

# HPV IN RIO 2016

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## ABSTRACTS OF PRESENTED PAPERS

### REGRESSION OF HIGH GRADE SQUAMOUS CERVICAL LESION AFTER HPV VACCINE: CASE REPORT

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**Introduction:** There is an unquestionable relation between a persistent infection by the human papilloma virus (HPV) and cervical cancer. The creation of vaccines against HPV represented an important milestone in the primary prevention of this condition. Nowadays, two vaccines are available against HPV 16 and 18, which are the subtypes responsible for 70% of the cases of cervical cancer and 50% of precursor lesions, respectively. Recent clinical trials suggest that these vaccines are also effective against the unfavorable evolution of cervical cancer precursor lesions. **Objective:** To report a case of regression of an HPV-induced squamous lesion after the vaccine, and collaborate with recent evidence showing that immunization can be useful as a therapeutic tool, replacing the surgical excision of the transformation zone. **Methods:** We present the case of a young woman with histopathology of cervical biopsy, cervical intraepithelial neoplasia (CIN) II, in association with cytopathic changes compatible with HPV — koilocytosis and binucleation. The treatment was conducted exclusively with vaccine against HPV and control, instead of high frequency surgery. At the time of biopsy, colposcopy was satisfactory and showed a transformation zone, with mosaic areas and sparse dots. Biopsy was carried out with Baliu instruments and was addressed to the mosaic area, partially removing the colposcopic change. The patient was informed about the risks and benefits of both options, that is, the treatment conducted exclusively with vaccine or high frequency surgery to completely remove the lesion. Both would have the proper posterior control, but she freely decided, after signing a consent form, to use the immunization conduct. Three doses of the quadrivalent vaccine were administered, without any other measure other than the control with colposcopy and colposcopy every six months. **Results:** In the six-month follow up, after the vaccine, the three colposcopies presented typical transformation zones, and the three colposcopy smears did not show the squamous intraepithelial lesion anymore. It is important to mention that the initial colposcopy and the histopathology of the respective biopsy suggested residual lesion, which rules out the possibility of completely removing the lesion through biopsy. **Conclusion:** This case report strengthens the inference that the vaccine for HPV can represent a useful therapeutic tool against cervical squamous lesions induced by this disease, leading to better prognosis; therefore, it corroborates the evidence reported in recent publications. However, it is necessary to conduct prospective studies with adequate sampling size, determination of the subtypes involved and long period of immunization in order to obtain solid evidence as to the use of vaccine for HPV in the treatment of squamous cervical lesions.

**Keywords:** HPV; vaccine; cancer.

### BUSCHKE-LÖWENSTEIN TUMOR IN A PATIENT WITH HIV

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**Introduction:** This is an invasive lesion first described in 1896. This tumor, known as giant condyloma acuminatum (GCA), is histologically benign, but the clinical behavior is malignant. GCA recurrence rate is equivalent to 66% after treatment and its fast growth is associated with immunity deficiencies. There is the possibility of malignant degeneration to squamous cell carcinoma. **Objective:** To describe the clinical case of a GCA in a patient with the acquired immunodeficiency syndrome. **Methods:** Case report presenting brief histories, clinical tests, and result of the histological analysis. **Results:** Low immunity characterized by CD4 count=190/mm<sup>3</sup>, viral load of 4.25 log; use of ZDV+3TC+EFV for two months; the condition had begun six months earlier, with fast and progressive growth of the lesion; proctological examination, showing voluminous verrucous lesion, of about 12 cm in its largest diameter in the perianal region; rectosigmoidoscopy showing multiple minor lesions in the rectal mucosa; histology confirming the presence of colicocytosis. Surgical excision was conducted, with major resection of the lesion. **Conclusion:** The Buschke-Lowenstien tumor is a variant of the condyloma acuminatum and is related with the human papillomavirus (HPV), types 6, 11, 16, 18 and 54. Clinical evaluation must include proctosigmoidoscopy, abdominopelvic computed tomography, and endoanal ultrasound. To show the presence of HPV, it is necessary to conduct molecular techniques — in situ hybridization, hybrid capture, and polymerase chain reaction. The treatment of choice is surgery with radical excision. Complementary treatments are: cryosurgery, laser, electrocoagulation, hyperbaric oxygen therapy, chemotherapy, radiotherapy, use of interferon, imiquimod, and podophyllin. Differential diagnoses are: anal tuberculosis, spinocellular carcinoma, fungal disease, syphilis, keratoacanthoma, condyloma plana, pseudoepitheliomatous hyperplasia, lymphogranuloma venereum, and Bowen's disease. Abscesses, secondary infection, fistulae, necrosis, rectal stenosis, bleeding from the tumor or the operator wound, urinary tract infection, ureteral obstruction, incontinence or anal stenosis, invasion into the pelvic cavity and recurrence are possible complications.

**Keywords:** AIDS; condyloma acuminatum; HPV; HIV.

### COMPARISON OF THREE HPV DNA DETECTION METHODS: NEXT\_GEN SEQUENCING, MULTIPLEX-PCR AND NESTED-PCR FOLLOWED BY SANGER BASED SEQUENCING

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**Introduction:** To date there is no in vitro culture method for HPV, neither a robust serotype response; therefore, the diagnosis of HPV infection is based solely on molecular methods for detection of HPV DNA and their sequences. Several laboratory tests are currently

available for HPV-DNA detection. The Multiplex-PCR for HPV-DNA has been used in several countries for screening and prevention of cervical cancer associated with cervicovaginal cytology. The PCR using the consensus primers MY09 and MY11 — forward and reverse — followed by Sanger based genetic sequencing is the most traditional technique used in scientific research, considered the gold standard for many years. Finally, a new technique has been recently described with promising results. The Next\_Gen Sequencing (NGS) has been considered a transformer advent of modern genomics. NGS is not based on the Sanger method, and can sequence DNA at unprecedented speed, opening up new applications in biomedical research. This sequencing system can deliver data output ranging from 300 kilobases up to 1terabase in a single run. Its main difference is the use of primers tagged with initial sequences of specific nucleotides for each individual sample, which has been called primers with “barcodes” or labeled primers. However, NGS is not yet widely available, and its accuracy for the diagnosis of HPV has yet to be confirmed. **Objective:** To compare the diagnostic performance for HPV infection using three laboratorial techniques. **Methods:** Ninety-five cervicovaginal samples were randomly selected; each was tested for HPV DNA and genotypes using three methods in parallel: Multiplex-PCR; the Nested PCR, followed by Sanger sequencing; and the NGS with two assays — NGS-A1 and NGS-A2. The study was approved by the Brazilian National IRB — CONEP protocol 16,800. **Results:** The prevalence of HPV by the NGS assays was higher than that using the Multiplex-PCR — 64.2 versus 45.2%, respectively;  $p=0.001$  — and the Nested-PCR — 64.2 versus 49.5%, respectively;  $p=0.003$ . NGS also showed better performance in detecting high-risk HPV (HR-HPV) and HPV16. There was a weak interobserver agreement between the results of Multiplex-PCR and Nested-PCR in relation to NGS for the diagnosis of HPV infection, and a moderate correlation for HR-HPV detection. Both NGS assays showed a strong correlation for detection of HPV16 ( $k=0.86$ ), HR-HPV16 ( $k=0.91$ ), HPV16 ( $k=0.92$ ) and HPV18 ( $k=0.91$ ). **Conclusion:** NGS is more sensitive than the traditional Sanger sequencing and the Multiplex PCR to genotype HPVs, with promising ability to detect multiple infections, and may have the potential to establish an alternative method for the diagnosis and genotyping of HPV.

