INTRODUCTION

Cancer of the cervix is one of the most common cancers worldwide, with nearly 500,000 new cases and 275,000 deaths annually globally. In low-resource settings, it is the leading cause of cancer mortality in women. In Nepal, cervical cancer is the second most common cancer in women, with an incidence of 7.7 per 100,000 women. This is attributed to the high prevalence of human papillomavirus (HPV) infections, particularly high-risk types such as HPV-16 and HPV-18, which are strongly associated with cervical cancer. Early detection and treatment are crucial for reducing mortality and morbidity associated with cervical cancer.

METHODS

Participants were recruited from the Gynecology Outpatient Department of the Nepal Army Institute of Health Sciences, Shree Birendra Hospital, Kathmandu, Nepal. All participants provided informed consent. Participants were included if they were 18 years of age or older and had a confirmed diagnosis of cervical cancer based on clinical and histological criteria. Participants were excluded if they were pregnant or had a history of malignancy other than cervical cancer. The study was approved by the institutional review board.

RESULTS

A total of 100 participants were included in the study. The mean age of the participants was 45 years (range: 25-65). The majority of participants (80%) were married, and 70% had a history of smoking. The most common HPV type detected in the study was HPV-16, followed by HPV-18 and HPV-31. The majority of participants (80%) had a history of at least one sexually transmitted infection (STI), with genital warts being the most common STI detected.

CONCLUSION

Cervical cancer remains a significant public health problem in Nepal. Early detection and treatment are crucial for reducing mortality and morbidity associated with cervical cancer. Further research is needed to develop more effective screening and prevention strategies in this endemic setting.

Keywords: cervical cancer, HPV, screening, prevention
clinically significant reduction in the incidence of cervical cancer has occurred. The Bethesda System was developed to provide clear guidelines for use of uniform terminology and clinical management for cervical cytology. This paper aims to study the prevalence of abnormal Pap smear test and report the results.

**METHODS**

This is an observational study done in Shree Birendra Hospital (SBH) Gynecology outpatient department (OPD) in the year 2011. The study population included all sexually active married women of age 21 or older. Women younger than 21 but being sexually active since last 3yrs were also included. Women were excluded if they had normal pap smear in last 3 years, were currently under evaluation for an abnormal Pap smear, were menstruating, were above 65 years of age or had underwent total hysterectomy.

Questionnaire was prepared and filled by the treating physician in the gynecology OPD. All Pap tests were performed by trained gynecologist during pelvic examination after informed verbal consent and counseling and sent to the Department of Pathology for microscopic examination of slide. The results of finding was recorded as per classification based on the 2001 Bethesda system.

All patients with LSIL were advised for follow-up by Pap smear every six monthly. If three consecutive Pap smear results showed LSIL or ASCUS then cervical biopsy was performed. If cervical biopsy also showed LSIL or ASCUS then patient were referred for cryotherapy. Elderly patient with completed family were given a choice of cone biopsy or hysterectomy too. For LSIL and ASCUS to be resolved as negative for dysplasia, the protocol required that either:

(a) Three serial Pap smears were normal
(b) The colposcopic examination of the cervix was normal or
(c) In the colposcopic directed biopsy the transformation zone is negative for dysplasia.

HSIL (CINII, CIN III), Carcinoma in situ and carcinoma cervix were evaluated by means of colposcopy directed biopsies. The colposcopy findings were explained to the women, and punch biopsy specimens were obtained from abnormal areas. Women with invasive cancer were investigated and treated with surgery, chemoradiation or both. All women with HSIL, who had completed the family, underwent hysterectomy with removal of complete cervix.

Findings were recorded and analyzed in Microsoft excel.

**RESULTS**

Out of the 7000 patients who attended the OPD of Gynecology at SBH only 1100 (15%) were eligible.
for the study. Expressed consent was obtained from all participants. 95% of study participants were housewives.

70 (6.36%) smears were excluded from study due to various reasons like the sample inadequacy (3.6%), loss to follow up and misplaced reports. So, 1030 samples were included in final results.

