

## HEALTH SERVICE PROVIDER FACTORS INFLUENCING VITAMIN A SUPPLEMENTATION COVERAGE TO PRESCHOOL CHILDREN IN GUCHA DISTRICT

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### **Abstract**

Vitamin A deficiency is a public health problem accounting for about 0.6 million deaths, and 9% of global childhood Disability-Adjusted Life Years (DALYs). Gucha District in western Kenya is endemic for subclinical vitamin A deficiency. Concerted efforts to address this problem through periodic supplementation of vitamin A among preschool children in health facilities have borne little success. Coverage of routine vitamin A supplementation has remained suboptimal and therefore denying children aged below five years the benefits of optimal vitamin A levels. Being a malaria endemic area, children in Gucha district stand to benefit most from optimal vitamin A coverage as studies have shown that vitamin A supplementation reduces all cause mortality among children. The main aim/objective of this study was to identify health service provider factors related to vitamin A supplementation coverage. A cross-sectional survey design was used and the study population consisted of 85 health workers and 5 members of the district health management team (DHMT). Cluster sampling was used to select 25 health workers. All the 5 members of the District Health Management Team were included in the study. A questionnaire and a focus group discussion were used to collect data. Quantitative data was analyzed using Epi info, whereas qualitative data was thematically analysed. The results showed poor documentation by health workers, frequent stock outs of vitamin A supplements and inadequate supervision by the district health management team as the main factors responsible for the low vitamin A supplementation coverage in Gucha District.

**Key words:** Vitamin A deficiency, coverage, preschool, supplementation, mortality

## 1.0 Introduction

Vitamin A deficiency (VAD) is one of the three major micronutrient deficiencies in the world (Jiang et al., 2008). It is a major public health problem that causes high childhood morbidity and mortality. Latest estimates indicate deficiencies of vitamin A are responsible for 0.6 million deaths annually in less developed countries, and 9% of global childhood Disability-Adjusted Life Years (DALYs) (Andrew et al., 2008). Consequences of VAD ranges from poor vision, compromised immune function, retarded growth and defective iron metabolism (Fiedler *et al.*, 2000).

The highest VAD prevalence worldwide is found in parts of Africa and clinical indications in parts of Asia and Africa (Milagres et al., 2007). These children suffer from increased infections which has a financial implication on a country's national budget in relation to the health sector. In Africa and in Kenya 32% and 40.6% of all preschool children respectively, are vitamin A deficient (UNICEF, 2004). Therefore, giving vitamin A supplements to children aged 6-59 months is currently the major intervention to address the deficiency.

WHO recommends high vitamin A supplementation at vaccination contact 6 months after birth. Currently, vitamin A supplementation program is organized primarily by UNICEF with an objective of increasing coverage to 70% (two doses). Routine immunization services, national immunization days for polio eradication, measles, and multi-antigen campaigns have been used safely and successfully to provide vitamin A (World Health Organization, 2003). The Integration of vitamin A supplementation with routine immunization services helps create awareness to service providers since it uses an existing program. Studies from Bangladesh, Brazil, and Indonesia concluded that, nutritional education and potential delivery channels, such as private healthcare practices, could contribute to an increased coverage (Pangaribuan *et al.*, 2004).

Vitamin A supplementation coverage is the extent to which the supplements are being delivered to the targeted preschool children. Generally, the coverage is low in most parts of the world with only 75% of children in Sub-Saharan Africa and 46% of children in South Asia receiving at least one dose of vitamin A annually (UNICEF, 2004). India has a low coverage (37.6%) of Vitamin A supplementation (Sachdeva and Datta, 2009). According to KDHS (2003), 33% of preschool children received vitamin A supplements in Kenya.

Successful supplement distribution could depend on factors related to the distributor like literacy (Katz *et al.*, 2002). In South Africa the main problems identified were lack of vitamin A capsules, inadequate training of health staff and difficulties in implementing the Program (Hendricks *et al.*, 2007). In Kenya, recent experience shows that a high coverage can be obtained if distribution of vitamin A supplements is done through immunization campaigns or maternal child health days (*Malezi bora weeks*) (Kabaka *et al.*, 2009).

