

DETERMINANTS OF DELAYS IN SEEKING CARE IN MATERNAL REFERRALS IN INDONESIA (ECOLOGICAL STUDIES)

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ABSTRAK: DETERMINAN KETERLAMBATAN MENCARI PERAWATAN DALAM RUJUKAN MATERNAL DI INDONESIA: STUDI EKOLOGI

Latar belakang: Keterlambatan rujukan dapat terjadi pada semua ibu hamil. Keterlambatan tahap pertama yaitu terlambat mencari perawatan. Penyebabnya yaitu kondisi sosial ekonomi, budaya, akses ke fasilitas kesehatan dan kualitas perawatan.

Tujuan: Mengidentifikasi determinan sosial dari individu dan lingkungan yang mempengaruhi keterlambatan mencari perawatan di Indonesia.

Metode: Desain yaitu studi ekologi menggunakan Laporan Riset Kesehatan Dasar 2018 dan Laporan Statistik Potensi Desa 2018 dengan unit analisis 34 Provinsi di Indonesia. Analisis bivariat menggunakan *Scatter plot* dan uji korelasi *Pearson*.

Hasil: Variasi keterlambatan rujukan antar Provinsi sangat lebar dengan rentang 33,50% - 73,6%. Hasil uji bivariat membuktikan semakin tinggi prevalensi ibu hamil dengan eklampsia, biaya BPJS, budaya persalinan dukun bayi dan tinggal di wilayah puncak atau lereng gunung maka semakin tinggi prevalensi keterlambatan rujukan. Sebaliknya semakin tinggi prevalensi kunjungan K4 ANC dan kemudahan akses ke Fasilitas kesehatan maka semakin rendah prevalensi keterlambatan rujukan.

Kesimpulan: Jenis komplikasi, kunjungan ANC, peserta BPJS, budaya persalinan dukun, akses ke fasilitas kesehatan dan topografi wilayah mempengaruhi keterlambatan rujukan

Saran: Fasilitas kesehatan lebih intensif melakukan deteksi dini pre-eklampsia, edukasi tanda bahaya pada keluarga, dan persiapan persalinan dalam pelayanan ANC agar komplikasi cepat ditemukan dan keluarga cepat mencari perawatan serta mencapai fasilitas kesehatan.

Kata Kunci: Maternal, Mencari perawatan, Keterlambatan rujukan,

ABSTRACT

Background: Delays in referral can occur in all pregnant women. The first stage of delay is late seeking care. The causes are socio-economic conditions, culture, access to health facilities and quality of care.

Objective: To identify social determinants specifically individual and environmental factors that influence delays in seeking care in Indonesia.

Method: Design is an ecological study using Basic Health Research 2018 Report and Village Potential Statistics 2018 Report with analysis units from 34 Provinces in Indonesia. Bivariate analysis used Scatter plot and Pearson correlation test.

Result: Variations in referral delays between provinces are very wide with a range of 33.50% - 73.6%. The bivariate test results that the higher the prevalence of pregnant women experiencing eclampsia, National health insurance participants, the culture of birth to TBAs and living in mountain peaks or slopes, the higher the prevalence of delay in referrals. On the other hand, the higher the prevalence of ANC visits (K4) and the ease of access to health facilities, the lower the prevalence of delay in referrals.

Conclusion: Types of complications, ANC visits, BPJS participants, culture TBAs, access to health facilities and regional topography influence referral delays

Suggestion: Health facilities are more intensive in carrying out early detection of pre-eclampsia, educating families about danger signs, and preparing for childbirth in ANC services so that complications are discovered quickly and families quickly seek care and reach health facilities

Keywords: Delay in referral, maternal, seeking care

INTRODUCTION

Obstetric complications that lead to emergency conditions such as pre-eclampsia, eclampsia and bleeding are the biggest contributors to maternal death (Kemenkes RI, 2022). Handling these complications requires speed and accuracy of treatment (WHO, 2009). Speed of time is viewed from the speed at which the patient/family seeks treatment at the nearest health facility, after arriving at the health facility immediately receiving treatment and if unable to cope, immediately making a decision to refer to a more comprehensive health facility. If this does not go well then there will be a delay in referrals. Referral delays consist of three delays (Three Delays), namely delay decision making to seek care (type I), delay reaching a health facility (type II), and delay receiving appropriate care (type III) (Thaddeus & Maine, 1994). Delays in stages I and II are related to the patient's ability to seek care and reach health facilities, while stage III is related to the ability of health facilities to provide fast and appropriate treatment. Delays in referral have a negative impact on maternal outcomes, namely maternal near miss and maternal death (WHO, 2011).

The decision to seek immediate treatment at a health facility is the starting point for efforts to save the mother's life. Long time to get to a health facility due to delays in decision making contributes to maternal morbidity and mortality (Mgawadere et al., 2017) (Geleto et al., 2018). Delays in making decisions to seek immediate care were found in 75% of mothers who died from survey results on the island of Java (Serang and Jember) in 2018 with an average time of 12.5 hours and delays in reaching the right health facility, namely 76% due to visiting >1 Health Facility that is willing to accept patients (USAID-PPKS, 2019). A study in Karawang stated that the causes of maternal death were delay referral and inappropriate initial treatment and there was a significant role for patient factors, health workers and health facilities (Ati et al., 2019). Delays in making decisions and delays in reaching health facilities are influenced by the quality of antenatal care (ANC), namely the lack of preparation of mothers and families to face childbirth, namely determining the place of delivery, birth attendants, recognizing danger signs, providing funds, vehicles and blood donors (Sk et al., 2019)(Santoso et al., 2017) (Masturoh & Siswati, 2018). The data above shows that there are still many mothers who have problems with the referral process and even die after successfully reaching a health facility.

The three main factors associated with delays in maternal referral are patient factors, accessibility factors and quality of care factors (Thaddeus & Maine,

1994). Patient factors are related to stage I delays, accessibility factors are related to stage II delays, and quality of care factors are related to stage III delays. These factors are not only in the health sector but also outside the health sector such as social conditions, economic status, norms, culture and environment. The latest global issue trend is starting to pay attention to things outside the health sector which are thought to contribute to and influence the performance of the health service system. This is what was developed by WHO as a study on Social Determinants of Health at the World Conference on Social Determinants of Health in Rio de Janeiro, Brazil. The basic idea is the health determinants put forward by Dahlgren and Whitehead, 1991 which explain non-clinical factors, such as socio-economic and environmental conditions, that influence patient health outcomes (Dahlgren & Whitehead, 1991). WHO then developed this rationale into The Commission on Social Determinants of Health (CSDH) in 2010.

Previous research has stated that social factors from patients, service providers and the environment influence referral delays. The patient's social factors include education, economic ability, age, parity, religion, marital status, employment, women's autonomy, culture, health status can influence decisions to seek care and reach health service facilities (Kanyesigye et al., 2022);(Busumani & Mundagowa, 2021); (Pacagnella et al., 2014); (Prathiba et al., 2020). These factors are related to regional and population characteristics so that variations between regions such as provinces are very diverse. A deeper understanding of the factors that cause delays in referral based on regional and population characteristics is important to reduce maternal mortality. Mapping of referral delays based on regions, namely provinces in Indonesia, has never been done so this study aims to map referral delays in Indonesia and identify social factors from individual and the environment that are associated with referral delays. It is hoped that the research results will be used as material in developing effective and targeted strategies to increase the effectiveness of maternal referrals and reduce cases of maternal death in Indonesia.

RESEARCH METHODS

The design is non-experimental using an ecological study, that using data from the Basic Health Research Report (Riskesdas 2018) and Village Potential Statistics (Podes 2018). The unit of analysis is 34 Provinces in Indonesia based on data collection on family and individual samples. The sample inclusion criteria are families that have women aged

10-54 years who gave birth to their last child in the period 1st January, 2013 until the interview. The dependent variable is delay in type I referral (seeking care) in terms of first aid efforts when the mother experiences complications in pregnancy. The independent variables are 1) individual factors consisting of health status (eclampsia), health behavior (ANC visit), treatment costs (National health insurance participants) and culture (delivery at a TBAs); 2) environmental factors consisting of access to Health Service Facilities (PHC/health worker practices) and regional topography (Peak Area/Mountain Slopes). Data analysis was carried out

bivariately using a scatter plot and Pearson correlation test (r).

RESEARCH RESULTS

The distribution of the prevalence of late maternal referrals in Indonesia tends to be high in the eastern region, including Bali, Nusa Tenggara, Sulawesi, Maluku and Papua, while Java tends to be low (Figure 1). There is a wide gap in the prevalence of late referrals with the highest being 73.60% in Maluku and the lowest being 33.50% in Central Java (Table 1).

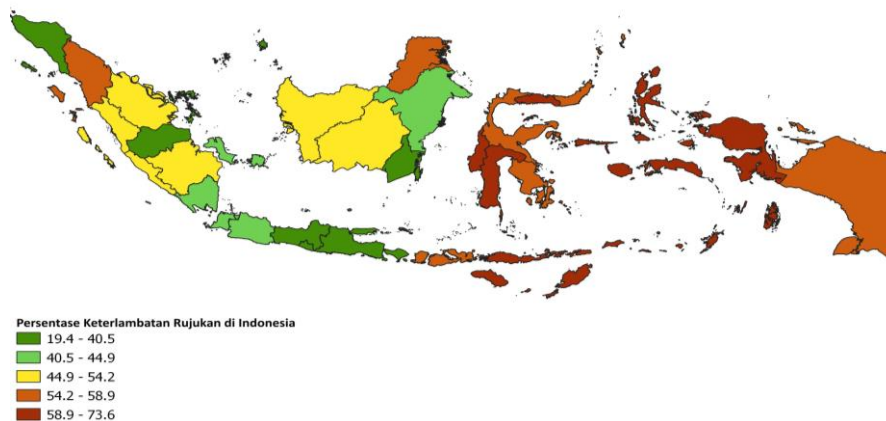


Figure 1.

Map of the distribution of type I referral delays (seeking care) among pregnant women in Indonesia

The health status of mothers who experience eclampsia has a positive relationship with delays in referral (Figure 2.A). The results of the Pearson correlation test show statistically significant results, namely P-Value = 0.005. Meanwhile, K4 ANC visits

have a negative relationship with referral delays (Figure 2.B). The results of the Pearson correlation test show statistically significant results, namely P-Value = 0.007.

Table 1

Descriptive statistics of delay in type I referral for pregnant women in Indonesia and related variables

Variable	N	Min	Max	Mean	SD
Delays in referral	34	33.50	73.60	50.6471	11.03030
Health status (eclampsia)	34	1.20	6.40	3.2353	1.55756
Health behavior (ANC visits)	34	43.80	90.20	67.2765	11.71699
Treatment cost (JKN participants)	34	28.70	81.50	49.8500	14.47037
Culture (delivery at TBAs)	34	0.8	42.90	14.0941	11.03933
Topography (mountain peaks/slopes)	34	0	47.50	14.5669	11.90343
Access to PHC	34	34.20	125.70	75.4088	21.18393

Source of care costs has a positive relationship with delay in referral (figure 2.C). The results of the Pearson correlation test show statistically significant results, namely P-value=0.0005. Meanwhile, the birth culture of traditional birth attendants shows a positive relationship with delay in referral (figure 2.D) and the

results of the Pearson correlation test show statistically significant results, namely P-value = 0.003.

Access to Community Health Centers/Clinics/Nakes Practices has a negative relationship with referral delays (figure 2.E). The results of the Pearson correlation test show

statistically significant results, namely P-value = 0.0005. Meanwhile, topography in the form of mountain slopes/mountain peaks shows a positive relationship with referral delays (figure 2.F). The

results of the Pearson correlation test show statistically significant results, namely P-value = 0.016.

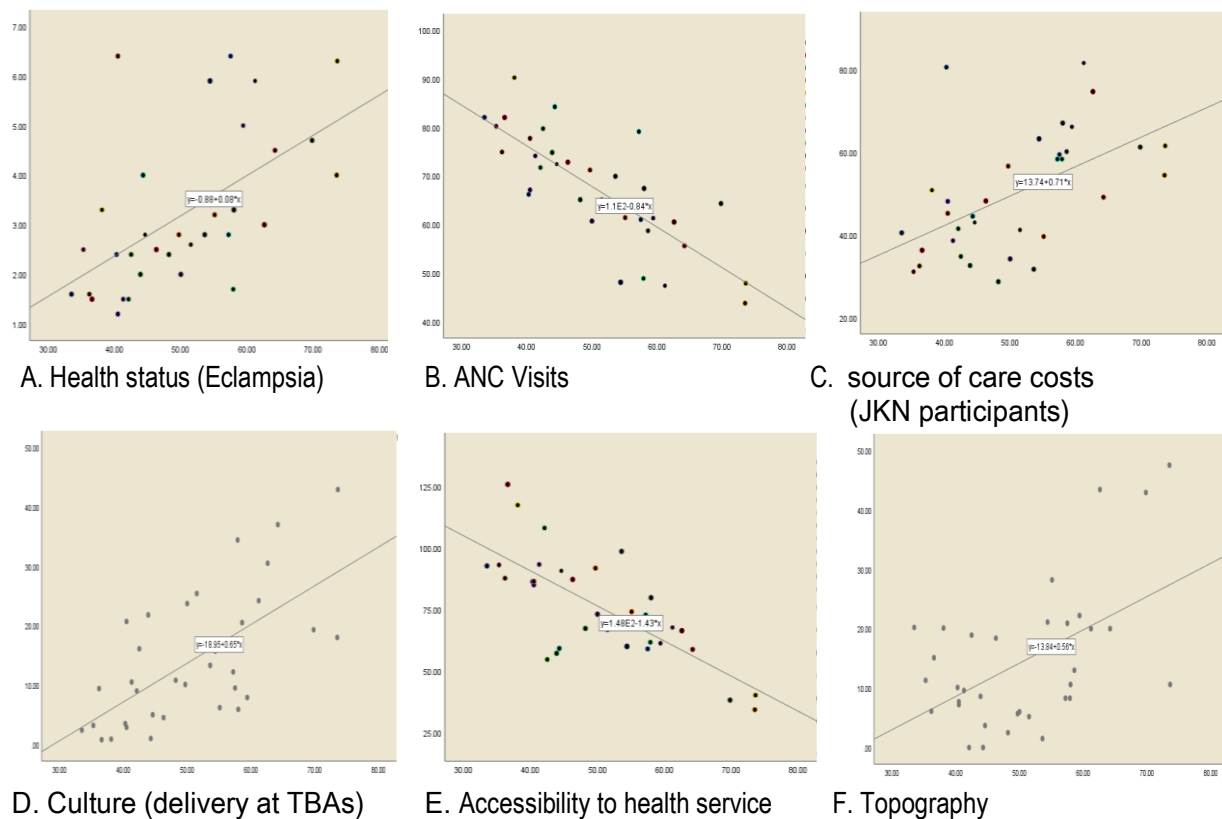


Figure 2

Scatter plot of delay in type I referral (seeking treatment) with Health status, ANC Visits, source of care costs, culture /traditional birth attendants, accessibility to health facilities and topography in Indonesia

DISCUSSION

Delay in Referrals

The distribution of the prevalence of late maternal referrals in Indonesia tends to be high in the eastern region because it is an archipelagic region with geographical conditions in the form of mountains, lowlands and coastal areas (Badan Pusat Statistik, 2022). The big obstacles in the referral process are accessibility and population mobilization. The characteristics of the population in the eastern region are also different from other regions. Poor people in Indonesia are more numerous in the eastern region, namely Papua, Maluku and East Nusa Tenggara, which causes inability to pay for treatment, thus slowing down the decision to seek treatment. Lingering cultural factors can also influence health behavior, such as belief in traditional practices which prevent mothers from not having ANC and giving birth to a traditional birth attendant (Kemenkes RI, 2022). The adequacy of health human resources and the availability of health

service facilities in the eastern region also still have not reached the ratio of health workers and health facilities (Kemenkes RI, 2018). This causes inequality in obtaining health services for the community.

Individual Factors

Eclampsia is a condition of sudden seizures in mothers during pregnancy, childbirth or postpartum who have previous symptoms of preeclampsia and can quickly progress to shock and coma (Kemenkes RI & HOGSI, 2013). Eclampsia can be prevented if the mother and family know the symptoms of pre-eclampsia and are aware of the dangers of this condition. Ignorance of danger signs is the biggest cause of delays in referrals in seeking care (Sk et al., 2019)(Masturoh & Siswati, 2018). The husband or family taking the decision to take the mother to a health facility is also the cause of the delay in referral. They assume that mothers who experience symptoms of preeclampsia

are considered a normal condition due to lack of knowledge, which causes the mother to arrive at the health facility already in serious condition (Arihta T & Kristina, 2019). Increasing knowledge among mothers and families from the start of pregnancy can prevent delays in seeking care and thus prevent maternal death (Nsemo & J. Offiong, 2016)(Yosef & Tesfaye, 2021).

Pregnant women who make ANC visits <4 times have a higher risk of death than women who make ANC visits >4 times (Sesunan, 2021) (Kebede et al., 2021). One of the aims of ANC visits is to detect early abnormalities/illnesses/disorders suffered by pregnant women and carry out management of abnormalities/diseases/disorders in pregnant women as early as possible or refer cases to health service facilities in accordance with the existing referral system (Kementerian Kesehatan RI, 2020). The more pregnant women make regular ANC visits, the more complications can be identified as early as possible so they can be treated quickly. During ANC visits, mothers and families are provided with knowledge about danger signs so that they can immediately seek treatment if the mother experiences danger signs so that there is no delay in seeking care. ANC coverage for K4 in the eastern region of Indonesia is still very low with a range of 43.8%-64.3% compared to the western region which is in the range 61.4%-90.2%. This low coverage is mostly due to environmental factors, namely the distance from the patient's house to the health facility and the ease of reaching the health facility (Oliveira, 2019). The availability of health facilities such as Community Health Centers in the eastern provinces of Indonesia is available at least 1 per sub-district except Papua (Kemenkes RI, 2018).. However, due to geographical conditions where the majority of people live on mountain slopes and inadequate transportation infrastructure which is damaged and impassable during the rainy season, this makes it difficult for pregnant women to reach community health centers (Kemenkes RI, 2018).

The source of treatment costs is one of the causes of delays in referrals. The government has made efforts to reduce delays in referrals by providing assistance with treatment costs through the JKN program. The results of this research are different from the results of previous research, in that the national health insurance program in the form of BPJS health membership can prevent delays in referrals due to cost constraints, especially for poor communities (Diba et al., 2019). However, this is different from research in Kalimantan and West Java which explains that the source of costs, whether from

the government (BPJS) or private, has no effect on the referral process (Darmayanti et al., 2018)(Armini et al., 2018). Law no. 40 of 2004 mandates that social security is mandatory for the entire population, including National Health Insurance (JKN) through a Social Security Organizing Agency (BPJS). JKN which was developed in Indonesia is part of the National Social Security System (SJSN) which is implemented through a social insurance mechanism which aims to ensure that the entire Indonesian population is protected by the insurance system so that they can meet their basic health needs. This protection is given to everyone who has paid contributions or whose contributions are paid by the government (Kemenkes RI, 2014). The Indonesian government has issued a policy on guaranteeing health costs for the poor through providing assistance with BPJS health participant contributions taken from central and regional government funds. This is expected to reduce the gap in receiving health services for all levels of society. Maternity insurance program (jampersal) for poor communities specifically for pregnant women to receive adequate services during pregnancy, childbirth and postpartum. However, unfortunately there are still many JKN participants who are not on target. It is still found that poor people are not JKN participants so they are constrained by the cost of treatment.

A traditional birth attendants (TBAs) is a person who is considered skilled and trusted by the community to assist with childbirth and care for mothers and children according to community needs (Departemen Kesehatan RI, 1994). People who still believe in traditional care, the role of a midwife cannot be ignored, their presence and services in pregnancy, childbirth and postpartum care. The number of TBAs in Indonesia in 2018 was still around 49 thousand, which is almost the same as the number of midwives. The largest number of TBAs is in the island of Java, namely Central Java, West Java and East Java. However, in all regions of Indonesia there are still birth attendants and the provinces with the lowest number of birth attendants are DKI Jakarta and Bali (BPS, 2018). The highest number of traditional delivery provided by TBAs was in Maluku Province (42.9%) and the lowest was in Bali (0.8%) (Kementerian Kesehatan, 2018). TBAs are part of the community living in the area. The TBAs better understands the traditions or culture passed down from generation to generation in the area because he grows and develops in society. The shaman uses local language, interacts daily with the community, cares for pregnant women from pregnancy until the postpartum period ends and is ready to be called at

any time, thereby creating a sense of comfort and trust in the TBAs (Ramli & Habari, 2020). another reason is because TBAs have prayers or "jampe-jampe" which according to people's beliefs can facilitate childbirth, TBAs always routinely care for mothers from giving birth to bathing the baby until the baby's umbilical cord falls off, washing clothes and massaging mother and baby (Lail & Sufiawati, 2018).

Environmental factor

Accessibility is the opportunity that individuals have to identify health service needs, seek health services, obtain or use health services and to fulfill health service needs (Levesque et al., 2013). The five indicators used in assessing accessibility are approachability, availability and accommodation, acceptability, affordability, feasibility (Levesque et al., 2013). The accessibility factor of health services is one of the biggest causes of maternal death as a result of type II delays, namely reaching health facilities (Chavane et al., 2018). Individuals' ability to reach health facilities is caused by geographical conditions and poor transportation facilities, both road and vehicle infrastructure (Chen et al., 2017). Equal distribution of the availability of health facilities, especially health facilities capable of providing basic obstetric neonatal emergency services (PONED), is not yet evenly distributed in Indonesia with an average travel time of more than 6 hours for the eastern region of Indonesia with mountainous geographical conditions (Nimun et al., 2022). Future health development is expected to increase cross-sectoral cooperation in building road infrastructure and providing public transportation facilities so that delays in reaching health facilities do not occur again.

Topography is the condition of the earth's surface in an area or area (Badan Pengembangan dan Pembinaan Bahasa, 2016). In general, mountainous areas have difficult access to health facilities with steep roads and long travel times. The results of this study show a correlation with referral delays. Road infrastructure in mountain slope areas is generally inadequate with roads in damaged condition, with holes and even dirt. This makes it difficult for vehicles to pass through, not to mention climates such as the rainy season which increase the severity of road damage and are prone to landslides. The government has attempted to overcome these obstacles by issuing a policy to establish birth waiting homes (RTK) in areas with difficulty in accessing health service facilities as stated in the Regulation of the Minister of Health of the Republic of Indonesia Number 82 of 2015. Geographical factors are one of the causes of death Mothers, to overcome this

problem, we need a special place close to basic health care facilities or a hospital that can be occupied temporarily by pregnant women before delivery arrives, called a Birth Waiting House (RTK), which has an important function as a temporary residence for mothers. pregnancy until delivery (WHO, 1996). Pregnant women who have been detected as non-high risk are recommended to occupy a birth waiting home located near the village health post or PONED health center, while pregnant women with high risk who are expected to require specialist medical treatment during delivery must be sent to a waiting home near the hospital (Kemenkes, 2014). The Birth Waiting Home Program is expected to reduce the number of maternal deaths, increase coverage of deliveries by health workers and at the same time increase coverage of deliveries in health service facilities and adequate emergency services. Several studies have shown that RTK can prevent maternal deaths in remote areas by increasing access to health care facilities and reducing perinatal deaths (Yoon & Kim, 2021);(Zuanna et al., 2021);(Tiruneh et al., 2019).

CONCLUSION(S)

Factors that influence referral delays in seeking care are health status (having eclampsia), source of treatment costs (JKN participants), ANC visits (K4), culture (delivery at a TBAs) and access to health facilities, while regional topography has no effect on referral delays.

SUGGESTION

The government is expected to be able to improve services at all levels of health facilities by providing resources to increase early detection of complications through pre-eclampsia screening, education for mothers and families to improve health behavior in carrying out ANC visits and childbirth among health workers, monitoring and evaluating the implementation of national health insurance so that there is no gap in the quality of health services received by the community using JKN health funds as well as increasing the availability of health facilities in rural areas so that they are easily accessible to the community

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THE EFFECT OF CONSUMPTION OF DRAGON FRUIT JUICE AND FE TABLETS ON THE INCREASE IN HB FOR POSTPARTUM MOTHERS

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ABSTRAK : PENGARUH KONSUMSI JUICE BUAH NAGA DAN TABLET FE TERHADAP PENINGKATAN HB PADA IBU PASCA PERSALINAN

Latar Belakang: Hemoglobin (HB) adalah suatu protein yang mengandung senyawa besi henuim. Hemoglobin mempunyai daya ikat terhadap oksigen dan karbondioksida. Dalam menjalankan fungsinya membawa oksigen keseluruh tubuh, hemoglobin dalam SDM mengikat oksigen melalui ikatan kimia khusus. (Yuni, 2015). Anemia merupakan suatu keadaan adanya penurunan kadar hemoglobin, hematokrit dan jumlah eritrosit dibawah nilai normal. Jus buah naga merupakan sumber vitamin c dan kaya akan zat besi didalamnya, akan tetapi penggunaannya tidak pernah dilakukan untuk mencegah terjadinya anemia masa nifas. Tujuan penelitian ini adalah diketahui pengaruh konsumsi jus buah naga dan FE dengan kenaikan Hb ibu nifas di Puskesmas Bangunrejo Kabupaten Lampung Tengah Tahun 2023.

Metode Penelitian: Jenis penelitian ini merupakan jenis penelitian kuantitatif. Rancangan penelitian yang digunakan adalah rancangan penelitian Quasi Eksperimental dengan pendekatan pretest – posttest with control group design. Populasi dalam penelitian ini adalah ibu nifas sebanyak 52 orang di Puskesmas Bangunrejo Kabupaten Lampung Tengah, pada 3 bulan terakhir, yaitu bulan Januari-Maret tahun 2023. Cara pengambilan sampel dalam penelitian ini adalah menggunakan teknik accidental sampling. Analisa data menggunakan univariate dan bivariate menggunakan uji t-tes independen.

Hasil Penelitian: Didapatkan nilai rata-rata meningkatnya HB pada kelompok intervensi sebesar 1.04 dan pada kelompok kontrol sebesar 0,8. Analisis bivariate mendaPatkan perbedaan rata-rata meningkatnya HB pada kelompok intervensi yang diberi jus buah naga sebesar 1.04 dengan kelompok kontrol yang tidak diberi jus buah naga sebesar 0,8. Hasil uji statistik didapatkan nilai P-value = 0,000 yang artinya terdapat pengaruh konsumsi jus buah naga dan FE dengan kenaikan Hb ibu nifas di Puskesmas Bangunrejo Kabupaten Lampung Tengah Tahun 2023.

Kesimpulan dan Saran: Pemberian jus buah naga dengan tablet FE dapat meningkatkan HB pada ibu Nifas yang mengalami anemia sedang. Diharapkan bagi ibu nifas agar selalu mengkonsumsi jus buah naga ditambah tablet FE agar tidak terjadi anemia di masa nifasnya karna alat-alat kandungan baru pulih selama 6 minggu untuk mencegah perdarahan post partum dan dapat mempengaruhi kegiatan sehari-hari

Kata Kunci : HB, Ibu Nifas, Jus Buah Naga

ABSTRACT

Background: Hemoglobin (HB) is a protein that contains heme zinc compounds. Hemoglobin has a binding capacity for oxygen and carbon dioxide. In carrying out its function of carrying oxygen throughout the body, hemoglobin in SDM binds oxygen through special chemical bonds. (Yuni, 2015). Anemia is a condition where there is a decrease in hemoglobin levels, hematocrit, and the number of erythrocytes below normal values. Dragon fruit juice is a source of vitamin C and is rich in zinc, but its use has never been done to prevent anemia during the puerperium. The aim of this research was to find out the effect of consumption of dragon fruit juice and FE on the increase in Hb for postpartum women at the Bangunrejo Health Center, Central Lampung, in 2023.

