

## **Progress in the Implementation of Kangaroo Mother Care in Ten Hospitals in Indonesia**

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### **Summary**

Kangaroo mother care (KMC) is an effective and safe method of caring for low-birth-weight infants. This paper describes the results of a health systems strengthening intervention in KMC involving ten hospitals in Java, Indonesia. Implementation progress was measured with an instrument scoring hospitals out of 100. Hospital scores ranged from 28 to 85, with a mean score of 62.1. One hospital had not reached the level of “evidence of practice”; five hospitals had reached the expected level of “evidence of practice” and two hospitals already scored on the level of “evidence of routine and integration”. The two training hospitals were on the border of “evidence of sustainable practice”. The implementation of kangaroo mother care is a long-term process that requires dedication and support for a number of years. Some items in the progress-monitoring tool could be used to set standards for KMC that hospitals must meet for accreditation purposes.

**Key words:** infant care; infant, premature; program evaluation; Indonesia; kangaroo mother care

## **Introduction**

During the past two decades kangaroo mother care (KMC) has become well accepted as an effective and safe method of caring for preterm and low-birth-weight (LBW) infants who would traditionally have received incubator and/or crib care.<sup>1-5</sup> The kangaroo method was introduced in Indonesia in the 1990s and has since gained recognition. Training in KMC is continuously done to assist hospitals wishing to implement the practice. Recently the importance of KMC in low- and middle-income countries has been highlighted as a contributing factor to the achievement of the Millennium Development Goal 4,<sup>4,6</sup> which targets a reduction by two thirds of under-five mortality rates between 1990 and 2015.<sup>7</sup>

In 2010 an intervention to scale up KMC to more hospitals was conducted in Java by the Indonesian Society for Perinatology (Perinasia). The aim was to introduce KMC where it was not practiced and to strengthen the practices in those hospitals already implementing KMC. Ten hospitals participated, with two central hospitals serving as training centers for the remaining eight hospitals. In addition to the two teaching hospitals, two regional and four district hospitals, as well as one maternity and one mother-and-child hospital participated in the intervention. Ownership of hospitals varied and included two central hospitals under the Ministry of Health, three under provincial governments, four under district governments and one belonging to a foundation.

The intervention consisted of four phases covering a period of five months:

(1) a baseline assessment that was meant to get a sense of the newborn care facilities available in each of the ten participating hospitals;

- (2) five-day training workshops attended by four members of each hospital;
- (3) two supervisory visits to each hospital by a team from Perinasia; and
- (4) an end-line assessment that included a visit to each of the ten hospitals.

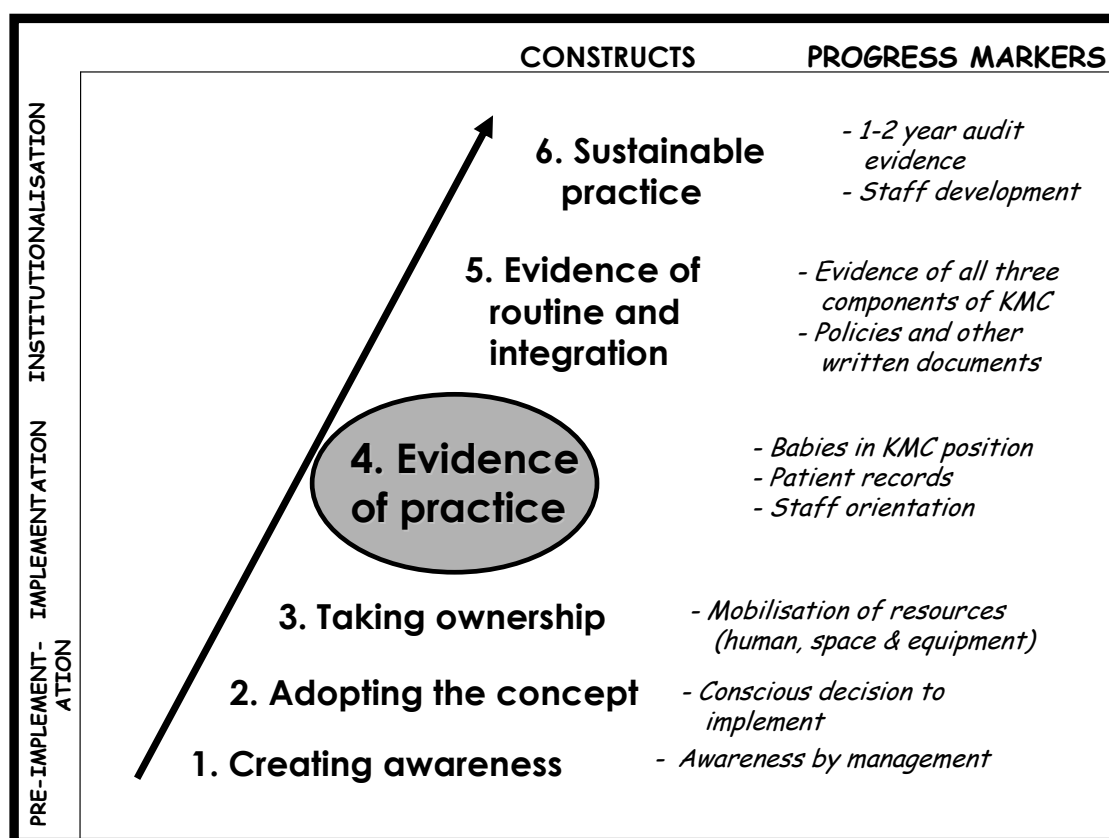
This report summarizes some of the results regarding the progress with KMC implementation in the ten participating hospitals at the end of the intervention.

