California State University, Northridge

THE DEVELOPMENT OF AN INSTRUMENT FOR ASSESSING
DUKUN KIT UTILIZATION

A thesis submitted in partial satisfaction of the requirements for the degree of
Master of Public Health
by
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The thesis of Mary Egenhoff Krishnamurty is approved.

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ABSTRACT

THE DEVELOPMENT OF AN INSTRUMENT FOR ASSESSING DUKUN KIT UTILIZATION

by

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An instrument to evaluate in a field setting the training of Indonesian traditional birth attendants was developed. The proper utilization of the midwife's kit, which was presented to her by the United Nations Children's Emergency Fund (UNICEF), after completion of her training, was used as an index of successful training.

The procedure involved interviews with: 1) the health center midwife; 2) the traditional birth attendant; and 3) several families helped recently by the traditional birth attendant. The instrument was developmentally tested on three birth attendants from one health center, with the aid of nine families.
CHAPTER I
INTRODUCTION

The vast majority of people in developing countries inhabit villages of various sizes. All the villages are in general characterized by a lack of adequate medical facilities. The health status of the people is in general low, with a high birth and death rate, and a high maternal and infant mortality rate. Most of the maternal mortality occurs at the time of birth, with the mother not having access to trained medical care. In most villages, the village, or indigenous midwife is the person called upon to help with the delivery. The village midwives are generally illiterate, elderly and have learned the techniques of "midwifery" from elder midwives and through extensive practice. There is a clear need to introduce certain crucial modern medical practices into the village midwives' "midwifery" skills.

The United Nations Children's Emergency Fund (UNICEF) was founded after World War II to aid children who were war victims. Gradually, UNICEF has come to encompass a wider range of activities, and a larger geographical area. One of the activities of UNICEF is to aid in the training and upgrading of village midwives' skills. It is felt that if the indigenous "medical force" is
taught basic aseptic techniques and simple clinical procedures, the hazard to the mother and child at the time of delivery can be greatly reduced. This has an added advantage of potentially being able to reach all strata of society and thus provide better services to every villager through utilization of traditional practitioners.

In Indonesia, 80 percent of the deliveries are attended by village midwives, some of whom help staff the maternal and child health centers, of which there were 4,510 in 1969 (15). The infant mortality in Indonesia is very high, being 125/1000 in 1968 (14:33). Fifty percent of reported deaths in Indonesia in 1968 were in the below five year age category (14:33). To help combat this, the health centers and staff have been utilized in a system of training traditional midwives (dukuns). The training courses for dukuns consisted of two types; intensive training over a short period of time, and training that extended over a period of one year, with the dukuns attending the course once or twice a week (20). At the end of the course, if the dukun passed the examination, she was then provided with a dukun kit, containing 17 items needed to be used in a simple uncomplicated delivery. She was also provided with an incentive, such as enough cloth to make two white kebayas. The number of dukun kits in Indonesia in 1972 was estimated to be 41,000 (20). The dukun training program is extensive. For example, there were about 4,600 dukuns graduated in 1969 (15) and 68,143 dukuns had had...
some training by 1971.

The progress of the current dukun training program has been evaluated using several bases:

1. The number of dukuns trained per year.
2. The number of dukuns who keep in touch with the health center in general and the trained midwife in particular.

Dukuns are added to the manpower pool as and when the demand increases or when a practicing dukun discontinues her practice.

There are several ways a woman becomes a dukun. The most frequent factor being that her mother was a dukun and decided her daughter had the necessary talent to become a dukun (10:33). Another factor that frequently was used in the selection of candidates was that the woman was another type of dukun (dukun pidjat) and by chance happened to assist at a birth. Some became dukuns based upon a divine inspiration, and some newer dukuns have actually started their career with modern methods because they had taken a training course (10:34). There has been a slight shift in some segments of the population, mainly the urbanized educated, to using the trained midwives and the physicians for delivery. However, for the majority of the population the dukuns remain the predominant means of delivering medical services outside the organized health services system. There has been a growing realization that harnessing the indigenous medical
practitioners by using the good points in their knowledge and practice as well as their manpower and even assigning formal functions to them will improve the delivery of medical services. Consequently there has been a renewed interest in the various aspects of dukun practice and utilization. Several national programs have been examining the feasibility of using dukuns as a link between their program and the people. Most prominent among such programs is family planning. Certain training programs for training dukuns in family planning have been started (10). This is a useful trend.

The Maternal and Child Health Department of the Department of Health, Government of Indonesia, has conducted the training of dukuns for over a decade using midwives at maternal and child health centers as trainers (20). The training system was designed to keep the dukun in touch with the health center. Thus, a healthy symbiotic relationship was developed. However, a more specific measurement of the extent of cooperation between bidans (trained midwife) and the dukun and the health center were not available, and there is a need to estimate this.