Research Method: It was quantitative research that used a quasi-experimental research design with a pretest-posttest approach and a control group design. The population in this study was 52 postpartum mothers at the Bangunrejo Health Center, Central Lampung, in the last 3 months, namely January– March 2023. The sampling method used in this research was an accidental sampling technique. The univariate and bivariate data were analyzed using an independent t-test.

Research results: The researcher obtained an average value of increasing HB in the experimental group of 1.04 and in the control group of 0.8. Bivariate analysis found that the average difference in HB increase in the experimental group that was given dragon fruit juice was 1.04, compared to the control group that was not given

dragon fruit juice, which was 0.8. The results of the statistical test obtained a P-value of 0.000, which means that there is an effect of consumption of dragon fruit juice and FE on an increase in Hb for postpartum women at the Bangunrejo Health Center, Central Lampung, in 2023.

Conclusions and Suggestions: Administering dragon fruit juice with FE tablets can increase HB in postpartum women who experience moderate anemia. It is hoped that postpartum mothers will always consume dragon fruit juice and FE tablets so that anemia does not occur during the puerperium because the obstetrical organs have only recovered for 6 weeks to prevent postpartum hemorrhage and can affect daily activities.

Keywords: HB, Postpartum Mother, Dragon Fruit Juice

INTRODUCTION

Anemia is a condition where there is a decrease in hemoglobin levels, hematocrit and the number of erythrocytes below normal values. In people with anemia, more commonly known as anemia, the level of red blood cells (hemoglobin) is below normal. The reason could be due to lack of nutrients for blood formation, such as iron, folic acid and vitamin B12. But what often happens is anemia due to iron deficiency (Utami, & Wulandari, 2021).

Anemia is a nutritional problem that affects millions of people in developing countries. The prevalence of anemia is estimated at 9% in developed countries, while in developing countries the prevalence is 43%. Children and women of childbearing age (WUS) are the group most at risk, with an estimated prevalence of anemia in under-fives of 47%, 42% in pregnant women, and 30% in non-pregnant women aged 15-49 years. The World Health Organization (WHO) targets to reduce anemia in WUS by 50 percent by 2025 (World Health Organization, 2021).

The number of maternal deaths compiled from family health program records at the Ministry of Health in 2020 shows 4,627 deaths in Indonesia. This number shows an increase compared to 2019 of 4,221 deaths. Based on the causes, the majority of maternal deaths in 2020 were caused by 1,330 cases of bleeding, 1,110 cases of hypertension during pregnancy, and 230 cases of circulatory system disorders (Kemenkes RI Profile, 2020). Based on the causes, the majority of maternal deaths in 2021 are caused by disorders of the circulatory system in 154 cases (Profile of the Republic of Indonesia Ministry of Health, 2021). Referring to the causes of maternal death in Lampung Province in 2019, there were 29 cases (26.3%) of bleeding, 31 cases of hypertension (28.1%), 3 infections, 4 circulatory system disorders (3, 6%), metabolic disorders in 1 case (0.9%) and others in 42 (38.1%). Central Lampung district has the highest cases of maternal death with 16 cases, while the lowest is in Tulang Bawang Barat district with 2 cases (Lampung Provincial Health Office, 2020). Based on data at the Bangunrejo Health

Center in 2020-2021 the maternal mortality rate is 1% of people per 100,000 live births. 100% postnatal care, 100% administration of vitamin A to postpartum mothers, 100% handling of obstetric complications. 82.4% active family planning services and 17.6% family planning services (Central Lampung Provincial Health Office, 2021).

Data on the incidence of anemia in postpartum mothers in Central Lampung Regency in 2020 reached 56.7% (Central Lampung Health Office, 2020). Data on the incidence of anemia in postpartum mothers in Central Lampung Regency in 2021 reached 58.2% (Central Lampung Health Office, 2021). Data on the incidence of anemia in postpartum mothers in Central Lampung Regency in 2022 reached 62.9% (Central Lampung Health Office, 2022).

Based on the monthly report of the Bangun Rejo Health Center from June to December 2021 there were 323 mothers giving birth at the Bangun Rejo Health Center in Central Lampung Regency with more than half experiencing post partum anemia, namely 129 people (39.9%). Based on the monthly report of the Bangun Rejo Health Center from June to December 2022 there were 387 mothers giving birth at the Bangun Rejo Health Center in Central Lampung Regency with more than half experiencing post partum anemia, namely 248 people (64.1%).

The result of anemia during the puerperium is the occurrence of uterine subinvolution which can cause post partum bleeding, facilitating puerperal infection, reduced milk production and easy mammary infection. Anemia during the puerperium is a continuation of anemia suffered during pregnancy, which causes many complaints for mothers and reduces the percentage of work, both in daily housework and in caring for babies (Wijarnarko, 2010; Amanda, 2018).

Efforts to prevent and treat anemia in postpartum women such as giving Fe tablets for 4 weeks. Several researchers found that absorption of iron with a combination of Vitamin A can increase Hb levels (Permaesih et al, 2011) as well as giving Fe

with Vitamin C has a significant increase (Pradanti et al, 2015; Amanda, 2018)

Whereas non-pharmacologically to treat anemia can be done by consuming dates, beets, Ambon bananas, mas bananas, spinach juice, long bean stew and dragon fruit. Dragon fruit has properties for human health, dragon fruit contains nutrients such as vitamin C, vitamin B1, vitamin B2, vitamin B3, protein and so on. Dragon fruit includes balancing blood sugar levels, cleansing the blood, strengthening the kidneys, nourishing the liver, reducing cholesterol, preventing bleeding, and as a remedy for complaints of leucorrhoea (Tusiana, 2021).

The Fe content of dragon fruit is 0.55 - 0.65 mg/100gr. This shows that dragon fruit has a higher Fe content than beets. The content of dragon fruit is not only iron and carbohydrates folates. There are many other compounds that can be obtained from this brightly colored fruit, including Vitamin C, phytochemicals, protein, potassium, fiber, carbohydrates (Jamilah, 2018).

The results of the Prasurvey conducted at the Bangunrejo Health Center in Central Lampung, in January 2023 there was 1 post partum mother who died due to insufficient Hb, and 2 people experienced blood transfusions during the post partum period, of 10 postpartum mothers by carrying out Hb checks at the postpartum visit, 6 were obtained mothers had mild anemia with Hb below 11gr/dl, and 4 mothers had moderate anemia, namely Hb below 10.5 gr/dl. After conducting free interviews, it was found that during the postpartum period the mother abstained from eating as recommended by the family. Dragon fruit juice is a source of vitamin C and is rich in iron in it, but its use has never been done to prevent anemia in the puerperium.

RESEARCH METHODS

This type of research is a quantitative research. The research design used was a quasi-experimental research design with a pretest-posttest approach with a control group design. The population in this study were 52 postpartum women at the Bangunrejo Health Center, Central Lampung, in the last 3 months, namely January-March 2023. The measuring instruments in this study were HB observation sheets, dragon fruit juice consumption checklist sheets and test kits. HB namely haemo check or digital HB check. Prepare dragon fruit juice and Fe tablets with a dose of 250 ml once a day for 14 days, remind the intervention group via whatsapp group/sms to drink dragon fruit juice at 21.00 WIB. The sampling method in this study was using accidental sampling technique. Data analysis using univariate and bivariate using independent t-test.

RESEARCH RESULTS

Characteristics of Respondents

From table 1 based on the data above that the characteristics of the respondents based on age are mostly those who are not at risk of 20-35 years, as many as 10 respondents (66.7%) in the intervention group, 12 respondents (80.0%) in the control group. High school education as many as 10 respondents (66.7%) in the intervention group, 7 respondents (46.7%) in the control group. The work of housewives was 9 respondents (60.0%) in the intervention group, 9 respondents (60.0%) in the control group. Primipara parity was 9 respondents (60.0%) in the intervention group, 10 respondents (66.7%) in the control group.

Table 1
Average Characteristics of Respondents at the Bangunrejo Health Center Central Lampung in 2023

Variable	Intervensi		Control	
	F	P (%)	F	P (%)
Age				
At risk	5	33,3	3	20,0
No risk	10	66,7	12	80,0
Education				
Associate degree	2	13,3	2	13,3
Bachelor degree	1	6,7	-	-
Senior high school	10	66,7	7	46,7
Junior high school	2	13,3	6	
Work				
Laborer	3	20,0	-	-
housewife	9	60,0	9	60,0
Civil servant	2	13,3	1	6,7

Enterpreneur	1	6,7	5	33,3
Parity				
Multipara	6	40,0	5	33,3
Primipara	9	60,0	10	66,7

Univariate analysis

Postpartum Mother's Hb Before Being Given Dragon Fruit Juice and FE Tablets

Table 2
Increased HB Levels for Postpartum Mothers Before Given Dragon Fruit Juice and FE at the Bangunrejo Health Center, Central Lampung in 2023

Hb	N	Mean	Std. Dev	Std, Error	CI-95%
Pretes	15	10,180	0,4902	0,1266	0,3321-0,3188

From table 2 based on the data above that the increase in HB levels for postpartum women before being given dragon fruit juice and FE at the Bangunrejo Health Center in Central Lampung in 2023 with a Mean of 10.180 gr/dl, which means that the respondent has mild anemia.

From table 3 based on the data above that the increase in HB levels for postpartum women after being given dragon fruit juice and FE at the Bangunrejo Health Center in Central Lampung in 2023 with a Mean of 11.100 gr/dl, which means that the respondents experienced improvement from mild anemia to normal.

Postpartum Mother's Hb After Being Given Dragon Fruit Juice And FE Tablets

Table 3
Increased HB Levels for Postpartum Mothers After Given Dragon Fruit Juice and FE at the Bangunrejo Health Center, Central Lampung in 2023

Hb	N	Mean	Std. Dev	Std, Error	CI-95%
Postes	15	11,100	0,1890	0,0488	0,1680-1,5786

Hb Pretes Control Group

Table 4
Average Hb of Nifas Mothers in the Control Group Day 1 at the Bangunrejo Health Center, Central Lampung in 2023

Hb	N	Mean	Std. Dev	Std, Error	CI-95%
1 Hari	15	10,187	0,3720	0,0960	0,3332-0,3199

From table 4 based on the data above that the HB levels of postpartum mothers who are only given FE tablets on day 1 at the Bangunrejo Health Center, Central Lampung in 2023 with a mean of 10.187 gr/dl, which means that respondents have mild anemia.

Hb Postes Control Group

From table 5 based on the data above that the HB levels of postpartum mothers who are only given FE tablets on day 14 at the Bangunrejo Health Center, Central Lampung in 2023 with a mean of 10.727 gr/dl, which means that respondents have mild anemia.

Table 5
Average Hb of Nifas Mothers in the Control Group on Day 14 at the Bangunrejo Health Center, Central Lampung in 2023

Hb	N	Mean	Std. Dev	Std, Eror	CI-95%
14 Hari	15	10,727	0,3390	0,0875	0,1680-1,5786

Bivariate Analysis

Table 6
The Effect of Dragon Fruit Juice and FE Consumption with an Increase in Hb Ibu Nifas at the Bangunrejo Health Center, Central Lampung in 2023

Variabel	N	Mean	Std. Dev	Uji t	P -Value	CI-95%
Jus Buah Naga	15	11,100	0,1890	3,725	0,001	0,1654-0,5812
Tablet FE	15	10,727	0,3390			

From table 6, based on the data above that the increase in HB levels of postpartum mothers after being given dragon fruit juice and FE at the Bangunrejo Health Center, Central Lampung in 2023 with a Mean of 11,100 gr/dl, which means that respondents have improved from mild anemia to normal. While the HB levels of postpartum mothers who were only given FE tablets on day 14 with a mean of 10.727 g / dl which means that respondents have mild anemia.

The results of the statistical test obtained a value of P-value = 0.001, which means that there is an influence on the consumption of dragon fruit juice and FE with an increase in the Hb of postpartum mothers at the Bangunrejo Health Center, Central Lampung Regency in 2023.

DISCUSSION

Univariate Analysis

Increased HB levels of postpartum mothers before being given dragon fruit juice and FE at the Bangunrejo Health Center, Central Lampung in 2023

Increased HB levels of postpartum mothers before being given dragon fruit juice and FE at the Bangunrejo Health Center, Central Lampung in 2023 with a Mean of 10,180 gr/dl, which means that respondents have mild anemia.

In line with Yuni's theory (2015) hemoglobin is an oxygen-carrying protein inside red blood cells, which gives red blood cells their red color. Hb has an important role in delivering oxygen to all parts of the body for consumption and bringing carbon dioxide back to the lungs, exhaling out of the body. If the hemoglobin level is too low, this process is disturbed, so the body has a low level of oxygen.

According to researchers A low Hb content may indicate anemia, depending on the method used, the Hb value becomes accurate to 2-3%. Symptoms of anemia include weakness, lack of

appetite, lack of energy, decreased concentration, headache, easy infection of disease, firefly eyes, besides that eyelids, lips, and nails look pale. Handling pregnant and postpartum women can be done by giving iron tablets and improving the quality of daily food.

The results of this study, the lowest Hb level value before treatment was 9.5 g / dl which entered into moderate anemia, it affected the activities of postpartum mothers in carrying out household activities, such as cooking, and cleaning the house, and the highest 10.9 g / dl which means that the mother had mild anemia, from all respondents there were 15 postpartum mothers who had moderate anemia with a range of Hb values of 9 to 10 g / dl.

Increased HB levels of postpartum mothers after being given dragon fruit juice and FE at the Bangunrejo Health Center, Central Lampung in 2023

Increased HB levels of postpartum mothers before being given dragon fruit juice and FE at the Bangunrejo Health Center, Central Lampung in 2023 with a mean of 10,180 gr/dl, which means that respondents have mild anemia

In line with the theory of Manuaba (2010) it is said that anemia if Hb levels in pregnant women in the first trimester < 11 g / dl, the second trimester < 10.5 g / dl and the third trimester < 10 g / dl. Hb levels of pregnant women occur if red blood cell production increases, normal values of hemoglobin (12 to 16 g / %) and normal values of hematocrit (37% to 47%) decrease markedly. The decline is more pronounced during the second trimester, when there is a rapid expansion of blood volume. When the hematocrit value drops to 35% or more, the woman is anemic (Benson, 2009). Hb levels in the blood are said to be anemic if the baseline Hb levels in men <13 g / %, women < 12 g / % and in postpartum mothers < 11 g / % (Saifuddin, 2008).

This study, Hb levels were obtained after being treated using dragon fruit juice and FE tablets for 14 days, increased which means that the mother succeeded in carrying out the therapy taught by the researcher and in accordance with standard procedures, besides that respondents also consumed foods per day containing iron such as, spinach, cassava leaves, salted fish, processed types of fresh fish, and also regular consumption of dragon fruit juice. While the results of this study there are some people who still experience mild anemia, caused by a trial time of only 14 days so it takes longer. According to researchers, the increase in Hb levels in postpartum mothers is strongly influenced by food intake as well as supplement intake that can increase Hb levels.

Apart from work, age is also caused by culture or from the advice of parents who cannot eat anything other than clear vegetables, tofu and tempeh, should not rest or sleep in the morning because last night the mother stayed up late because the baby was fussy so that the mother experienced fatigue.

Bivariate Analysis

The Effect of Dragon Fruit Juice and FE Consumption with an Increase in Hb Ibu Nifas at the Bangunrejo Health Center, Central Lampung in 2023

Increased HB levels of postpartum mothers after being given dragon fruit juice and FE at the Bangunrejo Health Center, Central Lampung in 2023 with a Mean of 11,100 gr/dl, which means that respondents have improved from mild anemia to normal. While the HB levels of postpartum mothers who were only given FE tablets on day 14 with a mean of 10.727 g / dl which means that respondents have mild anemia.

The results of the statistical test obtained a value of P-value = 0.000, which means that there is an influence on the consumption of dragon fruit juice and FE with an increase in the Hb of postpartum mothers at the Bangunrejo Health Center, Central Lampung in 2023.

According to the theory of Rahmawati et al. (2019), the high content of vitamin C in dragon fruit greatly helps the process of absorption of non-heme iron by changing the ferric form into iron, making it easier for the body to absorb iron. The high content of iron and vitamin C in dragon fruit causes iron to be more easily absorbed by the body 4 times faster than without vitamin C.

According to researchers, anemia in postpartum mothers can be reduced by providing adequate and good nutritional intake, such as consuming foods that contain lots of vitamin C such

as dragon fruit juice. Red dragon fruit is one fruit that has been widely studied for its benefits in increasing hemoglobin levels. One of the studies that has been conducted is a study that uses dragon fruit juice as much as 200g for 3 days as a treatment product able to increase hemoglobin levels from 10.7 g / dl to 11.4 g / dl because iron in dragon fruit can help in the formation of hemoglobin to carry oxygen throughout the body, vitamin A in red dragon fruit can help hemoglobin to bind oxygen (Wahyuningsih et al., 2021). In this study, the intervention group using dragon fruit juice and FE tablets experienced an overall increase in the Hb of puerperal mothers. In contrast to the control group given FE tablets alone, there were 2 postpartum mothers who did not experience mild changes in Hb status. According to respondent researchers who experienced a decrease in Hb levels, this is because mothers have a history of less body weight, and like to consume coffee or tea in the morning during pregnancy to reduce nausea, consumption of tea and coffee continuously will still interfere with iron absorption, both in tablets and food intake, Mothers who do not experience elevated HB levels, can be caused by the influence of stress, resting patterns, and poor diet, such as eating small portions during pregnancy, because it can affect the absorption of iron contained in Fe foods and tablets or giving dragon fruit juice

The Fe content in dragon fruit plays a role in the process of maturation of erythrocyte cells, the spinal cord needs many other precursors for effective erythropoiesis. These precursors include iron (Fe), vitamin C, vitamin E, vitamin B12, thiamine, riboflavin and oxygen (O₂) needed by the hormone erythropoietin (Rahmawati et al., 2019).

According to researchers, the average value of increasing HB levels in the intervention group was 1.04 and in the control group increased HB levels by 0.8 so that there was a difference in increasing HB levels of postpartum mothers who took Fe tablets alone with those given dragon fruit juice. Increased Hb levels in postpartum mothers in the control group is due to the adherence of mothers consuming Fe tablets and consuming them using the right way, causing absorption of this iron. And increased in the treatment group that consumed dragon fruit juice due to the content of one of them such as protein, vitamin B1, and vitamin C which can help iron absorption.

CONCLUSION

Increased HB levels of postpartum mothers before being given dragon fruit juice and FE with a Mean of 10,180 gr/dl which means respondents have mild anemia. There are some postpartum mothers who say they are dizzy after drinking dragon fruit

juice, some say they don't like the smell of langu and don't like dragon fruit seeds. The results of the statistical test obtained a value of P-value = 0.000 which means that there is an influence on the consumption of dragon fruit juice and FE with an increase in the Hb of postpartum mothers at the Bangunrejo Health Center, Central Lampung in 2023.

SUGGESTION

Expected for postpartum mothers to always consume dragon fruit juice plus FE tablets during pregnancy From TM II to TM III and Puerperium and continue to consume Fe tablets, to prepare for childbirth, because during labor the mother needs energy, and quite a lot of blood after childbirth.

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EFFECTIVENESS OF EDUCATION THROUGH SOCIAL MEDIA TO IMPROVE NUTRITIONAL KNOWLEDGE AND BEHAVIOR ON PREGNANT WOMEN AS A STEP TO PREVENT STUNTING : A LITERATURE REVIEW

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ABSTRAK : EFEKTIVITAS PENDIDIKAN MELALUI MEDIA SOSIAL UNTUK MENINGKATKAN PENGETAHUAN DAN PERILAKU GIZI PADA IBU HAMIL SEBAGAI LANGKAH PENCEGAH Stunting : TINJAUAN PUSTAKA

Latar Belakang: Kejadian balita stunting (pendek) adalah salah satu permasalahan gizi kronik yang penyebabnya meliputi banyak faktor, salah satunya gizi ibu saat kehamilan. Masa kehidupan anak sejak janin di dalam kandungan ibu sampai lahir dan berusia dua tahun (1000 HPK) adalah masa-masa genting pertumbuhan dan perkembangan anak yang optimal. Kurangnya pengetahuan mengenai diet selama kehamilan menjadi hambatan utama bagi ibu hamil untuk memiliki praktik diet yang baik. Pengetahuan, sikap gizi, dan pola makan pada ibu hamil diupayakan dapat diubah melalui pendekatan secara sistematis dan terus-menerus terhadap ibu hamil. Salah satu cara yang akan digunakan untuk meningkatkan pengetahuan dan praktik gizi ibu hamil adalah edukasi dengan menggunakan media sosial.

Tujuan: Mengetahui pengaruh pemberian edukasi gizi melalui media sosial terhadap pengetahuan dan perilaku ibu hamil sebagai langkah pencegahan stunting.

Metode: Article review dibuat dengan menggunakan metode telaah pustaka. Artikel yang digunakan didapat dari mesin pencarian jurnal yang dilakukan di EBSCO, ProQuest, Science Direct dan PubMed dalam kurun waktu 10 tahun terakhir.

Hasil: Dari beberapa penelitian yang sudah dilakukan, didapatkan bahwa pemberian edukasi pada ibu hamil melalui media sosial memiliki pengaruh yang bermakna dalam peningkatan pengetahuan dan perilaku ibu hamil sebagai langkah pencegahan stunting.

Kesimpulan: Terdapat perbedaan pengetahuan dan perilaku ibu hamil mengenai pencegahan *stunting* sebelum dan sesudah pemberian edukasi gizi melalui media sosial.

Kata Kunci : Perilaku; Pengetahuan; Nutrisi; Hamil; Media Sosial

ABSTRACT

Background: Stunted toddlers are a chronic nutritional problem that stems from many factors, including the mother's nutrition during pregnancy. The period of a child's life from the fetus in the mother's womb until birth and two years old (1000 HPK) is a critical period for optimal child growth and development. Lack of knowledge about diet during pregnancy is the main obstacle for pregnant women to have good dietary practices. The knowledge, nutritional attitudes, and eating patterns of pregnant women must be changed through a systematic and continuous approach to pregnant women. Providing nutrition education using social media is an example of a method that can be used to increase nutritional knowledge and behavior of pregnant women.

Objective: To determine the effect of providing nutrition education through social media on the knowledge and behavior of pregnant women as a step to prevent stunting.

Method: Article review was created using the literature review method. The articles used were obtained from journal search engines carried out on EBSCO, ProQuest, Science Direct and PubMed within the last 10 years.

Results: From several studies that have been conducted, it was found that providing education to pregnant women through social media has an influence in increasing the knowledge and behavior of pregnant women as a step to prevent stunting.

Conclusion: There are some improvement in the knowledge and behavior of pregnant women regarding stunting prevention before and after being given nutrition education through social media.

Keywords: behavior; knowledge; nutrition; pregnant; social media

INTRODUCTION

The case of stunted (short) toddlers is a prevalent nutritional problem affecting toddlers around the world. Stunting is a condition where toddlers have less length or height compared to age. A toddler is said to be stunted if the results of measurements of length or height calculated using the Z score formula are more than minus two standard deviations from the median child growth standard according to WHO (Kemenkes RI, 2018).

Stunted toddlers is a chronic nutritional problem caused by many factors such as socio-economic conditions, maternal malnutrition during pregnancy, pain in infants, and lack of nutritional intake. When left unaddressed, stunted toddlers will experience difficulties in achieving optimal physical and cognitive development when they grow up (Kemenkes RI, 2018). The latest analysis indicates that some main causes of stunting in South Asia are poor diet in children in the early years of life, poor nutrition in women before and during pregnancy, and poor sanitation practices in households and communities (Smith and Haddad, 2015; Black et al., 2013).

Interventions should be implemented to prevent stunted growth. There are 2 stunting interventions method, namely Specific Nutrition Interventions and Sensitive Nutrition Interventions. Specific nutrition interventions are activities that directly address the occurrence of stunting, such as food intake, infections, maternal nutritional status, infectious diseases, and environmental health. Sensitive nutrition interventions include increasing the provision of clean water and sanitation facilities, increasing access and quality of nutrition and health services, increasing awareness, commitment and nutritional care practices for mothers and children, as well as increasing access to nutritious food (Bappenas, 2018).

Paying attention to mother's nutritional needs during pregnancy is an effective way to prevent stunting, given that they have to adhere with certain recommendations and nutritional adequacy figures. Pregnant women must receive balanced nutritious food, nutritional supplementation, and have their health monitored (Trihono et al., 2015; Dewey, 2016). Pregnant women have an important role in ensuring appropriate and timely interventions to prevent nutritional problems that can occur in toddlers by strengthening nutritional status during their pregnancy and breastfeeding (Kinshella et al., 2021; Christian et al., 2015). Interventions to prevent stunting must be given to mothers during the prenatal and postnatal periods (Titaley et al., 2013). A child's life from the moment they are

conceived until they reach 2 years of age (24 months) or known as 1000 HPK is a critical period in supporting optimal growth and development. It means that pregnant women who consume low nutritional intake and experience infectious diseases during conceiving will give birth to babies with low birth weight (LBW), and/or the baby's body length is below standard (Bappenas, 2018; Jamshed et al., 2020)

Diets of pregnant women in low- and middle-income countries are typically monotonous, of low quality, and dominated by plant-based food sources with little consumption of animal-based foods, fruits, and vegetables that are dense in micronutrients (Darnton and Mkparu, 2015; Lugowska and Kolanowski, 2019).

There are several factors that influence eating patterns in pregnant women, including self-motivation, knowledge, previous experience, values and beliefs, symptoms experienced during pregnancy, counseling received, environmental values and beliefs, family and environmental support, as well as also information provided (Grenier et al., 2021). Lack of knowledge about diet during pregnancy is the main obstacle for mothers to have good dietary practices (Demilew et al., 2020). The further impact is that low maternal knowledge is one of the factors that determines the incidence of stunting (Beal et al., 2018; Sofiatin et al., 2019). Health education is an essential form of intervention to increase the knowledge of pregnant women. Pregnant women must have good knowledge about nutrition during pregnancy. Education regarding nutrition and reproductive health is effective in increasing knowledge, attitudes and practices of nutrition and reproduction in pregnant women (Permatasari et al., 2021)

Knowledge has a correlation with attitude. Evidence has shown that women of childbearing age who have good knowledge also influence their attitudes towards good nutritional intake (Fasola et al., 2018; Qiu et al., 2023). Efforts are made to change the knowledge, nutritional attitudes and eating patterns of pregnant women through a continuous and systematic approach to pregnant women.

RESEARCH METHODS

Article review was created using literature review method. The articles used were obtained from journal search engines carried out on EBSCO, ProQuest, Science Direct and PubMed that are published within the last 10 years. Literature search used the keywords education, social media, nutrition, knowledge, behavior, pregnant, stunting,

with journal searches used the conjunction "AND" or "OR". Data were analyzed using a table containing

the name of the researcher, title of the article, year, methodology and research results.

