



## INDONESIA: Effectiveness of adequate use of MCH handbook in practicing continuum of MNCH care



Maternal and Child Health Handbook, Indonesia, 2009

### Background

To enhance maternal, newborn and child health (MNCH) service utilizations, the Indonesian Ministry of Health, in collaboration with Japan International Cooperation Agency (JICA), developed the Maternal and Child Health (MCH) Handbook, an integrated home-based record for essential MNCH care. The MCH Handbook is expected to facilitate not only timely but also continuous utilizations of MNCH services. Once having been received by a pregnant woman upon her initial antenatal care (ANC) visit, the MCH Handbook is taken to various health facilities where MNCH services are available, and used as a home-based reference during pregnancy and child rearing. The MCH Handbook enables healthcare providers to document and monitor the results of services and encourages them to make an evidence-based clinical decision. It further helps their clients understand take-home messages. This study estimated the effectiveness of adequate MCH Handbook use in utilizing key MNCH services and practicing home-based MNCH care in rural Java, Indonesia.

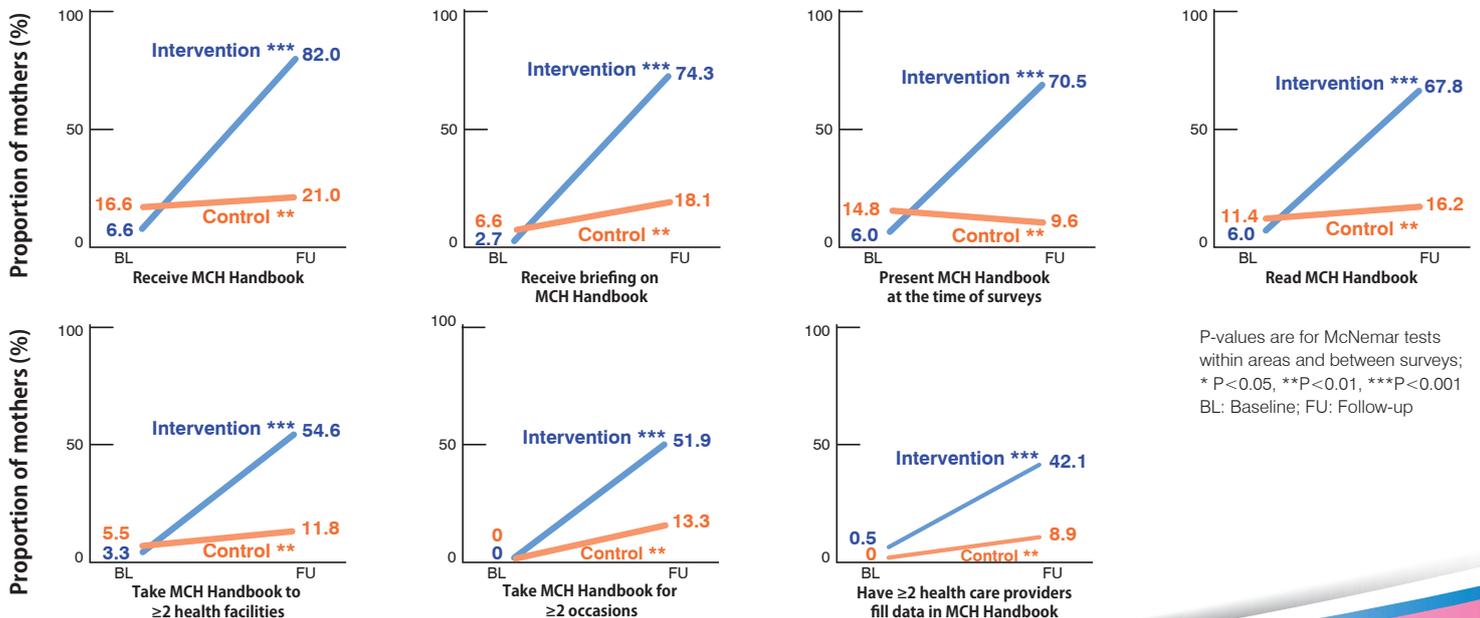
### Study areas and key interventions

We conducted a facility-based cluster randomized control trial, with a two-year follow-up. Women having been pregnant as of 2007 were re-contacted in 2009. The study was conducted in Garut district, one of 27 districts of West Java province, with 3,066.88 km<sup>2</sup> of land area. There were two hospitals and 62 health centres (HCs)

