



Cervical Cancer and Its Impact on Patients Quality of Life in Fatimah and Labuang Baji Hospitals, Makassar

Buraerah H. Abdul Hakim^a, Andi Ummu Salmah^{b*}, Atjo Wahyu^c, Muh.
Ikhsan^d, Tahir Abdullah^e

^{a,b,d} *Biostatistics and Demographic Department, Faculty of Public Health, Hasanuddin University*

^c *Department of Health Occupational and Safety, Faculty of Public Health, Hasanuddin University*

^b *Email: andiummuslmh@yahoo.com*

Abstract

The incidence and mortality rate from cervical cancer ranks to top second only to breast cancer in the world. Meanwhile, in developing countries it still tops the list as a cause of cancer deaths in the reproductive age. Every day in Indonesia, there are 40 women diagnosed and 20 women die from cervical cancer. This study aims to identify the most dominant factors influence the incidence of cervical cancer and its impact on patient's quality life. The study was a cross-sectional study with 97 respondents in Fatimah and Labuang Baji Hospitals, Makassar. Laboratory method used is a pap smear. Results then tested using a logistic regression. Of the 12 independent variables it was found that the most dominant factor in influencing the occurrence of cervical cancer is early sex (married at age ≤ 20 years), whereas the unpaired t test found that the quality of life in patients with cervical cancer is lower than those non-sufferers of cervical cancer. This study concludes that there is an effect of age on the incidence of cervical cancer, which ≥ 35 years of age is a risk factor of cancer. Then, effect of age of first marriage / early sex on the incidence of cervical cancer, which ≤ 20 years of age is a risk factor for cervical cancer. It is suggested that needs more information to socialize on the maturation age of marriage in society, fertile couples (EFA) > 35 years and evaluation of hormonal contraception.

Keywords: Early sex; cervical cancer; quality of life.

* Corresponding author.

1. Introduction

Cervical cancer disease impacts a broad psychosocial both for patients and their families. According to [1], in 2000 approximately 80% of cervical cancer in developing countries, namely in Africa around 69,000 cases in Latin America around 77,000 cases, and in Asia around 235,000 cases. Reference [2] said that every year in the world there are 490,000 women diagnosed with cervical cancer. Eighty percent occur in developing countries, and 240,000 of them died [3]. According to data from the Directorate of Medical Services Department of Health (2008) [4], cervical cancer became the number one killer of women in Indonesia. In fact, for those who survive, the disease is still left a deep sadness and pain on their lives. Every day in Indonesia, there are 40 women diagnosed and 20 women die from cervical cancer. Based on data from the Hospital Information System, 2007, approximately 5786 cervical cancer cases, or 11.78 per cent, and the increase of the number of cases in 2006 were just about 4,696 cases or 11.07 percent.

Health Profile 2010 states that the indicators of cervical cancer is 19.70% per 10,000 population. Based on the report from the program by Subdivision Registration cancer Oncology Department of Obstetrics and Gynecology reported, since 2000 to 2009 there was an increase of new cases of cervical cancer that comes checked at the Dr. Wahidin Sudirohusodo hospital i.e., 48 patients (in 2000) to 135 patients infected in 2009 [5]. Most of the patients with cervical cancer at an advanced stage. Several factors are thought to increase the incidence of cervical cancer is that socio demographic factors including age, socioeconomic status, and sexual activity factors include age of first sex, sex couples alternated, parity, lack of genital hygiene, smoking, history of sex disease, chronic trauma to the cervix, and oral contraceptive use in long term that is more than 4 years [6].

From several studies found that cervical cancer is often found at the age between 30-60 years where the highest incidence at age of 40-50 years, and will decrease significantly after age of 60 years (Parson). Meanwhile, according to Bendson, cervical cancer found in the average age of 45 years, then Davis and many other researchers suggested in 1000 per 100,000 of intra epitalia cancer found in women 30-45 years old [7]. Early sex is one of the triggers factor of cervical cancer development. From the results of a survey conducted in 2008 suggested BKKBN 63 percent of adolescents in several major cities in Indonesia have premarital sex (Healthy Sex, 2010). Furthermore, mutual couple can increase the risk of cervical cancer cases. In a study conducted by Professor Anna-Barbara Moscicki and colleagues. the risk of infection with the human papilloma virus (HPV) will increase tenfold every time when woman have sex with a smell partner in a month [8].

Parity factors also played a role in the high incidence of cervical cancer. In a study reported that the prevalence of parity cervical cancer is highest in the 45-65% 4-6 [9]. [10] reported that more than 3 parity is a risk factor for cervical cancer. While the multicenter study by IARC get more parity or equal to 7 risk of cervical cancer increased 4 times compared to mullipara [11]. Cervical cancer increased from 48 cases in 2000 to 192 cases in 2010 (Medical Record Data Hospital Dr. Wahidin Sudirohusodo, 2011) and the high number of deaths from cervical cancer which according to the Indonesian Cancer Foundation data reveals that cervical cancer kills every one hour a women in Indonesia. The factors that affect the incidence of cervical cancer are age, a slow detection, history of venereal disease, smoking, early age sex, genital hygiene, parity, family planning,

hormonal, genetic, circumcision couples, and sexual mitra. With increasing cases of cervical cancer in Indonesia each year then this will also have implications on the quality of life for patients with cervical cancer. Based on the facts above, the researcher considers that this issue is important for further investigation for the improvement of the quality of life, especially in decreasing the number of cervical cancer disease among the communities.

