



ANALYSIS OF RISK FACTORS OF SEXUAL TRANSMITTED INFECTIONS

Putra Apriadi Siregar^{a*} ; Fauziah Nasution^b; Nurhayati^c ; Muhammad Ancha Sitorus^d;
Reni Armayani Nasution^e ; Fitri Hayati^f

^{a,b,c,e,f} Universitas Islam Negeri Sumatera Utara ; IAIN No. 1 ; Medan 20371 ; Indonesia
^dBadan Kependudukan dan Keluarga Berencana Nasional Provinsi Sumatera Utara ;
Gunung Krakatau No. 110 ; Pulo Brayon Darat II ; Medan 20239 ; Indonesia

Abstract

Sexually transmitted infections (STIs) are a very dangerous problem, especially with the transmission of STIs. The incidence of STIs is still high because people's knowledge of STIs is still low, and people are still ashamed to admit to STI sufferers so that STI cases are still high. The purpose of this study was to determine the analysis of risk factors of sexually transmitted infections in North Sumatera province (secondary data analysis for the 2017 IDHS). This study conducted a secondary data analysis of the 2017 IDHS in North Sumatera Province. This research was conducted on 1717 women of childbearing age in North Sumatera Province. This study used the Chi-square test and Prevalent Rate (PR). The results of this study show chi-square analysis results showed a relationship between the source for STI knowledge: health professional ($p < 0.001$), knowledge of the source for STI knowledge: a religious institution ($p < 0.001$), male STI symptoms ($p < 0.001$) with sexual transmitted infections symptoms with a p-value < 0.001 . A woman of childbearing age who has a partner with STI symptoms has a 26.088 times greater risk of suffering from an STI than a woman of childbearing age whose partner does not have STI symptoms. Sexually transmitted infections (STIs) are related to STI knowledge: health professional, knowledge of the source for STI knowledge: a religious institution, male STI symptoms. Symptoms of STIs in women of childbearing age partners are closely related to the incidence of STIs in women of childbearing age.

Keywords: *Symptoms; Sexually transmitted infections (STIs); Woman of Childbearing Age*

1. Introduction

Sexually transmitted infections (STIs) are diseases that arise or are transmitted through sexual contact through sexual intercourse with clinical manifestations in abnormalities, especially in the genitals. (Mularsih, 2020). Gonorrhoea, syphilis and chlamydia, are three sexually transmitted diseases caused by bacteria, and their treatment can be cured with antibiotics. At present, there are many incidents of resistance to germs that cause sexually transmitted infections to several antibiotics, causing problems in the treatment of sexually transmitted infections (WHO, 2016).

The Southeast Asian region is ranked second globally with the largest number of

people living with HIV/AIDS. Among countries in Southeast Asia, Indonesia ranks first for new cases of HIV/AIDS in the age range of 15-49 years, which is 0.5 per 1000 people, followed by Myanmar and Malaysia at 0.3 per 1000 people. In line with the data, the number of HIV/AIDS cases in Indonesia tends to increase, from 2005 to 6,254 cases to 2017 as many as 57,580 cases (Kementerian Kesehatan RI, 2017).

The current incidence of STIs tends to increase in Indonesia, this can be seen from the STI morbidity rate in Indonesia in 2015, which was 19,973 STI cases. This morbidity rate has increased when compared to the survey results in 2012, namely 16,110 cases of STI incidents, and in 2010 there were 11,141 cases of STI incidents in Indonesia. Its spread is difficult to trace its

*) Corresponding Author (Putra Apriadi Siregar)
E-mail: siregar.putra56@gmail.com

source because no registration of the patients was found. The number of patients who had been recorded was only a small part of the actual number of sufferers (Kementerian Kesehatan RI, 2015).

