The Process of Adapting an Australian Antenatal Group-Based Parenting Program to Japanese and Vietnamese Public Service Settings

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Abstract

Antenatal maternal mental health status not only predicts postpartum mental status, but also influences family health. In Asia, however, little scientific research has been conducted on antenatal parenting intervention to date, nor has there been much emphasis on fathers in considerations of parenting support. Building upon our past research achievements that showed a strong need for parenting support focusing on the mental health aspect in Japan and Vietnam, we report on the process of adapting an Australian antenatal group-based psychosocial intervention involving fathers into Japanese and Vietnamese public service settings. The intervention was feasible at given sites and well accepted among volunteer couples. The presented processes to ease adaptation may be useful to other health professionals in Asian regions undertaking similar initiatives.

Keywords*: Parenting, Vietnam, Japan, program development, and prenatal care*

Introduction

Cumulative evidence suggested that antenatal maternal mental health not only predicts postpartum mental health, but also influences child growth and development. Previous cohort studies in Western countries have indicated that antenatal depression is a strong indicator of postpartum depression.[1, 2] Similar evidence has also been reported from Japan.[3] The consequences of antenatal depression are not limited to the women themselves, but also extend to their children. Review studies conducted in developed counties revealed that antenatal depression contributes independently of other biomedical risk factors to fetal and neonatal outcomes.[4, 5]

Studies in developing countries of the antenatal period are limited, but evidence suggests some impact of maternal postpartum depression on child development.[6] Taking the epidemiological evidence into consideration, the United Nations Population Fund / World Health Organization international expert meeting publicized a statement that "mental health is fundamental to attaining the Millennium Development Goals of improving maternal health, reducing child mortality, promoting gender equality and empowering women, achieving universal primary education and eradicating extreme poverty and hunger".[7] Although focus on fathers is often neglected in parenting research and support, their postpartum depression status correlates strongly with maternal depression status and influences child development independent of maternal mental health.[8, 9] In sum, antenatal depression, leading to postpartum depression, creates both mental and physical pathological family dynamics.

Antenatal parenting programs have gained attention, although not enough[10], in the Western hemisphere. The latest quantitative Cochrane review on antenatal education, defined as "any structured educational program provided during pregnancy by an educator to either parent that included information related to pregnancy, birth or parenthood", concluded that no consistent outcomes were observed because of varying types of intervention.[11] However, a review of qualitative studies confirmed that women have expressed strong interest in a small-group learning opportunity where they can talk to each other and relate information to their individual circumstances.[12]

To date in Asia, there has been little scientific research conducted on antenatal parenting interventions. We selected from numerous antenatal model programs and chose one from Australia that fit into the available service framework in Japan and Vietnam. Although our report was not designed to be a rigorous evaluation of this specific program's effectiveness, it does aim to explain the appropriate steps necessary to adapt a scientifically evaluated Western parenting program into Asian settings. It is hoped that the information about this frontier trial will be useful to other health professionals in Asian regions undertaking similar initiatives.

Study Design and Methods

Project Overview

Japan and Vietnam were selected on the basis of commonalities in their maternal and child health system and longstanding academic partnership with these two countries [13]. In the Japanese maternal and child health service system, once a child is born, at least one home visit and frequent child health checkups are scheduled for each child. During pregnancy, however, a group-based parents' class giving instructions on childbirth and care is the only commonly provided service at hospitals and public health centers, and attendance depends on parents' interest and availability. There are vast regional differences in the provision of health care in Vietnam,[14] but perinatal services in Ho Chi Minh City are similar to those in Japan. According to anecdotal information collected from Vietnamese obstetrician-gynecologists on the research team, although postnatal monthly child health checkups are scheduled, only maternal and child care instruction classes in large groups—sometimes more than 100 women and their family members—are loosely organized by baby-product companies. Antenatal classes in both countries tend to be restricted to a simple transfer of factual information (e.g., biological processes of pregnancy), and not enough attention is paid to provide parenting support, especially regarding mental health.