2. Material and Method

This study is an observational analytic applied a cross sectional study design to assess determinants factors of the incidence of cervical cancer and its impact on quality of life of patients. The population in this study were all patients who come for treatment in the Obgyn RSIA Fatimah Makassar during the last 3 months of the study sample of 2013 amounted to 97 respondents. Samples were taken by systematic random sampling technique. Multivariate analysis, which is to look at the relationship between one dependent variable with all independent variables, so it can be known independent variables most dominant effect on the incidence of cervical cancer by Logistic Regression. Multiple Logistic Regression is done through several steps to get the value of $p < 0.05$ in each independent variable that affecting the cervical cancer occurrence. Simultaneous analysis of several variable factors to an outcome can be achieved by logistic regression. Multivariate analysis aims to obtain the best model in determining the dominant variable affecting the cervical cancer incidence.

3. Results

3.1 Multivariate analysis

Multivariate analyzes were performed for several variables that affect the cervical cancer incidence. Multiple logistic regression aims to find the most dominant risk factor significantly associated with the incidence of cervical cancer in Fatimah and Labuang Baji Hospital, Makassar. Nevertheless for multivariate analysis using logistic regression considered by most experts to build a research hypothesis (hypothesis-generating research), which means that the results of the multivariate analysis can be used as a background for developing new research that tested the association between the independent variables and the dependent variable by design research more simple and focused.

Then obtained the final model of logistic regression equations to determine the factors that most influence the incidence of cervical cancer. The results of the logistic regression cannot be directly interpreted as the value of the coefficient of linear regression. Interpretation can be done by looking at the value of $\exp(B)$ (odds ratio estimated value) or the value of the exponent of the coefficient of the regression equation is formed. Overall this model can predict the large / small, high / low influence of factors that exist in relation to cervical cancer was 92.8%. So from the results of the logistic regression can be concluded that the most influential variables in the occurrence of cervical cancer are early age sex.

3.2 Quality of Life

In this study, the questionnaire sheets are containing 24 questions of the quality of life of patients with cervical cancer. There are four domains namely physical health, psychological health, social health and environmental

health; each will be examined below. The higher score to a domain, the better the quality of life based on the domain.

Table 4 shows that the average value of physical health in patients who do not suffer from cervical cancer was 23.71 while cervical cancer is at 21.41. On average psychological health scores in patients who do not suffer from cervical cancer is at 19.96 while in patients suffering from cervical cancer an average score of psychological health is at 16.76. On average social health scores obtained in patients who do not suffer from cervical cancer is at 10.40, while in patients suffering from cervical cancer gained an average of 8.47. In environmental health, the average scores in patients who do not suffer from cervical cancer is at 27.59 while in patients suffering from cervical cancer the average score obtained is equal to 25.35. From the results of statistical tests showed that the four dimensions of quality of life is meaningful because the value of $p \leq 0.05$ which means that there is a difference in scores of physical health, psychological health, social health, and environmental health in patients suffering from cervical cancer with patients who do not develop cervical cancer.

Table 5 shows that the average value of the quality of life in patients who do not suffer from cervical cancer was 81.66 while cervical cancer is at 72.00. From the results of statistical tests showed that quality of life is meaningful because the value of $p \leq 0.05$ which means that there are differences in quality of life scores in patients with cervical cancer patients who do not develop cervical cancer.

4. Discussion

Based on the data obtained from the processing of information on the incidence of cervical cancer and RSIA Fatima Hospital Makassar Labuang wedge is equal to 21.3%.

Table 1: Results of Logistic Regression Analysis of Factors Affecting Occurrence cancer cervix in Fatimah and Baji Labuang Hospital, Makassar.

Variables	B	P values	OR
Respondent Age (≥ 35 year)	2.197	0.039	8.998
Age of early seks (< 20 year)	2.750	0.007	15.638
Parity (> 3 time)	19.361	0.997	25
Infection (ever suffered)	1.539	0.099	4.660
Genitalia clean (not meet the personal hygiene)	2.329	0.032	10.273
Constant	-25.485		
Overall Percentage	92.8		

Table 2: Dimensions of Patients Quality of Life Scores with Cervical Cancer and Not Cervical cancer in Fatimah and Labuang Baji hospitals, Makassar 2013

No.	Patient	Physical health					p
		n	Minimum	Maximum	Mean	SD	
1.	Cervix cancer	17	15	26	21.41	3.73	0.025
2.	≠ Cervix cancer	80	18	30	23.71	2.51	
No.	Patient	Psychologies health					P
		n	Minimum	Maximum	Mean	SD	
1.	Cervix cancer	17	12	21	16.76	3.01	0.000
2.	≠ Cervix cancer	80	16	27	19.96	2.53	
No.	Patient	Social health					p
		n	Minimum	Maximum	Mean	SD	
1.	Cervix cancer	17	5	13	8.47	2.35	0.001
2.	≠ Cervix cancer	80	7	15	10.40	2.07	
No.	Patient	Environmental health					p
		n	Minimum	Maximum	Mean	SD	
1.	Cervix cancer	17	20	33	25.35	4.23	0.050
2.	≠ Cervix cancer	80	22	35	27.59	2.60	

