Pakistan Journal of Life and Social Sciences
www.pjlss.edu.pk

https://doi.org/10.57239/PJLSS-2024-22.2.0033

RESEARCH ARTICLE

Characteristics of Children Under Five who Visited the Community Health Centre in Jayapura City Papua, Indonesia

Fransisca B. Batticaca[1*], Chotijah Meinar Khusumawati[2], Sesa Refi Bangun[3], Agussalim[4*]

[1,2,3] School of Nursing, Faculty of Medicine, Cenderawasih University, Jayapura City, Papua Province, Indonesia.

[4] Parepare School of Nursing, Makassar Health Polytechnic, Makassar City, South Sulawesi Province, Indonesia.

ARTICLE INFO

Received: May 26, 2024

Accepted: Aug 1, 2024

Keywords

Children Under Five

Characteristics

Community Health Centre

Papua

***Corresponding Author:**

Salim170878@gmail.com

ABSTRACT

An estimated 5 million children died in the world in 2020. Five main causes of death in children under five, in the world, Indonesia, and Papua, namely pneumonia, diarrhoea, malaria, fever, acute respiratory infections, and malnutrizi. Reseacrh shows that the health problems of children under five in Indonesia are Diarrhea, Malaria Acute Respiratory Infections, in rural areas, and Papua; Another study in 2021 in Holtekamp Village are fever 20.5%, Malaria 17.9%, Acute Respiratory Infection 10.3%, and Diarrhea 10.3%. Study aims was to identify the diseases of children under five who visted West Koya Health Center in 2021. Quantitative descriptive with cross sectional approach was uses to explorae of medical recording documentation of children whom treated at West Koya Health Center. Total sample 186 medical records in 2021. To protect the human rights of the participants, researchers asked permission from the head of the City Health Office Number: 440/3434/2022, May 24, 2022. Study found majority of children age, male, live in West Koya, not referenced; does not have health assuarance. Diseases experienced by children was acute respiratory tract infection 50%, pneumonia 28%, malaria, 10.2%, febris 9.1%, dental caries, tonsillis each 1.1%, morbili and covid-19 each 0.5% and other diseases 7%. Underweight 15.6%, severity underweight 9.7%. The majority of children are infants, suffer from various infectious diseases and nutritional problems and do not have health insurance. We suggest that special attention while research needs to be done on risk factors for disease and nutritional problems in children under five.

INTRODUCTION

Children under five is a group of individuals who are in the age range of 0 to 59 months (Ministry of Health of the Republic of Indonesia, 2019). An estimated 5 million children died in the world in 2020. Five main causes of death in children under five, namely in the world, Indonesia, and Papua, namely Pneumonia, Diarrhoea, Malaria, Fever, Acute respiratory tract infections, and malnutrizi. In 2019 three children in Jayapura died of Dengue Fever. Basic health research (Riskesdas) shows children under five health problems according to signs and symptoms reported by health workers, namely: the prevalence of ARI in children under five in rural areas 62.8%, national 12.8%, and in Papua, 14.0%. Diarrhea, 12.9%, national 62.8%, Malaria (1-4 years) and in rural areas, national 0.4% (Riskesdas, 208 in the Ministry of Health, 2018). Batticaca (2020) reported that there were 20.4% of children under five in RW 02 out of 240 residents. Meanwhile, data from posyandu cadres in 2021

there are 106 children under five who are actively visiting posyandu. Of the number of There are several children under five who experience ARI, diarrhea, and malaria, as well as malnutrition.

Batticaca., and Kristina (2021) reported the main health problems of children under five in Holtekamp Muara Tami Village, Jayapura City, namely fever 20.5%, Malaria 17.9%, ARI 10.3%, and diarrhea 10.3%. Another study in 2017 in Kampng Skouw Muara Tami Jayapura City ARI 37%, Malaria 42%, Diarrhea 19%, and infection 2.1% (Batticaca., &; Kristina, 2018). Batticaca., and Wardhani (2018) reported health problems of children under five in Abepantai in 2014, namely acute respiratory infection (ARI) 41.9%, fever 23.3%, diarrhea 18.2%, tuberculosis 9.3%, and skin disease 7.0%. It can be concluded that health problems in children under five in Jayapura City, Papua are fever, malaria, ARI, diarrhea, tuberculosis and skin diseases (Batticaca., &; Cristina, 2021., 2018; Batticaca., &; Wardhan, 2018). Meanwhile, nurses at the West Koya Health Center reported that in 2021 1570 children under five were registered who visited and were treated at the Koya Health Center. both healthy and sick. In this study, researchers focused on sick children under five who did outpatient treatment and visited the West Koya Polycyclic Health Center. This study aims to identify the diseases of children under five who do outpatient treatment at the West Koya Health Center in 2021.

METHODS

This study uses a type of quantitative descriptive method research exploring media recording documentation of children under five treated at the West Koya Health Center with a retrofective approach. A sample of 186 medical records of children under five who underwent outpatient treatment at the West Koya Health Center in 2021. The reason for choosing the location is because the Koya Health Center has a fairly wide coverage area for health services. Access to the puskesmas is difficult Karen is not yet available public transportation as a means of transportation for residents in reaching health services, The results of research in several working areas of the Koya Health Center show that there are various health problems for children under five as described in the latart behind the study.

The measuring instrument is a questionnaire of the characteristics of children under five treated at the West Koya Health Center, Muara Tami, Jayapura City. To protect the human rights of the participants, researchers first asked permission from the head of the Jayapura City health office. Based on a cover letter from the Institute for Research and Community Service of Cenderawasih University Number 593/UN20.1.8/PG/20222 dated April 22, 2022. And received a permit from the Jayapura City Health Office Number: 440/3434/2022 dated May 24, 2022.

The researcher reports to the head of the Puskesmas and asks for approval to conduct research. Researchers are directed to the person in charge of the polyclinic and medical records. The officer provided the patient's medical record which was filled out in a questionnaire that had been provided by the research team. After carrying out the research, the researcher obtained a certificate that he had conducted research at the West Koya Health Center Number 445/299/2022 dated August 22, 2022.