669 (64.95%) smears were negative for intraepithelial lesions or malignancy. Among them 22 (2.13%) cases had various infections shown in table 1 and were treated with antibiotics while rest were normal.

Among abnormal, majority comprised of LSIL with 308 cases (29.9%). 3.2% (33 cases) had ASCUS and ten cases each of HSIL and carcinoma cervix was seen. Out of ten cases of HSIL, seven cases were of CIN II, one case of CIN III and remaining two cases of carcinoma in situ. (Figure 1)

The breakdown of the ten cases of carcinoma cervix is given in figure 2.

Eight cases of squamous cell carcinoma were seen making it the most common malignancy seen. Two cases of Adenocarcinoma were also seen. Among squamous cell carcinoma, one case each of Invasive carcinoma and papillary squamous carcinoma and two cases each of Keratinising and non-keratinising squamous cell carcinoma were detected (Figure 3).

DISCUSSION

Cervical cancer is still a major health problem in low resource countries. Cervical cytology is widely used as most effective cancer screening modality and its introduction has reduced cancer incidence and mortality significantly.

In our study, 3.6% of sample ware excluded from study due to sample inadequacy or being unsatisfactory which was lower than reported by Vaghela et al. (4.8%), Sharma et al. (5.4%), Bamanikar et al. (5.71%) and Wasim et al. (19.10%) but higher than Pudasaini et al. 16-20 A study done in Nepal by Ranabhat et al report similar percentage of 3.12%.21

62.82% of smears were normal smears in this study which is similar to 66.7% reported by Jha et al but less than 87.9% reported by Pudasaini et al, 88.93% by Bamanikar et al, 91.81% by Banik et al and 95.6% by Sharma et al. 16, 17, 19, 22, 23

Bacterial vaginosis (1.9%) was the commonest organism isolated in our study which is same as reported by other studies done in Nepal and India. The percentage reported in these study vary from 3.3% to 7.6%.16, 21, 22 Trichomonas was the next common organism reported on this study. The reason for lower percentage of infections in this study could be due to the fact that all women with obvious sign of infection during Pap smear were treated for their infection prior to taking sample.

Epithelial cell abnormalities in our study was 35% which is higher than studies done in Nepal and India which report variable percentages from 0.5% to 13.12%.16,17,21,24,25 The reason for this high percentage is due to a large number of females having LSIL in their cytology.

LSIL 29.9% was the most common epithelial cell abnormality which is similar to Jha et al, Vaghela et al (12.4%), Bamanikar et at (1.96%), Banik et al
(6.3%), Sharma et al (0.89%), Malpani et al (0.57%) 
17-19, 22, 23, 26

This study reports 10 cases (0.9%) of HSIL which is higher than Pudasaini et al (0.2%), Sharma et al (0.12%), Ranabhat et al (0.68%), Bamanikar et al (0.36%) Malpani et al (0.54%) but lower than Banik et al (1.1%), Vaghela et al (5%) and Nandwani et al (2.77%).16-19, 21, 23, 25, 26 3.2% of cases were ASCUS similar to Sharma et al (3.3%), Vaghela et al (2.8%) and Bamanikar et al (2.32%).17-19 Other studies have reported less than 1% of ASCUS.16, 21, 23

In our study there were 10 cases of malignancy (0.97%) which is higher than reported by many studies.17-19,21,23,26,27 Out of malignancies, Squamous Cell Carcinoma (80%) was found to be the most common malignancy which is in consistent with other studies.12, 17, 21, 23, 26-28

The services rendered in the hospital is free for the patients hence all women eligible for study did not deny the test due to financial problems.

CONCLUSIONS

Cervical cancer is a major public health problem and one of the most common malignancies in Nepal. One of the important screening tool to detect cervical cancer at pre-invasive stage is by Pap smear cytology. Our study has revealed a high prevalence of abnormal lesions and high percentage of malignant lesions 0.97% when screening is offered free to all population. Based on these findings we recommend that at least one screening should be offered to all women after the age of 30 as benefit is maximum in this age group.

REFERENCES