Table 5: Quality of Life Scores Patients with Cervical Cancer and Cervical Kaknker Not Suffer in RSIA Fatimah and hospitals Labuang Wedge in 2013

No.	Patient	Quality of life					p
		n	Minimum	Maximum	Mean	SD	
1.	Cervix cancer	17	56	82	72.00	6.86	0.000
2.	≠ Cervix cancer	80	68	92	81.66	5.22	

4.1 Factors affecting the incidence of cervical cancer

4.1.1 Age of the respondents with the incidence of cervical cancer

Results of cross tabulation between age of the respondents with the incidence of cervical cancer is known that the number of respondents by age group ≥ 35 years who suffered from cervical cancer is a total of 14

respondents (25.0%) compared to respondents who were age <35 years were 3 respondents (7.3%). Based statistical chi-square test is known that there is a relationship between age of the respondents on the incidence of cervical cancer with a value of $P < 0.05$. Where age ≥ 35 years increased the risk of cervical cancer was 1,236 times greater than the age <35 years.

The results of this study are supported by research conducted by Rosilawati, Bela, and Indarti in Obstetrics and Ginkologi, RSCM Jakarta in 2007, that the HPV infection by age group in this study are more prevalent at age 30 years and over. Cervical cancer is rare in women under 30 years. In most women at that age are infected with HPV, the virus will be lost because of a good immune response before the process occur of transforming normal cervical cells become cancerous. Age is an important factor in the occurrence of cancer. Most cancers are more common in the elderly. The risk of cancer is increased twofold after 35 to 60 years of age. Increased risk of cancer in the elderly is a combination of the rising and increases the length of time of exposure to a carcinogen and a weaker immune system due to age [12]. Young adulthood, which is between 18 to 40 years is often associated with fertility. Healthy pregnancy most likely to occur and are of childbearing age in the tread career. In this period of change with the health problems of pregnancy disorders, chronic fatigue due to caring for children, and career demands. Obesity, cancer, depression, and certain serious diseases start to develop at this age [13].

In addition, it is also supported by [6], age > 35 years have a high risk of cervical cancer. The older a person, the more increased the risk of uterine cancer bearing. Increased risk of cervical cancer in the elderly is a combination of the rising and increases the length of time of exposure to a carcinogen and a weaker immune system due to age. Therefore, we recommend that women aged ≥ 35 years are encouraged to make an early inspection, especially for those who are married.

4.1.2 Early detection of the respondents with the incidence of cervical cancer

Results of cross tabulation between the early detection of cervical cancer cases can be seen that of the 17 respondents who suffered from cervical cancer, there were 16 respondents (25.0%) the detection of the cancer is slow or when the inspection is done at the stage of the cancer has advanced. While still in the early stages of cancer or pre-existing one respondent (3.0%). Statistical tests were used to determine the relationship of these two variables is a chi-square test. From the results obtained that the value of $p < 0.05$ which means that there is a relationship between the incidence of slow detection of cervical cancer. Early detection of cervical cancer incidence in yourself is very important because it can prevent the occurrence of cervical cancer. From the analysis of the statistical test showed that respondents who never made an early inspection or examination earlier but was too late to have 1,293 times greater risk compared with those who routinely perform early detection (pap smear).

This is in line with research conducted by [14] in Subdivision Oncology and Gynecology Faculty of medicine / RSCM, which states that most patients present at an advanced stage. Patients with stage IIB - IVB were 66.4%, mostly with stage IIIB is 37.3% or more than one third of cases. In addition, in Indonesia many cases of cervical cancer problems, exacerbated by a number (> 70%) of cases were already at an advanced stage when it comes to

the Hospital [15]. From interviews conducted that of the respondents found that they do not do early checks because they consider themselves healthy, limited knowledge, inadequate access to information and even more so in those who are ill, prefer to go to traditional healers or people who considered to cure their diseases in their respective regions. This is reinforced by the opinions of Sjayhrul stating that, this happens because of the reluctance of women examined in shame. Other causes are hassles, no doubt of the importance of examinations, lack of knowledge about the importance of the examination, the examination results are afraid of reality to be faced, fear of feeling pain on examination, awe examined by male doctors and a lack of family encouragement, especially the husband. Seeing the large proportion of cervical cancer in patients who are late making a pap smear, necessitating an integrated team of cancer prevention from government, foundations of cancer, and the role of public health departments.

4.1.3 Smoking with the incidence of cervical cancer.

The results of the study were presented by cross-tabulation shows that of the 17 respondents who suffered from cervical cancer there were 16 respondents (22.5%) were smokers or passive active smokers and 1 respondent (3.0%) of them had no exposure to cigarette smoke. Of the statistical test used to determine the relationship between smoking and the incidence of cervical obtained p value of <0.05 , so the null hypothesis is rejected, which means that there is a relationship between smoking behavior with the incidence of cervical cancer. These results are in line with research conducted by the Karolinska Institute in Sweden and published in the British Journal of Cancer in 2001 According Joakam Dillner, MD., The researcher who led the research, nicotine substance "poison" that enter into the blood through the smoke smoking can increase the likelihood of cervical neoplasia condition or growth of abnormal cells in the cervix. "Cervical Neoplasia is the initial condition in the development of cervical cancer in a person's body". From several studies reported that the risk of cervical cancer will be higher in smokers compared to women who did not smoke [16] and inhale cigarette smoke or smoking is considered one of the etiologic factors of cervical cancer in which female smokers at higher risk for cervical cancer.

