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Original Research Article

Screening for cervical cancer (By VIA Test) among selected garments worker in Chattogram, Bangladesh

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ABSTRACT

Background: Bangladesh is a densely populated country of South East Asia with low resource setting where cervical cancer is the 2nd leading cause of female cancer. In more than 80% cases are diagnosed at advanced and inoperable stage. Regarding socio demographic context of this country VIA has been introduced as a screening method for cervical cancer which is most simple, cost effective, and acceptable test for all women. In Bangladesh among 3 million garment workers more than 80% are women. The objective of this study was to identify prevalence of VIA positive cases among garment workers. So that it can reduce the incidence of cervical cancer in Bangladesh.

Methods: It was a cross-sectional observational study conducted in some selected garment factories in Chattogram city of Bangladesh from January 2021 to July 2021, where we enrolled 534 female workers for VIA test.

Results: Among all the respondents 56% were 30 years or younger, 38% were aged between 31 to 40 years. Among 534 participants, 44.9% completed primary education, 37.3% were smoker and 34.5% had their children at early age. Majority (86.7%) had excessive whitish discharge. Post coital bleeding and irregular bleeding was 2.6% and 2.2% respectively. Considering awareness, 61.8% had idea about cervical cancer, only 1.1% had undergone VIA test in the past. In our study we found 2.4% of participants were VIA positive cases.

Conclusions: It is important to include the garment workers, while making public health policies and implementation of cervical cancer control program.

Keywords: Cervical cancer; Garments worker; VIA test

INTRODUCTION

Cervical cancer is one of the most common gynecological cancers. Globally it is the fourth most frequently

diagnosed and fourth leading cause of cancer death in female. In 2020, worldwide number of new cases were 604,000 and deaths occurred in 342,000 cases. Cervical cancer is an important public health problem in Sub-

Saharan Africa, Melanesia, South America and South Eastern Asia.¹

Bangladesh is a developing country of South Asian region with low resource and a huge population of 1,64,68938. Approximately 50% of them are female.² And 30 million are in range of 30-60 years. In 2020, total number of new female cancer patient in Bangladesh were 1,56,775, of them 8268 patients were suffering from carcinoma cervix which is 12% of total cases. Though globally cervical cancer is 4th most common cause of female cancer but in Bangladesh it is the second most common cause.² And Annual crude incidence rate of invasive cancer is 15.9 per 100,000.³ Patients suffering from cancer cervix, in more than 80% cases are diagnosed at advanced and inoperable stage.³ Preventive and curative treatment of cervical cancer is possible if detected at early stages.⁴ Progression from a dysplastic precursor lesions to invasive cervical cancer takes over a period of 10-15 years. For effective prevention in most developed countries, women are screened once every 3-5 years.⁵ Screening methods used for cervical cancer diagnosis are conventional cervical cytology, visual inspection with acetic acid (VIA), Colposcopy and HPV DNA test.

Bangladesh is a low –income country with low- resource and lack of health care education.⁶ Considering the socioeconomic context of the country, VIA has been introduced for cervical cancer screening in Bangladesh since 2004 as it is the most cost-effective screening method.⁷ VIA is simple and acceptable screening test with a sensitivity and specificity of 79% and 57% respectively.⁸ Married women of 30 years and above or having marital life of more than 10 years are the target population for VIA test. Screened women who are VIA positive, referred to the colposcopy clinics at tertiary center for further evaluation and treatment. Women who are found negative advised to repeat VIA test after 5 years.⁹

There are certain factors which increase the risk of developing cervical cancer. These are human papilloma virus (HPV), low socio-economic condition, smoking, early age of marriage (<18 years), first coitus at young age, multiple sexual partners, multiple sexual partners of husband and too many childbirths.¹⁰ However, women of low socioeconomic status are ignorant about the risk factors and screening of cervical cancer. In addition, lack of awareness of these health services, shyness about the symptoms of this disease makes them unable to take treatment earlier.¹⁰ Bangladesh, depends largely on readymade garment sector for its economic growth. Female workers are majority in this sector.¹¹ But these women do not have proper access to health care facilities due to lack of knowledge, demanding work conditions, long duty hours, low wages and inaccessible resources.¹²

