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The correlation between the frequency of breastfeeding and incidence of physiologic jaundice in newborn in Prof. Dr. W. Z. Johannes Regional General Hospital, Kupang in 2015

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Abstract

Background Approximately 6.6% of child mortality caused by jaundice that can lead to kern icterus or bilirubin encephalopaty. In order to suppress the incidence of neonatal jaundice in newborns, frequent breastfeeding can be done as early as possible. An early and frequent breastfeeding with sufficient calories can increase intestinal motility. Intestinal motility can help pass the meconium, so that the enterohepatic circulation and serum bilirubin levels can be decreased.

Objective To find out the correlation between frequent breastfeeding and the incidence of physiological jaundice in newborn baby at Prof. Dr. W. Z. Johannes Regional General Hospital Kupang in Year 2015.

Methods This is an observational analytic study using study cross sectional approach and Non-Probability Consecutive sampling method The study was conducted at Prof. Dr. W. Z. Johannes Regional General Hospital Kupang in August to November 2015.

Results Thirty six babies were observed in this study. From nine of infants who were rarely breastfed, there are seven infants (77.8%) experienced jaundice and two infants (22.2%) had no jaundice. Sixteen infants (44.4%) who were moderately breastfed, the 7 infant had jaundice (43.8%) and 9 infants (56.2%) had no jaundice. But, all 11 babies who were often breast-fed, had no jaundice ($r = 0.513$; $P=0.002$).

Conclusion There is a significant relationship between the frequency of breastfeeding with physiological jaundice in newborn baby in Prof. Dr .W .Z. Johannes hospitals Kupang.

Keyword: breastfeeding, physiologic jaundice

EP-NEO-020

Universal congenital hypothyroidism screening in Dr.Soetomo Hospital

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Abstract

Background Congenital hypothyroidism (CH) is one of the most common preventable causes of mental retardation. The primary thyroid-stimulating hormone (TSH) screening has become standard in many parts of the world. Worldwide, the inidence if CH is 1 in every 3000 births, in iodine deficiens areas the incidence has been reported to be as high as 1 in 600 births. In Surabaya, there were no data of CH.

Objective To determine the prevalence of congenital hypothyroidism in Dr. Soetomo Hospital, Surabaya.

Methods All neonate in Dr Soetomo Hospital between August to November 2015 were screened. All neonate 48-72 hours after birth had theirbloodheel'stakeninplain tubes and sent to the laboratory, where TSH level at categorized least in 100 3 groups including >20, 15-20 and <10 μU/mL. The descriptive statistic analysis was performed using *SPSS version 16.0*. All the baby with TSH level >20 μU/mL need further confirmation.

Results One hundred and sixty six neonates were included. One hundred and fivety nine neonates with TSH level below 10 μU/mL, 6 neonates with TSH level between 15-20 μU/mL, and 1 neonate with TSH level above 20 μU/mL (22.10 μU/mL) which already confirmed as normal result.

Conclusion Screening of congenital hypothyroidism in Dr.Soetomo Hospital is regularly performed. The prevalence of congenital hypotyhroidism is 0.6%. However, further evaluation still needed.

Keywords: screening, neonate, congenital hypothyroidism

Presenting the universal congenital hypothyroidism screening in Dr.Soetomo Hospital

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ABSTRACT

Background: Congenital hypothyroidism (CH) is one of the most common preventable causes of mental retardation. The primary thyroid-stimulating hormone (TSH) screening has become standard in many parts of the world. Worldwide, the inidence if CH is 1 in every 3000 births, in iodine deficiens areas the incidence has been reported to be as high as 1 in 600 births. In Surabaya, there were no data of CH.

Objective: To determine the prevalence of congenital hypothyroidism in Dr. Soetomo Hospital.

Methods: All neonate in Dr Soetomo Hospital between August to November 2015 were screened. All neonate 48-72 hours after birth had their heel's blood taken in plain tubes and sent to the laboratory, where at least 100 µL of serum was obtained. TSH level categorized in 3 groups including >20, 15-20 and <15 µU/mL. The descriptive statistic analysis was performed using SPSS version 16.0. All the baby with TSH level >20 µU/mL need further confirmation.

Results: One hundred and sixty six neonates were included. One hundred and fivety nine neonates with TSH level below 15 µU/mL six neonates with TSH level between 15-20 µU/mL, and one neonate with TSH level above 20 µU/mL (22,10 µU/mL) which already confirmed as normal result.

Conclusion: Screening congenital hypothyroidism in Dr.Soetomo Hospital is regularly performed. The prevalence of Congenital Hypotyhroidism was 0.6%. However, further evaluation still needed.

Keywords: *screening, neonate, congenital hypothyroidism.*

Presenting the universal congenital hypothyroidism screening in Dr.Soetomo Hospital

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ABSTRACT

Background:

Newborn screening (NS) for congenital hypothyroidism (CH) is one of the major achievements in preventive medicine. Most neonates born with CH have normal appearance and no detectable physical signs. Hypothyroidism in the newborn period is almost always overlooked, and delayed diagnosis leads to the most severe outcome of CH, mental retardation, emphasizing the importance of NS.Congenital hypothyroidism (CH) is one of the most common preventable causes of mental retardation. The primary thyroid-stimulating hormone (TSH) screening has become standard in many parts of the world. Worldwide, the inidence if CH is 1 in every 3000 births, in iodine deficiens areas the incidence has been reported to be as high as 1 in 600 births. In Surabaya, there were no data of CH. The aim of this study is to determine the prevalence of congenital hypothyroidism in Dr. Soetomo Hospital.

