is important to have good communication with them and the trainers too, to enhance their understanding of the guidelines. A one-hour briefing session will be held to explain the aims and objectives, where they can voice their concerns, suggestions and possible solutions in week four. The training courses will start from week five and consist of four sessions (a total of eight hours) on a weekly basis. During the
training sessions, midwives will come to understand more about postnatal depression, and about presentation, communication and problem-solving skills, so that they will have adequate knowledge and be able to hold the antenatal talks with confidence.

**Communication with clients**

Details of the proposed innovation, such as posters and leaflets, will be given to the two obstetrician residents at the out-patient clinic, and to other obstetricians in outside clinics. The benefits of the innovation will be introduced and we hope they will put up the poster in the clinic. Both posters and leaflets will give a 24-hour telephone hotline number and the obstetric ward e-mail address, and welcome clients to communicate by either method. The timeline of the communication plan and entire programme is shown in Appendices 7 and 8.

**4.2 Initiating the change**

**Organizing a core group**

Facilitating the implementation of the antenatal talks, carrying out the change and overcoming the obstacles are the main steps. A core group will be formed to promote the change. The proposer, one nursing officer and one senior midwife together with the hospital clinical psychologist and obstetrician, will be in the group. They will hold regular monthly meetings and follow up the work process,
keep updated and discuss difficulties and possible solutions. Also, encouragement and support should be provided to the staff and their queries should be answered clearly.

**Training sessions**

The training course consists of four sessions, a total of eight hours, held on a weekly basis. As midwives are already trained in obstetric care - antenatal, labour and postnatal - the training will mainly focus on updated information on postnatal depression, and presentation, communication and problem-solving skills. Healthcare professionals, including the clinical psychologist, obstetrician and nursing officer, will be the trainers on this course, and Power Point will be used to illustrate the content. The psychologist will teach communication and problem-solving skills by video demonstration, with detailed explanations. Role-play and return demonstrations will be needed to help staff manage the new skills. The obstetrician will provide updated information on postnatal depression and obstetrics nursing. Certain case studies will be discussed in the course, and evaluation forms will be distributed to the midwives after the lessons.

Four senior midwives will be trained in the first month. With the training course completed, the pilot study will begin, and four other frontline midwives will then attend a second course. Appendix 9 illustrates the midwife training
programme.

**Sustaining the change**

All trained staff should pass an audit before the antenatal classes begin. Nursing officers will be the ones to conduct the audit, and an annual review, to ensure the quality of skills and compliance. The audit form appears in Appendix 10.

A survey will be conducted to check that staff are giving the talks in a satisfactory way, and to act as a feedback channel. Each member of staff will receive a survey form, which will be collected after they have completed it. The data will be further processed to review staff satisfaction and to evaluate performance.
Chapter 5- Pilot Study

The pilot study is important as it is a preliminary test of the effectiveness of the innovation at the target site. Unanticipated problems will surface in the pilot study, so that the innovation can be further amended.

5.1 Objectives

1. To test the feasibility of the talks’ clinical guidelines.
2. To identify the obstacles and concerns arising from the talks.
3. To assess nurses’ compliance.
4. To assess staff satisfaction by using the survey as a feedback channel.
5. To establish the baseline effect on the mothers after the talks are begun.

5.2 Study design

This is a pilot study using a pretest-posttest quasi-experimental design.

5.3 Setting

The pilot study will be carried out in the obstetrics ward of a private hospital.

5.4 Participants

The target group consists of Hong Kong Chinese singleton pregnant women with gestation periods ranging from 12 to 32 weeks, who are over 18, but with no specific education-level requirement, who are able to communicate in Chinese and can attend the education programme. Women diagnosed with any mental
illness or any pregnancy-related complication will be excluded from the programme.

According to Melnyk and Fineout-Overholt (2005), 30 to 40 participants will be needed to conduct an effective pilot study. As there are four midwives holding the talks, it is proposed that each class should contain ten women. Convenience sampling methods will therefore be used to recruit 30 eligible pregnant women to the pilot study.

5.5 Duration

Based on data from the target setting of the pilot study, 30 to 40 pregnant women will attend the antenatal talks each month. According to the proposed guidelines, there will be a total of ten women in each class, with five weekly sessions of the programme, each lasting one and a half hours. Assuming that 20% of mothers decline to join the classes, three months will be enough time to recruit participants, conduct the entire implementation and measure its outcomes. One month will be needed for data analysis and another month for the evaluation process. The duration of the whole pilot test is estimated to be seven months. The timeline of the pilot study is shown in Appendix 11, and the entire programme process in Appendix 12.
5.6 Evaluation

After the implementation of the pilot study, it will be critical to study the effectiveness of the innovation incorporated into the target setting. Process and outcome evaluation will be conducted.

The process evaluation will mainly evaluate the competence and satisfaction levels of staff and participants, and their confidence in the innovation. A satisfaction survey will be distributed to staff and questionnaires aiming to record women's satisfaction levels and their opinions on the effectiveness of the innovation will be completed by all participants, a focus-group interview will also be held. In addition, a 30-minute regular meeting will be held every two weeks during the initiation of the pilot study, and a one-hour meeting at the end to review staff satisfaction, difficulties encountered and possible improvements.

As an outcome evaluation, the Edinburgh Postnatal Depression Scale will be administered before and immediately after the intervention. The details of evaluation will be further elaborated in the following chapter.
Chapter 6: Evaluation Plan

A detailed evaluation plan consisting of process and outcome evaluation, together with the sample size calculation method, will be discussed. It is important to assess the effectiveness and acceptability of the innovation.

6.1 Process evaluation

The process evaluation consists of both participant and staff measures.

Participant measures

The women’s satisfaction levels will be measured by questionnaire and focus-group interview. The questionnaires will be distributed at the beginning and end of the programme, and satisfaction levels can be assessed by means of five questions on a five-point Likert scale. A sample of this satisfaction survey is shown in Appendix 13. Participants also willing to join a thirty-minute focus-group interview will be invited to do so after the end of the programme, when they will be offered a small gift (sponsored by a baby-care company) as an encouragement to provide more detailed feedback on the pilot study.

Staff measures

Staff compliance in managing the antenatal classes and staff satisfaction levels are the main focuses here. All trained staff should pass the audit before taking a class to ensure they are fully competent. Before the audit, the trained
midwives will be told about the standards expected and the assessment criteria. Nursing officers will conduct the audits and reviews every year to ensure the quality of skills and compliance levels. Re-assessment will be carried out of anyone found to be incompetent.

By using the survey, satisfaction levels can be reflected both pre- and post-talks. The survey contains five questions, and staff can rate each statement on a five-point Likert scale. A sample of the satisfaction survey appears in Appendix 14. Besides the 30-minute regular meeting every two weeks, a one-hour evaluation meeting will be held to collect more detailed feedback on the concerns and difficulties encountered, and on the logistic flow. An evaluation report will be drawn up, and circulated in the ward.

6.2 Outcome evaluation

The outcome evaluation mainly focuses on the participants’ outcomes after attending the classes, measured on the Edinburgh Postnatal Depression Scale (EPDS). In Mao and Chan (2011), a high-level evidence study, the EPDS was used to measure depressive symptoms among women before the intervention and at the sixth week postpartum. So, in this programme, the EPDS will also be administered before the intervention and at the sixth week postpartum. Participants were scored twice to compare their depressive symptoms before and
after the programme. The EPDS is a 10-item scale, validated to assess depressive symptoms in pregnancy and the postpartum period (Cox et al., 1987; Cox & Holden, 2003). The Chinese version of EPDS has also been validated (Lee et al., 1998), and is commonly used in obstetrics wards. A recommended cut-off point of 13 or above indicates the presence of depression.

Baseline measurement will be conducted at the beginning of the programme. Before the first lesson starts, the EPDS questionnaire will be distributed to participants and collected after completion. At the sixth week postpartum, participants are asked to complete the EPDS questionnaire again when they attend the clinic for postnatal check-up.

6.3 Criteria of effectiveness

Process evaluation

1. Midwives’ compliance: all trained midwives should pass the audit assessment.

2. Satisfaction levels of participants: the satisfaction survey contains five questions, and each statement can be rated on a five-point Likert scale - the innovation is considered to be effective when at least 80% of the women express satisfaction and choose the ‘strongly agree’ or ‘agree’ options.