Research data is processed using computer devices with univariate statistical tests to describe the characteristics of children under five, and the responsibility and distribution of disease frequency and nutritional status.

RESULTS AND DISCUSSION

Characteristics of children under five

Table one showed most on children age range between 1-12 age of month (infant) 33%, female less higher 51.6% than male 48,4%. Live in West Koya 47,8%, A baby is a group of people who were risks of health problems. It is needed a seriously attention in carring them. While female children will

become next generation who will beard her children. Location were the children live althought most of them live near the community public halth center must be given information for their family to use it as a sources of manage health care services, besides hospitals, or ather clibics in this area. The government on Jayapura city has supply public transportations for the community to access public health center, market place or another social and economic services.

In-depth analysis reveals that infants were more susceptible to developing more than one health problems, such as infectious diseases, non infectious, and malnutrition than any other age group. Therefore, infant illnesses require special consideration. However, other age groups also require serious parental attention because infants are typically susceptible to diseases caused by an unsanitary environment, exposure to farm animals, nutritional issues, and growth and development delays.

During the first 6 months of life, infants need breast milk. After 6 months, infants can be introduced to complementary foods until the age of 12 months while still continuing to breastfeed, depending on the mother and infant's preference. Breastfeeding is a natural process and a healthy start for babies. The American Academy of Pediatrics (AAP) highly recommends breastfeeding and includes benefits such as meeting the child's nutritional requirements and increasing the unique and emotional relationship between mother and baby (AAP 2012 in Sahar, Setiawan, and Riasmini, 2019).

The Center for Disease Control and Prevention (CDC) states that infants and children under five years old are vulnerable to contracting infections caused by bacteria transmitted by animals due to the fact that infants and children under five years old frequently touch surfaces contaminated with animal excrement, put their hands and objects that fall to the ground into their mouths, and rarely wash their hands properly (CDC, 2020). Physical injuries, respiratory infections, and malaria are a few examples of health issues caused by its surrounding environment (WHO, 2012).

In these days, the most common health issue amongst under-five children is *the triple burden malnutrition* which consists of three nutritional disorders, namely malnutrition, hunger, and obesity. These disorders endanger the life, growth, and development of children. And will adversely impact their adolescent stage and indirectly affect the economy and the nation at large. It is believed that one in three children under five years old endure undernourishment or obesity, and one in two suffer from hunger, which contributes to children under five years old' delayed growth and development. To overcome the problem of malnutrition, policy makers and relevant stakeholders need to provide the best nutrition for children under five years old by engaging in the following actions: (1) empowering families to meet the need for nutrient-rich food; (2) providing the best food for children; (3) establishing a healthy food environment for children under five years old; (4) mobilizing support systems to eliminate the adverse impact on children; and (5) collecting, analyzing, and using quality data on a regular basis as guidance to monitor progress and take action on these issues (UNICEF, 2019, in Stanhope; & Lancaster, 2018).

Referral status

Table 2 shows the majority of children under five years old were not referred 99.5% and only 0.5% were referred. The high number of children under five years old served at community public health due to the inpatient services for children under five years who need observation and or treatment, there are also adequate doctors and nurses to be able to provide treatment and nurses on children under five years old who provide care. However, the presence of a children under five who was referred specifically to Karen's dental and oral problems at the Koya Health Centre has not yet. This condition results in dental and oral services for children under five years in Community health centre not being able to be served. This is different from several located in Jayapura City where there are dentists and dental oral services in Community health center and the elementary school.

Diseases experienced by children under five

Table 3 shows the health problems faced by children under five years old , namely Acute Respiratory Truck Infections (ARTI) 50%, followed by pneumonia 15.1%, MARIA, 10.2%, Fever 9.1%, others 7% consisted of Tuberculosis, Skin disturbances, Worm, ARTI caused by bacteria, virus. Base on anatomy ARTI can be divided into two, acute upper truck Infection and acute lower truck infection with anatomy border epiglottis (Maryunani, 2013). Acute respiratory truck Infectious diseases is transmitted through direct contact with a saliva droplet from sneezing or coughing.

The high number of acute respiratory truck infections in this region is due to various factors, namely the habit of parents to smoke in the house, even holding children while smoking, inertia, the living environment is full of shrubs, the presence of livestock wandering around like pigs, and dogs, In addition, there is currently a steam power plant (PLTU) company where the chimney is not high enough and its smoke enters residential areas. The parents whose smoking while holding his children do nor understand the effects of smoking on children. According to (Goniewicz et al, 2013 in in Stanhope; & Lancaster, 2018) describe smoking and the effect of tobacco affect both children and adult. Many times parents do not understand the effect of smoking on children. These effects are particularly harmful to children under five years and those living in poverty. Lung cancer, lower respiratory tract infection, second hand smoke exposure, become smoker if they began as teen some of the effect of tobacco.

Environmental risks for upper respiratory infections, such as pharyngitis, laryngitis or sinusitis have been less well documented. They may include air pollution, second-hand tobacco smoke and housing-related risks such as exposure to ventilators or moulds, and crowding (Agrafiotis et al, 2012; Bush et al, 2006; Duse et al, 2007; Fisk et al, 2010; Reh et al, 2012). Exposure to second-hand tobacco smoke caused 2.3% of the burden of otitis media in 2010 (IHME, 2014; Jones et al, 2012). The fraction of upper respiratory infections and otitis attributable to environmental risks was estimated at 24% (6–45%) in lowand middle-income countries, and 12% (5– 18%) in high-income countries (based on expert survey 2005, see Section 2). Globally, more than 500 000 deaths annually from respiratory infections are attributable to the environment (WHO, 2016).

Malaria is transmitted through the bloodstream by the plasmodium parasite and can be fatal. It is characterized by cycles of fever and chills. Transmission is by means of anopheles mosquito bites (Stanhope & Lancaster, 2010). If treatment is delayed, malaria can cause complications to the kidneys, liver, spleen, brain (cerebral malaria), and other organs, as well as death.