On the operational side, this collaborative project in Japan and Vietnam was launched in 2004. Epidemiological investigations in the first few years revealed that a considerable proportion of parents lacked confidence in childrearing.[15-17] It was decided, therefore, that the goal would be to develop a parenting support toolkit, which could be used with ease by both Japanese and Vietnamese practitioners to empower parents (fathers and mothers) to facilitate positive parenting. As the first step, the Canadian group-based *postnatal* parenting program, the

Nobody's Perfect Program was adapted for public service settings in both countries.[18, 19] The next step, as reported here, was to adapt an *antenatal* program.

Adaptation Processes

There were six major components of the trial to modify the Australian intervention to fit the Japanese and Vietnamese setting: 1) selecting a project site and team members; 2) translating and modifying the intervention protocol and materials; 3) training of staff at the site; 4) establishing a screening flow; 5) conducting a pilot trial of a parenting class; and 6) planning for the future. These steps had been established and applied in the previous postnatal project,[18] with reference to previous work by McLennan et al., which described the process undertaken to culturally tailor and export the Nobody's Perfect Program to the Dominican Republic.[20]

Evaluation

In this very first trial, the feasibility and acceptability of the newly adapted intervention was assessed. Although no formal fidelity assessment was conducted, feasibility was assessed by whether the pilot trial was carried out as planned, by following the six steps described above. As for acceptability among staff, the research team monitored staff involvement throughout and carefully listened to their opinions in frequent meetings. Regarding volunteer couples, a session evaluation form was completed and assessed.

Ethical Consideration

This study was approved by the Ethics Committees of Fukushima Medical University (registration number 1079) in Japan, and the Board of Directors and the Scientific Committee of Nhan Dan Gia Dinh Hospital in Vietnam.

RESULTS

STEP 1: *Project Sites and Team Members*

A key facility for providing maternal and child health care services was selected as a study site in each country. In Japan, all pregnancies are registered at municipal offices that uniformly provide services from antenatal visits to three-year well-child visits. The selected study site was a health center in Shirakawa City, Fukushima Prefecture, where a principle investigator (AG) had taken a part in parenting support training of public health nurses. A local implemention team included public health nurses and a midwife.

According to interviews with pediatricians and obstetricians in Ho Chi Minh City, mothers generally receive antenatal checkups, delivery care, and postnatal mother and child health checkups until about one year postpartum at the same hospital of their choice. The study site was Nhan Dan Gia Dinh Hospital, a general hospital affiliated with the University of Medicine and Pharmacy, Ho Chi Minh City. Implemention members were midwives led by obstetricians (VQN and TTTN) who were trained in epidemiology and parenting support.

STEP 2: *Intervention Tools*

The research team searched international and Japanese literature databases for a relatively simple intervention that could be integrated into current group-based antenatal classes, managed by local midwives or public health nurses, and was effective in the prevention of postpartum depression. After reviewing three intervention studies from Japan, Hong Kong, and Australia, the research team found that only the Australia program involved fathers. Coincidentally, one of the research team members was acquainted with the Australian team. As a result, a precise protocol of the Empathy Session developed by Stephen Matthey[21] was obtained with permission to adapt the intervention to Japanese and Vietnamese settings. It was a psychosocial intervention, which was integrated into routine antenatal classes and designed to enhance the postpartum psychosocial adjustment of women and men by increasing awareness of each other's concerns. This simple and inexpensive intervention has been proven to reduce postpartum distress among Australian first-time mothers.[21]

Table 1 shows the overall flow of the Empathy Session. Aims of the session were to 1) increase the couple's understanding of each other's concerns; 2) enable the couples to anticipate helpful and unhelpful behavior if either were finding new parenthood stressful; 3) provide participants with strategies other couples have found helpful when parenthood has been stressful; and 4) reduce feelings of stress, isolation, and lack of confidence that these participants may have. Two activities included in the session help couples anticipate and prepare for daily parenting tasks, discussions using the "concerns checklist" [22] and "difficult day scenario". Discussions

in the women's and men's groups were guided by a facilitator of the same gender, using written materials for new parenting that explained common worries and suggested ways of overcoming them. The session was supplemented with two mail-outs materials to facilitate couple communication; one was sent about a week after the group session and another during the postpartum period.

