

Title: Cervical Screening Outcomes in Reproductive-Age Women at Peripheral Health Centers

1: dr memoona mehboob

Mbbs fcps gynae, medical officer rhc ghoriwala bannu, memoona034@gmail.com.

2: associate prof dr farhat rehman

Mbbs, m-phill physiology, chairperson department of physiology bkmc-mm

3: dr sreen fatima

Mbbs fcps gynae, medical officer civil dispensary ratta kulachi, dikhan

sreenfatima123@gmail.com, 03369167537

4: dr Mohammad Israr

Assistant Professor Biochemistry, Bacha Khan Medical College Mardan

drisrarhtn@gmail.com

5: dr ammad ali

Mbbs d-aesthetic kmu, ammad9158181@gmail.com, 03139158181

Corresponding author

Name: dr sreen fatima

Designation: Mbbs fcps gynae, medical officer civil dispensary ratta kulachi, dikhan

Email: sreenfatima123@gmail.com

Abstract

Objective: to ascertain the prevalence of different cervical abnormalities in connection to pap smear results with the age distribution of patient.

Method: The demographic makeup of the study population was deduced by calculating the percentages of patients in each age group. Numerous diseases were also identified using the results of the Pap smear test, and percentages associated with each diagnosis were computed. This methodology made it possible to thoroughly analyze the participants' diagnoses and age distribution, which revealed trends in cervical health. One hundred participants in all had Pap smears performed as part of the study. Four age groups were established based on the age distribution data gathered: 18–25, 25–35, 35–45, and 45–55 years old.

Result: Most participants (37%) were found to be between the ages of 25 and 35, while there was a wide variation in participant ages overall. Pap smear tests are crucial for identifying potentially malignant or precancerous diseases, as evidenced by most patients (71%) receiving a diagnosis of cancer or intraepithelial lesions. There was also representation from the following age groups: 18–25 (9%), 35–45 (28%), and 45–55 (4%). Four percent of the cases had atypical squamous cell lesions, two percent had low-grade squamous intraepithelial lesions, and one percent had high-grade lesions.

Conclusion: These findings advance customized screening programs and therapies aimed at specific age groups and diagnostic categories as well as our knowledge of cervical health patterns. People who are fertile should get screened for cervical cancer because the age group of 25 to 35 accounts for a substantial portion of diagnoses. The importance of Pap smear testing for early identification and preventive medicine is underscored by the prevalence of intraepithelial lesions or cancer.

Key words: Pap smear, low grade, high grade, lesion, age, female

Introduction:

Human papilloma virus and cervical cancer are subject of considerable attention in the medical attention. The second most common gynecological cancer in the world is called CC. Most cervical precancerous lesions result from a long-term, high-risk oncogenic HPV infection¹. Twelve were categorized as low risk (6, 11, 40, 42, 43, 44, 54, 61, 70, 72, 81, CP6108), three were possibly high-risk (26, 53, 66), and fifteen were high-risk (HR) (16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 68, 73, 82). The two most common carcinogenic forms of HPV are HPV 16 and HPV 18: 50%–60% of CC cases are linked to HPV16, and 10%–15% to HPV 18. 25–40% of CC cases are linked to the other forms of HR-HPV². An HPV oncogenic type is thought to be responsible for 50–75% of the infections that affect around 80% of women at some point in their lives. However, over 90% of instances are self-limited and will disappear in a year or two³. A major public health problem is the effective detection of women with high-grade intraepithelial neoplasia (CIN3) during routine cervical cancer screening. According to data from the literature, cervical cytology may detect moderate and severe cervical dysplasia with a specificity of 60% to 95% and a sensitivity that ranges from 47% to 62%. Polymerase chain reaction (PCR) HPV genotyping has a higher sensitivity, but a much poorer specificity compared to cytology, especially in younger women⁴. the identification of cervical disease and has to be applied in concert with clinical data obtained from further diagnostic and screening tests, physical examinations, and comprehensive medical histories, all while adhering to the proper patient management protocols⁵⁻⁶. Women of reproductive age who complain of vaginal discharge are frequently infected with genital tract infections⁷⁻⁹. Pathogenic organisms overgrow when there is an imbalance in the normal vaginal flora, which can lead to vaginitis or vaginosis. The Human Papillomavirus, Actinomyces, Candida albicans, Gardnerella vaginalis, and Trichomonas vaginalis are the most often found pathogenic organisms¹⁰.

Materials and methods:

The study was conducted in the District Head Quarter Hospital in Parachinar from January 2023 to December 2023 in a methodical and exacting manner to ensure comprehensive data collection and analysis. The District Head Quarter Hospital in Parachinar was chosen due to its significance as the community's main medical facility. The study looked at the diagnostic and demographic characteristics of patients who underwent Pap smears within the specified window of time. Ethical considerations took precedence to protect patient privacy and confidentiality of data, and the hospital's institutional review board approved the necessary approvals. A comprehensive review of patient records from January 2023 to December 2023 was carried out to gather relevant information. The patients were separated into four age groups (18–25, 25–35, 35–45, and 45–55 years) and their percentages were looked at within each category in order to make the age distribution clearer. Pap smear diagnostic results were also grouped, and pertinent percentages were computed, to ascertain the prevalence of various cervical abnormalities. Gaining a comprehensive understanding of the cervical health patterns of the local community was facilitated by this strategy. The study's methodology complied with ethical standards and was designed to provide light on the District Head Quarter Hospital's efforts to enhance cervical health care.