According to studies conducted in several countries, the prevalence of malaria and secondary infection due to the influenza virus amongst patients with fever is 31.0% in Nigeria, 1.0% in Tanzania, 1.0% in Melawai, 1.0% in Ghana, 0% in Cambodia, and 7.0% in the Central African Republic. The meta-analysis showed a co-infection by chance (p = 0.097, OR 0.54, 95% CI: 10.26-1.12.12, 94.9%). Prevalence of malaria and secondary infection due to influenza virus (co-infection) amongst patients with fever and influenza virus diagnostic tests (Wilairatama, Mala, Kotepui, and Kotepui, 2022).

Febrile is a condition of abnormal increase in body temperature caused by endogenous pyiogen, which changes the point of pressure in the hypothalamus higher than normal due to the responsiveness of microbes, an invasive cause of both infection and inflammation. This matter affected the core of the body's temperature from its early lowest point to the new set point. Hypothalamus interior than activity hot mechanism to increase body temperature fixes with a new set point (Walter et al, 2016, in Megantara, 2019).

Research found that there was a significant correlation between malaria and fever. Results from the chi-square test showed a P-value = 0,002 ($\alpha < 0.005$); OR = 6.57; CI (1.99-21-64). OR = 6.57. This indicated that under-five children who suffered from malaria were 6,571 times more likely to be at risk of getting a fever compared to those who didn't suffer from malaria. There is a strong correlation

between acute URI and fever due to acute URI. Result from the chi square test showed P-value = 0,057 (α < 0.005); OR = 3.375; CI 95% (1.08–10.52); OR = 3.375. This means that under-five children who suffered from acute URI were 3,375 times more likely to have a fever compared to those who did not suffer from acute URI. There is a strong correlation between a history of contact with a sick person and fever. Result from the chi-squared test revealed a P-value = 0.000 (α < 0.005; OR = 38.76; CI 95% (11.97–125.49). OR = 38.76. This means that under-five children who had a history of contact with a sick person were 38.76 times more likely to get a fever compared to those who did not have any history of contact with a sick person (Batticaca, Kristina, 2022).

Acute infectious Diarrheals are usually of viral or bacterial origin. E. Coli probably causes more cases of traveler's diarrheas than all other ineffective agents combine. Protozoan-induced diarrheas such as those resulting from Entamuba and Giardia, are likely to be acute, and they more comonly presentonce traveller return homeTravelers need to pay special attention to what they eat and drink. often te culprit is food that is washed in unclean water (Stanhole and Lancaster, 2018).

Risk factors for diarrhea in children under five years old in the region are not yet available clean water which has an impact on hygiene practices such as washing hands, cleaning the house, cooking utensils, cutlery-drinking, clothes, bathing, and toileting, habits snacks are arbitrary, pets wander in and out of the house and play with children, Inadequate environmental sanitation, such as garbage disposal including *pempers*, not all families have latrines. inadequate clean water where the population still uses well water, rainwater and even water or times to meet the needs such as bathing, latrines, washing clothes. And cutlery. The source of drinking water mostly gallon water, but some use well water and rainwater that is accommodated.

This situation can be prevented through the provision of information by nurses and other health workers at the Koya Barat Health Centre to families and all visitors at the Community Health Center on an ongoing basis to maintain personal hygiene and the living environment. Environment hazards influence over 80% of the communicable and non-communicable diseases, and injuries monitored by WHO and overall are responsible for over one-half of the total burden of diseases in the words (WHO< 2011 in Stanhope; & Lancaster, 2018). For examples drinking water, or the air we breathe that aggravate our individual respiratory functions. Environmental health risk come in from of pure air and water quality, the use of pesticides, and paint containing lead. Environmental hazards come in the form of biological, and radiological hazards (Stanhope; & Lancaster, 2018).

A variety of factors, including genetics, socioeconomic status, and environmental exposure, effect environmental health. Chemical, biological, and radiological exposure that affect health come from the air we breath, the water we drink, the food we eat, and the product we use. Ners need develop education and other preventive intervention in help individual, families and communities understand, and were possible, decrease the risk of health environment (Stanhope; & Lancaster, 2018).

Corona virus disease (COVID-19) is an abbreviation of the words 'CO' for corona, 'Vi' for virus, and 'D' for disease. According to the occurrence of this disease refers to the year of the novel corona virus 2019 or '2019-nCoV. COVID-19 is a new type of virus related to the virus family such as acute respirattry syndrome (sars) and several types of common cold. The first Covid-19 case in Papua was found in Merauke Regency where two patients were treated at Merauke Regional Hospital positive for Covid-19 in 2020 and developed rapidly throughout Papua and West Papua. The number of COVID-19 cases in Jayapura in the fourthweek of July was 24 people. CVID-19 cases spread widely in 17 areas with a total of 1.88 cases consisting of 764 treated, 311 recovered, 13 died, 882 people under treatment (ODP) and 156 patients under surveillance (PDP). This figure is close to 50% of the figure of Papua Province in 1937 consisting of 992 ODP, 926 a, 20 people died; PDP 265, insiders monitoring 2,570 people (Sumule, 2020 dalam Cista, 2020).

A case of COVID-19 was detected in children under five who made outpatient visits at the West Koya Health Center, allegedly due to contact with people with COVID-19 disease. Information from officers and officials of one of the villages in the Puskesmas area in 2021 a midwife who worked at the Holtekamp Village Center died of COVID-19 with complications of diabetes mellitus. there is one family, including one child under five, experiencing Covid-19. In addition, the puskesmas conducts screening for residents through services on the Puskesmas Page to detect the risk of exposure to covid-19. Thus preventing transmission to other residents.

Lower respiratory infections include pneumonia, bronchitis and bronchiolitis, causing 935 000 deaths per year (in 2013). These infections are the most important cause of mortality in children, accounting for 18% of deaths in children under five (WHO, 2014x; WHO, 2015d in WHO, 2016). Pneumonia is an infection of the lung which can be caused by exposure to a number of infectious agents, including viruses, bacteria and fungi (WHO, 2014x in WHO, 2016). Main risk factors for susceptibility to the disease include a compromised immune system, malnutrition and environmental risk factors such as smoke from heating or cooking with biomass, living in crowded homes and exposure to secondhand tobacco smoke.

