

## RELATIONSHIP BETWEEN CERVICAL EPITHELIAL CELL ABNORMALITIES AND CO-INFECTION WITH HERPES SIMPLEX VIRUS AND HUMAN PAPILLOMAVIRUS AMONG UNSCREENED WOMEN IN GHANA

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Herpes simplex virus type 1 and type 2 are responsible for recurrent oro-genital ulcers, complicated childbirths and significant morbidity globally. HPV also infect the female genital region and the most prominent risk factor of cervical cancer. HSV may act in conjunction with HPV in the development of cervical epithelial lesions. Most vulnerable women in Ghana may be oblivion of fact that they live with HPV/HSV co-infection. In order to investigate the impact of HPV and HSV co-infection in the etiology of cervical epithelial cell abnormalities, women attending the Cervicare Centers in Ghana were invited to participate in cross-sectional study. Cytological specimens were obtained from all subjects for Pap smear test. ELISA was used to detect type-specific IgG against HSV-1 and HSV-2 antibodies. Genomic DNA from cervical swabs was extracted using QIAamp Mini kit. HPV-DNA detection were carried out by nested multiplex PCR as described by Sotlar et al., (2004). The SPSS version 22 was used for statistical analysis. Statistical significance was accepted for  $p < 0.05$ . Our result show that among women with abnormal cytology the prevalence of HPV infection of any type, HSV-1 and HSV-2 were 55.6%, 90.0% and 70.0% respectively. Co-infection HPV/HSV-1 and HPV/HSV-2 was 44.4% in both cases with cervical epithelial cell abnormalities. There was a low awareness of the possible interaction of HSV and HPV with the development of cervical cancer among study participants. However, the study did not observe any significant association between co-infection of two viruses and cervical epithelial cell abnormalities ( $p = 0.343$  for HSV-1/HPV and  $p = 0.274$  for HSV-2/HPV, respectively). We do recommend early case detection for all women with HSV and vaccination against HPV to decrease the risk of HPV acquisition and cervical cancer development.

## BIOGRAPHY

Oksana Ryabinina Debrah has MSc in clinical biochemistry from Donetsk National University, Ukraine), she has done her MPH in Medical Biochemistry from University of Ghana, Legon and PhD in chemical pathology from Kwame Nkrumah University of Science and Technology, Ghana. She has a 15 years of experience as a medical laboratory scientist at Ridge Regional Hospital, Accra-Ghana, where she worked as the head of chemical pathology unit at the laboratory department. She is currently the deputy chief medical laboratory scientist at the Institutional Care (Clinical Care) Division of the Ghana Health Service, as well as a lecturer at Accra Technical University- Ghana. Her research interests are in the development of novel biochemical markers which can be used in screening programs for disease prediction, and in the epidemiology of HSV and its synergism with other sexually transmitted viruses, vaccine development. She also has ongoing research in the area of bacterial and/or viral epidemiology and transmission within the context of hospital infection control and prevention. Her publications in area of biochemical markers and infectious diseases.

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