



## Factors Associated with the Use of HIV Screening in the PMTCT Program by Pregnant Women

Mardohar Tambunan<sup>1</sup>, Sorimuda Sarumpaet<sup>2</sup>

<sup>1,2</sup>Department of Public Health, Universitas of Sumatera Utara, Medan, Indonesia

### Article Info

#### Article history:

Received mm dd, yyyy

Revised mm dd, yyyy

Accepted mm dd, yyyy

#### Keywords:

HIV Counseling, HIV testing, Pregnant Women

### ABSTRACT

The Government continues to expand the number of VCT services (KTHIV) in order to increase HIV testing coverage, as mandated by Ministry of Health Decree No. 74 of 2014 on the implementation of HIV counseling and testing guidelines. The purpose of this study is to ascertain the factors that influence the use of HIV testing in health centers participating in the PMTCT program in the City of Medan in 2015. Method: The study used an observational design in conjunction with explanatory research and a purposive sampling technique. This research sampled as many as 91 pregnant women's. The results of this study will be analyzed multivariate using the multiple logistic regression test. Result : The findings indicate that employment of pregnant women ( $p = 0.031$ ), knowledge ( $p = 0.001$ ), attitude ( $p = 0.001$ ), and family support ( $p = 0.003$ ) are all associated with pregnant women's actions during HIV examinations. Pregnant women's employment ( $p = 0.027$ ), knowledge ( $p = 0.039$ ), attitude ( $p = 0.004$ ), and support from health care providers ( $p = 0.023$ ) all influence the steps pregnant mothers take to obtain an HIV test. The primary factor preventing pregnant women from conducting HIV tests at the Padang Bulan public health office is their negative attitude toward HIV testing ( $Exp = 7.167$ ). Conclusion: The research findings indicate that Padang Bulan public health office prenatal care and HIV testing services should be enhanced. Padang Bulan public health office makes people feel at ease and cared for, which is why those who have previously used the prenatal care and HIV testing services will return to perform the examination. As a responsible program, the Medan City Health Department's Prevention of HIV Transmission from Mother to Child should establish collaborations with non-governmental organizations (NGOs) that work on HIV / AIDS.

*This is an open access article under the [CC BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.*



### Corresponding Author:

Mardohar Tambunan,  
Department Of Public Health,  
Universitas of Sumatera Utara Medan

## 1. INTRODUCTION

HIV/AIDS is an infectious disease caused by infection with the Human Immunodeficiency Syndrome Virus, which attacks the immune system. Due to the fact that the infection results in a decrease in the patient's body resistance, it is extremely easy for the patient to contract additional diseases. Prior to entering the AIDS phase, the patient was diagnosed with HIV. HIV/AIDS is a public health problem that is inextricably linked to a variety of sociocultural issues. (Kementrian Kesehatan Republik Indonesia, 2018). The government continues to expand HIV Counseling and Testing (KTHIV) services in order to increase HIV testing coverage under the Minister of Health of the Republic of Indonesia's Regulation No. With the HIV Counseling and Testing (KTHIV) service, it is hoped that more people will become aware of their HIV status and will be able to access necessary additional services immediately (Kementrian Kesehatan Republik Indonesia, 2018; Nyoko, 2016)

## 2. RESEARCH METHODE

The sample of this study was partly pregnant women who did a pregnancy check at the Padang Bulan Health Center because Padang Bulan Health Center has an STI clinic and has a PMTCT program for HIV testing in pregnant women. After the calculations as above, the sample size was obtained as many as 91 third trimester pregnant women at the Padang Bulan Health Center. The sampling method for this study was purposive non-random sampling at Padang Bulan Health Center, while the sample criteria in this study were; Third-trimester pregnant women, have you had a previous pregnancy test at a health service facility; willing to be interviewed.

The formula looks for the standard deviation using the equation below:

### 2.2 Data Standardization

Usually referred to as standardization of data, standardization of data is carried out when the variable being worked on contains large unit differences. Then it requires the process of standardizing data by transforming data (standardizing the original data before further analysis). Standardization is carried out on relevant variables into the form of Z-scores (Kementrian Kesehatan Republik Indonesia, 2018).