The results of the research in RSIA Labuang Baji Hospital Fatimah and Makassar respondents generally do not smoke, and it is known that the Indonesian people, especially South Sulawesi not female smokers, but they are only exposed to cigarette smoke. Besides cigarettes cause lung disease and heart disease, nicotine content in cigarettes also usually lead to cervical cancer, where the nicotine makes membranes for passed by carcinogens.

In addition, good tobacco smoked as a cigarette or chewed containing material while smoke carcinogens produce nitrosamines heterocyclic polycyclic aromatic hydrocarbons that give bad influence on people who breathe well as active and passive smokers. A female smokers have nicotine in cervical lymph concentration 56 times higher than in the serum [17]. Therefore you should provide information about the dangers of smoking on cervical cancer is not only given to people but also given to other family members. Judging from the findings that the proportion of patients with cervical cancer more as passive smokers.

4.1.4 Age sex with the incidence of early cervical cancer

Results of cross-tabulation between the age when having sex with the incidence of cervical cancer showed that of 17 respondents who suffered from cervical cancer among 14 respondents (53.8%) to have sex at an early age <20 years, while 3 respondents (4.2%) had sex the first time at age ≥ 20 years old. Based on chi-square statistical test between early sex with cervical cancer incidence showed p value of <0.05, means that the null hypothesis is rejected. So it can be concluded that there is a relationship between early sexual behavior with the incidence of cervical cancer in RSIA Labuang Baji and Hospital Fatimah Makassar. Furthermore, from this cross-tabulation found that the age of first marriage <20 years increased the risk of cervical cancer by 2075 than was first married age ≥ 20 years. The results of the study in line with research has been conducted by [18], that the age of first marriage is a risk factor for cervical cancer with a 2.54 times greater risk to develop cancer of the cervix in women who carry out the marriage at age <20 years compared with marriage at the age of > 20 years. Age at marriage <20 years closely associated with sexual activity. This result is supported by research conducted by Dr. Silvia Francheschi in 2010 in England with a sample of 20 thousand women. From the results he mentions that the risk of cervical cancer is higher in women who had sexual intercourse at age 20 than at age 25 years. Various studies show that there is a significant relationship between pre-cancerous lesions and cervical cancer with sexual activity at an early age, especially before age 20 years. This may be related to the histone complement the cement that acts as an antigen, the maturity of the immune system, especially cervical mucosa alone, vulnerable time opportunity to change sexual partners were associated with risk of infection. The risk factors associated with carcinogens in the transformation zone of the developing and least dangerous when infected with HPV at 5-10 years after menarche. Women who married at age <20 years at risk for cervical cancer, because at that age the cells of the cervix is not ripe. Uterine exposure to the Human Papilloma Virus (HPV) will result in the growth of aberrant cells become cancerous. Cervical consists of two layers of the squamous and columnar epithelium, the epithelium occurs both connections active growth, especially at a young age. Columnar epithelium will turn into squamous epithelium. These changes called metaplasia, if HPV stick, aberrant changes become dysplasia which is the beginning of cancer [19].

Relations or sexual contact before age 17 years to stimulate the growth of cancer cells in the female womb tool, in the age range 12 to 17 years of changes in cervical cells more active. When cells are actively dividing (metaplasia) should not happen any contact or stimulation from outside. Including injus (influx) of foreign objects in the body of women. The presence of a foreign body, including the male genitalia and sperm cells, will lead to the development of abnormal cells in the direction. Infection in the uterus easily happen if injuries occur as a result of the entry of foreign objects. Abnormal cells in the cervix can lead to cervical cancer. Cervical cancer affects women content tools originated from the cervix and the risk of spread to the vagina to the outside on the surface [20] Hence needs to be disseminated to the reproductive health of adolescents and their parents.

4.1.5 Parity with the incidence of cervical cancer

From the results of data collection and processing are then tabulated showed that of the 17 respondents who suffered from cervical cancer of which there are 17 respondents (35.4%) who experienced pregnancy three times greater than either born alive or stillborn and no respondents who gave birth to under three times. Statistical tests were used to determine the relation is chi-square test. From the results of chi-square test between parity with the incidence of cervical cancer indicates that the p value <0.05 which indicates that there is a

relationship between the incidence of cancer serviks parity. Group of cases with more than 3 parity is as high as much as 35.4%. Based on chi-square statistical test known that parity ≥ 3 times increased risk of cervical cancer was 1,548 times greater than the parity <3 times. This study is in line with research conducted by Mega Reuters, Suwiyoga, and Suastika in 2005 in Sanglah Hospital, which states that in 96.0% of cervical cancer found that multiparity is $3.60 \pm 2:16$ where the parity of the lowest and the highest is ten parity. Meanwhile, according Joeharno (2008), that parity is a risk factor on the incidence of cervical cancer by 4.55 times greater risk of developing cervical cancer in women with parity ≥ 3 compared women with parity <3 Women with high parity associated with the occurrence of eversion columnar epithelium of the cervix during pregnancy which causes the new dynamics of immature metaplastic epithelium which may increase the risk of cell transformation as well as trauma to the cervix resulting in persistent HPV infection.