STATEMENT OF THE PROBLEM

One of the main objectives of the current dukun program is to modify the dukuns' behavior so as to incorporate the essentials of modern methods of midwifery, and
thereby render them more skillful in managing deliveries. At the end of the training course, each dukun is examined as to her competency in utilizing the skills she was taught. This is done in a classroom type situation and of course in the presence of the examiners. However, there is a need to "test the field practice" of the dukun to see if knowledge is put into practice. It is not unusual for behaviors induced in a training program to be manifested only in the presence of the examiners. Instruments which may serve as an index of the practice of the modified behaviors in the field have not been available (9). This study was an attempt to devise and field test a set of instruments that would serve as a means of evaluating the dukuns' actual practice and performance in the field setting. The means of evaluation assessed the use of the dukun kit, presented to her at the end of the training period and the extent of compliance or deviation from the modified behaviors that were sought.

IMPORTANCE OF PROBLEM

Evaluation of the dukun kit assumes added importance as the effective utilization of the kit may encourage the planners of other programs to use similar means to encourage dukuns in their programs. The total evaluation may shed light on the utilization of the experiences of the maternal and child health dukun training program in the context of family planning.
DEFINITION OF TERMS

Traditional birth attendant - The indigenous midwife who has had no formal training. She is a midwife by virtue of heredity. Also known as "the other midwife," or the village midwife.

Dai - The traditional birth attendant of Pakistan and India.

Bidan - The term for the medically trained midwife of Indonesia.

Auxiliary - A technical worker in the field with less than full qualifications. Thus there can be an auxiliary midwife, auxiliary nurse or auxiliary sanitation in the health professions.

Dukun - The term for the Indonesian traditional curer. There are various types of dukun in Indonesia, such as the birth specialist, or the wedding specialist, or the herbalist.

Dukun baji - The Indonesian traditional birth attendant. In this paper, dukun generally refers to dukun baji.

Kebaya - A traditional blouse worn by women on the island of Java.

Dukun kit - UNICEF midwifery kit, type 1, containing the following: basin, stainless steel bowl, an apron, plastic sheeting, assorted bottles, cotton, gauze, forceps, soap, scissors, a surgeon's brush; all of the
IUCD - Intrauterine contraceptive device, also known as IUD.
CHAPTER II

LITERATURE REVIEW

HISTORY

The profession of midwifery has its roots in the friendly neighbor or friend who was around to comfort a woman during her labor and delivery. Some who were more observant than others gradually developed some skills. The profession of trained midwife is a historical development from the traditional birth attendant (6:19).

DEFINITIONS OF MIDWIFERY

The World Health Organization defines a midwife "... as a person specially instructed and qualified to provide care for women during pregnancy, delivery, and the post-natal period and for the newly-born infants ..." (22:17). This is a rather open definition, as it says nothing about the levels of sophistication of the training. In the developed countries, a person labeled as a midwife can be expected to possess a particular standardized set of qualifications. In developing countries, where trained personnel is short, levels of midwifery have developed, ranging from the most highly trained and skilled nurse-midwife, through the lesser trained auxiliary, to the untrained traditional birth attendant. The
The auxiliary midwife has been simply defined as "a technical worker in the field with less than full professional qualifications" (1:139). The worker with the least professional qualifications is the traditional birth attendant. She may be "... a woman of much experience in her chosen occupation. On the other hand she may be a neighbor or relative who happens to be on the spot at the time of delivery and renders assistance" (5:5). The auxiliary may be a traditional birth attendant with training (5:5). The border between an auxiliary and a traditional birth attendant is fuzzy, and "it is dependent on traditions, administrative organization and level of education" (5:6).

**NUMBERS OF DELIVERIES**

"It has been estimated that two-thirds of the births in the world take place without skilled care" (2:121). In Africa, 80 percent of births are attended by untrained attendants (2:121). In Indonesia, in 1961, 2 percent of the deliveries took place in the hospitals, 8 percent in the health centers, and 90 percent at home (11:206). Home deliveries are either unattended or attended by traditional birth attendants. In India, in the rural areas, where 80 percent of the population resides, 80 percent of the deliveries are at home (11:204). In Pakistan, 95 percent of the deliveries are aided by other midwives (11:236). In Latin America, 66 percent of the deliveries are attended by traditional birth attend-
ants, mostly in the rural areas (2:130).

POSITION OF THE MIDWIFE IN THE COMMUNITY

"The midwife has an important role in public health which derives from her close association with women at a time when they are particularly receptive" (22:32). If this is true for a midwife, it is doubly true for the traditional birth attendant, who is a resident of the community where she works, in contrast to the midwife, who may just be a visitor. In Indonesia, the traditional birth attendant also is in a position of social importance. She knows and performs all required rituals concerning pregnancy and childbirth. The dukun baji (traditional birth attendant) during the delivery says the proper magical spells for protection of the parturient woman and the baby and massages the woman's legs, thighs and abdomen (8:87). The dukun baji also performs the post-natal rituals causing the baby to be beautiful and healthy (8:89). There are four major rituals, or slamentans, concerning birth in a Javanese home (7:38). The most important is the ceremony done at the seventh month of the first pregnancy. It is the dukun baji who conducts this ritual. Other types of dukun conduct the ceremonies at other events, such as the dukun manten who is the wedding specialist (7:42).