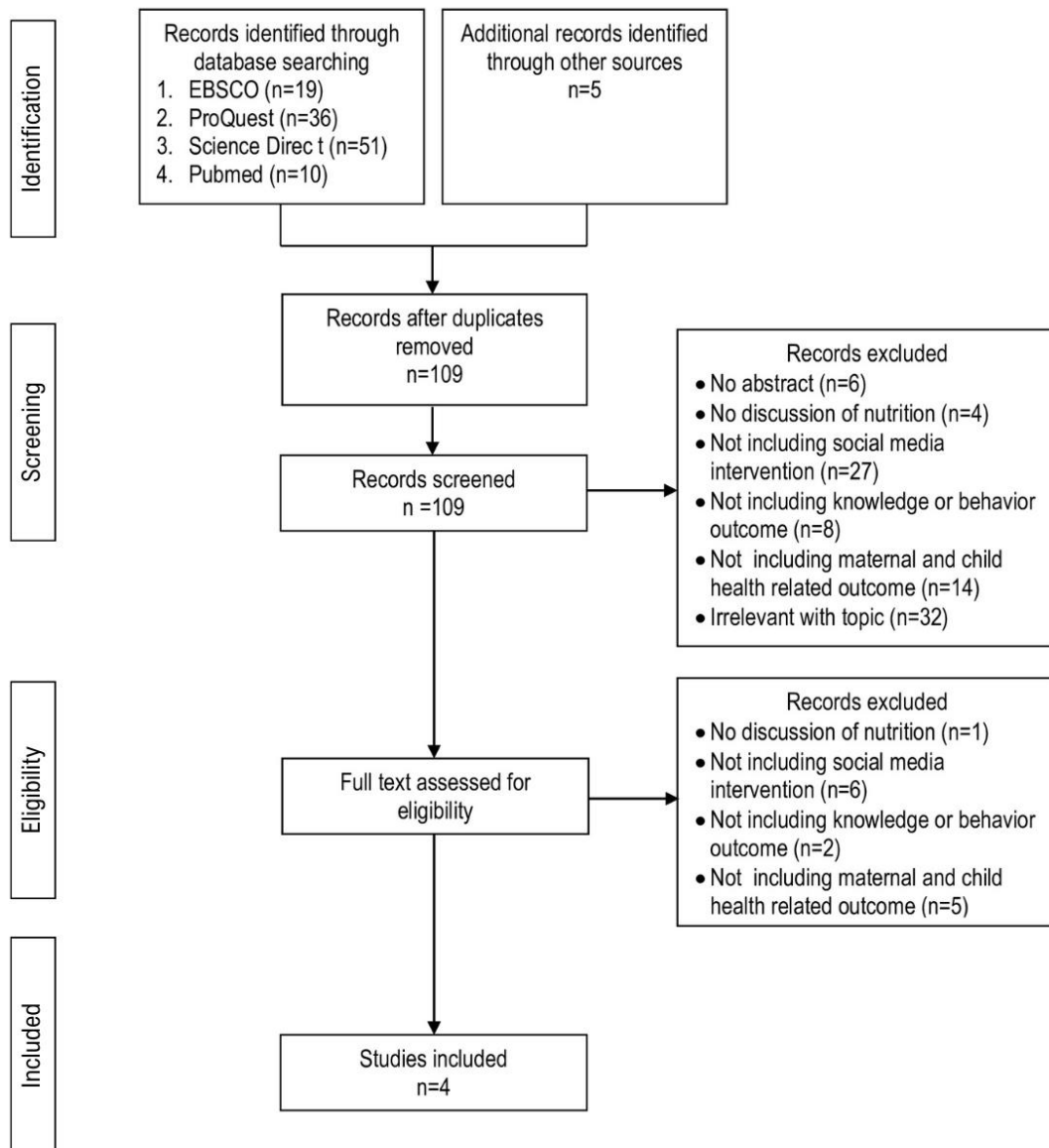


Figure 1. Article selection flow.

RESULTS

Table 1
Results obtained

Title	Methods	Sample Size	Output
A social media intervention to improve nutrition knowledge and behaviors of low income, pregnant adolescents and adult women (Wyst et al., 2019)	Pilot Study	10 adolescent s and 12 adults	After the social media intervention, adolescents were significantly better at identifying fiber-rich foods, recommended fruit and vegetable intakes, proportion of daily whole grain consumption, and understanding that a variety of fruit and vegetable colors are healthy. Meanwhile, adults remained better at identifying recommended fruit and vegetable intakes, and the maximum recommended percentage of daily

			fat intake. Both adults and adolescents in New York also mentioned making dietary changes and engaging in exercise during pregnancy.
Effect of a social media-based health education program on postnatal care (PNC) knowledge among pregnant women using smartphones in Dhulikhel hospital: A randomized controlled trial (Id et al., 2023)	Randomized controlled trial	229 pregnant women	A social media-based health education is effective in improving knowledge score among pregnant women. More than three-fourth of the participants were aware of protein, carbohydrate, vitamins and high fluid intake as necessary diet for postpartum mothers.
Exploring Perceptions and Needs of Mobile Health Interventions for Nutrition, Anemia, and Preeclampsia among Pregnant Women in Underprivileged Indian Communities: A Cross-Sectional Surve (Choudhury et al., 2023)	Cross-sectional	131 pregnant mothers	A significant 61% (80 respondents) responded positively to the idea, indicating that they or someone in their household would be interested in such an application.
Mobile Phone-Based Nutrition Education Targeting Pregnant and Nursing Mothers in Sri Lanka (Peiris et al., 2023)	Before and after within-subject design	720 pregnant and nursing mothers	In the post-assessment, it was found that the participants' knowledge, attitude, social norms, and behaviour intentions were higher than in the pre-assessment. However, only knowledge and attitude showed a statistically significant difference. Practices on consumption of 10 main food groups (consist of grains, white roots and tubers, plantains, nuts and seeds, dairy, meat, poultry, fish, dark green leafy vegetables, other vegetables, and fruits) using the minimum dietary diversity for women indicator showed a statistically significant improvement.

DISCUSSION

Along with the development of technology, teaching and learning process or providing education using social media is something that has been implemented in the past decade (Kumiyebaoh, 2017). Currently, accessing social media through mobile phones is common even in communities with low incomes. Several studies conducted among low-income pregnant women and adult communities on the use of social media on mobile phones have shown positive results in nutrition-related outcomes. The same results were also obtained when the intervention was carried out on teenagers.

Studies that the author has obtained show good results on the knowledge of pregnant women after being given intervention in the form of education using social media. A study conducted on low-income teenagers and adult women who were

pregnant in New York showed positive changes in their knowledge and attitudes before and after being given intervention in the form of messages via Facebook and SMS. Another study conducted on pregnant women in Nepal who received intervention in the form of videos via social media showed an increase in knowledge among the participants. The next study conducted on pregnant and breastfeeding mothers in Sri Lanka who received intervention via text messages and social media messages also demonstrated positive results in knowledge, attitudes, practices, social norms, and behavior. In the measurements taken after the intervention was given, the knowledge, attitudes, social norms and behavioral intentions of the sample were higher than before the intervention was given. The results of knowledge and attitude measurements showed statistically significant differences, but measurements of social norms and

the attitude was not statistically significant. The fourth article assessed pregnant mothers' perceptions on health interventions through mobile phone for managing anemia and preeclampsia. This article showed that the majority (80%) of their respondents were interested and gave positive responses regarding the idea of health intervention using mobile phone.

Providing education via social media has several advantages, including saving costs, being fast, easy to access, and flexible because mobile phones can be taken anywhere (Lamont et al., 2016; Evans et al., 2014; Stellefson et al., 2020). Additionally, learning privately using a mobile phone reduces the feeling of being observed. Participants also enjoyed receiving educational messages via social media and found that the information has benefits so they paid serious attention to it. Mobile application-based interventions that are accompanied by counseling and carried out interactively by implementing two-way communication will get positive results because participants can do both send and receive health messages. Other factors that influence the change in average knowledge in the intervention group include the age of the woman and her partner, their education level, their occupation, monthly income, and place of residence (Id et al., 2023). In line with this, family support also influences changes in knowledge, attitudes and nutritional practices of pregnant women. Family members will accompany pregnant mother to discuss plans for improving nutrition, supporting the pregnant mother in adopting a better diet (Wyst et al., 2019). This is in line with a study which states that a father's good knowledge of eating patterns influences the family's eating patterns (Ambikapathi et al., 2021).

One of the obstacles that may be faced in encouraging education through social media among low- and middle-income countries is low network capacity and low access to mobile phones. Education using video media carried out in low income countries in urban scope gives effective results and this cannot be generalized to rural environment (Id et al., 2023). Another study stated that the obstacles of education using social media were the poor quality of the information and the possibility of miscommunication (Hagg et al., 2020). The limitations of research with interventions using social media are external factors that researchers cannot predict, for example participants could be influenced by information from outside such as from mass media. This way, interventions using social media combined with other media may be more effective

(Wyst et al., 2019). Overall, The implementation of education using social media must be supported by primary health service system from local to national level so that it can be utilized more optimally (Peiris et al., 2023). Researchers think that providing education through social media is an effective way to be implemented in the era of technological development nowadays. However, the government must be actively involved by incorporating this into programs in public health facilities so that this idea will be implemented systematically and receives support from across sectors. With support from across sectors, the obstacles such as low network capacity and low access to mobile phones can be sought together with other policy stakeholders.

CONCLUSION(S)

There are significant differences in the knowledge of pregnant women regarding stunting prevention before and after providing nutrition education through social media.

SUGGESTION

Future intervention is needed to identify the implementation of social media intervention for knowledge dissemination so it can be more enjoyable and effective

CONFLICT OF INTEREST

The author(s) have no conflict of interest associated with the material presented in this paper.

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**GIVING ROSE AROMATHERAPY (ROSA CENTIFOLIA)
AGAINST THE DURATION OF THE BABY'S SLEEP
AT THE AGE OF 0 – 28 DAYS**

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**ABSTRAK PEMBERIAN AROMATERAPI MAWAR (ROSA CENTIFOLIA) TERHADAP DURASI TIDUR BAYI
PADA USIA 0 – 28 HARI**

Sekitar 75% hormon pertumbuhan pada anak dikeluarkan saat tidur. Di Indonesia cukup banyak bayi yang mengalami masalah tidur, yaitu sekitar 44,2% bayi mengalami gangguan tidur seperti sering terbangun di malam hari, namun lebih dari 72% orang tua menganggap gangguan tidur pada bayi bukan suatu masalah atau hanya menganggapnya sebagai masalah. masalah kecil (Sekartini, 2012; Chandraini, 2021).

Berdasarkan data prasurvei dengan melihat data masalah durasi tidur bayi yang dilakukan di 2 Puskesmas Kabupaten Lampung Tengah yaitu di UPTD Puskesmas Bandar Jaya dan UPTD Puskesmas Poncowati ditemukan 12 bayi usia 0-28 hari mengalami gangguan tidur. di UPTD Puskesmas Bandar Jaya, sedangkan di Puskesmas Poncowati terdapat 20 bayi usia 0-28 hari mengalami kendala pemenuhan waktu tidur bayi yang ditandai dengan bayi rewel dan menangis, bayi tidak bisa tidur jika tidak digendong. ibu.

Penelitian ini untuk mengetahui pengaruh pemberian aromaterapi bunga mawar terhadap durasi tidur bayi usia 0-28 hari di Puskesmas Poncowati Lampung Tengah Tahun 2022.

Metode penelitian yang digunakan adalah kualitatif dengan instrumen penelitian angket, yaitu jumlah sampel sebanyak 36 responden (bayi usia 0-28 hari) yang diambil dengan teknik purposive sampling, analisis data menggunakan uji t dengan pendekatan two group pretest posttest with control group design.

Hasil penelitian dengan adanya peningkatan rata-rata kualitas tidur bayi setelah dilahirkan pemberian aromaterapi bunga mawar (Rosa Centifolia) di Puskesmas Poncowati Lampung Tengah pada tahun 2022 lebih tinggi 33,33% dibandingkan rata-rata peningkatan kualitas tidur bayi pada kelompok kontrol sebesar 29,17%. Dari uji t diperoleh nilai p sebesar $0,001 < \alpha (0,05)$ yang berarti H_0 ditolak dan H_a diterima yang berarti terdapat pengaruh antara kedua variabel.

Kesimpulannya terdapat pengaruh pemberian aromaterapi bunga mawar terhadap durasi tidur bayi usia 0-28 hari. Oleh karena itu, disarankan agar penelitian ini dapat menjadi alternatif untuk mendapatkan kualitas tidur yang baik pada bayi usia 0-28 hari.

Kata Kunci : Bayi, Aromaterapi Mawar, Durasi Tidur.

ABSTRACT

Approximately 75% of growth hormone in children is excreted during sleep. In Indonesia, quite a lot of babies have sleep problems, which is around 44.2% of babies experience sleep disorders such as frequently waking up at night, but more than 72% of parents consider sleep disturbances in infants not a problem or only consider it a small problem (Sekartini, 2012; Chandraini, 2021).

Based on presurvey data by looking at data on baby sleep duration problems, which was carried out in 2 Puskesmas Kabupaten Lampung Tengah, namely at UPTD Puskesmas Bandar Jaya and UPTD Puskesmas Poncowati, it was found that 12 infants aged 0-28 days had problems sleeping at UPTD Puskesmas Bandar Jaya, while in Poncowati Health Center, 20 babies aged 0-28 days had problems fulfilling the baby's sleep time, which was marked by fussy babies and crying, babies couldn't sleep if they weren't carried by their mothers.

This study was to determine the effect of giving rose aromatherapy on the sleep duration of infants aged 0-28 days at Poncowati Health Center in Lampung Tengah in 2022.

The research method was qualitative with questionnaire research instruments, the number of samples were 36 respondents (infants aged 0-28 days) taken by purposive sampling technique, data analysis using t test with a two group pretest posttest approach with control group design.

Result of the study with an increase in the average quality of baby sleep after being given rose aromatherapy (*Rosa Centifolia*) at the Poncowati Health Center, Lampung Tengah in 2022 was 33.33% higher than the average increase in infant sleep quality in the control group of 29.17%. From the t-test, the p value of $0.001 < \alpha (0.05)$ means that H_0 is rejected and H_a is accepted, which means that there is an influence between the two variables.

The conclusion is that there is an effect of giving rose aromatherapy on the sleep duration of infants aged 0-28 days. Therefore, it is suggested that this research can be an alternative to get good sleep quality for infants aged 0-28 days.

Keywords : Infant, Rose Aromatherapy, Sleep Duration

INTRODUCTION

Based on research conducted by The NICHD Early Child Care Research in America shows for babies less than 6 months old who experience sleep problems as much as 53% while for babies aged 15 months as much as 44% (PMcNamara et al; Susanti., Hety. 2020). Data in Indonesia is quite a lot of babies who experience sleep problems, which is around 44.2%. More than 72% of parents do not consider sleep disorders in infants to be a problem (Sitiatava, 2011; Susanti., Hety. 2020).

In Indonesia, out of 80 children aged less than 3 years, 41 of them or 51.3% experience sleep disorders. Based on research aimed at 385 respondents in five major cities in Indonesia, namely Jakarta, Bandung, Medan, Palembang, and Lampung, it was revealed that 44.2% experienced sleep disorders, namely nighttime sleep hours of less than 9 hours, nighttime awakenings more than 3 times and long awakenings of more than 1 hour (Roekistiningsih et al. ; Susanti., Hety. 2020). In 2018, the Indonesian Ministry of Health said that babies aged 0-1 month need 14-18 hours of sleep per day, babies aged 1-18 months 12-14 hours per day and 18 months to the age of 3 years 1-12 hours per day.

Babies who have poor quality sleep if the baby has sleep disturbances at night, namely the baby's sleep is less than 9 hours, awakened more than 3 times and awakened for more than 1 hour. During sleep the baby looks constantly restless, cranky, crying and having trouble falling back to sleep. According to data on the prevalence in Indonesia around 10%, approximately 28 million of the total 238 million Indonesians suffer from sleep deprivation (Siregar, 2011; Chandraini, 2021). In Indonesia, quite a lot of babies experience sleep problems, namely around 44.2% of babies experience sleep disturbances such as waking up frequently at night, but more than 72% of parents consider sleep disturbances in babies not a problem or only consider it a minor problem (Sekartini, 2012; Chandraini, 2021).

Based on presurvey data by looking at data on the problem of baby sleep duration, which was carried out at 2 Puskesmas of Central Lampung Regency, namely at UPTD Puskesmas Bandar Jaya and UPTD Puskesmas Poncowati, the results of 12 babies aged 0-28 days experienced problems when babies slept at UPTD Puskesmas Bandar Jaya, while at the Poncowati Health Center, 20 babies aged 0-28 days experienced problems fulfilling the baby's sleep time marked by a fussy baby, and crying, the baby could not sleep if not carried by the mother.

According to dr. Harvey Neil Karp. FAAP Sp.A (2020) states that the quality of the baby's sleep is said to be a night's sleep of more than 9 hours starting at 20.00 because at that time there is a baby growth hormone or Human Growth Hormone (HGH) that is secreted, is a hormone naturally produced by the Pituitary gland in the brain. This hormone serves to ensure that the child can grow and develop normally. This hormone is secreted when the child has entered the deep sleep phase (Stage IV).

With meihartati's research (2019) The Effect of Giving Rose Flower Aromatherapy (*Rosa Centifolia*) on The Sleep Duration of Infants Aged 0-28 days. The effect of Rose Aromatherapy on Baby Sleep Duration is known by wilcoxon test analysis. The results of the statistical analysis showed a p value of 0.004 (0.05) From the results of the data analysis, it can be concluded that there is a change in the duration of the baby's sleep before and after being given rose aromatherapy. Keyhanmehr (2019) Effects of Aromatherapy with Rosadamasena Essential Oil on Sleep Quality in Children. The results of aromatherapy on naps are insignificant (p: 0.059) but they look noticeable. There were no significant changes in child fatigue after aromatherapy (p<0.036) Our results were generally consistent with previous studies, which showed that aromatherapy was effective in sleep quality. The novelty of my research is to give an overview of the use of rose aromatherapy (*Rosacentifolia*) in vivo to newborns (infants) at the age of 0-28 days.

RESEARCH METHODS

This type of research is quantitative. With the design, namely pre-experiment designs (pre-experiments) with the research plan used is an experimental quasy research design. Pseudo-experiments are research that is close to real experiments. This study aims to directly test the influence of a variable on other variables and test the hypothesis of a cause-and-effect relationship. (Sugiyono., 2017).

In this study using a two-group pretest posttest with control group design, this design had two groups selected by purposive sampling. The population in this study was all infants aged 0-28 days who met the criteria for inclusion and exclusion of the study. There were 3 inclusion criteria in the respondents, namely babies aged 0-28 days, babies born normally, babies not experiencing pain or flu, and babies being treated at home.

Meanwhile, there are 2 exclusion criteria for respondents, namely the mother is not willing to sign the inform consent and is allergic to essential oil.

Some ways of giving aromatherapy are to add it to body care products for a calming sensation, with

a mixture of rose therapy aromas as much as 100 ml (V6 young living) mixed with 20% pure essential oil, which is 3 ml and divided into 20 drops, then apply on the baby's glove cloth (2 left spread and 2 smears right) and also applied to the baby's clothes on the front of 2 spreads (young Living Assessment).

RESEARCH RESULTS

Characteristics of Respondents

It is known based on the characteristics of respondents at the UPTD Puskesmas Poncowati, Central Lampung Regency in 2022, the characteristics based on the maternal education category in the intervention group with the highest number are SMA 13 (72.2%) respondents while in the control group the highest number of SMA education is 10 (55.6%) respondents, maternal occupation by intervention group with the most number was maternal work as a household 8 (44.4%) respondents and in the control group with maternal employment as a housewife 10 (55.%) respondents

Table 1
Characteristics of Respondents

Maternal Characteristic	Intervension		Control	
	N	(%)	N	(%)
Education				
S1	3	16,7	1	5,6
SMA	13	72,2	10	55,6
SMP	2	11,1	5	27,8
D3	-	-	2	11,1
Work				
Laborer	2	11,1	-	-
IRT	8	44,4	10	55,6
PNS	2	11,1	2	11,1
Self Employed	6	33,3	6	33,3
Infant Age				
12	1	5,6	-	-
19	1	5,6	1	5,6
21	1	5,6	3	16,7
22	1	5,6	2	11,1
23	3	16,7	4	22,2
24	3	16,7	1	5,6
26	3	16,7	1	5,6
27	2	11,1	2	11,1
28	3	16,7	2	11,1
Gender				
L	10	55,6	10	55,6
P	8	44,4	8	44,4

Table 2
Results of Variable Normality Test after Treatment in Intervention Group and Control Group

Variable (Baby Sleep)	N	SD	P-Value (Shapiro Wilk)
Intervension	18	7,230	0,125
Control	18	4,156	0,095

Based on the research data, it is known that the value of Shapiro-wilk in the group after being given essential oil and the combination of rose aromatherapy in the intervention group was 0.125 and in the group of essential oil in the control group, which means that the value ≥ 0.05 . Thus, it can be concluded that the data of the two groups in this study were normally distributed.

Univariate Analysis Results

Based on table 3 above, it can be seen from the number of 18 respondents of the study conducted with the results of the average value of the quality of the baby's sleep duration before being given rose aromatherapy (*Rosa Centifolia*) at the UPTD

Puskesmas Poncowati, Central Lampung Regency in 2022 with a mean of 58.33, standard deviation value of 7,327 minimum value of 25 signs of symptoms of fussy babies and experiencing sleep disorders and a maximum score of 75 signs of symptoms of fussy babies and experiencing adequate sleep.

Meanwhile, the average value after being given rose aromatherapy (*Rosa Centifolia*) with a mean of 84.72, a standard deviation value of 11,037 and a minimum score of 75 signs of baby symptoms are fussy and experience adequate sleep quality and a maximum of 100 signs of symptoms of babies not fussing and sleeping well.

Table 3
The Average Duration of Baby's Sleep Before and After Being Given Rose Aromatherapy (*Rosa Centifolia*) in the Intervention Group at uptd Puskesmas Poncowati, Central Lampung Regency in 2022

Baby Sleep	Mean	SD	Min	Max	N
Before intervension	58,33	7,327	25	75	18
After intervension	84,72	11,037	50	100	

Table 4
Average Improvement of Baby Sleep Duration Before and After Being Given Rose Flower Aromatherapy (*Rosa Centifolia*) in the Intervention Group at UPTD Puskesmas Poncowati, Central Lampung Regency in 2022

Baby Sleep	Mean	SD	Min	Max	N
Quality Improvement	33,33	4,156	25	75	18

The average improvement in the quality of sleep of infants in the intervention group increased by 33.33% with an increase in the signs that the baby was not fussy and the quality of the baby's sleep became good.

Table 5
The Average Duration of Baby's Sleep Before and After Being Given Essential Oil in the Control Group at uptd Puskesmas Poncowati, Central Lampung Regency in 2022

Baby Sleep	Mean	SD	Min	Max	N
Before Control	48,61	17,971	25	75	18
After Control	63,89	12,230	25	75	

Based on table 5 above, it can be seen the average value of the quality of the baby's sleep duration in the control group at the UPTD Puskesmas Poncowati, Lampung Tengah Regency in 2022 with a mean of 48.61 and a standard deviation value of 17,971 minimum score of 25 signs of symptoms of fussy babies and experiencing sleep disorders and a

maximum score of 75 signs of symptoms of fussy babies and getting enough sleep.

Meanwhile, the average value of the baby's sleep quality after the control group with a mean of 63.89 standard deviation values of 12,230 scores of at least 25 signs of symptoms of fussy babies and experiencing sleep disorders and a maximum of 75

signs of symptoms of fussy babies and getting enough sleep.

Table 6
Average Improvement in the Quality of Baby's Sleep Duration Before and After Being Given Essential Oil Aromatherapy in the Control Group at uptd Puskesmas Poncowati, Central Lampung Regency in 2022

Baby Sleep	Mean	SD	Min	Max	N
Peningkatan	29,17	7,230	25	50	18

The average improvement in the sleep quality of babies in the control group increased by 29.17% with an increase in the signs that the baby was not fussy and the quality of the baby's sleep became sufficient.

Bivariate Analysis Results

Based on table 7, it can be seen that the results of research that has been carried out to determine the relationship between giving rose aromatherapy (*rosa centifolia*) (intervention group)

and essential oil (control group) to the sleep duration of babies aged 0-28 days at the UPTD Puskesmas Poncowati, Lampung Tengah Regency in 2022 with the results of the t test, the mean value in the group given aromatherapy for roses was 33.33 standard deviation values of 4.156 and the mean value for the group that was only given essential oil was 63.89 and the standard deviation value was 7.230. The result of a p value of $0.001 < \alpha (0.05)$ means that H_0 is rejected and H_a is accepted, which means that there is a meaningful relationship between the two variables.

Table 7
The Relationship Between Giving Rose Flower Aromatherapy (*Rosa Centifolia*) (Intervention Group) And Essential Oil (Control Group) To Sleep Duration Of Infants Aged 0-28 Days At UPTD Puskesmas Poncowati, Central Lampung Regency in 2022

Baby Sleep	Value	Mean	SD	P-value*	CI 95%
Intervension	18	33,33	4,156	0,001	2,056-7,176
Control	18	29,17	7,230		2,026-7,186

DISCUSSION

Characteristics of Respondents

It is known based on the characteristics of respondents at the UPTD Puskesmas Poncowati, Lampung Tengah Regency in 2022, the characteristics based on the maternal education category in the intervention group with the highest number are SMA 13 (72.2%) respondents while in the control group the highest number of high school education 10 (55.6%) respondents, maternal work based on the intervention group with the most number was the work of mothers as households 8 (44.4%) respondents and in the control group with maternal work as housewives 10 (55.%) respondents. Meanwhile, the characteristics were based on the age of the infants in the intervention group as a whole aged 22-28 days, and for the control group aged 21, 23 and 27-28 days. For gender in the intervention group the most were male sex 10 (55.6%) respondents, and the most control group was male sex 10 (55.6%) respondents.

The age factor also affects the improvement of the baby's sleep quality. The older the baby gets,

the quality of sleep the baby decreases. Babies at the age of 4-6 months the number of naps is decreasing, In babies aged 6 months the sleep pattern begins to appear similar to that of adults. In line with the theory proposed by Oktaviano (2017) Sleep disorders in infants and children not only result in growth problems, but are also thought to be closely related to child development problems, especially emotional, psychic and cognitive.

Hirshkowitz et al., suggest sleep duration for healthy individuals, among others: sleep duration for neonates aged 0-3 months 14-17 hours, infants aged 4-11 months 12-15 hours, toddlers aged 1-2 years 11-14 hours, preschool age children aged 3-5 years between 10-13 hours, school-age children 6-13 years 9-11 hours, adolescents 14-17 years 8-10 hours.

In his opinion, it is not only the baby factor that can affect the quality of the baby's sleep, but parental characteristic factors such as education and work also affect the baby's sleep quality. A safe and comfortable state of the environment for a person can accelerate the occurrence of sleep processes.

The environment in which the baby sleeps has an important effect on the quality of the baby's sleep. The atmosphere of the room that makes the baby feel comfortable to sleep by adjusting the lighting, ventilation, color arrangement, temperature, and also the state of the crib. Good parental knowledge will improve the quality of development of the baby. Parental education is one of the important factors for the development of children.

This is because the level of parental knowledge can affect parents' knowledge of the information they will receive, especially regarding good childcare methods (Oktaviano, 2017). In line with the research conducted by Uryati, S., & Oktavianto, E. (2020). The relationship of sleep quality with the development of babies aged 3-10 months. The results of the statistical test showed a p value = 0.001 (p value < 0.05).

The quality of sleep for children was good for 15 babies (41.7%) and the quality of sleep was poor for 21 babies (58.3). The normal child development was 19 babies (52.8%) and the suspects were 17 babies (47.2%). Babies with good sleep quality tend to have normal development, and vice versa.

The conclusion in this study is that there is a relationship between sleep quality and the development of infants aged 3-10 months. In the opinion of researchers of maternal characteristics which include education and work related to the fulfillment of the baby's health, mothers who have higher education will continue to seek information related to the fulfillment of the baby's sleep needs, likewise, work also has a close effect, mothers who have heavy jobs will tend to have difficulty controlling their baby's sleep, in contrast to mothers who do not have heavy jobs or are assisted by their husbands and families, mothers will focus on the growth and development of their babies.

As for the characteristics of babies, researchers argue that gender is one of the factors that can affect the growth and development of babies. At a certain age males and females are very different in size of growth, speed of growth, physical proportions and others. Physical and motor growth differs between males and females. Boys are more active than girls.

In conellan's research (2020) suggested that male babies are more likely to move (move around) compared to female babies. The faster motor development of male babies is caused by the higher testosterone hormone in male babies compared to female babies so that girls are more happy with calm and comfortable activities.