**Keywords:** PCR; molecular biology; laboratories; diagnosis.

#### ANOGENITAL CONDYLOMA ACUMINATA IN A TRANSPLANTED PATIENT

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**Introduction:** Condyloma acuminata is caused by the human papillomavirus (HPV) and affects both genders. It is the most common cause of sexually transmitted disease (STD) of viral etiology in the USA. There are more than one hundred different subtypes of HPV. In Brazil, subtypes 16 and 18 are the ones mostly associated with squamous cell carcinoma. Subtypes 6 and 11 are mostly associated with benign condyloma acuminata — approximately 90% of the cases — and have low risk for intraepithelial neoplasia. **Objective:** To describe a case of anogenital condyloma acuminata in an immunosuppressed patient after liver transplantation. The case report refers to a male patient, 19 year-old, bisexual, with previous pathological history of liver transplant carried out four years earlier after the diagnosis of primary sclerosing cholangitis associated with ulcerative rectocolitis. At the moment, he is being regularly followed-up and treated with tracolimus (5 mg/day), everolimus (2 mg/day) and mesalazine (1,200 mg/day). His main complaint is: “penis pellets”. History of current disease: onset of the condition 6 months ago, with lesions in the penis, perineum and perianal region. Dermatological examination showed several millimetric lesions and black verrucous papules in the dorsum penis and the perianal region. Diagnostic hypothesis: condyloma acuminata. Complementary tests: fast tests to verify the presence of the human immunodeficiency virus (HIV) and syphilis — negative results — and biopsies of fragments of the lesions in the dorsum penis and the perianal region for histopathological examination, which confirmed the hypothesis of condyloma acuminata. The therapy chosen was chemical cauterization using 70 and 90% trichloroacetic acid in two cycles — with a 14-day interval — in the lesions of the dorsum penis, followed by a treatment conducted at home with imiquimod in the anogenital lesions. He was informed that the treatment does not eradicate the virus, and was advised to return to the service in case of new lesions. Prolonged immunosuppression has increased the survival rates of transplanted patients. Health professionals must be aware that, as a result of this chronic immunosuppression — which influences the immune defense mechanisms of the patients and, consequently, leads to reduced cellular immunity — there is more susceptibility to different infectious dermatoses, such as the HPV infection.

**Keywords:** condyloma acuminata; HPV; immunosuppression.

#### BEST ABSTRACT POSTER CATEGORY

##### EARLY IMPACT IN REDUCING CERVICAL ABNORMALITIES IN CAMPOS DOS GOYTACAZES-RJ, BRAZIL, AFTER INTRODUCTION OF THE QUADRIVALENT HPV VACCINE FOR GIRLS 11-15. IT'S TIME TO THINK ABOUT HPV VACCINE IN BOYS?

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**Introduction:** Human papillomavirus (HPV) represents a significant concern to public and private health systems. The prevention of this condition is conducted by the combination of the use of Pap smear test, condoms, and HPV vaccines. Campos dos Goytacazes was the first Brazilian Municipality to implement, in September 2010, the quadrivalent HPV vaccine to girls aged 11–15 years in a hybrid strategy of vaccination — in schools and health centers. In 2014, vaccination for boys was introduced. **Objective:** To present the reduction in incidence of cervical abnormalities before and after the introduction of the quadrivalent HPV vaccine in the municipality. **Methods:** Historical cohort that evaluated the impact of HPV vaccination as a protective factor against low risk of HPV abnormalities. Results of the pap smear test obtained from the SISCOLO system of the Brazilian Minister of Health were categorized in low grade abnormalities (LGA) and high grade abnormalities (HGA). This preliminary study focused in LGA rates, which were estimated for 1-month period and stratified by 4 age groups (<20; 20–24; 25–30; >30 years) from 2007 to 2014. A quantitative comparison of LGA temporal trends before and after vaccination was done with Quasi Poisson regression analysis. The protective effect of the vaccine over time was evaluated by calculating the relative risk (RR) in each age group. **Results:** The study showed significant decrease of more than 60% in LGA in women aged <20 years, and almost 50% for the other groups. HPV vaccine was a protection factor, as RR result was equivalent to <0.0001 in all age groups. **Conclusion:** Although the studies show that the pre HPV neoplastic lesions may be reversible spontaneously, it is undeniable that the vaccine contributed greatly to the high reduction rates, associated with high vaccination coverage. These results are the first in Brazil and may address in the future the necessity to discuss the vaccination of boys in the context of the same results obtained in Australia.

**Keywords:** HPV; Human Papillomavirus Recombinant Vaccine Quadrivalent, Types 6, 11, 16, 18; uterine cervical neoplasms;

#### INFECTION AT SCHOOL: USE OF LUDIC METHODOLOGIES ABOUT HPV AND HIV

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**Introduction:** The promotion of health and the prevention of sexually transmitted diseases (STDs) are gradually being introduced in the school environment, even though there are many myths and taboos related to the approach of sexuality and ways to clarify these subjects, especially regarding the human immunodeficiency virus (HIV) and the human papillomavirus (HPV) among children and adolescents. **Objective:** To debate, with the scientific community, about the activity of the Academic League of Infectology and Parasitic Diseases at Universidade do Grande Rio (Unigranrio), Barra unit, in groups of health education addressed to children and adolescents of public and private schools of Rio de Janeiro. **Methods:** Qualitative study, experience report type. **Results:** Groups of educational intervention were created in a public and in a private school of Rio de Janeiro, including the participation of one hundred students, divided in two groups: one of children in a workshop, in the morning, and one of teenagers in a workshop, in the afternoon. Teachers and coordinators took part in the activities with members of the academic league. The activity began with the exposure of the story “Mariazinha Medrosa” (*Scared Mary*) and “José Vai com os Outros” (*José follows the crowd*), a couple that faced several conflicts and difficulties involving their families, friends, school, prejudice, anxiety and STD diagnosis. Then, there is a time to share opinions and views of the students about the story — told through images showing the scenes of the plot —, and, at the end of the reflection, the members of the league present a lecture and an educational debate. Afterwards, there is an activity with a human board game, including questions and answers about HIV and HPV, themes that were approached during the intervention. A box of questions was created, so the students could include questions that would be answered by the members and advisors of the league.

**Conclusion:** Despite the increasing number of public policies related to STDs, the school environment still needs efficient educational approaches using the language of the target audience, breaking barriers connected to the idea of children and teenagers as asexual beings, who should not be addressed to the search of knowledge regarding sexuality. It is necessary to develop more partnerships between the pedagogic staff and the students in the health field to carry out ludic and efficient approaches, in order to transmit knowledge about the subject. This also prevents mere lectures, which will have poor impact on the stimulation and comprehension of this target group.

**Keywords:** education in health; medicine; human papillomavirus; care; infectology.

#### INFECTOLOGY DAY: STD AND TUBERCULOSIS AWARENESS ACTIONS OF THE ACADEMIC LEAGUE OF INFECTIOUS AND PARASITIC DISEASES

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**Introduction:** Medical education and training of health professionals is generally permeated by challenges related to the student's development and encouragement for promotion, prevention, diagnosis, and treatment actions. The inclusion of the Academic League of Infectious Diseases in the Promotion and Prevention Front motivated the creation of a day of health campaigns related to sexually transmitted diseases (STDs) and tuberculosis, named Day I – Infectology Day. Recreational and informative activities assist in the creative development concerning approaches, intervention, and involvement of outpatients and medical students in campaigns on human immunodeficiency virus (HIV) and human papillomavirus (HPV), including members of the academic league in the group of health promoters. **Objective:** To communicate to the scientific community the activities on STDs, focused on HPV and HIV/AIDS, carried out by members of the Academic League of Infectious Diseases of *Universidade do Grande Rio* (Unigranrio) on the preventive campaign day. **Methods:** Qualitative study of the experience report type. **Results:** A group of nine students, executive members of the league, organized the event and prepared health education tents in front of the university's outpatient clinic. One tent was decorated with posters and photos related to healthy and preventive habits associated with HIV and HPV infection, as well as contraceptive methods and explanations concerning their use. Pamphlets were distributed to those leaving the tent. Inside the circuit of Day I, the visitors played the DST hopscotch game, in which they played dice and the number obtained corresponded to advancing one square and one question about HPV and HIV. In another tent, counseling on tuberculosis was offered by volunteers associated with the league. The groups distributed leaflets to patients leaving the outpatient clinic and the event was concluded with a lecture on STDs in the auditorium of Unigranrio, focusing on diagnosis and treatment of the main diseases in this category. At the end of the event, students and patients were invited to take pictures with signs supporting cervical cancer prevention and non-prejudice against HIV-positive patients. **Conclusion:** The Academic League of Infectious Diseases is a non-profit organization linked to the university and organized by students of the Medicine and Nursing courses under the guidance of a professor. The creation and expansion of health campaigns aimed at prevalent infectious diseases in the community activate the "teaching, research, and extension" tripod, which is essential for the inclusion of the student in the environment of preventive medicine and health promotion. This enables the development of health professionals who are committed to dialogue and reduce STD cases, prioritizing prevention by means of health education.