HIV/AIDS cases in North Sumatra in 2017 were 8,399 cases, with details of HIV 3478 cases and AIDS 4,921 cases, and ranked 7th out of 33 Provinces in Indonesia. The HIV/AIDS prevalence rate in North Sumatra is 28.97 per 100,000 population, meaning that every 100,000 population in North Sumatra, 29 people suffer from HIV/AIDS. A report from the Labuhanbatu Health Office recorded 55 cases of STIs, 5 cases of AIDS and 84 cases of syphilis (Dinas Kesehatan Sumatera Utara, 2018).

The spread of sexually transmitted infections, which tends to increase due to sexual behaviour with multiple partners, is also related to the tendency of an increasing number of Female Sex Workers (FSW) who are infected with STIs after the closure of localization and the difficulty of the government in carrying out supervision and control because there is no longer any authority. In addition, sexual relations outside of marriage are quite high, so the number of people with STIs with fast increases due to STI transmission.

The research results Irwan (2018) stated a relationship between risky sexual behaviour and the incidence of sexually transmitted infections. In addition, research conducted by Puspita (2017) states that inconsistent condom use behaviour during sexual intercourse has a risk of 5.58 times for suffering from STIs than respondents who use condoms consistently.

According Nurdin (2017), the difficulty of treating this sexually transmitted infection is due to a lack of awareness and fear, and embarrassment to have high-risk married couples examined. According to Wenas (2021) said the public perception that if they contract an STI, they will feel pain, loss of job, shame towards friends and family and death as the worst effects. Sexually transmitted infections are very dangerous when they are not properly diagnosed, so they need a physical examination, examination laboratory, medication, and good education to reduce the spread of STIs.

To avoid long-term health and social consequences, safe sexual practices should be promoted. Individual physical characteristics, as well as social and societal influences, all have an effect on adolescent sexual behavior (Gupta, 2020). Individuals with a higher grade point

average may have stronger non-cognitive abilities and have developed the interpersonal and communication skills necessary to navigate health institutions and acquire targeted knowledge. Additionally, they may be more receptive to 'safe sex' messages (Barbara, 2019).

Some of the factors that influence the increase in the incidence of STIs include internal factors including age, education, knowledge of STIs, marital status, employment as commercial sex workers; high-risk individuals are individuals who frequently change sexual partners and do not have sexual intercourse with condoms (Najmah, 2016). This study aimed to analysis of risk factors of sexual transmitted infections in North Sumatera Province (Data Analysis of the 2017 North Sumatra Province IDHS).

2. Method

This type of research is an observational analytic study using a cross-sectional study design. This research was conducted simultaneously for the dependent variable and the independent variable. This study uses a quantitative research approach using secondary data from the Demographic and Health Survey (IDHS) of North Sumatra Province in 2017.

The data source used in this study was the 2017 North Sumatra Province Demographic and Health Survey (IDHS), namely women aged 15-49 years. The data collection instrument used was a list of questions or a WUS questionnaire to collect information from women aged 15-49. The required variables were selected from the list of questions and then analyzed according to the research objectives. The use of secondary data from the 2017 IDHS of North Sumatra Province was carried out to determine the determinants of Sexually Transmitted Infection (STI) in North Sumatra Province.

This research further analyses the data from the Indonesian Demographic Health Survey (IDHS) of North Sumatra Province in 2017 on the data for the section on women aged 15-49 years. The analysis plan will be carried out from January to February 2021. The research locations taken are all districts/cities of North Sumatra province.

The inclusion criteria of respondents in this study were women of childbearing age who had had sex, either married or living together, were willing to be interviewed, answered all the questions given and lived in North Sumatra

Province. This study population were all women aged 15-49 years in the province of North Sumatra. The sample used in this study was the total of all women aged 15-49 who were recorded in the 2017 North Sumatra IDHS and met the inclusion criteria so that a sample of 1717 people was obtained.