The most important environmental risk factor is exposure to smoke from cookstoves, which was responsible for 33% of the disease burden of lower respiratory infections. Exposure to ambient air pollution is responsible for 7.9% of the disease burden (in DALYs) in 2012 (WHO, 2015d in WHO, 2016). Living in crowded homes has also been associated with a higher risk of developing pneumonia (Jackson et al, 2013; WHO, 2014x), as has inadequate hand hygiene (Aiello et al, 2008 in WHO, 2016).

Second-hand tobacco smoke also causes pneumonia in children and 9.3% of lower respiratory infections have been attributed to it (Lim et al, 2012). Lower respiratory infections are likely to be sensitive to climate change, as their incidence varies with different weather patterns such as fluctuations in rainfall. Climate change may also indirectly impact on respiratory infections through undernutrition due to food shortages that may result from climate change, and through crowding due to large-scale population displacement (Paynter et al, 2010 in WHO, 2016).

Pneumonia is a form of acute respiratory infection that affects the lungs. The lungs are made up of small sacs called alveoli, which fill with air when a healthy person breathes. When an individual has pneumonia, the alveoli are filled with pus and fluid, which makes breathing painful and limits oxygen intake. Pneumonia is the single largest infectious cause of death in children worldwide. Pneumonia killed 740 180 children under the age of 5 in 2019, accounting for 14% of all deaths of children under 5 years old but 22% of all deaths in children aged 1 to 5 years.

Pneumonia affects children and families everywhere, but deaths are highest in southern Asia and sub-Saharan Africa. Children can be protected from pneumonia, it can be prevented with simple interventions, and it can be treated with low-cost, low-tech medication and care. Penumonia is caused by several infectious agents, including viruses, bacteria and fungi. The most common are the following. *Streptococcus pneumoniae* is the most common cause of bacterial pneumonia in children; *Haemophilus influenzae* type b (Hib) is the second most common cause of bacterial pneumonia; Respiratory syncytial virus is the most common viral cause of pneumonia; In infants infected with HIV, *Pneumocystis jiroveci* is one of the most common causes of pneumonia, responsible for at least one quarter of all pneumonia deaths in HIV-infected infants (WHO, 2022).

Pneumonia can be spread in several ways. The viruses and bacteria that are commonly found in a child's nose or throat can infect the lungs if they are inhaled. They may also spread via air-borne droplets from a cough or sneeze. In addition, pneumonia may spread through blood, especially during and shortly after birth. More research needs to be done on the different pathogens causing pneumonia and the ways they are transmitted, as this is of critical importance for treatment and prevention.

While most healthy children can fight the infection with their natural defences, children whose immune systems are compromised are at higher risk of developing pneumonia. A child's immune system may be weakened by malnutrition or undernourishment, especially in infants who are not exclusively breastfed. Pre-existing illnesses, such as symptomatic HIV infections and measles, also increase a child's risk of contracting pneumonia. The following environmental factors also increase a child's susceptibility to pneumonia:indoor air pollution caused by cooking and heating with biomass fuels (such as wood or dung),living in crowded homes, parental smoking (WHO, 2022).

Pneumonia should be treated with antibiotics. The antibiotic of choice for first line treatment is amoxicillin dispersible tablets. Most cases of pneumonia require oral antibiotics, which are often prescribed at a health centre. These cases can also be diagnosed and treated with inexpensive oral antibiotics at the community level by trained community health workers. Hospitalization is recommended only for severe cases of pneumonia.

Preventing pneumonia in children is an essential component of a strategy to reduce child mortality. Immunization against Hib, pneumococcus, measles and whooping cough (pertussis) is the most effective way to prevent pneumonia.

Adequate nutrition is key to improving children's natural defences, starting with exclusive breastfeeding for the first 6 months of life. In addition to being effective in preventing pneumonia, it also helps to reduce the length of the illness if a child does become ill. Addressing environmental factors such as indoor air pollution (by providing affordable clean indoor stoves, for example) and encouraging good hygiene in crowded homes also reduces the number of children who fall ill with pneumonia. In children infected with HIV, the antibiotic cotrimoxazole is given daily to decrease the risk of contracting pneumonia.

The WHO and UNICEF integrated Global Action Plan for Pneumonia and Diarrhoea (GAPPD) aims to accelerate pneumonia control with a combination of interventions to protect, prevent and treat pneumonia in children with actions to:protect children from pneumonia, including promoting exclusive breastfeeding and adequate complementary feeding; prevent pneumonia with vaccinations, hand washing with soap, reducing household air pollution, HIV prevention and cotrimoxazole prophylaxis for HIV-infected and exposed children;treat pneumonia focusing on making sure that every sick child has access to the right kind of care – either from a community-based health worker, or in a health facility if the disease is severe – and can get the antibiotics and oxygen they need to get well.

Several countries including Bangladesh, India, Kenya, Uganda and Zambia have developed district, state and national plans to intensify actions for the control of pneumonia and diarrhoea. Many more have integrated diarrhoea and pneumonia specific action into their national child health and child survival strategies. Effective diagnosis and treatment of pneumonia is critical to improve child survival. To meet the Sustainable Development Goal targets for SDG 3.2.1 (reducing child mortality), ending preventable diarrhoea- and pneumonia-related deaths is an urgent priority (WHO, 2022).

Febris (fever) is an abnormal increase in body temperature caused by endogenic pyogens that change the set point in the hypothalamus to be higher than normal, in response to microbial invasion due to infection or inflammation. This causes the current core body temperature to be undervalued against the new set point. The interior hypotamus then activates a heat mechanism to increase body temperature to match the new set point (Walter et al, 2016, in Megantara, 2019). Batticaca, and Kristina (2022) reported risk factors for fever in children under five in Holtekamp Village, Jayapura City, Papua, namely malaria, acute respiratory tract infection (ARI), contact with sick people such as fathers, mothers, siblings, and other family members who live in the same house withchildren under five).

Childhood diseases are a leading cause of death in children The results showed that there was a relationship between the child's age, level of anemia, husband's education, exclusive breastfeeding status with, gender of the child, and marital status with ememia Where the high prevalence of high fever among the age group 12-23 months 17.9% (p-valuae < 0.000), higher than working mothers compared to non-working 12.9% (p-value = 0.020), 16.4%, P-value < 0.0001. Children with anemia are more susceptible to fever, p-value < 0.0001.Children who get exclusive breastfeeding rarely experience fever compared to those who do not get exclusive breastfeeding (Takele, Zewotir, and Ndanguza, 2019).

