

Sociodemographic Risk Factors of Cervical Cancer in Imphal, Manipur

Arundhati Devi Maibam, K. Ingocha Singh

Abstract—Cervical cancer is preventable if detected early. Determination of risk factors is essential to plan screening programmes to prevent the disease. To study the demographic risk factors of cervical cancer among Manipuri women, information on age, marital status, educational level, monthly family income and socioeconomic status were collected through a pre-tested interview schedule. In this study, 64 incident cases registered at the RT Dept, RIMS (Regional Institute of Medical Sciences), Imphal, Manipur, India during 2008-09 participated. Data were entered in Microsoft Excel and the results were expressed in percentages. Among the 64 patients with cervical cancer, 56 (88.9%) were in the age group of 40+ years. The majority of the patients were from rural areas (68.75%) and 31.25% were from urban areas. The majority of the patients were Hindus (73%), 55(85.9%) were of low educational level, 43(67.2%) were married, and 36 (56.25%) belonged to Class IV socioeconomic status. In conclusion, if detected early, cervical cancer is preventable and curable. The potential risk factors need to be identified and women in the risk group need to be motivated for screening. Affordable screening programmes and health care resources will help in lessening the burden of the disease.

Keywords—Cervical cancer, Manipuri women, RIIMS, Socio-demographic risk factors.

I. INTRODUCTION

CERVICAL cancer is a major health problem in India. It is the second most commonly diagnosed cancer and third leading cause of cancer related death among females in less developed countries [1]. India also has the highest age standardized incidence of cervical cancer in South Asia [2]. ICO Information Centre on HPV and cancer [2] reported that 122,844 women in India are diagnosed with cervical cancer and 67,477 die from the disease annually. India has a population of 432.2 million women aged 15 years and older who are at risk of developing cancer [2]. It is the second most common cancer in women aged 15–44 years [2]. According to latest estimates by the Indian Council of Medical Research (ICMR), it has emerged as a major killer among Indian women. More than 62,000 women died of cervical cancer in 2015, which accounted for 24% of the total cancer-related deaths among Indian women [3].

The NCRP data show that between 2009 and 2011, the Aizawl district in the north eastern part of India had the highest levels of cervical cancer at an age-adjusted rate of 24.3 years [4]. In Manipur, cervical cancer is one of the leading causes of death among women. It is the second leading site of cancer among women [5]. The state is constituted by 69.79% rural population and 30.21% urban population [6]. As a

Arundhati Devi Maibam is with the D. M. College of Science, India (e-mail: arundhati.maibam@yahoo.com).

majority of the population lives in rural areas where the measures of health and living standards are low, rural women are vulnerable to the many risk factors of cervical cancer.

Early age at marriage, sexual intercourse before 18 years of age, first child birth before the age of 20 years, grand multiparity, poor birth spacing and poor personal hygiene, have been identified as important epidemiological risk factors [7], [8]. A long asymptomatic period is experienced by most women with cervical cancer. The progression of the disease from pre-invasive to invasive can be prevented through regular screening for early detection [9]. Incidence of cervical cancer is greatly influenced by socio-demographic factors. In regions where cervical cancer screening and detection programmes are not conducted on a regular basis, the disease will continue to remain a burden.

Cervical cancer is a relatively preventable disease as its natural history of progression from mild dysplasia to carcinoma usually takes about 10 years to 20 years. Risk factors related to lifestyle and cultural practices can be changed to lower the incidence of this preventable disease. However, women in the State, particularly those in the high risk groups, have little or no knowledge about the cause or the symptoms of the disease. Early cervical cancers usually do not cause symptoms. When the cancer grows larger, women may notice abnormal vaginal bleeding that occurs between regular menstrual periods, after sexual intercourse, after going through menopause, douching, or a pelvic exam. Menstrual periods may last longer and become heavier than before. Women may also notice increased vaginal discharge, pelvic pain and pain during sex. Cervical cancer, infections, or other health problems may cause these symptoms. Therefore, no attention is paid to the early symptoms and often they are generally treated as ‘commonplace gynaecological problems’ which need no medical attention. This has most often resulted in late detection. Another reason for late detection is their full time engagement in economic activities which give them little or no time to attend to their problems. And since the problem is associated with their sexuality, they are more reluctant to seek medical attendance as ‘sexual silence’ is a cultural characteristic which makes them believe that sexuality is personal and is not to be talked about openly.