The dependent variable in this study is the symptoms of STIs with symptoms of genital discharge or dripping, foul-smelling discharge, foul-smelling discharge, redness or inflammation in the genital area, swelling in the genital area, genital sores, ulcers, genital warts and blood in the urine. Knowledge of STIs is an important part of the incidence of STIs in women of childbearing age; when women of childbearing age have good knowledge of STIs, they can prevent the incidence of STIs. The independent variables in this study are the source for STI knowledge: health professional (yes and no), the source for STI knowledge: a religious institution (yes and no), male STI symptoms (yes and no) and age at first sex (10-18 years, 19-24 years, and 25 years more).

After completing data management, the next step is to analyze the data. Raw data collected or obtained from both primary and secondary research will have no meaning if it is not analyzed. Data analysis is an important activity in research because data analysis ultimately makes the data have meaning or meaning that can be used to solve research problems and can be used as a basis for decision or policy making. In this study, secondary data was used, namely the 2017 North Sumatra IDHS data using a complex sample design, namely stratified sampling using two or more sampling methods so that the analysis process must take weighting into account. This study uses secondary data from AIDS in 2007 which contains 9 questions about STIS symptoms and 4 questions about STIS knowledge.

Bivariate analysis was carried out to see a significant relationship between two variables, namely the independent variable on the dependent variable. The analysis to be used at this stage also depends on the type of data. In this study, all data to be analyzed were categorical data types, so the test used was the chi-square test with a confidence level of 95%; the decision is taken from this analysis test by looking at the p-value and the Prevalence Ratio (PR) of the relationship between the variables.

3. Result and Discussion

This research was conducted on 1717 women of childbearing age in North Sumatra Province. Data analysis in this study will be presented in the following table with univariat and bivariat analysis:

Table 1. Distribution of Female STI Symptoms in North Sumatra Province

Abdominal Pain	n	(%)
Yes	29	1.7
No	1688	98.3
Genital Discharge or Dripping	n	(%)
Yes	16	0.9
No	1701	99.1
Foul Smelling Discharge	n	(%)
Yes	55	3.2
No	1662	96.8%
Burning Pain On Urination	n	(%)
Yes	36	2.1
No	1681	97.9
Redness or Inflammation In Genital Area	n	(%)
Yes	22	1.3
No	1695	98.7
Swelling In Genital Area	n	(%)
Yes	11	0.6
No	1706	99.4
Genital Sores or Ulcers	n	(%)
Yes	7	0.4
No	1710	99.6
Genital Warts	n	(%)
Yes	12	0.7
No	1705	99.3
Blood In Urine	n	(%)
Yes	111	6.5
No	1606	93.5

The results of this study indicate that respondents with Female STI symptoms such as abdominal pain as many as 29 people (1.7%), genital discharge or dripping as many as 16 people (0.9%), foul-smelling discharge as many as 55 people (3.2%). The results of this study indicate that respondents with Female STI symptoms such as burning pain on urination as many as 36 people (2.1%), redness or inflammation in the genital area as many as 22 people (1.3%), swelling in the genital area as many as 11 people (0.6%), genital sores or ulcers as many as seven people (0.4%), genital warts as many as 12 people (0.7%), blood in urine as much as 111 (6.5%).

The results of this study indicate that respondents with not Female STI symptoms such as abdominal pain as many as 1688 people (98.3%), not genital discharge or dripping as many as 1701 people (99.1%), not foul-smelling discharge as many as 1662 people (96.8%). The

results of this study indicate that respondents with not Female STI symptoms such as burning pain on urination as many as 1681 people (97.9%), not redness or inflammation in the genital area as many as 1695 people (98.7%), not

swelling in the genital area as many as 1706 people (99.4%), not genital sores or ulcers as many as 1710 people (99.6%), not genital warts as many as 1705 people (99.3%), not blood in urine as much as 1606 (93.5%).

