

## The Relationship Between the Knowledge of Pregnant Women and The Impact of Smoking on Pregnancy

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### Abstract

**15** **Introduction:** The prevalence of smoking in Timor-Leste, based on data from the Ministry of Health's 2016 survey, highlights that 53.7% of adults aged 15 to 49 were active smokers. Although this shows a reduction from 70% in 2009, cigarette consumption remains significant. For pregnant women who smoke, there are severe consequences for fetal health, including reduced fetal weight, premature birth, and increased risks of miscarriage, fetal mortality, and sudden infant death. Additionally, smoking during pregnancy can negatively affect the physical and intellectual development of children as they grow. **Objective:** Want to know the relationship between the knowledge of pregnant women and the impact of smoking on pregnancy at the Comoro Health Center, Post administrative Dom Aleixo, Dili Municipality, Timor-Leste. **Method:** The method for this research is quantitative with the type of research of analytical observation with cross-sectional approach with non-probability sampling technique with accidental sampling method. **Result and Discussion:** The result of the study is the relationship between the knowledge of pregnant women and the impact of smoking on pregnancy (p-value: 0,001). **Conclusion:** The results of the study indicate that there is a relationship between the knowledge of pregnant women and the impact of smoking on pregnancy.

**Keyworld:** Knowledge; Pregnant Women; Impact of Smoking on Pregnancy;

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## **The Relationship Between the Knowledge of Pregnant Women and The Impact of Smoking on Pregnancy**

### **Introduction**

Knowledge is the result of knowing and occurs after a person senses an object through the sense organs of the body such as eyes, ears, tongue, nose, and skin. Most knowledge is gained through the eyes and ears (Darsini, Fahrurrozi, & Cahyono, 2019). Pregnancy is a condition in which the baby in the mother's uterus, beginning with the process of conception sperm cells meet with egg cells in the fallopian tube and then process in the uterus, and finally the process of childbirth (Wulandari, Aisyah, Afriliani, & Yarni, 2023)

Currently smoking cigarettes is an attitude that every day we can observe directly in public places such as in the market, in school buildings and elsewhere (Hidayatullah, 2018). Everyone knows the negative impact caused by cigarette smoking, but these attitudes will continue to be practiced in society that can give passive exposure to young children and cause diseases such as cancer, bronchitis, and others (Salsabila, Indraswari, & Sujatmiko, 2022)

According to data World Health Organization (WHO, 2017) says that people smoke 45% of young women, 27% pregnant women while smokers are mostly in the United States of America 23.5% pregnant women and 20% for pregnant women who stop smoking during pregnancy, for pregnant women smoking cigarettes during pregnancy can have complications. Among one of the pregnancy complications causing fetal mortality results from disturbed oxygenation (Manurung, 2020). In addition, there is a graph of adult smoking prevalence by sex in member states of the WHO South East Asia Region (2015) such as Bangladesh, Bhutan, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand and Timor-Leste showed the highest number of smokers in Timor-Leste with a total of 70% for men and 10% for women (Organization, 2015)

According to the World Health Organization (WHO, 2015) states that tobacco use causes mortality. Diseases related to smoking cigarettes / tobacco such as throat cancer, bronchitis, can also affect heart disease (Amriyadi, 2024). Data users smoke cigarettes / tobacco amounted to 6 million, deaths from smoking cigarettes / tobacco total 60,000 deaths per year. Disturbingly, 170,000 victims were children. There are nearly one billion smokers worldwide, with 80% of them living in low-income countries. Timor-Leste is a young state but the development process has begun, although a lot of progress Timor-Leste is overcoming gradually, but on the other hand Timor-Leste also has challenges for a healthy future of Timor according to the vision of PEDN 2020, because it causes many people, especially pregnant women, to actively use tobacco, although the tobacco epidemic endangers human life.

Timor-Leste, as a new state and restored its independence in the millennium era, which Timor-Leste is in the Southeast Asian Region, so Timor-Leste also became a consumer country in ASEAN, especially consumption with 71%. Tobacco is one of the most dangerous chemicals to human health and the economy of families and countries, tobacco smoke contains more than 7,000 chemicals, of which nearly 70 are known to cause cancer.