Thus, they become vulnerable to different kinds of health-related morbidities including malnutrition, reproductive health problems and community acquired disease.^{11,12} Common problems of the female workers are the

gynecological ones. They suffer from menstrual disorders, polycystic ovaries, vaginal discharge, infertility, cancer cervix, uterine prolapse and urinary tract infections.¹³ In Bangladesh, there are 3 million garment workers, more than 80% of whom are women. All the risk factors of cancer cervix are prevalent among them. Although female garment workers are playing a key role in country's economic growth, their health issues are often neglected.⁶ Chattogram is one of the famous zone of garment factories. Screening of these women would play an important role in reducing the high incidence of cervical cancer in Bangladeshi women.

The main objective of this study was to identify prevalence of VIA positive cases among garment workers to reduce the incidence of cervical cancer in Bangladesh.

METHODS

This was a cross-sectional observational study. The study was conducted in some selected garment factories in Chattogram city of Bangladesh from January 2021 to July 2021. We calculated the minimum sample size to be 385 and we enrolled 534 participants in the study. The sampling technique was purposive.

In our study we included female garment workers as participants who were at least married for 10 years. Women with pregnancy and women who had history of abnormal VIA test or previous treatment for precancerous or cancerous cervical lesions were excluded from the study. Four garment factories were selected for the study following the sample selection criteria. All the study subjects were counseled about VIA test, its importance and interpretation. Then after taking consent interview was done. Then history was taken and physical examination was carried out.

After that VIA test was done in the medical room of the factory with presence of doctor or nurse and female attendant of the respective garment factory. Results of VIA was documented after completion of the procedure. Subjects who were found VIA positive were counselled again for attending the colposcopy clinic of Chittagong Medical College Hospital for further evaluation and treatment. They were also informed that colposcopy examination and treatment would be done free of cost. Then, data were collected using a semi structured questionnaire.

Statistical Analysis: All data were recorded systematically in preformed data collection form and quantitative data was expressed as mean and standard deviation and qualitative data was expressed as frequency distribution and percentage. Statistical analysis was performed by using SPSS 23 (Statistical Package for Social Sciences) for windows version 10. Probability value <0.05 was considered as level of significance. The study was approved by Ethical Review Committee of Chittagong Medical College.

RESULTS

In the present study 534 participants were included. Mean age of participants were 32.16 ± 14.00 years. Majority (55.91%) of our participants were 21-30 years old.

Among all participants, majority (58.8%) had low income level. Regarding risk factors, early marriage, low income and husband's smoking were major concerns. We found

impoverishment 59.7%, early marriage 6.2%, 34.5% had children at a young age, passive smoker were 39.1% & active smokers were 8.6%, family history of cervical cancer was found in 1.8% patients. Gynecological problems among the study population were per vaginal watery discharge, blood-stained discharge, post coital bleeding and irregular per vaginal bleeding. All these complaints demand evaluation of women for risk of cervical cancer.

Table 1: Baseline characteristics of our study participants.