This is evidenced in a cohort study which found that HPV infection is more easily found in pregnant women than non-pregnant. In addition, the decline in cellular immune pregnancy [21,22].

Other researchers also stated that in pregnancy, progesterone can induce HPV oncogenes become unstable resulting in integration of viral DNA into the host cell genome and mucosal immunity lowers the transformation zone [23]. In addition, the risk of pregnancy, the occurrence of infection and progression of infection associated with higher cervical eversion due to the influence of estrogen. That parity is a risk factor on the incidence of cervical cancer by 4.55 times greater risk of developing cervical cancer in women with parity <3 compared women with parity ≥ 3 . It is also in accordance with the opinion that the nullipara Green can also cervical cancer not only in multiparous which can increase the risk of cervical cancer. Of elements of culture in Indonesia, especially in South Sulawesi themselves that they believe a principle stating "a lot of kids a lot of luck". Chances are this is what lies behind them to have that many children. In addition, factors that influence more knowledge about this because most of the respondents were from villages in South Sulawesi. It is therefore recommended to the Department of Health and institutions / agencies to be more effective in carrying out programs related health parity.

4.1.6 The use of contraceptives with cervical cancer incidence

Results of cross-tabulation between the use of contraceptives with cervical cancer incidence among 17 respondents indicate that there are six respondents (40.0%) were using hormonal contraception over 4 years and 11 respondents (13.4%) were using hormonal but under 4 years who use contraception or non-hormonal. Based on chi-square statistical test between the use of contraceptives with cervical cancer incidence obtained value of $p < 0.05$ which means that the null hypothesis is rejected. So it can be concluded that there is a relationship between the use of contraceptives with cervical cancer incidence. From these results also found that hormonal contraceptive use in the long term ie ≥ 4 years increases the risk of cervical cancer was 1,443 times greater than the hormonal contraceptive use / non-hormonal <4 years.

This research is consistent with studies conducted by [24] at Hospital Dr. Moewardi Surakarta with the results obtained by the relationship between contraceptive use with the incidence of cervical cancer by a factor of 0.20 times the risk. And a statement Megadhana, that oral contraceptives are used in the long term more than 4 years

may increase the risk of cervical cancer by 1.5-2.5 times. The relative risk in the use of oral contraceptives was 1.19 times and increased with duration of use. Women users of birth control pills should undergo routine Pap smear (at least 1 time / year), in addition to the female birth control pill users have an increased risk of ovarian cancer is lower. Oral contraceptives are widely used today is generally a combination of estrogen and progestin. Approximately 100 million women worldwide use combination oral contraceptives. The combination pill has a high effectiveness in preventing pregnancy is about 5 of 100 women using combination pills and 1 in 100 women who use oral contraceptives with perfect pregnancies per year [25].

Oral contraceptives can be shaped pill combination, sequential, mini or post-coitus and reversible. Combined oral contraceptives are a mixture of synthetic estrogens such as ethinylestradiol and one of several C19 steroids such as progesterone activity noretindron. This contraceptive containing estrogen and progesterone doses were fixed. The use of estrogens can be risky because it stimulates the thickening of the endometrial wall and stimulate endometrial cells that turn into cancer properties. The use of estrogen in the supervision of a physician in order to be given an anti-cancer as well, so it does not develop into cancer [26].

4.1.7 Change of sex partners with the incidence of cervical cancer

The results of the study were presented with a cross-tabulation between behavior change partners with the incidence of cervical cancer showed that of 17 respondents who suffered from cervical cancer of which there are 2 respondents (66.7%) who never change partners, which from this study only those who claimed to have been married twice and 11 respondents (13.4%) who never change partners. Women who frequent sexual intercourse and frequent change of partners is a factor in the serviks cancer. The results of the chi-square test between behavior change partners with the incidence of cervical cancer obtained p values > 0.05 which means that the null hypothesis is accepted. It can be concluded that there is no relationship between the change of partners with the incidence of cervical cancer. This result is not consistent with studies conducted in 2008 [27] in Adam Malik Hospital in Medan, which states that there is a correlation between changing partners with cervical cancer incidence with p: 0.020 and 0.6 times the prevalence rate ratio (relay of the pair is a risk factor cervical cancer). According Maphta, the largest proportion of the marriage frequency (97.2%) and the smallest is > one time and are also found in the never married (61.4%). This is consistent with research on marriage Elisabeth largest proportion of 1 times (97.8%).

From the results of research carried out in RSIA Fatimah and Baji Labuang City Hospital of Makassar that number of couples who answer never changed the amount is very small compared with the other groups. Unlike mentioned some theories and some research results. This is because the Indonesian people, especially women already married who, still holds a high cultural norms and which would be taboo when the pair have more than 1, also increases the risk of cervical cancer when dealing with men at high risk or who have kondoloma akuminatum.

But this is a weakness of researchers because it is a taboo for respondents to express sexual behavior husband or a big factor respondents ignorance about the husband who likes to have multiple sexual partners are at high risk of transmitting the virus papilloma of couples who suffer from cervical cancer.