The dukun baji not only knows all the rituals, but
she is "... also capable of giving emotional security to the patient, since all acts of the latter are related to the supernatural which according to the people's belief, influences man's life..." (10:30). "... The midwife (bidan) is usually a respected member of the urban educated group," while the "dukun baji on the other hand is a village woman just like everyone else." (8:91).

The dukun's greatest sphere of influence and their critical role regarding health education lies in their social status in the community..." They are regarded as elders whose advice should be followed, and they will always be called mbah (grandmother) (10:31).

PLACE OF MIDWIVES IN PUBLIC HEALTH

A midwife can be effective in the health promotion, specific protection, and early diagnosis and treatment. Most of her work is with essentially healthy women, and most deliveries are normal. She not only provides care during pregnancy, but "... this care includes preventive measures, health education, the detection of abnormal conditions in mother and child, the procurement of medical assistance and the execution of emergency measures in the absence of medical help" (22:7). During the prenatal period, "health education is an accepted part of her duties" (22:8). The midwife "is not treating unhealthy or sick persons, but she protects healthy people with the aim to keep them healthy" (13:112). The World Health Organiz-
ation considers that "... in many areas of the world, the success of maternity care programs depends largely on the midwife and the quality of her practice" (5:19). This is even more true of the dukun baji, because she is closer to the community than the bidan, and she has a position of authority and respect concerning matters regarding childbirth. The midwife and also the traditional birth attendant are to be considered part of the public health team but the midwife is not a public health nurse (2:123). The dukun always works in the community at the grass roots level. Whenever she runs into a complicated case, she refers the patient to the nearest health center.

There are three types of health centers in the maternal and child health program in Indonesia: Class A, which has five or more beds, has a bidan and doctor on the staff and gives emergency care. Class B, which has only a bidan on the staff and sometimes an auxiliary. Class C is set up if the community asks. It is served by an auxiliary, and if possible also an auxiliary nurse or sanitarian. (19).

TRAINING OF MIDWIVES

The World Health Organization Expert Committee on Professional and Technical Education of Medical and Auxiliary Personnel, 1961 defines training as "... a planned formal or informal learning-a-doing process in which a person can be better prepared for carrying out certain
functions" (6:12). There are three levels of midwifery practice in Indonesia. The highest is the bidan, the fully qualified midwife. The requirements for entrance into one of the government midwifery schools is nine years general education, and two years nurses training (11:207). The midwifery training takes another two years. The second level professional is the auxiliary. She is an auxiliary nurse. The lowest level is the traditional birth attendant, the dukun baji. The training program for dukuns lasts from six months to a year in one form of program and from two to three years in another. The World Health Expert Committee on Midwifery Training, 1955, recommends "The main emphasis should be on the principles of cleanliness, recognition of symptoms of abnormality during pregnancy, and refraining from interfering during labour" as a framework for training traditional birth attendants (5:18). The Committee also recommends day to day working with the teacher to secure full participation in the learning process (5:18).

Whether or not the manpower resources of the traditional birth attendants in any particular area will be utilized by the government, depends entirely on local conditions. In developing countries trained personnel is so critically short that all possible resources must be utilized. "Educational programs for midwives must be directed to producing the type of worker best suited to the needs of the country and region" (22:33). In Sudan
the whole country was provided with trained personnel by training girls who were already planning to become midwives (2:121). In Chile, the philosophy is to recruit trainees from the rural areas and return them to the rural areas (23:108). Also, "... the content and scope of any program for training midwives should be geared to the needs and culture of the countries in which the midwife will practice. Each country trains the type of midwife acceptable to the medical profession, the patient, and the recruits to the profession who must obtain satisfaction" (2:122). Educational programs have to be tailored to meet the level of education of the available recruits (2:24). "The training of illiterates or near-illiterates as auxiliaries demands special methods and techniques which have been successfully developed in certain countries" (6:16).

There are several ways that training programs for traditional birth attendants may be supported. Either the government alone can support the program, or the government together with assistance from the World Health Organization and the United Nations Children's Emergency Fund (UNICEF). Yet another means of supporting training programs is through the religious-sponsored mission hospitals (2:121).

The World Health Organization Expert Committee on Maternity Care "... endorsed the training of traditional birth attendants in opposition to doing away with them" (1:139). The Expert Committee also recommended that traditional birth attendants be registered to guarantee their
supervision and improve their skill..." (1:141).