More than a year was spent on obtaining and translating the protocol and educational materials into Japanese, and finalizing them with practice sessions. Questionnaires included in the protocol were translated and then back-translated to improve accuracy. Japanese tools were then translated into Vietnamese. Both Japanese and Vietnamese versions basically followed the original protocol, but were slightly modified according to local situations. Following the advice of Matthey S, who developed the program, intervention tools were simplified with care in order not to reduce the content. Intervention flow was summarized into one table for easier facilitation and management by local staff, and the written materials were made concise enough for participants to go through in a limited time. Among the three measurements of mood (Edinburgh Postnatal Depression Scale, EPDS; Profile of Mood Sates, POMS; Centre for Epidemiological Studies – Depression Scale; CES-D) that were used to evaluate intervention effects in the original study, EPDS, which was already in use in these two countries, was selected for future evaluation of the program's effect and used to assess the baseline mental health status of volunteers in the present study. In Vietnam, the mail-out materials were handed to participants at the end of the session because of anticipated logistical difficulties in mailing if we were to offer the session on a routine basis. Development of additional educational materials was suggested during practice and trial sessions in both countries.

STEP 3: *Staff Training*

Prior to a trial session in Japan, in November 2010, two practice sessions were held, with instruction by the principal investigator. The first practice was among university researchers to provide the opportunity for prospective facilitators to go through the procedures. The female facilitator was a public health nurse and the male facilitator was a pediatrician, both in training in epidemiology research at Fukushima Medical University. The second practice was among local public health nurses to help them understand the session flow. At the end of both practices, a comment card was distributed and filled out by the participants to support evaluation of the tools and facilitation. The major comment was the difficulty first-time expecting couples had in imagining their lives after the birth of their babies, which they are asked to discuss in the session. Consequently, additional materials were provided, in the form of a copy of a first-time mother's parenting diary, to help expecting couples' foresee changes in their lives.

Just before a trial session in August 2011 in Vietnam, didactic training was given to hospital staff. The one-hour training consisted of two interactive lectures: one about mental health in general by a team psychiatrist (YS) and the other about the antenatal session by the principal investigator. In addition, the local team recognized that raising awareness about mental health support was needed and launched a project to develop training video clips, one of which targeted parents-to-be and another for training health care professionals. The research team is currently finalizing the clips and will evaluate their effects. The session facilitators in Vietnam were an obstetrician-gynecologist couple (VQN and TTTN), who oversaw the preparations for this trial, staff training, and the video project.

STEP 4: *Participants Screening*

In a pilot trial, a convenience sample of about five couples was recruited at each study site. The sample of couples was limited to this small number on the basis of previous experience in conducting the group-based postnatal program, in which each group consisted of six or seven mothers.[19] The intention was not to draw a representative sample of couples, but rather to confirm recruiting processes.

Japanese participants were recruited from couples already attending regular parents' classes. About one month before the pilot trial in Japan, public health nurses in Shirakawa City began to invite couples to participate, five of whom agreed; however, the woman in one of the couples had a premature rapture of membranes on the trial day, therefore only four couples were available. In Japan, the usual procedure is that every pregnant woman reports to a local municipality and receives a Mother and Child Health Handbook. In Shirakawa City, the reporting women were asked to fill out a simple one-page assessment sheet that asks for socio-demographic background, obstetrical history, health behavior, and parenting plans and concerns. On the basis of this assessment, public health nurses evaluated women's health status and social circumstances and invited those who have family problems or parenting worries to attend

parents' classes or to be followed by home visits or telephone counseling. This assessment at the time of pregnancy registration was not conducted in a systematic manner, but relying more on traditional experiential methods. As the first step towards introducing screening criteria to minimize overlooking high-risk families, two training sessions about systematic screening and recruiting techniques were organized and taught by an invited clinical psychologist who was a member of the research team (SY).

