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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Acknowledgements

I wish to record my deep gratitude to the Faculty of Nursing, Health and Midwifery at the University of Technology, Sydney and the Faculty of Nursing at the University of Indonesia in Jakarta for all of their support during my study in Australia. Dr Elly Nurachmach, the Dean of the Faculty of Nursing the University of Indonesia, has always encouraged and supported me in all aspects of my study.

Professor Lesley Barclay, who supervised me for three years, has not only been a good supervisor, but also my guiding angel and my friend who guided me in solving my problems during my study in Australia. Her experiences in working in Indonesia gave me the opportunity to discuss the Indonesian culture and health situation. I'm especially grateful for her patience in reading and editing the draft of my thesis. Associate Professor Virginia Schmidt, with her expertise in qualitative research in midwifery has guided me seriously and with patience until I finished my thesis. I'll never forget her smiling face every time she talked with me. Dr Margaret Cooke, who supervised with patience, helping me to understand quantitative research, Dr Julia Byford, with her expertise in anthropology research also guided and helped me to understand the cultural aspects of the study.

My special thanks to Ruth Worgan, Sue Kruske, Kim McEvoy, Sue Kildea, Priya Nair and everybody in the Centre for Family Health and Midwifery, Faculty of Nursing, Health and Midwifery at the University of Technology, Sydney. Mrs Sari Mulyati from the Academy of Nursing in Serang, Indonesia, who never stopped helping me finish the draft of my thesis. Without their efforts and supports I would have never got to this stage.

My thanks to all the women, midwives, health centre staff in all districts and villages where I carried out my research, especially to all participants, the pregnant women, village midwives and cadres. The approval and assistance given to me by the Banten State government, Serang and Cilegon Health Officers, Puskesmas Cilegon two, Serang Kota, Rawu and all other agencies are also acknowledged. Thanks to all my friends in Sydney and Indonesia for their support and encouragement.

My doctoral program would not have been a success without the sponsorship from the University of Diponegoro Semarang, Central Java and the University of Indonesia, Jakarta.

Last, but not least, I wish to record my deepest gratitude to my late Mum and Dad for their thinking and blessing of me. My sisters, brothers and all my family, but especially my sister Mrs Sutomo and family. Also Mrs Suhardjo and her family for their prayers and their support both physically and mentally during my, and my family's stay, in Sydney. Thank you also for my mother-in-law and sisters and brothers-in-law for their prayer and support.

My very special thank goes to my husband Syahrul Azwar, for his support, his willingness to let me go and his understanding of my academic ambition. Thankyou for all your support during the difficult time of our life in Australia.

To my loving son, Wahyu Hidayat Syasetyo, who always stands beside me and accompanies me everywhere. Thank you for your understanding and your love.

Finally, I thank Allah s.w.a. who permits, guides and protects me from harm and makes my PhD program a success.

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Glossary

Arisan	A neighbourhood club where women met monthly and everybody collects a little money. The money is given out in turns.
BdD	Bidan di Desa (Village Midwife)
BMI	Body Mass Index
Cadre	Volunteer Health Worker
CPEP	Calcium for Preeclampsia Prevention
Fe	Iron
GNP	Gross National Product
GOI	Government of Indonesia
Hb	Haemoglobin
Hcl	Hydrochloride
Ibu Bidan	Term that villagers use to call village midwives
IDA	Iron Deficiency Anaemia
IMR	Infant Mortality Rate
Kurang darah	Decrease of blood (used to explain anaemia in the community)
Mcg	Micrograms
Mg	Milligrams
MMR	Maternal Mortality Rate
Multip (arous)	Second and subsequent pregnancies
NGO	Non-government organizations
NTB	Nusa Tenggara Barat
NTT	Nusa Tenggara Timur
ORS	Oral Rehydration Solutions
PEM	Protein-Energy Malnutrition
Pengajian	Moslem Prayer Group
PKK	Family Welfare Movement
Polindes	Community birthing place
POD	Post Obat Desa (Health medication post in the village)
Posyandu	Community Integrated Service Post
PPBA	3-year nursing program from junior school with one-year midwifery training
PRA	Participatory Rural Appraisal
Primip (arous)	First pregnancy
PROM	Premature Rupture of Membranes
Puskesmas	Pusat Kesehatan Masyarakat (Community Health Centre)
RDI	Recommended Dietary Intake

UN	United Nation
UI	University of Indonesia
UPGK	Usaha Perbaikan Gizi Keluarga (Family Nutrition Improvement Program)
UTS	University of Technology, Sydney
WHO	World Health Organisation

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.