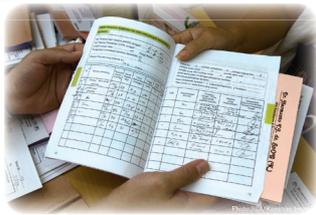
servicing 2.3 million people residing in 424 villages. Due to its mountainous topology, north, west and east parts of the district have a number of hard-to-reach areas. In 2005, the National Bureau of Statistics categorized 35% of households in the district into as the poor. Delivery attended by healthcare providers was less common in the district (52.4%) than provincial average (71.4%). Four intervention elements were designed as the 'adequate use' package implementable even with limited additional resources: (i) providing pregnant women with the MCH Handbooks upon their first ANC visit; (ii) health data recording in the MCH Handbooks by healthcare providers; (iii) conducting health education/guidance by healthcare providers using the MCH Handbook; and (iv) sensitizing mothers on MNCH care by using the MCH Handbook.

### Adequate use of the MCH Handbook in the intervention area

Of 647 pregnant women enrolled in baseline survey (BL), 454 (70.2%) were successfully re-contacted in follow-up survey (FU). The proportion of the MCH Handbook holders in the intervention area significantly increased between BL and FU ( $P < 0.001$ ), while that in the control area rather decreased ( $P = 0.644$ ). Figure 1 indicates that overall the use of the MCH Handbook in the intervention area was significantly higher in FU than in BL. A majority of mothers in the intervention area had ever received the MCH Handbook (82.0%) along with explanation from healthcare providers (74.3%).



▲ Figure 1. Change in MCH Handbook use in intervention and control areas between surveys



Pages for antenatal care recording in the MCH Handbook, Garut district, 2008 (Photo by JICA/Kenshiro Imamura)

In 42.1% of the MCH Handbooks distributed in the intervention area, health data were recorded not exclusively by one healthcare provider but by two or more. It was found that 67.8% of mothers and their family members ever read the MCH Handbook. The MCH Handbook was taken to two or more health facilities (54.6%) on different occasions across different MNCH stages (51.9%). Community health volunteers played an important role in supporting mothers in their adherence to health-related guidance described in the MCH Handbook.

### Service uptakes observed in the intervention area

The mothers in the intervention area utilized more various and consecutive MNCH services than those in the control area. It was found in FU that the proportion of mothers having received two tetanus toxoid (TT) injections during pregnancy in the intervention area (76.0%) was significantly higher than in the control area (59.8%) ( $P < 0.01$ ). Similarly, in FU, the proportions of mothers having utilized the following services in the intervention area were significantly higher than in the control area: (i)  $\geq 6$  ANC visits (intervention 54.6%; control 40.6%;  $P < 0.05$ ); and (ii) vitamin A supplement administration to children (intervention 87.4%; control 75.6%;  $P < 0.01$ ). The proportion of those having completed continuum of MNCH care (i.e. utilizations of all the four key MNCH services including (i) two doses of TT injections; (ii)  $\geq 6$  ANC visits; (iii) healthcare providers' delivery attendance; and (iv) vitamin A supplement administration to children) in the intervention area (19.7%) was significantly higher than in the control area (8.5%) (OR 2.47, 95% CI 1.29–4.70) (Figure 2).

