The Impact of Village Midwives and Cadres in Improving the Nutritional Status of Pregnant Women in Selected Rural Villages in Two Districts, Banten Province Indonesia 2003: A Longitudinal Descriptive Study

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Thesis Submitted for the Degree Doctor of Philosophy

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2003
Certificate of Authorship and Originality

I certify that the work in this thesis has not previously been submitted for a degree nor has or has it been submitted as part of requirements for a degree except as fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

__________________________

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<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Arisan</td>
<td>A neighbourhood club where women met monthly and everybody collects a little money. The money is given out in turns.</td>
</tr>
<tr>
<td>BdD</td>
<td>Bidan di Desa (Village Midwife)</td>
</tr>
<tr>
<td>BMI</td>
<td>Body Mass Index</td>
</tr>
<tr>
<td>Cadre</td>
<td>Volunteer Health Worker</td>
</tr>
<tr>
<td>CPEP</td>
<td>Calcium for Preeclampsia Prevention</td>
</tr>
<tr>
<td>Fe</td>
<td>Iron</td>
</tr>
<tr>
<td>GNP</td>
<td>Gross National Product</td>
</tr>
<tr>
<td>GOI</td>
<td>Government of Indonesia</td>
</tr>
<tr>
<td>Hb</td>
<td>Haemoglobin</td>
</tr>
<tr>
<td>Hcl</td>
<td>Hydrochloride</td>
</tr>
<tr>
<td>Ibu Bidan</td>
<td>Term that villagers use to call village midwives</td>
</tr>
<tr>
<td>IDA</td>
<td>Iron Deficiency Anaemia</td>
</tr>
<tr>
<td>IMR</td>
<td>Infant Mortality Rate</td>
</tr>
<tr>
<td>Kurang darah</td>
<td>Decrease of blood (used to explain anaemia in the community)</td>
</tr>
<tr>
<td>Mcg</td>
<td>Micrograms</td>
</tr>
<tr>
<td>Mg</td>
<td>Milligrams</td>
</tr>
<tr>
<td>MMR</td>
<td>Maternal Mortality Rate</td>
</tr>
<tr>
<td>Multip (arous)</td>
<td>Second and subsequent pregnancies</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-government organizations</td>
</tr>
<tr>
<td>NTB</td>
<td>Nusa Tenggara Barat</td>
</tr>
<tr>
<td>NTT</td>
<td>Nusa Tenggara Timur</td>
</tr>
<tr>
<td>ORS</td>
<td>Oral Rehydration Solutions</td>
</tr>
<tr>
<td>PEM</td>
<td>Protein-Energy Malnutrition</td>
</tr>
<tr>
<td>Pengajian</td>
<td>Moslem Prayer Group</td>
</tr>
<tr>
<td>PKK</td>
<td>Family Welfare Movement</td>
</tr>
<tr>
<td>Polindes</td>
<td>Community birthing place</td>
</tr>
<tr>
<td>POD</td>
<td>Post Obat Desa (Health medication post in the village)</td>
</tr>
<tr>
<td>Posyandu</td>
<td>Community Integrated Service Post</td>
</tr>
<tr>
<td>PPBA</td>
<td>3-year nursing program from junior school with one-year midwifery training</td>
</tr>
<tr>
<td>PRA</td>
<td>Participatory Rural Appraisal</td>
</tr>
<tr>
<td>Primip (arous)</td>
<td>First pregnancy</td>
</tr>
<tr>
<td>PROM</td>
<td>Premature Rupture of Membranes</td>
</tr>
<tr>
<td>Puskesmas</td>
<td>Pusat Kesehatan Masyarakat (Community Health Centre)</td>
</tr>
<tr>
<td>RDI</td>
<td>Recommended Dietary Intake</td>
</tr>
<tr>
<td>Acronym</td>
<td>Full Form</td>
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<tr>
<td>---------</td>
<td>-----------</td>
</tr>
<tr>
<td>UN</td>
<td>United Nation</td>
</tr>
<tr>
<td>UI</td>
<td>University of Indonesia</td>
</tr>
<tr>
<td>UPGK</td>
<td>Usaha Perbaikan Gizi Keluarga (Family Nutrition Improvement Program)</td>
</tr>
<tr>
<td>UTS</td>
<td>University of Technology, Sydney</td>
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<td>WHO</td>
<td>World Health Organisation</td>
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Abstract
This study is a longitudinal descriptive study conducted in eight villages of Banten province, Indonesia. The research describes the nutritional status of two groups of pregnant village women and investigates the implementation and impact of an intervention to improve nutrition in pregnancy.

