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IMPLEMENTATION INTEGRATED CHILD HEALTH EXAMINATION (PKAT) AT THE PUBLIC HEALTH CENTER IN DENPASAR

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ABSTRACT

Background: Integrated Child Health Check-up (ICHC) is a comprehensive and preventive health screening service. The first six months of a child's life are the most critical in terms of health and development in Indonesia. This study aims to describe the implementation of ICHC in Primary Health Care (PHC). Implementing ICHC involves early detection of growth and development, nutrition, immunization, parenting, environmental, physical, and mental health,and medical problems. This study also assesses parents' background and health status and the utilization of the MCH handbook.
Methods: The cross-sectional study was conducted at PHC 1 Denpasar Selatan and PHC 3 Denpasar Utara in early April 2023 in healthy infants aged 6.0 months to 6 months 29 days. The growth status was evaluated by the WHO Child Growth Standards. The developmental status was measured using the Developmental Pre-Screening Questionnaire for six months.
Result: Of the 36 infants examined, 33 infants (91.67%) were in the good nutrition status, 30 infants (83.33%) with complete immunization status, 18 infants (50%) received mixed food intake (breastmilk and infant formula), 33 infants (91.67%) had normal development status, 36 infants (100%) had no clinical and mental health problems, 36 infants (100%) had incomplete filled of MCH handbooks, 31 infants (86.11%) were cared for by parents, and 36 infants (100%) have good sanitation.
Conclusions: Implementation of the ICHC has been quite good. These programs should continue to do for optimized growth and development and to improve the health status.
Keywords: ***Integrated child health checkup, implementation, growth, and development***

INTRODUCTION

Integrated Child Health Check-up (PKAT) is an integrated child *health* check-up service activity, prioritizing the preventive concept, where children not only receive a health check-up, but also an evaluation of growth and development, nutrition, immunization, detection of parental concerns and the childcare environment. [1]

Examination is conducted for all children at a certain age according to a periodic and routine schedule specified in the Maternal and Child Health Handbook (KIA) and the Early Growth and Development Stimulation, Detection, and Intervention Handbook (SDIDTK). PKAT activities can identify early whether a child is healthy and normal or experiencing various problems that require immediate medical, mental, or social treatment. PKAT activities also integrate all potential instruments and personnel on duty in the field. [2,3]

The first year after birth is the most rapid growth and development phase, particularly for brain development. During this period, a child's basic needs include exclusive breastfeeding until the age of 6 months, the introduction of age-appropriate complementary foods (MP-ASI), scheduled basic immunizations, and proper infant care. PKAT activities are expected to optimize the utilization of the KIA handbook to support parents and children in improving their health and physical and mental development from an early age. This research aimed to evaluate and implement the ICHC involves early detection of growth and development, nutrition, immunization, parenting, environmental, physical, and mental health,and medical problems. This study also assesses parents' background and health status and the utilization of the MCH handbook.

METHODS

This cross-sectional study was conducted at Community Health Center 1, South Denpasar, and Community Health Center 3, North Denpasar. This study was conducted after obtaining ethical approval from the Ethics Committee of the Faculty of Medicine, Udayana University, and permission

from the Denpasar City Health Office in 2023. This study used healthy infants aged 6 months to 7 months (age 6 months 0 days to 1 day before 7 months), born at term (gestational age above 37 weeks).

Growth was assessed using the 2006 WHO standard growth curve. Developmental assessment used the Pre-screening Questionnaire for Development (KPSP) for 6 months of age. Assessment of immunization, nutrition, care/environment, clinical examination, health and mental emotional development of infants was based on the Integrated Child Health Examination Module for Health Workers and Cadres, 6 months of age. Nutritional provision consisted of providing breast milk only, formula milk and breast milk or formula milk only. Sanitation assessment consisted of assessing access to clean water; toilets; sanitation access such as hand washing and waste disposal; parents or family members who smoke; contact with people with tuberculosis (TB), hepatitis, or other infections. Care consisted of primary care by parents or other family members; use of health insurance; number of siblings; and participation in the Family Hope Program (PKH). Clinical and mental examinations were conducted by the PKAT team doctor based on the Child Health Examination Module for doctors. The mother's mental health history was obtained from anamnesis to the mother, whether she had ever received or was currently receiving psychiatric treatment or care. The mother's pregnancy history was assessed based on the number of *antenatal care* (ANC) visits , divided into complete (at least 4 visits during pregnancy) and incomplete (less than 4 visits during pregnancy). Family income was the total family income, according to the Denpasar City regional minimum wage (UMR), which is IDR 2,713,672. [2-4]

RESULTS

Of the 40 babies who were invited to attend the 6-month-old PKAT, 36 babies attended, 4 babies were absent due to illness on the day of the PKAT.

