The Development and Implementation of "An Antenatal Resilience and Optimism Workshop (AROW)": Building National Resilience by Reducing Risks of Postnatal Depressive Symptoms

Josephine M J Ratna
Research Rationale and Objectives

ATTRIBUTIONAL STYLE

Bad Events

<table>
<thead>
<tr>
<th>Personalization</th>
<th>Permanence</th>
<th>Pervasiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal</td>
<td>Stable - Permanent</td>
<td>Global - Universal</td>
</tr>
<tr>
<td>External</td>
<td>Unstable - Temporary</td>
<td>Specific</td>
</tr>
</tbody>
</table>

RESILIENCE

High Resilience
Poor Resilience

DEPRESSIVE SYMPTOMS

RESILIENCE AND OPTIMISM WORKSHOP

LIFE SATISFACTION

High
Low
Background – Facts about Indonesia

- Country expectation about the research – MDG no 5 – Improved Maternal Health
- 34 provinces; more than 237.6 million people
- 9,671 PHCs and 2,404 hospitals throughout Indonesia
- By December 2013 (www.depkes.go.id):
  - Hospitals: 345 (East Java)
  - PHC: 960 (East Java)
Millenium Developmental Goal (MDG)

1. Eradicate extreme poverty and hunger
2. Achieve universal primary education
3. Promote gender equality and empower women
4. Reduce child mortality
5. **Improve maternal health**
6. Combat HIV/AIDS, Malaria and Other diseases
7. Ensure environmental sustainability
8. Global partnership for development
The prevalence of mental emotional disorder increased with age.
Mental Emotional Prevalence Rate of ≥ 15 years old in Indonesia

PROVINCES

11.6%
Mental Emotional Prevalence Rate of ≥ 15 years old in Indonesia
Mental Emotional Prevalence Rate of ≥ 15 years old in Indonesia

PROVINCES
Postnatal Depression

- 14-23% will develop antenatal depression (ACOG)
- 16-22.35% Indonesian women developed postnatal depression (Edward et al., 2006; Sari, 2009)
- Antenatal depression during second (week 11 – 24) and third (week 25 onwards) trimester may increase the possibility of postnatal depression (Bennet, 2004; Lee, 2007) and risk of preterm birth (Fransson, 2011)
Postnatal Depression

- In Asian countries, prevalence of postnatal depression ranges from 3.5% (Malaysia) to 63.3% (Pakistan) – Klainin and Arthur, 2009
- ➔ manifested through somatisation ➔ socially acceptable (Kim & Buist, 2005)
Children raised by affectively ill parents/depressed mothers are:

- at increased risks for deviant behaviours or developmental impairments or psychopathology
- more likely to receive early intervention due to developmental delays compared to children of non-depressed mothers
Postnatal Depression & Long-Term Consequences

Children raised by affectively ill parents/depressed mothers are:

- at heightened risk of developing depression, anxiety disorder and psychosocial impairment
- more avoidant or disorganised attachment to their mothers
- is associated with poorer cognitive functioning especially in boys during infancy and early childhood
Wellbeing of mothers is vital in producing mentally healthy children

Successful transition to motherhood may prevent postnatal depression
An early intervention at antenatal to prevent postnatal depression and its long-term negative consequences

2 aspects: RESILIENCE and OPTIMISM
Crucial Time to Prevent Serious Problems

<table>
<thead>
<tr>
<th>1-3 months</th>
<th>3 – 6 months</th>
<th>6 – 9 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-10/11 weeks</td>
<td>11/12 - 24/26 weeks</td>
<td>26 – 38/40 weeks</td>
</tr>
</tbody>
</table>

Pregnancy (Antenatal) | Depression, anxiety, stress |
---|---|

**AROW**

<table>
<thead>
<tr>
<th>BORN</th>
<th>Postnatal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression (clinical), anxiety, poor parenting</td>
<td></td>
</tr>
<tr>
<td>1 years</td>
<td>3 years</td>
</tr>
<tr>
<td>Premature, Dev delays, early depression</td>
<td></td>
</tr>
</tbody>
</table>