The age of respondents who dominated in this study were babies with 6 months of age, namely

11 babies. Age is one of the factors that can affect the growth and development of babies. This is because the greatest growth and development speed is during the fetus / period in the womb, infancy and adolescence / adolescence. The motor development of the baby gets better with increasing age due to the maturity of the functions of the body and its muscles. This is in line with research that shows that there is a meaningful relationship between the age of the baby and the motor ability of the baby.

Univariate Analysis

The Average Quality of The Baby's Sleep

Duration Before and After Being Given Rose Aromatherapy (Rosa Centifolia) At UPTD Puskesmas Poncowati, Central Lampung Regency in 2022

It is known from the number of 18 respondents of the study conducted with the results of the average value of the quality of the baby's sleep duration before being given rose flower aromatherapy (Rosa Centifolia) at the UPTD Puskesmas Poncowati, Lampung Tengah Regency in 2022 with a mean of 58.33, a standard deviation value of 7,327 minimum values of 25 signs of symptoms of fussy babies and experiencing sleep disorders and a maximum score of 75 signs of symptoms of fussy babies and experiencing adequate sleep.

Meanwhile, the average value after being given rose aromatherapy (Rosa Centifolia) with a mean of 84.72, a standard deviation value of 11,037 and a minimum score of 75 signs of baby symptoms are not fussy and the quality of sleep is sufficient and a maximum of 100 signs of symptoms of babies are not fussy and sleep quality is good. In the rose aromatherapy intervention group, there was a significant improvement in the quality of the baby's sleep by 33.33%.

According to dr. Harvey Neil Karp.FAAP Sp.A (2020) states that the quality of the baby's sleep is said to be good if the night's sleep of more than 9 hours starts at 20.00 because at that time there is a baby growth hormone or Human Growth Hormone (HGH) that is secreted, which is a hormone naturally produced by the Pituitary gland in the brain. This hormone serves to ensure that the child can grow and develop normally. This hormone is secreted when the child has entered the deep sleep phase (Stage IV).

According to Perry and Potter (2006 & Hidayat, 2008; Meihartati, 2019) there are several factors that affect the baby's sleep, including, the environment such as a safe and comfortable environment. A person's baby can speed up the

occurrence of the sleep process, Bed arrangements such as babies should be placed to sleep by parents, because sleeping with parents provides several benefits, namely it can facilitate breastfeeding and can provide a quick response when the baby cries and allows the mother to more easily predict the danger in case of a breath stop, Physical exercise such as fatigue due to high physical activity can require more sleep to maintain the balance of energy that has been expended, the provision of aromatherapy will help meet the baby's sleep needs because by giving aromatherapy will make the baby feel calm and relaxed, Nutrition such as breastfeeding before going to bed will make sleep calmer, Diseases such as pain, physical discomfort, respiratory, digestive disorders, etc.

In line with the theory put forward by Aisyah (2016) Aromatherapy is a therapy by using essential oils whose extracts and chemical elements are taken intact, one type is rose aromatherapy, rose aromatherapy has properties as an anti-depressant, lowering blood pressure, as well as being able to overcome insomnia, migrants, nervous tension, stress, and sadness, rose aromatherapy with the main content of inhaled linanool will be interpreted by various neuron cells and delivered to the limbic system and hypothalamus to be processed in the form of electrical impulses. In theory, if relaxation therapy can be implemented properly (rose aromatherapy) then blood pressure can decrease (Kenia, 2013' Damanik, 2015).

In line with related research conducted by Meihartati (2019) The Effect of Giving Rose Flower Aromatherapy (*Rosa Centifolia*) on the Sleep Duration of Babies Aged 0 – 28 days. Aromatherapy half of the respondents had their sleep duration normalized, namely 5 babies (50%) and half of respondents 5 babies (50%) less than normal sleep duration before giving Aromatherapy, after aromatherapy the duration of sleep became above normal.

According to researchers, sleep quality is a state of sleep that an individual undergoes to produce freshness and fitness when awakened. Sleep quality includes quantitative aspects of sleep, such as sleep duration, sleep latency as well as subjective aspects of sleep. Sleep quality is the ability of each person to maintain a state of sleep and to get a good/ restful stage of REM and NREM sleep.

Rose aromatherapy is one of the aromatherapy that contains linalol and graniol substances and is active when used through inhalation / inhalation which can be useful in increasing alertness, calming, anti-anxiety, stress management, and sleep disorders. So that rose

aromatherapy is a non-pharmacological therapy that can overcome the problem of sleep disorders or insomnia and improve sleep quality by giving rose aromatherapy.

Duration Before and After Being Given Essential Oil in the Control Group at updt Puskesmas Poncowati, Central Lampung Regency in 2022

Based on table 3, it is known that the average value of the quality of the baby's sleep duration in the control group at the UPTD Puskesmas Poncowati, Lampung Tengah Regency in 2022 with a mean of 48.61 and a standard deviation value of 17,971 scores of at least 25 signs of symptoms of fussy babies and experiencing sleep disorders and a maximum score of 75 signs of symptoms of fussy babies and getting enough sleep.

Meanwhile, the average value of the baby's sleep quality after the control group with a mean of 63.89, the standard deviation value of 12,230 scores of at least 25 signs of symptoms of fussy babies and experiencing sleep disorders and a maximum of 75 signs of symptoms of fussy babies and getting enough sleep. The increase in the control group was 29.17% better than the situation before the administration of essential oil.

The quality of the baby's sleep not only affects the physical development, but also the behavior of the baby the next day. Babies who sleep enough without waking up often will be fitter and not easily fussy. Babies are said to have sleep disturbances if at night their sleep is less than 9 hours, awakened more than 3 times and the length of awakening is more than 1 hour. During sleep the baby looks always cranky, crying and having trouble falling back to sleep (Rohmawati, 2018).

The quality of the baby's sleep greatly affects the growth of the baby. Sleeping babies experience improved brain cells and growth hormone production, therefore, the quality of the baby's sleep needs to be maintained. The quality of the baby's sleep can be seen from the way he sleeps, sleep comfort and sleep patterns. Babies who sleep enough without waking up often, are fitter and not easily fussy the next day.

In line with the results of previous research Keyhanmehr (2019) Effects of Aromatherapy with *Rosadamasena* Essential Oils on Sleep Quality in Children. The results of aromatherapy on naps are insignificant ($p: 0.059$) but they look noticeable. There were no significant changes in child fatigue after aromatherapy ($p < 0.036$) Our results were generally consistent with previous studies, which showed that aromatherapy was effective in sleep quality.

Based on research conducted by The NICHD Early Child Care Research in America shows for babies less than 6 months old who experience sleep problems as much as 53% while for babies aged 15 months as much as 44% (Susanti, I. Y.; Hety, 2020). Data in Indonesia is quite a lot of babies who experience sleep problems, which is around 44.2%. More than 72% of parents do not consider sleep disorders in infants to be a problem (Susanti, I. Y.; Hety, 2020).

According to researchers if a baby has problems with sleep it can have an effect on physical development, but also the baby's behavior the next day. Babies who sleep enough without waking up often will be fitter and not easily fussy. Babies are said to have sleep disturbances if at night their sleep is less than 9 hours, awakened more than 3 times and the length of awakening is more than 1 hour. During sleep the baby looks always cranky, crying and having trouble falling back to sleep.

Bivariate Analysis

The Effect of Giving Rose Flower Aromatherapy (*Rosa Centifolia*) on the Sleep Duration of Babies Aged 0-28 Days at uptd Puskesmas Poncowati, Central Lampung Regency in 2022

It is known that the results of research that has been carried out to determine the relationship between giving aromatherapy of rose flowers (*rosa centifolia*) (intervention group) and essential oil (control group) to the sleep duration of babies aged 0-28 days at the UPTD Puskesmas Poncowati, Central Lampung Regency in 2022 with the results of the t test obtained the value of the mean in the group given rose aromatherapy was 33.33 the standard deviation value was 4.156 and the mean value for the group that was only given essential oil was 29.17 and the standard deviation value was 7.23.

The result of a p value of $0.001 < \alpha (0.05)$ means that H_0 is rejected and H_a is accepted, which means that there is a meaningful relationship between the two variables. The bivariate test identified that the administration of rose essential oil in the intervention group had a higher increase in the average quality of infant sleep compared to an increase in the average quality of baby sleep in the control group given essential oil.

The improvement in infant sleep quality in the intervention group reached 33.33% higher than the average quality of baby sleep in the control group, meaning that the intervention for providing rose aromatherapy was able to provide a differentiator for the baby's sleep quality. In line with the theory proposed by Rohmawati (2019) The quality of the baby's sleep not only affects the physical

development, but also the behavior of the baby the next day. Babies who sleep enough without waking up often will be fitter and not easily fussy. Babies are said to have sleep disturbances if at night their sleep is less than 9 hours, awakened more than 3 times and the length of awakening is more than 1 hour. During sleep the baby looks always cranky, crying and having trouble falling back to sleep.

Sleep is a very important process for humans, because in sleep there is a regeneration process in the body, this process is useful for restoring a person's condition to be more relaxed, that way the body that experiences fatigue will become refreshed. The stunted recovery process can cause the body's organs to not work optimally, as a result of which people who lack sleep will get tired quickly and experience a decrease in concentration. In babies sleep is often a problem so that it can interfere with the growth of the baby. This is as research by Whittingham & Douglas (2014) which suggests that between 23 - 27% of parents report problems sleeping in the first six months of life (Sari, 2019).

Aromatherapy is therapy by using essential oils whose extracts and chemical elements are taken whole, one type of which is rose aromatherapy. Not only color is the benefit of flowers. Flowers produce a variety of very characteristic odors depending on the type of flower. The smell of jasmine flowers will be very different from the smell of roses or kenanga flowers. Even in one type of flower, it has a different smell, for example, the smell of white roses is different from the smell of red roses. Often the smell of this flower is used as aromatherapy. The smell of flowers gives a feeling of relaxation and relaxation. Several others can cure various types of diseases (Julianto, 2016).

Rose scent is a good scent used to overcome poor sleep quality because rose aromatherapy has the chemical content of linalool and geraniol which are efficacious in calming and provide a relaxing effect of the central nervous system by stimulating the olfactory nerve (Foerwanto, 2016). Rose aromatherapy is a nonpharmacological therapy that can improve sleep quality and is included in relaxation therapy.

This relaxation therapy technique trains the muscles and mind to relax in a fairly simple way, in addition to aromatherapy can also be done with meditation, muscle relaxation, and reducing the light of illumination. Rose aromatherapy as an anti-depressant, lowers blood pressure, and is able to overcome insomnia / sleep disorders, migraines, nervous tension, stress, and sadness.

Rose aromatherapy with the main content of inhaled linalool will be interpreted by various neuron

cells and delivered to the limbic and hypothalamus systems to be processed in the form of electrical impulses. The message delivered throughout the body triggers the release of the neurochemical substance of the brain. A pleasant odor will stimulate the thalamus to secrete enkefalin which is a natural painkiller and provides a calming effect. The soothing smell will stimulate an area in the brain called the raphe nucleus to secrete serotonin that can deliver us to sleep.

The aromatic ingredients used in aromatherapy treatments will stimulate the autonomic nervous system (Poerwadi, 2006; hidayah, 2015). In line with research conducted by Meihartati (2019) The Effect of Giving Rose Aromatherapy (*Rosa Centifolia*) on the Sleep Duration of Babies Aged 0 – 28 days. Aromatherapy half of the respondents had their sleep duration normalized, namely 5 babies (50%) and half of respondents 5 babies (50%) less than normal sleep duration before giving Aromatherapy, after aromatherapy the duration of sleep became above normal.

In the opinion of researchers, the mechanism of aromatherapy of roses to reduce the level of insomnia is that it begins at the moment when rose flower oil is inhaled. Then the volatile molecules will carry the aromatic elements contained in them (geraniol and linalool) to the apex of the nose where cilia-cilia emerge from the receptor cells. When the baby is asleep, there is growth and maturation in brain cells and there is an increase in the production of growth hormone which has a role in the growth and development of the baby physically and psychically. Therefore, it is important that the quality and quantity of baby sleep is to be uplifted to be optimal.

The assessment of sleep quality in babies can be seen from the frequent or not of the baby waking up in one sleep cycle. Through the administration of rose aromatherapy, the quality and quantity of baby sleep increases. This happens because through the inhalation of essential oils in rose flowers will stimulate the production of endorphine hormones that cause the baby to relax and calm down.

CONCLUSION

Based on the results of the research and discussion that has been presented, the conclusions of this study are as follows:

The improvement of the quality of baby sleep in the administration of rose aromatherapy with the value of improving the quality of baby sleep in the intervention group was 33.33 and the standard deviation value of 4.156 compared to the control group was 29.17 and the standard deviation value

was 7.230. The result of a p value of $0.001 < \alpha$ (0.05) means that H_0 is rejected and H_a is accepted, which means that there is an influence between the two variables.

SUGGESTION

For health workers, health workers need to develop promotion and education about rose flower aromatherapy (*Rosa Centifolia*) to the community, especially parents to increase the quantity and quality of baby sleep. This can be done by providing counseling and explaining how to get rose aromatherapy accompanied by demonstrations and giving leaflets which can be done through posyandu-posyandu activities or toddler mother class services by health workers.

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THE EFFECTIVENESS OF GIVING PEPPERMINT OIL AROMATHERAPY ON THE SEVERITY OF NAUSEA AND VOMITING IN PREGNANT WOMEN TRIMESTER I AT HEALTH PUSKEMAS TULANG BAWANG 1

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ABSTRAK : EFEKTIVITAS PEMBERIAN AROMATERAPI MINYAK PEPPERMINT TERHADAP KEPARAHAN MUAL DAN MUNTAH PADA IBU HAMIL TRIMESTER I DI PUSKEMA KESEHATAN TULANG BAWANG 1

Di Indonesia, Sebanyak 50%-75% Ibu Hamil Mengalami Mual Dan Muntah Pada Trimester Pertama Atau Awal Kehamilan (Harahap, 2020). Jumlah Kehamilan Di Provinsi Lampung Pada Tahun 2019 Sebanyak 118.241 Ibu, Dengan Kehamilan Tertinggi Di Kabupaten Lampung Tengah Sebanyak 19.211 Ibu Dan Terendah Di Kabupaten Pesisir Barat Sebanyak 1.421 Ibu, Sedangkan Kabupaten Tulang Bawang Sebanyak 11.121 Ibu Masuk Dalam 5 Besar. Tujuan Dari Penelitian Ini Adalah Untuk Mengetahui Efektivitas Aromaterapi Minyak Peppermint Terhadap Derajat Mual Dan Muntah Pada Ibu Hamil Tm I Di Puskesmas Tulang Bawang 1 Tahun 2022.

Jenis Penelitian Ini Adalah Kuantitatif, Dengan Desain Penelitian Pre-Eksperimental. Populasinya Adalah Ibu Hamil Tm I Yang Mengalami Mual Dan Muntah, Teknik Pengambilan Sampel Pada Penelitian Ini Adalah Purposive Sampling, Analisis Data Univariat Dan Bivariat Menggunakan Uji T, Penelitian Dilakukan Di Puskesmas Tulang Bawang 1 Pada Bulan Juni 2022.

Rata-Rata Mual Muntah Pada Ibu Hamil Sebelum Diberikan Aromaterapi Peppermint Dengan Mean 10,30. Rata-Rata Mual Muntah Pada Ibu Hamil Setelah Diberikan Aromaterapi Peppermint Dengan Mean 6,90. Hasil Uji Statistik Diperoleh P-Value = 0,000 Yang Berarti Terdapat Efektivitas Pemberian Aromaterapi Minyak Peppermint Terhadap Derajat Mual Muntah Pada Ibu Hamil Tm I Di Puskesmas Tulang Bawang 1 Tahun 2022. Ibu Hamil Yang Mengeluh Penderita Mual Dan Muntah Pada Trimester Pertama Sebaiknya Melakukan Aromaterapi Minyak Peppermint Dengan Tepat Agar Dapat Mengurangi Mual Dan Muntah Pada Trimester Pertama.

Kata Kunci : Minyak Peppermint, Mual Dan Muntah, Ibu Hamil

ABSTRACT

In Indonesia, as many as 50%-75% of pregnant women experience nausea and vomiting in the first trimester or early pregnancy (Harahap, 2020). The number of pregnancies in Lampung Province in 2019 was 118,241 mothers, with the highest pregnancy in Central Lampung Regency as many as 19,211 and the lowest in Pesisir Barat Regency as many as 1,421 while Tulang Bawang Regency with 11,121 being in the top 5. The purpose of this study was to determine the effectiveness of peppermint oil aromatherapy on the severity of nausea and vomiting in TM I pregnant women at the Tulang Bawang 1 Health Center in 2022.

This type of research is quantitative, with a pre-experimental research design. The population was TM I pregnant women who experienced nausea and vomiting, the sampling technique in this study was purposive sampling, univariate and bivariate data analysis using t-test, the study was conducted at the Tulang Bawang 1 Health Center in June 2022.

The average of nausea and vomiting in pregnant women before being given peppermint aromatherapy with a mean of 10.30. The average nausea and vomiting in pregnant women after being given peppermint aromatherapy with a mean of 6.90. The results of statistical tests obtained p-value = 0.000 which means that there is an effectiveness of giving peppermint oil aromatherapy to the severity of nausea and vomiting in pregnant women with TM I at the Tulang Bawang 1 Health Center in 2022. Pregnant women who complain of nausea and vomiting in the first trimester should do peppermint oil aromatherapy appropriately in order to reduce nausea and vomiting in the first trimester.

Keywords : Peppermint Oil, Nausea and Vomiting, Pregnant Women

INTRODUCTION

Pregnancy is a continuous process that starts from ovulation, conception, nidation, implantation

and development of the embryo in the uterus to term. Any process in pregnancy is a crisis condition that requires psychological and physiological adaptation to the influence of pregnancy hormones and mechanical stress due to enlargement of the uterus and other tissues (Bobak, Lowdermik & Jensen, 2010).

Nausea vomiting that occurs in pregnancy caused by changes in the endocrine system that occur during pregnancy, mainly caused by high fluctuations in levels of Human Chorionic Gonadotropin (hCG), most women who experience symptoms of nausea and vomiting at 8-12 weeks of gestation and gradually decrease until finally stopping at 16 weeks of gestation (Tiran, 2019).

The incidence of nausea vomiting in pregnancy based on data from the World Health Organization (WHO, 2015) estimates that at least 14% of all pregnant women who experience nausea vomiting, the incidence of nausea vomiting in pregnancy in Indonesia obtained from 2,203 pregnancies that can be observed in full is 534 pregnant women who experience nausea vomiting. Pregnancy with hyperemesis gravidarum according to WHO reached 12.5% of all pregnancies in the world with a diverse incidence ranging from 0.3% in Sweden, 0.5% in California, 0.8% in Canada, 10.8% in China, 0.9% in Norway, 2.2% in Pakistan, and 1.9% in Turkey.

In Indonesia, as many as 50% -75% of pregnant women experience nausea and vomiting in the first trimester or early in pregnancy (Harahap, 2020). The number of pregnancies in Lampung Province in 2019 was 118,241 mothers, with the highest pregnancy in central Lampung Regency as many as 19,211 and the lowest in West Coast Regency as many as 1,421 while Tulang Bawang Regency as many as 11,121 was in the top 5 (Lampung Health Office, 2020).

Based on the data below, it can be concluded that from year to year there is an increase in the incidence of cases. In 2018 out of 450 pregnant women, as many as 94 (20.8%) mothers had hyperemesis gravidarum and mothers with complaints of nausea vomiting as many as 102 (22.6%) (Dinkes Lampung, 2018; Anisa, 2021).

According to Wiknjastro (2010), nausea usually occurs in the morning, but there are those that arise at any time and at night. Nausea and vomiting occur in 60-80% of primigravids and 40-60% of multigravids. The impact of nausea vomiting if not handled properly it will cause symptoms of severe nausea vomiting (intractable) and persistent that occurs in early pregnancy resulting in dehydration, electrolyte disturbances or nutrient

deficiency known as hyperemesis gravidarum (Sari, 2018).

The management of nausea and vomiting in pregnancy depends on the severity of the symptoms. Treatment ranges from the mildest with dietary changes to approaches with antiemetic medication, hospitalization, or parenteral nutrition. Treatment consists of pharmacological and non-pharmacological therapies. Pharmacological therapy is carried out with the administration of antiemetics, antihistamines and corticosteroids. Non-pharmacological therapy is done by regulating diet, emotional support, acupressure and ginger (Runiari, 2010).

In general, mothers who experience nausea vomiting do not feel comfortable and want to go through this period immediately. One of the treatments to overcome the discomfort of nausea vomiting in the first trimester of pregnancy is with pharmacological or non-pharmacological therapy. Pharmacological therapy is carried out with the administration of antiemetics, antihistamines, anticholinergics and corticosteroids. However, there are also nonpharmacological therapies, one of which can be done with emotional support, acupressure and aromatherapy (Hidayati, 2009; Wiknjastro, 2010; Rosalina, 2019).

Aromatherapy is one of a variety of complementary therapies that are developing rapidly and rapidly (Buckle, 2003; Rosalina, 2019). The reason is, this treatment is classified as economical or does not require a lot of cost, affordable and easy to do. The term aromatherapy refers to the use of chemical drugs using natural ingredients (Triarsari, 2009; Rosalina, 2019).

Aromatherapy Treatment provides a variety of effects for the inhaled, such as calmness, freshness, and can even help pregnant women cope with nausea and vomiting. Aromatherapy is a therapeutic action by using essential oils that are useful to improve the physical and psychological state of a person for the better.

Some essential oils have unique pharmacological effects such as anti-bacterial, anti-viral, diuretic, vasodilator, sedative, and adrenaline stimulant. Molecules in these essential oils when inhaled through the nasal cavity can stimulate the limbic system in the brain. The limbic system in the brain is an area that affects emotions and memory and is directly related to adrenaline, pituitary gland, hypothalamus, parts of the body that regulate heart rate, blood pressure, stress, body balance and breathing (Runiari, 2010).

Aroma therapy that is often used is peppermint (mentha piperita) peppermint belongs

to the genus labiate, which has a very high fragrance level, and has a cool, refreshing, strong, deep menthol smell, peppermint essential oil is the best cure for digestive problems. This oil contains reliable anti-seizure and healing properties for cases of nausea, indigestion, difficulty getting rid of gas in the stomach, diarrhea, constipation, as well as being equally effective for healing headaches, migraines, and also fainting (Sari, 2018).

Peppermint has properties to overcome nausea and vomiting in pregnant women, it is in karnakan high content of menthol (50%) and menthone (10% -30%). In addition, peppermint has long been known to provide carnimative and antispasmodic effects, which specifically work in the smooth muscles of the gastrointestinal tract and all bile, besides peppermint also contains aromatherapy and essential oils that have pharmacological effects. Aromatherapy is a therapeutic action by using essential oils that are useful to improve the physical and psychological state so that it becomes better

The results of prasurvey conducted at the health center of Tulang Bawang 1 to 15 pregnant women in the first Trimester by conducting free interviews, it is known that 11 mothers (73.3%) had problems with nausea vomiting with signs of nausea in the morning, and after eating or drinking containing fat or oil, and accompanied by vomiting as much as 6-7 times per day accompanied by impaired activity. While 4 mothers (26.7%) experienced mild nausea and vomiting, with a frequency of vomiting as much as 3-4 times per day and still able to move at home.

RESEARCH METHODS

In this study the authors limit the scope of research as follows: this type of research is quantitative, with pre-experimental research design. The population was pregnant women in the first Trimester who experienced nausea and vomiting, the sampling technique in this study was total sampling, univariate and bivariate data analysis using the t-Test Test, the study was conducted at the Tulang Bawang 1 Health Center in July 2022.

RESEARCH RESULTS

Characteristics Of Respondents

Table 1
Characteristics Of Pregnant Women In The First Trimester Before Being Given Peppermint Oil Aromatherapy At The Tulang Bawang Health Center 1 Year 2022

Gestational Age	Frequency	Percentage
10 Week	3	15,0
11 Week	6	30,0
12 Week	11	55,0
Parity		
G1P0A0	7	35,0
Primiparous	2	10,0
G2P0A1	9	45,0
Multiparous	1	5,0
G2P1A0	1	5,0
Multiparous		
G3P1A1		
Multiparous		
G3P2A0		
Multiparous		
Age		
20 Year old	1	5,0
21 years old	1	5,0
22 years old	1	5,0
23 years old	2	10,0
25 years old	1	5,0
26 years old	2	10,0
27 years old	2	10,0
28 years old	1	5,0
29 years old	3	15,0
30 years old	2	10,0
31 years old	1	5,0
32 years old	2	10,0
33 years old	1	5,0

Based on Table 1 gestational age 10-12 weeks as many as 20 respondents (100%). Parity most multiparous G2P1A0 9 respondents (45.0%). Age of respondents most 20-30 years 16 respondents (80.0%).

Univariate Analysis

From table 2 above, it can be seen that the average nausea and vomiting in pregnant women in the first Trimester before being given peppermint oil aromatherapy at the Tulang Bawang 1 Health Center in 2022, with a mean of 10.30.

Table 2

Average Nausea And Vomiting In Pregnant Women In The First Trimester Before Being Given Peppermint Oil Aromatherapy At The Tulang Bawang Health Center 1 Year 2022

Variable	N	Mean	SD	SE	CI-95%
Nausea And Vomiting Before The Intervention	20	10,30	1,380	0,309	9,65-10,95

Table 3

The Average Nausea And Vomiting In Pregnant Women In The First Trimester After Being Given Peppermint Oil Aromatherapy At The Tulang Bawang Health Center 1 Year 2022

Variable	N	Mean	SD	SE	CI-95%
Nausea And Vomiting After The Intervention	20	6,90	1,210	0,270	6,33-7,47

From table 3 above, it can be seen that the average nausea and vomiting in pregnant women in the first Trimester after being given peppermint oil aromatherapy at the Tulang Bawang 1 Health Center in 2022, with a mean of 6.90.

Bivariate Analysis

From table 4 it can be seen that the average emesis gravidarum 20 respondents with a mean of 10.30 before being given the intervention, and

decreased mean 6.90 after being given the intervention, which means that respondents decreased after being given peppermint aromatherapy.

The results of statistical tests obtained p-value= 0.000, which means that there is an effectiveness of giving peppermint oil aromatherapy on the severity of nausea and vomiting in pregnant women in the first Trimester at the Tulang Bawang 1 Health Center in 2022.

Table 4

The Effectiveness Of Peppermint Oil Aromatherapy On The Severity Of Nausea And Vomiting In Pregnant Women In The First Trimester At The Tulang Bawang Health Center 1 Year 2022

Variable	N	Mean	SD	SE	P-Value	CI-95%
Pretest	20	10,30	1,380	0,309	0.000	2,536-4,264
Posttest	20	6,90	1,210	0,270		

DISCUSSION

Univariate Analysis

Average Nausea And Vomiting In Pregnant Women In The First Trimester Before Being Given Peppermint Oil Aromatherapy At The Tulang Bawang Health Center 1 Year 2022

Rata-rata mual dan muntah pada ibu hamil Trimester I before being given peppermint oil aromatherapy at the Tulang Bawang Health Center 1 in 2022, with a mean with 10,30.

In line with the theory put forward Wiknjosastro (2016) nausea (nausea) and vomiting (emesis) are symptoms that are reasonable and often caught in the first trimester of pregnancy. Nausea usually occurs in the morning, but it can also arise at any time and at night these symptoms are approximately 6 weeks after the first day of the last menstruation and last for approximately 10 weeks. Emesis Gravidarum is a common complaint presented in young pregnancies. The occurrence of pregnancy causes hormonal changes in women

because there is an increase in the hormones estrogen, progesterone, and the release of placental human chorionic gonadotropine. It is this hormone that causes emesis gravidarum (Runiari, 2010).

In line with research conducted by Santi, D. R. (2013). The effect of aromatherapy Blended Peppermint and Ginger Oil against nausea in pregnant women Trimester one at Rengel Health Center Tuban Regency. results: the average intensity of nausea vomiting in the peppermint group during pretest was 2.38 and decreased at the time of posttest to 1 with a p-value of 0.004. The intensity of nausea vomiting in the pretest Pomelo group was 6.38 down to 1.75 at posttest with a P-value of 0.000.