Table 1. Subject characteristics

Characteristics	n = 36
Gender, n (%)	
Man	15 (41.67)
Woman	21 (58.33)
Mother's education, n (%)	
Low	2 (5.56)
Intermediate	17 (47.22)
Tall	17 (47.22)
Mother's occupation, n (%)	
Work	16 (44.44)
Doesn't work	20 (55.56)
Primary caregiver, n (%)	
Parent	31 (86.11)
Family	5 (13.89)
Family income, n (%)	
Below the minimum wage	2 (5.56)
Above the minimum wage	34 (94.44)
Clinical and mental problems, n (%)	
Normal	36 (100)
Sanitation, n (%)	
Good	36 (100)
KIA book completion, n (%)	
Not filled in completely	36 (100)
Maternal mental health history, n (%)	
Normal	36 (100)
Maternal pregnancy examination history, n (%)	
Incomplete	2 (5.56)
Complete	34 (94.44)
Health Insurance, n (%)	
There isn't any	5 (13.88)
There is	31(86.11)

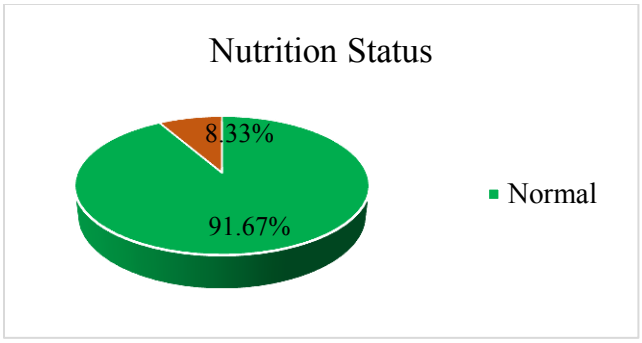

Figure 1. Infant nutritional status

Of the 36 babies, 33 babies had normal nutritional status (91.67%), only 3 babies (8.33%) had abnormal nutritional status (Figure 1)

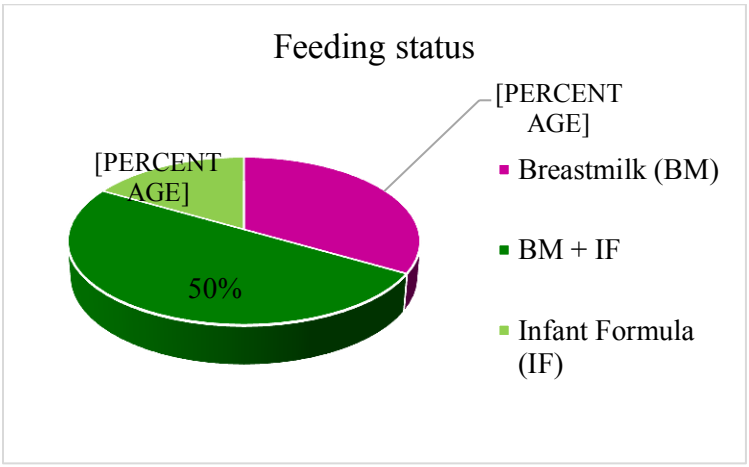

Figure 2. Nutritional status (feeding)

50% (18 babies) of babies received both formula and breast milk; 33% (12 babies) received breast milk alone; only 17% (6 babies) received formula.

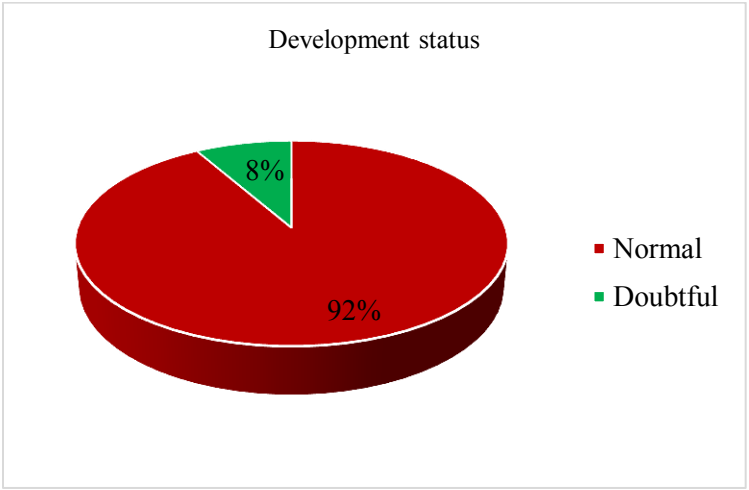

Figure 3, Baby development status

Infant developmental status was assessed using the 6-month KPSP. Most infants (91.67%, 33 infants) had normal developmental status or were appropriate for their age. Only 8% (3 infants) had doubtful developmental *status* .