**Keywords:** infectious disease medicine; papillomaviridae; medicine.

#### VALIDATION OF THE CONDOM SELF-EFFICACY SCALE CONSTRUCT

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**Introduction:** Condoms are the barrier method of birth control that provides dual protection for both pregnancy and sexually transmitted infections (STIs) and is the most accessible and easy to use worldwide. Self-efficacy is a factor that influences the use of condoms and can be stimulated among adolescents to change behavior in sexual relationships. Thus, self-efficacy enhances adolescents' confidence in their own ability to use the condom, leading to a safer sexual activity. **Objective:** To validate the Condom Self-Efficacy Scale (CSE) construct with adolescents in Fortaleza, Ceará. **Methods:** The CSE was applied to 209 students aged 13 to 26 years who were sexually active and were regularly enrolled in a public education network school of the state of Ceará. Data were collected during the

month of November 2014 using a questionnaire containing sociodemographic and sexual data, in addition to the CSE, a self-administered tool, in its Brazilian version. The validity of the construct was assessed by means of the factorial analysis, using analysis of the main components with varimax rotation. The test of choice for analyzing CSE homogeneity was the precision of internal consistency measured by Cronbach's alpha, which is more common with respect to reliability. The research was submitted to the Research Ethics Committee of *Universidade Federal do Ceará* (UFCE), through Plataforma Brasil, and was approved under protocol no. 702.946/2014. **Results:** After the factorial analysis, the scale was composed of 14 items divided into 3 domains, similar to the original version of the scale, with only 2 items needing relocation. The reliability of the scale was verified by Cronbach's alpha, which varied from 0.638 to 0.788, obtaining the total value of 0.856, which denotes high internal consistency. A mean of 68.1 points from the total scale was obtained, and there was a statistically significant relationship between the total scale and the variables not having children ( $p=0.038$ ), condom use ( $p=0.008$ ), and condom use with a stable partner ( $p=0.036$ ). **Conclusion:** It can be concluded that the Brazilian version of the CSE is a valid and reliable instrument to verify the self-efficacy of condom use among adolescents and young adults. This version can be used in clinical practice as well as in other studies to evaluate interventions that improve the self-efficacy of adolescents and young adults for condom use.

**Keywords:** condoms; scales; validation studies.

#### ADOLESCENTS' KNOWLEDGE OF HPV: AN INTEGRATIVE REVIEW

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**Introduction:** Human papillomavirus (HPV) is a sexually transmitted infection (STI) that has as its main clinical manifestation the genital warts. Infection can be detected by three **Methods:** the DNA hybridization test, the visualization of condyloma acuminata in the genitals (or subclinical), and/or the Pap smear — oncoytic colposcopy. Knowledge of HPV prevention, clinical manifestations, and transmission is extremely important, especially in the adolescence phase, when initiation of sexual activity mostly occurs, often performed without the use of condoms, thus exposing teenagers to a greater risk of contamination by various pathogens. For this reason, adolescents need more information about the changes in their body, about physiology, anatomy, contraception, and disease prevention. **Objective:** To identify the scientific studies or the level of adolescents' knowledge of HPV infection. **Methods:** This is an integrative review, in which the bibliographic survey was conducted on publications at the health databases Scientific Electronic Library Online (SciELO), Latin American and Caribbean Health Sciences Literature (LILACS), and Science Direct in the last five years. This study began with the following guiding question: What knowledge do adolescents have about HPV? With this question in mind, data was collected from January to March 2016, using the following descriptors: HPV, adolescents, and sexuality. Full national and international articles related to the topic were included, with publications between 2010 and 2015. The criteria for exclusion of articles were those that did not meet the research objective. **Results:** With the combination of the descriptors, a total of 96 articles were found, but only 11 met the inclusion criteria, 8 from SciELO, 1 from LILACS, and 2 from Science Direct. Regarding the publication period, the year that presented the highest number of published articles was 2013, with 6 studies; followed by the year 2014, with 2 publications; and the years 2010, 2011, and 2015, with only 1 study each. The articles evaluated revealed the adolescents had little information about the subject. Most authors were unanimous in stating that adolescents had poor knowledge of the disease, and recommended health education studies on the subject. **Conclusion:** Based on the analysis of the scientific articles found, the adolescents were unaware of HPV infection, prevention methods, transmission, and treatment. Thus, nurses need to act at various levels of health care in order to promote community education, in addition to the training of teachers so that they also provide correct guidance to young people.

**Keywords:** sexuality; adolescent; papillomaviridae.

#### ACADEMIC LEAGUE OF GYNECOLOGY AND OBSTETRICS: THE EXTENSION EXPERIENCE FOR WOMEN'S ASSISTANCE AND HEALTH CARE

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**Introduction:** Founded by a group of students interested in deepening theory and practice on women's health, the Academic League of Gynecology and Obstetrics of *Universidade do Grande Rio* (Unigranrio) develops actions with a focus on development,

disease prevention, and scientific knowledge activities, assisting in the improvement of scientific knowledge of medical students in the fields of health promotion, prevention, and follow-up with preceptors in that field. **Objective:** To discuss with the scientific community the activities carried out by the Academic League of Gynecology and Obstetrics of Unigranrio Barra da Tijuca in the fields of women's health and approach to and study of sexually transmitted diseases (STDs). **Methods:** This is a qualitative study of the experience report type. **Results:** The League of Gynecology at Unigranrio Barra is composed of 30 members, 6 of which are members of the board. The league initiated a new management this year by joining student associations involved in women's health from various educational institutions, expanding dialogue and partnerships with other universities. It holds monthly lectures and, this year, its theoretical and practical activities have turned to topics such as HPV and the preventive exam, climacteric, and breast cancer. It conducts clinical sessions with diagnostic challenges along the social pillar of the Academic Medical Center, where the members of the league themselves conduct the debate on clinical cases and their resolution. The league has an internship agreement with the Family Clinic associated with the university. Every year it performs preventive examination and offers counseling on HPV to women in the Unigranrio outpatient clinic. The activity is performed after class and a training workshop is organized by the league's advising teacher, with subsequent training in the experiences laboratory. The league is present in several Brazilian and international obstetrical gynecology congresses. Currently, the form of admission consists of approval in a recruitment process organized by the board, in which the student should write a summary about endometriosis and gestational diabetes. **Conclusion:** The growth of academic gynecology leagues that handles women's health is essential for the involvement of medical students and those from other health care courses with the assistance to patients, the expansion of experiences, and theoretical training, but above all, is essential for the organization of events that provide contact with the patients, expanding actions on prevention and attention to care.

**Keywords:** medicine; gynecology; health.

#### EVOLUTION OF USUAL VIN IN AN IMMUNOSUPPRESSED PATIENT

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**Introduction:** Vulvar intraepithelial neoplasia (VIN) is characterized by the abnormal growth of the vulvar epithelium. It can be classified in: classic and differentiated VIN. Classic VIN is commonly associated with oncogenic human papillomavirus (HPV) and, in 19% of cases, with an invasive lesion. Differentiated VIN, in turn, is often related to vulvar dermatological conditions, such as Lichen Sclerosus, and is strongly associated with invasive lesions. The incidence of VIN has increased, especially in young women. Immunosuppression helps to accelerate the progression of the disease as immune defense is compromised. **Objective:** To report a case of an immunosuppressed patient, in which there was a progression from classic NIV to squamous cell carcinoma of the vulva, submitted to a successful surgical treatment in a University Hospital. Case report: LCP, 40 years old, HIV-positive, undergoing antiretroviral therapy – viral load of 2,235 copies in February 2016, smoker. She was assisted at the Vulvar Pathology Outpatient Clinic of Hospital Universitário Antônio Pedro (HUAP) with a diagnosis of VIN II, with the excision of the injury having been indicated in 2009 but only performed in 2010 owing to the abandonment of follow-up. In 2015, she returned with multiple hyperchromic, keratotic, and grayish lesions on the vulva, suggestive of classic VIN, as well as an ulcerated lesion between labia majora and minora on the left side associated with pruritus and local pain. A biopsy of the hyperchromic lesion was performed, whose findings were a high-level vulvar squamous intraepithelial lesion and ulcerated lesion with a moderately differentiated squamous cell carcinoma. She underwent vulvectomy and bilateral inguinal lymphadenectomy in 2016, with postoperative infection of the surgical wound, together with clinical treatment, vancomycin, and tazocin. Histopathology confirmed a moderately differentiated squamous cell carcinoma, with a maximum invasion depth of 5 mm; surgical margins and inguinal lymph nodes were free of neoplasia, requiring no complementary therapy. **Conclusion:** Women infected with the human immunodeficiency virus (HIV) have four to six times greater incidence of developing VIN. This incidence decreases with the use of antiretroviral therapy, which shows the importance of immunity in the evolution of the disease. The intensity and duration of smoking contribute to the increased incidence, since tobacco induces immunosuppressive effects, facilitating the persistence of HPV, favoring the process of carcinogenesis. Thus, HIV-positive smokers present an accelerated progression of VIN and increase in the risk of postoperative complications.

