Tracing the Tracks of Trichomonas vaginalis: A 2023 Investigation in Kupang's Sex Work Community

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ABSTRACT

Female Sex Workers (FSWs) often view their work as a more attractive option compared to unemployment. However, their high frequency of sexual activity places them at a significant risk for sexually transmitted infections (STIs). Trichomoniasis, caused by the protozoan Trichomonas vaginalis, is the most common non-viral STI worldwide. This study aimed to assess the characteristics of FSWs in Kupang City, determine the prevalence of Trichomonas vaginalis infection among them, and evaluate their knowledge regarding prevention practices and personal hygiene related to the infection. A descriptive research method was used. The results showed that out of 34 FSWs surveyed, 5 (14.7%) were infected with T. vaginalis. The study found that the majority of the FSWs were aged 32 years or younger (21 women, 61.8%), had a junior high school education (14 women, 41.2%), and were divorced (21 women, 61.8%). Most had their first sexual experience after the age of 18 (25 women, 73.53%) and began working as FSWs after the age of 25 (23 women, 67.65%). The majority had been working as FSWs for six years or less (22 women, 64.70%), served more than 15 clients per week (23 women, 67.65%), and earned IDR 2,674,000 or less per week (19 women, 55.88%). Additionally, 21 women (61.76%) reported using condoms, and 27 women (79.41%) regularly underwent health check-ups. Furthermore, 28 FSWs (82.36%) demonstrated good knowledge of Trichomonas vaginalis.

Keywords: Female Sex Workers, Trichomonas vaginalis, Urine

Introduction

Trichomoniasis is the most common non-viral sexually transmitted infection (STI) worldwide, caused by the protozoan Trichomonas vaginalis (Van Gerwen et al., 2019). Female Sex Workers (FSWs) often find their occupation more appealing compared to unemployment. However, FSWs are at a significantly higher risk of contracting sexually transmitted infections (Trisyanti et al., 2022). According to the World Health Organization (WHO), it was estimated that in 2020, trichomoniasis infections reached 156 million cases globally (WHO, 2022). The executive report on the development of STIs in the first quarter of 2022, covering the period from January to March, noted that in 12 regencies in Indonesia, there were 272 recorded cases of trichomoniasis (Director General, 2022). Trichomoniasis is particularly risky for individuals who frequently change sexual partners (Prihani et al., 2020). In April 2022, a study conducted in Bogor City on the examination of Trichomonas vaginalis in the urine of FSWs revealed that 22% were positive for infection (Trisyanti et al., 2022).

The transmission of T. vaginalis is highly heterogeneous and depends on several risk factors, including social status, age, hygiene practices, and high-risk sexual behavior, particularly among those who frequently change partners, which can spread various STIs (Tine et al., 2019), as well as access to health service interventions. The groups most at risk of infection with Trichomonas vaginalis include adolescents, individuals with high sexual activity, and those with poor personal hygiene. In Kupang City, no further research has been conducted on Trichomonas vaginalis. Given their high sexual activity, FSWs are at considerable risk of infection with Trichomonas vaginalis.

Research Method

The research method used was descriptive, utilizing data collection techniques such as questionnaires and microscopic examinations. This study was conducted in 2023. The population in this study consisted of Female Sex Workers (FSWs) spread across Kupang City. The sample used in this study was selected based on inclusion and exclusion criteria. The inclusion criteria were all respondents who identified themselves as Female Sex Workers. The exclusion criteria were Female Sex Workers who were above or below productive age, or individuals who were not Female Sex Workers.

Results and Discussions

1. Respondent Characteristic

The characteristics of the respondents in this study include age, education level, marital status, age at first sexual experience, age when becoming a Female Sex Worker (FSW), years of working as an FSW, number of clients, and the total number of respondents, which is 34 people. The respondent data can be seen in Table 1.

Table 1. Respondent characteristics

Variable		n	%
Age	< 32	21	61.8
	> 32	13	38.2
Education Level	No formal education	1	2.9

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	Elementary school	10	29.4
	Junior high school	14	41.2
	High school	9	26.5
Marital Status	Single	9	26.5
	Married	4	11.8
	Divorced	21	61.8
Age at First Sexual Experience	< 18	9	26.47
	> 18	25	73.53
Age when Becoming an FSW	< 25	11	32.35
	> 25	23	67.65
Years of Working as an FSW	< 6 years	22	64.70
	> 6 years	12	35.3
Number of Clients	< 15 clients/week	11	32.35
	> 15 clients/week	23	67.65
Weekly Income	< Rp. 2,674,000	19	55.88
	> Rp. 2,674,000	15	44.12

Table 1 explains that most of the respondents were 32 years old or younger, with a prevalence of 61.8%, with the youngest being 20 years old and the oldest 64 years old. The majority of respondents had completed junior high school (41.2%). Similar results were obtained from a previous study by Khairiyah conducted in the Jondul area of Pekanbaru. The majority of respondents (61.8%) were divorced, in contrast to Khairiyah's findings (2023), where most respondents were married, and Widyastuti's study (2023), where most respondents were single. Most respondents had worked as FSWs for six years or less, with the shortest employment being one year and the longest 26 years. Most respondents served more than 16 clients per week, above the average of 15 clients, with the lowest number of clients being one per week and the highest being 30. A majority (55.88%) earned more than Rp. 2,674,000 per week, with the lowest being Rp. 100,000 and the highest Rp. 4,500,000.