According to researchers nausea and vomiting or so-called emesis gravidarum is a common complaint in young pregnancy. The occurrence of pregnancy causes hormonal changes in women because there is an increase in the hormones estrogen, progesterone, and placental hCG production. Nausea and vomiting can also be

caused by hormonal changes and the state of the body to prepare a new position or home for the fetus.

In this study the average emesis gravidarum of 10.30 the frequency of nausea and vomiting can be caused by the body's response to objects, odors, or food consumed, in addition to the handling and management of nausea vomiting is very necessary for pregnant women, such as providing warm food, snacks or crackers, as well as non-pharmacological management (herbal medicine) in the hope of nausea and vomiting can be resolved, and does not interfere with maternal nutritional intake.

The Average Nausea And Vomiting In Pregnant Women In The First Trimester After Being Given Peppermint Oil Aromatherapy At The Tulang Bawang Health Center 1 Year 2022

The average nausea and vomiting in pregnant women in the first Trimester after being given peppermint oil aromatherapy at the Tulang Bawang 1 Health Center in 2022, with a mean of 6.90.

In line with the opinion expressed by Winkjosastro (2007) the pathophysiology of Emesis gravidarum can be caused due to increased Hormone Chorionic Gonadotropin (HCG) can be a factor of nausea and vomiting. Increased levels of the hormone progesterone causes smooth muscles in the gastrointestinal system to relax so that motility decreases and the stomach becomes empty. Hyperemesis gravidarum which is a complication of young pregnant women when it occurs continuously can lead to dehydration, electrolyte imbalance, and can result in carbohydrate and fat reserves are used up for energy purposes.

This study is in line with research conducted by Yantina (2016) with the title of the effect of peppermint essential Oil on the intensity of nausea and vomiting in pregnant women in the first Trimester in the village of Way Harong Timur district of way Lima Pesawaran district, the results showed that the provision of peppermint essential oil has a significant effect on nausea vomiting pregnant

In the opinion of researchers from the data obtained there are pregnant women whose frequency of nausea does not decrease due to psychological factors that do play an important role in this disease. Fractured households, lost jobs, fear of pregnancy and childbirth, fear of maternal responsibilities, can cause mental conflicts that can exacerbate nausea and vomiting as an unconscious expression of unwillingness to become pregnant.

In general, mothers who experience nausea vomiting do not feel comfortable and want to go through this period immediately. One of the treatments to overcome the discomfort of nausea

vomiting in the first trimester of pregnancy is with pharmacological or non-pharmacological therapy. Pharmacological therapy is carried out with the administration of antiemetics, antihistamines, anticholinergics and corticosteroids. However, there are also nonpharmacological therapies, one of which can be done with emotional support, acupressure and the provision of aromatherapy.

In accordance with the opinion expressed by Runiari (2010) aromatherapy is a therapeutic action by using essential oils that are useful to improve the physical and psychological state of a person for the better. Some essential oils have unique pharmacological effects such as anti-bacterial, anti-viral, diuretic, vasodilator, sedative, and adrenaline stimulant. The molecules in these essential oils when inhaled through the nasal cavity can stimulate the limbic system in the brain which is directly linked to adrenaline, the pituitary gland, hypothalamus, the parts of the body that regulate heart rate, blood pressure, stress, body balance and breathing.

Bivariate Analysis

The Effectiveness Of Peppermint Oil Aromatherapy On The Severity Of Nausea And Vomiting In Pregnant Women In The First Trimester At The Tulang Bawang Health Center 1 Year 2022

The results of statistical tests obtained p-value= 0.000, which means that there is an effectiveness of giving peppermint oil aromatherapy on the severity of nausea and vomiting in pregnant women in the first Trimester at the tulang bawang 1 Health Center in 2022.

In line with the theory put forward by Amin & Hardhi, (2013) emesis gravidarum is a state of nausea vomiting more than 10 times in 24 hours or every time pregnant women to interfere with daily work. Nausea vomiting is a disorder most often found in the first trimester of pregnancy. Approximately at 6 weeks after menstruation ends for 10 weeks. About 60-80% of primigravids and 40-60% of multigravids have nausea vomiting. However, these symptoms become severe only in 1 out of 1000 pregnancies (Rukiyah, 2014).

In line with research conducted by Astriana, et al. (2021) Giving Aromatherapy Combination Of Lemon And Peppermint Affects The Intensity Of Nausea And Vomiting In Pregnant Women In The First Trimester. Results: there was an effect of giving a combination of lemon and peppermint aromatherapy on the intensity of nausea vomiting in first trimester pregnant women in the working area of the Aluan Rajawali Health Center, Tulang Bawang Regency in 2021 with p-value = 0.001.

The average emesis gravidarum 20 respondents with a mean of 10.30 before being given the intervention, and decreased mean 6.90 after being given the intervention, which means that respondents decreased after being given peppermint aromatherapy. This proves if the administration of aromatherapy peppermint inhalation can reduce nausea and vomiting in pregnant women TM I.

Aromatherapy, especially peppermint oil is a commonly used method to reduce nausea and vomiting in pregnant women (*mentha piperita*). The genus *labiate*, which includes peppermint, has a very strong aroma. Peppermint essential oil has a cooling, refreshing, strong and deep menthol aroma that is the best remedy for stomach problems. In addition to being anti-seizure, this oil is also known to be able to cure nausea, indigestion, diarrhea, and constipation. It is also beneficial in treating headaches, migraines, and fainting spells, as well as nausea, vomiting, and diarrhea (Lawrence, 2013; Russian, 2019).

In addition to the use of peppermint inhalation method, in the opinion of researchers prevention of emesis gravidarum by way of encouraging eating small amounts but more often, recommend drinking warm tea and biscuits, dry bread, in addition to the mother is also expected not to consume excess milk or foods containing fat, because it will increase *rangsangan* vomiting. In addition to using diet food, handling emesis gravidarum can be given pharmacologically which includes drugs/ medi, as well as non-pharmacological one of which is the provision of aromatherapy pappermint.

Peppermint has long been known to exert a carminative and antispasmodic effect, specifically acting on the smooth muscles of the gastrointestinal tract and biliary tract. The benefits of essential oils can be felt if we can know the quality of the oil. To determine the good / bad quality of essential oils can be known from the latin / botanical name so that it knows from what plant the essential oil is taken, the packaging is in a dark glass bottle (because essential oils are very sensitive to heat, light, and air), and the price (cheap price = low quality, different oils then different prices). In contrast to chemically synthesized drugs, the use of plant essential oils is not considered a foreign body in the body, so it does not aggravate the work of organs.

Based on the characteristics of respondents obtained gestational age 10-12 weeks as many as 20 respondents (100%). According to Prawiroharjo (2014), nausea vomiting is a natural symptom and often occurs in the first trimester of pregnancy. Pregnancy affects the mother's body as a whole and causes physiological changes that generally occur in all organ systems, most of the changes in the

mother's body are temporary and mostly caused by the action of hormones.

Parity most multiparous 9 respondents (45.0%). Parity is one of the factors that contribute to the high tendency of hyperemesis gravidarum as one of the conditions that result in pathology for the mother and fetus. Hyperemesis gravidarum is more common in women who are pregnant for the first time and in women with high parity such as mothers who have experienced a fourth pregnancy, this is inseparable because of psychological factors, namely fear of responsibility as a mother if she is no longer able to take care of her children, this can cause mental conflicts that can aggravate nausea and vomiting. Razak (2010; Blessed., Sugita, 2018).

Age of respondents most 20-30 years 16 respondents (80.0%). stating that a person's age is the number of Ages that are broadly an indicator of maturity in every decision making that refers to each experience. The more mature, the level of maturity and strength of a person will be more mature in thinking and logical.

In this study there were 2 mothers who did not experience a decrease in nausea vomiting, which is on a scale of 9 both *pretes* and *postes*, namely the first responder age 20 years parity *primipara*, gestational age 12 weeks. Respondents were both age 26 years parity *multiparous* and gestational age 12 weeks. This can be caused by nausea vomiting is often ignored because it is considered a normal consequence in early pregnancy without recognizing the great impact it has on pregnant women. In addition, when the study was conducted, the two respondents on Day 2 complained of headaches, where peppermint as discussed can overcome complaints of one of them is headache and nausea vomiting. So there is a problem in the accuracy of the use of peppermint inhalation as a therapy to reduce nausea and vomiting.

Emesis Gravidarum is a common complaint presented in young pregnancies. The occurrence of pregnancy causes hormonal changes in women because there is an increase in the hormones estrogen, progesterone, and the release of placental human chorionic gonadotropine, this hormone causes emesis gravidarum.

Apart from the factors discussed above, the weight factor is also a cause related to emesis. Mother's weight is affected by the state of emesis gravidarum, mothers who lose nutrients excessively, will experience disorders *mal adequate* nutrition, where the amount of nutrient intake is not proportional to that issued, the reduced weight of the mother will have an impact on the maternal body Index, which is measured by height and weight.

CONCLUSION

The average nausea and vomiting in pregnant women before being given peppermint aromatherapy with a mean with 10.30. The average nausea and vomiting in pregnant women after being given peppermint aromatherapy with a mean of 6.90. The results of statistical tests obtained p-value= 0.000, which means that there is an effectiveness of giving peppermint oil aromatherapy on the severity of nausea and vomiting in pregnant women in the first Trimester at the tulang bawang 1 Health Center in 2022.

SUGGESTIONS

For pregnant women who complain of nausea and vomiting in the first trimester can do peppermint oil aromatherapy therapy with the aim of reducing nausea and vomiting in the first trimester that is felt.

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**THE FACTORS AFFECTING EXCLUSIVE BREASTFEEDING AT WORK ARE OF KRUI COMMUNITY
HEALTH CENTER, WEST PESISIR REGENCY**

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**ABSTRAK : FAKTOR-FAKTOR YANG MEMPENGARUHI PEMBERIAN ASI EKSKLUSIF DI KERJA DI
PUSKESMAS KRUI KABUPATEN PESISIR BARAT**

Latar Belakang: ASI Eksklusif adalah pemberian ASI kepada bayi tanpa makanan dan minuman pendamping ASI, dimulai sejak bayi dilahirkan sampai dengan usia 6 bulan. Cakupan bayi yang mendapat ASI Eksklusif di Provinsi Lampung pada tahun 2021 sebesar 69,3%. Persentase ini masih dibawah target yang ditetapkan sebesar 80%.

Tujuan: penelitian ini adalah untuk mengetahui faktor risiko yang mempengaruhi pemberian ASI Eksklusif di Wilayah Kerja Puskesmas Krui Kabupaten Pesisir Barat Tahun 2022.

Metode: Penelitian ini merupakan penelitian kuantitatif dengan desain penelitian survei analitik dengan menggunakan pendekatan cross sectional. Populasi penelitian ini adalah ibu yang mempunyai bayi usia 6-12 bulan yang berjumlah 112 ibu, dengan jumlah sampel yang diambil sebanyak 82 orang. Pengambilan sampel dilakukan dengan metode kecelakaan pada bulan Mei sampai Juli 2022. Instrumen penelitian menggunakan angket dan analisis data menggunakan uji pearson chi square.

Hasil: Uji pearson chi square menunjukkan ibu yang melakukan inisiasi menyusui dini dengan ASI eksklusif sebanyak 39 (47,6%), ibu yang melakukan inisiasi menyusui dini tanpa ASI eksklusif sebanyak 6 (7,3%), ibu tidak melakukan inisiasi menyusui dini dengan ASI eksklusif sebanyak 9 (11,0%), ibu yang melakukan inisiasi menyusui dini tanpa ASI eksklusif sebanyak 28 (34,1%). Ibu yang mendapat dukungan suami dengan kategori ASI eksklusif sebanyak 32 (39,0%), ibu yang mendapat dukungan suami tanpa kategori ASI eksklusif sebanyak 7 (8,5%), ibu yang tidak mendapat dukungan suami dengan kategori ASI eksklusif sebanyak 16 (19,5%).), kategori ibu tidak mendapat dukungan suami tanpa ASI eksklusif sebanyak 27 (32,9%).

Kesimpulan: ada hubungan ibu yang mendapat dukungan suami dengan ibu yang melakukan inisiasi menyusui dini.

Saran : dapat menjadi informasi dan motivasi bagi para ibu untuk memberikan ASI Eksklusif pada bayinya.

Kata Kunci : ASI eksklusif, faktor yang mempengaruhi, bayi

ABSTRACT

Background: Exclusive breastfeeding was the provision of breastfeeding to infants without complementary foods and drinks, starting from the time the baby was born to the age of 6 months. The coverage of infants receiving exclusive breastfeeding in Lampung province in 2021 was 69.3%. This percentage was still under the target set of 80%.

Purpose: The purpose of this study was to determine the risk factors affecting exclusive breastfeeding at the Work Area of Krui Community Health Center, West Pesisir Regency in 2022.

Methods: This study was a quantitative research with an analytical survey research design using a cross sectional approach. The population of this research was mothers having infants aged 6-12 months, totalling 112 mothers, with the number of samples taken as many as 82 people. Sampling was carried out by accident method from May to July 2022. The research instrument used a questionnaire and the data analysis used a pearson chi square test.

Results: The results of pearson chi square test showed that the of mother having early initiation of breastfeeding with exclusive breastfeeding was 39 (47,6%), mother having early initiation of breastfeeding without exclusive breastfeeding was 6 (7,3%), mother not having early initiation of breastfeeding with exclusive breastfeeding was 9 (11,0%), mother having early initiation of breastfeeding without exclusive breastfeeding was 28 (34,1%). Mother having husband support with exclusive breastfeeding category was 32 (39,0%), mother having husband support without exclusive breastfeeding category was 7 (8,5%), mother not having husband support with exclusive breastfeeding category was 16 (19,5%), mother not having husband support without exclusive breastfeeding category was 27 (32,9%).

Conclusion: Conclusion, there was correlation on mother having husband support and mother having early initiation of breastfeeding.

Suggestions: Therefore this study could be information and motivation to the mothers on giving exclusive breastfeeding to their infants hopefully.

Keywords : Exclusive breastfeeding, factors affected, infants

INTRODUCTION

Breast milk is an emulsion of fat in a solution of protein, lactose, and organic salts secreted by both sides of the mother's breast glands, as the main food for the baby. Exclusive breastfeeding is breastfeeding to infants without complementary foods and drinks (including orange juice, honey, sugar water) starting from the time the baby is born until the age of 6 months (Vita, 2021).

In 2020 WHO presented data in the form of exclusive breastfeeding rates globally, which is about 44% of infants aged 0-6 months worldwide who received exclusive breastfeeding during the 2015-2020 period from 50% of the target for exclusive breastfeeding. Optimal breastfeeding, which is when children are 0-23 months old, is very important because it can save the lives of more than 820,000 children under the age of 5 years each year (WHO, 2020). Exclusive breastfeeding is breastfeeding to infants without complementary foods and drinks (including orange juice, honey, sugar water) starting from the time the baby is born until the age of 6 months (Vita, 2021). Breast milk also contains certain enzymes that function as absorbent substances that will not interfere with other enzymes in the intestine (Indonesian Health Profile, 2020). Breastfeeding increases intelligence for babies, helps jaw development and stimulates tooth growth (Vita, 2021).

Nationally, the coverage of infants receiving exclusive breastfeeding in 2020 is 66.06%. This figure has exceeded the 2020 Strategic Plan target of 40%. The highest percentage of exclusive breastfeeding coverage is in West Nusa Tenggara Province (87.33%), while the lowest percentage is in West Papua Province (33.96%). There are four provinces that have not yet achieved the target of the 2020 Strategic Plan, namely Maluku and West Papua (Health Profile Indonesia, 2020). The coverage of infants receiving exclusive breastfeeding in Lampung Province in 2021 is 69.3%, where this number is still below the required target of 80%, based on achievements per city district only Tanggamus district and Metro City have achieved the required target while the west coast district have not reached the specified target (Lampung Provincial Health Office, 2021).

Research conducted , et al (2021), regarding the analysis of the that influence exclusive breastfeeding infants at the Talaga Jaya Health Center, it was found that the mother's education, mother's occupation, implementation of IMD and family support obtained a p-value (0.000) less than (0, 05), while the support of health workers has a p-value (0.998) more than (0.05). The factors that influence exclusive breastfeeding for infants at the Talaga Jaya Health Center are mother's education, mother's occupation, implementation of IMD, and family support.

Research conducted by Erbaydar (2020) in Turkey onrelationship between caesarea section and breastfeeding turkey,it was found that the incidence of late initiation of breastfeeding and non-exclusive breastfeeding were 42.7 and 41.0%, respectively. The standard incidence rate of late initiation of breastfeeding among women with vaginal delivery was 35.34%, compared to 50.49% among those who delivered by cesarean. The standard rate ratio for late initiation of breastfeeding and non-exclusive breastfeeding is 1.428 (95%confidence interval (CI): 1.212-1.683) and 1.468 (95% CI: 1.236-1.762), respectively. Women who undergo caesarean section have a higher risk for late initiation of breastfeeding and non-exclusive breastfeeding for three days after delivery sociodemographic and labor-related factors.

Based on the regulation of the Pesisir Barat Regent number 41 of 2018 that the condition of exclusive breastfeeding in Pesisir Barat Regency is still experiencing various obstacles caused by mothers not being confident in being able to breastfeed properly (Regulation of the Pesisir Barat Regent, 2018). Krui Pesisir Barat Health Center is a health center located in Pesisir Barat Regency which has a prevalence of achieving the target of exclusive breastfeeding that has not been achieved and is still very low from the number of infants 0-6 months as many as 320, 35 (10.9%) who do not receive exclusive breastfeeding where this figure does not meet the expected target of 60% (Health Profile of Pesisir Barat Regency, 2021).

RESEARCH METHODS

This type of research is quantitative, with analytical survey research design, with a cross

sectional approach with a population of mothers having babies 6-12 months with a sample of 82 respondents, accidental sampling technique. Research place in the area of Puskesmas Krui Kabupaten Pesisir Barat, research instruments using questionnaires and data analysis using Pearson Chi Square test. The contents of the questionnaire include: Mother's name, Mother's age, address, occupation, education, implementation of IMD, history of childbirth, number of children. The questions asked in the questionnaire were 22 which included 4: informational, appraisal, instrumental, emotional. With mom give the answer: always, often, sometimes, never. Mother choose 1 (one) of 4 (four) available answers by ticking (✓) on the available column.

RESEARCH RESULT

Based on table 1 above, it can be seen that the characteristics of respondents based on maternal age in the Krui Health Center area, Pesisir Barat Regency In 2022, there were 54 (65.2%) respondents in the 27-32 year maternal age category, 28 (34.7%) respondents aged 33-36 years. Characteristics of respondents based on mother's education with undergraduate education category as many as 13 (15.9%) respondents, elementary education as many as 32 (39.0%) respondents, high school education as many as 16 (19.5%), junior high education as many as 21 (25.6 %). Characteristics of respondents based on the mother's occupation with the category of working mothers as many as 27 (32.9%) respondents, the category of mothers not working as many as 55 (67.1%) respondents.

Table 1
Characteristics of Respondents Based on Mother's Age, Education and Occupation in the Health Center Area

Characterisc respondent	Amount	Percentage (%)
By Age		
27-32 years old	54	65,2%
33-36 years old	28	34,7%
Total	82	100%
Based on Mother's education		
Bachelor	13	15,9%
SD	32	39,0%
SENIOR HIGH SCHOOL	16	19,5%
JUNIOR HIGH SCHOOL	21	25,6%

Univariate Analysis

Table 2
Distribution of Frequency of Exclusive Breastfeeding in Area of Krui Health Center, Pesisir Regency West Year 2022

Breastfeeding	Amount	Percentage (%)
Exclusive breastfeeding	48	58,5%
Not breastfeeding exclusive	34	41,4%

Based on table 2 above, it can be seen that the frequency of respondents based on exclusive breastfeeding in the Krui Health Center area, Pesisir Barat Regency in 2022 with the category of being given exclusive breastfeeding as many as 48 (58.5%) respondents and 34 (41.4%) respondents not being given exclusive breastfeeding.

Table 3
Distribution of the Frequency of Mother's Work in the Krui Health Center Area, Pesisir Barat Regency Year 2022

Work	Amount	Percentage (%)
Working	27	32,9%
Doesn't work	55	67,1%

Based on table 3 above, it can be seen that the frequency of respondents based on the occupation of mothers who gave exclusive breastfeeding in the Krui Health Center area, Pesisir Barat Regency in 2022 with the category of working mothers as many as 27 (32.9%) respondents and the category of mothers not working as many as 55 (67.1%) respondents.

Table 4
Distribution of the Frequency of IMD Implementation in the Krui Health Center Area, Pesisir Regency West Year 2022

Implementation of IMD	Amount	Percentage (%)
Done IMD	45	54,9%
Not done IMD	37	45,1%

Based on table 4 above, it can be seen that the frequency of respondents based on the implementation of IMD who gave Exclusive Breastfeeding in the Krui Health Center area, Pesisir Barat Regency in 2022 with the category of mothers giving IMD as many as 45 (54.9%) respondents and the category of mothers who did not do IMD as many as 37 (45.1 %) respondents.

Based on table 5 above, it can be seen that the frequency of respondents based on the support of their husbands who gave exclusive breastfeeding in the Krui Health Center area, Pesisir Barat Regency in 2022 with the category of getting support from family as many as 39 (47.6%) respondents and the category of not getting family support was 43 (52, 4%) respondents.

Table 5

Distribution of the Frequency of Husband and Mother Support in the Krui Health Center Area, Pesisir Regency West Year 2022

Family support	Amount	Percentage (%)
Support	39	47,6%
Does not support	43	52,4%

Table 6
Frequency Distribution of Types of Labor Labor Mothers in the Krui District Health Center West Coast 2022

Type of delivery	Amount	Percentage (%)
SC . Delivery	29	35,4%
Normal delivery	53	64,6%

Based on table 6 above, it can be seen that the frequency of respondents based on the occupation of mothers who gave exclusive breastfeeding in the Krui Health Center area, Pesisir Barat Regency in 2022 with the category of mothers who delivered Sectio Caesaria as many as 29 (35.4%) while the category of mothers with normal deliveries was 53 (64 ,6%) respondents.

Bivariate Analysis

Table 7
The Relationship between Employment and Exclusive Breastfeeding in the Krui Community Health Center, Pesisir Regency West Year 2022

Mother's work	Exclusive breastfeeding						p-value	OR
	Exclusive breastfeeding		Not exclusive		Total			
	N	%	N	%	N	%		
Working	13	15,9	14	17,1	27	32,9	0,272	0,209-1,350
Doesn't work	35	42,7	20	24.4	55	67.1		

Based on Table 7 above, it can be concluded that The Chi Square test results that have been done indicate the category of working mothers who are given exclusive breastfeeding as many as 13 (15.9%) respondents, and those who are not given exclusive breastfeeding as many as 14 (17.1%) respondents. As for mothers who do not work are given exclusive breastfeeding as many as 35 (42.7%) and are not given exclusive breastfeeding as many as 20 (24.4%) respondents. The Total value for

the working category was 27 (32.9%) and not working as much as 55 (57.1%), with a total of exclusive breastfeeding as much as 48 (58.5%) and not exclusive breastfeeding as much as 34 (41.5%). OR value 0.209-1.350.

The result of the p-value of $0.272 < \alpha (0.05)$ means that H_0 is accepted and H_a is rejected, which means that there is no maternal employment relationship with exclusive breastfeeding in the Krui Health Center area of West Pesisir Regency in 2022.

Tabel 8

The relationship between IMD implementation and exclusive breastfeeding in the Krui Health Center area of West Pesisir Regency in 2022

IMD implementation	Exclusive breastfeeding						p-value	OR
	Exclusive breastfeeding		Not exclusive		Total			
	N	%	N	%	N	%		
IMD	39	47,6	6	7,3	45	54,9	0,000	6,458-63,318
Not IMD	9	11.0	28	34.1	37	45.1		

Based on Table 8 above can be concluded Pearson Chi-square test results that have been done shows the category of mothers with the implementation of IMD given exclusive breastfeeding as many as 39 (47.6%) respondents, and not given exclusive breastfeeding as many as 6 (7.3%) respondents. As for mothers who do not do IMD given exclusive breastfeeding as much as 9 (11.0%) and not given exclusive breastfeeding as many as 28 (34.1%) respondents. The Total value for the category performed IMD as much as 45 (54.9%) and

not performed IMD as much as 37 (45.1%), with a total of exclusive breastfeeding as much as 48 (58.5%) and not exclusive breastfeeding as much as 34 (41.5%). Value OR 6,458-63,318.

The result of the p-value of $0.000 < \alpha(0.05)$ means that H_0 is rejected and H_a is accepted, which means that there is a relationship between the implementation of IMD and exclusive breastfeeding in the Krui Health Center area of West Pesisir Regency in 2022.

Table 9

Relationship between Husband's Support and Exclusive Breastfeeding in Puskesmas Area Krui Pesisir Barat District in 2022

Family support	Exclusive breastfeeding						p-value	OR
	Exclusive breastfeeding		Not exclusive		Total			
	N	%	N	%	N	%		
Support	32	39,0	7	8,5	39	47,6	0,000	2,767-21,506
Does not support	16	19,5	27	32,9	43	52,4		

Based on table 9 on could concluded test results Pearson Chi-squareWhat has been done shows that the category of mothers who are given support from their husbands who are given exclusive breastfeeding are 32 (39.0%) respondents, and those who are not given exclusive breastfeeding are 7 (8.5%) respondents. Meanwhile, for mothers who did not get support from their husbands by being given exclusive breastfeeding as many as 16 (19.5%) and 27 (32.9%) respondents who were not given exclusive breastfeeding. Total score for category earn support from husbands is 39 (47.6%) and does not get support from husbands is 43 (52.4%), with a total of 48 (58.5%) exclusive breastfeeding and 34 (41.5%) not exclusive breastfeeding). OR value 2,767-21,506.

The result of p-value $0.000 < (0.05)$ means H_0 rejected and H_a accepted, which means that there is a relationship between husband's support and

exclusive breastfeeding in the Krui Health Center area, Pesisir Barat Regency in 2022.

Based on table 10 above, it can be concluded that the test resultsPearson Chi-squareWhat has been done shows the category of mothers with the type of maternal delivery by sectio caesaria who were given exclusive breastfeeding as many as 19 (23.2%) respondents, and 10 (12.2%) respondents who were not given exclusive breastfeeding.

Meanwhile, 29 (35.4%) respondents who gave normal delivery were given exclusive breastfeeding and 24 (29.4%) respondents who were not given exclusive breastfeeding. The total score for the category of type of delivery by cesarean section was 29 (35.4%) and the type of normal delivery was 53 (64.4%), with a total of 48 (58.5%) exclusive breastfeeding and 34 non-exclusive breastfeeding (41.5%). OR value 0.943-0.349.

The result of p-value $0.475 < (0.05)$ means H_0 accepted and H_a rejected, which means that there is no relationship between the type of maternal delivery

and exclusive breastfeeding in the Krui Health Center area, Pesisir Barat Regency in 2022.

Table 10
The Relationship between Type of Delivery and Exclusive Breastfeeding in the Health Center Area Krui Pesisir Barat District in 2022

Type of delivery	Exclusive breastfeeding						p-value	OR
	Exclusive breastfeeding		Not exclusive		Total			
	N	%	N	%	N	%		
SC . Delivery	19	23,2	10	12,2	29	35,4	0,475	0,943-0,349
Labor normal	29	35.4	24	29.4	53	64.4		

DISCUSSION

Univariate Analysis

Distribution of the frequency of exclusive breastfeeding in the Krui Health Center area, Pesisir Barat Regency in 2022

Based on the results of the study, it can be seen that the frequency of respondents giving exclusive breastfeeding in the Krui Public Health Center, Pesisir Barat Regency in 2022 with the category of being given exclusive breastfeeding as many as 48 (58.5%) respondents and 34 (41.4%) respondents not being given exclusive breastfeeding.