Other problems experienced by children under five, who visit the West Koya Health Center, such as intestinal worms, dental caries, tonsillitis, other smallpox, and malnutrition. Worms are conditions in which a person is infected with worm parasites. Infection with helminth parasites has to do with hygiene. The results of this study are supported by research (Batticaca, Kristina, Sinaga, 2022), where residential environments have livestock that are not stabled, children play not using sandals. Limited clean water for washing hands, feet, and cleanliness of the house. To overcome worms in children, it is necessary to conduct health education about PHBS, and supported by the availability of clean wate.

There are still residents in the working area of the West Koya Health Center who use river water for daily hygiene. Even so, currently the village government has improved people's houses by providing assistance in the form of building materials as well as building people's houses permanently There are also screened wells built by the public works office (DPU). However, not all residents use well water for reasons that have not been socialized. Based on the observations of researchers and interviews with Puskesmas officers around the puskesmas area, there is no clean water source managed by the government. Not all floors around the well are walled, and there is no sewerage from the well. The main source of clean water for cooking purposes is gallon water.

Water polluted with pollution is generally found in people with low economies and domiciled in areas where there are libah. This is a Christian problem that needs attention when observing environmental health. Bia found environmental hazard conditions as a high risk factor for water pollution should be counseled to families to reduce risk factors, conduct urntu screening programs that facilitate the findings of risk groups and intervene in case findings (Stanhole; &; Lancaster, 2018).

Dental caries is a major dental and oral health problem worldwide, its prevalence and morbidity are very high. Dental caries in preschool-age children is a very destructive dental caries disease, which has an impact on the growth and development of permanent teeth. The prevalence of caries in children aged 2-4 years in developing countries reached 18%, while in children aged 3-6 years in Yogyakarta City reached 84.1%. Oral hygiene factors such as plaque accumulation are risk factors for dental caries in children and there is a relationship between children's dental caries and plaque index (Utami, 2023).

It is caused by plaque of among children because of habit of eating snacks that are cariogenic such as chocolate flavored biscuits. It can be drawn by chewing apple after eating chocolate flavored biscuits in children age 8 to 10. (Megawati, Anonymous, Supartinah, 2022). Children who experience disorders in the teeth and mouth will be able to experience nutritional disorders because it is difficult to chew food. As a result of children processing to consume certain foods. To prevent this, dental and oral care education is needed for families. Puskesmas nurses play a role in teaching parents and children under five how to brush their teeth properly and nenar, when to see a dentist.

Chronic tonsillitis is the most common disease among all throat diseases, especially in children. This disease occurs due to a continued attack on the tonsils that have undergone previous inflammation caused by viruses or bacteria. Chronic Tonsillitis ranks second highest in ENT disease in Indonesia (Fakh, I.M., Novialdi, N, Elmatris, E. (2016). Tonsillitis can cause melelan disorders in children, children become fussy resulting in inadequate child nutrient intake. In the opinion of baalita parents, in general, children experience tonsillitis because they eat carelessly, especially the production of foods that contain oil such as fried foods or drinking ice.

Risk factors for tonsillitis smoke exposure OR= 6,981 with a range of LL values of 2,534 and UL 19,235 and a history of ORR= 4,800 with a range of indigo i LL 1,535 and UL 15,007 in 95% interfal confidence (CI) (Ramadan, Sahrudin; Ibrahim, 2017). The presence of tonsillitis found in children under five who visit the West Koya Health Center requires further research on risk factors. But it may be caused by the habit of residents cooking with a fire stove, smoking in the house and lack of personal hygiene.

Chickenpox is an infectious disease caused by the Varicella zoster virus. This disease can be transmitted very easily and quickly. This viral infection can spread through the air when the patient coughs or sneezes, and direct contact of mucus, saliva, or fluid from blisters. This transmission occurs two days before the rash appears until all dry crusts on the wound disappear. This disease is also caused by a virus, chickenpox can heal by itself (selflimiting disease). Chickenpox symptoms appear after 10 to 21 days of the body being exposed to the Varicella virus. Chickenpox symptoms are characterized by fever, dizziness, weakness, sore throat, decreased appetite, red rash, which usually starts in the stomach, back, or face, and can spread throughout the body.

Chickenpox symptoms appear after 10 to 21 days of the body being exposed to the Varicella virus. Chickenpox symptoms are characterized by fever, dizziness, weakness, sore throat, decreased appetite, red rash, which usually starts in the stomach, back, or face, and can spread throughout the body. There are 3 (three) stages of rash development before reaching the healing stage. The stage is in the form of a prominent red rash, the rash becomes like a fluid-filled blister (vesicle), which can rupture in a few days, blisters that break into dry crusts, and can disappear within a few days, all three stages of chickenpox rash development in the body do not take place at the same time. New rashes appear continuously during infection, and only subside until they disappear n, and only subside until they disappear completely within 14 days, but need to pay attention to signs of complications, including: rash spreads on one or both eyes, the color of the rash becomes very red and warm, which indicates a secondary bacterial infection, rash followed by complaints of dizziness, disorientation, rapid heartbeat, shortness of breath, tremors, loss of muscle coordination, vomiting, coughing up worse, stiff neck, or fever exceeding 390C.

Vulnerable groups experience chickenpox, ie have never been exposed to chickenpox, have not received chickenpox vaccine, especially pregnant women., have a weakened immune system, for example because they have HIV, use corticosteroid drugs, or undergo chemotherapy, work in public places, such as in schools or hospitals, newborns of mothers who have not been vaccinated against chickenpox, under 12 years old. Treatment of chickenpox aims to reduce the severity of symptoms experienced by patients, either with or without the help of drugs from doctors. Generally, chickenpox sufferers only need treatment at home. The thing to note is getting enough rest and making efforts so that the immune system improves. The trick is to eat foods with balanced nutrition. In addition, it is also necessary to maintain skin cleanliness by bathing and drying the body slowly using a towel (RSST Promkes Team - RSUP dr. Soeradji Tirtonegoro Klaten, 2022).

