

# Knowledge, Attitudes and Practices of Village Health Volunteers (VHVs) Promoting Clean Delivery Practices with Birth Kits in Madang Province, Papua New Guinea.

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**Abstract.** This is a working paper on the knowledge, attitudes and practices of Village Health Volunteers (VHVs) in Madang Province, Papua New Guinea. An in-depth interview was carried out in order to study the knowledge, attitudes and practices of Village Health Volunteers (VHVs) in promoting clean delivery practices with the use of birth kits. The study showed three main results. (1) For hand washing with soap before cord-cutting, 19 participants out of the 25 (76%) interviewed stated that they do not wash their hands with soap prior to cutting the cord. The main reason is that this clean delivery practice is unnecessary. (2) In situations where the birth kit is not available, the VHV substituted canned openers (metal sheet flattened and shaped in the form of a blade) for blade and bilum strings (strings from traditional Papua New Guinean women handbags) for tying of the umbilical cord. (3) For the VHVs knowledge on the existence of birth kits, an unexpected outcome was recorded, all the respondents have not heard of the kit until the day of the VHV training despite its introduction into the country in 1999 and consistent distribution of approximately 70,000 birth kits from 2007 to 2009. Hand-washing practices before cord-cutting was considered to be unnecessary and time consuming and were the most important determinants that led to the low clean delivery practice of hand washing with soap. Limited awareness and the supply and distribution of birth kits have led to the lack of knowledge on the kits over the years. Reasons for the respective clean delivery practices and knowledge and use of the kit are outlined and discussed.

**Keywords:** Knowledge, Attitudes, Practices, Village Health Volunteer, Clean Delivery Practices, Birth Kits

## 1. Introduction

The South Pacific island of Papua New Guinea (PNG) covers an area of 462 840km<sup>2</sup> and has a population of more than 6.5 million. The health system in PNG relies on a network of village aid posts, rural health centers, urban clinics and provincial hospitals. Maternal health is a priority in PNG although estimates of the maternal mortality ratio (MMR) vary; in 2006 the National Demographic and Health Survey (DHS) reported 733 deaths per 100,000 live births, amounting to approximately 1500 maternal deaths each year (although the World Health Organization (WHO) MMR estimates are lower at 250) [1]. The total fertility rate has declined over the past forty years however, remaining high at 4, Women's literacy rates are lower than that of men and only half of all births are attended by an appropriately skilled health worker and the home delivery rate in Papua New Guinea stands at 5.7 % [2].

The health policy approach using village health volunteers as a 'cornerstone' of primary health care is implicitly based on the assumption that health care can be made available to those without access. Care offered by VHVs is considered cheap, readily available and appropriate.

## 2. Methodology

In-depth structured interviews were conducted in order to access the depth of knowledge of each respective VHVs. The participants were given an explanation about the research before signing the informed consent prior to the interviews and were assured of the confidentiality. These interviews were recorded using a digital recorder and later were transferred to the computer to be transcribed. The data was collected from Marpor Health Centre on Karkar Island, Sumkar district and at the Yagaum Rural Hospital, Madang district

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both in Madang Province of Papua New Guinea. These two districts were known to have the bulk of village health volunteers in the Madang province. Data was collected there from May 10 to June 17, 2012. The in-depth structured interview guide was adapted from the Program on Appropriate Technology on Health (PATH)-Use on clean home delivery kit in Nepal-A qualitative study in 2002. The interview guide consists of four main components; (1) General information of the respondents (2) Preparations for delivery (3) Clean delivery practices and (4) The knowledge on birth kits.

### 3. Results

#### 3.1. Respondents' Profile

Using quota sampling, the interview was conducted among 25 VHVs who were all females. Table 1 shows the age range of individual VHV (30-40 years; 5); (40-50 years; 6); (50-60 years; 7); (60 years and over; 7) respectively. There is no set educational level to qualify as a VHV. Women and men who are respected and appointed by their community and have limited literacy can qualify for training as a VHV. However, a basic knowledge of health care and hygiene is also important. Most of the participants have attained a lower primary education (i.e. grades 3-6).

Table 1: Gender, age group and education qualification

Variables (n= 25)	Frequency
Sex Female	25
Age Group (Years)	
30-40	5
40-50	6
50-60	7
60-over	7
Qualification	
Lower Secondary (grades 9-10)	10
Lower Primary (grade 3-6)	12
No basic education (grade 0)	3

#### 3.2. Profiles of VHVs Preparation for Home Deliveries

In the 17 deliveries that were performed in the home, the VHV utilized all the kit items (pair of gloves, scalpel blade, bar of soap, string, 2 pieces of gauze and a plastic sheet) Three deliveries were done on the roadside (enroute to the hospital) and another three were done in the food gardens. For these deliveries, none of the kit items were used instead the VHVs' skirts were used for the mother to lay on, bamboo blade and a metal sheet from a canned food flattened and shaped like a blade were substituted for scalpels and piece of string from the traditional Papua New Guinean women's hang bag (bilum) were used as strings to tie the umbilical cord. The same applied to deliveries done on the house lawn and on the doorstep except these instances, soap and water were used this time.

