

## Genital Hygiene and Risk of Cancer Cervix

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### Summary

The present hospital based, group matched case control study was carried out at a Gynaecology clinic, Govt. Medical College Hospital, Nagpur, to investigate role of genital hygiene in the outcome of cancer cervix. The present study included 230 cases of cancer cervix and equal number of controls, group matched for age. The study identified significance of poor genital hygiene, as a risk factor for cancer cervix. Estimates of attributable risk proportion (ARP) and population attributable risk proportion (PARP) endorsed etiological and preventable role of poor genital hygiene in the outcome of cervical cancer.

### Introduction

The risk of development of cancer cervix varies with the lifestyle of an individual, social customs and geographical distribution Shah et al (1985), Roy Chowdhary (1978). Moreover incidence of cancer cervix is dependent on the prevalence of risk factors in a particular population group (Coppleson 1970). Cancer cervix is predominant in women of low socioeconomic class. Illiteracy and low socioeconomic status go hand in hand. Further nonavailability of facilities and lack of awareness about practices of genital hygiene result in poor genital hygiene. Poor genital hygiene leads to problem of genital infection, chronic cervicitis which may be a predisposing factor for cancer cervix.

With this background and fortified by a fact that no such study, which assessed poor genital hygiene as a risk factor for cancer cervix has been conducted in central India, we decided to investigate this relationship by using case-control study design.

### Material and Methods

The present hospital based, group matched case

control study was carried out at Gynaecology clinic, Govt. Medical College Hospital, Nagpur, during 1995-96.

A total of 230 cases of cancer cervix confirmed by histopathology (Stage I onwards) (Peel, 1995) were admitted in the hospital and included in the current study. Equal number of controls were selected from female patients admitted to hospital to study conditions other than gynecological cancer and showing pap smear within normal limits (Bethesda system) (Filsner et al, 1995). The controls were group matched (frequency matching) for five years class intervals. The interview technique was used as a tool of data collection which included relevant details of risk factors i.e. genital hygiene and further information about study subject.

Univariate analysis was carried out by estimating odds ratio (OR) and its 95% confidence interval (CI). Chi square test was used as a test of proportion. To estimate adjusted OR and its 95% CI, unconditional multiple logistic regression (MLR) analysis was carried out by using MUI MLR software package. Attributable risk proportion (ARP) and population attributable risk proportion (PARP) were also calculated (Schlesseiman 1982).

In the present study, the grades of genital hygiene given by Dutta et al (1990) were considered.

Grade I - Cleaning of genitalia by water/soap and water - douche, done more than once in a day.

Grade II - Cleaning of genitalia by water / soap and water - douche, done once in a day.

Grade III - Cleaning of genitalia by water / soap and water - douche, done at least once or more time in a week but less than once in a day.

Grade IV - Cleaning of genitalia by water / soap and water - douche, done less than once a week.

## Results

Table no I shows distribution of study subjects according to their grades of genital hygiene i.e. 108(46.9%) cases with grade III and 34 (14.8%) with grade IV, while 63(27.5%) controls had grade III and only 3(1.2%) had grade IV. Grade I of genital hygiene was observed only in 2(0.8%) cases and 9(3.6%) controls. In the present study 86(37.4%) cases and 155(67.7%) controls had grade II genital hygiene.

**Table I**  
Distribution of study subjects according to their grades of genital hygiene

Grades of Genital Hygiene	Cases No (%)	Controls No (%)
Grade I	02 (0.9)	09 (03.6)
Grade II	86(337.4)	155 (67.7)
Grade III	108 (46.9)	63 (27.5)
Grade IV	34 (14.8)	03 (01.2)
<b>Total</b>	<b>230 (100)</b>	<b>230 (100)</b>

**Table II**  
Statistical characteristics of poor genital hygiene as a risk factor for cancer cervix.

Statistical characteristics	Estimates
$\chi^2$	45.77
P Value for $\chi^2$	<0.0001
Crude OR (95% CI)	4.01 (2.71 - 5.92)
Adjusted OR (95% CI)	2.99 (1.94 - 4.63)
ARP (95% CI)	0.67 (0.48 - 0.78)
PARP (95% CI)	0.36 (0.21 - 0.51)

Table II shows statistical characteristics of poor genital hygiene as a risk factor for cancer cervix. It is observed that study subjects with poor genital hygiene (i.e. grade III and IV) were at a significantly higher risk of cancer cervix (OR = 4.01; 95% CI, 2.71 - 5.92). ARP

was estimated to be 0.67, indicating that 67% of the cancer cervix cases in women with poor genital hygiene may be attributed in part to poor genital hygiene and PARP was 0.36 i.e. 36% of all the cancer cervix cases in the target population may be attributed in part to poor genital hygiene.

## Discussion

Poor genital hygiene is a well documented risk factor for cancer cervix (Dutta et al, 1990) WHO (1961, Zhang and Xu 1990). In the present study also it was significantly associated with cancer cervix. Limitations of chi-square test, crude OR, adjusted OR, ARP and PARP endorsed significant role of poor genital hygiene in the outcome of cancer cervix.

Illiteracy is quite prevalent in our population which may be one reason for poor genital hygiene in our population. Illiteracy and low socioeconomic status usually go hand in hand. Further, nonavailability of facilities and lack of awareness about practices of genital hygiene result in poor hygiene. Illiteracy leads to poor genital hygiene due to lack of knowledge and due to unawareness about healthy cleaning practices with importance of good genital care. This leads to problems of genital infections, chronic cervicitis, which may be a predisposing factor for cancer cervix (Dutta 1990).

In conclusion it can be said that poor genital hygiene is a significant risk factor for cancer cervix. Hence education regarding healthy cleaning practice and importance of good genital care should be imparted.

## References

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