4.1.8. Genital infection with cervical cancer incidence

The results of the research in RSIA Labuang Baji Hospital Fatimah and Makassar proportion of cervical cancer cases occur in the group of respondents who have or are suffering from genital infections there were 13 respondents (37.1%) while never experienced genital infections there are 4 respondents (6.5%). From the results obtained chi-square test value 0.000 (<0.05), means that the null hypothesis is rejected. So there is a difference can be concluded that a significant relationship between respondents who had experienced genital infection with the incidence of cervical cancer. With a mean value of 1.488 RP genital infections 1.488 times greater when compared with those who did not have an infection, it means the possibility of people who have genital infections be 1,448 times greater risk when compared with women who had never experienced a genital infection. These numbers in line with research conducted in 2008 Melva H. Adam Malik Hospital in Medan, which states that genital infection is a risk factor of cervical cancer. In this study who suffered from genital infection was 66.7%.

Some researchers argue that the epidemiological risk factors contributing to cervical cancer is HPV infection. Lack of knowledge of early detection and personal hygiene as well as changing sexual partners and cervical cancer symptoms generally do not appear simply no such complaints of vaginal discharge so long and chronic infection is a risk factor for cervical cancer [28]. As well as a long process 3-20 years to become invasive cancer Hecker & Mur. Recent research also noted a strong association between cervical cancer with squamous papilloma virus. According to Elisabeth T of sexual behavior where the risk increased more than 10 times when having sex with high-risk men who have kandinoma akuminatum, poor personal hygiene before and after sexual intercourse does not clean the genitals and is expected to facilitate the occurrence of infection in addition to the lack of sex life healthy or have sex during menstruation where infections caused by a type of parasitic vaginal tricomonan facilitate cervical cancer. It is therefore advisable for the public to recognize the early symptoms of cervical cancer through better dissemination of print and electronic media, training related to cervical cancer, and consultation on health workers.

4.9. Health genitalia with the incidence of cervical cancer

From the results have been tabulated data collection showed that of the 17 respondents who had cervical cancer, there were 15 respondents (33.3%) who had a bad behavior towards care of genitalia and 2 respondents (3.8%) were treatment according to personal hygiene.

Statistical tests were used to determine the relationship between genital hygiene with the incidence of cervical cancer is the chi square test. Where in this test obtained p value of <0.05 , which means that the null hypothesis is rejected. So it can be concluded that there is a relationship between genital hygiene with the incidence of cervical cancer in RSIA Labuang Baji Hospital Fatimah and Makassar. In this cross-tabulation also obtained a value of 1.442 which means RP genital hygiene is not in accordance with the personal hygiene 1.442 times greater when compared with those who genitalia hygiene in accordance with personal hygiene, can also be said that the people who care the hygiene less risky 1442 times greater when compared with women who hygiene personal good.

Vital equipment maintenance woman who is not in accordance with hygienic behavior can cause an infection in the vagina, which gradually builds up and settles into a foreign matter that could lead to stimulation of cells becoming cancerous [6]. So it is with [29] said that, the use of an antiseptic as well as the times during the day and even then its pH notice. Usually the excessive use of antiseptic will change the acid environment in the vagina becomes alkaline disturbed. It is feared even causing bacteria nature helps, ie moisturizing and cleansing the vagina become better known as Döderlein bacteria, dead. As a result, the vagina turns into a base. Therefore, this is actually bacteria that produce lactic acid to maintain the pH between 3.5 and 4.5. Bila vaginal pH is unbalanced, then other germs such as fungi and bacteria, even had the chance to live in that place. Thus came the other diseases.

Consumption is too often where, chemical substances long will erode the mucosa thins mucous vagina. and injuries occur, the bacteria will be easy to enter. Except when indicated, for example, an infection that does need washing with chemicals. It also must be on the advice of a doctor. Though there is a cheaper way and save. Rinse with warm water and soap are not too high levels of soda. This is even more secure, especially when done right. That is, the which cleared enough on the outside of the vaginal opening. That is the case if the central enough. Other traveling and not sure with the local water conditions, use of disinfectants is allowed, with no long record within. And if unsure of the condition of water, use bottled water that is clean for washing intimate areas. Hence the need for the socialization of the female personal hygiene rules, especially the use of chemicals (antiseptics and powder) for cleaning the female organs.

4.1.10. Circumcision partner with the incidence of cervical cancer

After collecting the data, the data is processed in the form of cross-tabulations to look at the relationship between circumcision couple with incidence of cervical cancer. From this table it can be seen that of the 17 respondents were experiencing cervical cancer of which there are 8 respondents (42.1%) were uncircumcised partner (non-Muslims) and 9 respondents (11.5%) whose partner has been circumcised. Women who are not circumcised sexual partners is a factor in the serviks cancer. The results of the chi-square test was obtained 0.004 (<0.05), meaning that there is a relationship between circumcision is not the incidence of cervical cancer by RP value 1,528 times greater risk of cervical cancer compared to women whose partners are circumcised. Engage in sexual activity with men are not circumcised. The men who were circumcised (circumcision) blessed, because you and your wife a smaller risk of this deadly virus. The good news comes from a report of three studies published recently in the Journal of Infectious Diseases. The results of the study reinforce the fact, that circumcision protects men from HPV and HIV. It's no secret, if cervical cancer in women. However, women are infected with HPV from her husband or sexual partner [30].