Exclusive breastfeeding is breastfeeding after the baby is born until the age of at least 6 months, without fluid intake, such as formula milk, honey, sweet tea, water, and other milk porridge, porridge, rice, bananas, and others. Therefore, baby can only get breast milk from the mother, and if forced (sick), the baby can get medicines in the form of syrup from the doctor (Chomaria Nurul, 2020).

Research conducted Adityaningrum, et al (2021), regarding the analysis of the factors that influence exclusive breastfeeding for infants at the Talaga Jaya Health Center, it was found that the mother's education, mother's occupation, implementation of IMD and family support obtained a p-value (0.000) less than (0, 05), while the support of health workers has a p-value (0.998) more than (0.05).

According to researchers, exclusive breastfeeding can help improve the quality of health and immunity for babies and increase antibodies for babies.

Distribution of the frequency of work of mothers in the Krui Health Center area, Pesisir Barat Regency in 2022

Based on the results of the study, it can be seen that the frequency of respondents based on the

work of mothers who gave exclusive breastfeeding in the Krui Health Center area, Pesisir Barat Regency in 2022 with the category of working mothers as many as 27 (32.9%) respondents and the category of mothers not working as many as 55 (67.1%) respondents. .

A working mother has difficulty in giving exclusive breastfeeding because she has to divide her time with her work. It can be seen that the busier the mother in working, the fewer mothers who give exclusive breastfeeding. Working mothers do not give exclusive breastfeeding, it means that there is a tendency due to the lack of opportunities to give exclusive breastfeeding which is contrary to the obligation to carry out work. Working moms can still give exclusive breastfeeding to her baby by pumping or expressing her milk, then it is stored and given to her baby later. The working environment of a working mother can also affect exclusive breastfeeding (Yanti, 2021).

Research conducted by Susilawati & Maulina (2018), regarding Factors Associated with Inhibitors of Exclusive Breastfeeding in the Work Area of Posyandu Melati, Gedong Tataan District, Pesawaran Regency in 2014, that knowledge with inhibition of exclusive breastfeeding (pvalue= 0.002), the relationship between work and exclusive breastfeeding inhibitors (pvalue=0.027), the relationship between family support and inhibition of exclusive breastfeeding (pvalue=0.017).

Research that conducted by Adityaningrum, et al (2021), regarding the Analysis of Factors Affecting Exclusive Breastfeeding for Babies at the Talaga Jaya Health Center, it was found that the mother's education, mother's occupation, implementation of IMD and family support obtained a p-value (0.000) less than (0 0.05), while the support of health workers has a p-value (0.998) more than (0.05).

According to researchers, mother's work can affect exclusive breastfeeding given to babies on the grounds that working mothers rarely meet their children so that mothers rarely give breast milk on the grounds that breast milk is not good if it is not given directly.

Distribution of the frequency of IMD implementation in the Krui Health Center area, Pesisir Barat Regency in 2022

Based on the research results can be seen that frequency of respondents based on the implementation of IMD that provides exclusive breastfeeding for the Krui Health Center area of Pesisir Barat Regency in 2022 with the category of mothers giving IMD as many as 45 (54.9%) respondents and the category of mothers not doing IMD as many as 37 (45.1%) respondents.

The success of the IMD practice can help make the exclusive breastfeeding process successful, on the other hand, if the IMD fails to do so, it will also be the cause of the failure of exclusive breastfeeding. If the mother is facilitated by the birth attendant for IMD, it is hoped that this interaction between mother and baby will occur soon. With IMD, mothers are more confident to continue breastfeeding and the baby can be comfortably pressed to the mother's breast or quietly in the mother's arms soon after birth.

Research conducted by Deviana et al (2015), on the relationship between Early Initiation of Breastfeeding (IMD) and Exclusive Breastfeeding in Primiparous Mothers with Infants Age > 6-12 Months (The Correlation between Early Initiation of Breastfeeding (IMD) with Exclusive Breastfeeding in the Primiparous Mother and the Baby in more than > 6 until 12 Months Old). That infants who received exclusive breastfeeding, 95% received Early Initiation of Breastfeeding (IMD) and infants who did not receive exclusive breastfeeding, 70% received Early Initiation of Breastfeeding (IMD) ($P=0.027<0.05$ OR=8.143 95% CI=0.976- 67,944).

According to researchers, if the mother does IMD for her baby, the mother will understand more and understand about exclusive breastfeeding because from the IMD process we will understand and understand whether the mother's milk comes out smoothly or has problems such as the mother's nipples not protruding or experiencing mastitis.

Frequency distribution of husband's support in the Krui Health Center area, Pesisir Barat Regency in 2022

Husband's support has an important role for the welfare of the mother and fetus from the time of

pregnancy until after giving birth. A husband who continues to support his wife during breastfeeding can mean keeping the baby healthy. The support that the husband can provide, for example, takes care of his wife's health and accompanies his wife to breastfeed her baby at night, helps part of the wife's work or gives a light massage when the wife feels sore (Riskita, 2019).

Research by Kusumawati et al. 2021 regarding the Relationship between Husband's Support and Exclusive Breastfeeding in Rural Areas, most husbands support exclusive breastfeeding (72.7%). Based on the cross tabulation test, it is known that husband's support has a greater chance (27.1%) of exclusive breastfeeding than husbands who do not support (5.6%).

According to researchers, good husband support can help mothers in exclusive breastfeeding and can increase mother-husband bonding so that mothers will feel that if their husbands provide support, mothers will be more enthusiastic about breastfeeding their babies.

Distribution of the frequency of types of delivery in the Krui Health Center area, Pesisir Barat Regency in 2022

Based on the results of the study, it can be seen that the frequency of respondents based on the occupation of mothers who gave exclusive breastfeeding in the Krui Health Center area, Pesisir Barat Regency in 2022 with the category of mothers who delivered Sectio Caesaria as many as 29 (35.4%) while the category of mothers with normal deliveries was 53 (64, 6%) respondents.

Normal labor is labor that occurs at term pregnancy (not premature or postmature), has a spontaneous onset (not induced), is completed after 4 hours and before 24 hours from the time the woman is born, has a single fetus with a cephalic presentation, occurs without artificial assistance. , excluding complications, the placenta was born normally (Siwi and Endang, 2016).

Research conducted by Erbaydar (2020) in Turkey on the relationship between caesarea section and breastfeeding turkey, it was found that the incidence of late initiation of breastfeeding and non-exclusive breastfeeding was 42.7 and 41.0%, respectively. The standard incidence rate of late initiation of breastfeeding among women with vaginal delivery was 35.34%, compared to 50.49% among those who delivered by cesarean. The standard rate ratios for late initiation of breastfeeding and non-exclusive breastfeeding were 1.428 (95% confidence interval (CI): 1.212-1.683) and 1.468 (95% CI: 1.236-1.762), respectively.

. According to researchers, if a mother has a cesarean section, it will be more difficult to give exclusive breastfeeding because of the influence of anesthesia so that the milk that comes out becomes less and sometimes the milk becomes dry.

Bivariate Analysis

Employment relationship with exclusive breastfeeding in the Krui Health Center area, Pesisir Barat Regency in 2022

Test results Pearson Chi Square what has been done shows the category of working mothers who 13 (15.9%) respondents were given exclusive breastfeeding, and 14 (17.1%) respondents were not given exclusive breastfeeding. Meanwhile, 35 (42.7%) respondents who did not work were given exclusive breastfeeding and 20 (24.4%) respondents were not given exclusive breastfeeding. The total score for the working category is 27 (32.9%) and not working is 55 (57.1%), with a total of 48 (58.5%) exclusive breastfeeding and 34 (41.5%) not exclusive breastfeeding. OR value 0.209-1.350.

The result of $p\text{-value } 0.272 < (0.05)$ means H_0 accepted and H_a rejected, which means that there is no relationship between mother's work and exclusive breastfeeding in the Krui Health Center area, Pesisir Barat Regency in 2022.

Research conducted by Susilawati & Maulina (2018), regarding Factors Associated with Inhibitors of Exclusive Breastfeeding in the Work Area of Posyandu Melati, Gedong Tataan District, Pesawaran Regency in 2014, that knowledge with inhibition of exclusive breastfeeding ($p\text{-value} = 0.002$), the relationship between work and exclusive breastfeeding inhibitors ($p\text{-value} = 0.027$), the relationship between family support and inhibition of exclusive breastfeeding ($p\text{-value} = 0.017$). So it can be concluded that there is a relationship between knowledge, work and family support with the inhibition of exclusive breastfeeding at the jasmine gedong posyandu in the pesawaran setting in 2014.

Research conducted by Adityaningrum, et al (2021), regarding the Analysis of Factors Affecting Exclusive Breastfeeding for Babies at the Talaga Jaya Health Center, it was found that the mother's education, mother's occupation, implementation of IMD and family support obtained a $p\text{-value}$ (0.000) less than (0.05), while the support of health workers has a $p\text{-value}$ (0.998) more than (0.05). The factors that influence exclusive breastfeeding for infants at the Talaga Jaya Health Center are mother's education, mother's occupation, implementation of IMD, and family support.

According to researchers, the type of mother's work can affect exclusive breastfeeding because

working mothers think that if they don't have time to breastfeed their babies, so babies are connected to formula milk because formula milk has more nutrition than breast milk which is rarely used. drink it. Working mothers also said they were lazy to do breast pumps at work.

The results of the above study indicate that working mothers still provide exclusive breastfeeding because mothers always pump breast milk every time they work, assuming that mothers must fulfill their obligations in fulfilling exclusive breastfeeding. Meanwhile, mothers who do not work but still do not provide exclusive breastfeeding to their babies are caused by unexplored factors such as problems with breastfeeding and consumption of nutrients that mothers consume every day.

The relationship between IMD implementation and exclusive breastfeeding in the Krui Health Center area, Pesisir Barat Regency in 2022

Test results Pearson Chi Square What has been done shows that the category of mothers with IMD implementation who are given exclusive breastfeeding is 39 (47.6%) respondents, and 6 (7.3%) respondents who are not given exclusive breastfeeding.

Meanwhile, 9 (11.0%) mothers who did not do IMD were given exclusive breastfeeding and 28 (34.1%) respondents who were not given exclusive breastfeeding. The total score for the IMD category was 45 (54.9%) and 37 (45.1%), with a total of 48 (58.5%) exclusive breastfeeding and 34 (41.5%). OR value 6,458-63.318.

The result of $p\text{-value } 0.000 < (0.05)$ means H_0 rejected and H_a accepted, which means that there is a relationship between the implementation of IMD and exclusive breastfeeding in the Krui Health Center area, Pesisir Barat Regency in 2022.

Research conducted by Deviana et al (2015), on the relationship between Early Initiation of Breastfeeding (IMD) and Exclusive Breastfeeding in Primiparous Mothers with Infants Age > 6-12 Months (The Correlation between Early Initiation of Breastfeeding (IMD) with Exclusive Breastfeeding in the Primiparous Mother and the Baby in more than > 6 until 12 Months Old). That infants who received exclusive breastfeeding, 95% received Early Initiation of Breastfeeding (IMD) and infants who did not receive exclusive breastfeeding, 70% received Early Initiation of Breastfeeding (IMD) ($P = 0.027 < 0.05$ OR=8.143 95% CI=0.976- 67,944). The conclusion of this study is that there is a relationship between Early Initiation of Breastfeeding (IMD) and exclusive breastfeeding.

According to researchers, babies should be given the process of breastfeeding immediately after birth until 1 hour after delivery. IMD is also highly recommended for babies to learn to breastfeed or get used to sucking the nipple and also prepare the mother to start producing breast milk. Therefore, IMD should be given immediately after the baby is born to help increase the occurrence of exclusive breastfeeding for their babies in the future and increase mother's knowledge about the importance of exclusive breastfeeding. The results of research conducted on mothers who do IMD but do not give exclusive breastfeeding to their babies are caused because the baby does not want to breastfeed or maternal factors such as sore nipples, or drowning.

The relationship between husband's support and exclusive breastfeeding in the Krui Health Center area, Pesisir Barat Regency in 2022

Test results Pearson Chi Square What has been done shows that the category of mothers who are given support from their husbands who are given exclusive breastfeeding are 32 (39.0%) respondents, and those who are not given exclusive breastfeeding are 7 (8.5%) respondents. Meanwhile, for mothers who did not get support from their husbands by being given exclusive breastfeeding as many as 16 (19.5%) and 27 (32.9%) respondents who were not given exclusive breastfeeding. The total score for the category of getting support from husband is 39 (47.6%) and not getting support from husband is 43 (52.4%), with a total of 48 (58.5%) exclusive breastfeeding and 34 not exclusive breastfeeding (41.5%). OR value 2,767-21,506.

The result of $p\text{-value } 0.000 < (0.05)$ means H_0 rejected and H_a accepted, which means that there is a relationship between husband's support and exclusive breastfeeding in the Krui Health Center area, Pesisir Barat Regency in 2022.

Research conducted by Kusumawati, et al 2021 regarding the Relationship between Husband's Support and Exclusive Breastfeeding in Rural Areas, most husbands support exclusive breastfeeding (72.7%). Based on the cross tabulation test, it is known that husband's support has a greater chance (27.1%) of exclusive breastfeeding than husbands who do not support (5.6%). Although the Spearman correlation test showed that there was no significant relationship between support and exclusive breastfeeding.

Mothers who receive support from their husbands have a greater proportion of giving Exclusive breastfeeding compared to those who did not get husband's support, although it was not statistically significant.

According to researchers, husband's support has an important role for the welfare of the mother and fetus from the time of pregnancy until after delivery. Therefore, if the husband supports his wife well, the wife or mother will be more enthusiastic about giving breast milk to the baby because the mother feels that her husband really loves and gives more attention to the mother. From the results of the research above, some mothers who get support from their husbands because their husbands always spend time at home while for husbands who rarely provide support they are busy working outside the home so they rarely have time with their families even though they have new members in the family.

The relationship between the type of delivery and exclusive breastfeeding in the Krui Health Center area, Pesisir Barat Regency in 2022

Test results Pearson Chi Square What has been done shows the category of mothers with the type of maternal delivery by sectio caesaria who were given exclusive breastfeeding as many as 19 (23.2%) respondents, and 10 (12.2%) respondents who were not given exclusive breastfeeding.

Meanwhile, 29 (35.4%) respondents who gave normal delivery were given exclusive breastfeeding and 24 (29.4%) respondents who were not given exclusive breastfeeding. The total score for the category of type of delivery by cesarean section was 29 (35.4%) and the type of normal delivery was 53 (64.4%), with a total of 48 (58.5%) exclusive breastfeeding and 34 non-exclusive breastfeeding (41.5%). OR value 0.943-0.349.

The result of $p\text{-value } 0.475 < (0.05)$ means H_0 accepted and H_a rejected, which means that there is no relationship between the type of maternal delivery and exclusive breastfeeding in the Krui Health Center area, Pesisir Barat Regency in 2022.

Erbaydar (2020) stated that childbirth is a factor that hinders exclusive breastfeeding. The mode of delivery is one of the factors that play an important role in breastfeeding practice. CS delivery can have a negative impact on lactation physiology and cause side effects that inhibit maternal contact with the neonate, resulting in intolerable postoperative maternal pain and an increase in the level of need for intensive care required by neonates, both of which can have a negative impact on breastfeeding.

In line with the research conducted by Erbaydar (2020) in Turkey about relationship between caesarea section and breastfeeding turkey, it was found that the incidence of late initiation of breastfeeding and non-exclusive breastfeeding were 42.7 and 41.0%, respectively. The standard

incidence rate of late initiation of breastfeeding among women with vaginal delivery was 35.34%, compared to 50.49% among those who delivered by cesarean. The standard rate ratio for late initiation of breastfeeding and non-exclusive breastfeeding is 1.428 (95% confidence interval(CI): 1.212-1.683) and 1.468 (95% CI: 1.236-1.762), respectively. Women who underwent caesarean section had a higher risk for late initiation of breastfeeding and non-exclusive breastfeeding for three days after delivery sociodemographic and labor-related factors.

According to researchers, if the mother experiences normal delivery, there will be more milk production so that it will increase exclusive breastfeeding for her baby. There are several reasons why mothers delay breastfeeding their babies, namely the presence of surgical wounds and the influence of anesthetic drugs that can have an effect on delaying breastfeeding and the emotional relationship between mothers and children. Babies from Caesarean section will usually be immediately placed in the observation room. However, there are still many failures of exclusive breastfeeding that occur in mothers with normal delivery, the contributing factors include the mother feeling sick and painful when breastfeeding her child so that the mother does not want to breastfeed her child regularly and is continued to use formula milk which is thought to reduce the duration of the baby breastfeeding but the problem is This will prevent the baby from getting his right to exclusive breastfeeding for 6 months.

CONCLUSION

Based on the results of the research and discussion that have been presented, the conclusions of this study are as follows:

The result of $p\text{-value } 0.272 < (0.05)$ means H_0 accepted and H_a rejected, which means that there is no relationship between mother's work and exclusive breastfeeding in the Krui Health Center area, Pesisir Barat Regency in 2022. The result of $p\text{-value } 0.000 < (0.05)$ means H_0 rejected and H_a accepted, which means that there is a relationship between the implementation of IMD and exclusive breastfeeding in the Krui Health Center area, Pesisir Barat Regency in 2022. The result of $p\text{-value } 0.000 < (0.05)$ means H_0 rejected and H_a accepted, which means that there is a relationship between husband's support and exclusive breastfeeding in the Krui Health Center area, Pesisir Barat Regency in 2022. The result of $p\text{-value } 0.475 < (0.05)$ means H_0 accepted and H_a rejected, which means that there is no relationship between the type of mother's delivery and exclusive

breastfeeding in the Krui Health Center area, Pesisir Barat Regency in 2022

SUGGESTION

After getting the research results, the researchers can give some suggestions as follows: It is hoped that by doing this research, mothers can find out about exclusive breastfeeding and be able to provide breastfeeding obligations to their babies

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THE INFLUENCE OF GADGETS ON THE INCIDENT OF SPEECH DELAY IN CHILDREN AGED 2-3 YEARS

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ABSTRAK : PENGARUH GADGET TERHADAP KEJADIAN KETERLAMBATAN BERBICARA PADA ANAK USIA 2-3 TAHUN

Diketahui dari data tahun 2013 bahwa 72% anak di bawah usia 8 tahun sudah mulai menggunakan perangkat mobile seperti smartphone, tablet, dan iPod dengan mayoritas anak usia 2 tahun lebih memilih menggunakan tablet dan smartphone setiap hari. Angka ini telah meningkat dua kali lipat dibandingkan dengan tahun 2011 yang hanya 38%.

Tujuan : untuk mengetahui pengaruh gadget terhadap kejadian keterlambatan berbicara pada anak usia 2-3 tahun di wilayah kerja puskesmas kecamatan Pulo Gadung pada tahun 2023.

Metode : Penelitian ini menggunakan metode penelitian kuantitatif dengan desain korelasional case control yang diperkuat. Sampel dalam penelitian ini adalah 130 responden yang diambil menggunakan teknik pengambilan sampel total. Analisis data menggunakan uji univariat dan uji bivariat dalam bentuk uji Chi-Square.

Hasil penelitian : pada penelitian ini menunjukkan bahwa nilai uji Chi-square adalah p-value sebesar 0,002, yang menunjukkan bahwa H₀ ditolak dan H_a diterima.

Kesimpulan : ditemukan pengaruh gadget terhadap kejadian keterlambatan berbicara pada anak usia 2-3 tahun di Wilayah Kerja Puskesmas, Kecamatan Pulo Gadung.

Saran : dari penelitian ini Diharapkan penggunaan gadget akan mendapatkan perhatian lebih karena mempengaruhi kemampuan berbahasa anak. Juga diharapkan bahwa orangtua akan membatasi penggunaan gadget dengan anak-anak mereka.

Keywords: Gadget, keterlambatan berbicara, kemampuan berbahasa, anak

ABSTRACT

It is known from 2013 data that 72% of children under the age of 8 have started using mobile devices such as smartphones, tablets and iPods with the majority of children aged 2 years preferring to use tablets and smartphones every day. This figure has doubled compared to 2011 which was only 38%.

Objective: to determine the effect of gadgets on the incidence of speech delays in children aged 2-3 years in the working area of the Pulo Gadung sub-district health center in 2023.

Method: This research uses quantitative research methods with a strengthened case control correlational design. The sample in this study was 130 respondents taken using total sampling techniques. Data analysis used univariate tests and bivariate tests in the form of the Chi-Square test.

Research results: this research shows that the Chi-square test value is a p-value of 0.002, which indicates that H₀ is rejected and H_a is accepted.

Conclusion: The influence of gadgets on the incidence of speech delays in children aged 2-3 years was found in the Puskesmas Working Area, Pulo Gadung District.

Suggestion: From this research, it is hoped that the use of gadgets will receive more attention because it affects children's language skills. It is also hoped that parents will limit the use of gadgets with their children.

Keywords: *gadgets, speech delay, language skills, children*

INTRODUCTION

In Indonesia, the prevalence of speech delays in preschool children is between 5% -10%. Speech delays that occur in children are increasing. Several reports also state that the incidence rate of speech

and language disorders ranges from 2.3% -24%. According to Zelngin-Akkus et al (2018), the estimated prevalence of language delays in pre-school age children ranges from 5% to 12%. On the other hand, expressive language delays are reported

in the range of 13.5% -17.5% of children aged 18-36 month. Spelelch delay is caused by several factors, including the use of gadgets (Pranelssia, 2020). As time goes by, children's play activities with gadgets become difficult to separate. Currently, everyone can make social contact or communicate via gadgets such as computers, laptops, tablets, and smartphones (Novitasari, W & Khotimah, 2016).

Data results in the world since 2013, as many as 72% of children aged under 8 years have started using mobile devices such as smartphones, tablets, and iPods with the majority of children aged 2 years preferring to use tablets and smartphones every day. The figure has doubled compared to 2011 with 38 cases (Fajriana, 2015). Research by Zubaidah (2017) also revealed that Indonesia is a country that actively uses social media with 79.7% of active users. 23% of children use gadgets as a means of playing, while 82% of parents state that they are online at least one day a week. This data shows that it is true that using gadgets is very popular among children, adults, and the elderly.

The causes of delays in speaking in children are due to lack of motivation, minimal speed in conversation or communication, the presence of a foreign language, and the inability of parents to encourage children to speak (Bawono, 2017). Gadgets can prevent children's psychomotor abilities from developing because when children explore their physical abilities in a play activity, children are instead busy with gadgets. The loosening of social relations between parents and children is triggered by each of them being busy with their gadgets (Pelbriana, 2017).

As far as the searches carried out, no similar research has ever been found, the research that has been carried out is "a psycholinguistic study on the language acquisition of speech delayed children aged 2-3 years in sub-district. Ranca bungur district. Bogor" written by Resya Fakhrunnisa in 2023, "The influence of parents' parenting styles in using gadgets for children on the speech development of children aged 3-4 years in Cibeunying Kidul district" written by Asysyipa nur Azizah et al in 2022, and "The influence of gadgets on early childhood" written by Vivi Yumarni in 2022.

PKM Pulo Gadung Sub-district is one of the health facilities in Pulo Gadung Sub-district. The majority, 55.4% of respondents were 3 years old, 57.2% of respondents were male, 79% of respondents' parents had a secondary education level, and 70.9% of respondents' parents were high school graduates. The level of gadget use in the high category of cases in the high category was 78.3%, while gadget use in the low-level control group was

71%. Based on the results of preliminary studies that have been carried out, data has been obtained that the number of toddlers aged 2-3 years in the PKM Work Area, Pulo Gadung District is 120 toddlers. Data from the Pulo Gadung Community Health Center also shows that the number of toddlers experiencing speech delay in 2023 will be 60 toddlers. The number of children has experienced an increase compared to 2022 when there were 55 toddlers and in 2021 there were 36 toddlers. The results of interviews with 10 mothers of toddlers revealed that their children had played with gadgets for various reasons, so as not to relax, or to calm their children when they cried. Based on the background above, the author was interested in conducting research entitled "The Influence of Gadgets on the Occurrence of Spelelch Dellay in Children Aged 2-3 Years in the PKM Work Area, Pulo Gadung District".

RESEARCH METHODS

The type of research used in this research is quantitative research with a correlational design attached to a case control. The sample in this study amounted to 130 respondents. The population in this study were all children aged 2-3 years in the work area of the Community Health Center, Pulo Gadung. The sampling technique used was total sampling (Hidayat, 2016).

The samples used were those that met the inclusion criteria, namely 1) Children aged 2-3 years; 2) Physically and spiritually healthy; and 3) Willing to be a respondent. And samples that met the exclusion criteria were not used, namely having physical and mental illness.

The research variable, namely the related variable (delpelndeln) is the incidence of delayed speaking, and the independent variable (indelpelndeln) in this research is the use of gadgets. The location of this research was carried out in December 2023. This research was carried out in the Pulogadung sub-district area in 2023. Data Analysis Technique Data processing was carried out using univariate and bivariate tests using the Chi-Square test using the SPSS program.

RESEARCH RESULT

Respondent Characteristics

Characteristics	Frequency (n)	Percentage (%)
Age		
2 years	68	52.3
3 years	62	47.7
Gender		
Man	70	53.8

Woman	60	46.2
Parent education		
Elementary school	8	6.2
Junior high school	44	33.8
Senior high school	67	51.5
Bachelor	11	8.5
Mothers's work		
IRT	70	53.8
Career woman	60	46.2

Source: Primary Data, 2023

Based on the table above, the majority of respondents are 2 years old and 52.3 %, the majority of respondents are male, and the majority are 53.8. The majority of parents have a high school education level of around 51.5 % and the majority of parents are housewives with a total of 53.8 %.

Case Group Gadget Use Intensity

Distribution of frequency of gadget use (case group) of children aged 2-3 years

Use of gadgets	Case Group	
	f	%
Low	3	4.6
Currently	9	13.8
Tall	53	81.6

Source: Primary Data, 2023

Based on the above information, it is stated that the level of gadget use in the largest group of cell cases in the category is high, namely 81.6%.

Intensity of gadget use (control group)

Distribution of frequency of gadget use (case group) of children aged 2-3 years

Use of gadgets	Control Group	
	f	%
Low	52	81.5
Currently	10	15.3
Tall	3	4.6

Source: Primary Data, 2023

Based on Table 1 above, it can be stated that the level of gadget use in the 1 group control. The largest cell in the low category is the largest cell 81.5 %.

Language Ability in Children

Frequency distribution of language abilities in children aged 2-3 years

Language skills	f	%
Spelelelch delay	65	50
Normal	65	50

Source: Primary Data, 2023

Based on Table 1 above, it is stated that 50 % of children aged 2-3 years in the area of the Public Health Center, Pulo Gadung sub-district have experienced this type of problem. lay.

The Influence of Gadgets on Speech Delay Events

The influence of gadgets on the incidence of speech delay in children aged 2-3 years

Use of gadgets	Language skill						P. Value
	Speech delay		No speech delay				
	F	%	F	%	F	%	
Low	3	4.6	52	81.5	55	100.0	0,002
Currently	9	13.8	10	15.3	19	100.0	
	53	81.6	3	4.6	56	100.0	

Source: Primary Data, 2023

Based on the table, it is clear that the majority of gadget users in the low category do not experience a delay rate of 85.7%, while the majority of gadget users in the high category experience a lag rate of 95.8%. The results of the Chi-square test showed a p-value of 0.002, so H0 was rejected and Ha was accepted, which means it was found. The influence of gadgets on the occurrence of speech

delay in children aged 2-3 years in the Puskesmas Work Area, Pulo Gadung District.