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Tobacco contains 60 chemical substances that endanger human life through cancer, of these 60 substances, simplified three parts more dangerous cause faster to cause cancer; polycyclic aromatic hydrocarbons, aromatic amines, and nitrosamines. Prevalence of cigarette/tobacco smoking in Timor-Leste data from active smokers and passive smokers in Timor-Leste, Ministry of Health Survey 2016, shows adult rate of people aged 15-49 smoking will reach 53.7%, although reduced from 70% in 2009. In the 2016 DHS survey, the prevalence of cigarette smoking decreased from 70% to 53.7% of people of productive age who smoke cigarettes/tobacco.

However, the prevalence of tobacco use (Smoking, Chewing and Smoke and Smokeless Tobacco) remains high according to the STEP Survey 2014 report from the World Health Organization (WHO) at 71%. Adults who smoke cigarettes/tobacco and sunke for 71% men, 29% women. Cigarette smoking is 70% for men, 10% for women, only 16% for men and 27% for women and those exposed to cigarette smoke/passive exposure (9/10 adults).

Tobacco is the leading risk factor for NDCs such as stroke, heart attack, lung, cancer, diabetes, and hypertension. NDCs are the leading cause of premature mortality in the world (Mahajan et al., 2019). For pregnant women who smoke cigarettes, the birth rate is less, sometimes the baby is born prematurely, because the baby (fetus) also smokes cigarettes. Mothers who smoke cigarettes are at increased risk of miscarriage, fetal mortality, postpartum infant mortality, and sudden infant mortality. Pregnant women who smoke cigarettes disrupt the physical and intellectual development of children who are in the process of growth (Hanum, 2022)

Data collected from the Comoro Health Center in 2020 on antenatal care with a total of 4,951. Pregnant women who made the first visit with a total of 2,593 (52.69%), the second visit with a total of 2,022 (40.84%), the third visit with 1,628 (32.88%) and pregnant women who made the fourth visit with a total of 2,107 (42.55%).

### **Methods**

According to Sugiyono (2018), it is stated that the research method is a method that the researcher uses to collect data. This research the author uses Quantitative Method with Analytical Observation research type with Cross Sectional Approach, to know the relationship between dependent variables and independent variables (Notoadmojo, 2018). The research will be conducted on the relationship between pregnant women's knowledge and the impact of cigarette smoking on pregnancy. This research was conducted at Comoro Health Center, Dom Aleixo Administrative Post, Dili Municipality. sample is half of the total and characteristic of a population. The total sample in this research is 89.

The sampling technique in this research is using non probability sampling technique and random sampling method. Accidental sampling is a sample of respondents who are incidentally available. Data collection technique using questionnaire, according to (Sugiyono 2015) independent variables influence or cause change and create dependent

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variables. In this research, the independent variable is: Knowledge, the dependent variable is the impact of cigarette smoking on pregnancy.

### Result and Discussion

#### Result

##### 1. Analiza

**Table 1**

Frequency distribution of respondents according to characteristics of pregnant women based on age in the Antenatal care ward of Comoro Health Center, 2022

No	Age	Frequency	%
1.	19	2	2,2%
2.	20-35	77	86,5%
3.	36-40	8	9,0%
4.	41	2	2,2%
<b>Total</b>		<b>89</b>	<b>100%</b>

Sources: 2022 search results

Based on Table 1 above shows that the characteristics of pregnant women based on age are mostly aged 20-35 with a total of 77 (86.5%).