In addition, circumcision can reduce the risk of sexually transmitted diseases. Some research of Randomized Control Trial (RCT) and Meta Analysis concluded that circumcision can reduce risk of HIV transmission from women to men, reduce the risk of syphilis infection, virus HPV (Human Papilloma Virus) and other sexually transmitted infections. The involvement of the male role of correlation cancer visible cervical penile cancer. The concept of "man-high " as a vector of the causative agent rise due to the increased incidence of tumors in which her husband often have sex with many other women. Male who did not do circumcision may also increase

women risk factor for cervical cancer through mechanism probably derived from sperm contained on men [31]. The best medical journal in the world, the New England Journal of Medicine reported the results of research that is very convincing. Studied 1913 pairs case-controlled studies associated with cervical cancer from five countries. The results are as follows: penile HPV infection was found in 166 of the 847 men who are not circumcised (19.6 percent). Compare that with only five percent of HPV infection in circumcised men (16 of 292 men circumcised) [32]. Therefore should a woman who has a spouse (husband) who are not circumcised to pay more attention to the cleanliness of the genital organs.

4.1.11 Family cancer history with cervical cancer incidence

The results of the study are presented in the form of cross-tabulations show that of the 17 respondents who suffered from cervical cancer of which there are 7 respondents (77.8%) who have families who have experienced cancer and 10 respondents (11.4%) who had no history of cancer in her family. Statistics test is used to determine the relationship between the two variables chi-square test. From the test results obtained p value <0.05 which means that the null hypothesis is rejected. So it can be concluded that there is a relationship between a family histories of cancer with the incidence of cervical cancer. From this cross-tabulation also obtained values for 3989 RP which means respondents who have a history of cancer in his family 3,989 times more at risk for cervical cancer when compared with respondents in the family did not have a history of cancer.

This is consistent with the results of various studies that show that every factors and stages of cancer, which leads to changes in the normal cell become cancer cells. Approximately 5-10% of cancers are the result of inherited genetic disorder. Family members with this genetic factor that increases have risks to the onset of certain types of cancer. Breast, ovarian, and colon cancers are examples of cancers where genetic factor plays an important role, although not exclusively in cancer arisen (Team Management & Services Integrated Breast Cancer Paripurna R. S. CANCER DR. DHARMAIS, 2003: 3). Suspected genetic factors associated with cancer, as some studies have suggested an increased risk of cancer in individuals who have a history of cancer in his family. But the reality shows that not all of the parents who had cancer also had cancer, prove that genetic factors are not the only causes of cancer. It is therefore recommended that women should have a history of cancer to a more intensive examination in detecting early symptoms of cancer. Of several variables related to the incidence of cervical cancer is the most dominant influence in accordance with the obtained logistic regression contraception usage variable, genital infections, age, genital hygiene, and early last age sex is a variable that has the most dominant influence in the study. With the influence is 94.1% while the rest is influenced by several factors in addition to the variables mentioned.

5. Conclusion

1. There is an effect of age on the incidence of cervical cancer, which ≥ 35 years of age is a risk factor of cancer
2. There is a slow effect on the incidence of detection of cervical cancer.
3. There is a history of the influence of venereal disease or genital infections on the incidence of cervical cancer.

4. There is the influence of smoke exposure on the incidence of cervical cancer, where smoking is a risk factor for cervical cancer
5. There is an effect of age of first marriage / sex early on the incidence of cervical cancer, which ≤ 20 years of age is a risk factor for cervical cancer
6. There is an effect on the incidence of genital hygiene cervical cancer, which uncleanness genetalia is a risk factor for breast cancer.
7. There is an effect of parity influence the incidence of cervical cancer, where mothers with parity or children ≥ 3 children is a risk factor for breast cancer.
8. influence contraceptive use on the incidence of cervical cancer, where the use of hormonal contraceptives ≥ 4 years is a risk factor for cervical cancer
9. There is the influence of a family history of cervical cancer on the incidence of cervical cancer.
10. There is an effect of circumcision on the incidence of cervical cancer couples, where there is circumcision of the couple is a risk factor for breast cancer.
11. There is no effect of changing sexual partners against cervical cancer incidence.
12. most dominant factor affecting the incidence of cervical cancer is age sex early
13. Quality of life in patients with cervical cancer is lower than non-sufferers of cervical cancer.

