



## CHAPTER IV RESEARCH METHODOLOGY

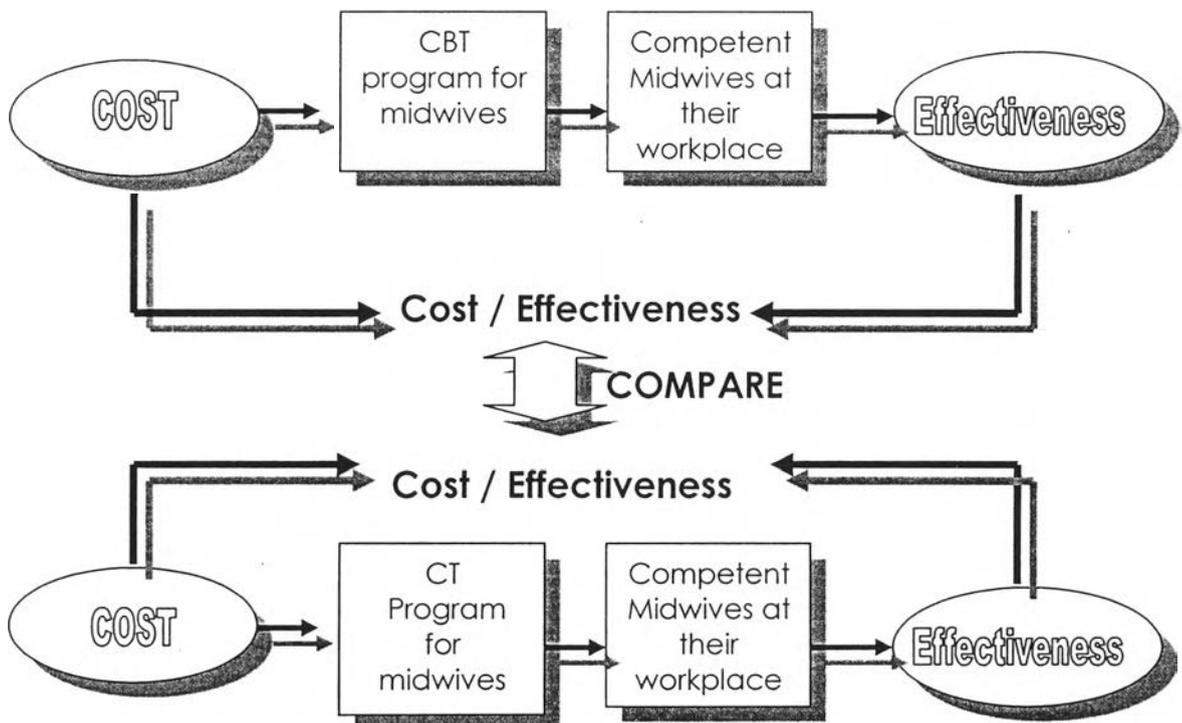
### 4.1 Study Design

The study is a retrospective and descriptive analysis aimed at determining cost of training a midwife from provider’s perspective to compare effectiveness of two training methods competency based training (CBT) and conventional training (CT) at Buton and Muna district

### 4.2 Conceptual Framework

This study proposed to estimate and compare the operational cost based on the provider perspective between the competency based training (CBT) and the conventional training (CT). The effectiveness was calculated both before and after training program at their workplaces under the competency standard mentioned earlier.

Figure 4.1. Conceptual framework of Cost-effectiveness of CBT and CT



### 4.3 Cost Analysis

Cost is defined as the value of resources; material or operational used to produce something including a specific health service. Costs were classified by activities: those cost reflected is the kind of activity or function for which the resources are used (*John and Parker, 1994*). Cost is classified either by activities or by inputs.

In this study the cost of competency based training (CBT) and the conventional training (CT) were collected and calculated in financial terms due mainly to the unavailability of opportunity cost data. Moreover, for the honorarium and transportation cost for trainers and trainees in the training program we have budget requests and cost expenditures. In addition, in conducting the training program we have the hire of the training venue (*Balai pelatihan kesehatan*) and facility or equipment hired

The cost analysis described according to number of participants or total persons, total days, learning process, number of facilitators, etc. for CBT and CT programs. In this case communication and community entry (CCE) training package, the categories of expenditures are as follows: Cost was divided into participant cost and program cost. Participant cost refers to all cost related to participant, such as travelling cost, food and beverage, accommodation and other cost. Program cost includes costs incurred at the administrative levels such as administration, trainers or facilitators, stationary and other media used. This is compared between competency based training (CBT) and conventional training (CT).