Table 2. Correlation Between Source for STI Knowledge, Male STI Symptoms, Age At First Sex With Age At First Sex

Source for STI Knowledge: Health Professional	Sexual Transmitted Infections Symptoms				Total		P	PR
	Yes		No		N	%		
	f	%	f	%				
No	259	15.1	1419	82.6	1678	97.7	<0.001	0.1584
Yes	38	2.2	1	0.1	39	2.3		
Total	297	17.3	1420	82.7	1717	100		

Source for STI Knowledge: Religious Institution	Sexual Transmitted Infections Symptoms				Total		P	PR
	Yes		No		N	%		
	f	%	f	%				
No	248	14.4	1418	82.6	1666	97		
Yes	49	2.9	2	0.1	51	3	<0.001	0.155
Total	297	17.3	1420	82.7	1717	100		

Male STI Symptoms	Sexual Transmitted Infections Symptoms				N	%	P	PR
	Yes		No					
	f	%	f	%				
Yes	254	14.8	63	3.7	317	18.5	<0.001	26.088
No	43	2.5	1357	79	1400	81.5		
Total	297	17.3	1420	82.7	1717	100		

Age At First Sex	Sexual Transmitted Infections Symptoms				N	%	P	PR
	Yes		No					
	f	%	f	%				
10-18 Years	40	2.3	346	20.2	386	22.5		
19-24 Years	138	8	720	41.9	858	50	<0.001	---
> 25 Years	119	6.9	354	20.6	473	27.5		
Total	297	17.3	1420	82.7	1717	100		

The results of this study indicate that people who suffer from STIs tend to occur in respondents who do not get knowledge for STI knowledge: health professionals as many as 259 people (15.1%) compared to respondents who get source for STI knowledge: health professional as many as 38 people (2.2%). The chi-square analysis results showed a relationship between the source for STI knowledge: health professional and sexual transmitted infections symptoms with a p-value <0.001.

The results of this study indicate that 248 people who suffer from STI tend to occur in respondents who do not know the source for STI knowledge: religious institution as many as 248 people (14.4%) compared to respondents who get knowledge of source for STI knowledge: religious institution as many as 49 people (2.9%).

The results of chi-square analysis show that there is a relationship between knowledge of the source for STI knowledge: religious institution and the sexual transmitted infections symptoms with a p-value <0.001.

This study indicates that people who suffer from STIs tend to occur in respondents who have partnered with STI symptoms as many as 254 people (14.8%) compared to respondents who do not have partners with STI symptoms as many as 43 people (2.6%). The results of chi-square analysis showed a relationship between male STI symptoms and sexual transmitted infections symptoms with a p-value <0.001. A woman of childbearing age who has a partner with STI symptoms has a 26.088 times greater risk of suffering from an STI than a woman of

childbearing age whose partner does not have STI symptoms.

The results of Noviyani (2017) research show that factors related to sexual risk behaviour for STIs are access to sexual tools, sexual behaviour of partners, and sexual behaviour of community friends. Behaviour is instrumental, meaning that it can function and provide services to needs. A person can act (behave) positively towards an object for the sake of fulfilling a need; on the other hand, if the object does not fulfil a need, he will behave negatively. The results of Carmelita (2017) research show that sexual behaviour by a partner who has STD symptoms will have an impact on the incidence of STIs.

The chi-square analysis results showed a relationship between the source for STI knowledge: health professional and sexual transmitted infections symptoms with a p-value <0.001. The study results Pangaribuan (2017) show that many people have insufficient and sufficient knowledge about STIs. Knowledge about STI transmission is one of the community's information; if this is allowed to continue, STIs will continue to increase. The results of the Kora FT (2016) study show that insufficient knowledge about STIs in adolescents increases the risk of 1.7 times for unsafe sexual behaviour so that they are at risk of experiencing sexually transmitted infections. Study Gabarron (2016) show provide comprehensive care for STIs, mobile phones have been used to provide the behavioural and structural intervention component needed for the care, education, and prevention of STIs.