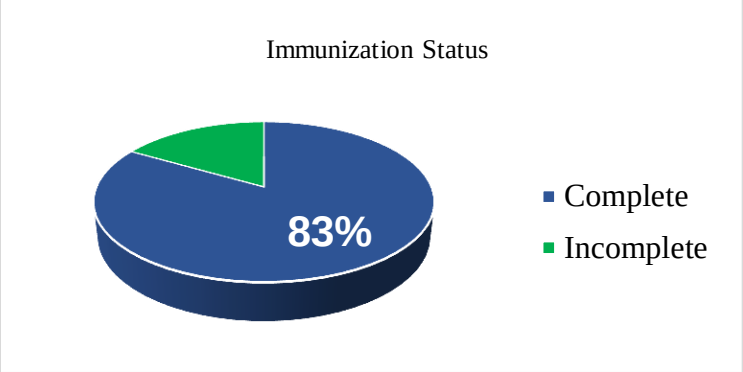

Figure 4. Infant immunization status

Based on the examination of the KIA book, most babies received complete immunization (83%, 30 babies), while 7% (6 babies) did not receive complete immunization.

DISCUSSION

The Ministry of Health of the Republic of Indonesia has issued a decree regarding the integration of primary health care services. Integration of primary health care services is an effort to organize and coordinate various primary health care services with a focus on meeting the lifecycle-based health care needs of individuals, families, and communities. [1] This integration also aims to provide closer access to promotive, preventive, curative, rehabilitative, and/or palliative health care services at every stage of life in a comprehensive and high-quality manner for the community. [5]

Primary healthcare is one of the pillars of health system transformation, focused on meeting health needs. Currently, primary healthcare is not sufficiently robust in responding to health issues. To address this, the government is transforming primary healthcare by integrating Community Health Centers (Puskesmas) and their networks. This system cannot be implemented solely through Community Health Centers (Puskesmas) and their networks; it requires the active participation of the community and local government to ensure effective and comprehensive implementation of integrated primary healthcare services. The transformation of primary healthcare is implemented through public education, primary prevention, secondary prevention, and capacity building. This first priority pillar aims to reorganize existing primary healthcare services so they can serve the entire Indonesian population with comprehensive and high-quality healthcare.

Integrated Child Health Checkup is an integrated child service that prioritizes promotive and preventive concepts, where children receive health checkups by doctors and intercollaboration of health professionals using the KIA book, nutritional monitoring, immunization, assessment of parental anxiety and the childcare environment, as well as early stimulation and evaluation of child growth and development, and optimal education for parents/caregivers. The target of PKAT is infants aged 6 months to before the age of 7 months. This age range was chosen because it is a critical period of development, especially for vision and hearing in children. This makes this age range the best time to monitor development using KPSP, evaluate exclusive breastfeeding, counseling on optimal introduction of complementary feeding, and evaluate the completeness of basic immunizations, as well as the time the child first received Vitamin A. PKAT can be implemented at Community Health Centers/Pustu according to each condition. The personnel involved in PKAT are nurses, midwives, doctors/pediatricians, nutritionists, psychologists, and cadres.

The implementation of PKAT activities for children aged 6 months aims to provide various child health services in order to: 1) Integrate child health and growth monitoring activities; 2) Conduct early detection using the KIA book; 3) Early detection of cases of illness/pain in children; 4) Early detection or prevention of new cases of growth disorders (*stunted* , *wasted* , and obesity); 5) Early detection or prevention of various developmental disorders (visual/hearing disorders, motor disorders, etc.); 6) Evaluation of exclusive breastfeeding, education on complementary feeding and vitamin A; 7) Improve the ability of mothers/parents/caregivers/families in child care to fulfill children's health and growth; 8) Strengthen the implementation of cross-program child health services (Health Children, Nutrition, Health Promotion, and Immunization) using the KIA Book; 9) Strengthening cross-sectoral and cross-professional cooperation in monitoring children's health and growth, especially in providing individual counseling using the KIA Book.

In PKAT there are 6 activity steps, namely: 1) Registration. Cadres accompany mothers/caregivers to complete the KIA Book; 2) Initial Assessment. Health workers fill in Immunization, Nutrition, and Care/Environment data and KPSP examination for children aged 6 months; 3) Anthropometry. Health workers conduct anthropometric examinations; 4) Clinical Examination, conducted by pediatricians/general practitioners; 5) Counseling (group/individual guidance). Counseling is conducted by health workers (nurses/midwives/nutritionists/psychologists). Counseling can be in the form of group guidance or individual counseling according to the problems found; 6) Conference. During the conference, all implementing staff agree on the final results and evaluate the implementation of PKAT on that day.