### 2.3 Cluster Analysis

Cluster analysis is a multivariate technique whose aim is to classify objects or cases (respondents) into relatively homogeneous groups, commonly called clusters. The objects or cases in each group tend to be similar to each other and are not the same as objects from other clusters. Cluster analysis is also called numerical classification or taxonomy (Supranto, 2004).

a. Hierarchy Method

The method of grouping two or more objects / data that has the closest similarity and the process is continued to other objects / data that have a second closeness (Rencher, 2002).

According to Machfudhoh (2013) states that the agglomerative method in the clustering hierarchy method is divided into several methods, namely:

1. Single Linkage
2. Complete Linkage
3. Average Linkage
4. Median Method
5. Ward Method
6. Centroid Method

b. Non Hierarchy Method

The non-hierarchical method is called the k-means method. This method begins by determining the number of clusters or groups desired (two or three clusters). If the number of clusters is known, then the object of observation is combined into the cluster.

#### 2.4 K-Means Clustering

The steps in the k-means clustering method are as follows:

1. Determine the number of clusters / k objects randomly (Madhulata, 2012).
2. Determine the initial centroid value (cluster center point) randomly as many as k cluster.
3. Calculate the distance of each object / data towards the center of the cluster to each cluster, using the Euclidian Distance formula (Nugroho, 2008).

The advantage of this method is that the distance between two objects / data will not be disturbed by the existence of new objects which are outliers. However, the distance can be affected by differences in the scale between dimensions where the distance is calculated (Dibya Jyoti Bora, 2014).

4. Allocate data into the minimum cluster center.
5. Iterate / repeat, then determine the position of the center of the new cluster.

6. Then if the cluster center point does not change again, the cluster process is complete, but if there is still data that moves the cluster, it is repeated again to step

### 3. RESULT AND ANALYSIS

#### Descriptive Analysis

**Table 1 Relationship Between Employment and Actions of Pregnant Women in Conducting HIV Tests**

Variable	P	PR	PR 95% CI
Working	0,031	1,611	(1,040-2,493)
Knowledge	<0,001	2,418	(1,431-4,086)
Attitude	<0,001	3,555	(1,562-8,084)
Family Support	0,003	0,442	(0,235-0,834)

This study indicates that work, knowledge, attitudes, and family support are related to the actions of pregnant women in carrying out HIV testing at the Padang Bulan public health center.

### 4. DISCUSS

In Indonesian culture, obese/fat children are considered cute. They even believe that obese children are healthy and adequately fed. Parents do not consider obese children to be a health risk because they consider them normal and healthy children. Even in the mother's mind, obese children are considered overweight, not obese. Christiana (2018) research findings indicate that many teachers continue to believe that obese children are adorable; teachers are unconcerned about the obese child.

Based on the results of the study, it is known that more students have negative body images, namely 56.7%. Research conducted in Jakarta also showed that as many as 52.9% experienced body image distortion (Savitri, 2015). Sahputri (2015) research also shows that 52.5% of young women at senior high school 3 Cimahi have a negative body perception. This shows that there are still many students who have a negative body image. Research Widiarti (2016) shows that as many as 40.3% of teenage girls at Theresiana High School Semarang are dissatisfied with their body shape; some think their bodies are too fat and too thin. This shows that although the subjects already have an ideal body, they tend to judge their body size to be larger than their actual size. The same thing is also shown in Lingga's research (2014)

which states that most young women choose picture number 3 to image the ideal body shape.

Based on this, it can be concluded that for individuals who are still in their teens, the body image factor is an important factor that gets quite a lot of attention. As seen in every age of adolescent development, the body image of these young women tends to be negative. Early adolescent girls go through the stages of puberty accompanied by weight gain. In addition to weight gain, other stages experienced by young women are negative body images and the desire to manage their weight and do a diet program (Issom, 2018). Women in the late adolescent phase are not satisfied with their body shape, an attractive appearance is important, and they try to adjust their appearance to their social environment. Based on these studies, it can be concluded that body image gets serious attention for teenagers.