Healthy parenting

Growing healthy: physically, psychologically
Resilience

- Acts of recoiling or springing back and elasticity, the power of resuming the original shape or position after bending or other shock (Oxford English Dictionary, 1989)
According to Foster (1987):

- **Resilience**: “Positive changes in maintaining active or latent coping and adaptation capacities through various mechanisms that may not be immediately apparent but become evident over time”
Protective Factors and Individual Resilience

- **Protective factors**: qualities that estimate future outcomes through their abilities to moderate, mediate and compensate for risks.
- Protective factors may have a direct effect to a problem; may buffer to lower the risk of disorder; act to influence the problem.
Protective Factors and Individual Resilience

- Connor and Davidson (2003)
- 1. Personal Competence
- 2. Trust in Own Intuition
- 3. Acceptance on Change
- 4. Personal Control
- 5. Spiritual Influences

Antenatal Resilience and Optimism Workshop (AROW)
Facts about Indonesia

- The Maternal and Neonatal Health in Indonesian began in 1999 – USAid Safe Motherhood Program
- SIAGA : suami, bidan, warga desa → to ensure women receive the care they need during pregnancy, childbirth and post partum
- SIAGA receives strong national and international media attention → power of community mobilisation awareness
THE STUDY

- The Development of the workshop (AROW)
- The Implementation of the workshop
- The evaluation of its efficacy → A Randomised Controlled Clinical Trial
The Development of AROW

- **A 2-day workshop** during antenatal care
- **Method:** Using examples and hypothetical situations; group discussion; individual reflection; learning activities; exercise new skill; building resilience metaphor
- **Constructive thinking, cognitive flexibility, cultural and spiritual/religious aspect**
Title of the Workshop

- The Workshop = The Intervention
- Title should drive POSITIVE INTEREST and create CURIOSITY
- Effective title (Dan Shure, 2012): creates curiosity, offers benefits, elicit specific emotions; tangible – doable – possible; simple and looks pleasing graphically; An effect as if you ‘hear’ in your head over and over; realistic expectation
Title of the Workshop

- “Be a Resilient and Optimistic Mother”
- “Menjadi Ibu Tangguh dan Optimis”
Basic Principles of Adult Learning

- Adults have to know the reason (why) they should learn something before committing their time and effort.
- Adults enter any learning situation by their own decision, they are self-directing and responsible.
- Adults come to a learning occasion with an affluence of experience and a great deal to contribute (primiparas and multiparas).
Basic Principles of Adult Learning

- Adults have a strong inclination to learn things that help them in everyday coping effectively.
- Adults are willing to devote energy to learning those things they believe help them performing a task and solving a problem.
- Adults are more responsive to internal motivators.
Facilitator Module and Workbook for Participants

- Taking into account *values and cultural aspects* in Indonesia
- The session is *carefully sequenced*, starts with simple activities to neutral and universal discussion topics before moving into pregnancy specific topics which may provoke anxiety, irrational thinking and emotional responses.
# The Implementation of AROW

<table>
<thead>
<tr>
<th>DAY 1</th>
<th>DAY 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Welcome, opening, and housekeeping</td>
<td>1 Welcome again and make new friends</td>
</tr>
<tr>
<td>2 Introduction and programme overview</td>
<td>2 Brief review</td>
</tr>
<tr>
<td>3 Exercise 1: My signature</td>
<td>3 Resilience</td>
</tr>
<tr>
<td>4 Exercise 2: Who and what is Important?</td>
<td>4 Exercise 5: Is it heavier?</td>
</tr>
<tr>
<td>5 Pregnancy and antenatal care</td>
<td>5 Antenatal and postnatal depression</td>
</tr>
<tr>
<td>6 Motherhood and Parenthood</td>
<td>6 Relaxation: breathing exercise</td>
</tr>
<tr>
<td>7 Exercise 3: New Skill</td>
<td>7 Exercise 6: Repeat Exercise 1 and 2</td>
</tr>
<tr>
<td>8 Pregnancy and childbirth belief</td>
<td>8 Characteristic of resilient people</td>
</tr>
<tr>
<td>9 The A-B-C model and thinking traps</td>
<td>9 Tips to improve resilience</td>
</tr>
<tr>
<td>10 Attributional style</td>
<td>10 Building/Choosing resilience metaphor</td>
</tr>
<tr>
<td>11 Exercise 4 – “What if?”</td>
<td>11 Video – Testimonial</td>
</tr>
<tr>
<td>12 Explanation about homework</td>
<td>12 Feedback: Evaluation of the workshop</td>
</tr>
<tr>
<td>13 Closing of day 1: Prayer</td>
<td>13 Closing of day 2 : Prayer</td>
</tr>
</tbody>
</table>
Exercise 2: Who and What is important? (15 minutes) - A - D