3. Satisfaction levels of staff: the satisfaction survey contains five questions, and staff can rate each statement on a five-point Likert scale - the innovation is
considered to be effective when at least 80% of staff express satisfaction by choosing ‘strongly agree’ or ‘agree’ options.

**Outcome evaluation**

The objective should be in accord with the baseline EPDS measurement of the participant.

The paired t-test is used to test the hypothesis of the difference between mean and baseline.

1. The mean score of half the participants after the intervention decreased by more than 0.3 points (Leung & Lam, 2012).

**6.4 Sample size**

The nature of participants follows the inclusion and exclusion criteria of the pilot study. Java Applets is used for power and sample size to obtain the optimal sample size for the programme. According to the literature (Gao et al., 2012; Milgrom et al., 2011; Leung & Lam, 2012; Ngai et al., 2009), the significant level is set at 0.05 and the range of effect size is 0.3-0.5. The effect size in the innovation is thus 0.3, the statistical power 80% and the sample size 74. In this way, with an assumed attrition rate of 20%, the required sample size should be 90.

**6.5 Data analysis**

Descriptive statistics will be used to summarize and analyze the demographic
and quantitative data, including the mean score and standard deviation. Data will be analyzed by means of the Statistical Package for the Social Science (SPSS), Windows version 18.0. Score of EPDS were measured at two points, before the intervention and at the sixth week postpartum. The difference between these two scores, the baseline measurement before the beginning of the talks and that at the sixth week postpartum, will be calculated and significance testing will be conducted by paired t-test. The paired t-test will also be used to compare the changes in pre- and post-intervention satisfaction levels of staff and subjects. The participants’ focus-group interviews will be digitally recorded and reviewed.

After evaluation of the programme, a report will be drawn up, which the committee will present via Power Point and circulate to staff. A lunchtime meeting will be arranged with the department head and senior nursing officer to discuss experiences of the innovation and to present the report.

6.6 Conclusion

The evaluation plan provides information about the feasibility of this psychosocial antenatal programme, reflects the obstacles and logistic flow, and will help the innovation to run smoothly in the target setting after evaluation and modification.
References


# Appendices

## Appendix 1 Table of search result

<table>
<thead>
<tr>
<th>Date of search</th>
<th>Pubmed</th>
<th>EBSCOhost research database</th>
<th>PsycINFO</th>
<th>Science Direct (SciVerse)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pregnant women</td>
<td>72340</td>
<td>21040</td>
<td>7721</td>
<td>144443</td>
</tr>
<tr>
<td>2. Postnatal or postpartum or parental or maternal depression</td>
<td>986766</td>
<td>226099</td>
<td>3880289</td>
<td>200928</td>
</tr>
<tr>
<td>3. Psychosocial antenatal education program or antenatal talk or antenatal program or antenatal class</td>
<td>1662</td>
<td>164</td>
<td>509</td>
<td>931</td>
</tr>
<tr>
<td>4. Randomized controlled trial or RCT</td>
<td>442211</td>
<td>21372</td>
<td>20696</td>
<td>348871</td>
</tr>
<tr>
<td>1+2+3</td>
<td>163</td>
<td>28</td>
<td>63</td>
<td>218</td>
</tr>
<tr>
<td>1+2+3+4</td>
<td>27</td>
<td>3</td>
<td>8</td>
<td>38</td>
</tr>
<tr>
<td>No. of relevant studies</td>
<td>5</td>
<td>2</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>No. of duplicated papers</td>
<td></td>
<td></td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>No. of selected paper</td>
<td></td>
<td></td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>
### Appendix 2 Table of evidence

<table>
<thead>
<tr>
<th>Bibliographic citation</th>
<th>Study Type</th>
<th>Patient Characteristics</th>
<th>Intervention</th>
<th>Comparison</th>
<th>Length of follow up</th>
<th>Outcome measures</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Austin et al., 2008</td>
<td>Randomized controlled trial</td>
<td>1.277 pregnant women, have EPDS score &gt; 10, and/or a score &gt; 23 in ANRQ, history of depression in Australia 2. Null parity or multi-parity 3. Mean age was 31.4 years 4. 14 to 36 weeks of gestation 5. Women who have significant personality dysfunction are</td>
<td>1. 191 women in intervention group 2. The intervention group received 6-weekly 2-hour sessions plus a later follow-up session of Cognitive behavioral therapy, which consisted of prevention and management of stress, anxiety, and low mood in pregnancy and skills in caring baby. 3. A clinical psychologist and midwife led the intervention.</td>
<td>1.86 women are in booklet control group. 2. Women in control group were given a booklet which contained information about the postnatal anxiety and depression, triggers for postnatal distress, skills to prevent and manage problems, and the way to get support and seek help.</td>
<td>From the baseline (not less than 14 weeks of gestation) to 4 months postpartum. 2. There are four time points, at first, third, sixth, and twelfth month postpartum</td>
<td>Tool were used: 1) The Edinburgh Postnatal Depression Scale (EPDS) - assess the presence of depressive symptoms Outcome: Postnatal depression</td>
<td>Intervention group compare to control group: At the all time points, There is no significant difference in reduction of postnatal depression between the Cognitive behavioral therapy and control group.</td>
</tr>
</tbody>
</table>
| 2) Gao et al., 2012 | Ran dom ized control trial | 1.94 Normal, uneventful pregnant women in Guangzhou | 1.96 women receive routine and interpersonal psychotherapy oriented childbirth education program.  
2. Four 90 minutes group antenatal education sessions with not more than 10 people in group and one telephone follow up within 2 weeks after delivery.  
3. The first session focused on transition to motherhood, obstacles to communication and communication skills  
And information about | 1.98 women receive routine antenatal classes in study venue | From the baseline (over 28 weeks gestation ) to 3 months postpartum | Tools were used:  
1) The Edinburgh Postnatal Depression Scale (EPDS) - assess the presence of depressive symptoms  
2) The Perceived Social Support Scale (PSSS) - measure perceived social support  
3) The Parenting Sense of Competence Scale (PSOC) consist of efficacy subscale and satisfaction subscale  
A). Efficacy subscale is used to measure Maternal role competenc  
At three month postpartum, in intervention group compared to control group:  
**Primary outcome:**  
1. Less depressive symptoms:  
The effect size (from calculating the Eta squared): in between the small to moderate effect.  
**Secondary outcome:**  
1. High Perceived social support with moderate effect size (from calculating the Eta squared) |
<p>| their characteristics and the baseline assessment of outcome in perceived social support, maternal role competence, depressive symptoms and psychological well being. | the postpartum depression 4. The second session focused on developing social support, identifying potential interpersonal conflict after delivery, skills for resolving interpersonal conflict and issues related with Chinese postpartum practice. 5. Specific interpersonal psychotherapy techniques is used such as clarification, communication analysis, role playing and brainstorming. | B). Satisfaction subscale is used to measureself esteem and depression 5)The General Health Questionnaire is used to detect the postpartum depression Primary Outcome: 1. Postpartum depressive Symptoms Secondary Outcomes: 1. Perceived social support 2. Maternal role competence | 2. Maternal role competence with small to moderate effect size (from calculating the Eta squared) |</p>
<table>
<thead>
<tr>
<th>3) Leung and Lam. (2012) Ran domized control trial</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 156 pregnant women who can spoke and written Chinese, aged 18 years old or above, HK residents will have grandparents involve in childcare</td>
</tr>
<tr>
<td>2. No significant difference between the intervention and control group in their characteristic</td>
</tr>
</tbody>
</table>

| 1. 78 women were allocated to a group community-based family centered parenting program which consisted of a 4 weekly group sessions lasting 1.5 hour per session. |
| 2. Each session introduce different aspects, including communication skills, problem in role transition, emotion control and provide support through |

| 1. The use of a short video clip to stimulate discussion |
| 2. Participate identification of errors and development of alternative strategies |
| 3. Role play |
| 4. Weekly homework |

| 78 women in control group: All receive routine antenatal care from the MCHC, include the brief individual interview related to pregnancy concerns with a midwife |

| From the baseline of gestation to 6-8 weeks after the delivery |

| Tools were used: |
| 1) The Edinburgh Postnatal Depression Scale (EPDS) is used to measure the mood in postpartum women |
| 2) The 4 item Perceived Stress Scale is used to measure global stress level |
| 3) The Subjective Happiness Scale is used to assess happiness and health |
| 4) The 7 item Relationship Efficacy Measure |
| 5) One single self-designed question |

| Primary Outcomes: |
| 1. Participant in intervention group is significantly lower level of depression - With moderate effect size (from study) |
| 2. Participant in intervention group is significantly lower level of stress - With moderate Effect size (from study) |

| Secondary outcomes: |
| 1. Participant in intervention group is significantly higher level of happiness - with moderate Effect size (from study) |
| 2. Participant in intervention group is not significantly more with Self-efficacy in managing conflict |
4) Mao and Chan, 2012