As ‘prevention is better than cure’, the female population needs to have good knowledge of the risk factors and take precautions to keep a safe distance from the disease. A woman with any of the identified symptoms should tell her doctor so that problems can be diagnosed and treated as early as possible. And if exposure precedes awareness, timely action can be taken by seeking medical assistance. Knowledge of the

risks inherent in the socio-cultural practices may lead to changed behaviour. Creating awareness among socially and economically disadvantaged women combined with sexual negotiation skill development is a possible way to reduce risk behavior [10]. In order to develop health promotion intervention strategies aimed at the prevention of cervical cancer, it is necessary for the women to know and understand unsafe behaviours and the risk factors for cervical cancer. Attitudes and beliefs about cervical cancer among the general population and health care providers can also present barriers to its control. Hence, identifying the risk factors and educating the women about the precautionary and preventive measures will help in preventing as well as curing the disease at its early stage.

II. AIMS OF THE STUDY

The aim of the study is to determine the socio-demographic risk factors of cervical cancer among Manipuri women.

III. MATERIALS AND METHOD

The study was conducted among 64 Manipuri women who were registered at the Radiotherapy department of Regional Institute of Medical Sciences, Imphal, Manipur during 2008-09. A pre-tested interview schedule was used to collect information on age, marital status, educational level, monthly family income and socioeconomic status. The collected data were sorted and entered in Microsoft Excel. Results were expressed in percentages. Only married women were included in the study. Socioeconomic status was measured using B.G. Prasad's socio-economic status scale which is based on per capita income.

TABLE I
 RESULTS SHOWING SOCIO-DEMOGRAPHIC RISK FACTORS ASSOCIATED WITH
 CERVICAL CANCER

Variables	No of patients (64)	Percentage (%)
Present age (yr)		
<39	8	12.5
40+	56	88.9
Area		
Rural	44	68.75
Urban	20	31.25
Religion		
Hindu	47	73.43
Others	17	26.56
Marital status		
Married	43	67.2
Others	21	32.8
Educational level		
Illiterate	25	39.06
Primary	30	46.88
Secondary	2	03.12
Graduate	7	10.94
Monthly family income (Rs)		
0- 809	13	20.31
810-1,619	36	56.25
1,620-2,699	12	18.75
2,700-5,409	0	-
More than 5,410	3	04.69

IV. RESULTS

Among the 64 patients with cervical cancer, the majority were in the age group of 40+ years (88.9%). Majority of the patients were also from rural areas (68.75%) and the remaining from urban areas (31.25%). Incidence of the disease was found to be highest among Hindus (73%). Educational level of the patients indicated higher incidence among women who were either illiterate (39.06%) or had attended school only up to the primary level (46.88%). Remarkable decline in incidence was observed among women who had attained education up to the secondary level (03.13%) and among graduates (10.94%). The majority (67.2%) were still married at the time of interview, while the remaining women were either widowed or divorced or separated. The majority of the women (56.25%) belonged to families with monthly income of just Rs810-1619 indicating that they belonged to Class IV socioeconomic status according to B.G. Prasad's socio-economic status scale.

V. DISCUSSION

Most women who develop cervical cancer generally have one or more identifiable factors that increase their risk for the disease. Ethnic factors, number of partners, and age at first sexual intercourse, age at first birth, steroid contraception and infectious agents such as human papillomavirus (HPV), herpes simplex virus type 2 and Chlamydia trachomatis, are some identified factors [11], [12]. Smoking, nutrition, parity, as well as oral contraceptive use have also been reported as major environmental risk factors for cervical cancer [13]. However, no strong evidence of a biologic basis for these agents has been reported and the incidence of cervical cancer varies greatly from one population to another [14], [15].

The relationship of the age of women with the development of cervical cancer has been observed in many studies [16]-[24]. Though no particular age group has been linked with cervical cancer, women aged 35-55 years are found to be more at risk and the peak age of incidence varies with populations [25]. In this study, the majority of the women were in the age group of 40+ years (88.9%) which concurs with the findings of most studies.

More than half of the patients (68.75%) reside in rural areas. The findings were consistent with studies conducted by [26], [27] who attributed the high incidence of cervical cancer among women in rural areas to poor genital hygiene, low nutritional status and reproductive behaviour. Poverty deprives women from receiving opportunities necessary for maintaining proper health and hygiene. Women's health often remains neglected until conditions become very serious. Moreover, women in rural areas remain fully engaged in economic activities and therefore rarely find time to visit health centres.

Cervical cancer is predominantly found among married women, especially among those who marry at an early age and remain sexually active for a long period [20]. The disease is found to be more prevalent among sexually active women in this study than among widows, divorcees and separated

women. Being sexually active for longer duration elevates the number of pregnancies, abortions, deliveries and increases the chances of sexually transmitted infection which remain undetected. Such infections are generally given little importance, as every woman experiences genealogical problems from time to time. *Phingouchatpa* (white vaginal discharge, *phi-cloth+ngou-white, chatpa-secrete*) was experienced by almost all the patients before diagnosis of the disease. None of them gave much attention to it as it was considered a normal physiological process. Even when bleeding started between menses or the discharge changed colour with a foul smell or became heavier than usual, they refrained from consulting gynaecologists as they feared distance from their husbands.