**Table 2**

Frequency distribution of respondents according to characteristics of pregnant women based on education level in the Antenatal Care Room of Comoro Health Center, 2022

No	Education Level	Frequency	%
1.	Literacy	1	1,1%
2.	Primary	2	2,2%
3.	Pre-secondary	7	7,9%
4.	Secondary	38	42,7%
5.	University	15	16,9%
6.	Bacharel	2	2,2%
7.	undergraduate	24	27,0%
<b>Total</b>		<b>89</b>	<b>100%</b>

Sources: 2022 search results

Based on Table 2 above shows that the characteristics of pregnant women based on education level are mostly with secondary education level with a total of 38 (42.7%)

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**Table 3**

Frequency distribution of respondents according to characteristics of pregnant women based on profession in the Antenatal Care Room of Comoro Health Center, 2022

No	Profission	Frequency	%
1.	Housewife	61	68,5%
2.	Student	3	3,4%
3.	Employee	11	12,4%
4.	Private	11	12,4%
5.	Teavher	2	2,2%
6	Volunteer	1	1,1%
Total		89	100%

Sources: 2022 search results

Based on Table 3 above shows that the characteristics of pregnant women based on profession mostly with the profession of housewife with a total of 61 (68.5%).

## 2. Frequency distribution of respondents according to knowledge of pregnant mothers about cigarettes and the impact of cigarette smoking on pregnancy

**Table 4**

Frequency distribution of respondents according to knowledge of pregnant women about cigarettes in the Antenatal Care Room of Comoro Health Center, 2022

No	Knowledge of pregnant women about cigarettes	Frequency	%
1.	Know	42	47,2%
2.	Don't know	47	52,8%
Total		89	100%

Sources: 2022 search results

Based on Table 4 above shows that many pregnant women's knowledge about cigarettes is unknown with a total of 47 (52.8%)

**Table 5**

Frequency distribution of respondents according to knowledge of pregnant women on the impact of cigarette smoking on pregnancy in the Antenatal Care Room of Comoro Health Center, 2022.

No	Knowledge of pregnant women about cigarettes	Frequency	%
1.	Know	40	44,9%
2.	Don't know	49	55,1%
Total		89	100%

Sources: 2022 search results

Based on Table 5 above shows that the knowledge of pregnant women about the impact of cigarette smoking on pregnancy is not known with a total of 49 (55.1%)

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### 3. Bivariate Analysis

**Table 6**

Relationship between knowledge of pregnant women and the impact of cigarette smoking on pregnancy in Comoro Health Center, 2022

Knowledge of pregnant women	Impact of Cigarette Smoking on Pregnancy		Total	p-value
	Positive	Negative		
Know	27	15	42	0,001
	64,3%	35,7%	100%	
Unknow	13	34	47	
	27,7%	72,3%	100%	
<b>Total</b>	<b>40</b>	<b>49</b>	<b>89</b>	

Based on the C hi-square test showed that there is a significant relationship between pregnant women's knowledge and the impact of cigarette smoking. The results can be seen in table 3

## Discussion

### Discussion Respondent Characteristics

#### 1. Age-Based Respondent Characteristics

Based on the research results showed that of the 89 respondents mostly aged 20-35 with a total of 77 (86.5%), aged 19 with a total of 2 (2.2%), aged 36-40 with a total of 8 (9, 0%) and at the age of 41 with a total of 2 (2.2%).

According to scholars Wawen and Dewi (2010), said that age is an individual who counts from the moment of birth from the mother's womb to the day of birth. With age, people's minds also begin to perfect. As people age, their level of maturity and thinking also becomes more mature (Hurlock, 2004). Age affects the perception and thinking of a person. Age increases perception and a person's mind also develop so that knowledge also increases well. In addition to age increases a person's knowledge also increases through life experience, emotions and this makes a person's knowledge become more mature (Notoatmodjo, 2010)

Age is the duration of a person's life, starting from the person's birth in the world. Reproductive age and increasing numbers of children make people more mature and open people's minds, make people strong to perform work and increase knowledge through life experiences encountered.

#### 2. Respondent Characteristics Based on Education Level

Based on the research results showed that of the 89 respondents most with Secondary Education Level with a total of 38 (42.7%), Primary with a total of 2 (2.2%), Pre-Secondary with a total of 7 (7.9%), University with a total of 15 (16.9%), Bachelor's degree with a total of 2 (2.2%), Graduate with a total of 24 (27.0%) and out of school with a total of 1 (1.1%).

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According to scholar sulistyawati (2009), said that the level of education influences the knowledge, behavior, or attitude of people to be better, because with a good level of education people will have a good awareness to give importance to his health and know how to choose the right one according to physical and mental needs.