**Keywords:** vulva; disease; HIV; smoking.

#### ACROKERATOSIS VERRUCIFORMIS OF HOPF: A DIFFERENTIAL DIAGNOSIS WITH VULGAR WARTS – A CASE REPORT

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Acrokeratosis verruciformis of Hopf (AVH) is a rare autosomal dominant genodermatosis, characterized by the occurrence of polygonal verrucous lesions and symmetrical hyperkeratous papules on the dorsum of the hands and feet. Verruca vulgaris (VV) presents itself by the occurrence of single or multiple papular lesions with rough surface, of varied sizes, being able to converge and to form great masses, being caused by the human papillomavirus (HPV). This study aimed at evaluating the differences and similarities between AVH and VV, determining the best diagnosis for the patients. We have a case report of a male patient, 38 years old, white, retired farmer, with no schooling and history of mental retardation. His caregiver reports the occurrence of injuries in childhood and is not aware of cases in the family. Dermatological examination presents verrucous micropapular lesions with rough surface, located symmetrically on the back of the hands, sparing the palms, middle, and distal phalanges. There are also lesions related to sun exposure with important photo damage, intense elastosis in the areas of exposure, and presence of open comedones in the frontal and cervical region. AVH is a disease commonly developed in childhood and characterized by multiple flat polygonal verruciform papules and hyperkeratotic papillae sized 2-6 mm in diameter, firm, of reddish-brown skin color. There are reports of association with mental retardation. Of chronic evolution, the lesions do not regress spontaneously. In VV, infection occurs in the superficial layers of the skin or mucosa. HPV transmission occurs through direct contact with infected people and/or objects. Small wounds are necessary, which is why they are most common in areas of trauma. They manifest through papules with hyperkeratoses that appear anywhere, being more common in the fingers (periungual) and in the dorsum of the hands. The peak incidence occurs between 12 and 16 years of age. This patient presents, besides mental retardation, lesions from infancy, with multiple symmetrical papules of small diameter sparing distal phalanges and without histories of trauma at the sites, being thus more suggestive of AVH. The classic findings in the histopathology of AVH are hyperkeratosis, acanthosis, papillomatosis, absence of acantholytic cleft, and cellular atypia, whereas VVs are hyperkeratosis, hypergranulomatosis, acanthosis, and vacuolization of the cells of the upper epidermis. Therapy is frustrating in AVH and recurrences are frequent. VVs respond better to the different existing treatments and rarely leave scars. The patient's histopathology is underway, being a good tool for the differential diagnosis between the two diseases.

**Keywords:** warts; acrokeratosis verruciformis of hopf.

#### “PREVE EM AÇÃO”: AWARENESS CAMPAIGN OF HPV VACCINATION AND PREVENTIVE ACTIONS

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**Introduction:** Human papillomavirus (HPV) infection is a public health issue owing to its association with cervical cancer, and therefore it is the most prevalent sexually transmitted disease (STD) in the world. Less than 15% of women in Brazil participate in cervical cancer prevention programs and in health educational measures. Awareness of the advantages of bivalent and quadrivalent vaccines is largely necessary at school, working along with children and adolescents' relatives. **Objective:** To discuss, with the scientific community, the relevance of ludic and active methodologies and the importance of increasing educational campaigns about prevention measures to relatives of children and adolescents at public schools. **Methods:** This is an experience study of qualitative approach. **Results:** First, scholars from Universidade Estadual de Alagoas (UNEAL) and Universidade do Grande Rio (Unigranrio) delivered lectures to relatives that lived in the community where the school is inserted, thus achieving an audience of 180 people, including men and women. The educational action was followed by the presentation of a theater play named “Is HPV a STD?,” which was organized by the scholars and narrated, in a ludic and funny way, the story of patients with erroneous ideas and perceptions on STDs. It ended with a message on the importance of preventive measures and family support to break stigmas and myths associated with the theme. Brochures were distributed and a form was given to one member of each family, containing information about the perception of relatives on HPV and cervical cancer, as well as the identification of myths. The Free Informed Consent was signed.

Data collected from the activity were used only to prepare the school team for establishing the strategy of approaching relatives and students in subsequent campaigns. In the end of the activity, a choir presented a song parody about STDs and distributed the song lyrics to those participating in the event. **Conclusion:** HPV genital infection is the most prevalent STD in different age groups. In general, it occurs between 20 and 24 years of age. For controlling and combating HPV-related diseases, an educational and distinct work conducted by health and education teams at school and family clinics is essential, involving relatives of children and adolescents for breaking myths and clarifying doubts, and reinforcing the relevance of vaccination and general preventive measures.

**Keywords:** health education; human papillomavirus; medicine.

#### BEST ABSTRACT POSTER CATEGORY

##### STD ANTECEDENTS AND ACCESS TO TREATMENT AMONG CRACK USERS FROM A BRAZILIAN NORTHEASTERN STATE

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**Introduction:** Engagement in sex activities for drug acquisition, in addition to frequent unprotected sexual intercourses, has contributed to the increase of prevalence of sexually transmitted diseases (STDs) among crack users. Hence, access to health services has a fundamental role in the prevention and treatment of STDs. **Objective:** To estimate the prevalence of STDs and the access to health services for treatment among crack users from the state of Pernambuco, in Brazil. **Methods:** Prevalence study of a representative sample including crack users assisted at a social protection program — ATTITUDE Program —, which was carried out from 2014 to 2015. Women aged 18 years or older who had used crack for at least 25 days in the last 6 months were eligible. Data were collected by means of a socio-behavioral questionnaire. Reporting wounds (ulcers) and small blisters or warts in the vagina or anus was considered an antecedent of STD. Pearson's  $\chi^2$  test was performed for data analysis, considering a 5% level of significance, with the support of the SPSS software, version 20. **Results:** 243 women were interviewed, most of them were aged between 25 and 34 years (45.3%); skin color was brown (66.3%); were single (70.4%), and had been living on the streets in the last 30 days (52.7%). With regard to crack, 79.4% of them referred using the drug compulsively before joining the ATTITUDE Program. Regarding their sexual life, 54.7% had had more than 10 sexual partners during the 12 months before the interview; 66.7% had had sex in exchange of drug or money; and 55.6% did not use a condom in the last sexual intercourse. With regard to STD antecedents, 56.8% of interviewees reported vaginal discharge, 11.1% of them mentioned wounds (ulcers), 9.1% of them mentioned small blisters and 9.9% of them reported warts. Among women who reported at least one of these STD antecedents, around 15% did not seek the health service for treatment or orientations, whereas most (70%) of them sought this type of service. The most accessed health service was the family health unit (82.9%), followed by public hospitals (12.4%). As to the received orientations, 77.5% were advised to use condoms and 67.6% to inform their sexual partner about having a STD. Cure rate of STD antecedents among women who had access to health services for treatment (90.5%) was twice as high compared to those who reported not seeking a health service nor following orientations (40.9%) ( $p < 0.05$ ). **Conclusion:** Access to health services was essential to treat and cure STD antecedents. Actions to facilitate the access of crack users to health services are important, such as the adjustment of working hours and execution of such activities in the streets.

**Keywords:** cocaine; crack; sexually transmitted diseases; health services.

##### OUTUBRO ROSA [PINK OCTOBER]: LUDIC METHODOLOGIES IN THE DEVELOPMENT OF PROJECTS REGARDING HPV AND CERVICAL CANCER

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**Introduction:** Considered a public health issue, cervical cancer is the subject of fear and misconceptions in people's imagination. Such fact emphasizes the need for health educational interventions by using accessible and dynamic languages for the engagement of the population and disease's prevention. **Objective:** To discuss, with the scientific community, the relevance of ludic activities to approach human papillomavirus (HPV), cervical cancer, and breast cancer during *Outubro Rosa* campaigns. **Methods:** This is an experience report

study of qualitative approach. **Results:** Activities of the *Outubro Rosa* campaign are included in an annual event organized by the Nursing department and count on the support of the Medicine program from *Universidade do Grande Rio* (Unigranrio). They occur simultaneously in several places at the University. The activities include providing services to patients in the outpatient clinic, performing lectures alternated between plays and songs about HPV, cervical, and breast cancers, as well as activities to raise awareness of patients in the waiting room. Groups of teachers, nurses, health students and members of the clown-doctors project were formed to work at the auditorium in theater plays, educational songs, and in the humanization of Unigranrio outpatient clinic. They provided a quiz for patients regarding HPV and cervical cancer concepts before patients were assisted by students wearing clown costumes and using white coats and stethoscope. Doubts on the themes were addressed by means of a game named *Jogo Rosa*. This is a game with questions and answers. All options were explained to patients including the reasons for right or wrong answers, followed by guidance, which applied humor and preserved the ludic aspect of the new educational and learning methodology. Risk factors, prevention methods, preventive examination performance, infection and HPV types, vaccine types for HPV, and importance of early diagnosis were discussed during the activities. The active and ludic approach obtained wide acceptance and interaction during the musical dialogue with choral formation among patients and scholars and final distribution of hearts in the waiting room as the campaign symbol and creation of bounds. **Conclusion:** Despite the growth of care to individuals with cervical and breast cancers, as well as higher investments on media communication interventions concerning HPV and cervical cancer, ludic activities supporting active comprehension and engagement are still poor. It is essential to integrate professionals and students from different areas in the formulation of dynamic strategies for awareness and prevention, using accessible language to target populations.

