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Original Article

Improving Knowledge About the Prevention of Acute Respiratory Infections in the Popubawo District of Jayawijaya Regency

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Abstract

Acute Respiratory Infections (ARI) remain a major health problem in the community, especially in the Papua Highlands. The prevalence of ARI among toddlers in Papua is among the highest in Indonesia, partly due to the community's lack of knowledge about ARI prevention and the implementation of Clean and Healthy Living Behaviours (PHBS). This community service activity aims to increase public knowledge about the prevention of respiratory tract infections in Waima Village, Popuoba District, Jayawijaya Regency. The method used is health education through counselling with slides and leaflets, accompanied by discussions and question and answer sessions. The target audience for this activity is the communities of Waima and Popuoba villages. The results of the activity show an increase in the community's understanding of the definition of ISPA, risk factors, modes of transmission, and efforts to prevent ISPA through the implementation of Clean and Healthy Living Behaviours (PHBS). The community showed enthusiasm and active participation during the event. This activity is expected to contribute to changes in public health behaviour, thereby reducing the risk of acute respiratory infections in the region.

Keywords: acute respiratory infections; health education; PHBS

Introduction

Acute respiratory tract infections (ARIs) are upper respiratory tract infections (such as rhinitis, tonsillitis, and otitis) and lower respiratory tract infections (such as laryngitis, bronchitis, bronchiolitis, and pneumonia) that can last for fourteen days, which is used to determine the acute phase of the disease. The respiratory tract consists of many organs, including the pleura, sinuses, middle ear cavity, and alveoli of the nose (Wahyuni & Kurniawati 2021).

Acute Respiratory Infections (ARI) are a major health problem that contributes significantly to morbidity and mortality rates among infants in many countries, particularly in developing countries (Ghimire, 2022). Acute respiratory tract infection is an infectious disease that attacks one or more parts of the respiratory tract, from the nose to the alveoli, and is acute or lasts for approximately 14 days. Acute respiratory tract infections can attack the upper or lower respiratory tract (Lestari, 2022). Most acute respiratory infections can be transmitted through droplets, infectious respiratory aerosols inhaled at close range, and contact with infected individuals through accidental contamination of hands inoculated with bacteria (WHO, 2024). Upper respiratory tract infections are classified as ARIs with the highest number of outpatient visits and incur significant health costs, but have a low mortality rate. Meanwhile, lower respiratory tract infections, particularly pneumonia, are the main cause of high hospitalisation rates and mortality in children (Oktaria, 2021).

Based on the 2023 Indonesian Health Survey (SKI) report from the Ministry of Health (Kemenkes), the prevalence of acute respiratory infections (ARI) in Indonesian toddlers diagnosed by doctors was 4.8% in 2023. When broken down by region, Central Papua has the highest prevalence of toddlers with ARI, at 11.8%, which is well above the national average. This is followed by the province of Papua Pegunungan with 10.7% of toddlers with ARI, then East Java with 8.8% and Banteng with 8.7%.

The following is a list of the 10 provinces with the highest prevalence of acute respiratory infections in children under five years of age nationally, based on the results of diagnoses by health workers in 2023: Central Papua 11.8%, followed by Papua Pegunungan 10.7%, East Java 8.8%, Banteng 8.7%, Papua

8.1%, Central Java 6.7%, Bali 6.64%, East Nusa Tenggara 6.48%, Jakarta 6%, South Papua 5.8%, and so on.

According to the Ministry of Health website, ARI is often cited as one of the top 10 diseases in developing countries that affect infants and young children, including in Indonesia. The causes of ARI consist of 300 types of bacteria and viruses, some of which are streptococcus and pneumococcus. Symptoms include coughing, runny nose, sore throat, stuffy nose and fever.

Non-pharmaceutical measures that have been implemented include vaccination. Prevention of respiratory tract infections can be achieved through vaccination against the three main influenza viruses, the formulation of which changes annually to avoid the risk of vaccine-resistant viruses (Solehati et al 2018). Another effort is to provide health education about ARI. The health education method used is an individual method using slides and leaflets for promotion, but this method and means of communication are ineffective and inefficient because the ARI rate is still quite high, especially in Papua.