For recruiting Vietnamese women to this antenatal session, a much-simplified version of the screening sheet that had been used to recruit women to the postnatal intervention was used.[18] The one-page form included basic demographic information, obstetrical history, mental health assessment, and a question asking parenting concerns. The mental health assessment measures were Whooley's two questions about depressed mood and adhedonia[23] and Lorish and Maisiak's face mood scale.[24] Prior to the trial, the form was tested among 20 pregnant women; no refusal was reported, the median length of time for mothers to fill out the form was 3.5 minutes. Of these, two women were judged to be in a probable depressive state on the basis of their answers to Whooley's questions. Hospital midwives recruited mothers at the time of antenatal checkup and invited five who responded "yes" to one of Whooley's questions or received a score of 11 or higher on the face scale.

STEP 5: *Pilot Trials*

Trial sessions in both countries were carried out as planned. The median age of participating mothers in Japan was 30.5 years (min. 29, max. 34). The median score of EPDS (score range; 0 to 30) was 3; one mother with a score of 12 indicated possible depression. To summarize responses to the concerns checklist, the total number of items to which each person responded as "a bit" or "a lot" was calculated. Although the median number of concerns was 8 out of 17 listed items for both women and their husbands, when spousal difference was calculated, the number was higher for husbands [wife – husband; median -3 (min. -4, max. 6)]. The session was evaluated by this group (Table 2), and the participants voiced the importance of couple communication (Table 3). One suggestion raised was to put more emphasis on the enjoyment of parenting, since the latter half of the session focused on a "difficult day" scenario. From the provider side, public health nurses and a midwife mentioned that this simple one-session intervention could be integrated into their regular services with no additional budget or staff needed, provided that technical support from the university could be continued in the beginning.

In Vietnam, the median age of mothers was 26 years (min. 26, max. 48). Because the invitation was based on the mental health assessment, the median score of EPDS was high at 17 (min. 9, max. 19), and four mothers' scores indicated a possible depression state. Perhaps reflecting their mental health status, the number of concerns was higher for wives than husbands [wife – husband; median 2 (min. -1, max. 5)]. Husbands were encouraged to write down their concerns by a facilitator during the husband-only discussion, and four wrote financial concerns. The session was evaluated by participants, except for the time factor (Table 2). Facilitators recorded that participants were unhappy that the time established for the discussion was in the daytime of a weekday. Despite this shortcoming, the men gave favorable opinions and one husband even suggested expanding the session to a wider target (Table 3). Midwives and doctors of the implementation team noted that the session was easy to follow and could be managed on their own, although they indicated that it might be helpful if midwives could work some extra (paid) hours and Japanese experts be made available for occasional monitoring.

STEP 6: *Planning for the Future*

Local team members were receptive to continuing the project, and plans for the future were discussed in casual meetings right after the trial session as well as through follow-up communication. In both countries, however, immediate routine implementation and evaluation were postponed—for different reasons.

In Japan, the initial plan of the Shirakawa City health center was to offer the session several times with facilitation by local public health nurses in the fiscal year following the trial session. However, the city is located in the middle of Fukushima prefecture, where the nuclear disaster of March 2011 occurred, and residents' anxiety toward long-term low-level radiation exposure continues. The research team recognized the participants' concerns about radiation, and postponed the plan for discussion about how to incorporate this new component in the session, along with exploring ways to systematize screening and recruitment of couples at the time of pregnancy registration mentioned above. Currently, the research team is analyzing maternal mental health data and organizing regular meetings with public health nurses

to discuss ways to strengthen parenting support in this new environment.