**Keywords:** care; health education; human papillomavirus; medicine.

##### A DATABASE ANALYSIS ON VACCINATION AGAINST HUMAN PAPILLOMAVIRUS IN SERGIPE STATE IN 2014

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**Introduction:** The discovery of a vaccine to alter the natural course of cervical cancer and other cancers resulting from infection with human papillomavirus (HPV) has created high expectations in the medical community and in different segments of the population concerning the possibility of action at the primary level for the prevention of cervical uterine cancer and precancerous lesions. Prophylactic HPV vaccines have been developed since 1993, aiming at reducing infection and incidence of cervical cancer. After its approval, a great debate was raised involving the scientific community and the media on the risks and benefits of the new prevention method. The Ministry of Health of Brazil adopted, in 2014, the quadrivalent HPV vaccine as a preventive, but not therapeutic measure. It will be difficult to eradicate cervical cancer screening, since the vaccine does not provide protection against all oncogenic HPV subtypes or against other sexually transmitted diseases. Moreover, as vaccinating boys is not cost-effective, this group is not targeted to vaccination, although it is protected indirectly with vaccination of the female group, namely herd immunity. **Objective:** Analyze the data obtained from the vaccination program against HPV instituted in 2014 in the state of Sergipe, in girls aged 11 to 13 years, and quantify the target achieved by each micro-region of the state. **Methods:** Cross-sectional analysis, descriptive with retrospective component, using only secondary data from the State Department of Health, Sergipe, related to vaccination coverage against HPV in girls aged 11 to 13 years, from March 2014 to December 2014. Wilcoxon test was used for mean differences in the paired regions. **Results:** In the analysis of the study period, a total of 61,785 girls received the first dose of the vaccine (D1), reaching 103.25% coverage and of these, 30,561 received a second dose of the vaccine against HPV, generating 56.26% coverage. The quantity of second doses (D2) administered to girls decreased in all analyzed regions, as compared with the quantity of first doses (D1) administered in the same population. In this analysis, the 95% confidence interval were all small and all data were considered statistically significant at  $p < 0.001$ . **Conclusion:** The study evaluated the HPV vaccine coverage in the state of Sergipe in 2014. We found that the regions have achieved the target vaccination of health state secretariat in the implementation of the first dose, but not achieved the same success in second doses.

**Keywords:** public health; papillomaviridae; vaccines.

##### EPIDEMIOLOGICAL PROFILE OF PATIENTS WITH CERVICAL INTRAEPITHELIAL NEOPLASIA AT SANTA CASA DE SÃO PAULO

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**Introduction:** Cervical cancer in Brazil is the second most common type of cancer among women. Human papillomavirus (HPV) infection is the main cause for the development of cervical cancer and cervical intraepithelial neoplasia (CIN). Screening is done by means of Pap smear tests, and one of the problems faced today is the low number of pap smears performed among women, which hinders early detection. **Objective:** To delineate the epidemiological profile of patients with CIN and to assess risk factors and possible standards involved in this population. **Methods:** A cross-sectional study was carried out including 82 patients that had been diagnosed with CIN by means of a general questionnaire. **Results:** Most of the patients were non-smoker, were aged around 38 years and belonged to the socioeconomic class C. With regard to the onset of sexual activity, the mean age was 18 years. Among the female patients, 57.31% did not use any contraceptive method in their first sexual intercourse; and among those who had used, 71.42% chose the male condom. On the other hand, among those in a current relationship, 79.03% had used contraceptive methods; however, only 32.65% had used the male condom. Knowledge of the subject was not sufficient; 26.61% of patients reported they did not know the meaning of a sexually transmitted disease (STD), 29.26% reported they were not aware of STD early diagnosis — even though all patients in the study are HPV-infected — and more than half of them did not know what HPV meant. The research showed that lack of knowledge mainly resides not only on the infection pathology — half of patients did not know which diseases can be HPV-caused —, but also on its transmission — it obtained 28.04% of correct answers — and on vaccination — 21.95% stated that there is no HPV vaccine. Among those patients diagnosed with CIN I (26.8%), 86.26% did not undergo the surgery and, among the CIN III patients (30.48%), 84% underwent the surgery that also had a correct, but incomplete, follow-up. All patients were aware of the oncologic cytology exam, 45.12% did not know its objective. The mean age of the first exam was 22.29 years old. **Conclusion:** We verified low adherence to the use of male condom during their sexual intercourses, as well as a high number of smokers among the patients; therefore, we found important risk factors for the transmission and genesis of precursor lesions. Another relevant point is the perception of poor knowledge of the theme, which hinders prevention and adherence to the treatment among this population, especially owing to the low educational level and social class of the interviewed subjects. This information is relevant for health promotion and prevention measures and it alerts to the key themes for future investments.

**Keywords:** cervical intraepithelial neoplasia; HPV; cervical cancer.

#### HPV AND CERVICAL CANCER: REASONS THAT INFLUENCE ELDERLY FEMALE SUBJECTS TO NOT UNDERGO PAP SMEAR TESTS

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**Introduction:** The prevalence of elderly women that have an active and unprotected sex life is high. This may lead to high incidence of sexually transmitted infections (STI), such as the human papillomavirus (HPV). The age group recommended by the Brazilian Department of Health to undergo the preventive gynecological exam in women that had or have sexual activity — the Pap smear test — is between 24 and 60 years of age. However, it is important that older women also undergo Pap smear because women above 60 years of age are at risk of developing cervical cancer owing to the presence of HPV. **Objective:** To identify the reasons for low adherence of elderly women to the prevention of cervical cancer. **Methods:** An integrative literature review was carried out in June 2016, based on the following guiding question: What are the reasons that influence elderly female subjects to not undergo the Pap smear test? Scientific productions were searched in the portal of the Health Virtual Library (BVS). The terms “adhesion”, “aged”, “prevention,” and “cervical cancer” were used in a combined manner as keywords. The required inclusion criteria were articles between 2012 and 2016 that approached the theme and Brazilian and foreign complete works. The exclusion criteria included articles that analyzed elderly female subjects with cervical cancer. **Results:** Even though the number of women above 60 years old with HPV has been increasing, aged subjects continue facing difficulties associated with the cancer preventive exam. Among the reasons found for low adherence are: unawareness, advanced age, insecurity, socioeconomic level, no partner, or low educational level — lack of information about sexuality in the third age is one of the main reasons why elderly female subjects do not undergo exams or perform gynecological prevention. Therefore, their behavior may facilitate STI contamination and increase their vulnerability for the development of cervical cancer. **Conclusion:** There are

few studies on aspects concerning elderly women’s sexuality that influence the routine performance of the Pap smear test; therefore, it is upon every health professional to provide guidance to elderly women on the importance of performing gynecological exams to prevent cervical neoplasm. The probability of early control and diagnosis of cervical cancer is believed to increase among this population, as they acquire knowledge and perform preventive practices.

**Keywords:** aged; prevention; HPV.

#### NURSING INTERVENTIONS FOR HUMAN PAPILLOMAVIRUS PREVENTION IN PRIMARY HEALTH CARE

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**Introduction:** The Human papillomavirus (HPV) is a sexually transmitted infection (STI) capable of causing skin or mucosa lesions. The virus has more than 100 recognized types, of which types 16 and 18 can cause cervical cancer. As health professionals in Primary Care, nurses has several attributions, including the performance of preventive gynecological examinations such as the Pap Test, which is able to detect cell changes caused by HPV. It is considered the best method for cervical cancer and precursor lesions detection. **Objective:** Analyze the HPV prevention work performed by nurses in primary care. **Methods:** This is a literature review study. The Scientific Electronic Library Online (SciELO) and the Latin American and Caribbean Health Sciences (LILACS) databases were used in this study. The database search was conducted in June 2016, using the following descriptors: prevention, sexually transmitted diseases, nursing, HPV. The inclusion criteria consisted of articles published in the period from 2011 to 2016. **Results:** The primary role of nurses in primary health care is to prevent all types of diseases, among which is cervical cancer related to HPV. Through regular check-ups and health education activities, nurses administer quadrivalent vaccination to girls (within the age range recommended by the Ministry of Health); organize community group activities; provide guidance on the importance of wearing condoms on STI prevention; as well as perform Pap tests. Thus, in order to prevent HPV infection, in addition to early cervical cancer diagnosis, it is necessary to encourage preventive services aimed at reducing short and long term complication to minimize the effects of the disease. **Conclusion:** Nurses play a vital role in disease prevention and health optimization, and must have knowledge of proper patient evaluation. It is their duty to help patients truly understand the need to attend regular consultations and perform routine tests as a way of strategically preventing STIs and their complications.