Nutritional status

Table 4 shows the majority of children under five years old have a normal nutritional status of 63.4%, risk for over weight 11.3%, underweight 15.6%, and wasting 9.7%. Nutrition status of children under

five were measure with age, body weight, and height which was presentation in 4 anthropometry indicators; i.e Weight for age z-(**W/A), height for age (H/A), Weight for high Z (H/A), and body mx index (W/H). Nutrition status evaluation is based on Z (*relative deviation*) to mean of score, from Z-score can be determined standard deviation (SD). Cut of point for each nutritional status was** ± 2 SD and nutritional status < - 3 SD as severe under nutrition (Minister of Republic Indonesia, 2011). Number of body weight and height each children under five are conversion in Z-score form. Miller and Rodgers (2009) describe how to rate nutritional status of children by using three measurement of nutritional status children under five, were *small birth size, shunting, wasting. While (*Puffer and Serrano 1973, chit Miller., & Rodgers, 2009) state that each indicator has an aspect that different to children under five growth and development. Bird body size of children under five are influence by pregnancy period, genetic, nutrition, and mother health during pregnancy. Shunting and wasting are influenced by exogenous factors after children bird consisted of environment which is influence socioeconomic factors and physical environment

Nutritional status measurement based Health Minister Republic Indonesia No:1995/MENKES/SK/XII/2010 about category and threshold nutritional status children under five based index consisted of body weight to Age (W/A), severe under-nutrition < - 3 SD, under-nutrition -3SD- < -2SD, normal -2SD-2SD, over weigh > 2SD; Height to age (H/A), severe shunting < - 3Sd, shunting -3 SD - < - 2SD, normal, and lover weight -2 SD – 2SD; body weight to age (W/A) severe thin < - 3SD, thin-3 SD- < -2 SD, normal -2SD – 2Sd, over weight > 2 SD; body max index (BMI) to Age (BMI. A) severe thin <-3SD, tine -3SD-<-2SD, normal -2SD, over weight > 2SD (Health Minister R, I, 2011).

Federal Interagency Forum on Child and Family Statistics (FIFCFS) describe that many factors contribute to the likelihood that a child will become overweight. Facors include genetic, family eating, and physical activity patterns, and time spet inactively viewing television, playing computer games, r using other electronic devices.

The environment in which children live influences obesity. For examples, if the area is heavily built-up and does not allow space for parks, working paths, or recreation site, children have reduced areas to expend energy in games, sports, and lay. At list 70 of overweight children will become overweight adults. Many children liv in households that are unable to put adequate amounts of nutritious food on the table. In 2014 the percentage of children living in households that lacked consistence access to adequiet food were substantially above the national average (FIFCFS, 2016, chit Stanhope; ad Lancaster, 2018).

The physiological consequences of childhood obesity are significant and have long term effects. Specially, an obese child has an increased diseases risk for cardiovascular, metabolic, musculoskeletal, respiratory, and renal problems (Mayi et al, 2012; Papandreou et all, 2012; Papoutsakis et al, 2013; Paulis et al, 2014; Morandi; & Maffeis, 2013 chit Stanhope; ad Lancaster, 2018). This problem may be manifested by hipertention, respiratory problems, hyperlipidemia, bone and joins difficulties, hyperinsulinemia, and menstrual problems. Another critical consequence for children is the negative psychological and social impact of obecity with decreased self esteem; higher incidence of depression, sadness, and anxiety; problems with socal relationships; and higher reports of being the victim of bullying (Puhhl et al, 2012; Ting, 1t l, 2012 chit Stanhope; ad Lancaster, 2018)

UNICEF and WHO (***2020)*** describe that wasting refers to a child who is too thin for his or her height. Wasting is the result of recent rapid weight loss or the failure to gain weight. A child who is moderately or severely wasted has an increased risk of death, but treatment is possible. In 2020 globally, 45.4 million children under five were wasted of which 13.6 million were severely wasted. This translates into a prevalence of 6.7 per cent and 2.0 per cent, respectively. In 2020, more than half of all children affected by wasting lived in South Asia and nearly one quarter in sub-Saharan Africa, with similar proportions for children affected by severe wasting. At 14.7 per cent, South Asia's

wasting prevalence represents a situation requiring a serious need for intervention with appropriate treatment program. Under-five wasting and severe wasting are highly sensitive to change. Thus, estimates for these indicators are only reported for the latest year (2020).

Resent study reported that sources of drinking water, number of under-five children in a family, child birth weight, measles, tetanus, household wealth index, and child age were statistically significant covariates for stunting. The odds of stunting among children from families using protected drinking water were 0.68 (OR = 0.68, 95% CI: (0.50, 0.92) times lower than those children belonging to families using unprotected drinking water. Only one child (OR = 0.55, 95% CI: (0.23, 0.92) and two children (OR = 0.47, 95% CI: (0.30, 0.74)) in a family were associated with decreased odds of stunting compared to those children from households with three or more under-five children. Similarly, birth weights >4 kg (OR = 0.36, 95% CI: (0.24, 0.54) and 2.50–4 kg (OR = 0.60, 95% CI: (0.44, 0.81)) were associated with lower odds of stunting. Household wealth index and age of a child were other variables significantly associated with stunting. Children born in the poorest households (OR = 2.73, 95% CI: (1.26, 5.93)) aged between 12 and 23 months (OR = 1.67, 95% CI: (1.01, 2.77)) and 24 and 34 months (OR = 2.00, 95% CI: (1.29, 3.10)) were highly significantly stunted. Child weight at birth 2.50–4 kg (OR = 0.62, 95% CI: (0.39, 0.99)) and no diarrhea disease recently (OR = 0.41, 95% CI: (0.25, 0.68)) had lower odds of wasting, while absence of antenatal care visits during pregnancy (OR = 2.20, 95% CI: (1.04, 4.64)) and child age 0–11 months (OR = 3.11, 95% CI: (1.26, 7.67)) and between 12 and 23 months (OR = 2.53, 95% CI: (1.16, 5.55)) had a statistically significantly higher odds of wasting **(**Woldeamanuel and Tesfaye, 2019)

Ownership of health insurance (JKN)

Table 5 shows the majority of children under five years old do not have Jamkesmas 46.2%., 18.8% have BPJS/Askes, another type of Health Insurance 18.8%, BPJS workforce 7%, BPJS labor 7%. JKN (National Health Insurance) is a Government program that aims to provide comprehensive health insurance certainty for all Indonesians to be able to live healthy, productive and prosperous lives (Ministry of Health, RI, 2021). The fact that children under five years old do not have National Health Insurance are due to the fact that there are still residents who do not have an identity in the form of an identity card (KTP) or domicile card, family card (KK Card), As for the various documents that must be prepared before registering, namely: Identity Card (KTP), Family Card (KK), NPWP Card, and Photo Size 3×4 (Ministry of Health, RI, 2021).