Socio demographic Characteristics	Number (N = 534)	Percentage
Age (years)	32.16 ± 14.00	
Age group		
Group 1 (21-30)	298	55.91%
Group 2 (31-40)	203	38.01%
Group 3 (41-50)	26	4.90%
Group 4 (51-60)	7	1.30%
Religion		
Islam	478	89.50%
Hindu	50	9.40%
Buddhist	6	1.10%
Education		
None	82	15.40%
Primary	240	44.90%
Secondary	199	37.30%
Higher education	13	2.40%
Monthly income		
<10k	314	58.80%
10k-15k	212	39.70%
15k-20k	8	1.50%
Marital status		
Married	513	96.10%
Widow	7	1.30%
Divorce	14	2.60%
Risk factor		
Impoverishment	319	59.70%
Early marriage (<18)	33	6.20%
Smoker (active)	46	8.60%
Having children at a young age	184	34.50%
Husband smoking (passive smoker)	209	39.10%
Family history cervical cancer	10	1.80%
Awareness of garment worker about cervical cancer		
Know about cervical cancer	330	60%
Cervical Cancer test in past	6	1.10%
Cervical Cancer test in Future	532	97.80%
Gynecological problems		
Excessive P/V whitish discharge	463	86.70%
Blood mixed P/V discharge	11	2.10%
Post Coital Bleeding	14	2.60%
P/V bleeding throughout the month	12	2.20%
VIA test		
Positive	13	2.40%

Table 2: Age group with risk factor.

Age group	Tobacco	Husband smoking	Family history of cervical cancer	Early marriage
19-30	11 (3.6%)	106 (35.0%)	8 (2.6%)	238 (78.3%)
31-40	20 (9.9%)	92 (45.8%)	5 (2.5%)	150 (73.9%)
41-50	9 (34.6%)	9 (34.6%)	6 (2.0%)	16 (61.5%)
>50	6(60%)	2(20.0%)	0(0.0%)	9 (90.0%)
P value	0.000	0.249	0.916	0.218

Table 3: VIA test positive with risk factor

Result of VIA	Tabaco	Early age of marriage	Husband smoking	Family history of cervical cancer
Positive (AWA)	01 (7.7%)	01 (7.7%)	04 (30.8%)	00 (0.0%)
P value	0.919	0.165	0.825	0.617

*P value calculated using Pearson Sq. Test, keeping P value ≤ 0.05 as Significant

Majority (86.7%) had excessive whitish discharge. Post coital bleeding and irregular bleeding was 2.6% and 2.2% respectively. Awareness of the garments worker about cervical cancer was assessed. Considering awareness, 61.8% had idea about cervical cancer, only 1.1% had undergone VIA test in the past. Main source of knowledge about cervical cancer were through surrounding peoples & colleagues and seminar arranged for them. We found 2.4% VIA positive cases among our study population.

DISCUSSION

This study was a prospective observational study that was conducted with the aim of determining prevalence of VIA +ve cases among garment workers who are now the huge bulk of female employees in Bangladesh. 16% of urban women and 1% of rural women of Bangladesh work as a garment’s worker.¹⁵ One review article showed that garment worker and housemaid comprise 15.8% of total cervical cancer population in Bangladesh.⁶ We have conducted a study in CMCH among the admitted cervical cancer patients, where 5.88% of populations were garment workers.¹⁴ Study have shown that garment workers are of higher risk of HPV infection (which is the causative organism of Cancer cervix) compared to others.⁶

In our present study 55.91% of total population were in age group of 21-30 years and 38.01% were within 31-40 years. Considering the education level, 44.9% of garment workers attended only the primary education, this finding is consistent with the study conducted by Hasnain et al.¹¹

Recognized risk factors of cancer cervix are poverty, early marriage, childbirth at younger age, smoking, family history of cervical cancer.^{6,10,14,16} Presence of these risk factors have also found among the garment workers of our study. Present study also has shown only 1.1% respondents underwent screening for cervical cancer in the past. Hasnain et al showed that health care seeking behavior is poor among the garment’s worker. Low education and poor income status are two important barriers for them in gaining health facilities.¹¹ Farzana et al conducted a study among rural women of Bangladesh which showed incidence of screening rate is 12%.⁴ In another study of ours, incidence of cervical cancer screening among women attending OPD of CMCH is 22.25%.⁹ We observed that Government facilities offer cervical cancer screening free of cost in office hour, which makes the garment workers unable to take the service. In present study 60.7% are aware of cancer cervix but their knowledge about the disease and its risk factors are poor. Farzana et al showed