The results of Alhassan (2019) study show fifty (20%) of respondents indicated that text messaging was the most appropriate mobile phone function for STIs education and prevention; 101 (40.1%) indicated that mobile applications were the most appropriate; 41 (16.4%) indicated that phone calls were the most appropriate; 43 (17.2%) indicated that mobile web was the most appropriate; and 15 (6%) indicated that other mobile phone functions were the most appropriate for STIs education.

The results of the Saenong (2020) study showed that respondents who had poor knowledge of sexually transmitted infections tended to have poor attitudes towards sexually transmitted infections. Meanwhile, respondents with good knowledge tended to have a good attitude towards sexually transmitted infections.

According to Mamonto S (2014), health

education is very important in increasing personal knowledge about sexually transmitted diseases. There are significant differences between the level of knowledge and attitudes of adolescents about sexually transmitted diseases before and after the provision of health education. According to Siregar IA (2019) and Kurniati (2018), having good knowledge and a good attitude will influence the decision to take action. This is explained in the research results, which shows a relationship between knowledge and attitudes with the prevention of sexually transmitted infections. According to Diniarti (2019) said public health centre must provide information to the public regarding STD management through offline and online media continuously and sustainably to reduce the incidence of STIs.

According Naidoo (2018) that the enhancement of adolescent sexual behavior should be a primary goal of the twenty-first century. This includes providing protection against sexually transmitted diseases, increasing contraceptive compliance, and promoting responsible media use.

They discovered that television is universally regarded as the most effective medium for adolescents to obtain information about STIs. However, parents and relatives play an alarmingly insufficient role, which may be a reflection of their own ignorance and inhibitions about STIs (Baruah, 2016).

The results of this study indicate that people who suffer from STIs tend to occur in respondents aged at first sex 19-24 years as many as 138 people (8%) compared to age at first sex more than 25 years as many as 119 people (6.9%) and age at first sex 10-18 Years as many as 40 people (2.3%). The chi-square analysis results showed a relationship between age at first sex and sexually transmitted infections symptoms with a p-value <0.001. Despite the dangers posed by STIs, many people are reluctant and hesitant to discuss this with their sex partners.

Tuntun (2018) research results showed that most people with STIs were in the 12-25 year age group; namely, 93 people (50%), followed by the 26-45 years age group as many as 79 people (42.5%), and the least number was in the 46 age group. -65 years, namely 14 people (7.5%). The results of chi-square analysis showed a relationship between male STI symptoms and sexual transmitted infections symptoms with a p-value <0.001. A woman of childbearing age who has a partner with STI symptoms has a

26.088 times greater risk of suffering from an STI than a woman of childbearing age whose partner does not have STI symptoms. The results of the study Kusnsan (2016) showed that how to have sex (p-value = 0.002) and the frequency of sexual intercourse (p-value = 0.016) partner is one of the factors that determine the occurrence of STIs in couples. The results of the Budiati (2017) and Ismiati (2018) study indicate that the transmission of STIs such as syphilis occurs due to sexual intercourse by a partner outside of marriage.

Age is a social factor that also affects a person's health status and based on age groups, and there are differences in disease. Age is a variable that is always considered in epidemiological studies of morbidity, and mortality generally shows a relationship with age in studying health problems to be an important variable because it is related to a person's life habits, for example, in terms of sexual intercourse behaviour will differ between adult ages. with teenagers (Puspita, 2017).

According to Sallipadang (2019), promiscuity will be increasingly out of control and not good. Knowledge of reproductive health is needed, especially regarding sexually transmitted infections in adolescents, to protect themselves from promiscuity before marriage and supported by the opinion that knowledge is an important domain for forming one's actions. If they do not have adequate understanding or knowledge of reproductive health, especially those related to knowledge of sexually transmitted infections, adolescents can be trapped in casual sex before marriage, given that adolescence is a very critical period.