Previous research conducted by Zahrani et al. (2023) factors associated with ARI cases at the Community Health Centre, it is recommended that the Community Health Centre improve its health programmes, particularly in the eradication of ARI, by increasing knowledge and promoting clean and healthy lifestyles (PHBS) in the community through community service

Method

This community service activity was carried out in October 2024 in Waima and Popuoba villages, Popuoba District, Jayawijaya Regency. The target of the activity was the local community.

The method used was health education through:

1. Health education on ARI includes understanding, causes, signs and symptoms, modes of transmission, and prevention of ARI.

2. Use of educational media in the form of presentation slides and leaflets.

3. Discussion and question and answer session to explore the community's understanding and experiences.

The activities consisted of a preliminary survey, material preparation, counselling

implementation, and a concluding verbal evaluation through interactive question-and-answer sessions with participants.

Results

Relevant The community service activities ran smoothly and were positively received by the community. Participants showed great enthusiasm during the outreach sessions and actively participated in the discussion sessions.

Figure 1. Health education activities conducted by the team

One of the members of the Community Service Team, Mrs Marleona S, Sawamanay, S.Kep.,Ns, is explaining about respiratory tract infections to the community. The community service programme on education regarding ISPA prevention efforts resulted in knowledge transfer from the presenters to the participants, where in addition to the material presented, further two-way discussions took place, leading to an agreement that behavioural education on clean and healthy living (PHBS) was necessary to prevent the transmission of ISPA.

Discussion

In general, the implementation of community service activities in Waima and Popuoba villages in Popuoba District, Jayawijaya Regency, ran smoothly, from the initial survey stage, planning, implementation to evaluation of activities. The initial survey was conducted after obtaining data on the ten most common diseases in the Popuoba Community Health Centre working area, where Acute Respiratory Infections (ARI) were included as a priority health issue. The results of this survey formed the basis for the preparation of community service activity plans involving lecturers and students through a community-based health education approach, as recommended in community health-based service activities (Kementerian Kesehatan RI, 2023; WHO, 2022).

During the counselling session, participants showed great enthusiasm both in receiving the material and in providing active responses through discussion and question and answer

sessions. Active community participation is an indicator of successful health education, as the adult learning process (andragogy) emphasises direct participant involvement to ensure meaningful and sustainable understanding. This condition shows that the participatory approach to education is effective in increasing community interest and involvement in health issues, particularly the prevention of acute respiratory infections (Notoatmodjo, 2020; Glanz et al., 2022).

The success of this community service activity was also supported by cross-sector collaboration, particularly the support of health promotion officers from the Popuoba Community Health Centre. Collaboration between educational institutions and primary health care facilities plays an important role in strengthening the effectiveness of promotional and preventive programmes in the community (Puji et al, 2025). The support of health workers legitimises the information conveyed and increases public confidence in the health messages provided (Kemenkes RI, 2022; Green & Kreuter, 2021).

The results of community service show that health education activities on the prevention of acute respiratory infections are able to transfer knowledge from the presenters to the participants. In addition to improving understanding of the material, these activities also generate constructive two-way discussions between the presenters and the community (Lestari, et al, 2024). The discussion resulted in a mutual agreement that ongoing education on Clean and Healthy Living Behaviour (PHBS) is necessary as a primary measure in preventing the transmission of ISPA. This is in line with the concept of health promotion, which emphasises empowering communities to recognise and address their health issues independently (WHO, 2021; Kemenkes RI, 2023).

Health education aims to help individuals, families, community groups, and school-age children to adopt appropriate health behaviours that break the chain of disease transmission, including ARI. Increased knowledge is expected to encourage sustainable changes in attitudes and behaviours, thereby improving the health and welfare of the community. These findings are consistent with research Zahrani, Mustaf, and Nirwana (2023) which states that increasing public knowledge through health education is the main

strategy recommended for Community Health Centres in reducing the incidence of ARI in their working areas.

Conclusion

Community service activities in the form of health education on the prevention of acute respiratory infections (ARI) in Waima Village, Popuoba District, Jayawijaya Regency, successfully increased community knowledge and awareness regarding the definition, risk factors, modes of transmission, and prevention of ARI through the implementation of Clean and Healthy Living Behaviours (PHBS). The enthusiasm and active participation of the community during the activities showed that the method of providing information through educational media and discussions was effective in improving the community's understanding of health issues.

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