Methods:

Study design and settings

This cross-sectional study was conducted at Dr. Soetomo Hospital Surabaya. We included all newborn baby between August to November 2015. A written consent was obtained from parents prior to the start of the study.

Screening protocol

All neonate 48-72 hours after birth had their heel's blood taken in plain tubes and sent to the laboratory, where at least 100 μL of serum was obtained. TSH level categorized in 3 groups including >20, 15-20 and <15 μU/mL. All the baby with TSH level >20 μU/mL need further confirmation.

Statistical analysis

Data was analyzed using the Statistical package for Social Sciences (spss) Version 16 (Armonk, NY: IBM Corp.). The frequency tables (number, percentage) were calculated for all measurements.

Results:

Table 1 shows that One hundred and sixty six neonates were included. Ninety one neonate was female, 1 baby with extremely low birth weight, eleven babies with very low birth weight, sixty five babies with low birth weight and eighty six babies with normal body weight. Eighty two babies were term infant. **Figure 1**shows that one hundred and fivety nine neonates with TSH level below 15 µU/mL six neonates with TSH level between 15-20 µU/mL, and one neonate with TSH level above 20 µU/mL (22,10 µU/mL).

Table 1. Baseline characteristic

Sex	
Male	72
Female	91
Birth weight	
Extremely low birth wight	1
Very low birth weight	11
Low birth weight	65
Normal	86
Term Infant	82
Preterm Infant	81

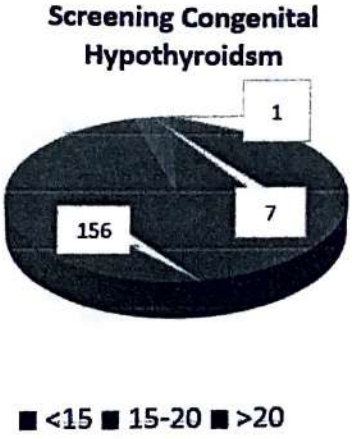

Table 1. Results of screening hypothyroidism in three group

Discussion

Newborn screening (NS) for congenital hypothyroidism (CH) is one of the major achievements in preventive medicine. Most neonates born with CH have normal appearance and no detectable physical signs. Hypothyroidism in the newborn period is almost always overlooked, and delayed diagnosis leads to the most severe outcome of CH, mental retardation, emphasizing the importance of NS. [1,2]

Most industrialized and some developing countries conduct routine newborn screening. Programmes in developed countries record prevalences between 1:3000 and 1:4000.Although newborn screening for CH has been a routine practice in developed countries for more than 40 years, developing countries have addressed this concern only in the past decade.[3]CH prevalence varies throughout the world, but the worldwide prevalence is one in 3000–4000 live births. It has been reported as 1:2736 in Turkey,1:781 in Pakistanand 1:10,000 in African Americans.[4,5]

Varying prevalences of CH reported from different parts of the world may be due to several factors. Iodine deficiency is a known risk factor for CH.[6] A recent study showed that in an iodine-sufficient area, median urine and milk iodine concentrations in neonates and mothers were within the acceptable range.[7]

Some studies suggest that CH prevalence in premature compared with full-term neonates is two-fold or greater.[8] In our study, 4.37% of all neonates and nine of the 94 CH cases were premature, showing that 0.33% of premature neonates had hypothyroidism. The observed difference may be due to our small sample size.

An important finding in this study is that only maternal age was found to be related to hypothyroidism. In 14 of the 94 CH neonates maternal age was more than 35 years. In some studies, CH incidence in neonates born to older mothers has been higher than in those with younger mothers. We found no significant association between CH and the other variables such as sex, weight, gestational maturity of the neonates or parental consanguinity. This is in line with the results obtained in one other study, which also showed no significant relationship between parental consanguinity and CH,but many studies in Iran have shown that parental consanguinity in cases of neonatal CH was 1.5 times that among neonates without CH.[9]

The reported CH re-call rate also varies between different populations (varying from 0.16% to 3.3%. Our re-call rate of 2.5% is in the higher ranges. The difference may be due to the sampling method, or a different way of performing laboratory tests, and may also reflect the levels of iodine deficiency in different regions.[10]

Recent studies suggest that nearly all screening programmes report a *female*predominance, approaching 2:1 female to male ratio.In our study, this ratio was 1:1.41, with *male* preponderance. The female:male ratio varies in different studies (e.g. 6:134 in Estonia and 3:135 in Saudi Arabia). The difference may be due to the high prevalence of consanguineous marriages in our region, or more probably to our small sample size. To our knowledge, there have been no systematic long-term follow-up studies of the sex ratio among newborns with transient versus permanent hypothyroidism in Iran. In three of the CH neonates in our study (3.2%) the mother also had a history of thyroid disease, supporting the importance of genetic factors as a possible cause of congenital hypothyroidism.[11]

Seasonal variation in CH incidence has been described in some studies.In our study the highest prevalence (2.3 in 1000 live births) was found in autumn, and the lowest prevalence in summer. The seasonal variation suggests that environmental factors (e.g. viral infections) may be important in the development of CH; however, the seasonal variation in CH incidence in our study cannot be generalized. Further multicentre studies of longer duration and larger sample sizes will be required to determine the correlation between CH and seasonal variation in Indonesia.

We comcluded that screening congenital hypothyroidism in Dr.Soetomo Hospital is regularly performed. The prevalence of Congenital Hypotyhroidism was 0.6%. However, further evaluation still needed.