This exercise aims to start comparing personal considerations on who and what is important in their life to their peer. The comparison (similarities and differences) with peers in an informal discussion will serve two purposes:
1) as a way to introduce oneself;
2) to stimulate the participants' thinking process and listening skills which will be important in responding to a situation while at the same time practicing their empathetic ability. It is expected that naturally those who have similarities will develop a closer relationship and thus become supportive of each other.

- "Identify and rank in priority order who you consider are the 5 most important people in your life and also what are the 5 most important things in your life."

- "Share your list with friends in your group by firstly mentioning your name and which clinic you come from then showing your lists."

- "Do you find any similarities with your peers? Briefly share/make a note of them."

Pregnancy and Antenatal Care (60 minutes) by A Gynaecologist - L - O - D - V

This session aims to clarify point out that all participants attending the workshop have a similar condition, that is being pregnant at nearly the same week of pregnancy (meet the inclusion criteria). Participants are requested to focus on their pregnancy and what they can do to anticipate future medical, psychological, family and social challenges.

- Pregnancy is an opportunity for the mother to anticipate the future challenges faced by a newborn child and prepare accordingly.

- To face future challenges, children need to be healthy (physically, psychologically) and intelligent (intellectually, emotionally and spiritually).

- The key factors in 'producing' a healthy and intelligent generation are the 3 N's: nature, nurture and nutrition.

- NATURE relates to the influence of genetic and biological make-up of the parents and in principal cannot be manipulated. However with new discoveries in science, there are things that can be manipulated such as cloning, genetic engineering, etc. There are ethical issues to this manipulation and they may never be implemented to human beings.

- Example of Nature factors: ............................................................

- NURTURE emphasises the impact of psychological distress and stimulation during pregnancy to the growth and development of the baby (antenatal and postnatal).

- Example of Nurture factors: ............................................................
The workshop contents and activities are delivered in several ways: A (Activity); D (Discussion); I (Individual work/Reflection); H (Homework); L (Lecture); N (Networking); O (Opinion); Q (Questionnaire); S (Sharing Experience); T (Testimonial); V (Video).
Some Exercises during AROW

- Signature ➔ Ready to change?
- New skill ➔ Fold T Shirt in few seconds
- What if?
- How heavy is your burden?
WHAT IF........? Exercise

• What if the baby has to be delivered prematurely?
• What if you deliver a child who has a developmental delay?
• What if your husband or close family members can’t attend the birth?
• What if you deliver a handicapped baby?
• What if you can’t breast feed your baby at all?
• What if your husband lost his job just before you deliver the baby?
• What if your husband get a promotion but need to spend more hours working and less likely be able to help with domestic chores?
• What if you have to deliver your baby by caesarean rather than by your choice of natural birth?
• What if on your day of delivery, your gynaecologist that you trust is out of town and you have to be assisted by his/her replacement which you have not met before?
The Evaluation of Effectiveness

- Cluster randomised controlled trial
- Intervention vs Control groups
- Baseline (Pre-), Post, 6-week and 6-month follow ups
- Location: Indonesia
- Cities: Surabaya (East Java)
- 8 Primary Health Care Clinics (four intervention and four wait-list groups)
Background – Facts about Indonesia
Inclusion Criteria

- Women at least in **second trimester** of pregnancy (11-24 weeks)
- **Agree to participate fully** (antenatal and postnatal)
- Complete the **consent form**
- **Not in high risk pregnancies** (evaluation made by Obstetrician/Gynaecologist)
- **Do not indicate clinical psychopathology** (anxiety, depression, psychosis)
- **Deliver life born babies**
HYPOTHESES

- **H1:** The intervention group will show significantly greater pre-post (T1 – T2) therapeutic changes in outcome variables compared to the waitlist control group.