To analyze the cost of training one midwife, cost was divided into participant cost and program cost, participant cost refers to all cost related to participant, such as transportation cost, food and beverage, accommodation and other cost. Program costs include costs incurred at the administrative levels such as administration, trainers or facilitators, rent for classroom and equipment. To measure the cost for each program the budget for each of them was calculated as follows:

| Cost items                       | CBT<br>Total cost ( <i>Rupiah</i> ) | CT<br>Total cost ( <i>Rupiah</i> ) |
|----------------------------------|-------------------------------------|------------------------------------|
| Honorarium:                      |                                     |                                    |
| Resource persons honorarium      |                                     |                                    |
| Honor participant                |                                     |                                    |
| Material                         |                                     |                                    |
| Transportation:                  |                                     |                                    |
| Transportation of participants   |                                     |                                    |
| Resource Per / Facilitator       |                                     |                                    |
| Committee                        |                                     |                                    |
| Food Board                       |                                     |                                    |
| FC / Report                      |                                     |                                    |
| Class Room / equipment<br>(rent) |                                     |                                    |
| Total cost                       |                                     |                                    |

With regard to economic cost, the data on opportunity cost of both training programs its not calculated because data for this was not available. This made the calculation difficult. Although the theoretical proper price for a resource is its opportunity cost i.e., the value of the forgone benefits because the resource is not available for its best alternative use (Michael, 1993). Otherwise, in the long term, competency based training (CBT) maybe economically effective and efficient compared with conventional training (CT).

#### 4.4 Effectiveness Analysis

The term effectiveness in this study is defined as number or percentage of competent midwives produced at the end of training. To know the performance before training a training need analysis (TNA) using checklist based on competency standard was conducted. Three to six months after training, the assessment using check list based on performance criteria set by the competency test was also done, the data were compiled and analyzed for effectiveness of this study for CBT and CT methods.

The formulation used to measure the effectiveness is give below. The effectiveness ratio it is expressed in a percentage term.

$$\text{Effectiveness} = \frac{\text{Output}}{\text{Target}} \times 100$$

The output is the number or percentage of midwives competent at their workplace based on assessment by programmers and trainers. The results of competency based training (CBT) and conventional training (CT) is compared. Furthermore, comparison is made of method and learning process in the class, duration, and system. As well as the common characteristic of midwives for both training method such as age, education level, working experiences (years), type of workers: civil servants midwife (PNS) and contracted midwife (PTT). And to measure if these characteristics possibly influence the output of training or effectiveness between competency based training (CBT) and conventional training (CT). Output or effectiveness in both training programs refers to professional improvement. It is expected that improvement in the achievement of target for maternal and child health (MCH) that is reduction in maternal mortality rate (MMR) and infant mortality rate (IMR) can be seen.

The cost-effectiveness of two programs was analysed and compare which more effective using the formula:

$$\frac{C_1}{\left(\frac{n_1}{N_1}\right) * 100} \quad \text{Vs.} \quad \frac{C_2}{\left(\frac{n_2}{N_2}\right) * 100}$$

Where:

$C_1$  = Total cost of competency based training (CBT)

$n_1$  = Number of midwives assessed as competent post training of CBT program according to competency standard (Output of CBT)

- $N_1$  = Objective set as to percentage competent post training program (Target)
- $C_2$  = Total cost of conventional training (CT)
- $n_2$  = Number of midwives assessed as competent post training of CT program according to competency standard (Output of CT)
- $N_2$  = Objective set as to percentage competent post training program (Target)

#### 4.5 Data Collection

The data relating to operational cost of competency based training (CBT) and conventional training (CT) of midwives were collected from provider's perspective, participant cost and program cost. Participant cost refers to all cost related to participant, such as transportations cost, food and beverage, accommodation and other costs. Program cost includes costs incurred at the administrative levels such as payments made to trainers or facilitators, rent for classroom and equipment.

In addition, the data relating to the output or effectiveness of the training programs (CBT and CT) were collected from assessment results of training programs conducted by trainers or programmers. It is important to note that all these data were collected from secondary sources available at Provincial Health Office in Southeast Sulawesi Province and District Health Office in Buton and Muna district.