THE USE OF THE MIDWIFE IN FAMILY PLANNING

Since the midwife is the major deliverer of medical services in many parts of the world, she can be a valuable ally in providing family planning services through an integrated family planning and maternal and child health program. Chile had a very high abortion rate, and in order to combat this, it was felt that the contraception campaign must be in the hands of the midwives (23:106). In Pakistan, traditional birth attendants, (dais), sell conventional contraceptives (condoms and foam tablets) and act as referers for those who wish IUCD (intrauterine contraceptive device) insertions (12:666). The Pakistan program also trained midwives for IUCD insertions (12:666). Pakistan's program also utilized traditional birth attendants as lady organizers and gave them one week of training (12:667). In spite of the limitations of illiteracy, many of the lady organizers in Pakistan are effective in communication (12:677), "The use of paramedics in Pakistan has resulted in an increase in acceptance of family planning among village women" (12:677). The importance of the dais is at the grass roots contact level and has been the core of the national program.

It is crucial to get the traditional birth attendants actively involved in a family planning program, as they wield influence at the local level. Croley et al
found that about one-half the dais that they studied think it is a good idea to participate actively in the family planning program (3:578).

Thailand embarked on a unique experimental project. Auxiliary midwives in four rural provinces were allowed to prescribe contraceptive pills (17:942). The usual medical practice of giving the woman a pelvic examination beforehand was dispensed with, and the midwife was given a check-sheet of contraindications. Using this list, the midwife referred any patients with possible contraindications to a doctor. It was found that there were more pill acceptors in the four test provinces than in the control provinces, and that the pill continuation rates were higher (17:946). When the program was tried nationwide, there was a three-fold increase in the numbers of pill acceptors.

Indonesia faces severe population pressures, particularly on the island of Java, one of the most densely populated areas in the world. According to the 1961 census, 65 percent of the Indonesian population lives on the island of Java (21:37). Recently the government has undertaken a national family planning program. Since the dukun has a role in the maternal and child health care, studies have been conducted to see just how the dukun might help with family planning services. The Indonesian Planned Parenthood Association reports that, family planning does not face visible opposition in the survey area, and the dukun baji being informal leaders, may become agents for spread-
In two villages in central Java, dukuns were used to bring acceptors into a clinic (10:50). It was felt that dukuns should be used in family planning, but that care should be taken to not cause the dukun to come to regard recruiting for family planning as a source of income, rather than as a civic duty, as she does now (10:58). In East Java, a study was done where dukuns were given a two-day course containing the following information:

1. Objectives of family planning
2. Benefit of family planning and the role of dukuns in implementation
3. Methods available at the clinic
4. Some health education techniques

Dukuns were instructed to refer potential acceptors to the health center, to make follow-up visits to the potential acceptors, to report births, and to contact the clinic once a week (16:14). After the dukuns in the study area were involved in family planning motivation, the absolute numbers of acceptors increased (16:14).

The dukun's role in family planning is threefold: to help the auxiliary midwife; to educate and motivate eligible couples; and to distribute contraceptive methods.

The Government of Indonesia has started a training program in which they plan to train 69,500 dukuns in family planning by 1975-1976 (21:39).
CHAPTER III

METHODS AND MATERIALS

Description of the target area

The area investigated in this study was comprised of a population base of 22,500. Sixty to seventy percent of the deliveries were aided by dukuns in the home and the rest by the bidan or other health personnel. The health center staff included two bidans, four home visitors, two auxiliary nurses, one attendant, and thirteen trained dukuns. It is not known how many untrained dukuns there are in the area. There was a five bed maternity ward in the health center, which handled about eight to ten deliveries per month. There were about thirty deliveries reported per month for the area. The cases too complicated for the health center to handle were referred to a nearby hospital (20).

Training program content

The training program followed the suggested World Health Organization model, in that the primary emphasis of the training was placed on teaching hygiene and the symptoms of abnormality during pregnancy. The dukuns were taught to refer any cases which showed abnormality. Most of the dukuns are illiterate so the actual training program
relied heavily on visual aid techniques, such as using dummies for practice. As a reinforcement technique, the health center staff composed a dukun song which the dukuns sing to help them to keep in mind the essentials of their training. (See Appendix)

Rationale for the instrument

In order to field test whether the dukuns actually practice taught procedures, an interview procedure was developed which assessed the use of the dukun's kit. The interview was divided into three parts. Part one consisted of background and identifying data. Part two consisted of inspecting the dukun kit, and part three consisted of interviewing families on how the kit was used. It was felt that if the information about utilization of the dukun kit was sought from the dukuns, the tendency would be to repeat what the dukuns had learned in their training, which may or may not reflect the actual field use of the kit. Because inspection of the kit would show only wear and tear of the items, not whether they were used for the purposes for which they were intended, it was hoped that actual field use of the kits could be determined indirectly by interviewing families regarding use of each item. Some items which were not part of the dukun kit were introduced during the interview with the family as a check against the identification of unused items.
CONSTRUCTION OF THE INSTRUMENT

Construction of the instrument followed the steps described below:

1. Listing of the desired post-training behaviors of the dukuns by a study of the dukun training program notes, and by interviews with the trainers concerned.

2. Listing of initial behaviors of the untrained dukuns from the presentations in a national dukun conference, and through discussions with knowledgeable maternal and child health personnel.