References

- [1] Rachmadahniar. 2005. *Dukungan Suami terhadap Partisipasi Wanita dalam Program Skrining Kanker Leher Rahim di Biro Konsultasi Kanker Yayasan Kucala Yogyakarta (Tesis)*. Yogyakarta: UGM.
- [2] WHO, 2010. Infeksi *Human Papillomavirus* dan *Kanker Leher Rahim*. <http://www.who.org>. Diakses 8 Maret 2013.
- [3] Irawati, Rina. 2010. *Yuk Rame-rame Deteksi Dini Kanker Leher Rahim dan Kanker Payudara*. <http://blog.stie-mce.ac.id>. Diakses 8 Maret 2013.
- [4] Direktorat Pelayanan Medik. 2008. *Sosialisasi Bahaya Kanker Serviks*. <http://www.pdpersi.co.id>. Diakses 8 Maret 2013.
- [5] Direktorat Pelayanan Medik. 2008. *Sosialisasi Bahaya Kanker Serviks*. <http://www.pdpersi.co.id>. Diakses 8 Maret 2013.
- [6] Diananda, R. 2007. *Mengenal Seluk Beluk Kanker*. Yogyakarta: Katahati.
- [7] Yakub, MY. 1993. *Tinjauan Kasus Penderita Kanker Leher Rahim yang Dirawat di RSU Pirngadi Medan*. Tesis Bagian Obstetric dan Ginekology FKUSU.
- [8] Anonim. 2006. *Risiko Gonta-Ganti Pasangan*. <http://host-x.blogspot.com>. Diakses 8 Maret 2013.
- [9] Arifuddin, D. 2000. *Kanker Serviks dan Permasalahan Registrasi*. Maj. Obstet. Ginekol. Ind

- [10] Supranto, J. 2000. *Metode Ramalan Kuantitatif untuk Perencanaan Ekonomi dan Bisnis*. Jakarta: Rineka Cipta.
- [11] Bosch, F.X., Lorincz A., Munoz, N., et al. 2002. *The Causal Relation Between Human Papillomavirus and Cervical Cancer*. J. Cli. Pathol.
- [12] Bolango Bone Health Office, 2007, Health Department, Gorontalo Province
- [13] Darwinian. A. 2006. *Gangguan Kesehatan Pada Setiap Periode Kehidupan Wanita*. Smart living. Edisi ke – 3. Jakarta.
- [14] Aziz, Farid M. 2002. *Deteksi Dini Kanker, Skrining dan Deteksi Dini Kanker Serviks*. Jakarta: FKUI.
- [15] Laila. 2001. *Setiap Perempuan Berisiko Kanker Serviks*. <http://lifestyle.okezone.com>. Diakses 8 Maret 2013.
- [16] Riono Yohanes. 1999. *Kanker Leher Rahim*. Australia: Dept. of Sugery Hollywood Hospital.
- [17] Bram dan saleha. 2007. *Penggunaan Vaksin Human Papilloma Virus dalam Pencegahan Kanker Serviks*. Jakarta: FKUI.
- [18] Nurwijaya Hartati, Andrijono, Suheimi HK. 2010. *Cegah dan Deteksi Kanker Serviks*. Jakarta: PT Elex Media Komputindo.
- [19] Hendriana. 2008. *Pernikahan Dini Tingkatkan Risiko Kanker Serviks*. <http://hendrahendriana.blogspot.com>. Diakses: 8 Maret 2013.
- [20] Admin. 2008. *Usia Muda pun Bisa Kena Kanker Mulut Rahim Sekalipun*. <http://dinkeskaltim.com>. Diakses 8 Maret 2013.
- [21] Sawaya, G.F., McConnell, K.J., Kulasingam, S.L. 2003. *Risk of Cervical Cancer Associated with Extending the Interval Between Cervical-Cancer Screenings*. N. Engl. Med. J.
- [22] Moodley, M., Moodley, J., Chetty, R., et al. 2003. *The role of Steroid Contraceptive Hormones in The Pathogenesis of Invasive Cervical Cancer: Review*. Int. J. Gynecol. Cancer.
- [23] Schiff, M., Milner, J., Masuk, M., et al. 2000. *Contraceptive and Reproductive Risk Factors for Cervical Intraepithelial Neoplasia in America Indian Women*. Int. J. Epid.
- [24] Setyarini, Eka. 2009. *Faktor-Faktor yang Berhubungan dengan Kejadian Kanker Leher Rahim di RSUD DR. Moewardi Surakarta*. Fakultas Ilmu Kesehatan : UMS Surakarta.
- [25] Petitti DB. 2003. *Combination estrogen-progestin oral contraceptives*. [http : // www. health . org/](http://www.health.org/)

contraceptives. Diakses 8 Maret 2013.

[26] Herman. MJ. 1998. *Pemanfaatan Hormon dalam Kontrasepsi*. Jakarta: Depkes RI

[27] Melva. 2008. *Faktor-Faktor yang Mempengaruhi Kejadian Kanker Leher Rahim pada Penderita yang Datang Berobat di RSUP H. Adam Malik Medan Tahun 2008*. Sekolah Pascasarjana: USU Medan.

[28] Azis, Alimul. 2003. *Riset Keperawatan dan Teknik Penelitian Ilmiah*. Jakarta; Salemba Medis.

[29] Boyke, Dian. 2010. *Kanker Mulut Rahim, Momok Semua Wanita*. <http://abe-titaboyke.blogspot.com>. Diakses 8 Maret 2013.

[30] Karyani, Dwi. 2010. *Kanker Serviks Pembunuh Berdarah Dingin*. <http://d.dsarimagz.com>. Diakses 8 Maret 2013

[31] Haverkos HW. *Multifactorial etiology of cervical cancer: a hypothesis*. Medscape General Medicine 2005;7(4):57.

[32] Dino, Ari. 2006. *Sunat, Bermanfaatkah Untuk Kesehatan?*. <http://www.mail-archive.com/keluarga-islam@yahoogroups.com>. Diakses 8 Maret 2013.