**Keywords:** HPV; nursing; primary health care.

#### CD8 INFILTRATION CORRELATION AND EXPRESSION OF ITS CHECKPOINT PROTEINS PD L1 AND PD L2 WITH CERVICAL CARCINOMA STAGES

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**Introduction:** The importance of CD8 infiltration in cancer prognosis has been underscored in recent times by the increased use of checkpoint inhibitors in patients with invasive tumors. **Objective:** To determine if CD8 infiltration and the expression of its two key checkpoint proteins, PD L1 and PD L2, vary between early stage (FIGO IA-IIA) and advanced stage (FIGO IIB-IVA) cervical cancer. **Methods:** A micro-array tissue with 61 cervical specimens was analyzed through immunohistochemistry for PD L1, PD L2, and CD8. Antigen presenting cells CD1a served as internal control. **Results:** CD8 and CD1a infiltration was evident in control tissues whereas little to no PD L1 and PD L2 was present in benign tissues. There was a three-fold increase in the number of CD8 cells in invasive cervical cancers with simultaneous dramatic rise in PT L1 and DP L2 expression (each  $p < 0,001$  versus benign control). There was a slight decrease in the numbers of CD1a cells in the malignant tissues, if compared to benign ones. No significant difference was found in either CD8 infiltration, or in PD L1 and PD L2 expression between early stage (FIGO IA-IIA) and advanced stage (FIGO IIB-IVA) cancers. **Conclusion:** Cytotoxic T cell infiltration and expression of two of its key checkpoint proteins (PD L1 and PD L2) remains constant as cervical cancers advance from early stage to late stage tumors. This suggests that the immune response may be equivalent in early and late stage cervical cancers.

**Keywords:** HPV; cervical intraepithelial neoplasia; cervical cancer

#### PREVALENCE OF EPITHELIAL CHANGES IN THE ANAL CANAL OF FEMALES WITH HUMAN PAPILLOMAVIRUS GENITAL INFECTIONS

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**Introduction:** Anal cancer is the second most common anogenital cancer caused by the human papillomavirus (HPV). In general, a history of anal intercourse is strongly associated with the occurrence of anal cancer. Persistence of HPV infections is considered the cause of this type of cancer. Similarly to the case of cervical cancer, we can be assumed that 85% of anal cancer cases that occur every year worldwide are caused by this virus as a result of a sexually transmitted infection (STI). **Objective:** To determine the prevalence of atypical anal lesions and changes in the anal cytology of women with genital HPV. **Methods:** This is a prospective cross-sectional study carried out at the Cervical Pathology Center of the Universidade Federal de Sergipe (UFS) from August 2015 to October 2015. Patients with genital condylomatosis and premalignant lesions were considered eligible for the study and underwent anoscopy preceded by anal cytology. Anoscopies and cytologies were performed in 34 patients. **Results:** Among the anoscopies performed, 7 (20.6%) of them resulted negative and the remaining anoscopies (79.4%) were positive and presented the following types of injuries: acetowhite epithelium, mosaic, and spiculated lesions. These patients were then referred to anorectal mucosal biopsy. Eleven (32.4%) of the cytologies performed were negative, whereas 18 (52.9%) were positive for the presence of koilocytes. Five (14.7%) of the tests proved unsatisfactory. No intraepithelial anal neoplasms (IANs) were detected in the cytologies. The mean age of patients was 25.5 years, with a standard deviation equal to 3.5355. 17.64% of genital lesions found were low-grade, whereas high grade ones were equivalent to 11.76%, and 70.58% were condylomas. **Conclusion:** There was a prevalence of positive results for both the anoscopies and cytologies performed. Cytologies showed no signs of IANs.

**Keywords:** Human papillomavirus; women's health; anal cancer.

#### HONORABLE MENTION POSTER CATEGORY

##### PCR DETECTION OF HPV DNA-SPECIFIC SEQUENCES TO L1 ORF USING CONSENSUS PRIMER AND DEGENERATED PRIMER SYSTEMS

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**Introduction:** Papillomaviruses present a circular double-stranded DNA containing approximately 8kbp, belong to the *Papillomaviridae* family, comprising 39 genera of high genetic variability. **Objective:** This study investigated the molecular detection of viral DNA amplifications in the L1 open reading frame (ORF), the most conserved region during polymerase chain reaction (PCR) and nested PCR (nPCR) using consensus primer and degenerated primer. **Methods:** DNA extractions — through swabs, blood and tissue collection — were performed using the QIAmp DNA mini kit according to manufacturers' instructions. The internal quality control of the genomic DNA was performed by the  $\beta$ -globin gene using the primers GH20 (5'-GAAGAGCCAAGGACAGGTAC-3')/PC04 (5'-CAACTTCATCCACGTTCCACC-3'), that amplify 268bp. Partial amplification of the L1 gene was performed by PCR with MY09 (5'-CTCCMARRGGAWACTGATC-3')/MY11 (5'-GCMCAGGWCTATAAAYATGG-3') oligonucleotides and degenerated primers as forward FAP59 (5'-TAACWGTIGGICAYCCWATT-3') and reverse FAP64 (5'-CCWATATCWVHCATITCICCATC-3'), which was designed originally by Swedish human samples amplifying a 478bp fragment. To increase the specificity and technical sensitivity of the target DNA, nPCR was performed using GP5+ (5'-TTTGTACTGTGGTAGATACTAC-3')/GP6+(5'-GAAAAATAAAGCTGTAAATCATATTC-3'), that amplifies fragments of 150bp. In order to optimize the molecular reaction, samples of standard SiHa and HeLa cell lines (3x10<sup>6</sup> cells) were used as positives controls and a mixture without DNA as negative control. **Results:** PCR and nPCR products of human papillomavirus DNA-specific (HPV DNA-specific) bands were identified by gel electrophoresis at 1%. All samples tested were positive for the  $\beta$ -globin PCR gene showing some bands stronger than others. HPV DNA amplification was detected in all pairs of PCR primers. As expected, nPCR amplification efficiency increased using GP5+/GP6+ primers. **Conclusion:** This molecular system has been used for detection of HPV DNA-specific sequences to L1 ORF. The amplified products will be purified and sequenced. The choice of primers for clinical and epidemiological studies is critical in regard to the type of biological material to be investigated.

**Keywords:** deoxyribonucleases; papillomaviridae; PCR; oligonucleotides.

**Financial Support:** Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES)/Programa Brasil Sem Miséria; Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq).

##### HPV VIRUS-LIKE PARTICLES (VLP): MORPHOLOGICAL ALTERATIONS OF HPV-POSITIVE (SIHA AND HELA) HUMAN CERVICAL CARCINOMA CELL LINES AS POSSIBLE PROGNOSTIC MARKERS OF CERVICAL CANCER

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**Introduction:** Papillomaviruses constitute a family of epitheliotropic and mucosotropic viruses presenting closed circular double-stranded DNA genome. The expression of genes and the role of proteins involved in DNA damage repair pathways in cell lines as primary human keratinocytes (PHK) and HPV-positive — SiHa – HPV-16 and HeLa – HPV-18 — and HPV-negative (C33A) human cervical carcinoma cell lines, as well as immortalized keratinocyte cell lines — HaCaT, not tumor control — have been described as possible prognostic markers of cervical cancer. Some studies have investigated the ability of cytokine to inhibit the proliferation *in vitro* of normal and HPV infected keratinocytes, as well as the expression of E6 and E7 oncogenes. Cytokines include the growth factor (TGF- $\beta$ ), tumor necrosis factor (TNF) and interferons type I (IFN- $\alpha$  and IFN- $\beta$ ), which are produced by epithelial cells. The cytokine TGF- $\beta$  has proved to be an inducer and inhibitor of growth of tumor cells not infected by HPV 16 and 18. This effect appears to be associated with inhibition of E6 and E7 expression. IFN- $\alpha$  inhibits transcription of E6 and E7 genes in HPV-18 infected HeLa cells and also inhibits the expression of the E7 protein of HPV-16. In contrast, few studies have investigated the cellular pathomechanisms and morphological changes in the host cell. **Objective:** This study reports ultrastructural cell morphology in samples of bovine papillomavirus (BPV) virus-like particles (VLP). Later we describe morphological alterations inside SiHa and HeLa cell lines (3x10<sup>6</sup> cells) through electron microscopy. Few studies have assessed the transmission of electron microscopy in different cell lines. **Methods:** For ultrastructural analysis, the specimens — warts and SiHa and HeLa cells — were embedded in epoxy resin, fixed in 1% glutaraldehyde and post-fixed in 1% osmium tetroxide. Later, the specimens were immersed in cacodylate buffer 0.2 M in sodium sucrose 0.7% and distilled water. The dehydration steps were performed. Warts and cell lines were included in epoxy resin and kept at 60°C to complete polymerization. Ultrathin sections and semi-thin sections were performed. **Results:** Morphologically, electron microscopy detected very electron-dense cells presenting well-developed mitochondria and rough endoplasmic reticula (rER), many vesicles and ribosomes in HeLa and SiHa cell lines. Cellular modifications similar to antigen-presenting cells, many activated mitochondria and well-preserved vesicle transport were also observed. Furthermore, the presence of VLP and cellular junctions like desmosomes were also detected in BPV samples. **Conclusion:** These morphological alterations suggest high activity of HPV-positive — SiHa and HeLa — cell lines can be possible prognostic markers of cervical cancer.