<table>
<thead>
<tr>
<th>Randomized control trial</th>
<th>1.240 pregnant women in Zhejiang, China.</th>
<th>1. 120 women in intervention group and 120 women in control group</th>
<th>2. Self-efficacy in managing conflict</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. Single birth</td>
<td>2. They received emotional self management group training (ESMGT) program which is based on the theory of cognitive behavioral treatment</td>
<td>From the baseline (32 weeks) to 6 weeks postnatal.</td>
</tr>
<tr>
<td></td>
<td>3. Age &lt; 35 years old</td>
<td>3. They received standard antenatal education</td>
<td>Tools were used:</td>
</tr>
<tr>
<td></td>
<td>4. No complication of pregnancy and personal or family history of psychiatric</td>
<td>3. Total four weekly group sessions which last 90 minutes</td>
<td>1. The Edinburgh Postnatal Depression Scale (EPDS)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. The content mainly focus on childbirth</td>
<td>2. The PHQ-9 which is a nine items depression module</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Outcome:</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 Postnatal Depression</td>
</tr>
</tbody>
</table>

**Outcome:**

1. The mean score of EPDS at six weeks postnatal was significantly lower in the intervention group compared to control group.
2. The mean score of PHQ-9 was significantly lower in the intervention group.
disorder.

minutes and one individual counseling session

4. Program mainly focused on four themes
   - “Understanding self-management and Chinese delivery culture”
   - “Effective problem solving and communication”
   - “Relaxation exercise and cognitive restructuring”
   - “Improving self confidence”
<table>
<thead>
<tr>
<th>Ran</th>
<th>5) Milgrom et al, 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.143 women in Melbourne who with good representation</td>
<td></td>
</tr>
<tr>
<td>2. Gestation: 20-32 weeks</td>
<td></td>
</tr>
<tr>
<td>3. Both with or without symptoms of depression, anxiety and stress</td>
<td></td>
</tr>
<tr>
<td>Were screened by Edinburgh postnatal depression scale (EPDS)</td>
<td></td>
</tr>
<tr>
<td>4. Inability to understand written English, presence of psychotic symptoms, extreme levels of distress were excluded.</td>
<td></td>
</tr>
<tr>
<td>5. No significant</td>
<td></td>
</tr>
<tr>
<td>1. Total 71 women, 50 women is low screening score of EPDS and 21 women is high screening score of EPDS</td>
<td></td>
</tr>
<tr>
<td>2. Each participant will be provided community networking pamphlet highlighting the importance of establishment support networks and listing contracts for relevant services.</td>
<td></td>
</tr>
<tr>
<td>3. Read ‘Towards parenthood’ workbook with nine units: Eight units are needed to read during pregnancy and one to be read following the birth. The postnatal unit was completed six weeks following the birth.</td>
<td></td>
</tr>
<tr>
<td>4. The content include the parenting, strategies for</td>
<td></td>
</tr>
<tr>
<td>1. Total 72 women, 50 women is low screening score of EPDS, and 22 is high screening score of EPDS</td>
<td></td>
</tr>
<tr>
<td>2. Each participant will be provided community networking pamphlet highlighting the importance of establishment support networks and listing contracts for relevant services.</td>
<td></td>
</tr>
<tr>
<td>3. Read ‘Towards parenthood’ workbook following the birth.</td>
<td></td>
</tr>
<tr>
<td>4. The content include the parenting, strategies for</td>
<td></td>
</tr>
<tr>
<td>From the baseline (20-32 weeks gestation) to post treatment (12 weeks of postpartum)</td>
<td></td>
</tr>
<tr>
<td>Complete questionnaire at baseline pre-randomization and post treatment (12 weeks of postpartum)</td>
<td></td>
</tr>
<tr>
<td>Tools are used:</td>
<td></td>
</tr>
<tr>
<td>1) The EPDS is used to screen the depression during pregnancy and postpartum</td>
<td></td>
</tr>
<tr>
<td>2) The Risk Assessment Checklist is used to measure the risk factors for parenting and mood disorders</td>
<td></td>
</tr>
<tr>
<td>3) The Beck Depression Inventory-II (BDI) is used to measure the cognitive, affective and psychological symptoms of depression</td>
<td></td>
</tr>
<tr>
<td>4) The Depression Anxiety Stress Scales short form (DASS) is used to measure of</td>
<td></td>
</tr>
<tr>
<td>Primary Outcomes:</td>
<td></td>
</tr>
<tr>
<td>1. Participant in intervention group is significantly lower level of depression</td>
<td></td>
</tr>
<tr>
<td>- With moderate effect size (from study)</td>
<td></td>
</tr>
<tr>
<td>2. Participant in intervention group is significantly lower level of anxiety</td>
<td></td>
</tr>
<tr>
<td>- Moderate Effect size (from study)</td>
<td></td>
</tr>
<tr>
<td>Secondary Outcomes:</td>
<td></td>
</tr>
<tr>
<td>1. Participant in intervention group is significantly lower level of stress</td>
<td></td>
</tr>
<tr>
<td>- Moderate Effect size (from study)</td>
<td></td>
</tr>
<tr>
<td>2. Participants scored significantly lower Parenting dysfunction.</td>
<td></td>
</tr>
<tr>
<td>- Moderate Effect size effect (from study)</td>
<td></td>
</tr>
<tr>
<td>6) Munoz et. al. 2007</td>
<td>Randomized controlled trial</td>
</tr>
<tr>
<td>difference between the intervention and control group in their characteristics</td>
<td>coping depression and anxiety, problem solving skills, communication skills etc. 5) Read Necessary material each week 6) Discuss the content include tailored discussion and problem solving around the unit content with a psychologist in a weekly half an hour telephone support session.</td>
</tr>
</tbody>
</table>
32 weeks pregnant with verbal and written fluency in either Spanish or English.

booster sessions to four groups of three to eight pregnant women, led by two group facilitators.

3. The content of the Mothers and Babies course include detailed training manual and relaxation component, and attachment theory, cognitive behavioral theory of mood and health, awareness of the physiological effects of stress and parenting skills.

3. The four booster sessions review the core concepts in Mothers and babies course and address the postpartum concerns.

received the baby course.

depression
3. The Maternal Mood Screener to measure somatic symptoms.

**Outcomes:**
1. Postpartum Depressive symptoms
2. Postpartum Major depressive episodes

comparison condition represent small effect size (h=0.28)

| 7) Ngai et al., 2009 | A quas | 1.184 primiparous with singleton and | 1. 92 women in Childbirth psychoeducation program | 1. 92 women in Routine childbirth | From the baseline to 6 | Tools were used: 1. Edinburgh Postnatal | Outcomes: 1. Significant |
1. Experiment: Chinese pregnant women in Hong Kong
2. Gestation of 12 weeks to 35 weeks.

Based on the concept of learned resourcefulness which including cognitive restructuring, problem solving and efficacy enhancement.

2. The program consisted of three one-hour sessions in same day to the end of three core sessions of the routine childbirth education program.
3. First session provide an overview of stress and emotional change and coping skills relating to parenting.
   The second session focused on training women in cognitive restructuring skills.
   The third session focused on teaching problem solving strategies and decision making skills to

Education program
2. Consisted of six 2 hours weekly sessions focusing on pregnancy, childbirth and basic child care.