3. Listing of the persons who are likely to have directly observed the dukun behavior as far as utilization of the dukun kit is concerned.

4. Designing an approach for interviewing different groups of persons concerned with dukuns. For example: dukuns; bidans, who are in charge of training in the health centers; the families which were served by dukuns.

DEVELOPMENTAL TESTING

A preliminary version of the instrument was drawn up. During the first interview with the first dukun, the
investigator modified any ambiguous items, reworded items which required elaborate explanations, and eliminated from the protocol those items which either did not elicit any information or turned out to be based upon false assumptions. The field-modified version was tried upon the second dukun, and again modified. The same modification procedure was used in the interviews with the families. The protocol presented in this report is the modified version and the results given were obtained from questions on the modified version.

The developmental test subjects were a segment of the population to be tested, but were selected purely on the basis of practical criteria, such as accessibility of the dukuns and families and the cooperation of the health center staff.

Three dukuns were interviewed in a selected health center. The bidan in charge, the investigator, a social worker and the doctor from the health center were present. The doctor and the social worker acted as interpreters for the investigator. Each dukun was interviewed individually but in the presence of the other dukuns, as well as the rest of the staff. The names, addresses and dates of delivery of three families for each dukun (a total of 9 families) were obtained. These families were interviewed in their homes by the bidan, social worker, doctor and investigator. The dukun was not present at these interviews, which were conducted in the following manner:
1. The family was asked permission for the interview.
2. Background data was requested.
3. The infant's umbilicus was inspected.
4. The dukun kit was opened, the contents removed piece by piece and the family asked if they recognized each item and whether the dukun had used it.

The investigator took notes during the interviews, as well as recording the interviews on a cassette tape recorder. Translation was done on the spot, and the cassettes were later edited independently to check for accuracy of translation.

AN INTERVIEW PROCEDURE FOR THE ASSESSMENT OF DUKUN KIT UTILIZATION

Part I: Background data to be gathered from the dukun and the bidan in charge

1. Health center name.
2. Name of dukun.
3. Age of dukun (years).
   - 20-30 ( )
   - 31-40 ( )
   - 41-50 ( )
   - 51-60 ( )
   - 61 or more ( )
4. Educational status; number of years of schooling:
   - 0 ( )
   - 1-3 ( )
   - 4 or more years ( )
5. Did you receive your training by coming to the health center once a week? Or did you
receive your training by coming and staying at the health center for some time?
Weekly ( )
Stayed at health center ( )

6. Date first passed training.

7. Period for which the dukun is supposed to return for refills and reporting.

8. Does the dukun come to the health center each week?

9. Number of births reported by the dukun last year.

10. Did the dukun ever contact the health center in an emergency? Whom? For what?

11. Has the dukun ever asked to have something in her kit replaced? What?

12. Where does the dukun obtain the strings used for tying the umbilical cord?

Part II: Data to be gathered from the dukun

1. Look at the dukun's kit. Ask her to remove the contents slowly. Note the following:
   Does the kit show signs of wear and tear?
   Which items look worn?
   Which items are missing?
   Which items have been replaced?

2. Ask the dukun:
   Some of the things taught during your
training may not have been useful. Please give me examples.

3. Ask the dukun:

Please tell me examples of new things you have learned during your training.

4. Ask the dukun:

What other things would you like to have in your kit?

5. Ask the dukun:

You may not have found some of the items in the kit useful. What items are not so useful?

6. Ask the dukun:

Have you ever purchased new items for the kit yourself? What did you purchase?

7. Ask the dukun:

What materials and tools did you use before training during delivery?

8. Ask the dukun:

What materials and tools do the untrained dukuns use during delivery?

Part III: Data to be collected from a household where the dukun has recently helped with a delivery

Instructions: It is helpful to use a tape recorder during the interview to be heard later. Any response from any member of the household will be considered acceptable. Do not press for any responses. Let people volunteer
1. Name of head of household.
2. Age of new baby in days.
3. Who was with the mother when she gave birth?
4. Inspect the new baby; Has the cord dropped off?
   If the answer is yes:
   What did the dukun do to take care of the cord?
   How often did the dukun come and change the bandage of the cord?
   How many times has the dukun seen the baby?
5. What did the dukun use for tying the cord?
6. Show the group the dukun kit. Ask:
   Do you recognize this? How is it used?
7. Open the kit. Remove the contents one at a time and for each item ask if they recognize it and how it was used.
8. List of items in the dukun kit:
   2. Bowl  7. Gauze
   3. Apron  8. Surgeon's brush
   5. Bottles  10. Soap
9. Where did the water for washing come from?
10. Scissors: Did the dukun have the scissors in boiling water?
CHAPTER IV

RESULTS

The number of dukuns interviewed was too small to be able to make any meaningful statistical comparisons. The data were put into tabular form, with a column for each dukun. This was done to show variation in field practice of each dukun. If more dukuns had been interviewed, it would have been possible to get a within group variation from this. The tabulation followed the outline of the instrument. First the background data, then data from the interviews with the dukuns, and finally field practice as observed by families were tabulated. The information was annotated to show the types of details that the instrument was successful in eliciting.