- **H2:** The intervention group will maintain these changes at the 6-week follow-up (T3).

- **H3:** The intervention group will maintain these changes at the 6-month follow-up (T4int).

- **H4:** The treated control group will also show pre-post (T3 – T4cont) therapeutic changes in outcome variables.

- **H5:** The treated control group will maintain these changes at the 6-week follow-up (T5).
Objective and Hypotheses

- **Objective**: to determine the efficacy of the 2-day AROW by evaluating its impact on postnatal depression by measuring its protective factors (resilience, optimism, life satisfaction) and risk factors (level of depression, anxiety and stress) pre and post interventions (6 weeks and 6 months).
Analyses

- SPSS’s (version 22) Generalised Linear Mixed Models procedure
- The present GLMM included two nominal random effects (participant and clinic), one nominal fixed effect (group: intervention, control), one ordinal fixed effect (time: pre, post, 6-week follow-up), and the Group x Time interaction.
- The GLMM is ‘generalised’ in the sense that it can handle outcome variables with markedly non-normal distributions; the GLMM is ‘mixed’ in the sense that it includes both random and fixed effects.
METHODS - Participants

- 8 clinics – randomised allocated to intervention and wait list control group, matched in terms of size, quality of care and distance
- 115 eligible participants
- 2 did not matched inclusion criteria and 2 decline
- 111 total → Intervention 52 (27) ; Control 59 (31)
Measures – In Bahasa Indonesia

- Attributional Style Questionnaire (ASQ)
- Depression, Anxiety, Stress Scale (DASS)
- Self-Report Questionnaire (SRQ)
- Modified Mini Screen (MMS)
- Quality of Life Enjoyment and Satisfaction Questionnaire (Q-LES Q) – Short Form
- Connor –Davidson Resilience Scale (CS-RISC)
- Edinburgh Postnatal Depression Scale (EPDS)
## RESULTS – Group * Time

### Effects of Group, Time and Group*Time on Outcome Variables

<table>
<thead>
<tr>
<th>Outcome Variables</th>
<th>Group Effect</th>
<th>Time Effect</th>
<th>Group * Time Effect</th>
<th>Partial eta squared ($\eta^2_p$)</th>
<th>Intervention effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Resilience</td>
<td>$F(1,239) = 9.15^{**}$</td>
<td>$F(2,239) = 15.30^{***}$</td>
<td>$F(2,239) = 15.13^{***}$</td>
<td>.060</td>
<td>Small to Moderate</td>
</tr>
<tr>
<td>F1 – Personal Competence</td>
<td>$F(1,239) = 20.03^{***}$</td>
<td>$F(2,239) = 37.22^{***}$</td>
<td>$F(2,239) = 49.53^{***}$</td>
<td>.172</td>
<td>Large</td>
</tr>
<tr>
<td>F2 – Trust in Own Intuition</td>
<td>$F(1,239) = 5.01^*$</td>
<td>$F(2,239) = 14.98^{***}$</td>
<td>$F(2,239) = 2.09$</td>
<td>.009</td>
<td>Small</td>
</tr>
<tr>
<td>F3 – Acceptance of Change</td>
<td>$F(1,239) = 10.98^{**}$</td>
<td>$F(2,239) = 4.01^*$</td>
<td>$F(2,239) = 12.72^{***}$</td>
<td>.051</td>
<td>Small to Moderate</td>
</tr>
<tr>
<td>F4 – Personal Control</td>
<td>$F(1,239) = 13.65^{***}$</td>
<td>$F(2,239) = 109.39^{***}$</td>
<td>$F(2,239) = 164.18^{***}$</td>
<td>.407</td>
<td>Large</td>
</tr>
<tr>
<td>F5 – Spiritual Influences</td>
<td>$F(1,239) = 0.8$</td>
<td>$F(2,239) = 0.24$</td>
<td>$F(2,239) = 10.01^{***}$</td>
<td>.040</td>
<td>Small to Moderate</td>
</tr>
<tr>
<td>DASS - Depression</td>
<td>$F(1,240) = 1.80$</td>
<td>$F(2,240) = 1.27$</td>
<td>$F(2,240) = 9.34^{***}$</td>
<td>.037</td>
<td>Small to Moderate</td>
</tr>
<tr>
<td>DASS - Anxiety</td>
<td>$F(1,240) = 0.20$</td>
<td>$F(2,240) = 9.10^{***}$</td>
<td>$F(2,240) = 7.74^{**}$</td>
<td>.031</td>
<td>Small to Moderate</td>
</tr>
<tr>
<td>DASS - Stress</td>
<td>$F(1,240) = 1.58$</td>
<td>$F(2,240) = 9.25^{***}$</td>
<td>$F(2,240) = 8.88^{***}$</td>
<td>.036</td>
<td>Small to Moderate</td>
</tr>
<tr>
<td>Q-LES-Q</td>
<td>$F(1,239) = 2.79$</td>
<td>$F(2,239) = 41.76^{***}$</td>
<td>$F(2,239) = 42.53^{***}$</td>
<td>.151</td>
<td>Large</td>
</tr>
<tr>
<td>ASQ – CPCN (Optimism)</td>
<td>$F(1,240) = 13.40^{***}$</td>
<td>$F(2,240) = 0.53$</td>
<td>$F(2,240) = 0.21$</td>
<td>.001</td>
<td>Small</td>
</tr>
</tbody>
</table>