<table>
<thead>
<tr>
<th>months postpartum</th>
<th>Depression Scale(EPDS)</th>
<th>2. Self Control Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3. Parenting Sense Of Competence Scale (PSOC)</td>
<td>4. Medical Outcome Study Social Support Survey</td>
</tr>
<tr>
<td></td>
<td>5. Social Readjustment Rating Scale were used to measure Outcomes:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Learned resourcefulness</td>
<td>2. Depressive symptoms</td>
</tr>
<tr>
<td></td>
<td>3. Maternal role competence</td>
<td></td>
</tr>
</tbody>
</table>

Outcomes:
1. Improvement in learned resourcefulness in intervention group (p=0.004)
2. Reduction in depressive symptoms (p=0.01)
3. No significant group difference in maternal role competence
cope with childcare and common neonatal problems.
4. Instructional methods including lecture, discussion, demonstration and skill practice and delivered by experienced midwife with formal training on cognitive restructuring and problem solving skills.
### Appendix 3 Summary of the Methodology of Studies

<table>
<thead>
<tr>
<th></th>
<th>Austin et al., 2008</th>
<th>Gao et al., 2012</th>
<th>Leung and Lam, 2012</th>
<th>Mao and Chan, 2012</th>
<th>Milgrom et al., 2011</th>
<th>Munoz et al., 2007</th>
<th>Ngai et al., 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Clearly focused question</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>1.2 Random assignment</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>1.3 Adequate concealment method</td>
<td>✓</td>
<td>Not mentioned</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>1.4 Double-blind treatment</td>
<td>✓</td>
<td>Not mentioned</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>1.5 Groups are similar at start</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>1.6 Only group difference is the treatment</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>1.7 Outcomes are measured in a standard, valid and reliable outcome measurement</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>1.8 Dropped out rate</td>
<td>15.1; 19; 13.04</td>
<td>16.4</td>
<td>12.8</td>
<td>9%</td>
<td>10.4</td>
<td>12.5</td>
<td>14</td>
</tr>
<tr>
<td>1.9 Intention to treat analysis</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>1.10 Results are comparable for all sites</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Level of Evidence</td>
<td>1+</td>
<td>1+</td>
<td>1++</td>
<td>1++</td>
<td>1++</td>
<td>1+</td>
<td>1+</td>
</tr>
</tbody>
</table>
Appendix 4 The checklist of Scottish Intercollegiate Guideline Network (SIGN)

### METHODOLOGY CHECKLIST 2: CONTROLLED TRIALS

<table>
<thead>
<tr>
<th>Study identification (Include author, title, year of publication, journal title, pages)</th>
</tr>
</thead>
</table>

Guideline topic: Psychosocial antenatal education program more effective than routine antenatal education program in reducing postnatal depressive symptoms among Chinese pregnant women

<table>
<thead>
<tr>
<th>Key Question No:</th>
<th>Reviewer:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Before completing this checklist, consider:

1. Is the paper a randomised controlled trial or a controlled clinical trial? If in doubt, check the study design algorithm available from SIGN and make sure you have the correct checklist. If it is a controlled clinical trial questions 1.2, 1.3, and 1.4 are not relevant, and the study cannot be rated higher than 1+

2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO REJECT (give reason below). IF YES complete the checklist.

Reason for rejection: 1. Paper not relevant to key question ☐ 2. Other reason ☐ (please specify):

### Section 1: Internal validity

In a well conducted RCT study...

<table>
<thead>
<tr>
<th>Does this study do it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes ☒ No ☐ Can’t say ☐</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.1 The study addresses an appropriate and clearly focused question.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes ☒ No ☐ Can’t say ☐</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.2 The assignment of subjects to treatment groups is randomized.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes ☒ No ☐ Can’t say ☐</td>
</tr>
</tbody>
</table>
## 1.3 An adequate concealment method is used.
- Yes ☑
- No ☐
- Can’t say ☐

## 1.4 Subjects and investigators are kept ‘blind’ about treatment allocation.
- Yes ☑
- No ☐
- Can’t say ☐

## 1.5 The treatment and control groups are similar at the start of the trial.
- Yes ☑
- No ☐
- Can’t say ☐

## 1.6 The only difference between groups is the treatment under investigation.
- Yes ☑
- No ☐
- Can’t say ☐

## 1.7 All relevant outcomes are measured in a standard, valid and reliable way.
- Yes ☑
- No ☐
- Can’t say ☐

## 1.8 What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed?
- 15.1% at the time 2, 19% at time 3, and 13.04% at time 4

## 1.9 All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis).
- Yes ☑
- No ☐
- Can’t say ☐
- Does not apply ☐

## 1.10 Where the study is carried out at more than one site, results are comparable for all sites.
- Yes ☑
- No ☐
- Can’t say ☐
- Does not apply ☐

### SECTION 2: OVERALL ASSESSMENT OF THE STUDY

#### 2.1 How well was the study done to minimise bias?
- High quality (++)
- Acceptable (+)
- Unacceptable – reject

#### 2.2 Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention?
- Yes

#### 2.3 Are the results of this study directly applicable to
- Yes
<table>
<thead>
<tr>
<th>the patient group targeted by this guideline?</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.4 <strong>Notes.</strong> Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above.</td>
</tr>
<tr>
<td>From the result mentioned in study, At the all time points, there is no significant difference in reduction of postnatal depression between the Cognitive behavioral theory and control group.</td>
</tr>
</tbody>
</table>
Methodology Checklist 2: Controlled Trials

Study identification  
*Include author, title, year of publication, journal title, pages*


**Guideline topic:** Psychosocial antenatal education programme more effective than routine antenatal education programme in reducing postnatal depressive symptoms among Chinese pregnant women

<table>
<thead>
<tr>
<th>Key Question No:</th>
<th>Reviewer:</th>
</tr>
</thead>
</table>

**Before** completing this checklist, consider:

1. Is the paper a *randomised controlled trial* or a *controlled clinical trial*? If in doubt, check the study design algorithm available from SIGN and make sure you have the correct checklist. If it is a *controlled clinical trial* questions 1.2, 1.3, and 1.4 are not relevant, and the study cannot be rated higher than 1+

2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO REJECT (give reason below). IF YES complete the checklist.

**Reason for rejection:** 1. Paper not relevant to key question ☐ 2. Other reason ☐ (please specify):

### Section 1: Internal validity

*In a well conducted RCT study…*

<table>
<thead>
<tr>
<th>Does this study do it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes ☒</td>
</tr>
</tbody>
</table>

#### 1.1
The study addresses an appropriate and clearly focused question.

<table>
<thead>
<tr>
<th>Does this study do it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes ☒</td>
</tr>
</tbody>
</table>

#### 1.2
The assignment of subjects to treatment groups is randomised.

<table>
<thead>
<tr>
<th>Does this study do it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes ☒</td>
</tr>
</tbody>
</table>

#### 1.3
An adequate concealment method is used.

<table>
<thead>
<tr>
<th>Does this study do it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes ☐</td>
</tr>
<tr>
<td>1.4</td>
</tr>
<tr>
<td>1.5</td>
</tr>
<tr>
<td>1.6</td>
</tr>
<tr>
<td>1.7</td>
</tr>
<tr>
<td>1.8</td>
</tr>
<tr>
<td>1.9</td>
</tr>
<tr>
<td>1.10</td>
</tr>
</tbody>
</table>

**SECTION 2: OVERALL ASSESSMENT OF THE STUDY**

| 2.1 | How well was the study done to minimise bias? | High quality (++): ☐ Acceptable (+): ☐ |
| 2.2 | Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention? | I certain the overall effect is due to the study except the concealment method is not shown very clearly |
| 2.3 | Are the results of this study directly applicable to the patient group targeted by this guideline? | Yes |
| 2.4 | Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised | |
above.