Effective social information, communication, and mobilization like involvement of policy makers, decision makers, and opinion leaders is crucial in improving coverage (Aguayo, 2003). This could ensure that all children are given vitamin A supplements. Health facility attendance for preventive services tends to drastically decline for older children, making it difficult to achieve adequate coverage (Mora and Bonilla, 2002). The service providers also need to have knowledge on the importance of vitamin A supplements to improve coverage. Training, supervision and management are critical for vitamin A Programs. Therefore, vitamin A supplementation should be increased rather than abandoned (Humphrey and Rice, 2000).

## 2.0 Methodology

Gucha District is one of the 12 districts of Nyanza province in western Kenya. It has 38 health facilities offering immunization services and distributing vitamin A supplements to preschool children. These facilities are randomly distributed in the five administrative divisions within the District. They include one district hospital, two sub-district hospitals, five health centers, two private clinics and twenty seven dispensaries (Ministry of Health, 2008). Ogembo division and Sameta division have 9 facilities each while Nyamache division has 7 facilities. Kenyena division and Nyacheiki division have 8 facilities and 5 facilities respectively. Vitamin A supplementation and immunization coverage for Gucha District for the year 2008 was 67% and 96% respectively (Ministry of Health, 2008).

The study adopted a cross-sectional survey design. The respondents involved in the study were health workers charged with the responsibility of giving vitamin A supplements to preschool children and the District Health Management Team (DHMT). The DHMT consists of five members namely; District Medical Officer of Health, District Nutrition Officer, District Public Health Nurse, District Medical Records Officer and the District Public Health Officer in Gucha District. This team is charged with the responsibility of conducting supervision and management of Vitamin A supplementation program within the District. The study population therefore consisted of 85 health workers and 5 district health management team members.

Cluster sampling technique was used to pick on the health workers who participated in the study. Three divisions out of the five divisions in Gucha district were randomly sampled and involved in the study. These three divisions have a total of 25 facilities: Ogembo division (9 facilities), Nyamache division (7 facilities) and Sameta division (9 facilities). There is one health worker in each of these facilities who gives vitamin A supplements to preschool children giving a total of 25 health workers. All the 25 health workers and 5 district health management team participated in the study.

A questionnaire was used to collect information from the health workers on their knowledge on vitamin A supplementation, training on vitamin A supplementation, documentation of vitamin A supplements, duties performed, age range of children visiting the facility for vitamin A supplements, and supply of vitamin A supplements. To collect data from the DHMT, a focused group discussion was used. The focused group discussion was conducted to better understand the roles played by the different members of the District Health Management Team in relation to vitamin A supplementation. Quantitative data was analyzed using the Epi info software whereas the qualitative data from the District Health Management Team were thematically analyzed using narrative approach.

### 3.0 Results and Discussion

Majority (96.0%) of health workers in this study knew the importance of vitamin A supplements to preschool children, (Table 1). Out of 25 health workers, 12 of them (48.0%) have undergone training on vitamin A supplementation. Proper and adequate documentation on tally sheets was done correctly by 3 health workers (12.0%) after giving vitamin A supplements to preschool children. Additionally, only 6 health workers (24.0%) explained to caregivers why their preschool children are given vitamin A supplements, (Table 1).

Table 1: Service provider factors related to vitamin A supplementation coverage

Variable	n	Frequency	(%) of total sample
<b>Health workers knowledge on VAS</b>			
Importance of VAS	25	24	96.0
Dosage of VAS	25	23	92.0
Frequency of giving VAS	25	21	84.0
<b>Health workers trained on VAS</b>			
	25	12	48.0
<b>Documentation of VAS by health workers</b>			
Tally sheets	25	3	12.0
Child health cards	25	5	20.0
<b>Awareness done by health workers on VAS</b>			
Caregivers told about VAS	25	6	24.0
Not told about VAS	25	19	76.0

Knowledge of health workers administering vitamin A supplements to preschool children is a very important factor in vitamin A supplementation. The study in Gucha district showed that majority of the health workers had

knowledge on vitamin A supplementation. They knew the importance of the supplements, dosages and when it is given to preschool children. These findings were similar to a study done in Mali where the knowledge about vitamin A target group, frequency of giving, dosage, and its importance was high among the health professionals (Ayoya *et al.*, 2007).