Level of education is a person's activities to develop skills, attitudes, and forms of behavior for the present life and preparation for the future through organizations or disorganized (Azra, 2010). The level of education can ensure people's knowledge so that they will give importance to their health and give perception about the negative impact caused by cigarettes on pregnancy, awareness, and experience. Through education can develop people's capacity and make life better quality

### **3. Respondent Characteristics Based on Occupation**

Based on the research results showed that of the 89 respondents mostly with the profession of housewife with a total of 61 (68.5%), employee with a total of 11 (12.4%), private with a total of 11 (12.4%), Student with a total of 3 (3.4%) and Volunteer with a total of 1 (1.1%). According to Human (2003) said that service is also related to the process of obtaining information and this also influences a person's knowledge.

With work one can do something with good benefits and gain experience. In addition, services also influence a person's purchasing power so that he can also get many sources of information and increase his knowledge (Mubarak et al., 2008). Work also influences a person's knowledge because when we go to work will meet many people to share experiences with each other and get more information so that it can develop a person's knowledge better.

## **Research discussion on pregnant women's knowledge of the impact of cigarette smoking on pregnancy**

### **1. Discussion of Research on Cigarettes Based on Knowledge of Pregnant Mothers**

Based on the research results showed that of the 89 respondents, the minority of pregnant women knew with a total of 42 (47.2%), the majority did not know with a total of 47 (52.8%). In this survey, many respondents did not know about cigarettes. According to Bloom and Skinner (2003), knowledge is the ability of people to express what they know through answering questions in oral and written ways that become evidence and evidence itself is a reaction to stimulation for the oral and written question itself.

Knowledge is very important and related to the information that the individual receives. Information can be obtained through counseling, media, radio, and adequate counseling conducted by health personnel, which will greatly support mothers' general knowledge about cigarettes and their impact on pregnancy (Rahmat, 2007). From the results showed that pregnant mothers do not have knowledge about pregnancy because of the relationship with the level of education, age, and profession. Education, age, and profession are also factors that can influence a person's knowledge.

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### **2. Research discussion on the impact of cigarette smoking on pregnancy based on the knowledge of pregnant women**

Based on the research results showed that of the 89 respondents, the minority of pregnant women knew with a total of 40 (44.9%), the majority did not know with a total of 49 (55.1%). In this survey, most respondents were unaware of the impact of cigarette smoking on pregnancy.

According to Notoatmodjo (2003) Knowledge is the result of knowing and occurs after a person senses an object through the sense organs of the body such as eyes, ears, tongue, nose, and skin. Most knowledge is gained through the eyes and ears. Knowledge or cognitive as love is very important will shape and take human action. Therefore, experience and research based on knowledge will be better than behavior (Notoatmodjo, 2007). From the results, the researcher concluded that pregnant women do not have knowledge about the impact of smoking on pregnancy. A person to have knowledge that knows based on the characteristics of a person, the characteristics of a person can be seen from the level of education, age, and profession. When a pregnant mother has good knowledge automatically, she will take care and prevent herself and her baby from all negative impacts that can cause bad health

### **Bivariate Discussion**

#### **1. Research discussion on the relationship between pregnant women's knowledge and the impact of cigarette smoking on pregnancy**

Based on the Chi-square test showed that there is a significant relationship between the knowledge of pregnant women and the impact of smoking on pregnancy. The results of this research are also similar to the results of research conducted by researcher Aris Rahayuningsih (2017) showed that the result P-value 0.013 means that there is a relationship between the level of knowledge and attitude to the effects of cigarette smoke on pregnancy (Rahayuningsih, Theresia, & Yumei, 2017)

There is also research by researchers Manurung, Manalu, Situmorang (2020) conducted on the knowledge of pregnant women the impact of cigarette smoking on pregnant women and women in Gasaribu Village, Laguboti District, Toba Samosir Regency showed that pregnant women with knowledge (total 22) 55%), pregnant mothers with good knowledge total 16 (40%) and pregnant mothers with poor knowledge total 2 (5%).