This shows that the perception of the ideal body for young women is the perception of the body that tends to be thin. The influence of the environment that considers a thin body is beautiful has influenced young women's perception towards the ideal body shape. Obesity is often identified with unpretentiousness, unattractiveness and inflexibility in activities. Young women choose pictures 1 to 5 to perceive the body shape expected by themselves. The images that young women mostly choose are images number 2 and 3. This is in line with Isnani (2014) research that the image that most students choose as their expected body is image number 3. This means that Most young women expect a body shape that tends to be thin. The nutritional status of SMP Negeri 13 Pekanbaru students is very thin as much as 1%, underweight nutrition as much as 7%, obese nutrition as much as 23% and obesity nutritional status as much as 10% (Fitriatun, 2019). Students with <normal nutritional status have a higher proportion in the diet group < 3 times a day (35.3%), compared to <normal nutritional status in the eating pattern group  $\geq$  3 times a day (22%) (Suhartini, 2017).

According to Putri (2015), who examined the factors related to female students' consumption patterns in Jakarta, there was no relationship between body image and female consumption patterns. The consumption patterns studied were the consumption of energy, protein and fat intake. There is no relationship between body image and food intake, which shows that the more negative the perception of adolescent body image is, the adolescents do not necessarily reduce their food consumption (Nisa, 2018).

## 5. CONCLUSION

Factors related to the actions of pregnant women in HIV testing at the Padang Bulan Health Center, namely the work of pregnant women, knowledge, attitudes, family support related. Factors that are not related to the actions of pregnant women in HIV testing at Padang Bulan Health Center, namely maternal age, maternal parity, family

income, education, availability of health services, perception of illness, symptoms of illness. Pregnant women's work, knowledge, attitudes, and support from health workers all influence their actions during HIV testing at the Padang Bulan Health Center. The most important factor influencing pregnant women's actions when it comes to HIV testing at the Padang Bulan Health Center is their attitude toward HIV testing (exp value () of 7.167).

## 6. REFERENCES

- [1] A. Y. ., A. R. Archana Singh. 2013. K-means with Three different Distance Metrics, *International Journal of Computer Applications*, vol. 67, no. 10.
- [2] Badan Pusat Statistik Republik Indonesia. 2010. Sensus Penduduk 2010. Sumatera Utara: Badan Pusat Statistik Provinsi Sumatera Utara
- [3] D. A. K. G. Dibya Jyoti Bora. 2014. Effect of Different Distance Measures on the Performance of K-Means Algorithm: An Experimental Study in Matlab, *International journal of computer science and 108 information technologies*, vol. 5, no. 2, pp. 2501-2506.
- [4] Ghozali, Imam. 2009. *Aplikasi Analisis Multivariate dengan Program SPS*. Semarang:UNDIP.
- [5] Johnson, R.A., dan Wichern, D.W., 2007. *Applied Multivariate Statistical Analysis*. 6th edition. pearson Education Inc United States of America.
- [6] Madhulatha, T.S. 2012. An Overview On Clustering Methods. *IOSR Journal of Engineering*, II(4), pp.719-25.
- [7] Nugroho, S. 2008. *Pengantar Statistika Matematika, Edisi Pertama*. UNIB Press
- [8] Rencher, Alvin C.,. 2002. *Method of Multivariate Analysis*. Canada: Simultaneously.
- [9] Rivani, E.,. 2010. Aplikasi K-Means Cluster Untuk Pengelompokan Provinsi Berdasarkan Produksi Padi, Jagung, Kedelai, dan Kacang Hijau Tahun 2009. *Jurnal Mat Stat*.
- [10] Supranto, Johanes. 2004. *Analisis Multivariat Arti Dan Interpretasi*. Rineka Cipta: Jakarta.