Dukun's background

Tabulation of the background data: Question 1-9 from Part I of the protocol.

<table>
<thead>
<tr>
<th></th>
<th>Dukun 1</th>
<th>Dukun 2</th>
<th>Dukun 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>41-50</td>
<td>41-50</td>
<td>65</td>
</tr>
<tr>
<td>Education</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Training</td>
<td>Once/week</td>
<td>Once/week</td>
<td>Once/week</td>
</tr>
<tr>
<td>Date Passed</td>
<td>1967</td>
<td>1969</td>
<td>1961</td>
</tr>
<tr>
<td>Report Period (1)</td>
<td>Week</td>
<td>Week</td>
<td>Week</td>
</tr>
<tr>
<td>Number births reported 1971</td>
<td>23(2)</td>
<td>No data</td>
<td>50</td>
</tr>
</tbody>
</table>
Comments: (1) All dukuns stated they reported once per week if they attended any delivery that week. Otherwise, they report once per month.

(2) This dukun was away five months to visit her family.

Referrals for complications

(Did the dukun ever contact health center or midwife in an emergency?)

<table>
<thead>
<tr>
<th>Reason stated</th>
<th>Dukun 1</th>
<th>Dukun 2</th>
<th>Dukun 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemorrhage</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Retained placenta</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Prolonged labor</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sick mother</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Abnormal presentation</td>
<td>-</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>(Delivery of arm or leg only)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swollen legs</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

+ Reason was given by the dukun
- Reason was not given by the dukun

Comments: Number three dukun volunteered the information that the poor families were ashamed because of their poverty and do not wish the bidan to visit their house. But the dukun insisted on bidan visiting the house in case of difficult delivery. Differing responses from dukuns indicated that they were being truthful regarding answers and not just telling what we wanted to hear.

In answer to Question 11, Part I of the protocol (Has the dukun ever asked to have something in her kit replaced?), all the dukuns replied in the negative.

In answer to Question 12, Part I of the protocol (Where does the dukun obtain the strings used for tying the
umbilical cord?), all the dukuns stated that they occasionally get the string from the health center and sometimes buy from the market.

<table>
<thead>
<tr>
<th>Item in the Dukun kit</th>
<th>Dukun 1</th>
<th>Dukun 2</th>
<th>Dukun 3</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basin</td>
<td>Worn</td>
<td>Worn</td>
<td>Worn</td>
<td></td>
</tr>
<tr>
<td>Bowl</td>
<td>Worn</td>
<td>Worn</td>
<td>Worn</td>
<td></td>
</tr>
<tr>
<td>Apron</td>
<td></td>
<td></td>
<td></td>
<td>Missing</td>
</tr>
<tr>
<td>Pouch</td>
<td></td>
<td></td>
<td></td>
<td>Missing</td>
</tr>
<tr>
<td>Sheeting</td>
<td>Replaced by dukun</td>
<td></td>
<td></td>
<td>Missing</td>
</tr>
<tr>
<td>Bottles</td>
<td>Replaced by dukun</td>
<td></td>
<td>Replaced by dukun</td>
<td></td>
</tr>
<tr>
<td>Brush</td>
<td>Worn</td>
<td>Replaced by dukun</td>
<td>Missing</td>
<td>Stated brush was at home</td>
</tr>
<tr>
<td>Soap box</td>
<td></td>
<td></td>
<td>Missing</td>
<td></td>
</tr>
<tr>
<td>Towel</td>
<td>Worn</td>
<td>Dirty</td>
<td>Worn</td>
<td>Extremely worn</td>
</tr>
<tr>
<td>Scissors</td>
<td>Missing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Case</td>
<td>Worn</td>
<td>Worn</td>
<td>Worn</td>
<td></td>
</tr>
</tbody>
</table>

Comments: — Information missing from the notes of the investigator

Questions 2, 3 and 5 elicited the same answer.

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some of the things taught during your training may not have been useful.</td>
<td>All were useful.</td>
</tr>
<tr>
<td>Please give examples</td>
<td></td>
</tr>
<tr>
<td>Please tell me examples of new things learned during your training.</td>
<td>All were new.</td>
</tr>
<tr>
<td>You may not have found some of the items in the kit useful. What items</td>
<td>All were useful.</td>
</tr>
<tr>
<td>are not so useful?</td>
<td></td>
</tr>
</tbody>
</table>
Since all dukuns gave the same reply, and all were 100 percent positive, the presence of the bidan may have influenced the answers and there is no way of ascertaining this at this stage. In the future an effort may be made to interview the dukuns individually in the absence of the bidan.

Suggested items to be included in the dukun kit

(What other things would you like to have in your kit?)