### **Methods**

A previously validated instrument developed and applied in South Africa<sup>8-10</sup> was adapted to measure progress with implementation. Data was collected under 18 headings (see Table 1). Certain items in the instrument contributed to the progress score of a hospital. The scoring is based on a stages-of-change model with three phases of change or progress, each comprising two stages (see Figure 1).<sup>8</sup> It starts with pre-implementation activities such as sensitization, training and the adoption of the KMC concept. The implementation phase includes the mobilization of resources and the first evidence of KMC practice. This is followed by the institutionalization of KMC as is demonstrated by integrated and routine practice of KMC and sustainable practice. Within about six to eight months after an intervention it is expected that health care facilities should at least be able to demonstrate evidence of KMC practice (stage 4).

**TABLE 1**  
**Information collected in the end-line assessment**

1	Health care facility (basic information)	10	Records in use for KMC information
2	Neonatal and kangaroo mother care (types of care and facilities available)	11	KMC education (health promotion for mothers and families)
3	Skin-to-skin practices (types of KMC practiced – intermittent and continuous)	12	Documents (analysis of available documentation pertaining to KMC, e.g. vision and mission statements, standard operating procedures, medical records)
4	History of KMC implementation	13	Referrals, discharge and follow-up (probing for the existence of a sound system)
5	Involvement of different role-players	14	Staff orientation and training
6	Resources (for the implementation of KMC)	15	Staff rotations
7	Kangaroo mother care space: continuous KMC (probing the ability to provide services for continuous KMC)	16	Strengths and challenges (qualitative observations)
8	Neonatal unit or nursery: intermittent KMC (verification of current practice)	17	General observations and impressions (qualitative observations)
9	Feeding and weight monitoring		



**FIGURE 1. Model for KMC progress monitoring**

For each of the six stages, a score is allocated. The maximum score is 100. This is an adaptation of the score of 30 that appeared in the original model,<sup>8</sup> with a slightly different

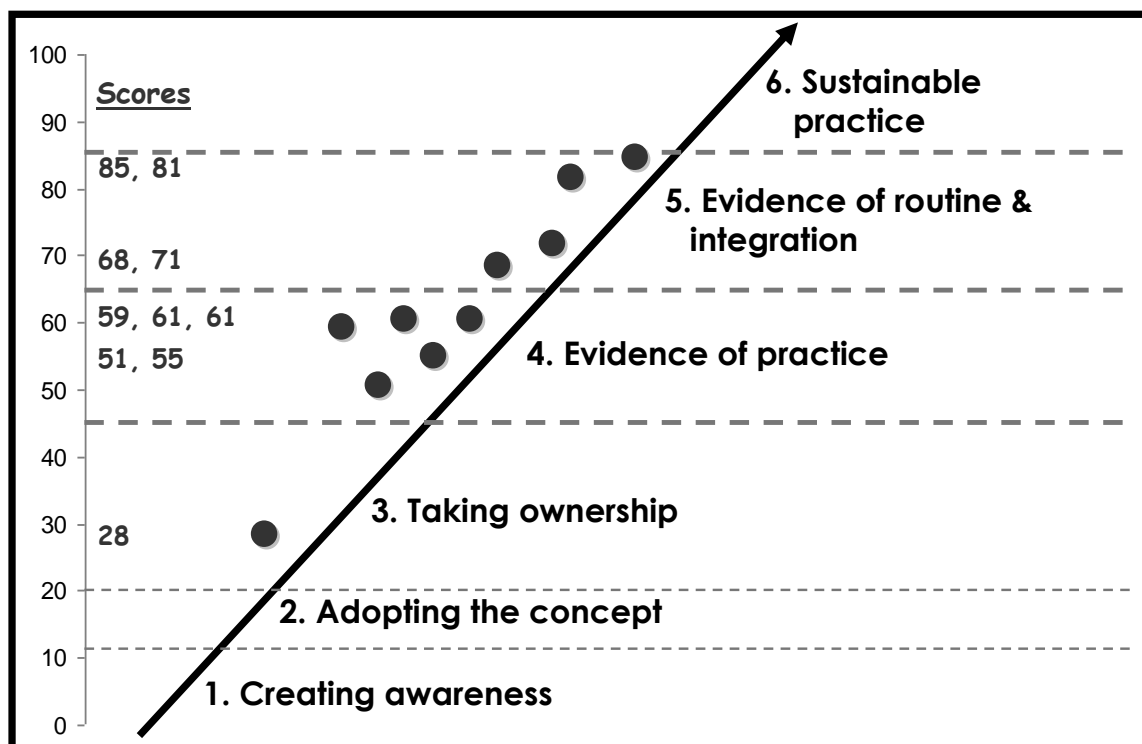
weighting of the different stages to take the context of implementation into account. Table 2 gives an overview of the scoring per implementation stage, with a comparison in relation to the original scoring model.