<table>
<thead>
<tr>
<th>From the result mentioned in study</th>
</tr>
</thead>
<tbody>
<tr>
<td>In my Primary Outcomes: Less depressive symptoms with effect size in between the small to moderate effect can answer the question in my topic.</td>
</tr>
</tbody>
</table>
Methodology Checklist 2: Controlled Trials

Study identification  (Include author, title, year of publication, journal title, pages)


Guideline topic: Psychosocial antenatal education program more effective than routine antenatal education program in reducing postnatal depressive symptoms among Chinese pregnant women

<table>
<thead>
<tr>
<th>Key Question No:</th>
<th>Reviewer:</th>
</tr>
</thead>
</table>

Before completing this checklist, consider:

1. Is the paper a randomised controlled trial or a controlled clinical trial? If in doubt, check the study design algorithm available from SIGN and make sure you have the correct checklist. If it is a controlled clinical trial questions 1.2, 1.3, and 1.4 are not relevant, and the study cannot be rated higher than 1+

2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO REJECT (give reason below). IF YES complete the checklist.

Reason for rejection: 1. Paper not relevant to key question ☐ 2. Other reason ☐ (please specify):

Section 1: Internal validity

In a well conducted RCT study...

<table>
<thead>
<tr>
<th>Does this study do it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes ☐</td>
</tr>
<tr>
<td>Can’t say ☐</td>
</tr>
</tbody>
</table>

1.1 The study addresses an appropriate and clearly focused question.

1.2 The assignment of subjects to treatment groups is randomised.

1.3 An adequate concealment method is used.
| 1.4 | Subjects and investigators are kept ‘blind’ about treatment allocation. | Yes □ | No □ |
| 1.5 | The treatment and control groups are similar at the start of the trial. | Yes □ | No □ |
| 1.6 | The only difference between groups is the treatment under investigation. | Yes □ | No □ |
| 1.7 | All relevant outcomes are measured in a standard, valid and reliable way. | Yes □ | No □ |
| 1.8 | What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed? | 12.8 % participants dropped out of the study |
| 1.9 | All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis). | Yes □ | No □ |
| 1.10 | Where the study is carried out at more than one site, results are comparable for all sites | Yes □ | No □ |

**SECTION 2: OVERALL ASSESSMENT OF THE STUDY**

| 2.1 | How well was the study done to minimise bias? | High quality (++) | Acceptable (+) |
| 2.2 | Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention? | yes |
| 2.3 | Are the results of this study directly applicable to the patient group targeted by this guideline? | Yes |
| 2.4 | Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised. |  |  |
From the result mentioned in study,
1. Participant in intervention group is significantly lower level of depression, with moderate effect size (from study)
2. Participant in intervention group is significantly lower level of stress- With moderate effect size (from study)
Methodology Checklist 2: Controlled Trials

Study identification  
(Include author, title, year of publication, journal title, pages)

Guideline topic: Psychosocial antenatal education program more effective than routine antenatal education program in reducing postnatal depressive symptoms among Chinese pregnant women

Key Question No:  
Reviewer:

Before completing this checklist, consider:

1. Is the paper a randomised controlled trial or a controlled clinical trial? If in doubt, check the study design algorithm available from SIGN and make sure you have the correct checklist. If it is a controlled clinical trial questions 1.2, 1.3, and 1.4 are not relevant, and the study cannot be rated higher than 1+

2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO REJECT (give reason below). IF YES complete the checklist.

Reason for rejection: 1. Paper not relevant to key question  
2. Other reason  (please specify):

Section 1: Internal validity

**In a well conducted RCT study...**

<table>
<thead>
<tr>
<th></th>
<th>Does this study do it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>The study addresses an appropriate and clearly focused question</td>
</tr>
<tr>
<td>1.2</td>
<td>The assignment of subjects to treatment groups is randomised.</td>
</tr>
<tr>
<td>1.3</td>
<td>An adequate concealment method is used.</td>
</tr>
<tr>
<td>1.4</td>
<td>Subjects and investigators are kept ‘blind’ about treatment allocation.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>1.5</td>
<td>The treatment and control groups are similar at the start of the trial.</td>
</tr>
<tr>
<td></td>
<td>Can’t say ☐</td>
</tr>
<tr>
<td>1.6</td>
<td>The only difference between groups is the treatment under investigation.</td>
</tr>
<tr>
<td></td>
<td>Can’t say ☐</td>
</tr>
<tr>
<td>1.7</td>
<td>All relevant outcomes are measured in a standard, valid and reliable way.</td>
</tr>
<tr>
<td></td>
<td>Can’t say ☐</td>
</tr>
<tr>
<td>1.8</td>
<td>What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed?</td>
</tr>
<tr>
<td>1.9</td>
<td>All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis)</td>
</tr>
<tr>
<td></td>
<td>Can’t say ☐</td>
</tr>
<tr>
<td>1.10</td>
<td>Where the study is carried out at more than one site, results are comparable for all sites</td>
</tr>
<tr>
<td></td>
<td>Can’t say ☐</td>
</tr>
</tbody>
</table>

### SECTION 2: OVERALL ASSESSMENT OF THE STUDY

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>How well was the study done to minimise bias?</td>
<td>High quality (++): ☐</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acceptable (+): ☐</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unacceptable – reject 0 ☐</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.2 | Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention? | Yes |   |

2.3 | Are the results of this study directly applicable to the patient group targeted by this guideline? | Yes |   |

2.4 | Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. |   |   |

From the result mentioned in study, the mean score of EPDS at six weeks postnatal was significantly lower in the intervention group compared to control group. The mean score of PHQ-9 was significantly lower in the intervention group.
Methodology Checklist 2: Controlled Trials

Study identification  
*Include author, title, year of publication, journal title, pages*


Guideline topic:  
Key Question No:  
Reviewer:

Before completing this checklist, consider:

1. Is the paper a **randomised controlled trial** or a **controlled clinical trial**? If in doubt, check the study design algorithm available from SIGN and make sure you have the correct checklist. If it is a controlled clinical trial questions 1.2, 1.3, and 1.4 are not relevant, and the study cannot be rated higher than 1+

2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO REJECT (give reason below). IF YES complete the checklist.

Reason for rejection: 1. Paper not relevant to key question 2. Other reason (please specify):

**Section 1: Internal validity**

In a well conducted RCT study...

<table>
<thead>
<tr>
<th>Does this study do it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>1.1 The study addresses an appropriate and clearly focused question</td>
</tr>
<tr>
<td>1.2 The assignment of subjects to treatment groups is randomised.</td>
</tr>
<tr>
<td>1.3 An adequate concealment method is used.</td>
</tr>
<tr>
<td>1.4 Subjects and investigators are kept 'blind' about treatment allocation.</td>
</tr>
<tr>
<td>1.5 The treatment and control groups are similar at the start of the trial.</td>
</tr>
</tbody>
</table>
### SECTION 1: STUDY DESIGN AND METHODS

| 1.6 | The only difference between groups is the treatment under investigation. | Yes | No | Can't say |
| 1.7 | All relevant outcomes are measured in a standard, valid and reliable way. | Yes | No | Can't say |
| 1.8 | What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed? | 10.4 of women dropped out before the study was completed |
| 1.9 | All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis). | Yes | No | Can't say | Does not apply |
| 1.10 | Where the study is carried out at more than one site, results are comparable for all sites | Yes | No | Can't say | Does not apply |

### SECTION 2: OVERALL ASSESSMENT OF THE STUDY

| 2.1 | How well was the study done to minimise bias? |
|     | Code as follows |
|     | High quality (++)|
|     | Acceptable (+)|
|     | Unacceptable – reject 0 |

| 2.2 | Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention? | Yes |

| 2.3 | Are the results of this study directly applicable to the patient group targeted by this guideline? | Yes |

| 2.4 | Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. |
|     | From the result mentioned in study, In my Primary Outcomes: Participant in intervention group is significantly lower level of depression with moderate effect size and Participant in intervention group is significantly lower level of anxiety |
| with moderate Effect size, both can answer the question in my topic. |
Methodology Checklist 2: Controlled Trials

Study identification  *(Include author, title, year of publication, journal title, pages)*


Guideline topic: Psychosocial antenatal education program more effective than routine antenatal education program in reducing postnatal depressive symptoms among Chinese pregnant women

<table>
<thead>
<tr>
<th>Key Question No:</th>
<th>Reviewer:</th>
</tr>
</thead>
</table>

Before completing this checklist, consider:

1. Is the paper a **randomised controlled trial** or a **controlled clinical trial**? If in doubt, check the study design algorithm available from SIGN and make sure you have the correct checklist. If it is a **controlled clinical trial** questions 1.2, 1.3, and 1.4 are not relevant, and the study cannot be rated higher than 1+

2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO REJECT (give reason below). IF YES complete the checklist.