* $p < .05$    ** $p < .01$    *** $p < .001$
Intervention Effect

Group*Time

Total Resilience, F1, F2
Intervention Effect

Group * Time

F3, F4, F5
Intervention Effect
Group*Time
Attributional Style (Optimism);
Quality of Life Enjoyment and Satisfaction

Error bars: 95% CI
Intervention Effect

Group*Time

Depression, Anxiety, Stress
# Summary of Findings across Pre-Post and 6-week follow-up for the Intervention and Waitlist-control Conditions

<table>
<thead>
<tr>
<th>Expectation</th>
<th>Outcome Variables</th>
<th>Groups</th>
<th>T1 – T2</th>
<th>T2 – T3</th>
<th>T1 – T3</th>
</tr>
</thead>
<tbody>
<tr>
<td>↑ Sig</td>
<td>Total Resilience</td>
<td>Intv</td>
<td>↑ Sig L</td>
<td>↓ Sig ML</td>
<td>↑ Sig L</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cont</td>
<td>↓ NSig S</td>
<td>↑ NSig S</td>
<td>↑ NSig S</td>
</tr>
<tr>
<td>F1</td>
<td>Personal Competence</td>
<td>Intv</td>
<td>↑ Sig L</td>
<td>↓ Sig ML</td>
<td>↑ Sig L</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cont</td>
<td>↓ NSig S</td>
<td>↑ NSig S</td>
<td>↑ NSig S</td>
</tr>
<tr>
<td>F2</td>
<td>Trust in Own Intuition</td>
<td>Intv</td>
<td>↑ Sig ML</td>
<td>↓ NSig S</td>
<td>↑ Sig ML</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cont</td>
<td>↑ Sig ML</td>
<td>↓ NSig S</td>
<td>↑ Sig ML</td>
</tr>
<tr>
<td>F3</td>
<td>Acceptance of Change</td>
<td>Intv</td>
<td>↑ Sig ML</td>
<td>↓ Sig ML</td>
<td>↑ Sig SM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cont</td>
<td>↓ NSig S</td>
<td>↑ NSig S</td>
<td>↓ NSig SM</td>
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<tr>
<td>F4</td>
<td>Personal Control</td>
<td>Intv</td>
<td>↑ Sig L</td>
<td>↓ NSig SM</td>
<td>↑ Sig L</td>
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<tr>
<td></td>
<td></td>
<td>Cont</td>
<td>↓ NSig SM</td>
<td>↑ NSig S</td>
<td>↓ NSig SM</td>
</tr>
<tr>
<td>F5</td>
<td>Spiritual Influences</td>
<td>Intv</td>
<td>↑ NSig S</td>
<td>↑ Sig SM</td>
<td>↑ Sig SM</td>
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<td>Cont</td>
<td>↓ NSig S</td>
<td>↓ Sig L</td>
<td>↓ Sig SM</td>
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<tr>
<td></td>
<td>Quality of Life Enjoyment and Satisfaction</td>
<td>Intv</td>
<td>↑ Sig L</td>
<td>↓ Sig SM</td>
<td>↑ Sig SM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cont</td>
<td>↑ NSig S</td>
<td>↓ NSig S</td>
<td>↓ Sig S</td>
</tr>
<tr>
<td>↓ Sig</td>
<td>Depression</td>
<td>Intv</td>
<td>↑ Sig ML</td>
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<td>Cont</td>
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<td>↓ NSig S</td>
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<tr>
<td></td>
<td>Anxiety</td>
<td>Intv</td>
<td>↑ Sig SM</td>
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<tr>
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<td>Stress</td>
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<td>↓ NSig S</td>
<td>↓ NSig S</td>
</tr>
</tbody>
</table>
Intervention Group