Many factors causing some residents not to have JKN is the absence of population identity due to, not residents of the Puskesmas work area (for example: as construction workers or projects originating from districts, cities, or in in the area of Jayapura City or Other Provinces in Indonesia, hitchhiking with relatives). Thus, it has an impact on health services at the Koya Health Center. According to the nurse in charge of medical records, that children under five years old or visitors who do not have the National Health Insurance, continue to get free services, especially for Papuans, or for children under five years old whose parents cannot afford it. But there are some children under five years old paying independently the cost of treatment.

Characteristics of the responsible person

Table. 6.7,and 8 show that the majority of people in charge of children under five are in the age range of 28 years – 37 years old at 47.3, primary school is 29.1% slight difference with Diploma education 28.8% farmers 33% balanced with private employment 33%, but some are not working 14.3%. The age of the person in charge of children under five is in the productive age range (15 to 64 years) According to (Sabrina, 2016 in the National Population and Family Planning Agency (BKKBN) based on the 2020 Population Census proportion The population of productive age to 70.72%. Up sharply from 1970 which was 53.39%. As many as 27.94% of the productive age is the younger generation that exists today. if you do not have readiness and are not qualified, it will be a burden on the state or disasters in facing demographic bonuses, (BKKBN, 2020).

The existence of children under five who are not yet working, elementary school education, needs to be empowered through skills training so that they should coordinate with cross-sectors to address this issue. Village officials need to coordinate with the city government or related sectors such as the Social Health Office, Higher Education Institutions in the Jayapura City area in order to provide guidance on how to work by creating jobs that are in accordance with the level of education of children under five adequate jobs so as to improve the welfare of children under five. Puskesmas officers.

Characteristics of children under five

Table 1: Children under five frequency distribution

Category (age)	Number (n)	Percentage (%)
Age		
0-12	63	33.9
12 - 24	56	30.1
24 - 36	48	25.8
36 - 48	17	9.1
48-54	2	1.1
Gender		
Male	90	48.4
Female	96	51.6
Residence		
West Koya	89	47,8
Holtekamp	19	10,2
Kilo IX	8	4,3
Central Koya	10	5,4
Koya Koso	30	16,1
Swakarsa	21	11,3
Skampto	9	4,8

Referral status

Table 2: Frequencies distribution of reference status (n=186)

Category	Number (n)	Percentage (%)
Yes	1	0.5
No	185	99.5

Diseases experienced by children under five

Table 3: Frequencies distribution of diseases (n=186)

Category	Number (n)	Percentage (%)
Malaria	19	10.2
Acute Respiratory Truck Infection (ARTI)	93	50
Diarrhoea	7	3.8
Covid-19	1	0.5
Bonchitis	3	1.6
Pneumoia	28	1.,1
Febris	17	9.1
Dental caries	2	1.1
Tonsilitis	2	1.1
Chickenpox	1	0.5
Other	13	7

Nutritional status of children

Table 4: Frequency distribution of nutritional status of children under five based on body weight to age (W/A) n=186

Category	Number (n)	Percentage (%)
Severe under-nutrition	18	9,7
Under-nutrition	29	15,6
Normal	118	63,4

Risk for over weight	21	11,3

Ownership of health insurance

Table 5: Frequency distribution of the ownership of health insurance (n=186)

Chategory	Number (n)	Percentage (%)
Do not have	86	46,2
BPJS labor	13	7
BPJS workforce	35	18,8
Other BPJS	52	28

Characteristics of handlers

Table 6: Frequency distribution of toddlers (n=131)

Category (year)	Number (n)	Percentage (%)
18 - 28	37	28,2
28 - 37	62	47,3
37 - 46	27	20,6
46 - 71	5	3,8

Table 7: Distribution of frequency of education of the person in charge of toddlers (n = 79).

Category (year)	Number (n)	Percentage (%)
Didn't Finish Elementary School	23	29,1
Tmat SD	8	10,1
Graduated from junior high school	19	24,1
Diploma Completion	18	22,8
Sarjana	2	2,5
Magister	9	11,4

Table 8: Distribution of frequency of work of toddlers in charge (n= 91)

Category	Number (n)	Percentage (%)
Not working	13	14,3
Not Working Yet	3	3,3
Now	3	33
Private	3	33
Contract Labor	1	1,1
PNS	2	2,2
Police	2	2,2
Other	10	11
Total	91	100

DISCUSSION

The results showed The majority of children under five are not referenced, do not have health assurance, Most of children experienced under five experiencing acure respiratory truct infection, Malaria, Febris, and other diseases. Children under five have a normal nutritional status of 63.4%, a nutritional risk of over weight 11,3%, waste 15,6%, under weight 9,7%. he majority of children under five are not referenced. The person in charge of children under five is in the age range of 28 years – 37 years followed by the age of 18 years – 28 years, a slight difference with the age of 37 years – 46 years. And at least 46 years – 71 years old. The person in charge of children under five has a varied education, namely Diploma Elementary School, Junior High School Graduation, Masters, Elementary School Graduation, and Bachelor's Degree. The children under five have a variety of jobs, namely farmer, private, non-employed, and other jobs, unemployed, civil servants, and police, and contract labor.

Advice for puskesmas: It is recommended for puskesmas health workers to increase the reach of health services to children under fives through home visits. In addition, coordinating with related parties to facilitate access to health insurance ownership for families, especially children under fives. In addition, it reverses the nursing care documentation system by requiring all officers to fill in the existing assessment format.