Reason for rejection: 1. Paper not relevant to key question ☐ 2. Other reason ☐ (please specify):

Section 1: Internal validity

*In a well conducted RCT study...*

<table>
<thead>
<tr>
<th>Does this study do it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes ☐ No ☐ Can't say ☐</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.1</th>
<th>The study addresses an appropriate and clearly focused question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes ☐ No ☐ Can't say ☐</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.2</th>
<th>The assignment of subjects to treatment groups is randomised.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes ☐ No ☐ Can't say ☐</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.3</th>
<th>An adequate concealment method is used.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes ☐ No ☐ Can't say ☐</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.4</th>
<th>Subjects and investigators are kept 'blind' about treatment allocation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes ☐ No ☐ Can't say ☐</td>
<td></td>
</tr>
</tbody>
</table>
1.5 The treatment and control groups are similar at the start of the trial. | Yes □  | No □  |
| Can’t say □ |

1.6 The only difference between groups is the treatment under investigation. | Yes □  | No □  |
| Can’t say □ |

1.7 All relevant outcomes are measured in a standard, valid and reliable way. | Yes □  | No □  |
| Can’t say □ |

1.8 What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed? | 12.5% participants dropped out of the study |

1.9 All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis). | Yes □  | No □  |
| Can’t say □  | Does not apply □ |

1.10 Where the study is carried out at more than one site, results are comparable for all sites | Yes □  | No □  |
| Can’t say □  | Does not apply □ |

SECTION 2: OVERALL ASSESSMENT OF THE STUDY

2.1 How well was the study done to minimise bias?

*Code as follows*

High quality (++) □

Acceptable (+) □

Unacceptable – reject 0 □

2.2 Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention? | Yes |

2.3 Are the results of this study directly applicable to the patient group targeted by this guideline? | Yes |

2.4 Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above.
From the result mentioned in study,
1. There was no significant difference between intervention and control group.
2. Major depressive episodes incidence rates of 14% for the intervention condition VS 25% for the comparison condition represent small effect size (h=0.28)
Methodology Checklist 2: Controlled Trials

Study identification  (Include author, title, year of publication, journal title, pages)

Guideline topic: Psychosocial antenatal education program more effective than routine antenatal education program in reducing postnatal depressive symptoms among Chinese pregnant women

<table>
<thead>
<tr>
<th>Key Question No:</th>
<th>Reviewer:</th>
</tr>
</thead>
</table>

Before completing this checklist, consider:

1. Is the paper a **randomised controlled trial** or a **controlled clinical trial**? If in doubt, check the study design algorithm available from SIGN and make sure you have the correct checklist. If it is a controlled clinical trial questions 1.2, 1.3, and 1.4 are not relevant, and the study cannot be rated higher than 1+.

2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO REJECT (give reason below). IF YES complete the checklist.

Reason for rejection: 1. Paper not relevant to key question □ 2. Other reason □ (please specify):

Section 1: Internal validity

In a well conducted RCT study...

<table>
<thead>
<tr>
<th>Does this study do it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes □</td>
</tr>
</tbody>
</table>

1.1 The study addresses an appropriate and clearly focused question

1.2 The assignment of subjects to treatment groups is randomised.

1.3 An adequate concealment method is used.

1.4 Subjects and investigators are kept ‘blind’ about treatment allocation.
| 1.5 | The treatment and control groups are similar at the start of the trial | Yes □ No □ Can’t say □ |
| 1.6 | The only difference between groups is the treatment under investigation. | Yes □ No □ Can’t say □ |
| 1.7 | All relevant outcomes are measured in a standard, valid and reliable way. | Yes □ No □ Can’t say □ |
| 1.8 | What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed? | 14% participants dropped out of the study |
| 1.9 | All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis). | Yes □ No □ Can’t say □ Does not apply □ |
| 1.10 | Where the study is carried out at more than one site, results are comparable for all sites. | Yes □ No □ Can’t say □ Does not apply □ |

**SECTION 2: OVERALL ASSESSMENT OF THE STUDY**

| 2.1 | How well was the study done to minimise bias? |
| | Code as follows |
| | High quality (++): □ |
| | Acceptable (+): □ |
| | Unacceptable – reject 0 □ |

| 2.2 | Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention? | yes |

| 2.3 | Are the results of this study directly applicable to the patient group targeted by this guideline? | Yes |

<p>| 2.4 | Notes. Summarise the authors’ conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. |  |</p>
<table>
<thead>
<tr>
<th>From the result mentioned in study,</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Significant improvement in learned resourcefulness in intervention group (p=0.004)</td>
</tr>
<tr>
<td>2. Reduction in depressive symptoms (p=0.01)</td>
</tr>
<tr>
<td>3. No significant group difference in maternal role competence</td>
</tr>
</tbody>
</table>
Appendix 5- Intervention Guidelines

Preventive intervention can produce the long term benefits. Midwives are usually the ones who provide the earliest care for the pregnant women. But midwives in the private hospital lack training in prevention of postnatal depression. The evidence based guideline on psychosocial antenatal program is developed and can introduce the concept of psychosocial antenatal education program to the private hospital to minimize the postnatal depression and carry out standardized nursing care in promoting psychological health of pregnant women.

1. Background

Guideline Title

The guideline title is “An evidence based guideline on psychosocial antenatal education program for pregnant women in Hong Kong”

Purpose of the guideline

The aim of the guideline is to provide the structure and content of psychosocial antenatal education to healthcare staff so as to provide a standardized nursing care.

Objectives of the Guideline

1. To increase nurses’ awareness of the importance of antenatal education program on prevention of postnatal depression.

2. To acquaint nurses with up-to-date knowledge for the antenatal education talk.
Target population of the guideline

The target group is all Hong Kong Chinese singleton pregnant women with gestation ranged from 12 weeks to 32 weeks, above 18 years old with no specific requirement on the educational level who are able to communicate in Chinese and can attend the psychosocial antenatal education program. Pregnant women who are diagnosed with any mental illness or any pregnancy-related complication will be excluded from the program.

2. Intervention Guidelines and Protocols

The psychosocial antenatal program consists of five weekly group sessions with one and a half hours each which is held by a midwife and assisted by a registered nurse in a seminar room in maternity ward of the private hospital. Each class consists of ten pregnant women. Interpersonal psychotherapy is the theoretical framework used in the education program. Each session will focus on different topics including the basic information of whole pregnancy, to build up the social support, role transition and emotion management. A bag of souvenirs including milk powder, baby care lotion, booklets will be given to each pregnant woman at the end of the sessions.

Recommendations

The recommendations in guideline are generated from the seven reviewed studies, which are determined according to the level of evidence. The grade A recommendations are used in this evidence based guideline according to the Scottish Intercollegiate Guideline
Network (SIGN) 2012. The level of evidence and the grades of recommendations are illustrated in Appendix 6.

**Recommendation 1.0 Inclusion criteria of attending the psychosocial antenatal education program**

Grade A: Hong Kong Chinese pregnant women over 18 years of age, singleton, and who are able to speak and read Chinese can attend the psychosocial antenatal education program.

Evidence: Among all studies, over 18 of age, singleton mothers are recruited (Leung & Lam, 2012; Mao & Chan, 2012; Milgrom et al., 2011)(1++); (Austin et al., 2008; Gao et al., 2012; Munoz et al., 2007; Ngai et al., 2009)(1+). Pregnant women who are able to read and speak Chinese are more favorable to attend the program (Leung & Lam, 2012)(1+); (Ngai et al., 2009)(1+). Although no explanation from the reviewed studies, evidence shown that the teenage and multiple pregnancies may increase the risk of low birth weight, preterm labour, pre-eclampsia, etc. Hence the pregnancy become more complicated (Mayor, 2004). In conclusion, pregnant women who are aged over 18, able to communicate in Chinese with singleton pregnancy are more favorable to attend the program.

**Recommendation 2.0 Exclusion criteria of attending the psychosocial antenatal program**

Grade A: Pregnant women who are diagnosed with any mental illness or any
pregnancy-related complication will be excluded from the program.