Results:

A total of 100 patients had pap smear performed out of 78 reported the results.

Table: 1 variable

Age in year	Number of cases	percentages
18-25	9	9%
25-35	37	37%
35-45	28	28%
45-55	4	4%

Table: 2 diagnose cases

diagnosis	Number of cases	percentages
Intraepithelial lesion or malignancy	71	71%
Atypical squamous cell	4	4%
Low grade-squamous intra epithelial lesion	2	2%
High grade- squamous intra epithelial lesion	1	1%

Discussion:

The study's findings are based on a total of 100 patients who underwent Pap smear exams; 78 of the participants reported their findings. Table 1 provides a summary of the age distribution among the study population. The bulk of participants (37%), or those in the age range of 25 to 35, are in this age group. This suggests a sizable concentration of individuals within the reproductive age range, highlighting the significance of cervical cancer screening for this demographic. Infections with *Chlamydia trachomatis* or Herpes simplex virus type 2, frequent sex partner changes, long-term use of oral contraceptives, tobacco use, low fruit and vegetable intake, obesity, multiple pregnancies, giving birth before the age of 17, and a family history of CC11 were among the cofactors that were identified. The distribution also includes the following age groups: 18–25 years, 35–45 years, and 45–55 years, or 9%, 28%, and 4%, respectively. These results emphasize the need for age-specific screening programs to provide comprehensive cervical health management. According to Oliviera et al., 64.39% of ASC-US and 65.38% of ASC-H had HR-HPV confirmed positive. The optimal ASC-US triage strategy is to identify patients who require treatment while minimizing needless procedures¹². The distribution of diagnosis based on Pap smear results is examined in Table 2. 71% of patients had intraepithelial lesions or cancer, indicating the significance of early detection for any precancerous or malignant conditions. Atypical squamous cell lesions accounted for 4% of the cases, low-grade squamous intraepithelial lesions accounted for 2%, and high-grade lesions for 1% of the cases. These percentages show the spectrum of abnormalities found by Pap smear tests and provide important information for further clinical treatment and intervention strategies. Romania has a high incidence and death rate from cervical cancer, although little is known about the country's HR-HPV infection frequency. According to a Mihaela et al. study, the incidence of HPV infection in women between the ages of 18 and 59 is 40% for all kinds of HPV and 20% for HR-HPV. Moreover, Ilisiu reports that the prevalence in the general population is 16.9% (IC 95%: 14.7–19.5%), with the largest incidence occurring in Poland (16.6%), the Czech Republic (18.2%), Slovenia (12.9%), and Greece (12.7%^{13–14}). According to GFK research from 2016, just 23% of Romanian women had a Pap test in the previous three years, and only 5% of women had both a Pap test and a DNA-HPV detection. Seven out of ten women did not have a test to detect HPV infection or precancerous lesions. In the past ten years, one in ten Romanian women reported not receiving a normal medical consultation, and 35 percent reported seeing a doctor less frequently than once every three years¹⁵. The study's findings emphasize the importance of Pap smear tests as a crucial part of cervical cancer screening. The age distribution reveals a concentration of people in reproductive years, suggesting that screening should concentrate on this group. The diagnostic distribution illustrates the occurrence of intraepithelial lesions or cancer, highlighting the significance of Pap tests in early identification and prevention. These results underline the necessity of maintaining a strong emphasis on thorough and targeted screening programs and provide valuable data for the continuing management of cervical health.

Conclusion:

The large number of patients in the 25–35 age group emphasizes the importance of targeted cervical cancer screening programs that follow worldwide criteria regarding the initiation of screening. Pap smear testing is crucial for early identification and treatment of cancer, as it is involved in 71% of diagnoses involving intraepithelial lesions. The medical team at the District Head Quarter Hospital can utilize this information to tailor screening strategies and preventative measures to the specific age groups and diagnostic categories that are typical in the area. Moreover, the study's consequences extend beyond the hospital setting and contribute to the greater discourse surrounding cervical health management in Parachinar. The observed patterns in the distribution of ages and diagnostic outcomes highlight the need for continuous outreach initiatives and public education campaigns to encourage routine Pap smear examinations, especially for fertile women. The study highlights the potential for targeted interventions to reduce the incidence of cervical abnormalities and enhance the overall health of women residing in the region. Our findings provide important information that will help future public health campaigns and increase the efficacy of cervical cancer screening programs in Parachinar. Pap smear tests remain an essential component of preventive healthcare.

