Factors Influencing Women in Pap Smear Uptake

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Abstract. Objective: Pap smear has proven can decrease death caused by cervical cancer. However, in Indonesia, only few woman who already did pap smear. The aim of this study was to investigate women’s knowledge about pap smear cervical cancer, and to investigate factors influence women to do pap smear test. Methods: Quantitative data collected through questionnaire towards 31 women who did pap smear and 55 women who did not do pap smear. Questionnaire was made using Health Belief model as a guideline to examine perceived susceptibility, perceived seriousness, perceived benefits and perceived barriers. Chi square and multiple logistic regression were used to investigate difference in knowledge and what the most factor that influence women to take pap smear test. Results: There’s significance knowledge difference between women who did and did not do pap smear. But furthermore, by using Multiple Logistic Regression test, apparently knowledge was not a strong predictor factor for women to take pap smear test (koefisien $\beta = -0,164$) Conclusion: Perceived barriers were factors that affected pap smear uptake in women in Indonesia. Few respondents get the wrong informations about pap smear, cervical cancer and its symptoms

1. Pendahuluan
Every year, there are 529,828 women all over the world who are diagnosed as having cervical cancer and 275,128 of them died because of the cancer.[1] (1) This makes cervical cancer as the second greatest cause of death due to malignancy after breast cancer. In Indonesia, it is found that there are additional 13,762 patients per year and as many as 7439 of them die because of the disease (2).[2] In developing countries, the number of deaths caused by the disease has been reduced since pap smear is found and applied as an early detection method towards cervical cancer. Most of the patients living in the Low and Middle Income Countries/LMICs are diagnosed as being in an advanced phase and it results in the decreasing life expectancy and the poor prognosis [3-7].

Several studies have been conducted to explore the causes of poor number of pap smear takers in developing countries. Women in Ethiopia even appeared to have lack knowledge and awareness about cervical cancer. They did not know about the causes and the symptoms caused by this disease. Moreover, most of them consider this disease appear as a result of taboo deeds and a violation towards social norms [8]. Some research conducted in Malaysia and Uganda found that there were so many women who did not take pap smear because they did not feel the existence of any cervical cancer. In addition, they also feel embarrassed to take such a check [9-10].

Indonesia, as one of developing countries, also experiences the same problem; that is the poor number of pap smear treatments that leads to a great number of cervical cancer patients which have
even been in an advanced phase. However, the study exploring the background causing it is still limited.

The aim of this study is to find out the factors that play roles when women take a decision to take or not to take pap smear by using Health Belief Model (HBM) as its theoretical framework. HBM is a theory which states that someone will do some health behaviors if he/she feels vulnerable to contract the disease (perceived susceptibility), thinks that the disease is serious (perceived seriousness) so that the person takes the health behaviors because they feel that they will give benefits (perceived benefits) and can ignore everything that can become an obstacle (perceived barriers).

2. Materials and Methods
This study is an analytical quantitative research involving 86 respondents from Bandung, Indonesia, which consist of 31 people who took pap smear (group A) and 55 people who did not take it (group B). The questionnaires distributed were questionnaires containing questions that can measure knowledge about cervical cancer and pap smear. In addition, it is also used the questionnaires compiled based on Health Belief Model which can measure women’s perceived susceptibility, perceived seriousness, perceived benefit, and perceived barriers towards cervical cancer and pap smear.

3. Results
Characteristics of respondents obtained from the collected data can be seen in the following table (Table 1):

| Age   | <25  | 25-35 | 35-45 | 45-55 | >55  | Last Education |
|-------|------|-------|-------|-------|------|----------------|
| Taking pap smear | 22.58% | 38.7% | 38.7% | 6.45% | 6.45% | SHS University |
| people | 7    | 12    | 12    | 2     | 2    |
| Not taking pap smear | 5.4% | 32.7% | 23.6% | 32.7% | 5.4% | 16.3% | 83.8% |
| people | 3    | 18    | 13    | 18    | 3    | 9   | 46    |

Based on the table, it can be seen that the respondents who took pap smear are in the age range of 25-55 years old and whose last education level is in university. The distribution in the group of respondents who did not take pap smears is more evenly. It exists in almost all age ranges. The distribution result of knowledge and perception towards cervical carcinoma and pap smear can be seen in the following Table 2.