Evidence: In four out of all studies, women who had mental illness or pregnancy-related complication such as breech presentation, placenta previa, intrauterine growth retardation etc, would be excluded (Leung & Lam, 2012; Mao & Chan, 2012)(1++); (Gao et al., 2012; Ngai et al., 2009) (1+). In other three studies, women who had the history of depression would still be recruited in the studies. They aimed to test the intervention among high risk population (Milgrom et al., 2011) (1++); (Austin et al., 2008, Munoz et al., 2007)(1+). As the objective of this evidence based guideline focuses on the women with uneventful pregnancy and hence women who had history of mental illness are also excluded. And hence it can diminish the difficulty of implementation and increase the feasibility of evidenced based guideline in maternity ward, it better to begin in a simple way.

**Recommendation 3.0 Time to attend the psychosocial antenatal education program**

Grade A: The gestation of target women should be ranged from twelve weeks to thirty two weeks.

Evidence: Among all studies, the gestation ranged from twelve weeks to thirty six weeks. Normally, the pregnancy becomes more stable after twelve weeks of gestation as the embryo becomes a fetus and the risk of miscarriage sharply decreases (Xu et al., 2014). And childbirth usually occurs after thirty seven weeks of gestation. So the target gestation
ranged from twelve to thirty two weeks which can be allowed them to complete the talk before birth (Leung & Lam, 2012; Mao & Chan, 2012; Milgrom et al., 2011)(1++); (Austin et al., 2008; Gao et al., 2012; Munoz et la., 2007; Ngai et al., 2009)(1+).

**Recommendation 4.0 Number of sessions and the duration of the psychosocial antenatal education program**

Grade A: Five weekly sessions of psychosocial antenatal program with duration from one and a half hours were favorable

Evidence: Four to six sessions of intervention with duration from one and a half hours to two hours are the most widely used in reviewed studies (Leung & Lam, 2012; Mao & Chan, 2012) (1++); (Austin et la., 2008; Gao et al., 2012)(1+).

Three studies hold weekly sessions (Leung & Lam, 2012; Mao & Chan, 2012)(1++); (Austin et la., 2008)(1+).Among three studies with high level of evidence, two studies, Leung and Lam ( 2012) and Mao and Chan, (2012) suggested to have four to six weekly sessions of antenatal talk with duration from one and a half hours to two hours which were favorable.

According to the evidence from the reviewed studies and its similarity to the pattern of the program introduced in the private hospital, the nursing staffs are easier to adapt to the changes. With additional two sessions of basic information of pregnancy and introduction of skills demonstration of baby care, in total of five sessions are necessary for the
completion of the whole program.

**Recommendation 5.0 Theory used in psychosocial antenatal education program**

Grade A: Interpersonal psychotherapy is the theoretical framework used in the education program.

Evidence: Cognitive behavior theory, interpersonal psychotherapy and learned resourcefulness theory are used respectively among all studies. Three studies used cognitive behavior theory (Mao & Chan, 2012) (1++); (Austin et al., 2008; Munoz et al., 2007)(1+).

Interpersonal psychotherapy are used in two studies (Leung and Lam, 2012)(1++); Gao et al., 2012)(1+). And one used learned resourcefulness theory (Ngai et al., 2009) (1+).

After reviewing, summarizing and synthesizing the result, interpersonal psychotherapy is the theoretical framework used in the psychosocial antenatal education program.

Consistent findings show the attribution of psychosocial risk factors including discrepancy between family members, low social support, poor partner support and maternal role incompetence are indeed significantly inter-related and contribute to postnatal depression (Wong & Fisher, 2009). Since the postnatal depression occurs in the interpersonal context, and interpersonal psychotherapy is the framework for antenatal education program which focuses on the conflicts, challenges in role transition and limited social support network (Leung & Lam, 2012)(1++); (Gao et al., 2012)(1+). And it is
acceptable by Chinese culture which emphasizes on humanity, interpersonal relationship and harmonious (Gao et al., 2012)(1+). In conclusion, interpersonal psychotherapy is the framework of this psychosocial antenatal education program.

Recommendation 6.0 Main content of the psychosocial antenatal education program

Grade A: The main content includes basic information of pregnancy, technique in managing emotion, social support provision and social network establishment, conflict management in interpersonal relationship and problem solving skills training.

Evidence: In reviewed studies, basic information of pregnancy like antenatal care, baby care, parenting skills will be explained and demonstrated to participants to strengthen their skills (Milgrom et al., 2011)(1++); (Austin et al., 2008; Munoz et al., 2007)(1+).

The emotional change during pregnancy will be explained. And the emotional management especially when facing others’ unfavorable response will be demonstrated to the participants (Leung & Lam, 2012)(1++);(Munoz et al., 2007; Ngai et al., 2009; Austin et al., 2008)(1+).

With the interpersonal psychotherapy as the theoretical framework of psychosocial antenatal education program, current difficulties in the interpersonal relationship during pregnancy and the conflicts occurring in the transition to motherhood will be identified with participants. Setting goal and seeking solutions are the next steps. Effective communication skills such as listening and ways of expression will be acquired (Leung &
Developing social support and social network is another focus. Through discussion and sharing session, pregnant women can share their feeling and express themselves so as to figure out the solutions and develop the social network (Leung & Lam, 2012); (Gao et al., 2012; Munoz et al., 2007).

In the first and second session, the lectures about the basic information of pregnancy including the antenatal care, labor process, pain relief methods, postnatal care, parenting skills, baby care, the information and the concept of postnatal depression will be presented by means of video clips, demonstration and power point. Return demonstration is recommended to strengthen their skills. Written information will be given.

In the third session, pregnant women will be divided into three groups. They can identify the difficulties by using video clip and scenario to stimulate the discussion. Through the discussion, pregnant women can share the feeling and difficulties with others to gain social support and seek solutions. This can help women to build up their network and utilize their network to master the interpersonal support to deal with the difficulties.

In the fourth session, the conflicts and the transitions in relationship are the main focus. The difficulties in the interpersonal relationship during pregnancy will be identified with participants by means of scenario. Solutions and preventive measures will be acquired through group discussion guided by midwife. The well adaption of role is important.
Pregnant women identify the problems encountered through discussion. They will also practise skills such as the management of conflicts including listening, expression and problem solving skills.

In the last session, emotion control management will be discussed. Explanation of management skills of emotion by power point is important to help pregnant women to control their emotions especially when facing others’ unfavorable responses. Return demonstration will be carried out.

**Recommendation 7.0 Number of pregnant women in psychosocial antenatal education program**

Grade A: In total of 10 pregnant women will be in the psychosocial antenatal education program.

Evidence: In three studies, number of pregnant women ranged from eight to ten in psychosocial antenatal education program (Leung & Lam, 2012) (1++) (Gao et al., 2012; Munoz et al., 2007)(1+).

In one study, a class contained 10 couples (Mao & Chan, 2012) (1+). In other three studies, a big group of pregnant women was in a class (Milgrom et al., 2011)(1++); (Austin et al., 2008; Ngai et al., 2009) (1+).

Different studies had different suggestion in the number of pregnant women in a class. As discussion and sharing session will be included in the education program, small number
of participants and only pregnant women joining the program are more preferable for them to share feeling and express themselves. 10 pregnant women are more suitable to be divided into three small groups when having the sharing and discussion. Group training format is more economical and suitable for workplace where the resources are less abundant (Mao & Chan, 2012)(1++). In conclusion, ten pregnant women in psychosocial antenatal talk are more acceptable in the practice.

**Recommendation 8.0 Teaching strategies in psychosocial antenatal education program**

Grade A: Lecture, discussion, review, demonstration, skills practice including emotion control and problem encountered and additional written materials are suggested in education program.

Evidence: Lecture(Gao et al., 2012; Munoz et al., 2007; Ngai et al., 2009)(1+), discussion (Mao & Chan, 2012; Milgrom et al., 2011)(1++);(Ngai et al., 2009)(1+), sharing(Mao & Chan, 2012)(1++), review(Leung & Lam, 2012; Mao & Chan, 2012)(1++), demonstration(Leung & Lam, 2012; Mao & Chan, 2012)(1++);(Munoz et al., 2007 ; Ngai et al, 2009)(1+), and skills practice (Leung & Lam, 2012; Mao & Chan, 2012)(1++);(Gao et al., 2012; Munoz et al., 2007; Ngai et al, 2009)(1+) were suggested in the studies.

