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# The Effect of Family Income, Knowledge and Cultural Value on Early Detection Behavior of Cervical Cancer

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***Abstract***
*Cervical cancer is a cancer with the highest prevalence in Indonesia. Visual Inspection with Acetic Acid (VIA) is effective for reducing mortality and morbidity associated with cervical cancer, but there are still many women of childbearing age who do not want to follow IVA examinations. The purpose of this study was to analyze the influence of family income, knowledge and cultural values on the behavior of early detection of cervical cancer using IVA method in Jatikalen Community Health Center, with case control design. The sample size was 70 women of childbearing age chosen by simple random sampling technique with comparison between case group and control group was 1: 1. Data were collected through interviews, filling out questionnaires and viewing medical records, then analyzed using Logistic Regression test. The results showed that all factors had an effect on the behavior of early detection of cervical cancer, with details: 1) family income, with p-value = 0.032 and OR = 0.214); 2) knowledge with p-value = 0.029 and OR = 3.56, 3) Cultural values with p-value = 0.019 and OR = 10128. Further concluded that family income, knowledge and cultural values are predictors of early cervical cancer detection behavior using the VIA method.*

***Keywords:*** *Cervical cancer, Cultural values, Family income, Knowledge, VIA examination.*

## I. INTRODUCTION

The prevalence of cancer in Indonesia was 1.4 per 1000 population, whereas cervical cancer was the highest prevalence of cancer was 0.8%, with the number of patients approximately 98,692 people (Balitbangkes Depkes RI, 2013). East Java Province was one of the provinces with the largest cervical cancer in Indonesia, with a prevalence of approximately 21,313 people (Pusdatin Kemenkes RI, 2015). In Nganjuk District, the incidence of cervical cancer tends to increase, there were 31 cases in 2015 and 52 cases in 2016. At Puskesmas Jatikalen, Nganjuk District, there were 2 cervical cancer patients in 2014, 0 patients in 2015 and 5 patients in 2016. In Nganjuk District, VIA examination with positive result in 2014 was 139 people, in 2015 was 55 people and in 2016 was 59 people. While in Puskesmas Jatikalen, VIA examination with positive result in 2014 was 19 people and in 2015 was 32 people.

The key to healing for all types of cancer is early detection. VIA (Visual Inspection with Acetic Acid) is one method of early detection of cervical cancer. VIA is a cervical cancer screening method performed by observing the cervix that has been covered with 3-5% acetic acid, to see any abnormality. Abnormal areas will change color with a firm limit to white (acetowhite) indicating the possibility of precancerous lesions (Depkes RI, 2010).

The purpose of this study was to analyze the influence of family income, knowledge of women of childbearing age about early detection of cervical cancer and cultural value on behavior of early detection of cervical cancer using VIA examination at Jatikalen Public Health Center, Nganjuk Regency, East Java Province, Indonesia.

## II. METHODS

The design used in this research was case-control. In this case, the positive effect (case) was the behavior of not following the VIA examination, while the positive risk factors were low family income, low knowledge and unsupportive cultural values. Referring to Sastroasmoro & Ismael (2011), in this research, tracing those three risk factors retrospectively, both in case group and control group, and then compared to the proportion. The case population was all women aged 25 to 49 years old who do not follow VIA examination at Jatikalen Community Health Center in 2016, with population size 2,946 people, control population were all women aged 25 to 49 years old who follow VIA examination at Jatikalen Community Health Center year in 2016, with a population size 218 people. The sample size was calculated by a special formula for a case-control study from Lemeshow (1990) cit. Sastroasmoro & Ismael (2011) was 35 people for case and 35 people for control. The sample was selected by simple random sampling technique.

Data on participation in VIA examination was obtained from the VIA examination report at Jatikalen Community Health Center in 2016, while data on risk factors were obtained through questionnaires and interview. The collected research data is categorical so that it refers to Nugroho (2014), then the data from each variable is analyzed descriptively using frequency which is equipped with proportion (percentage). Furthermore, the hypothesis testing using Logistic Regression test, also done the calculation of the risk of Odd Ratio (OR).