Time Effect

Total Resilience, F1, F2

Error bars: 95% CI
Intervention Group

Time Effect

F3, F4, F5
Intervention Group

Time Effect

Quality of Life Enjoyment and Satisfaction

Attributional Style (Optimism)
Intervention Group

Time Effect

Depression, Anxiety & Stress

![Graphs showing mean depression, anxiety, and stress levels over time for the intervention group. Error bars indicate 95% confidence intervals.]
Summary of findings on changes at Pre - Post, Pre – 6 weeks follow up and Pre – 6 months follow up

<table>
<thead>
<tr>
<th>Expectation</th>
<th>Outcome Variables</th>
<th>Groups</th>
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<td>↑ Sig L</td>
</tr>
<tr>
<td></td>
<td>F1 Personal Competence</td>
<td>Intv</td>
<td>↑ Sig L</td>
<td>↑ Sig L</td>
<td>↑ Sig L</td>
</tr>
<tr>
<td></td>
<td>F2 Trust in Own Intuition</td>
<td>Intv</td>
<td>↑ Sig L</td>
<td>↑ Sig L</td>
<td>↑ Sig ML</td>
</tr>
<tr>
<td></td>
<td>F3 Acceptance of Change</td>
<td>Intv</td>
<td>↑ Sig ML</td>
<td>↑ Sig SM</td>
<td>↑ NSig S</td>
</tr>
<tr>
<td></td>
<td>F4 Personal Control</td>
<td>Intv</td>
<td>↑ Sig L</td>
<td>↑ Sig L</td>
<td>↑ Sig L</td>
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<tr>
<td></td>
<td>F5 Spiritual Influences</td>
<td>Intv</td>
<td>↑ NSig S</td>
<td>↑ Sig SM</td>
<td>↑ NSig S</td>
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<td>ASQ – CPCN Optimism</td>
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Waitlist/Treated Controlled Group

Time Effect

Total Resilience, F1, F2
Waitlist/Treated Controlled Group

Time Effect

Resilience: F3, F4, F5
Waitlist/Treated Controlled Group

Time Effect

Quality of Life Enjoyment & Satisfaction;

Attributional Style (Optimism)
Waitlist/Treated Controlled Group

Time Effect

Depression, Anxiety & Stress
Summary of Findings on Changes at Pre – Post and 6 week Follow Up for the Treated Control Group

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Video

- The workshop “Ibu Tangguh dan Optimis”
- The Testimonials: 1, 2 and 3
The Antenatal Resilience and Optimism Workshop (AROW) has the potential to reduce the risk factors of antenatal and postnatal depression through strengthening protective factors (resilience and life satisfaction).

When AROW is delivered in the right time by well trained facilitators, more women will benefit and it is expected that this will improve maternal health, better parenting and healthier future generation in long term.
RECOMMENDATIONS

- AROW → A prevention tool for postnatal depressive symptoms
- Empower mother to train individual resilience
- Encourage pregnant women to attend regular antenatal care i.e ROW
- If ROW is effective in preventing postnatal depressive symptoms → breakthrough initiative for the Indonesian Ministry of Health Comprehensive Antenatal Care
WHAT NEXT?

- ToT
- Indonesia: HIMPSI, Ministry of Health and Local Government
- International: Nepal, Maldives, Bhutan
Resilient Mothers – Mentally Healthy Children