The chi-square analysis results showed a relationship between age at first sex and sexually transmitted infections symptoms with a p-value <0.001. Sexually transmitted infections are the most common infectious diseases. Nearly half of Americans who get an STI are under the age of 25. Many teenagers are currently suffering from STIs without knowing it (Betan, 2020). Nari (2015) research results show that the younger the teenager, the greater the risk of STI transmission. The results of Sridana (2015) research showed that the most age group population of people with sexually transmitted infections (STIs) was 25-49 years, as many as 423 people (70.4%).

Study of Askhori (2021) show the importance of preventing sexually transmitted infections (STIs) based on risk factors such as age, education, and area of residence in order to

avoid an increased risk of STI disease. For example, counseling programs directed at youth, counseling in schools, counseling in villages, and so forth.

The results of this study indicate that people who suffer from STIs tend to occur in respondents aged at first sex 19-24 years as many as 138 people (8%) compared to age at first sex more than 25 years as many as 119 people (6.9%) and age at first sex 10-18 Years as many as 40 people (2.3%). According to Pandjaitan (2017) some teenagers rarely even have discussions about sexual health problems with their parents, so they consider it taboo to discuss them together. According Nirmalasari (2018) said young adults have a high risk of contracting STIs because they can have sexual relations with several people and often do not use condoms. According Gupta (2020) that educating adolescents about safe sexual practices, STIs, their modes of transmission, and contraception is the most effective way to curb this situation.

According to Nursyamsi (2017) said STIs and their complications are ranked in the top five disease categories for which adults seek health care. Infection with STIs can cause acute symptoms, chronic infections and serious delayed consequences such as infertility, ectopic pregnancy, cervical cancer and sudden infant and adult death. According to Tuntun (2018) said most of the STI sufferers in this study were in their productive period, where their sexual activity increased. High and uncontrolled sexual activity is the entrance to contracting STIs in that person. Some STIs will damage the internal reproductive organs if left untreated, even without causing symptoms such as pain, itching, or discharge.

4. Conclusion and Suggestion

Women of childbearing age who fall into the category of Sexual Transmitted Infections Symptoms are 297 with symptoms of STIs, namely genital discharge or dripping, foul-smelling discharge, foul-smelling discharge, redness or inflammation in the genital area, swelling in the genital area, genital sores, ulcers, genital warts and blood in the urine. Knowledge of STIs is an important part of the incidence of STIs in women of childbearing age; when women of childbearing age have good knowledge of STIs, they can prevent the incidence of STIs.

A relationship between the source for STI

knowledge: health professional ($p < 0.001$), knowledge of the source for STI knowledge: a religious institution ($p < 0.001$), male STI symptoms ($p < 0.001$) with sexual Transmitted infections symptoms with a p -value < 0.001 . A woman of childbearing age who has a partner with STI symptoms has a 26.088 times greater risk of suffering from an STI than a woman of childbearing age whose partner does not have STI symptoms.

Symptoms of STIs possessed by women of childbearing age are found by women of childbearing age who have had sex at the age of 19-24 years, even women of childbearing age who had their first sex at the age of 10-18 years. This age is still young enough to have sex so that they have a high risk of contracting an STI and can even damage the function of the reproductive organs. Symptoms of STIs possessed by husbands turn out to be a significant factor in the incidence of STIs; when a partner has an STI and has sexual intercourse with women of childbearing age, it will increase the risk of women of childbearing age suffering from STIs.

Religious leaders must be more intense in reminding women and men not to have free sex, especially during adolescence, because it can increase the incidence of STIs. Health workers must be more intense in providing information about STIs to the public to increase community participation in STI prevention, especially starting from oneself, from not having free sex to using condoms during sex to partners if they are suspected of STI symptoms. Every partner should have an STI disease checked if they have STI symptoms; if the partner is still in doubt, they can conduct further counseling to decide on continuing treatment. Family planning program through Generation planning must be more optimal by increasing the knowledge and awareness of teenagers daughters not to engage in free sex behavior from an early age to reduce the incidence of sexually transmitted infections.

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