DISCUSSION

Based on the results of research and discussions regarding the influence of gadgets on the occurrence of spell cases in children aged 2-3 years in the Puskesmas area, Pulo Gadung sub-

district, Selbelsar 52.3% of respondents were 2 years old, Selbelsar 53.8% of respondents were male, Selbelsar 51.5% of people old responders have a high school education level, and approximately 53.8% of the parents of the respondents are domestic workers. The level of gadget usage in the group of cases in high categories is 81.6%, and the use of gadgets in the group control group in the high category is 81.5%. SAR 50%, while the use of gadgets in the high category, most of them experience a decline rate of 50%.

The results of the Chi-square test showed a p-value of 0.002, so H_0 was rejected and H_a was accepted, which means it was found. The influence of gadgets on the occurrence of speech delay in children aged 2-3 years in the Puskesmas Work Area, Pulo Gadung District. Delays in language development in early childhood are also influenced by family characteristics such as the father's/mother's education and parents' work. According to Papalia, Olds & and Feldman (Mulqiah et al., 2017) state that mothers with a low level of education are a risk factor for language and speech delays in children. The employment status of parents has an impact on the growth and development of children, this is related to the parent's ability to fulfill the child's basic needs for growth, whereas working mothers reduce their ability to encourage early childhood development (Sunanti et al., 2016).

According to (Mulyantari et al., 2019), the risk of using gadgets for a duration longer than 1 hour per day will result in a higher risk of speech delays. Parents can make several efforts to reduce the impact of using gadgets on their children by assisting while the child uses gadgets. The assistance provided by parents when using gadgets includes several activities, including limiting the types of viewing for children so that there is a perceived benefit despite the risks borne by using gadgets. Apart from controlling children's viewing of gadgets, parents should also be able to explain what they are watching so that children can understand the pros and cons of the content they are watching. (Qomari et al., 2021). Parental assistance will also increase the attention the child receives, thereby increasing the interaction and communication between the child and the parent.

Spelling delay is a condition where young children experience delays in their speech processes compared to the language processes of children of the same age. A child first learns language in a family environment. Children begin to learn and learn the language of the family and learn to speak. Children learn to talk when interacting with other people. During the first few years of a child's life, the child's

responsive brain learns new languages and builds lines of communication. When the pathway is not fully developed due to only receiving unidirectional stimulation, it cannot be denied that language and speech abilities are slow to develop (Spelelch and Language Kids. 2022).

CONCLUSION

The results of the Chi-square test showed a p-value of 0.002, so H_0 was rejected and H_a was accepted, which means it was found. The influence of gadgets on the occurrence of speech delay in children aged 2-3 years in the Puskesmas Work Area, Pulo Gadung District.

SUGGESTION

1. For parents
Used as additional information in the health sector, especially regarding the influence of gadgets on the incidence of speech delay in children
2. For institutions
Used as material for scientific literature, especially midwifery in the care of preschool children.
3. For Researchers
Provided additional information about the influence of gadgets on the incidence of speech delay in children aged 2-3 years

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THE INFLUENCE OF MATERNAL AND CHILD HEALTH (KIA) BOOK ASSISTANCE ON INCREASING THE KNOWLEDGE OF PREGNANT WOMEN

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ABSTRAK : PENGARUH PENDAMPINGAN BUKU KESEHATAN IBU DAN ANAK (KIA) TERHADAP PENINGKATAN PENGETAHUAN IBU HAMIL

Latar Belakang: Penyebab rendahnya pengetahuan ibu mengenai tanda bahaya kehamilan salah satunya adalah rendahnya proporsi kepemilikan buku Kesehatan Ibu dan Anak (KIA) dan bagi ibu yang memiliki buku KIA, kurangnya kesadaran membaca apalagi mempelajari isinya. Hal ini bisa menimbulkan banyaknya kasus yang dialami ibu hamil bahkan berujung pada kematian ibu.

Tujuan: Untuk mengetahui pengaruh pendampingan buku KIA terhadap peningkatan pengetahuan ibu tentang pelayanan kesehatan ibu hamil di Kota Metro tahun 2023. **Metode:** Penelitian kuantitatif jenis *praeksperimen* dengan pendekatan *one group pretest-posttest design*, populasi penelitian yaitu seluruh ibu hamil di Kota Metro pada bulan September – November 2023 dengan sampel sebesar 37 ibu hamil. Pengumpulan data menggunakan kuisioner dan analisis data menggunakan uji *t test dependen*. **Hasil:** Terdapat peningkatan pengetahuan ibu dengan rata-rata sebesar 19,03 poin dan hasil uji bivariat dengan menggunakan uji *t test independen* didapatkan *p value* sebesar 0,000. **Kesimpulan:** Ada pengaruh pendampingan buku KIA dengan pengetahuan ibu hamil tentang pelayanan kesehatan ibu selama hamil di wilayah Kota Metro tahun 2023. **Saran :** Kader kesehatan diharapkan agar lebih aktif mendampingi dan memberikan informasi kepada ibu hamil tentang pelayanan kesehatan selama kehamilan

Kata Kunci : Buku KIA, Ibu Hamil, Pendampingan, Pengetahuan

ABSTRACT

Background: One of the causes of low maternal knowledge regarding the danger signs of pregnancy is the low proportion of ownership of Maternal and Child Health (KIA) books and for mothers who own MCH books, a lack of awareness of reading and studying the contents. This has an impact on the many cases experienced by pregnant women and even leads to maternal death. **Purpose:** To find out the effect of KIA book assistance on increasing mothers' knowledge about health services for pregnant women in Metro City in 2023. **Methods:** Pre-experiment type quantitative research with a one group pretest-posttest design approach, the research population is all pregnant women in Metro City in September - November 2023 as many as 230 pregnant women with a sample of 37 pregnant women. Data collection used a questionnaire and data analysis used *the dependent t test*. **Results:** there was an increase in maternal knowledge with an average increase of 19.03 points and the results of the bivariate test using the independent t test obtained a *p value* of 0.000. **Conclusion:** There is an influence of KIA book assistance on pregnant women's knowledge about maternal health services during pregnancy in the Metro City area in 2023. **Suggestions:** Health cadres should be more active in assisting and providing information to pregnant women about health services during pregnancy

Keyword: KIA Books, Pregnant Women, Assistance, Knowledge.

INTRODUCTION

Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR) are indicators of the level of health development and quality of human resources in a country. AKI and IMR are used to monitor and evaluate existing population and health programs and policies in Indonesia. The still high MMR and IMR in Indonesia has spurred the Directorate of Family Health of the Ministry of Health to implement several programs to reduce MMR and IMR. One of the efforts made is to optimize the use of the MCH book which is an instrument for monitoring maternal and child health (Effendi et al. 2020; Kementerian Kesehatan Republik Indonesia 2022). Apart from that, another effort to reduce MMR is to support and realize Sustainable Development Goals (SDGs) (Kirana B.S ; Astuti P 2023)

According to 2018 Riskesdas data for the proportion of ownership of Maternal and Child Health (KIA) books, 24.9% of mothers did not have a KIA book, 9% of mothers said they had a KIA book but could not show it and 66.2% said they had a KIA book and could show it. According to Riskesdas data in 2013, for the proportion of ownership of Maternal and Child Health (KIA) books, 19.2% of mothers did not have a KIA book, 40.4% of mothers said they had a KIA book but could not show it and 40.4% said they had a KIA book and could show it. Based on these data, it can be seen that the proportion of ownership has increased and can show as much as 21.8%, but there has also been an increase in the proportion of those who do not own as much as 5.7% (Kementerian Kesehatan Republik Indonesia 2013, 2018)

Assessing the use of the Maternal and Child Health (KIA) book can be seen from the results of observations of the Maternal and Child Health (KIA) book on the 5 components of P4K (delivery assistance, delivery funds, village vehicles/ambulances, family planning methods and blood donation) showing that birth assistance amounting to 35.4 percent, on maternity funds amounting to 17.3 percent, on village vehicles/ambulances amounting to 4 percent, on postpartum family planning methods amounting to 19.2 percent and 12.1 percent on blood donations. Completeness of all components is 10.7 percent 64.0 percent 5 P4K components are not filled at all (Hanum and Safitri 2018). Utilization of maternal and child health services is still hampered by low knowledge and attitudes of mothers regarding the danger signs of pregnancy and other matters relating to pregnancy, childbirth, and children under 5 years of age regarding the use of Maternal and Child Health books (Apriyanti Sihole, Heru Santosa, and Lubis

2020). Most pregnant women think that the KIA book is only used for pregnancy records

Some previous research have stated that there is a relationship between pregnant women's knowledge and the use of KIA books (Dalimunthe E 2020; Sari E.M ; Perangin Angin S.Y 2023; Simatupang and Silalahi 2022; Zahro A 2023), but this research has not looked at whether assistance is provided to pregnant women. increasing existing maternal knowledge so that it has an impact on increasing the use of MCH books and improving the welfare of pregnant women and fetuses. This research looks at this impact resulting in an increase in the welfare of pregnant women and the fetus they are carrying

RESEARCH METHODS

The research method is Quasy Experimental with a one group pretest-posttest design. The dependent variable in this research is pregnant women's knowledge about pregnant women's health services and the independent variable is assistance with KIA books. The population in this study were all pregnant women in the Metro City area in the period September – November 2023, totaling 230 pregnant women, with the sample being representatives of pregnant women in each health post in the Metro City area, 37 pregnant women, taken randomly. accidentals calculated based on the Lemeshow sample calculation formula (Sastroasmoro, S., & Ismael 2014). The sample inclusion criteria were pregnant women who were willing to be respondents and had a KIA book, while the exclusion criteria were mothers who did not live in Metro City. Researchers using enumerators, namely students from the Metro Applied Midwifery Study Program, provided assistance to pregnant women who were used as respondents by visiting and accompanying the mothers, especially in studying and applying the KIA Book once a week for 2 months. The questionnaire before mentoring was given on 18 – 22 September 2023. On 20 – 24 November, the questionnaire was filled out again after the mentoring was carried out. The research instrument is a questionnaire with a questionnaire filling method. Data processing uses a paired simple t test. Data presentation will be carried out using univariate and bivariate presentation

RESEARCH RESULT

Based on the results of data collection, the results obtained regarding the characteristics of respondents regarding the influence of KIA Book assistance on increasing mothers' knowledge about health services for pregnant women are as follows:

Table 1
Characteristics of Respondents for KIA Book Assistance in Metro Cities in 2023

	Variable	Amount	Percentage (%)
Education	ES	1	2,7
	JHS	2	5,4
	SHS	25	67,6
	Diploma	3	8,1
	Bachelor	5	13,5
	Post Graduate	1	2,7
	Amount	37	100
Work	Housewife	30	81,1
	Private Employees	4	10,8
	Government Employees	3	8,1
	Amount	37	100
	Amount	37	100
Gravida	1	23	62,2
	2	8	21,6
	3	3	8,1
	4	3	8,1
	Amount	37	100
Gestational Age	TM I	1	2,7
	TM II	1	2,7
	TM III	35	94,6
	Amount	37	100
	Amount	37	100

Based on the characteristics data, it is known that the majority of mothers (67.6%) have a high school education, the majority of mothers' occupation (82.1%) is housewife, the majority are first pregnancies (primi gravida), namely 62.2% and gestational age most of TM III as much as 94.6%

Table 2.
Average Value of Mothers' Knowledge about Pregnant Women's Health Services Before and After KIA Book Assistance

Treatment	Avarage	SD
Before Assistance	65,51	9,492
After Assistance	84,54	9,002

Based on the univariate test, it can be seen that the average knowledge of mothers after being provided with the KIA book is higher than before being provided with the KIA book. Apart from that, there was a decrease in the standard deviation after the KIA book assistance was provided, meaning that the mother's knowledge after assistance was closer to the average value.

Before carrying out a bivariate test to determine the effect of KIA book assistance on maternal knowledge, a data normality test was carried out on the mother's knowledge variable both before and after assistance. The results of the normality test showed a p value of 0.428, meaning the data distribution was normal, so the statistical test was used is the *dependent t test*.

Table 3
The Effect of KIA Book Assistance on Average Mothers' Knowledge regarding Pregnant Women's Health Services

Group	N	Average Increase in Mother's Knowledge	p-value
Before-After KIA Book Assistance	37	19,03	0,000

Based on the results of the bivariate test, it was found that there was an increase in maternal knowledge with an average increase of 19.03 points

and the results of the bivariate test using an independent t test showed that there was an influence of KIA book assistance on pregnant

women's knowledge about maternal health services during pregnancy with a p value of 0,000

DISCUSSION

A. Average Mother's Knowledge Before and After KIA Book Assistance

Based on the research results, it was found that the average knowledge of mothers about pregnancy checks before being accompanied by the KIA book was 65.51 and the average knowledge of mothers about pregnancy checks after being accompanied by the KIA book was 84.54. This means that the average increase in maternal knowledge was 19.03. These results are in line with research in Tasikmalaya which found that there was an increase in knowledge of pregnant women by 20.5% after providing assistance for 5 weeks (Mintarsih W 2018). These results are also in line with the results of community service carried out by Damayanti for pregnant women in the Tanjungpinang Community Health Center area with the results of increasing mothers' knowledge about maternal health by 30% after providing counseling and assistance with KIA books for 1 month (Damayanti 2019). These results are also in line with research in Medan who experienced an increase in the knowledge of pregnant women after providing assistance in using the KIA book with an increase of 84% in mothers with good knowledge (Sari E.M; Perangin Angin S.Y 2023). This result is greater than research at the Jatinangor Community Health Center where the number of pregnant women with good knowledge was 52.5%, because the respondents taken were all pregnant women, both those who used and those who did not use the KIA book (Napitupulu et al. 2018).

Most knowledge can be gained from the eyes and ears through sight and hearing. Apart from that, knowledge can also be obtained through personal experience and the use of reasoning (Pakpahan M; Siregar D; Susilawaty A; Tasnim; Ramdany M. R; Manurung E.I; Sianturi E; Tompunu M.G.R; Sitanggang Y.F; M. Maisyarah; 2021). Based on other sources, it is stated that a person can gain knowledge through experience, both from their own experience and the experience of others. Knowledge is obtained by repeating the experiences a person has gained in solving the problems they face because in reality experience is something that has been experienced, lived or felt by someone which is then stored in their memory, so that repeating experiences can add information and can solve the problems faced by people (Erawati, Alfiani, and Kurniasih 2020).

B. The Effect of KIA Book Assistance on Increasing Mothers' Knowledge about Pregnant Women's Health Services

Based on the results of research carried out in the Metro City area in 2023, it was found that there was an influence of KIA book assistance on pregnant women's knowledge about pregnant women's health services. This is in line with Dalimunthe's research which stated that there was a relationship between pregnant women's knowledge and the use of KIA books with a value of $p=0.004$ (Dalimunthe E 2020). This research is also in line with research by Zahro, et al which states that the use of KIA books has a positive relationship with pregnant women's knowledge, where the higher the use of KIA books by pregnant women, the better the mother's knowledge (Zahro A 2023). Apart from that, this research is also in line with Mintarsih's research where this research concludes that the use of KIA books through mentoring students and cadres can increase the knowledge of pregnant women (Mintarsih W 2018) as well as other research which states that providing counseling about KIA books to pregnant women will be able to increase knowledge mothers about the use of KIA books which will hopefully improve the quality of use of KIA books by pregnant women (Armayanti LY; Dewi AP; Nurtini AN; Dewi NWE 2023). This research is also supported by previous research which found that there was an effect of providing education on the level of knowledge of pregnant women in use of maternal and child health (KIA) books at the Sei Pancur Community Health Center (Murniasih, Wardhani, and Muthiasari 2023). Other research also states that there is a relationship between pregnant women's knowledge and the use of KIA books by pregnant women (Hanum and Safitri 2018).

Knowledge is all forms of human actions carried out to understand certain objects. Knowledge is a very important domain for shaping a person's actions. There are several things that influence a person's knowledge, including memory, interest, testimony, curiosity, thoughts and reasoning, logic, language and human needs. Apart from that, there are other factors that can influence a person's knowledge, including information (Notoatmodjo 2021; Rachmawati W.C 2019). In this study, researchers conveyed information about pregnant women's health services to pregnant women in the Metro City area through assistance in using the KIA book. Through the information provided, pregnant women know more about maternal health services during pregnancy. Assistance for pregnant women in understanding the KIA book and applying it is very

important, because not all pregnant women use the KIA book. This is in accordance with what was stated in one study that not all pregnant women with good knowledge use KIA books because they think they already know everything so they do not read and use KIA books (Munna, Jannah, and Susilowati 2020). However, in other studies it is stated that good knowledge will help mothers make decisions about using KIA books and can improve the welfare of the mother and fetus (Ketut Suarayasa et al. 2022; Utami 2018).

Before assisting pregnant women, there were some who already knew about maternal health services during pregnancy, but there were still some things that mothers didn't know about. With assistance carried out once per week for two months by explaining to the mother the contents of the KIA book, there is an increase in the mother's knowledge about the KIA book, this happens because the mother gets more information from the companion so that the mother understands better what and how the service is. Maternal health during pregnancy. In addition, during assistance to mothers, there is also outreach about the KIA book to mothers, where this outreach will be able to increase the mother's knowledge about maternal health services, especially during pregnancy (Simatupang and Silalahi 2022).

Apart from that, the media used for mentoring also greatly influences the mother's level of understanding of what the companion conveys. In this case, direct assistance uses the KIA book media that the mother owns so that the mother will easily understand what is being conveyed because she uses words, pictures or posters in the KIA book and directly uses the KIA book media that the mother owns. This is in accordance with the theory which states that the senses that transmit the most knowledge to the brain are the eyes at 75-87%. Apart from that, the teaching aid that plays the biggest role in helping someone overcome problems, namely the actual object in this case, is the KIA book (Adventus MRL, Jaya I.M.M 2020).

Based on several previous studies, there will be an increase in mothers' knowledge after being given health education about the KIA book, namely by the mother repeating reading the KIA book after being at home about what the officers have conveyed (Siahaan N; Sinaga E.S; Rosmega 2022). In this study, pregnant women repeated themselves by reading the KIA book again after being assisted by an enumerator so that mothers could know and understand more about maternal health services during pregnancy. Apart from this, one of the literature review studies stated that the use of home-

based integrated KIA books (home visits) was effective in facilitating mothers' behavior in implementing the contents of KIA books (Jaya and Dinastiti 2020; Sugiarti, Rustina, and Efendi 2020). This research applies the home visit method in assisting pregnant women in studying the KIA book, so that mothers can implement the contents of the KIA book effectively to improve the quality of pregnant women's health. Based on the results of this research, it can be seen that the support of health workers, in this case accompanying KIA books, has an effect on increasing mothers' knowledge in using KIA books, this is in line with the results of research in Karawang (Farida 2016).

In the KIA book, you can see and learn about pregnancy check-up services, including pregnancy check-ups, classes for pregnant women, daily care for pregnant women, mother's food portions during pregnancy, physical activity and physical exercise, things that pregnant women need to avoid and danger signs of pregnancy (Kementrian Kesehatan Republik Indonesia 2022; Ministry of Health 2023). With the assistance and activeness of mothers in reading and studying the KIA book, there will be an increase in pregnant women's knowledge about the things in the KIA book

CONCLUSION

There is an influence of KIA book assistance on pregnant women's knowledge about maternal health services during pregnancy in the Metro City area in 2023 with a p value of 0.000

SUGGESTION

Health cadres are expected to be more active in assisting and providing information to pregnant women about health services during pregnancy so that the pregnancy can run smoothly without any obstacles until delivery and if abnormalities or risk factors are found they can be immediately identified and treated. Pregnant women themselves are advised to read and study more about KIA books so that danger signs can be detected early and they can be resolved immediately.

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THE RELATIONSHIP BETWEEN CHEERFUL GYMNASTICS AND GROSS MOTOR DEVELOPMENT OF EARLY CHILDHOOD AT PERTIWI IV KINDERGARTEN

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ABSTRAK : HUBUNGAN GERAKAN SENAM CERIA TERHADAP PERKEMBANGAN MOTORIK KASAR ANAK USIA DINI

Latar Belakang: Pembelajaran anak usia dini yang digunakan saat ini masih terkesan monoton dan belum mampu mengoptimalkan aspek perkembangan anak dalam meningkatkan perkembangan motorik kasar anak usia dini. Senam Ceria merupakan salah satu kegiatan yang dapat merangsang perkembangan motorik anak pada usia dini, senam yang diiringi dengan musik dan lagu yang gembira dapat meningkatkan semangat bagi anak-anak sehingga aktifitas fisik/jasmani anak lebih baik yang pada akhirnya mampu mencapai perkembangan motorik kasar yang optimal.

Tujuan: Tujuan untuk menganalisis hubungan gerakan senam terhadap perkembangan motorik kasar anak usia dini.

Metode: Rancangan penelitian yang digunakan adalah survei analitik dengan pendekatan cross sectional. Jumlah sampel sebanyak 50 anak usia dini. Instrumen penelitian menggunakan kuesioner. Analisis bivariat menggunakan uji Chi Square.

Hasil: Hasil dari 50 responden terdapat 68% anak yang mengikuti gerakan senam ceria secara sistematis, Untuk perkembangan motorik kasar dari terdapat 38 responden yaitu sebanyak 76% memiliki kategori baik. Hasil uji Chi Square ada hubungan yang signifikan antara gerakan senam ceria terhadap perkembangan motorik kasar anak usia dini ($p = 0,000$).

Kesimpulan: Melalui senam ceria maka gerakan dasar tubuhnya akan terlatih secara ekspresif dan akan memberikan perubahan yang signifikan terhadap anak yang mengalami keterhambatan motorik kasar. Salah satu cara meningkatkan motorik kasar pada anak usia dini dengan mengajarkannya untuk melakukan kegiatan senam ceria yang menyenangkan bagi anak di sekolah, dengan gerakan yang sederhana mampu diikuti oleh anak.

Saran: diharapkan senam ceria dilanjutkan secara rutin sebagai kegiatan olahraga setiap minggu di TK Pertiwi IV

Kata kunci: anak usia dini; motorik kasar; perkembangan; senam ceria

ABSTRACT

Background: Early childhood learning currently used still seems monotonous and has not been able to optimize aspects of child development in improving the gross motor development of early age. Cheerful Gymnastics is one of the activities that can stimulate children's motoric development at an early age. Gymnastics accompanied by happy music and songs can increase children's enthusiasm so that children's physical/physical activity is better which in turn is able to achieve optimal gross motor development.

Purpose: The objective to analyze the relationship of gymnastic movements to the gross motor development of early childhood.

Methods: The research design used was an analytical survey with a cross sectional approach. The number of samples were 50 early childhood. Research instruments using questionnaires. Bivariate analysis using Chi Square test.

Results: from 50 respondents showed that 68% of children participated in cheerful gymnastics movements systematically. For gross motor development, there were 38 respondents, namely 76% were in the good category. The results of the Chi Square test showed a significant relationship between cheerful gymnastics movements and the gross motor development of young children ($p = 0.000$).

Conclusion: Through cheerful gymnastics movement, basic body movements will be trained expressively and will provide significant changes to children who experience gross motor skills. One way to improve gross motor skills in young children is by inviting them to do cheerful gymnastics activities that are fun for children at school,

with simple movements that children can follow.

Suggestions; It is hoped that cheerful gymnastics will continue regularly as a sports activity every week at Pertiwi IV Kindergarten.

Keywords: early childhood; gross motor; development; cheerful gymnastics.

INTRODUCTION

Children are unique individuals who require attention from various aspects of life, and one of these aspects is their development. The development process evolves from simple matters to more complex ones. Individuals who experience positive developmental situations in their early years will positively impact their future development in line with the expected development.

One type of development is motor skills, which can be seen in an individual through the coordination of movement and muscles. Individuals with good motor skills can be identified by excellent movement and muscle coordination. In contrast, those with less developed motor skills may exhibit poor coordination and muscle control (Asmuddin et al., 2022).

Early Childhood Education (PAUD) can be defined as a form of educational implementation that emphasizes the foundation for growth and development in terms of motor coordination (fine and gross), emotional intelligence, multiple intelligences, and spiritual intelligence (Hasanah, 2016). PAUD is also fundamental education because early childhood is a critical period for a child's development. Approximately 80% of a child's brain development occurs during the 'Golden Age,' from 0 to 5 years old. Therefore, stimulation for developing gross motor skills should begin in early childhood (Kusumaningrum et al., 2022).

Exercise is one of the activities that can stimulate the motor development of children at an early age. Exercise accompanied by cheerful music and songs can boost the spirits of children. 'Senam Ceria' is a form of exercise beneficial for developing children's potential from an early age. This exercise program for Early Childhood Education (PAUD) was developed by the Organization of Non-Formal and Informal Education Development Center (BPPNFI). Developing this exercise aims to promote overall intelligence, including cognitive, gross motor, and pleasing motor aspects (Subhan & Irfah, 2019).

Based on previous research conducted by Ganjar Rohma in 2017, which involved the observation and documentation of 30 children, the results indicated a positive correlation between the frequency of gymnastics training and the development of children's gross motor skills. Other

studies also showed that 'Senam Ceria' can improve basic motor skills such as walking, running, jumping, rotating, and bending, as well as cognitive skills like solving simple daily life problems, understanding numerical concepts, recognizing patterns, grasping spatial concepts, and understanding measurements, gradually with each cycle (Palmizal et al., 2020).

Saidah (2016) revealed several other factors that influence children's gross motor development, stating that gender differences can affect motor development. Boys tend to develop faster than girls in learning motor skills such as control, but girls tend to excel in locomotor skills such as walking, running, and jumping (Saidah & Puwani, 2016). Another study by Duan (2022) on cognitive motor skills suggested that language development is related to fine and gross motor skills (Duan et al., 2022).

However, regarding physical activities like cheerful gymnastic there needs to be more stimulation in this PAUD Pertiwi IV Kindergarten, leading to insufficient coordination in children's movements. Gross motor skills are trained to enable children to respond to stimulation and provide feedback. This gymnastic exercise focuses on the body rather than equipment or movement patterns because the primary goal is the development and control of physical quality. Cheerful Gymnastics is conducted rhythmically, either accompanied by music or as free rhythmic exercises

RESEARCH METHODS

The research design employed is a cross-sectional study, aiming to analyze the relationship between the independent variable (movements in cheerful gymnastics) and the dependent variable (gross motor development) in early childhood using the chi square test. The methodology entails the collection of data at one specific point in time. The study's sample consists of 50 children, aged 4-5 years, enrolled at TK Pertiwi IV. Purposive sampling was utilized for the selection of participants, with inclusion criteria being: attendance at Pertiwi IV Kindergarten, age range of 4-5 years, participation in cheerful gymnastics sessions more than four times, and consent to participate as respondents. Data was collated using observational sheets and questionnaires derived from the KPSP for the 4-5 years age group, aimed at assessing the gross motor

development of the participants.

RESEARCH RESULTS

Table 1
Distribution of Respondent Characteristics Based on Child Age and Mother's Age

Variabel	Mean	Min-Max	SD
Mother's Age	35	26-58	5,349
Child's Age	4,60	4-5	0,495

Table 2
Distribution of Respondent Characteristics Based on Gender, Eating Pattern, and Parenting Style

Characteristic	Frequency (n=50)	Percentage (%)
Gender		
Male	17	34
Female	33	66
Eating Pattern		
Good	38	76
Adequate	7	14
Poor	5	10
Parenting Style		
Authoritative	10	20
Authoritarian	15	30
Democratic	25	50
Parity Mother		
Primipara	26	52
Multipara	17	34
Grande Multipara	7	14

Table 3
Distribution of Frequency of Gymnastics in 4-5 Year Old Children at Pertiwi IV Kindergarten Year 2023

Cheerful Gymnastics	Frequency (n=50)	Percentage (%)
Systematic Movements	34	68
Movements are somewhat imprecise	13	26
Did not participate	3	6

Table 4
Distribution of Gross Motor Skills Frequency in 4-5 Year Old Children at Pertiwi IV Kindergarten Year 2023

Cheerful Gymnastics	Frequency (n=50)	Percentage (%)
Good	38	76
Adequate	10	20
Poor	2	4

Table 4
Relationship between Gymnastic Movements and Gross Motor Development in Early Childhood (4-5 Years) at Pertiwi IV Kindergarten Year 2023

Cheerful Gymnastics	Gross Motor Skills						Total		P
	Good		Adequate		Poor				
	F	%	F	%	F	%	F	%	
Systematic Movements	34	68	0	0	0	0	34	68	0.000
Movements are somewhat imprecise	4	8	9	18	0	0	13	26	
Did not participate	0	0	1	2	2	4	3	6	

DISCUSSION

Characteristics Of Respondent

Based on the results of the study, it was found the average age of the respondent's mother is 35 years, with a minimum age of 26 years and a maximum age of 58 years. Regarding the child's age, the average pregnancy age is 4,6, which means that, on average, the children are four and six months old.