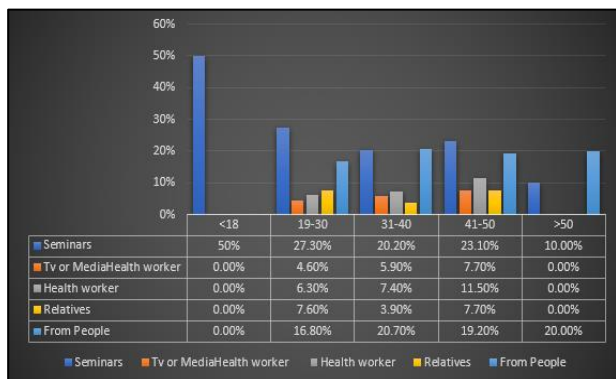


Figure 1: Sources of knowledge of cervical cancer in different age group.

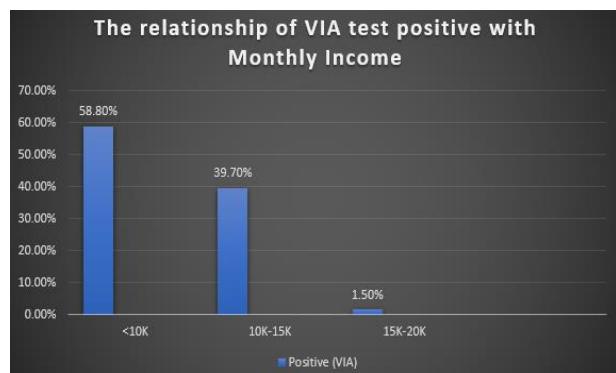


Figure 2: The relation of VIA test positive with monthly income

in their study, 84% have heard about cervical cancer but only 36% have knowledge about the disease.⁴ Fitzpatrick et al conducted a study to see knowledge and screening practices among rural Zimbabwe women, which showed 81.2% women have heard about cancer cervix but only 4.9% had received screening.¹⁸ This finding is consistent with our findings. Present study showed 97.8% of the population were willing to do screening test in future, findings of study done by Farzana et al was similar to our findings 90%.⁴ In another study by Papri et al, also shows willingness for screening test in future is 55.71% among women attending out patient department of CMCH. VIA is an ongoing cervical cancer screening programme since 2004 in Bangladesh. Various population based studies done in Bangladesh have shown that incidence of VIA positivity is around 5%.³ A study was done by Fentie et al among Ethiopian women to see VIA positivity, in which the incidence was found to be 10.3%.¹⁷ Another study done by Babacon Biaye et al in Dakar, Senegal, also showed the similar findings, where the incidence of VIA positive cases were 10.2%.¹⁶ But in our present study, the incidence of VIA positivity among garments worker is 2.4%. This findings may be due small sample size and short period of study. In this study population, among VIA positive cases, only 5 cases reported for further colposcopic evaluation. All of them were histopathologically confirmed as CIN-1 and treated with thermo coagulation.¹³

Limitations

This study has several limitations. The study was conducted over a short period of time and on a small sample size. All the garment workers were not included in this study as the investigators could only investigated garments worker who were permitted by their authority.

CONCLUSION

No published study had been found about cervical cancer screening among the garment workers of Bangladesh. Cervical cancer screening was very low in this population. But all the risk factors of Ca- cervix are prevalent among them. Due to long working hour, work burden and ignorance they are unable to attend facilities where cervical cancer screening is performed. As one stop procedure VIA is a suitable screening program among the garment workers. Therefore, it is important to implement community based screening strategy for garment workers in National Cervical cancer screening program and further studies are needed to evaluate the incidence of this high risk population group.