#### 3.3. Profile of VHVs Views on Hand Washing with Soap and Washing Hands before Cord-Cutting.

Table 2: Hand washing with soap during delivery and before cord-cutting

(n=25)	Yes	No
Importance of hand washing with soap	25	0
Hand washing with soap during delivery	19	6
Hand washing with soap before cord-cutting	9	16

The main reasons for not washing hands during delivery was that there is little time (in cases where the mother is just about to give birth) and when soap is not available. The majority of the VHVs responded negatively to the practice of hand washing before cord-cutting, stating that it is unnecessary. Hence, they place less importance on this clean delivery practice, neglecting its practice.

### **3.4. Profile of VHVs Knowledge of the Birth Kit.**

Of the 25 VHVs interviewed, none have heard of the existence of the birth kit until the time of their VHV training program which was conducted over a period of one to three weeks of training at the most. This was an unexpected result as birth kits have been introduced in PNG since 1999 and consistently distributed from 2007 to 2009 approximately 70,000 kits were supplied by the Birthing Kit Foundation-Zonta International Australia to the country [3]. Respondents also expressed lack of awareness at the community level as the main reason they have not been aware of the kit's existence. Seventeen respondents learnt or heard of the kit at the time of their VHV training and eight from the local health center.

### **3.5. Attitude towards Clean Delivery Practices.**

Regardless of the basic cleans (clean hands, clean floor etc) promoted during the training, the VHVs often did not feel the need to follow the correct delivery steps when it comes to deliveries. Most respondents mentioned that the practice of hand washing before cord-cutting is unnecessary and often time-consuming.

*“From the training that we have received, I know that I should wash my hands before cord-cutting but I personally think that it is unnecessary. I do that for most of the deliveries that I have performed”-CNI01*

There were also others who mentioned that once they have washed their hands at the beginning of the delivery, there was no need to wash it until the delivery is done. Several VHVs mentioned that they do this because she is the only one attending to the mother and there should not be concern of infections of any kind passed from the attendant to the mother or the newborn child.

*“I am the only one attending to the mother and I see no harm done when I do not wash my hands before cord-cutting” -CNI04*

In contrast, for VHVs who do regard hand washing before cord-cutting important, their attitudes were quite positive. Four respondents mentioned that it is important that VHVs apply what they learn from the training and practice accordingly.

*“These trainings are given to us by professionals who know what they are doing, we should following accordingly so as not to cause problems for the mother or child later on in their lives”*

## **4. Discussion**

From the findings above, there are several factors and reasons affecting village health volunteers in their attitudes or decisions towards the performance of a delivery(ies) at a given time. (For example; deliveries done on the roadside and in the food gardens, the VHV had to compromise by utilizing other items other than the actual kit items and not having to wash hands either with or without soap before attending to the mother. Although the VHV training stressed the importance of hand washing during delivery, circumstances such as being called at the last minute to assist in a delivery or assisting with a delivery away from both the hospital and home can result in the VHV not using soap and other essential kit items (for example, gloves, soap). The results also revealed that even though the majority of the respondents agreed that hand washing is important and that it can considerably reduce the risks of neonatal infections, in practice they do not consider it as an integral practice in clean delivery. This is a similar finding found by PATH 2002 who also did a study in Nepal[4]. Reasons behind the VHVs' negligence on the clean delivery practice of hand washing during and especially before cord-cutting is not only found in Papua New Guinea but also in several other countries

Regarding the village health volunteers' awareness and knowledge on the birth kits, surprisingly none of the respondents were aware of the existence of the birth kit until the time of their VHV training. This is due to lack of distribution and awareness at the community level. Yet another problem is the lack of reporting on the evidence of impact. The lack of reporting and recording of national-level data remains one of the major

hindrances for proper policy-making. Regular re-training of the VHVs is also important as it ensures monitoring purposes.

The availability of birth kits can help at the same time encourage the promotion of clean delivery practices. Village health volunteers as the name suggests are volunteers. The lack of motivation can lead to gradual loss of interest in promoting awareness within their communities. Incentives such as the government providing a monthly check-up for the VHV and his or her family members or providing a child of the VHV to pursue a diploma in nursing, midwifery, or to be a health extension officer is a good investment for both the government, province, community and the village health volunteer as a whole.

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