With marriage at an early age being a cultural practice, young girls remain exposed to the risk of early pregnancies or multiple pregnancies or abortions. Society expects newly married women to become pregnant soon after marriage. Women, therefore, never think of delaying pregnancy. Failure to bear a child immediately after or within one year of marriage puts a woman in an awkward position. In such situations, every available help is sought to avoid the social stigma attached to barrenness. A feeling of insecurity develops within the woman who develops a fear of being abandoned by the husband. Thus, the general concept is: the sooner, the better; without realizing the dangers and impediments to health due to early pregnancy and child birth.

In the present study, low socioeconomic level is a significant risk factor. Cervical cancer is more commonly associated with low socioeconomic class which influences sexual hygiene, parity, and age at first coitus. The relationship of cervical cancer with low socioeconomic level is closely associated with cervical screening attendance and unhealthy lifestyle. Income and education play a great role in influencing access to proper early detection and treatment of precancerous conditions [9]. None of the women went for medical examinations until their condition worsened and became noticeable. Medical assistance was sought by most women only at a late stage. The most often cited reason for late report was the fear of the expenses to be incurred for examination fees and medication. Health care disparities result from a complex interplay of economic, social, and cultural factors [28]. Due to economic dependence on their male counterparts, women have no liberty to go to recommended health centres for abortions, and in such cases, these are frequently conducted by untrained persons. Necessary medical examinations and follow ups were not conducted until a condition worsened and became noticeable. A cross sectional study conducted to determine knowledge, attitude and practice of a Pap smear as a screening procedure in Manipur [29] revealed that despite adequate knowledge of the procedure to screen for cervical cancer, the practice is still unsatisfactory. Further, socioeconomic factors influence other risk factors for cancer such as tobacco use, poor nutrition, physical inactivity, and obesity.

VI. CONCLUSION

As cervical cancer is caused both by factors which can be changed and which cannot be changed, close attention to those factors which can be changed are expected to bear fruitful results. The present study projects age as an important risk factor. As age is a factor which cannot be changed, it is of utmost importance for women in the high-risk group to undergo screening for HPV and other infections to prevent them from advancing into dysplasia and ultimately cancer. Unfortunately, women in the State generally lose interest in maintaining good health with advancing age, and they delay and most often avoid health checks until the problem becomes very serious. Therefore, special motivation camps for participation of these women in screening programmes will help in inculcating the habit of checking health status regularly, particularly pertaining to reproductive health which is very often neglected.

Other significant sociodemographic risk factors are low education and income. Lack of awareness, low socioeconomic conditions, and difficulty to access the facilities for cancer diagnosis and treatment are other reasons for the prevalence of the disease. Screening programmes in the State are yet to gain momentum, and apart from periodical screening programmes conducted by non-government health centres and health workers, no routine screening programmes are conducted at government health centres at an affordable cost. Further studies with larger number of patients registered at cancer treatment centres other than RIMS will help in determining the strong sociodemographic predictors of the disease.

REFERENCES

- [1] Torre, L. A., Freddie, B. F., Siegel, L. R., Ferlay, J., Ieulent, L.J., Jemal, A. (2015). Global cancer statistics 2012. *A Cancer Journal for Clinicians*, 65(2):87–108.
- [2] Bruni, L., Barrionuevo-Rosas, L., Albero, G., Serrano, B., Mena, M., Gómez, D., Muñoz, J., Bosch, F.X., and de Sanjosé, S. (2016). ICO Information Centre on HPV and Cancer (HPV Information Centre). *Human Papillomavirus and Related Diseases in India*. Summary Report 7 October 2016.
- [3] Dey, S. (2016, May 4). Cervical cancer back as top killer among women. *Times of India*, p. 1. Retrieved on November 24, 2016 from <http://timesofindia.indiatimes.com>
- [4] Sreedevi, A., Javed, R. and Dinesh, A. (2015). Epidemiology of cervical cancer with special focus on India. *Int J Women's Health*, 7: 405-414.
- [5] National Cancer Registry Programme. (2009). *Annual report of Population based cancer registry, Imphal, Manipur State*. ICMR.
- [6] Khan, Y. (2012). Maternal Health in Manipur. *Journal of Development*. Retrieved on November 24, 2016 from: <https://journalofdevelopment.wordpress.com/2012/10/05/maternal-health-in-manipur/>
- [7] Ferenczy, A. and France, E. (2002). Persistent Human papillomaviruses infection and cervical neoplasia. *Lancet Oncology*, 3: 11-16.
- [8] WHO. (2002). Cervical cancer screening in developing countries. *WHO report*, Geneva, 3-5.
- [9] Irimie, S., Vladd, M., Mirestean, I.M., Balacescu, O., Rus, M., et al. (2011) Risk factors in a sample of patients with advanced cervical cancer. *Appl Med Informatics*, 29: 1-10.
- [10] Shepherd, J., Weston, R., Peersman, G., and Napuli, I.Z. (2000). Interventions for encouraging sexual lifestyles and behaviours to prevent cervical cancer. *Cochrane Database of Systemic Reviews*, (2), CD0001035.
- [11] Moodley, M., Moodley, J., Chetty, R., Herrington, C.S. (2003). The role of steroid contraceptive hormones in the pathogenesis of invasive cervical cancer: a review. *QW-*QHFRO&DQFHU*, 13, 103-110.

