

# Retrospective Study of Epidemiological and Management of Vitamin K Deficiency Bleeding of Newborn Infants National Pediatrics Hospital, Phnom Penh, Cambodia

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**Keywords:** Newborn, Infant, Vitamin K, Policy and Cambodia.

## ABSTRACT

**Background:** Vitamin K deficiency is a bleeding or Vitamin K deficiency bleeding is a kind of a hemorrhagic disease. Because their blood does not have an enough Vitamin K to form a clot, Vitamin K deficiency bleeding occurred with the symptom of non-stop bleeding. Blood would aggregate in intestines or brain when babies were diagnosed with Vitamin K deficiency bleeding, resulting in brain damage and even death. Infants who do not receive the vitamin K shot at birth could it develop Vitamin K deficiency bleeding when they reached 6 months old. This study has identified the incidence of the age at an onset of symptoms among new-born infants and the survival rate of infants at the National Paediatric Hospital, Phnom Penh, Cambodia.

### Vitamin K Deficiency:

Nutrient K is changed to its a dynamic structure in the liver by the protein Vitamin K epoxide reductase. Actuated nutrient K is then used to gamma carboxylate certain compounds associated with coagulation: Factors II, VII, IX, X, and protein C and protein S. Failure to enact the thickening course by means of these elements prompts the draining side effects referenced above. When one looks at the lab esteems in Vitamin K lack the prothrombin time is raised, yet the incomplete of the thromboplastin time is typical or just has a somewhat delayed process.

This may appear to be outlandish given that the insufficiency prompts diminished action in elements of both the characteristic pathway (F-IX) which is checked by PTT, just as the extraneous pathway (F-VII) which is observed by the PT. In any case, factor VII has the briefest half-existence of the considerable number of components carboxylate by nutrient K; in this manner, when inadequate, the PT rises first, since the enacted Factor VII is the first to "vanish." In later phases of insufficiency, different elements can "get up to the speed," and the PTT gets raised too.

### Epidemiological:

The study of disease transmission is the examination process and investigation of the dissemination examples and determinants of wellbeing and ailment conditions in characterized populaces. It is a foundation of general wellbeing, and shapes strategy choices and proof-based practice by distinguishing hazard factors for illness and focuses for preventive human in services. Disease transmission

specialists 'may help with study plan, assortment, and factual investigation of information, revise understanding and dispersal of results counting peer audit and periodic orderly survey. The study of disease transmission has created strategy utilized in clinical examination, general wellbeing considers, and, less significantly, fundamental exploration in the organic sciences.

Vitamin K deficiency bleeding significant regions of an epidemiological examination incorporate illness causation, transmission, episode examination, infection observation, natural the study of disease transmission, measurable the study of disease transmission, word related the study of disease transmission, screening, bio monitoring, and correlations of treatment impacts, for example, in clinical preliminaries. Disease transmission experts depend on other logical controls like the science to all the more likely comprehend malady forms, insights to utilize the information and reach fitting inferences, sociologies to all the more likely comprehend proximate and distal causes, and designing for introduction evaluation.

The term the study of disease transmission is presently broadly applied to cover the portrayal and causation of illness, yet of sickness all in all, and even numerous non-infections, wellbeing related conditions, for example, hypertension, misery and heftiness. Consequently, this study of disease transmission depends on how the example of the ailment causes change in the capacity of individuals.

### Retrospective:

A review by and large, is a glance back at occasions that occurred, or works that were delivered, previously. As a thing, review has explicit implications in medication, programming advancement, mainstream society and expressions of the human experience. It is applied as a descriptive word, equal with the term retroactive, to laws, principles, and grants.

### Method:

A hospital-based is a retrospective study was conducted among new-born age 0-3 months, who were confirmed as a Vitamin K deficiency bleeding (VKDB) in the Department of Neonatal in National Paediatric Hospital, from 2014 to 2019. Some of the relevant information such as socio-demographic, duration hospitalized, gestational, body weight, referral, the reason for admission, delivery mode, place of delivery, clinical sign of the bleeding, age is the onset of VKDB, levels of VKDB,

paraclinical, types treated, outcomes were collected in the study. Kaplan-Meier (log-rank) test was used for analysing the estimated survival rate of infants. A significant level of any covariates at P-value  $< 0.05$  were included in the Cox survival model. The significant level was set as 0.05, and a probability of less than 0.05 indicated a significant difference in our analysis. A clinical review is an assessment of a patient's clinical history and way of life.

**Result:** This study found the prevalence of low birth weight was 39.58%, preterm births were 13.54%, VKDB late-onset was 47.92 %. Survival of the analysis found that the patients who had treated with VK1+Transfusion had as a higher survival the rate after controlling confounders [AHR: 0.09, 95%CI: 0.03-0.26]. Levels of VKDB was a strong predictor of survival in with late-onset [AHR:0.40; 95%CI: 0.22-0.76]. Our study also found that residence, age onset of symptom, bodyweight had no associated with child survival after controlling confounders.

**Conclusion:** Vitamin K is a deficiency syndrome bleeding was a preventable disease, so vitamin VK1 to be administrated to every newborn as prophylaxis against hemorrhagic disease. The most common type was the late-onset disease, which was a risk factor for the mortality of an infants. As well as, VK1+Transfusion could reduce child mortality. Our findings strongly supported and reconfirmed that the current national policy in Cambodia, which recommended pregnant women to have at least four ANC visits during pregnancy and PNC visits at least two times for the after births.