2. Respondents Knowledge Level and Preventive Behavior

Respondents' knowledge of Trichomonas vaginalis can be seen in Table 2 below. Out of the 18 questions provided, respondents, on average, were able to answer 14.

Table 2. Respondent's knowledge of Trichomonas vaginalis

KNOWLEDGE	N	%
Good	28	82.36
Poor	6	17.64

Based on Table 2, it is evident that the majority of respondents (82.36%) had good knowledge of Trichomonas vaginalis. According to a study by Ariasih (2020), most respondents had poorer knowledge compared to this study, where respondents were well-informed about Trichomonas vaginalis. Respondents were aware of sexually transmitted diseases, with condoms being a dual-protection method against both pregnancy and the transmission of

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Trichomonas vaginalis. Respondents' preventive behaviors regarding Trichomonas vaginalis are shown in Table 3 below.

Table 3. Preventive behavior for *Trichomonas vaginalis*

VARIABLE	YES	NO
Condom use	21	61.76
Regular health check-ups	27	79.41

Preventive behaviors include the use of condoms with clients and the respondents' habits of regularly undergoing health check-ups. Based on Table 3, most clients (61.76%) used condoms, and the majority of respondents (79.41%) regularly visited nearby health facilities for check-ups.
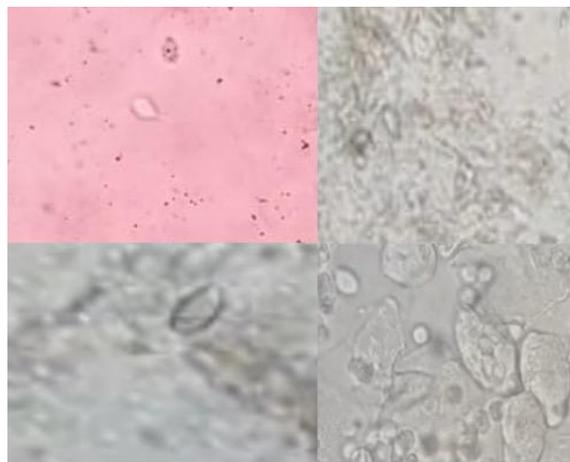
3. Trichomonas vaginalis Microscopic Results

Table 4. Incidence of Trichomonas vaginalis

VARIABLE	N	%
Positive	5	14.70
Negative	29	85.30

The proportion of respondents suffering from Trichomonas vaginalis was 14.70%, while 85.3% tested negative. Khairiyah's (2022) study showed that 17.14% of respondents tested positive. This discrepancy may be due to the fact that respondents in this study had good knowledge of Trichomonas vaginalis, and most Female Sex Workers took preventive measures such as condom use and regular health check-ups.

Picture 1. *Trichomonas vaginalis* (Primary Data)

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4. Discussion

The characteristics of the respondents in this study are largely consistent with previous research. Most respondents were aged 32 years or younger (61.8%), with the youngest being 20 years and the oldest 64. The majority had completed only junior high school (41.2%), and the most common marital status was divorced (61.8%). This finding contrasts with Khairiyah et al. (2023), where the majority of sex workers were married, and Widyastuti (2023), where most were single. The present study shows that most respondents had been working as sex workers for six years or less, served more than 16 clients per week, and earned more than Rp2,674,000 per week. Similar findings were noted in research by Prihani et al. (2020), where frequent client turnover was linked to higher STI risks due to inconsistent condom use.

Regarding knowledge and prevention behaviors, the study found that 82.36% of respondents had good knowledge about

Trichomonas vaginalis. This is higher than in the study by Ariasih (2020), where many sex workers lacked awareness of the infection. In terms of prevention, 61.76% of respondents in the current study reported using condoms regularly, while 79.41% routinely sought health checkups. This proactive behavior may account for the relatively low prevalence of T. vaginalis (14.7%) compared to other studies, such as Khairiyah et al. (2022), which reported a prevalence of 17.14%. Furthermore, global data from the World Health Organization (WHO, 2022) highlight the significance of regular health interventions in reducing infection rates.

These findings underscore the importance of targeted health interventions among sex workers, particularly in ensuring widespread access to condoms and STI education, which are key to reducing T. vaginalis prevalence (Prihani et al., 2020).

Conclusion

Conclusions explaining about research findings that are in accordance with the objectives of the study. In conclusion, this study highlights that the majority of Female Sex Workers (FSWs) in Kupang are younger than 32 years old (61.8%), with a significant portion having completed only junior high school (41.2%). A notable percentage (61.8%) are divorced, and most had their first sexual encounter after 18 years of age (73.33%). Many FSWs entered the profession after the age of 25 (67.65%), worked for six years or less (64.70%), and served more than 15 clients per week (55.88%). Despite their high-risk occupational environment, the prevalence of Trichomonas vaginalis infection among FSWs was found to be relatively low at 14.70%, with only 5 of 34 respondents testing positive. This low prevalence can be attributed to the high level of

awareness about personal hygiene and preventive measures, as demonstrated by 82.36% of respondents possessing good knowledge of T. vaginalis. Additionally, 61.76% of FSWs reported regular condom use, and 79.41% frequently sought healthcare services for routine check-ups. These results underscore the critical role that education and healthcare accessibility play in reducing the risk of sexually transmitted infections among high-risk populations, emphasizing the need for continued efforts in health promotion and preventive strategies for FSWs.

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