**Keywords:** biomarkers; cells; papillomaviridae; ultrastructure; virus.

**Support:** Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES)/Programa Brasil Sem Miséria; Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq).

##### THREE-DIMENSIONAL RESOURCES IN THE MAKING OF PARADIDACTIC BOOKS ON SEXUALLY TRANSMITTED INFECTIONS TO THE PROMOTION OF DEAF PATIENT ACCESSIBILITY

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**Introduction:** According to the Brazilian Institute of Geography and Statistics (IBGE), 23.9% of the population has some kind of disability, and 5.1% has some kind of hearing impairment, 1.12% suffering from severe hearing loss. By law, deaf people have a right for the Brazilian Sign Language (Língua Brasileira de Sinais - LIBRAS) and to bilingual education in school. However, in a scenario of linguistic minority, it is important to note the absence of physicians who can communicate in LIBRAS, as well as the lack of interpreters in various public services. An aggravating fact in this scenario is that high school is the highest educational level currently attained by most active interpreters, which may undermine the performance of their activities – translation and interpretation – in sensitive situations experienced by the deaf, such as medical appointments, due to either lack of knowledge about the subject and/or its scientific terminology. **Objective:** To develop materials in LIBRAS aimed at the health field which can be used in non-formal teaching environments such as doctor's offices and clinics. **Methods:** This study will be developed using a qualitative method. In our research, participants will be from the Institute of Dermatology Prof. Rubem Davi Azulay, Public Health in Dermatology Service (Leprosy/STD), 29th Clinic, Santa Casa de Misericórdia de Rio de Janeiro (SCMRJ). The development of a series of bilingual books (LIBRAS/Portuguese) that use three-dimensional (pop-up) resources is intended to facilitate a dialogue between physicians and their deaf patients, in order for them to understand the most prevalent sexually transmitted infections (STIs) in Brazil – chancroid, candidiasis, chlamydia, granuloma inguinale, gonorrhoea, hepatitis B, genital herpes, human papillomavirus (HPV), syphilis, HIV/AIDS, and trichomoniasis. **Results:** Currently, there is a shortage of materials addressing ISTs available in sign language, and existing ones are usually very brief, exclusive and restricted to manuals describing contraceptive methods and some STIs and/or information about human reproduction. **Conclusion:** The edition of the

“Paradidactic Bilingual *pop-up Books*” series, which will promote the linguistic accessibility for the deaf through visual means, may generate an opportunity for integration between deaf and non-deaf persons. This strategy can help ensure that the deaf are able to gain access to knowledge about several concepts important to their health, enabling them to fully exercise their capabilities in society. The series is intended to be a more inclusive paradidactic approach for teaching about STI prevention not only to deaf individuals, but also to non-deaf ones, which may assist in reducing the STI incidence and enabling the exercise of sexual citizenship and respect between partners.

**Keywords:** education; sexually transmitted infections; health; deafness.

#### STDs IN FOCUS: EDUCATIONAL ACTIONS WITH ADOLESCENTS IN THE NORTHEAST REGION OF BRAZIL

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**Introduction:** The sexuality subject is surrounded by several taboos, questions, information deficiencies, and fears by the general population, especially among teenagers. However, the idea of addressing problems related to prejudices and the onset of sex life in schools hinders the introduction of interventionist actions, creating barriers that interfere with practices for health care education on the human papillomavirus (HPV), the human immunodeficiency virus (HIV) and adolescent pregnancy. **Objective:** Dissemination of ludic methodologies about HPV to adolescents in municipal schools and discussions on their use, which are included in an annual project on sexually transmitted diseases (STDs), conducted in a community in Alagoas. **Methods:** Qualitative study, experience report type. **Results:** The implementation of the project was conducted collectively – teachers, social workers, and health care professionals who work with the community in the area – after cases of sexual violence on the site were studied. After family members, students, and teachers were interviewed, we identified students’ lack of knowledge on the subject. In addition, teachers do not address issues related to sex education and STDs. The project is conducted twice a year with male and female students enrolled in the school, aged 15 to 18 years. Questionnaires are administered before intervening on adolescents’ general perception regarding HPV and STDs, for a future piecemeal approach related to questions and the youthful imaginary. The front for health care education on HPV, within the STD project is associated with the HIV/AIDS workshop, which is coordinated by medical and nursing students, school teachers and other volunteers, after a training lecture. Initially, adolescents are divided into small groups that have a monitor; this monitor conducts educational activities related to HPV and HIV, based on a primer developed by project members. Envelopes with fictional and real life stories of young people in situations such as those found in the community are distributed to pairs of adolescents. These stories involve issues associated with STDs, such as rape, adolescent pregnancy, pedophilia, and prostitution. Pairs report and discuss aspects of the stories, analyzing each case critically. Conclusively, monitors reinforce concepts regarding prevention, diagnosis, treatment, and ways of coping with the social conditions of vulnerability exposed. **Conclusion:** A strong resistance from the community and the team of education on the subject for children and adolescents was observed in literature and during the stages of project elaboration. Education and awareness about issues related to sexual health and STDs are still mistakenly confused for indirect stimuli for sexual practices. To change the perception as well as create an approach that is responsible and open is imperative, straitening bonds of trust and safety in the school and with health care professionals.

**Keywords:** HPV; adolescents; STD.

#### THE USED PROJECT: INTERVENTION ON WOMEN’S HEALTH IN COMMUNITIES IN THE NORTHEAST REGION OF BRAZIL

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**Introduction:** Cervical cancer is the leading cause of cancer deaths among women and the second most common cause for this group in the world. The insubstantiality of women’s perception of the disease, along with the fear of the diagnosis and the preventive exam, is a barrier that negatively influences the diagnosis and treatment process. **Objective:** To discuss the relevance of the work of educational groups for women’s health focused on sexually transmitted diseases (STDs) and cervical cancer with the scientific community, encompassing preventive actions in the social and family history. **Methods:** Qualitative approach as an experience report. The program began in 2014 and is conducted twice a year with a group

of 50 women from the Youth and Adult Education Program (EJA) in a municipal school in Alagoas, monitored by 10 volunteers, including medical, nursing, and social service students as well as teachers. **Results:** Activities start with groups being subdivided into rooms that hold health care workshops with different approach types, called the “Female Circuit”. The workshops address issues such as women’s rights, family planning, the role of women in the family and the community, violence against women, stories of great women in Brazil and the world, independence and health. **Conclusion:** The perceptions and knowledge about cervical cancer, the human immunodeficiency virus (HIV), and STDs in general are still contaminated by myths and misconceptions about prevention and diagnostic techniques. Confronting fears related to the diagnostic confirmation of a stigmatized illness and the situation of vulnerability involving women is essential as a front against cervical cancer. Such work must be carried out through a partnership between several fields that monitor women from the community in their school, family, and health care environments, acting in a clear and dynamic way in the target population.