This study found that the majority of infants had normal nutritional status (91.67%), consistent with data from the Indonesian Health Survey (SKI), which found that 86.7% of children under 2 years of age had normal nutritional status. Nutrition plays a crucial role in the development of quality human resources and the development of a nation. The Integrated Child Health Examination aims to comprehensively monitor and identify children's health problems, including nutritional issues. This examination includes monitoring nutritional status, early detection of malnutrition or overnutrition, and necessary interventions to prevent adverse impacts on children's physical and cognitive development.

In the first six months of life, breast milk (ASI) intake is very important because it is the main source of nutrition that meets all the nutritional needs of babies, where in this study only 33% of babies received exclusive breastfeeding. In a study by Suliasih, et al., [7] Mothers aged 25-30 years, highly educated, have a history of successful exclusive breastfeeding, and are not working are factors that can increase the success of exclusive breastfeeding. In this study, 52.78% of mothers had low and middle education, and 44.44% of mothers worked, which were factors in the low rate of exclusive breastfeeding in this study. Family support, the correct maternal knowledge factor about exclusive breastfeeding through breastfeeding counseling also has an important role in providing exclusive breastfeeding. [8] In implementing PKAT, it is important for health workers to involve families, especially parents and other family members, so that they understand the benefits of exclusive breastfeeding and can provide support to mothers in the breastfeeding process.

monitoring in PKAT is a key component aimed at ensuring that children's growth and development are progressing well according to their age. This monitoring covers various aspects, from physical, motor, cognitive, language, to social-emotional development. In this study, only 8% experienced doubtful developmental status . With this monitoring, health workers can detect early if there are problems or developmental delays that need to be addressed, so that intervention can be initiated earlier. Developmental monitoring in PKAT also increases parental awareness and involvement in child development, so that parents are more active in providing optimal stimulation to their children. [9]

One important aspect that also needs to be considered in child growth and development is immunization. Preventing infectious diseases through vaccination helps children grow and develop optimally because good immunity allows them to receive cognitive stimulation without being hindered by repeated infections. [10] In this study, the majority of infants received complete immunizations (83%). This figure is higher than the complete basic immunization coverage rate in Indonesia in 2023, which was 35.8%. [6] Bali has a higher coverage rate than other provinces in Indonesia, at 73.5%. [6] Integrated Child Health Checks play a crucial role in ensuring the completeness of children's basic immunizations by ensuring that children receive immunizations according to the schedule set by the Ministry of Health at each visit and raising public awareness of the importance of immunization.

The World Health Organization (WHO) guidelines on early childhood development support the promotion of maternal mental well-being to maximize parenting. The Integrated Child Health Checkup ([ICCH)] focuses not only on the child but also on the mother's mental health during the most sensitive period of brain development. Caregiver stress and poor mental health can compromise their ability to provide optimal care and responsive stimulation to their child. Perinatal anxiety and depression are common experiences among mothers. Mothers who experience perinatal anxiety or depression will withdraw from social interactions and have poor bonding with their children. [12] One frequently used screening instrument for anxiety and depression is *the Edinburgh Postnatal Depression Scale* (EPDS). The EPDS is a screening tool for mental disorders in postpartum mothers and has good validity in primary health care, with a sensitivity of 86% and a specificity of 78%. [13] In this study, the EPDS psychometric scale was used and it was found that none of the mothers experienced anxiety and depression disorders.

In this study, most children had BPJS health insurance, but some still did not. The National Health Insurance (JKN) system provides comprehensive benefits with affordable premiums, applying the principles of cost and quality control, thus ensuring the certainty of sustainable healthcare financing. [14]

The role of health workers significantly influences the completeness of the KIA handbook. In this study, all infant KIA handbooks were incomplete. Most sections were filled out completely in the immunization records. The infant growth and development monitoring section was largely undocumented or incompletely filled out, resulting in suboptimal utilization of the KIA handbook. One of the main causes of suboptimal utilization of the KIA handbook is a lack of public understanding of its importance. Many mothers and families are unaware of or poorly understand

the function and benefits of the KIA handbook as a tool for monitoring maternal health, childbirth, and child health, growth, and development. More intensive education about the importance of the KIA handbook should be conducted through health campaigns, health worker training, and direct counseling for pregnant women and families. Underutilization of the KIA handbook occurs when health workers do not utilize it optimally during routine checkups. This may be due to time constraints, heavy workloads, or a lack of understanding of how to use the KIA handbook effectively. Training and guidance for medical personnel regarding the importance of using the KIA handbook during every checkup should be improved. [15]

CONCLUSION

The implementation of the PKAT (Family Health Check-Up) program has shown quite good results in monitoring the health and development of 6-month-old children. Most infants have normal nutritional status and have received complete immunizations, but exclusive breastfeeding is still lacking. Most children's developmental status is appropriate/normal. The utilization of the KIA (Child Health Check-Up) book in the PKAT program is still not optimal, as most infants' KIA books are incomplete.

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