In Vietnam, local team members suggested that the antenatal session should be offered on a regular basis after successful implementation of the postnatal program and provision of the training video clip. They suggested that more time is needed for hospital staff to recognize the importance of *preventing* mothers' parenting difficulties and mental health disturbances, whereas the benefits of a postnatal program to help depressed mothers might be more easily accepted. More efforts are needed, therefore, to build epidemiological data on concerns and on the mental health status of expectant couples in order to elucidate the need for antenatal support and to raise awareness among health professionals on this issue. Second, building a network of professionals in maternal and child health and mental health fields is necessary. Although the model program is reported to prevent postpartum distress, it is very likely that our program participants with psychological distress will require long-term support. Currently, the research team is evaluating the training video clips and setting up a parenting support unit at the local hospital.

Discussion

Based on the preliminary results, it appears the first session trials in Japan and Vietnam were feasible under supervision of the research team. Local staff in both countries coordinated well with the research team, and they arranged the staff scheduling, recruited participants, executed training and trial sessions as planned, and were part of the discussion of future plans. The number of participants was extremely small, which limits interpretation of the obtained results. However, the research team was encouraged by several previously published studies reporting on processes of cultural program adaptations, also with a small number of participants, and think that such case examples can facilitate timely information sharing among professionals.[25, 26] Cautious of courtesy bias, particularly among Asian volunteers must be noted when interpreting the results of session evaluation.[27] Even allowing for these limitations, it is noteworthy that the level of concerns expressed by men was similar to that of women and the session was welcomed by both groups. With the session feasibility and acceptance among couples have been preliminarily confirmed in the present study then scientific testing of the intervention should take place and be followed by integration of the intervention into public health services and continuous evaluation as suggested by de Zoysa and colleagues' framework of research steps in the development and evaluation of public health interventions. [28]

There were three key points in the process of program adaptation to ensure feasibility and acceptability that were described in previous studies[20, 25] and these were confirmed applicable in the present project. The first point is working in a team, with sufficient time allotted for discussing tool modification. Both the above-mentioned study in which a Canadian parenting program was adapted by the Dominican Republic[20] and another study adapting a Preventive Intervention Program for Depression by the Latino families in the United States[25] stressed the importance of a team approach that allowed them to modify the program from different perspectives. In the present project, the core research and local implementation teams were established for over a year to work together and to discuss how to draft modified protocols.

The second point is the incorporation of participants' opinions and views in the modification of tools. The United States study was rigorous in this aspect. The researchers conducted focus groups to gather opinions from the Latino families.[25] Although the efforts were not as extensive as the model study, but the research team collected opinions through pilot testing and revised tools in accordance with the findings. The third point is to balance the structure and flexibility of the intervention, which is related to the second point. Both projects in the Dominican Republic and in the United States outlined modules with specific topics to facilitate smooth implementation of a new program, while allowing flexibility in content to better respond to participants' needs. The research team developed a simple one-page session outline that helped facilitators to easily moderate the discussions and adjust time, depending on the participants' responses.

The common concern in both countries was defining the target population, which a recent review pointed out could be a major shortcoming of antenatal group interventions.[10] For instance, screening and recruitment of *couples* may be a bottleneck for further expansion of the antenatal session. Night or weekend classes are generally preferred by working men, but this will be an obstacle when implementing the intervention as a routine public service. Raising awareness among health care workers about the need for early parenting support for fathers as well as mothers is necessary. More broadly, the inclusion of multifaceted screening criteria to maximize the social impacts of intervention should be an important and

timely consideration. Social and familial factors and their impact on child development have been gaining attention in developing countries, including Vietnam.[29, 30] With a steady increase in child poverty in Japan, the government there has begun to address the influence of early socioeconomic disadvantages on children.[31]