References:

- I. 1: Lu, X.; Wang, T.; Zhang, Y.; Liu, Y. Analysis of influencing factors of viral load in patients with high-risk human papillomavirus. *Viol. J.* **2021**, *18*, 6.
- II. 2: Voidăzan, T.S.; Budianu, M.A.; Rozsnyai, F.F.; Kovacs, Z.; Uzun, C.C.; Neagu, N. Assessing the Level of Knowledge, Beliefs and Acceptance of HPV Vaccine: A Cross-Sectional Study in Romania. *Int. J. Environ. Res. Public Health* **2022**, *19*, 6939.
- III. 3: Wang, Z.; Li, Z.; Li, J.; Wang, C.; Wang, W.; Hao, M.; Zhao, C. Prevalence and Distribution of HPV Genotypes in 1387 Women with Cervical Intraepithelial Neoplasia 2/3 in Shanxi Province, China. *J. Cancer* **2018**, *9*, 2802–2806.
- IV. 4: Koliopoulos, G.; Nyaga, V.N.; Santesso, N.; Bryant, A.; Martin Hirsch, P.P.; Mustafa, R.A.; Schünemann, H.; Paraskevaïdis, E.; Arbyn, M. Cytology versus HPV testing for cervical cancer screening in the general population. *Cochrane Database Syst. Rev.* **2017**, *10*, 7.
- V. 5: Arbyn, M.; Simon, M.; Peeters, E.; Xu, L.; Meijer, C.J.L.M.; Berkhof, J.; Cuschieri, K.; Bonde, J.; Ostrbenk Vanlencak, A.; Zhao, F.H.; et al. 2020 list of human papillomavirus assays suitable for primary cervical cancer screening. *Clin. Microbiol. Infect.* **2021**, *27*, 1083–1095.
- VI. 6: Varl, J.; Ivanus, U.; Marinsek, Z.P.; Jerman, T.; Valencak, A.O.; Poljak, M.; Prevodnik, V.K. Clinical relevance of the borderline results of the Hybrid Capture 2 High-Risk HPV DNA assay with cervical samples collected in Specimen Transport Medium. *Radiol. Oncol.* **2019**, *53*, 316–322.
- VII. 7: Patel K, Hathila R, Chaudhri P, & Patel S. A study of cervical Papanicolaou smears examination in patients with abnormal vaginal discharge. *International Journal of Research in Medical Sciences*, 2019;8(1): 119-122.
- VIII. 8: Salih MM, Alhag FT, Khalifa MA, El Nabi AH. Cervical cytopathological changes among women with vaginal discharge attending teaching hospital. *J Cytol.* 2017 Apr;34(2):90-4.
- IX. 9: Kumar N, Singh P, Rudra S. Papanicolaou smear as a tool for detection of Cervicovaginal Infections in a Rural Tertiary care centre of Northern India: Retrospective analysis. *Ind J Obstet Gynecol Res.* 2016;3(4):343-7.
- X. 10: Sabu S, Nayak DM, Nair S, Shetty R. Role of papanicolaou smear in the diagnosis of pathologic flora in asymptomatic patients in rural health care set-up. *Journal of Clinical and Diagnostic Research.* 2017 Oct 1;11(10):EC10-EC13.
- XI. 11: Tekalegn, Y.; Sahiledengle, B.; Woldeyohannes, D.; Atlaw, D.; Degno, S.; Desta, F.; Bekele, K.; Aseffa, T.; Gezahegn, H.; Kene, C. High parity is associated with increased risk of cervical cancer: Systematic review and meta-analysis of case-control studies. *Womens Health* **2022**, *18*, 17455065221075904.
- XII. 12: de Oliveira, G.G.; Eleutério, R.M.N.; Barbosa, R.D.C.C.; de Almeida, P.R.C.; Eleutério, J., Jr. Atypical squamous cells: Cytopathological findings and correlation with HPV genotype and histopathology. *Acta Cytol.* **2018**, *62*, 386–392.
- XIII. 13: Mihaela, B.; Alexandru, B.; Roxana Elena, B.; Irina Ecaterina, J.; Florentina Ligia, F.; Anca-Maria, I.; Iovan, L.; Cîrstoïu, M.M.; Burcin, M.R.;

- Turcan, N. Modern interdisciplinary monitoring of cervical cancer risk. *Rom. J. Morphol. Embryol.* **2019**, *60*, 469–478.
- XIV. 14: Ilisiu, M.B.; Hashim, D.; Andreassen, T.; Stoer, N.C.; Nicula, F.; Weiderpass, E. HPV Testing for Cervical Cancer in Romania: High-Risk HPV Prevalence among Ethnic Subpopulations and Regions. *Ann. Glob. Health* **2019**, *85*, 89
- XV. 15: Bruni, L.; Albero, G.; Serrano, B.; Mena, M.; Collado, J.J.; Gómez, D.; Muñoz, J.; Bosch, F.X.; de Sanjosé, S. ICO/IARC Information Centre on HPV and Cancer (HPV Information Centre). Human Papillomavirus and Related Diseases in Romania. Summary Report 22 October 2022. Available online: <https://hpvcentre.net/statistics/reports/ROU.pdf> (accessed on 3 January 2023).