The intervention aimed to improve the effectiveness of village midwives and cadres by improving the nutrition of pregnant women, particularly iron deficiency, through the use of a community development approach.

The thesis identifies the importance of good nutrition during pregnancy and some of the factors, which influence it in the context of this study. It examines the health promotion programs for improving iron intake and nutrition in developing countries and specifically examines the programs that are used in Indonesia. A small decrease in the rate of anaemia appears to have occurred due to these programs, but the anaemia rate remains high. There has been little systematic examination of the cultural and social factors that may influence nutrition in pregnant women in Indonesia and few studies, which have measured the nutritional status of pregnant women.

The goals of the study are to:

- Describe the social and cultural factors that influence nutrition, under nutrition and iron deficiency anaemia during pregnancy and to measure the nutritional status of rural women in Banten Province, Indonesia.
- Improve the knowledge and skills of village midwives and cadres in using community development and effective communication to improve iron supplementation and nutrition.

The conceptual framework for the study was derived from principles of health promotion, in particular the ‘Proceed and Proceed’ model (Green & Kreuter 1991). The study took place in eight villages in Banten province, Indonesia. Four of the villages received a community development intervention and four villages were used for comparison. The study was undertaken in three stages: Stage 1 - Baseline Quantitative and Qualitative Data Collection; Stage 2 - Intervention; and Stage 3 - Follow Up Evaluation. The intervention was guided by the results of Stage 1 and consisted of a two-day workshop aimed to
improve their knowledge, communication skills of the midwives and cadres and their ability to use a community development approach to improving nutrition in the villages.

Qualitative and quantitative methods were used in the research at Stage 1 and Stage 3. Ethnographic methods of interview, observation, field notes and survey were used to collect information about the cultural and social factors that influence nutrition and nutritional practices during pregnancy. The knowledge and practices of midwives and cadres were also explored. Thematic analysis was used to analyse the data. Forty pregnant women (20 from the intervention villages and 20 from the comparison villages) participated in the qualitative component of the research before the intervention (Stage 1). The follow up evaluation occurred 12 months later, and a different group of 35 pregnant women (20 from the intervention villages and 15 from the comparison villages) participated in the qualitative component of the research at Stage 3. The same eight midwives and 16 cadres participated in the qualitative research at Stage 1 and Stage 3. Quantitative data collected at Stage 1 and Stage 3 included socio demographic data, obstetric information and nutritional data (haemoglobin level, body mass index, and the weight gain of pregnant women). Data was collected from 210 women before the intervention and 189 women after the intervention.

Some changes in the practices of midwives and cadres were apparent after the intervention with midwives building better rapport, communicating more effectively and providing more information and support to pregnant women. Cadres also talked more about nutrition in community meetings. Changes in the behaviour and approach of village midwives and cadres’ in relation to nutrition education resulted in improved nutritional behaviour of pregnant women to some extent, but poverty and culture restricted the ability of pregnant women to access better food. The intervention did not effect the overall nutritional status of the pregnant women. Because of time and logistical constraints, the intervention was not able to influence the community’s health in the medium term in the intervention villages. The results of this study showed that the comparison villages sometimes had better results than the intervention villages. A possible explanation is that the systematic evaluation
of nutritional status may have increased the awareness and practice of the better-educated and more knowledgeable midwives who were located in the comparison villages. The comparison midwives had a better basic education in midwifery when compared to the intervention midwives. It appeared these better-educated workers responded positively to the research even without exposure to the intervention.

The study showed that the position of the pregnant woman is low within the hierarchy of both the health care system and the power structures of the broader community. Husbands, mother-in-law, village midwives, cadres and village leaders all have more power to determine what pregnant women can and cannot eat and drink than women do themselves. However, some women tried to access better food after the intervention by subverting culture and the authority of husbands and mother-in-law and eating nutritious food in secret.