Furthermore, there were country-specific issues related to differences in the implementation sites. In Japan, the research team selected a municipal health center that provided public health services, whereas in Vietnam, a general hospital that provided medical services was selected. Japanese public health nurses were used to organizing parenting classes open to all residents without specifying target groups and had difficulty with the concept of applying systematic screening to identify program participants, whereas Vietnamese midwives had no difficulty following a standardized screening flow. However, Vietnamese midwives and hospital staff had difficulty understanding the importance of preventive intervention. Moreover, there was a logistics difficulty in Vietnam with mailing follow-up materials to participants. This was not a problem for public health nurses in Japan, who routinely mail out health information to community residents. Researchers may need to pay more attention not only to cultural differences, but also to institutional differences when importing a new program.

This paper present the gradual progression of the efforts, proceeding in a step-by-step manner because the adaptation of a new intervention, particularly into a public service setting requires careful consideration for a good fit with the already in-place cultural, institutional, and political frameworks. Building on local capacity and with effective teamwork is a large part of this process. The constant review of process and ongoing discussion among team members—including publication of activity reports, which involves a commitment to cooperation—is another key step for further expansion of the project.

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Table 1 Content of the Empathy Session

Timeline	Class content	In-class activities	Aims
8:30 -9:30	Staff meeting Registration	- Women and men are guided into separate rooms. - They fill out a concerns checklist. - Women also fill out a mental health assessment sheet.	Generate thoughts to various concerns they might have.
9:30 -10:30	"Concerns checklist"	- Discussion of concerns of self and partners with participants of the same gender. They were asked to respond to 17 items on interpersonal, intrapersonal, and parental competency issues by indicating how much they are thinking or worrying about with the categories "not at all", "a bit" or "a lot". - Facilitator-led discussion in a big group with women and men together. - Couple discussion.	Normalize concerns and increase awareness to a partner's concerns.
10:30 -11:30	"Difficult day" scenario	- Discussion of solutions to "difficult day" scenarios in small groups of 2-3 couples. The scenario described a typical day of a mother with a newborn crying all day long and her husband coming back home at night not knowing the situation. - Facilitator-led discussion in a big group with all couples together. - Explanation of a handout listing solutions.	Provide practical suggestions that might reduce distress in new parenting and further normalize difficulties in parenting.
11:30	Summary of the day	- Summary remark by a facilitator to encourage couples to communicate. - Participants fill out the session evaluation sheets.	

Table 2 Session evaluation by participants in Japan and Vietnam

	"4 or 5" [a] N (%)			
	Japan		Vietnam	
Evaluation indicators	Wife N=4	Husband N=4	Wife N=5	Husband N=4[b]
Were leaflets helpful?	4 (100)	4 (100)	4 (80)	4 (100)
Was the time allocation adequate?	4 (100)	4 (100)	1 (20)[c]	1 (25)[c]
Was facilitation of discussions adequate?	4 (100)	4 (100)	4 (80)	4 (100)
Is the session useful in feeling positive about parenting?	4 (100)	4 (100)	4 (80)	4 (100)
Are lessons from the class useful in parenting?	4 (100)	3 (75)	5 (100)	4 (100)
Do you think your relationships with your partner will improve?	4 (100)	4 (100)	4 (80)	4 (100)

a. A 5-point scale was used ranging from "not at all" (1) to "very much" (5).
b. One husband left the session early for home errand.
c. Responses of participants who marked other than "4 or 5" were as follows; one marked "2" and three marked "3" among wives, and all three husbands marked "3".

Table 3 Opinions of participants in Japan and Vietnam

Gender	Japan	Vietnam
Wife	"It was nice to hear other couples' opinions. I wanted to hear more about enjoy of parenting." "I recognized the importance of daily communication."	"I am happy and like the class very much because it helps me to understand about pregnancy and after the birth."
Husband	"It was nice to have time to think about parenting. More time is needed for discussions."	"Thank you, doctor, for helping each of us to understand more about the other, our life long-partner." "Information about this class should reach an expanded target, using the media."