**Keywords:** HPV; health promotion; STD.

#### MAPPING OF THE DISRUPTION OF THE E1 AND E2 GENES DURING THE INTEGRATION OF HPV16 AS A TOOL IN THE ASSESSMENT OF PROGRESSION OF CERVICAL DISEASES

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**Introduction:** Persistent infections with human papillomavirus (HPV) are associated with the development of cervical cancer, which is a significant cause of morbidity and mortality in women worldwide. To date, 12 types of HPV are considered oncogenic; HPV16 is considered the main type, comprising almost 50% of cases. Generally, integration occurs within the fragile regions of the E1 and E2 viral open reading frames (ORFs) and is considered a late event in cervical carcinogenesis. The elimination of the expression of E2 results in the transcriptional dysregulation of the E6 and E7 viral oncogenes. That leads to the increased expression of both oncoproteins, which target the p53 and pRb tumor-suppressor proteins, respectively; among other changes, the results are loss of cell cycle control, changes in DNA, and active telomerases. **Objective:** To evaluate the physical form – either episomal or integrated – of the HPV16 genome and establish the mapping of the disruption of the viral genome within the investigated region. **Methods:** Ten sets of pairs of primers that cover the entire E1-E2 region were used to assess the physical form of the HPV16 genome, as described in isolated polymerase chain reactions (PCRs). **Results:** Our results comprise 91 samples of patients infected with HPV16, with cervical lesions in different stages of progression. Of the analyzed samples, 16 (17.58%) were episomal, 38 (41.75%) were concomitant (mixed) and 37 (40.65%) were integrated. The E1A region was the one most frequently absent (66% – 60/91): 36 (39.56%) were fully disrupted and 24 (26.37%) were partially disrupted; E1A was followed by the E2C region (39.56% – 36/91): 13 (14.28%) were fully disrupted and 23 (25.27%) were partially disrupted. Literature demonstrates the predominance of disruption in the E2 region, but our results suggest the high prevalence of E1 disruption. **Conclusion:** The methods described are rather specific and enable the mapping of the fragile regions of the HPV16 genome. The absence of E1 and E2 is most common in high-grade squamous intraepithelial lesions (HSIL) and cancer; however, in a few cancer cases, episomal forms are found, suggesting that additional biomarkers are responsible for carcinogenesis.

**Keywords:** PCR; HPV; cervical cancer.

**Support:** Fundação de Amparo à Pesquisa do Estado do Rio de Janeiro (FAPERJ) and Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES).

#### PREVALENCE OF ANAL HPV IN A COHORT OF SUBJECTS INFECTED WITH HIV-1

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**Introduction:** HPV is the primary etiologic agent of anogenital tract cancer. A higher prevalence and incidence of cancer and diseases associated with HPV have been observed in HIV-infected individuals. Neither the natural history of HPV infection nor the immune response that occurs in HIV/HPV coinfection, particularly in the anal mucosa, has been completely elucidated. **Objective:** To analyze the HPV prevalence as well as the clinical, epidemiological, and behavioral data in a cohort of HIV-seropositive subjects from the National Institute of Infectious Diseases, from the Fundação Oswaldo Cruz (Fiocruz), in Rio de Janeiro. **Methods:** The study included 114 subjects with a histopathological diagnosis



based on the anal biopsy. Polymerase chain reaction (PCR) and sequencing was performed for HPV DNA typing in anal discharge. Statistical analysis was performed using the SPSS 15.0 software. **Results:** HIV-infected patients with AIN II/III had CD4 + nadir < 50 cells/mm<sup>3</sup> in comparison to normal patients (p = 0.01). The most prevalent HPV types in the anal secretion (by PapilloCheck®) were HPV16 (29.2%), followed by HPV52 (23.1%), both of which are high-risk oncogenic, followed by HPV44 and HPV55 (21.5%), which are low-risk. A total of 53.3% of the analyzed HIV-infected subjects have already been exposed to the four HPV types targeted by the current quadrivalent vaccine (HPV types 6, 11, 16, and 18).

**Conclusion:** The data suggest that vaccination against HPV could be regarded as a prophylactic measure to reduce the risk of anal intraepithelial lesions in HIV-infected individuals.

**Keywords:** papillomaviridae; vaccines; homosexuality; women; anal cancer.

#### QUADRIVALENT HPV VACCINE FOR MALES IN CAMPOS DOS GOYTACAZES (RJ) – EXPERIENCE BEYOND THE LIMITS OF THE FEDERAL GOVERNMENT

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**Introduction:** The human papillomavirus (HPV) is a sexually transmitted virus that causes genital warts and several types of cancer with high morbidity and mortality rates. In addition to being the primary cause of the cervical cancer agent, it is also related to the malignant transformation in the anus, penis, and oral cavity. The quadrivalent HPV vaccine Gardasil® was introduced in 2014 to the Brazilian National Immunization Program for girls aged 11–13 years. Remarkably, the municipality of Campos dos Goytacazes, in the state of Rio de Janeiro, using its own funds, introduced the vaccine into the municipal vaccination calendar on September 13<sup>th</sup> 2010, offering it for female residents aged 11–15 years. The introduction of this vaccine for boys aged 11–13 years started in March 2014 only in the municipality, simultaneously with the nationwide implementation for girls. Furthermore, there were other municipal recommendations for the quadrivalent vaccine that exceeded federal ones. **Objectives:** To describe the experience of the municipality of Campos dos Goytacazes with the introduction of an alternative HPV vaccination schedule, going beyond the limits of the ministry of Health. **Methods:** This is an experience report describing local decisions to overcome federal government limitations, recommending other indications for HPV vaccination, not only for teenagers. This report shows that the municipality created its own HPV vaccine limitations, based on international literature and other countries' successful experiences. The most important recommendations adopted were: HPV vaccination for boys aged 11–13 years; vaccination for HIV-positive males aged 9–26 years; and vaccination against recurrent genital warts and laryngeal papillomatosis. **Results:** HPV vaccination for boys in 2014 comprised 6,060 first doses and 3,750 second doses; the vaccination total covered 57.7% of boys. In 2015, the boys' interest in vaccination decreased, with a 45% of vaccination coverage. Since 2014, more than 120 men living with HIV/AIDS received at least one dose of the vaccine. The vaccination coverage for HIV/AIDS men was 80% for the target vaccination age. Moreover, 50 boys and men were vaccinated against recurrent genital warts and laryngeal papillomatosis. **Conclusion:** The Australian experience showed that the public decision to start vaccination of boys is not only political, but also cost-effective in reducing over 20% of cancers and genital warts related to HPV, at least. However, such result cannot be reached by the herd immunization of a girls-only vaccination program (e.g.: men who

have sex with men). Furthermore, the Ministry of Health should immediately introduce a vaccination program for HIV-positive men into the health care system considering the benefits vaccines bring to the population by preventing anal and other HPV-associated cancers. Municipal studies are being conducted to verify the effectiveness of the HPV vaccine in reducing recurrent genital warts and laryngeal papillomatosis.

**Keywords:** HPV; Human Papillomavirus Recombinant Vaccine Quadrivalent, Types 6, 11, 16, 18; male.

#### BEST ABSTRACT ORAL PRESENTATION CATEGORY

##### PREVALENCE OF PAPILOMAVIRUS IN BRAZIL: THE POP-BRAZIL STUDY PROTOCOL

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**Introduction:** Cervical cancer is the third most common tumor in women and the fourth leading cause of death among this population in Brazil. Besides causing cervical cancer, the human papillomavirus (HPV) is also associated with penile cancer and genital warts. Moreover, the incidence of oropharyngeal cancer associated with HPV has increased considerably. Most studies conducted in Brazil include participants who attended specific health care facilities for screening or treatment; there are no studies covering the whole country.

**Objective:** In this study, we will assess the prevalence of HPV in women and men aged 16–25 years in Brazil and its five geographic regions and examine demographic, socioeconomic, behavioral, and regional factors associated with the presence of HPV and its viral types. **Methods:** Participants will be recruited at Primary Health Care Centers (PHCs) from all 27 Brazilian state capitals and selected according to catchment area. Data will be collected by trained health care professionals – nurses or physicians – and at PHCs. Data will include sociodemographic factors such as age, race, ethnicity, income; behavioral data such as sexual behavior as well as use of tobacco, alcohol and other drugs; health information: history of parity/miscarriages, use of contraceptive methods, history of sexually transmitted diseases, genital warts, and oral lesions; knowledge of HPV; as well as vaccination and biological sampling for cervical, penile, and oral HPV. The recruitment of 7,935 subjects is anticipated. Roche's Linear Array® will be used to detect HPV genotypes. The prevalence will be estimated to each region's population size. Multilevel modeling will be used to examine risk factors associated with HPV positivity and certain genotypes. **Results:** The results of this study will provide a baseline to assess the impact of future vaccination. Our results will also provide information on the prevalence of papillomavirus across Brazilian regions, factors associated with HPV infection, and groups at higher risk for the disease. The concurrence of oral and genital infection among healthy subjects will also be evaluated. **Conclusion:** Surveillance planning and control measures are restricted by the lack of systematically collected national data. Therefore, this study will contribute to the epidemiological knowledge required to strengthen and redirect policies to control cervical cancer and HPV infection in Brazil.

**Keywords:** HPV; prevalence; Brazil.