From the results of research that exists and also from other researchers showed that most pregnant women with less knowledge about cigarettes and the impact of cigarette smoking on pregnancy so it is necessary to approach pregnant women and their partners to share information, do promotion and training to them about cigarette smoking and its impact on pregnant women so as to increase their knowledge about cigarette smoking and its impact so that pregnant women can take care of their health and their babies and prevent negative impact caused by cigarette smoking.



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### **Conclusion**

Based on the identification of mother's characteristics showed that most with the age of 20-35 amounted to 77 (86.5%), most education level with secondary education level amounted to 38 (42.7%) and profession mostly with the profession of housewife households (68.5%). Based on the knowledge of pregnant women about cigarettes in Comoro Health Center, Dom Aleixo Administrative Post, Dili Municipality, in 2022, the results showed that the distribution of frequencies based on knowledge majority do not know with a total of 47 (52.8%) and minority knew with a total of 42 (47.2%).

Knowledge of pregnant women about the impact of cigarette smoking on pregnancy in Comoro Health Center, Dom Aleixo Administrative Post, Dili Municipality, in 2022, the results showed that the majority do not know with a total of 49 (55.1%) and the minority know with a total of 40 (44.9%). Based on the results of pregnant women's knowledge of the impact of cigarette smoking on pregnancy showed that there is a significant relationship between the two groups (P-value 0.001).

### Reference

- Amriyadi, Pondang. (2024). *HUBUNGAN TINGKAT PENGETAHUAN REMAJA TENTANG EFEK ROKOK TERHADAP PERILAKU MEROKOK DI DESA DAYA ASRI TULANG BAWANG BARAT TAHUN 2023*. Universitas Muhammadiyah Pringsewu.
- Darsini, Darsini, Fahrurrozi, Fahrurrozi, & Cahyono, Eko Agus. (2019). Pengetahuan; artikel review. *Jurnal Keperawatan*, 12(1), 13.
- Hanum, Zulfa. (2022). Risiko Kejadian Abortus Pada Ibu Hamil Perokok Pasif Di Rumah Sakit Umum Daerah Dr. Zainoel Abidin Banda Aceh. *Jurnal Kesehatan Almuslim*, 8(1), 25–28.
- Hidayatullah, Dhika Sari. (2018). Praktik Sosial Merokok Anak Smp Di Kota Surabaya. *Paradigma*, 6(1).
- Mahajan, Manoj, Naik, Navami, Jain, Kirti, Patira, Nilesh, Prasad, Sangita, Mogri, Sushma, Muwonge, Richard, Lucas, Eric, Faruq, Faeza, & Sankaranarayanan, Rengaswamy. (2019). Study of knowledge, attitudes, and practices toward risk factors and early detection of noncommunicable diseases among rural women in India. *Journal of Global Oncology*, 5, 1–10.
- Manurung, Melva. (2020). Pengetahuan Ibu Hamil Tentang Bahaya Merokok Terhadap Kehamilan Dan Janin. *Jurnal Keperawatan Priority*, 3(1), 91–98.
- Organization, World Health. (2015). *Country Profiles on implementation of the WHO Framework Convention on Tobacco Control in the WHO South-East Asia Region*.
- Rahayuningsih, Aris, Theresia, Endah Marianingsih, & Yumei, Mina. (2017). *Hubungan Tingkat Pengetahuan Dengan Sikap Suami Tentang Pengaruh Paparan Asap Rokok Terhadap Kehamilan Di RSUD Wates*. Poltekkes Kemenkes Yogyakarta.
- Salsabila, Nisa Nisrina, Indraswari, Noormarina, & Sujatmiko, Budi. (2022). Gambaran Kebiasaan Merokok Di Indonesia Berdasarkan Indonesia Family Life Survey 5 (IFLS 5). *Jurnal Ekonomi Kesehatan Indonesia*, 7(1), 13–22.
- Wulandari, Fedri Yani, Aisyah, Nurul, Afriliani, Afriliani, & Yarni, Linda. (2023). PERKEMBANGAN MASA PRENATAL. *Afeksi: Jurnal Psikologi*, 2(2), 225–233.

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