Based on all respondents involved, almost all of them (90.7%) have the same perception towards the perceived seriousness of cervical carcinoma disease and most of them have a high perception towards the perceived benefits of pap smear treatment. Similarly, most of the respondents (89.5%) have great knowledge about pap smears and cervical carcinoma. The results obtained for perceived susceptibility between those whose high and low perception are a bit balance, that is 53.5% for the high perception and 46.5% for the low perception, while it gains 57% for the perceived barriers with high perception and 43% for those with low perception (See Table 3).
**Tabel 2.** The Distribution of Knowledge and Perception towards Cervical Carcinoma and Pap Smear among Respondents

| Pernyataan       | Total     |   |
|------------------|-----------|---|
|                  | N         | % |
| Perceived Susceptibility |          |   |
| Tinggi           | 46        | 53,5 |
| Rendah           | 40        | 46,5 |
| Perceived Seriousness |        |   |
| Tinggi           | 78        | 90,7 |
| Rendah           | 8         | 9,3 |
| Perceived Benefits |         |   |
| Tinggi           | 75        | 87,2 |
| Rendah           | 11        | 12,8 |
| Perceived Barriers |       |   |
| Tinggi           | 49        | 57,0 |
| Rendah           | 37        | 43,0 |
| Pengetahuan      |           |   |
| Tinggi           | 77        | 89,5 |
| Rendah           | 9         | 10,5 |

**Tabel 3.** The Differences of Perception and Knowledge Levels towards Cervical Carcinoma Disease between Employees who Took and Did Not Take Pap Smear

| Statements       | Taking Pap Smear | Not Taking Pap Smear | p*  |
|------------------|------------------|----------------------|-----|
|                  | N    | %  | N  | % |
| Susceptibility   |      |    |    |    |
| High             | 19   | 61,3 | 27 | 49,1 |
| Low              | 12   | 38,7 | 28 | 46,5 |
| Seriousness      |      |    |    |    |
| High             | 26   | 83,9 | 52 | 94,5 |
| Low              | 5    | 16,1 | 3  | 5,5 |
| Benefits         |      |    |    |    |
| High             | 29   | 93,5 | 46 | 83,6 |
| Low              | 2    | 6,5  | 9  | 16,4 |
| Barriers         |      |    |    |    |
| High             | 6    | 19,4 | 31 | 56,6 |
| Low              | 25   | 80,6 | 24 | 43,6 |
| Knowledge        |      |    |    |    |
| Great            | 31   | 100,0 | 46 | 83,6 |
| Lack             | 0    | 0    | 9  | 16,4 |

*p* chi square test

After conducting the bivariable analysis to the two groups, it was found that the differences only existed in perceived barriers factor with the value of p = 0,001. However, any significant differences were not found in the other factors (See Table 4).
Table 4. Factors that Play a Role in Determining Pap Smear Treatment for Cervical Carcinoma Disease among Employees Who Took and Did Not Take Pap Smear

| Model | Variable               | Coefficient β | Value p  | OR (95%CI)          |
|-------|------------------------|---------------|----------|---------------------|
|       | Knowledge              | -0.162        | <0.001   | 1.17(1.08-1.28)     |
|       | Perceived susceptibility | 0.430        | 0.503    | 1.54(0.43-5.41)     |
|       | Perceived seriousness  | -0.165        | 0.873    | 0.848(0.11-6.39)    |
|       | Perceived benefits     | 0.520         | 0.638    | 1.68(0.90-13.24)    |
|       | Perceived barriers     | 1.240         | 0.070    | 3.45(0.90-13.24)    |
|       | Constant               | 11.951        |          |                     |
| Final | Perceived barriers     | 1.260         | 0.037    | 3.52(1.08-11.54)    |
|       | Knowledge              | -0.164        | <0.001   | 0.85(0.78-0.92)     |
|       | Constant               | 13,117        |          |                     |

Table 4 shows that after conducting an analysis by using the Multiple Logistic Regression Test, it is shown that the factors played a role in determining the action to take pap smear are perceived barriers with beta coefficient value of 1.260 and OR value of 3.52 (95% CI = 1.08 to 11.54). This suggests that the study subjects with low perceived barriers give a chance of 3.52 times greater to take pap smear at p = 0.037. Besides, for the knowledge factor, although there are significant differences between the two groups, it has a smaller beta coefficient. That is -0.164, which shows the lower predictive value compared to perceived barriers in giving effect to the respondents to take pap smear.

4. Discussion
Since there is no significant difference of knowledge acquired by both women who did and did not take pap smear, it seems that conducting further study regarding what kind of understanding which can encourage women to take pap smear is necessary. It would be useful for creating an effective media campaign which can encourage women to take pap smear.

Based on this research, it seems that HBM cannot describe the health behaviors of Indonesian women. It is necessary to look for another more relevant theory of behavior to describe, predict, and intervene health behaviors that can be applied in Indonesia.

5. Conclusion
It is recommended that this study be followed up by using another method which is more thorough, which can explore the social or cultural background and some other supported data to investigate the factors inhibiting women to take pap smear.

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