Health workers working in the maternal and child health clinics (MCH) are trained on vitamin A supplementation on the job in order to enable them administer vitamin A supplements efficiently to preschool children. They undergo a three day training session which is not very frequent because these sessions are often held a few days presiding a campaign like malaria or polio campaign. This study in Gucha district revealed that less than half of the health workers are trained on vitamin A supplementation. This finding is in harmony with a similar study in South Africa which identified inadequate training as the main problem in vitamin A supplementation (Hendricks *et al.*, 2007).

Health workers are required to document administration of vitamin A supplements to preschool children. However, this study in Gucha District confirmed that almost all health workers do not record vitamin A administration in the child health cards nor do a majority of them do so in the tally sheets. From observations, these health workers were few compared to the tasks they had to handle like treat, immunize, administer vitamin A and perform administrative work. Likewise in Tanzania, routine health programs are weak due to overburdened and often poorly motivated health staffs who are not supervised (Masanja *et al.*, 2006).

Awareness creation is done by health workers before giving vitamin A supplements to preschool children. The care giver is made aware of the importance of vitamin A supplements, when given and its deficiency. This can be done face to face to an individual or group counseling when the number is large for vitamin A supplementation. According to this study, majority of health workers in Gucha District neither provided information on vitamin A supplementation nor asked questions, but merely told the caregivers to facilitate opening the child's mouth for vitamin A supplement. This could be attributed by the few staff in facilities compared to the work they are supposed to do thus health talks are not prioritized.

The roles of the district health management team on vitamin A supplementation in Gucha district include, planning of vitamin A supplementation program, training of health workers on vitamin A supplementation, awareness creation in the community on vitamin A supplementation and conducting supervision.

Community participation in the planning process as is the norm in Mali (Ayoya *et al.*, 2007) is not practiced in Gucha district. As a result, community ownership of the program is minimal thus affecting the utilization of the services. Discussions with the DNO identified inadequate funding as the main barrier to involving the community in the planning process. This sentiment is captured in the following quotation by the DNO:

*"...year in year out, I have prepared plans but the implementation is a different story. I wish for once they could fund my activities according to the plan. ....how do you expect me to sit with the community, plan with them and later not implement the plan because I don't have funds to operationalize the plan"*

Awareness creation of vitamin A supplements to the recipients is another role of the DHMT. This study investigated the methods of communication the DHMT employed in sensitizing and mobilizing the community for the program. The DHMT in Gucha district use posters, radio, health talks (*Barazas*) and public address systems to pass information on vitamin A supplements only during mass campaigns. Outside the campaign period, little is done to mobilize the community for the program.

Training of health workers who administer vitamin A supplements to preschool children is done by the DHMT. This study revealed that the DHMT in Gucha district train health workers only when campaigns approach and not during the routine supplementation. To explain the few (inadequate) training sessions, the DMOH complained of lack of resources to conduct basic training and refresher trainings for newly recruited staff and old staff respectively. His frustrations are captured in the following verbatim statement:

*".....we plan for refresher trainings for our staff in the annual operational plan every year. However, unless there is a campaign, nobody is interested in financing such an activity. It is assumed that we all know everything about vitamin A."*

The need for a trained staff cannot be overemphasized. In South Africa many primary health care (PHC) managers indicated that health staff had been trained to implement the Vitamin A Supplementation Program in order to increase coverage (Hendricks *et al.*, 2007).

Supervision of vitamin A supplementation is essential in monitoring and it is one of the roles of the DHMT. According to this study, in Gucha district, supervision of vitamin A supplementation by the DHMT is unplanned and sporadic and notably done when need arises for example a disease outbreak as described below by the DPHN:

*".....nowadays, you hardly find enough DHMT members to form a quorum to conduct support supervision. Today the DMOH is attending a district executive committee meeting, tomorrow, the DPHO is attending a training in Nairobi, the next day I am in Kisumu for a review meeting and the day after that the entire DHMT is attending a training in Mash Park in Kisii. When do we have time to conduct support supervision? This has made our supervision to be erratic."*

Regular support supervision does not only facilitate monitoring of vitamin A activities in the health facilities but also motivates staff to improve on performance. In Mozambique health workers' supervision and monitoring skills was found to be important in increasing coverage (Aguayo *et al.*, 2005).

#### **4.0 Conclusion**

Inadequate documentation of vitamin A supplementation in health facilities, inadequate supplies of vitamin A supplements, lack of greater community participation and ownership of the program and inadequate supportive supervision by the district health management team are health sector related factors that continue to undermine the vitamin A supplementation program.

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