For the development of nursing science: It is recommended that nursing education institutions compile a model of children under five nursing care at the West Koya Health Center in particular and Jayapura City in general, through nursing care training related to children under five health problems such as children under five care care with malaria, children under five nursing care with ARI, Children under five Nursing Care with dental caries, and other diseases found in Puskesmas, nursing care for children under five with nutritional problems at Puskesmas. It is necessary to conduct research on the determinants of low ownership of health insurance for children under fives in the West Koya Health Center Area.

REFERENCES

Batticaca, FB. (2021). Health Problem of Children Under Five in the 01st and 03rd Harmony Holtecamp Village District Estuary Tami Jayapura City.

Batticaca, F.B., Wardhani, I. (2018). Identify Health Problems of Residents of Rukun Region 01 Kelurahan Abepantai Abepura Kota Jayapura (identify Health Problem of Population at Rukun Wilayah 01 Abepura. Jayapura City). The Indonesian Journal of Health Science ISSN (Print) : 2087-5053 Special Issue, September 2018 ISSN (Online) : 2476-9614 7 obtained January 7 from http://jurnal.unmuhjember.ac.id/index.php/TIJHS/article/view/1519

Batticaca, FB., dan Kristina, Y. (2018). Apply of Community Public Health Nursing In Kampung Skouw Muara Tami, Jayapura City Papua Indonesia. Proceedings of the Seminar on Research Results of Knitting Science and Technology and Art Service for the Land of Papua. Cenderawasih University Research Institute. 2018.(Fourth ed., 2018). ISBN 978-602-7905-39-9. LPPM Uncen. Heram Jayapura.

Centre for Diseases Controle and Prevention (CDC). (2020). Healthy Pets Healthy People. Infants and Young Children. obtained January, 18, 2013 from https://www.cdc.gov/healthypets/specific-groups/high-risk/children.html

Fakh, I.M., Novialdi; and Elmatris. (2016). Characteristics of Chronic Tonsillitis Patients in Children in the ENT-KL Section of Dr. M. Djamil Padang Hospital in 2013. Retrieved January 29, 2023 from http://jurnal.fk.unand.ac.id/index.php/jka/article/view/536. Andalas Health Journal.

Edelman; & Mandle (2011). Health promotion throughout the life span. (Sevent Edition). Canada. Mosby Elsevier. Evolve learning system. ISBN:-978-0-323-05662-5

RSST Promkes Team - RSUP dr. Soeradji Tirtonegoro Klaten. R.I (2022). Get to know chickenpox. Dated January 29, 2023 of. https://yankes.kemkes.go.id/view_artikel/1428/mengenal-cacar-air. Ministry of Health. Directorate General of Health Services.

Megawati, M. E, Jatmiko, I.S; dan Supartinah, A (2022). the effect of chewing apples and pears after eating chocolate biscuit on tooth plaque diperoleh tanggal 28 Januari 2023 dari https://ejournal.unmas.ac.id/index.php/interdental/article/view/4314

Ministry of Health. R.I. (2020). Guidelines for children under five years old health services during the covid-19 emergency response period for health workers. Retrieved March 24, 2022. Of https://kesmas.kemenkes.go.id.

Ministry of Health RI. (2020). Health Profile of Indonesia. 2019. Pusdatin Kemenkes obtained on February 5, 2021 from https://pusdatin.kemkes.do.id.

Ministry of Health RI. (2018). National Health Research Report 2018. Health research and development agency. Retrieved October 26 from https://dinkes.kalbarprov.go.id/wp-content/uploads/2019/03/Laporan-Riskesdas-2018-Nasional.pdf.

Ministry of Health RI. (2021) National Health Insurance. Retrieved January 14 from https://promkes.kemkes.go.id/?p=5799.

Minister of Health of the Republic of Indonesia. (2014). Regulation of the Minister of Health of the Republic of Indonesia No. 75 of 2014.Concerning Public Health Centers obtained on April 24, 2017 from www.aidsindonesia.or.id

Ministry of Health, RI. (2022) SGI 2022, Not Just Weighing Children under five years old. The Health Development Policy Agency was obtained on January 16, 2023 from http://www.badankebijakan.kemkes.go.id/ssgi-2022-tak-sekedar-menimbang-balita/

Ramadan, Sahrudin; and Ibrahim. (2017). Risk Factor Analysis of Chronic Tonsillitis Incidence in Children Aged 5-11 Years in the Puuwatu Puskesmas Working Area, Kendari City in 2017. Retrieved January 29, 2023 from https://www.neliti.com/id/publications/198127/analisis-faktor-risiko-kejadian-tonsilitis-kronis-pada-anak-usia-5-11-tahun-di-w.Jurnal article // Unsyiah Public Health Student Scientific Journal

Utami, S. (2013). The relationship between dental plaque and the severity of dental caries in preschool-age children. Retrieved January 28, 2023 from ttps://journal.umy.ac.id/index.php/di/article/view/571. Insisiva Dental Journal: Insisiva dental magazine. Vol2.No2. (2013).

Woldeamanuel, B. T., & Tesfaye, T. T. (2019). Risk factors associated with Under-Five stunting, wasting, and underweight based on Ethiopian demographic health survey datasets in Tigray Region, Ethiopia. *Journal of nutrition and metabolism*, *2019*(1), 6967170.

WHO. (2022a). [Child] risk factors. The global health observatory. Explore 1 world of health data. Retrieved March 23, 2022, from https://www.who.int.

WHO. (2022b). Pneumonia in children Retrieved March 23, 2022, from https://www.who.int/news-room/fact-sheets/detail/pneumonia

WHO (2020). Child mortality (under 5 years). Retrieve March, 23, 2022 from https://www.who.int/news-room/fact-sheets/detail/levels-and-trends-in-child-under-5-mortality-in-2020.

World Health Organization. (2016). Preventing disease through healthy environments A global assessment of the burden of disease from environmental risks. Retrieved January, 18, 2023 from:https://apps.who.int/iris/bitstream/handle/10665/204585/9789241565196_eng.pdf