## III. RESULTS

Table 1. Influence of family income on behavior following VIA examination

| | | Behavior | |
|---|---|---|---|
| | | Not Follow the VIA | Follow the VIA |
| Family income | Low | 16 (45.71%) | 20 (57.14%) |
| | High | 19 (54.29) | 15 (42.86%) |
| | Total | 35 (100%) | 35 (100%) |

Table 2. Influence of knowledge on behavior following VIA examination

| | | Behavior | |
|---|---|---|---|
| | | Not Follow the VIA | Follow the VIA |
| Knowledge | Low | 5 (14.28%) | 0 (0.00%) |
| | Moderate | 22 (62.86) | 14(40.00%) |
| | High | 8 (22.86) | 21 (60.00) |
| | Total | 35 (100%) | 35 (100%) |

Table 3. Influence of cultural values on behavior following VIA examination

| | | Behavior | |
|---|---|---|---|
| | | Not Follow the VIA | Follow the VIA |
| Cultural value | Low | 12 (34.29%) | 2 (5.71%) |
| | High | 23 (65.71) | 33 (94.29%) |
| | Total | 35 (100%) | 35 (100%) |

Table 4. Summary of Logistic Regression Test Results

| Risk Factors | Coefficient | Odd Ratio | P-value | Interpretation |
|---|---|---|---|---|
| Family income | -1.544 | 0.214 | 0.032 | Significant |
| Knowledge | 1.296 | 3.653 | 0.029 | Significant |
| Cultural Value | 2.315 | 10.128 | 0.019 | Significant |

Table 4 shows that p-value for all risk factors was <0.05, so it can be interpreted that family income, knowledge and cultural values significantly influence the behavior for early detection of cervical cancer based on VIA. It appears that the factors that increased behavior did not follow VIA examination were high family income, low knowledge, and supportive cultural values.

## IV.DISCUSSION

The results showed that most of the women of childbearing age who did not follow VIA examination actually came from high-income families, and vice versa most of the women of childbearing age who followed VIA examination actually came from low-income families. This is not in accordance with Notoatmodjo's (2014) explanation that the availability of costs is one of the factors affecting the utilization of health services by the community. This could happen considering the cost of VIA examination has been borne by "*BPJS Kesehatan*" as an institution that provides health insurance for free. Thus, family income is no longer a factor determining the availability of costs in the family that ultimately determines the utilization of health care services by the community.

The results showed that low knowledge level proved to be a determinant for the behavior of women of childbearing age to ignore the VIA examination. So it can be said that the higher the level of education of women of childbearing age, they will increasingly have the opportunity to follow VIA examination. The results of this study are in accordance with the Kurniawati report (2015) which states that knowledge of women of child-bearing age influences the behavior to follow VIA examination in Public Health Centers.

Notoatmodjo (2014) has explained that knowledge is the result of one's recognition of an object through sensing the surrounding environment. Without knowledge, a person has no basis for making decisions and determines actions against the problems at hand. The process of receiving a behavior based on knowledge will be more lasting than behavior that is not based on knowledge (Notoatmodjo, 2007). Efforts to increase knowledge about cervical

cancer can be done in various ways such as counseling to mothers in religious groups, posyandu (integrated service post); Counseling to young women; And the establishment of reproductive health cadres in the community.

The results of the study indicate that non-supportive cultural values are the determinant of abandonment behavior against VIA examination. Thus, it can be argued that if cultural values are increasingly unfavorable, then women of childbearing age will increasingly have an opportunity to ignore VIA examinations. Conversely, if cultural values are more supportive, then they are more likely to follow VIA examination.

According to Clyde Kluckhohn cit. Muin (2013), value is a series of abstract concepts that live in society, about what is considered important and valuable, and about what is considered trivial and worthless in life. Thus, the cultural value associated with cervical cancer and VIA examination in Puskesmas Jatikalen is supporting a person to perform VIA examination. They argue that the health of reproductive organs is very important for women, so the health of these organs should be maintained.

Williams & Amoateng (2012) reported their research results in Ghana that a culture that does not support the "taboo culture" is a barrier to women of childbearing age to follow IVA examinations. Taboo in this case is to allow other people (health workers) to see their genitals.

## V. CONCLUSION

Based on the result of the research, it can be concluded that the behavior of women of childbearing age at Jatikalen Community Health Center, Nganjuk District to follow VIA examination is influenced by family income, knowledge level, and cultural value.

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