### Home care observed in the intervention area

Appropriate feeding was practiced by a significantly greater proportion of mothers in the intervention area than in the control area in FU in:

(i) continued breastfeeding (intervention 91.3%; control 82.7%;  $P < 0.01$ ); and (ii) introduction of complementary feeding (intervention 61.7%; control 27.3%;  $P < 0.001$ ). Home-based MNCH care for sick children (i.e., cough) was practiced by a significantly greater proportion of mothers in the intervention area (80.0%) than in the control area (53.3%) ( $P < 0.01$ ). The following positive behavior changes were observed among a significantly greater proportion of husbands in the intervention area than in the control area: (i) financial preparedness for upcoming delivery (intervention 59.6%; control 43.9%;  $P < 0.01$ ); (ii) keeping infants warm (intervention 35.5%; control 26.6%;  $P < 0.05$ ); and (iii) child developmental stimulation (intervention 42.6%; control 31.7%;  $P < 0.05$ ).

### Discussion

Adequate use of the MCH Handbook is highly likely to promote multiple services uptakes during the entire MNCH spectrum from pregnancy to childhood. A series of interventions for adequate use of the MCH Handbook encourage mothers to practice more appropriate feeding and caring for their children at home, and husbands to participate in child care and rearing. Note that this is the first study that attempted to prospectively estimate the effectiveness of adequate use of the MCH Handbook in ensuring continuum of MNCH care by comparing its adequate use between the intervention area and the control area.

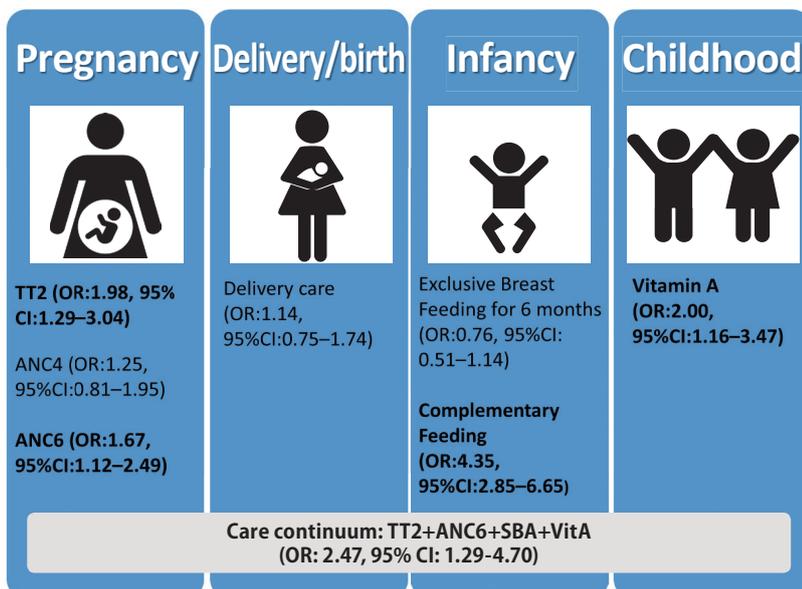
### Conclusion

The study confirmed that continuum of facility-based and home-based MNCH care were better practiced, when the MCH Handbook was adequately used through: (i) providing pregnant women with the MCH Handbook upon their initial ANC visit; (ii) health data recording in it by more than two healthcare providers; (iii) conducting health education/guidance by healthcare providers using the MCH Handbook; (iv) sensitizing women/mothers on MNCH care by using the MCH Handbook; and (v) reading and taking the MCH Handbook to more than two health facilities on different stages by women/mothers.

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OR, odds ratios; CI, confidence intervals; TT2, two doses of tetanus toxoid injections; ANC4, more than four ANC appointments; ANC6, more than six ANC appointments; SBA, professional delivery care; VitA, vitamin A supplement for child

### Further readings

- Osaki K, et al. Maternal and child health handbook use for maternal and child care: a cluster randomized study in rural java, Indonesia. *J Public Health (Oxford)* (in press).
- Hikita N, et. al. Utilisation of maternal and child health handbook in Mongolia: A cross-sectional study. *Health Educ J.* 2018; **77**(4): 458-69.

▲ Figure 2. Effects of MCH Handbook use in service uptakes