<table>
<thead>
<tr>
<th>Item</th>
<th>Dukun 1</th>
<th>Dukun 2</th>
<th>Dukun 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rubber gloves</td>
<td>+</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Rubber tubing</td>
<td>+</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Short-nosed forceps</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Medicine to stop bleeding*</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

+ Wished to be included; — Did not mention for inclusion

* Government will not allow dukuns to administer medication

Questions 7 and 8 elicited same answers: (7) What materials and tools did you use before training during delivery? (8) What materials and tools do the untrained dukuns use during delivery?

Untrained dukuns’ tools

<table>
<thead>
<tr>
<th>Item</th>
<th>Dukun 1</th>
<th>Dukun 2</th>
<th>Dukun 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bamboo knife</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Traditional medicine</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Kunjit (Turmeric)</td>
<td>* +</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Ashes</td>
<td>—</td>
<td>+</td>
<td>—</td>
</tr>
</tbody>
</table>

+ Utilized the item
— No comment about the item
<table>
<thead>
<tr>
<th>Age Baby (Days)</th>
<th>D_1 F_1</th>
<th>F_2</th>
<th>F_3</th>
<th>D_2 F_1</th>
<th>F_2</th>
<th>F_3</th>
<th>D_3 F_1</th>
<th>F_2</th>
<th>F_3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cord off</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Times band. changed</td>
<td>2/day for 2 weeks</td>
<td>Once/day for 9 days</td>
<td>2/day for 3 days</td>
<td>1/day for 4 days</td>
<td>1/day for 8 days</td>
<td>8 times</td>
<td>7 times</td>
<td>8 times</td>
<td></td>
</tr>
<tr>
<td>Times baby seen</td>
<td>18</td>
<td>37</td>
<td>9</td>
<td>6</td>
<td>4</td>
<td>11</td>
<td>15</td>
<td>8</td>
<td>2(5)</td>
</tr>
<tr>
<td>Cleaned cord with:</td>
<td>Spirit</td>
<td>Merch. &amp; Spirit</td>
<td>Merch. &amp; Spirit</td>
<td>Merch. &amp; Spirit</td>
<td>Spirit</td>
<td>Spirit</td>
<td>Spirit</td>
<td>Spirit</td>
<td>Not observed</td>
</tr>
<tr>
<td>Tied cord with:</td>
<td>String</td>
<td>String(1)</td>
<td>String</td>
<td>String</td>
<td>String</td>
<td>String(2)</td>
<td>String</td>
<td>String</td>
<td></td>
</tr>
<tr>
<td>Recognized kit</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>(6)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>—</td>
</tr>
<tr>
<td>Recognized contents of kit</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>Yes</td>
<td>Yes</td>
<td>—</td>
</tr>
<tr>
<td>Recognized spurious items</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>—</td>
</tr>
<tr>
<td>Water source</td>
<td>—</td>
<td>—</td>
<td>Well</td>
<td>Well</td>
<td>Well</td>
<td>Well</td>
<td>Well</td>
<td>Well</td>
<td>Uncovered well</td>
</tr>
<tr>
<td>Boiled instruments</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>—</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes(7)</td>
<td>Yes</td>
<td>—</td>
</tr>
<tr>
<td>Who was at birth</td>
<td>Alone</td>
<td>Husband</td>
<td>Alone</td>
<td>Alone</td>
<td>Mother</td>
<td>Not at interview</td>
<td>Mother</td>
<td>Not known</td>
<td>Sister and mother</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(4)</td>
</tr>
</tbody>
</table>

FAMILIES' OBSERVATIONS OF DUKUNS' FIELD PRACTICES
Comments:

\[ F_1, F_2, F_3 = \text{Families 1, 2, 3} \]
\[ = \text{No response} \]
\[ \text{Merch.} = \text{Mercherechrome} \]
\[ D_1, D_2, D_3 = \text{First, second, third dukun interviewed} \]

1. The father attended the birth. He accurately described use of forceps and the tying of the cord. The dukun instructed him to bring the kit and boil the instruments for 20 minutes.

2. Described the cord cutting. Dukun followed proper MCH procedure.

3. Mother was afraid to keep the dukun waiting, so the baby was born before the dukun arrived. Dukun did immerse the instruments in boiling water.

4. Mother didn't realize the baby was coming, so the baby was born before the dukun arrived.

5. Dukun herself came twice, but sent her daughter to change the bandages.

6. She didn't see the dukun's activities, as she was in too much pain.

7. Accurately described how the dukun washed her hands with the brush.
CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Since the sample size was small, the data cannot be subjected to any statistical analysis; however, the data from the tables indicates that those dukuns interviewed do actually manifest the desired post-training behavior under field situations.

Limitations of the study

Perhaps the biggest problem in conducting the study was the inability of the investigator to speak the local language, and the resultant need for an interpreter. The consequence was a less standardized interview process, as probes to questions had to be handled by an interpreter. However, this may be surmounted by preparing a detailed interview guide for the actual implementation of the study.