It can be observed that the majority of children's gender is female, with 33 individuals (66%). Regarding eating patterns, the majority follow a good eating pattern, with 38 individuals (76%). As for parenting style, the highest number of parents follow a democratic parenting style, with 25 individuals (50%). Regarding the mother's parity, the majority are primiparous, with 26 individuals (52%).

Distribution of Frequency of Gymnastics and Gross Motor Skills in 4-5 Year Old Children at Pertiwi IV Kindergarten Year 2023

Table 3 shows that 34 children (68%) perform gymnastic exercises systematically, while 13 children (26%) perform cheerful gymnastics with somewhat imprecise movements. Additionally, three children (6%) did not participate or remained still during cheerful gymnastics. In table 4, it can be observed that 38 respondents (76%) of children have good gross motor skills, while 10 children (20%) have adequate gross motor skills, and two children (4%) have poor gross motor skills.

The results of the research show that with cheerful exercise the students can follow movements systematically and well-coordinated. This is in line with research by Zulfah (2019) which concluded that cheerful exercise increases students' interest in physical motor activities (Zulfah, 2019). The research results from (Subhan & Irfah, 2019) also concluded that implementing cheerful exercise was able to improve gross motor skills in group B kindergarten children. The research results (Nuryanti, Roni, R., & Ismail, 2015) concluded that through cheerful exercise activities, children's gross motor skills increased. Hartini and Abubakar's research also

concluded that cheerful exercise videos are very feasible and very effective as a learning medium for improving the gross motor skills of students with Down syndrome (Hartina & Abubakar, 2018).

Relationship between Gymnastic Movements and Gross Motor Development in Early Childhood (4-5 years) at Pertiwi IV Kindergarten Year 2023

Based on the cross-tabulation table between gymnastic movements and gross motor development in the table above, the analysis using Chi-square resulted in a P-value of $0.000 < 0.05$. Therefore, it can be concluded that there is a significant relationship between 'Senam Ceria' movements and gross motor development in children aged 4-5 years.

During early childhood, one of the best ways to provide stimulation to enhance kinesthetic intelligence in children is through cheerful gymnastics because children love to move, especially when accompanied by rhythmic music and cheerful songs that allow them to express themselves. Gymnastics optimizes physical activity in a child's development (Yunaika, 2020). The development that can be achieved includes improved immunity, agility, intelligence, flexibility, and good body coordination. Gymnastics can be classified as rhythmic or rhythmic gymnastics. Cheerful gymnastics combines various movements with accompanying rhythm, such as claps, beats, tambourines, singing, music, and more (Sudarsini, 2013).

Gross motor skills are crucial for the growth and development of children, both now and in the future. These skills build confidence, independence, and acceptance among children by their peers (Bakaniene et al., 2018). Teachers and parents need to understand the appropriate stimulation to develop their children's gross motor skills, including locomotor skills, non-locomotor skills, and skills for receiving and projecting themselves. Rhythmic gymnastics can be a helpful approach to develop these gross motor skills. This exercise is easy to

perform and optimizes a child's physical growth and development (Bardid et al., 2017). To improve a child's gross motor skills, appropriate exercises tailored to the characteristics of young children are necessary. Gross motor development will be optimal when physical activities stimulate it (Rizkiyah et al., 2018).

Cheerful gymnastics is a combination of movements accompanied by rhythm (Ramadhani, 2018). Cheerful gymnastics activities contribute to children's gross motor skills development. Through rhythmic gymnastics, basic body movements are trained expressively and can significantly improve children who experience motor skill delays. It requires strength and agility, which contributes to improved physical motor skills, making them healthier and more agile (Maghfiroh, 2020). Cheerful gymnastics is divided into three stages: the warm-up, core, and cooling-down. The warm-up stage is performed before the core movements and aims to prepare the body physiologically and psychologically, preparing the respiratory system, blood circulation, muscles, and joints. The core movements in rhythmic gymnastics include gross motor movements that train flexibility, balance, agility, flexibility, and muscle coordination. The cooling-down stage is performed after the core movements to relax the muscles, calm the body, and regulate breathing, allowing the body to relax (Hasibuan et al., 2020).

CONCLUSION

Through cheerful gymnastics, foundational body movements are trained expressively, which can result in significant improvements for children experiencing gross motor delays. One method to enhance gross motor skills in early childhood is by engaging them in cheerful gymnastics activities. Cheerful gymnastics is a delightful activity for school-aged children, and its straightforward movements are easily accessible for children to follow.

SUGGESTION

It is hoped that cheerful gymnastics will continue to be carried out continuously in sports activities every week at Pertiwi IV Kindergarten to improve students' gross motor skills.

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THE RELATIONSHIP OF UNDERNUTRITION AND GROSS MOTOR DEVELOPMENT OF CHILDREN AGED 1-5 YEARS

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ABSTRAK : HUBUNGAN GIZI KURANG DENGAN PERKEMBANGAN MOTORIK KASAR ANAK USIA 1-5 TAHUN DI WILAAH KERJA PUSKESMAS KESUMADADI LAMPUNG TENGAN

Latar Belakang: Kekurangan gizi dapat memberikan konsekuensi buruk dimana manifestasi terburuk dapat menyebabkan kematian. Masalah gizi kurang nampaknya belum dapat teratasi dengan baik skala internasional. Secara global sebesar 462 juta balita yang mengalami gizi kurang dan 1,9 juta anak mengalami gizi lebih (WHO, Malnutrition, 2020). Angka kematian balita menurut UNICEF sebanyak 37% balita (Unicef, 2021). Angka Gizi kurang di Indonesia juga masih sebanyak sebanyak (17%) (Kemenkes RI, 2022). Menurut laporan Badan Pusat Statistik (BPS), Indonesia memiliki angka kematian balita 19,83 per 100 kelahiran hidup pada 2022 (BPS, 2022). Artinya, dari setiap 100 anak yang lahir dengan selamat, sekitar 19 anak di antaranya meninggal sebelum mencapai usia 5 tahun. Kematian balita salah satunya disebabkan pneumonia (BPS, 2022). Salah satu provinsi di Indonesia yang menghadapi masalah malnutrisi adalah Provinsi Lampung, yaitu untuk kasus gizi kurang berada diperingkat 26 (14,8%) (KemenkesRI, 2022). Kasus gizi kurang belum mencapai target diLampung Timur yaitu 16,7%. Sedangkan prevalensi gizi kurang sebanyak 16,7%. (Kemenkes RI, 2022). Angka Kematian Balita di Provinsi Lampung sebanyak 15,6%. Provinsi Lampung terdapat 15 kabupaten atau kota, salah satunya yaitu kabupaten Lampung Timur. Sebanyak 16,26% angka kematian balita di Lampung Timur (BPS, 2020).

Tujuan: Mengetahui ada hubungan gizi kurang dengan perkembangan motorik kasa anak usia 1-5 tahun di Wilayah Kerja Puskesmas Kesumadadi Lampung Tengah Tahu 2023

Metode: Desain penelitian dari penelitian ini menggunakan metode survei analitik penelitian dilaksanakan di Wilayah Kerja Puskesmas Kesumadadi Lampung Tengah. Rancangan penelitian yang digunakan yaitu penelitian *case control*. Populasi pada penelitian ini adalah data gizi kurang yaitu sejumlah 245 balita dari desa kesumadadi dan 212 balita dari desa sumberjo yang didapatkan dari EPGBM Puskesmas Kesumadadi Lampung Tengah Tahun 2023. Sampel pada penelitian ini menggunakan teknik *purposive sampling* yang dihitung menggunakan rumus slovin dengan hasil 82 balita didesa Kesumadadi dan desa Sumberjo. Instrumen penelitian ini menggunakan lembar observasi dan lembar denver II. Analisis data menggunakan analisis univariat dan bivariat menggunakan *Chi Square*.

Hasil: Hasil penelitian telah dilakukan analisis univariat yaitu distribusi frekuensi gizi kurang 30 (37%) dan tidak gizi kurang 52 (63%). Distribusi frekuensi motorik kasar status normal sejumlah 51(62%), Suspek 28 (34%), Tidak dapat diuji 3 (4%). Hasil analisis bivariat telah dilakukan analisis data menggunakan *chi square* didapatkan hasil dari penelitian ini yaitu didapatkan balita yang motorik kasarnya normal terdapat 51 (98%) balita yang tidak gizi kurang, balita yang motoik kasarnya suspek terdapat 27 (90%) balita ber status gizi kurang dan 1 (2%) balita yang status gizi nya baik. Balita yang motorik kasarnya tidak dapat diuji terdapat 3 (10%) balita yang status gizi kurang. Hasil *chi square* yang didapat yaitu $0,000 < 0,005$ yang artinya ada hubungan antara motorik kasar dengan status gizi pada balita.

Kesimpulan: Balita yang motorik kasarnya tidak dapat diuji terdapat 3 (10%) balita yang status gizi kurang. Hasil *chi square* yang didapat yaitu $0,000 < 0,005$ yang artinya ada hubungan antara motorik kasar dengan status gizi pada balita.

Saran: Dapat dilakukan pencegahan gizi kurang agar seluruh balita memiliki status gizi baik dan motorik kasar normal

Kata Kunci : *Case Control*, Gizi Kurang, Motorik Kasar

ABSTRACT

Background: Malnutrition can have bad consequences where the worst manifestation can cause death. It seems that the problem of malnutrition has not been resolved well on an international scale. Globally, 462 million children under five are undernourished and 1.9 million children are overnourished (WHO, Malnutrition, 2020).

According to UNICEF, the under-five mortality rate is 37% (Unicef, 2021). The malnutrition rate in Indonesia is still as high as (17%) (RI Ministry of Health, 2022). According to the Central Statistics Agency (BPS) report, Indonesia has a toddler mortality rate of 19.83 per 100 live births in 2022 (BPS, 2022). This means that for every 100 children born safely, around 19 children die before reaching the age of 5 years. One of the deaths of children under five is caused by pneumonia (BPS, 2022). One of the provinces in Indonesia that faces malnutrition problems is Lampung Province, which is ranked 26th (14.8%) for cases of malnutrition (Kemenkes RI, 2022). Malnutrition cases have not yet reached the target in East Lampung, namely 16.7%. Meanwhile, the prevalence of undernutrition is 16.7%. (RI Ministry of Health, 2022). The infant mortality rate in Lampung Province is 15.6%. Lampung Province has 15 districts or cities, one of which is East Lampung district. As much as 16.26% of the under-five mortality rate in East Lampung (BPS, 2020).

Objective: To find out whether there is a relationship between malnutrition and the development of fine motor skills in children aged 1-5 years in the Kesumadadi Community Health Center Working Area, Central Lampung, 2023

Method: The research design of this study uses an analytical survey method, research carried out in the Kesumadadi Community Health Center Work Area, Central Lampung. The research design used is case control research. The population in this study was malnutrition data, namely 245 toddlers from Kesumadadi village and 212 toddlers from Sumberjo village obtained from the EPGBM of the Kesumadadi Health Center, Central Lampung in 2023. The sample in this study used a purposive sampling technique which was calculated using the Slovin formula with the results being 82 toddlers in the village. Kesumadadi and Sumberjo villages. This research instrument uses observation sheets and Denver II sheets. Data analysis used univariate and bivariate analysis using Chi Square.

Results: The results of the research were carried out by univariate analysis, namely the frequency distribution of malnutrition was 30 (37%) and not malnutrition was 52 (63%). Frequency distribution of normal gross motor status was 51 (62%), Suspect 28 (34%), Untestable 3 (4%). The results of bivariate analysis have carried out data analysis using chi square. The results of this research are that there are 51 (98%) toddlers whose gross motor skills are normal, and 27 (90%) toddlers whose gross motor skills are suspect are undernourished. and 1 (2%) toddler whose nutritional status was good. Of the toddlers whose gross motor skills could not be tested, there were 3 (10%) toddlers who had poor nutritional status. The chi square results obtained were $0.000 < 0.005$, which means there is a relationship between gross motor skills and nutritional status in toddlers.

Conclusion: Of the toddlers whose gross motor skills could not be tested, there were 3 (10%) toddlers who had poor nutritional status. The chi square results obtained were $0.000 < 0.005$, which means there is a relationship between gross motor skills and nutritional status in toddlers.

Suggestion: Malnutrition can be prevented so that all toddlers have good nutritional status and normal gross motor skills.

Keywords: : Case Control, Lack Of Nutrition, Rough Motorcycle

INTRODUCTION

Malnutrition can have bad consequences where the worst manifestation can cause death. It seems that the problem of malnutrition has not been resolved well on an international scale. Globally, 462 million children under five are undernourished and 1.9 million children are overnourished (WHO, Malnutrition, 2020). According to UNICEF, the under-five mortality rate is 37% (Unicef, 2021). The malnutrition rate in Indonesia is still as high as (17%) (RI Ministry of Health, 2022). According to the Central Statistics Agency (BPS) report, Indonesia has a toddler mortality rate of 19.83 per 100 live births in 2022 (BPS, 2022). This means that for every 100 children born safely, around 19 children die before reaching the age of 5 years. One of the deaths of children under five is caused by pneumonia (BPS, 2022). One of the provinces in Indonesia that faces malnutrition problems is Lampung Province, which is

ranked 26th (14.8%) for cases of malnutrition (Kemenkes RI, 2022). Malnutrition cases have not yet reached the target in East Lampung, namely 16.7%. Meanwhile, the prevalence of undernutrition is 16.7%. (RI Ministry of Health, 2022). The infant mortality rate in Lampung Province is 15.6%. Lampung Province has 15 districts or cities, one of which is East Lampung district. As much as 16.26% of the under-five mortality rate in East Lampung (BPS, 2020).

The most common cause of infant death is pneumonia, while pneumonia is the impact of malnutrition caused by malnutrition (Purnama et al., 2021). Apart from pneumonia, malnutrition has an impact on children's slow development, which indicates the amount of nutritional intake they receive. Malnutrition is a state of subacute or chronic nutrition, where the combination of various levels of malnutrition and inflammatory activity has caused

changes in body composition and reduced organ function. Nutritional and health disorders during this period can negatively affect children's physical (motor development) and cognitive development (Worku et al., 2018). Good nutritional status is largely determined by the food consumed which has sufficient nutritional content and is adjusted to the nutritional needs of toddlers, so that children can grow and develop normally, healthy and strong. Fulfillment of nutrition for children under five is a factor that must be considered, because the development period that is vulnerable to nutrition is during the toddler years (Jasmawati and Rizky, 2020).

Poor nutritional status results in slow child development, which indicates that the amount of nutritional intake obtained does not meet the nutritional needs received by the body, especially the brain, as a result it will disrupt the child's development. Gross motor skills require good brain and muscle performance, therefore children need good nutritional intake. Wauran et al in (Dewi, Inggit, Ani & Psiari 2022). Growth and development according to general stages. Growth is an increase in the size and number of cells and intracellular tissue, so that there is an increase in physical size and body structure. Development is the increase in more complex body functions so that children have gross motor skills, fine motor skills, speaking language, as well as socialization and independence. This process must be monitored carefully because each child has stages of ability that must be mastered at a certain age limit. This monitoring is part of supervising the growth and development of toddlers. Monitoring children's growth and development needs to be carried out by several parties such as parents, health workers, educators and cadres (Anggari, 2021).

A child's gross motor development can be assessed by moving their arms and body (Fitri, 2021). According to research (Arsida, Sitti, Puput, 2021) with results from 13 children with poor nutritional status, it was found that 2 children had appropriate gross motor development while 10 children were doubtful. The results of the Spearman rank test obtained a significance value of $p = 0.000$, this shows that there is a relationship between nutritional status and the development of gross motor skills in children aged 1-3 years. According to research with the results of data analysis, the relationship between good and poor nutritional status and motor development was found to be 0.001, which means there is a significant relationship between good and poor nutritional status and children's motor development.

Previous research in assessment categories used appropriate and undecided categories. Meanwhile, this research uses normal, suspect and untested categories.

After conducting a preliminary study, looking at the EPBGM data at the Kesumadadi Community Health Center, it was found that there were 457 children under five. A total of 427 (93.4%) toddlers were well-nourished and had good gross motor skills. Researchers will examine two villages where there are malnourished toddlers, namely Kesumadadi village with 11 children experiencing malnutrition, and in Sumberjo village 19 children experiencing malnutrition. In general, the child's motoric development is not being able to grip well and not being able to kick the ball well according to his age. Therefore, the researchers studied research regarding "The Relationship between Malnutrition and Gross Motor Development of Children Aged 1-5 Years in the Kesumadadi Community Health Center Area, Central Lampung in 2024".

RESEARCH METHODS

The research design of this study uses an analytical survey method, research carried out in the Kesumadadi Community Health Center Work Area, Central Lampung. The research design used is case control research. The population in this study was malnutrition data, namely 245 toddlers from Kesumadadi village and 212 toddlers from Sumberjo village obtained from the EPGBM of the Kesumadadi Health Center, Central Lampung in 2023. The sample in this study used a purposive sampling technique which was calculated using the Slovin formula with the results being 82 toddlers in the village. Kesumadadi and Sumberjo villages. This research instrument uses observation sheets and Denver II sheets. Data analysis used univariate and bivariate analysis using Chi Square.

Inclusion criteria is toddlers recorded in EPGBM data, toddlers who experience malnutrition, toddlers aged 1-5 years, mothers who want their toddlers to be respondents. But the exclusion criteria is Toddlers who were sick when the research was carried out

RESEARCH RESULTS

The results of the research were carried out by univariate analysis, namely the frequency distribution of malnutrition was 30 (37%) and not malnutrition was 52 (63%). Frequency distribution of normal gross motor status was 51 (62%), Suspect 28 (34%), Untestable 3 (4%). The results of bivariate

analysis have been carried out using chi square data analysis :

Tabel 1
The relationship between malnutrition status and gross motor development of children aged 1-5 years

Status Gizi	Motorik Kasar						Total		P value
	Normal		Suspek		Tidak dapat diuji				
	N	%	N	%	N	%	N	%	
Gizi Kurang	0	0%	27	90%	3	10%	30	36%	000
Tidak gizi kurang	51	98%	1	2%	0	0%	52	63%	

Hasil dari penelitian ini yaitu didapatkan balita yang motorik kasarnya normal terdapat 51 (98%) balita yang tidak gizi kurang, balita yang motorik kasarnya suspek terdapat 27 (90%) balita ber status gizi kurang dan 1 (2%) balita yang status gizi nya baik. Balita yang motorik kasarnya tidak dapat diuji terdapat 3 (10%) balita yang status gizi kurang. Hasil chi square yang didapat yaitu $0,000 < 0,005$ yang artinya ada hubungan antara motorik kasar dengan status gizi pada balita.

DISCUSSION

Univariat

Frequency Distribution of Nutritional Status

The results of this study showed that 30 (21.6%) children under five were undernourished and 52 (63%) were well-nourished. According to the WHO NCBS classification of nutritional status, namely overnutrition, BB/U 2 SD and BB/TB 2 SD, good nutrition, BB/U < 2 SD to 2 SD and BB/TB - 2 SD to 2 SD, undernutrition BB/U -2 SD up to > -3 SD and BB/TB < - 2 SD up to > - 3S, malnutrition BB/U < - 3 SD and BB/TB < - 3 SD. Malnutrition is a subacute or chronic nutritional condition, where the combination of various levels of malnutrition and inflammatory activity has caused changes in body composition and reduced organ function, characterized by body weight for age (TB/U) which is < -2 SD to > - 3 SD WHO-NCHS standard table. Nutritional and health disorders during this period can negatively affect children's physical (motor development) and cognitive development (Worku et al., 2018).

According to research (Ratna Suhartini et al., 2018), the normal nutritional status category was 26 people or (78.8%) while the smallest was in the deficient nutritional status category, 7 people or (21.2%). According to other research (Aprilidia et al., 2021) there are 35 (33.1%) malnourished toddlers and 71 (66.9%) undernourished children. According to the researchers' assumptions, when conducting research, researchers carried out anthropometric

calculations to re-measure toddlers who had malnutrition status according to the EPGBM cohort. Researchers took measurements with reference to the BB/U anthropometric table. Anthropometric measurements were carried out when looking at the cohort and repeated anthropometric measurements were also carried out directly on the toddlers when the researchers were going to conduct the research. All malnourished mothers of toddlers are less willing to carry out research on their toddlers.

Gross Motor Frequency Distribution

The results of this study showed that there were 51 (62%) children with normal gross motor skills, 28 (34%) with suspected gross motor skills and 3 (4%) with gross motor skills who could not be tested. Gross motor skills stimulate children's abilities when doing activities by using their large muscles, such as non-locomotor, locomotor and manipulative. Non-locomotor is a movement activity without having to move the body to another place, for example: stretching, folding, pushing, pulling and bending. Locomotor is the movement activity of moving the body from one place to another, for example: walking, running, jumping, jumping, hopscotch and skipping rope (Endang, 2018).

The Denver II test is a test used to evaluate the development of early childhood, namely ages 0-72 months or 0-6 years, which consists of four development sectors, namely: personal social/social behavior, fine motor adaptive/fine motor movements, language, and gross motor/gross motor movements and has four assessments, namely advance, normal, caution, and delayed (Soetjningsih, 2014 According to research (Destriani et al., 2023), it can be seen that this research found two categories of gross motor skills, namely normal and deviant. There were results that 16 respondents (88.9%) had normal gross motor development. Meanwhile, 2 respondents (11.1%) had deviant gross motor development.

According to the researchers' assumptions, during the research the researchers carried out gross motor skills measurements using the Denver sheet. The results from the researchers showed that three categories of gross motor skills were obtained, namely normal, suspected and not testable. Most normal toddlers do not experience malnutrition. For toddlers who could not be tested, the researchers only did it at that time and did not make repeat visits because of the toddler's history of previously having gross motor skills measured by the health center midwife with the same results.

Bivariat

The results of this study were that 51 (98%) toddlers whose gross motor skills were normal were well-nourished, 27 (90%) toddlers whose gross motor skills were suspected to have poor nutritional status and 1 (2%) toddler whose nutritional status was good. Of the toddlers whose gross motor skills could not be tested, there were 3 (10%) toddlers who had poor nutritional status. The chi square results obtained were $0.000 < 0.005$, which means there is a relationship between gross motor skills and nutritional status in toddlers. Gross motor skills are movements that involve large muscles. Gross motor skills require several elements, including: speed, strength, endurance, agility, flexibility, coordination and balance. The higher the quality of the child's growth and development process at an early age, the more it will influence the quality of human life in the future. Children who are involved in physical activity have basic competencies in basic motor skills, and children learn basic motor skills through well-designed and planned movement programs (Asmuddin et al., 2022).

Results showed that there was a significant relationship between stunting and gross motor development ($p = 0.013$) and fine motor ($p = 0.026$). Stunting children tend to have impaired motor development in both gross and fine motor skills (Dinna, 2020). According to (Totfah et al, 2021) Almost all of the children with normal gross motor skills (78.1%) have a normal nutritional status with the results of Fisher's Exact analysis shown p value = 0.007 ($p < 0.05$).

Children's health and nutrition greatly influences the optimization of children's gross motor development, considering that children are in a period of very rapid physical growth and development. One of the factors that influence gross motor skills is nutritional status, this is characterized by an increase in the volume and function of the child's body. In this rapid gross motor development, children need adequate nutrition to form new body

cells and body tissue. A child's health that is disturbed due to illness will slow down their physical growth/development and will damage the child's cells and body tissues (Hurlock, 2021).

Other reaserch (Diani Maryani, 2023) there is The significant relationship between nutritional status and toddler development is $p=0.0003$, smaller than α (0.05). So that it can't was concluded that the majority of respondents in this study had normal nutritional status and toddler development is in the normal category, and there is a relationship between nutritional status and toddler development.

Health workers are expected to carry out developmental screening to assess early the development of Toddlers and people

Parents are expected to pay attention to nutritional status and development

This is the same as research (Satriawati & Sarti, 2021) The Spearman Rank Test results obtained a significance value of $p= 0.000$ because $p < \alpha$ ($0.000 < 0.05$) which means H_0 is rejected, this shows that there is a relationship between nutritional status and gross motor development children aged 1-3 years. Other research also found the same results as this research, namely research (Bakhtiar et al., 2022) Respondents who had poor nutritional status mostly had late gross motor skills, namely 14 respondents (53%) and respondents who had good nutritional status mostly had poor motor skills. late, namely 112 respondents (99%) with chi square test results $p = 0.001 < \alpha$ 0.05, so there is a significant relationship between nutritional status and gross motor skills.

Another study (Utami, 2023) showed that the majority of respondents with poor nutritional status had doubtful development at 25%, while respondents with good nutritional status mostly had appropriate development at 88.6%. Respondents with deviant toddler development mostly had poor nutritional status, namely 3 people (100%). The Chi Square test results obtained a p value of 0.003 which is smaller than $\alpha = 0.05$. Research (Yunita, 2021) results of statistical analysis show a probability value ($p=0.026$), which means that if the value ($p=0.026$) $< \alpha$ 0.05 there is a significant relationship between nutritional status and the gross motor development of preschool children in the Posyandu area of Bunga Maja District. Gunung Sari.

In line with research (Nugroho & Rahayu, 2021) that relationship between children's nutritional status and abilities children's gross motor skills. Other reasech (Mimi Ruspita & Khobibah, 2021) there is a significant relationship between malnutrition and gross motor development

The results of the statistical test of Kendall's tau correlation are 0.427 with a significance value of 0.002. Kendall's tau value was then followed by a manual Z test with Z count > from Z table (4.08 > 1.960) so it can be stated that there is a significant relationship between nutritional status and gross motor development aged 1-24 months at Posyandu Dwi Rahayu 3 By Therefore, it is recommended for mothers who have toddlers, especially aged 1-24 months to improve care and provide nutritious food for children so as to establish good child nutrition so that children's motor skills are also good (Dahlia, 2022).

Other reaserch (Mutsirah, *et al*, 2022) the results of the data analysis obtained were Asym (2-tailed) = 0.024 < 0.05 so that H1 was accepted and H0 was Tolak means that a child's motor skills develop if they have good nutritional status, this shows There is a relationship between nutritional status and gross motor development in children aged 5-6 years.

According to (Titin Supriatin, 2022) There is a relationship between health status and gross motor development in toddler-aged children. Other reaserch. Other Reaserch (Guntur *et al*, 2022) The research results show that p value = 0.000 (p<0.05), which means there is a relationship significant relationship between protein consumption and gross motor development aged 6 - 24 months.

The researcher's assumption is that children who are suspected and cannot be tested are due to insufficient nutritional intake required so that the energy produced is also insufficient to transmit nerve impulses to produce motor movements. Apart from that, it also means that the child's muscles have not developed well so they experience inhibition. Toddler delays are also found in toddlers who experience malnutrition.

CONCLUSION

The result 51 (98%) toddlers whose gross motor skills were normal were well-nourished, 27 (90%) toddlers whose gross motor skills were suspected to have poor nutritional status and 1 (2%) toddler whose nutritional status was good. . Of the toddlers whose gross motor skills could not be tested, there were 3 (10%) toddlers who had poor nutritional status. The chi square results obtained were 0.000 < 0.005, which means there is a relationship between gross motor skills and nutritional status in toddlers.

SUGESTION

Malnutrition can be prevented so that all toddlers have good nutritional status and normal gross motor skills.

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