- [12] Shields, T.S., Brinton, L.A., Burk, R.D., et al. (2004). A case-control study of risk factors for invasive cervical cancer among U.S. women exposed to oncogenic types of human papillomavirus. *Cancer Epidemiol Biomarkers Prev.*,13, 1574-1582.
- [13] Parikh, S., Brennan, P., and Boffetta, P. (2003). Meta-analysis of social inequality and the risk of cervical cancer. *Int J Cancer*,105: 687-691.
- [14] Sierra-Torres, C.H., Tyring, S.K., & Au, W.W. (2003). Risk contribution of sexual behaviour and cigarette smoking to cervical neoplasia. *International Cancer of Gynecological Cancer*, 13, 617-625.
- [15] Parazzini, F., Vecchia, C., Ceccetti, G., et al. (1989). Reproductive factors and the risk of invasive and intraepithelial cervical neoplasia. *Br J Cancer*, 59: 805-809.
- [16] Nandakumar, A., Anantha, N., and Venugopal, T.C. (1995). Incidence, mortality and survival in cancer of the cervix in Bangalore, India. *British Journal of Cancer*,71: 1348-1352.
- [17] Biswas, L.N., Manna, B., Maiti, P.K., et al. (1997). Sexual risk factors for cervical cancer among rural women: A case control study. *International Journal of Epidemiology*, 26(3): 491-495.
- [18] Bayo, S., Bosch, F.X., Sanjose, S., et al.(2002). Risk factors of invasive cervical cancer in Mali. *International Journal of Epidemiology*, 31: 202-209.
- [19] Thomas, D.B., Ray, R.M., Qin, Q., and the WHO collaborative study of neoplasia and steroid contraceptives. (2002). Risk factors for progression of squamous cell cervical carcinoma-in to invasive cervical cancer: results of a multinational study. *Cancer causes and control*, 13: 683 - 690.
- [20] Varghese, P.R.(2004). Protective effect of a traditional practice against cervix cancer in Kerala, *J. Hum Ecol.*,15: 187-190.
- [21] Kaku, M., Aleyamma, M. and Rajan, B. (2008). Impact of socioeconomic factors in delayed reporting and late stage presentation among patients with cervix cancer in a major cancer hospital in South India. *Asian Pacific Journal of Cancer Prevention*, 9: 589-594.
- [22] Misra, J.S., Srivastava, S., Singh, U., et al. (2009). Risk factors and strategies for control of carcinoma cervix in India: Hospital based cytological screening experience of 35 years. *Indian Journal of Cancer*, 46: 155-159.
- [23] Chankapa, Y.D., Pal, R. and Tsering, D. (2011). Correlates of cervical cancer screening among undeserved women. *Indian Journal of Cancer*, 48: 40-46.
- [24] Ushadevi, G., Arul, A.R. and Ashok, K. (2012). Knowledge about cervical cancer risk factors among the rural women of Kancheepuram district, Tamil Nadu. *Nat J Com Med.*, 1:125-128.
- [25] Zeller, J.L., Lynn, C. and Glass, R.M. (2007). Carcinoma of the Cervix. JAMA Patient page. *JAMA*, 298(19): 2336.
- [26] Coker, A.L., Hopenhayn, C., DeSimone, C. P., Bush, H. M., and Crofford, L. (2009). *Violence against Women Raises Risk of Cervical Cancer*. CRVAW Faculty Journal Articles. Paper 107.
- [27] Singh, S. and Badaya, S. (2012) Factors Influencing uptake of Cervical Cancer Screening among Women in India: A Hospital based Pilot Study. *J Community Med Health Educ.*, 2:157.
- [28] Freeman HP (2003). Commentary on the meaning of race in science and society. *Cancer Epidemiol Biomark Prev.*, 12: 232S-236S.
- [29] Thippeveranna, C., Mohan, S.S., Singh, L.R. and Singh, N. N. (2013). Knowledge, attitude and practice of the pap smear as a screening procedure among nurses in a tertiary hospital in north eastern India. *Asian Pac J Cancer Prev.*, 14(2): 849-52.