Besides, written materials were given to pregnant women in 3 studies (Milgrom et al., 2011) (1++) (Austin et al., 2008; Gao et al., 2012)(1+).

In conclusion, lecture and written materials about information of pregnancy will be
given to pregnant women. Through discussion, review and demonstration, parenting skills, problem solving skills and the technique of emotional management will be presented. Pregnant women can practice the skills by return demonstration to increase their confidence and to prevent any inappropriate practice.
Appendix 6  Level of evidence and grades of recommendations by The Scottish Intercollegiate Guideline Network (SIGN) 2012

GRADES OF RECOMMENDATIONS

A  At least one meta-analysis, systematic review, or RCT rated as 1++, and directly applicable to the target population; or
   A body of evidence consisting principally of studies rated as 1+, directly applicable to the target population, and demonstrating overall consistency of results

B  A body of evidence including studies rated as 2++, directly applicable to the target population, and demonstrating overall consistency of results; or
   Extrapolated evidence from studies rated as 1++ or 1+

C  A body of evidence including studies rated as 2+, directly applicable to the target population and demonstrating overall consistency of results; or
   Extrapolated evidence from studies rated as 2++

D  Evidence level 3 or 4; or
   Extrapolated evidence from studies rated as 2+

Good practice points

☑ Recommended best practice based on the clinical experience of the guideline development group

LEVELS OF EVIDENCE

1 ++ High quality meta-analyses, systematic reviews of RCTs, or RCTs with a very low risk of bias
1 + Well conducted meta-analyses, systematic reviews, or RCTs with a low risk of bias
1 - Meta-analyses, systematic reviews, or RCTs with a high risk of bias
2 ++ High quality systematic reviews of case control or cohort studies
   High quality case control or cohort studies with a very low risk of confounding or bias and a high probability that the relationship is causal
2 + Well conducted case control or cohort studies with a low risk of confounding or bias and a moderate probability that the relationship is causal
2 - Case control or cohort studies with a high risk of confounding or bias and a significant risk that the relationship is not causal
3 Non-analytic studies, eg case reports, case series
4 Expert opinion
# Appendix 7: Timeline of the communication plan

<table>
<thead>
<tr>
<th>Level</th>
<th>Tasks</th>
<th>Estimated Time (weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Management Level</strong></td>
<td>Consult nursing officer</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>One hour meeting with department head and senior nursing officer</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Consult the clinical psychologist and obstetricians</td>
<td>3</td>
</tr>
<tr>
<td><strong>Staff level</strong></td>
<td>Announcement to staff</td>
<td>4, 5, 6</td>
</tr>
<tr>
<td></td>
<td>One hour briefing sessions</td>
<td>7</td>
</tr>
</tbody>
</table>
## Appendix 8: Timeline of the entire program

<table>
<thead>
<tr>
<th>Task</th>
<th>Estimated time (months)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Communication with management</td>
<td></td>
</tr>
<tr>
<td>Communication with staff</td>
<td></td>
</tr>
<tr>
<td>Training sessions for midwives</td>
<td></td>
</tr>
<tr>
<td>Pilot implementation</td>
<td></td>
</tr>
<tr>
<td>Facility implementation</td>
<td></td>
</tr>
<tr>
<td>Evaluation</td>
<td></td>
</tr>
</tbody>
</table>
Appendix 9: Rundown of midwives training program

Training program: 4 sessions in total of 8 hours

**First session (2 hours)**
Key concepts of postnatal maternal care and postnatal depression including the factors, prevention, treatment and the care by power point
By obstetrician

**Second session (2 hours)**
Communication skills by video demonstration and power point, return demonstration also include in this session
By clinical psychologist

**Third session (2 hours)**
Presentation skills and problem solving skills by video demonstration and power point, return demonstration also include
By nursing officer and clinical psychologist

**Forth session (2 hours)**
Workshop: Discussion on case studies
By obstetrician, clinical psychologist, and nursing officer
## Appendix 10: Skill audit form for the psychosocial antenatal talk

### Nursing standard for psychosocial antenatal talk

<table>
<thead>
<tr>
<th>No.</th>
<th>Standard Criteria</th>
<th>Source of information</th>
<th>Yes</th>
<th>No</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Assess women general condition before the psychosocial antenatal talk</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Well explanation of antenatal, labour and postnatal care</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Allow pregnant women to ventilate and share their feeling</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>*Educate pregnant women about the problem solving skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>*Educate pregnant women to recognize the signs of stress</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>*Demonstrate techniques of supporting and communicating with pregnant women</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Observe the performance of pregnant women and the reply</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Clear and precise documentation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Good presentation skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

O= observe, AN=Ask nurse, *= critical point, should be all fulfilled, passing mark: over six

Score: _____________  Pass / Fail  
Auditor: ________________
### Appendix 11: Timeline of the pilot study

<table>
<thead>
<tr>
<th>Tasks</th>
<th>Estimated time (months)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Recruitment of participants</td>
<td></td>
</tr>
<tr>
<td>Baseline measurement</td>
<td></td>
</tr>
<tr>
<td>Implementation</td>
<td></td>
</tr>
<tr>
<td>Outcome measurement</td>
<td></td>
</tr>
<tr>
<td>Data analysis</td>
<td></td>
</tr>
<tr>
<td>Process of evaluation</td>
<td></td>
</tr>
</tbody>
</table>
### Appendix 12: Rundown of psychosocial antenatal program

**Five weekly session, each session is one and half hours**

<table>
<thead>
<tr>
<th>Session</th>
<th>Content</th>
<th>Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First session (1 1/2 hours)</strong></td>
<td>Basic information of pregnancy including the antenatal care, labor process, pain relief methods, postnatal care.</td>
<td>By power point and written information leaflet</td>
</tr>
<tr>
<td><strong>Second session (1 1/2 hours)</strong></td>
<td>Parenting skills, baby care, the information and the concept of postnatal depression</td>
<td>By video clips, demonstration, return demonstration and power point.</td>
</tr>
<tr>
<td><strong>Third session (1 1/2 hours)</strong></td>
<td>Identify the difficulties by using video clip and scenario to stimulate the discussion. Through the discussion, pregnant women can share the feeling and difficulties with others to gain social support and seek solutions. And utilize their network to master the interpersonal support to deal with the difficulties.</td>
<td>By video clips, discussion</td>
</tr>
<tr>
<td><strong>Forth session (1 1/2 hours)</strong></td>
<td>Focus on the conflicts and the transitions in relationship. Solutions and preventive measures will be acquired through group discussion guided by midwife. Pregnant women identify the problems encountered through discussion. They will also practise skills such as the management of conflicts including listening, expression and problem solving skills.</td>
<td>By video, case studies, demonstration and return demonstration</td>
</tr>
<tr>
<td><strong>Fifth session (1 1/2 hours)</strong></td>
<td>Emotion control management will be discussed. Effective management skills of emotion are introduced especially when facing others’ unfavorable responses.</td>
<td>By power point, demonstration and return demonstration</td>
</tr>
</tbody>
</table>
## Appendix 13: Satisfaction survey used to assess the participant’s level of satisfaction

<table>
<thead>
<tr>
<th>Items</th>
<th>Strongly disagree 1</th>
<th>Disagree 2</th>
<th>Neutral 3</th>
<th>Agree 4</th>
<th>Strongly agree 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The talk have Clear instruction and detail information.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Staff are supportive and willing to solve problems.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. I feel more confidence to manage after attended the talk</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I am satisfied the program</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. I will recommend the talk to others</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks: Please click the box which belong the rating.

Other comments:

__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
## Appendix 14: Satisfaction survey used to assess the staff’s level of satisfaction

<table>
<thead>
<tr>
<th>Items</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Hospital provides sufficient In-service training.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Hospital gave sufficient guide, supervision and support during implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. The design of talk is clear, concise and precise.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I feel comfortable when having the psychosocial antenatal talk.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. I can communicate well with pregnant women.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks: Please click the box which belong the rating.

Other comments:

__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________