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REFERENCES

1. Sung H, Ferlay J, Siegel R, Laversanne M, Soerymataram I, Jemal A, et al. Global Cancer Statistics 2020; GLOBOCON Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. *Cancer J Clinicians.* 2021;71(3):209-49.
2. Shastri S, Mittra I, Mishra G, Gupta S, Dikshit R, Singh S et al. Effect of VIA screening by Primary Health Workers: Randomized Controlled Study in Mumbai, India. *JNCL J Natl Cancer Inst.* 2014;106(3):1-7.
3. Zeba D. Visual Inspection with Acetic Acid for Cervical Cancer Screening: Bangladesh Perspective. *Faridpur Med Coll J.* 2018;13(2):56-7.
4. Rahman F, Bhattacharjee A. Awareness level of cervical cancer among rural women attending manikgonj 250 bedded district hospital, Manikgonj. *J Enam Med Col.* 2019;9(1):34-40.
5. Sankaranarayanan R, Budukh A, Rajkumar R. Effective screening programmes for Cervical Cancer in low and middle income developing countries. *Bulletin of the World Health Organization.* 2001;79(10):954-62.
6. Haque M, Haque E, Karim M. Cervical Cancer in low-income countries: A Bangladesh perspective. *Int J Gynecol Obstet.* 2021;152:19-25.
7. Ahmed T, Ashrafunnessa, Rahman J. Development of a visual inspection programme for cervical cancer prevention in Bangladesh. *Reproductive Health Matters.* 2008;16(32):78-85.
8. Parmer T, Kawr J, Sultana F, Vu T, Truong. Cervical cancer prevention in Bangladesh: awareness and accessibility to preventive methods: a systematic review. proceeding of the 5th international conference on natural sciences and technology(ICNST'18). Asian University for Women, Chittagong, Bangladesh.2018.
9. Papri FS, Khanam Z, Islam F, Hakim M. Knowledge and awareness about risk factors of cervical cancer, its screening and vaccination among the women attending Chittagong Medical College Hospital. *Chattagram Maa-O-Shishu Hospital Medical College Journal.* 2015;14(2):57-60.
10. Kashyap N, Krishnan N, Kaur S, Ghai S. Risk factors of cervical cancer: a case-control study. *Asia Pac J Oncol Nurs.* 2019;6:308-14.
11. Hasnain M, Akter M, Sharafat M, Mahmuda A. Morbidity patterns, nutritional status and healthcare seeking behavior of female garment workers in Bangladesh. *Electronic Physician.* 2014;6(2):801-7.
12. Akhter S, Salahuddin A, Iqbal M. Health and occupational safety for female workforce of garment

- Industries in Bangladesh. *J Mech Eng.* 2010;41(1):65-70.
13. Lillypet S, Jain T, Joseph B. Health problems among garment factory workers; a narrative literature review. *JOHE.* 2017;6(2):114-21.
 14. Shirin F, Ferdous J, Karim T, Islam F, Khanam Z. Socio demographic profiles and risk factors of women presenting with Cervical Cancer in a Tertiary care Centre in Bangladesh. *JCMCTA.* 2017;28(1):63-6.
 15. Islam J, Khatun F, Alam A, Sultana F, Bhuiyan A, Alam N, et al. Knowledge of cervical cancer and HPV vaccine in Bangladeshi Women: a population based cross-sectional study. *BMC Women's Health.* 2018;18(15):1-13.
 16. Biaye B, Gassama O, Dieme M, Toure Y, Cisse M, Wade M et al. Screening for cervical cancer by visual inspection with acetic acid (VIA) in Nabil Choucair Health Center-Dakar (Senegal). *Open J Obst Gynecol.* 2019;9:302-11.
 17. Fentie A, Tadesse T, Gebretekle G. Factors affecting cervical cancer screening uptake, visual inspection with acetic acid positivity and its predictors among women attending cervical cancer screening service in Addis Ababa, Ethiopia. *BMC Women's Health.* 2020;20:147.
 18. Fitzpatrick M, Pathipati M, McCarty K, Rosenthal A, Katzenstein D, Chirenje Z, et al. Knowledge, attitudes, and practices of cervical Cancer screening among HIV-positive and HIV-negative women participating in human papillomavirus screening in rural Zimbabwe. *BMC Women's Health.* 2020;20:153.

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