**TABLE 2**  
*Progress scoring*

Stages and phases	Project scoring		Published scoring <sup>8</sup>		
	Points per stage	Cumulative points	Points (%) per stage	Cumulative points (%)	
<b>Pre-implementation phase</b>					
Stage 1	Creating awareness	12	12	2 (7)	2 (7)
Stage 2	Adopting the concept	8	20	2 (7)	4 (13)
<b>Implementation phase</b>					
Stage 3	Taking ownership	25	45	6 (20)	10 (33)
Stage 4	Evidence of practice	20	65	7 (23)	17 (57)
<b>Institutionalization phase</b>					
Stage 5	Evidence of routine & integration	20	85	7 (23)	24 (80)
Stage 6	Sustainable practice	15	100	6 (20)	30 (100)
<b>TOTAL</b>		<b>100 points</b>		<b>30 points</b>	

## Results and Discussion

The results of the progress monitoring are graphically depicted in Figure 2. Hospital scores ranged from 28.0 to 84.5 out of a possible 100 points. The mean score was 62.1 and the median 61.9.



**FIGURE 2. KMC implementation progress in the ten hospitals**

One hospital had not reached the level of “evidence of practice” and was still at the level of “taking ownership” (stage 3). It did not have a decree signed by the director, nor had it developed standard operating procedures for KMC. KMC data could only be provided for three infants in the first month of the project.

Five hospitals scored at the expected level of “evidence of practice” (stage 4). The maternity hospital and one district hospital exceeded the expectation by already scoring on the level of “evidence of routine and integration” (stage 5). One of these had been practicing intermittent KMC since 2007 and was now able to expand to include rooming-in facilities where continuous KMC could be practiced. The other hospital is reported to have a hospital director who is keenly interested in KMC and demonstrates exceptional leadership.

The two training hospitals in this project were on the upper end of the level “evidence of routine and integration” (stage 5) and the bottom level of “evidence of sustainable practice”

(stage 6). They had been prepared and supported to serve as training centers for other hospitals since 2008, which explains why they had better implementation scores.

Institutional arrangements that could potentially facilitate or hamper KMC relate to the preparation for KMC implementation by formally deciding to introduce KMC and by getting a formal commitment from the hospital director, for example by means of a decree or some form of written commitment.<sup>9,10</sup> Some hospitals that had been implementing KMC for a while already had a decree in place by the time the intervention started.

### **Conclusion**

The implementation of kangaroo mother care is a long-term process that requires dedication and support for a number of years. Many aspects of KMC needing further strengthening were identified in the eight hospitals recruited to attend training at the two training centers. Before considering large-scale KMC implementation programs it is important to first strengthen practices at the existing hospitals with KMC. Although hospital directors were generally supportive of KMC, it is very challenging where this support is absent. Building networks cutting across the working areas of health authorities, especially for postnatal care, has also been identified as a priority action area.

Repeating the progress-monitoring exercise every year or two until KMC is totally integrated into the neonatal care philosophy and practice may provide encouragement, motivation and the support needed to keep the momentum going. Some of the items in the progress-monitoring tool could also be used to set standards for KMC that hospitals must meet in order to get accreditation for their neonatal services.

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