Another possible source of bias was the presence of the bidan at the interview with the dukuns, and the fact that all of the dukuns were together during each interview. Ideally the dukuns should be interviewed separately, to eliminate the effect that one may have upon another. Another possible source of bias is the fact that the selected health center may not be typical of all Indonesian health centers. No conclusions about the content of the data can be drawn from this protocol and generalized as its intent
was only to use it for the developmental testing of the instrument. The number of dukuns and families interviewed is adequate for developmental testing but definitely not for inferences about the extent of utilization of the kit.

Another limitation of the instrument was that it did not elicit the type of details hoped for, such as exactly what dukuns did, how long she boiled instruments, techniques for tying cord, sterile procedures followed. Suitable modifications for eliciting detail could not be found because of the inherent limitations of the interview and subjects' preoccupation with the "delivery situation."

RECOMMENDATION FOR FURTHER STEPS

The investigator recommends that:

1. More field testing be done on the instrument before it is utilized on any wide survey.

2. The testing should draw upon a wider sample of health centers and include both urban and rural health centers.

3. The dukuns to be interviewed should be selected upon a random basis in so far as possible.

4. The investigators standardize the interview procedure so that exactly the same questions are asked at each interview.
5. The interviewers should be taught to conduct the interviews so as not to bias answers from respondents.
REFERENCES CITED


APPENDIX

TRAINING AND SUPERVISION OF DUKUNS

I. 1. Organization of training
   Content of training
2. Equipment
3. Plan of supervision
1.1 Organization of training
   -- Finance
   -- Planning all dukuns in Health Centre area to follow the course
   -- Responsibility of Head of M.C.H. -- midwife
   -- Frequency
1.2 Contact lurah for selecting dukuns. At least one dukun from each
   -- Arrange for 10 to 12 dukuns for one course
1.3 Notification to dukuns for training should be done by lurah
1.4 Preparation for training
   -- Prepare objective and contents before each course
   -- Points to remember in teaching method
      -- relate content to the culture and habit
      -- do not start by criticizing old ways
      -- make lessons simple, practical and not too long
      -- use pictures, demos, models, roleplaying
      -- be patient and treat dukuns with respect
      -- repeat lessons frequently
1.5 Contents

-- Washing hands; how, when and why. Repeat at every class

-- Simple anatomy of the reproductive organs
and how the baby grows

-- Care of pregnant mother
    -- arrange for visit of all pregnant mothers to M.C.H.
    -- hygiene
    -- breast-care
    -- nutrition for mother
    -- preparation for delivery
    -- clothing during pregnancy

-- Procedure for normal home delivery (see procedure for normal delivery)

-- When to call a midwife

If there is any sign of pathological delivery, dukun has to call a midwife immediately.

These signs are:

-- Amniotic fluid containing meconium
-- * the presenting part is not the head, but umbilical cord or extremities
    * malposition of the foetus
-- placenta and bleeding
    * bleeding before the placenta is released
    * any bleeding during pregnancy (1-9 mo)
    * two hours after delivery, placenta is still not released

-- prolonged delivery
    * feeling pains on abdomen for 24 hrs., and still delivery has not occurred
    * two hours after the foetal head is seen, delivery has no progress (Pinard indication)

-- twin delivery
    * if there is a delayed delivery of the second child, give attention to the care of the first child
-- sick mother
fever, severe headache, edema of the leg, oliguri, full bladder, convulsion
-- coiling of the umbilical cord around the neck
-- try to unwind the cord
-- delayed crying of the baby (mild asphyxia)
-- clean the mouth and the nose
-- soak with warm water (lukewarm)

-- Baby care after delivery (see procedure of the new born)

-- Care of the mother after delivery (see procedure)

-- Procedure for referral
-- care during transportation
-- mother must lie flat when there is a hemorrhage
-- prevent the mother from pushing by panting
-- put clean pad on vagina before transportation

-- Procedure for post-partum care (see procedure)
-- Advice on family planning (see procedure)

-- Care of the infant (see procedure)
-- refer all babies to Health Center

-- Breast feeding

-- Procedure for reporting: life birth, still birth, maternity, death, abortion

-- Dukun song

1.6 Preparation for giving a dukun kit and certificate from the local Health Service
II. 2. Equipment

III. 3. Plan of supervision

3.1 Number of cases referred by dukun to midwife
   - For evaluation keep record of the type of cases referred to midwife
   - Investigate reasons for late referrals and make dukun understand the importance for early referral

3.2 Observation of dukun work in the field
   - Arrange for visit to observe the work of each dukun approximately once a month
   - Obtain list for all dukuns in the Health Centre area. Plan visit to observe work of each dukun
   - Observe the following: hygiene, procedure for delivery, baby care, advise the patient on family planning
   - If the result of dukun activity is inadequate standard give continuous inservice training

3.3 Reporting of live birth, still birth, abortion and maternity death. Compare dukun's report with the lurah record

3.4 Check the dukun kit for supply and cleanliness
   - If supplies are needed replace