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Interview with Dr. Jennifer S Smith

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Jennifer S. Smith is an Associate Professor of Department of Epidemiology, Gillings School of Global Public Health, University of North Carolina. Dr. Smith is also affiliated with the UNC Lineberger Comprehensive Cancer Center (Cancer Epidemiology), UNC Center for AIDS Research, and the UNC Center for Women's Health Research. Dr. Smith has conducted research on HPV infection and associated cervical neoplasia since 1995. Her current research focuses on epidemiological studies of human papillomavirus (HPV) and cervical cancer worldwide (primarily in Kenya, South Africa, China, and North Carolina), with a focus on prevention via screening, HPV self-screening and prophylactic vaccines.

1. As we know, you are the principal investigator of the Cervical Cancer-Free Initiative. How long have you been involved in the study of preventing cervical cancer?

I started working on cervical cancer prevention when I was a PhD student at Johns Hopkins in 1994, which is unbelievably over 20 years ago. The field of cervical cancer has dramatically changed since I began studying HPV and cervical cancer. Prophylactic HPV vaccines are currently available and have the potential to prevent 70% of invasive cervical cancer worldwide. We also have HPV testing which is available for women 30 years or older that can dramatically improve the sensitivity of cervical cancer screening. These two innovations will be forefront in our fight against this preventable cancer.

2. Which country or what kind of regions have you done this investigation before? And what kinds of female groups have been involved in this investigation?

I have been fortunate to be involved in several global projects

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in many countries worldwide. The focus of my research is on epidemiological studies of HPV and cervical cancer worldwide (primarily in China, Kenya, South Africa, and North Carolina), with a focus on prevention via screening, HPV self-screening and prophylactic vaccines.

3. You are an Associate Editor of Sexually Transmitted Infections and on the editorial board of Sexually Transmitted Diseases. What are your achievements in sexually transmitted infections? Please make a brief introduction.

I am particularly interested in the intersection of sexually transmitted infections and cancer risk. For example, my collaborative work with the international agency for cancer research in Lyon, France identified that chlamydia trachomatis infections seemed to be consistently associated with an increased risk of invasive cervical cancer. I have also published over 210 articles in international peer-reviewed journals, of which over 170 are related to HPV infection and HPV-associated diseases, including cervical, anal, vaginal, vulvar and penile cancer.

4. The project aimed at preventing cervical cancer through vaccination against HPV is also one of your principal researches. What is the specific efficacy of HPV vaccines so far? How about the progress in HPV vaccines research?

There are currently two prophylactic HPV vaccines available to prevent cervical cancer. Both of theses vaccines have been shown to be incredibly protective against the development of high-

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grade cervical pre-cancer with nearly one hundred percent efficacy against high-grade cancerous lesions associated HPV vaccine types. One is the quadrivalent vaccine (including HPV types 6, 11, 16 and 18) and other other is a bivalent vaccine (including HPV types 16 and 18).

5. Do HPV vaccines have side effects? Could you tell us its potential side effects?

The vaccine has been very well studied and is an extremely safe vaccine. It is important to note that these virus like particle vaccines contain no infectious HPV. Data from the United State's Center for Disease Control shows that with more than 23 million doses of HPV vaccine administered, there have been 12 424 reports of adverse events after vaccination. However, most (94%) adverse events were not serious. The most common events include local reactions at the site of immunization (pain and redness) and sometimes dizziness, nausea, headache, and fainting can occur.

6. In 2013, you published an article entitled "Recommendations for a national agenda to substantially reduce cervical cancer." In May 2011, Cervical Cancer-Free America, a national initiative, convened a cervical cancer summit in Washington, DC. Over 120 experts from the public and private sector met to develop a national agenda for reducing cervical cancer morbidity and mortality in the USA. And the summit also offered 12 concrete recommendations to guide future national and local efforts toward this goal. Could you talk about the 12 concrete recommendations from this summit briefly?

The 12 recommendations from the summit are as follows:

Recommendation 1: Ensure that underserved women know what preventive services are available and where to access them.

Recommendation 2: Advocate for coverage of evidence-based screening, diagnostic, and treatment services for all underserved women.

Recommendation 3: Improve information sharing among healthcare delivery systems.

Recommendation 4: Advocate for increased funding to National Breast and Cervical Cancer Early Detection Program (NBCCEDP).

Recommendation 5: Reach women when they come into contact with the healthcare system.

Recommendation 6: Encourage and reinforce the need for providers to follow current screening guidelines.

Recommendation 7: Establish state registries to improve screening and follow-up care.

Recommendation 8: Educate providers, patients, and the public.

Recommendation 9: Expand school-located HPV vaccination programs.

Recommendation 10: Expand HPV vaccination within pharmacies and alternate delivery sites.

Recommendation 11: Advocate for increased use of HPV vaccination registries with recall systems.

Recommendation 12: Facilitate Medicaid and other programs to reimburse HPV vaccination, including allowing alternative delivery sites to become in-network providers.

7. Concerning these 12 concrete recommendations, which institutions or hospitals have implemented?

There is a number of organizations, and individuals who are working towards global cervical cancer. I think the notion of freedom against cervical cancer belongs to everyone, so it is about individuals, communities, organizations, and survivors coming together to make a difference on a local level to reduce this preventable cancer.

8. Currently, you visit HK, China and Singapore for academic exchanges. Do you have any research topics about cervical cancer?

I think that there is a lot of opportunity to work together to prevent cervical cancer. With the dramatic economic transition in Asia, we have a tremendous potential to reduce cervical cancer and other HPV associated cancer in these Asian countries. Given that we have vaccines that can successfully prevent infections and are safe, I think that one of the biggest research questions is 'how can we successfully optimize vaccine coverage among young adolescents?'. Further, given that we have improved HPV testing methods to imporve cervical cancer screening, we need investigate to understand more, both from the provider and patient prospective. We also need to investigate how to ensure available access to these preventative tools to all women (screening) and young adolescents (vaccination).

9. Could you talk about the prospect of preventing cervical cancer?

I think that we now have an unprecedented opportunity to dramatically reduce cervical cancer. It is incredible that over 280000 women die from a preventable cancer. With the tools of vaccination, improved screening and associated treatments, we have the tools to potentially eliminate cervical cancer. Now is the time for action to reduce this highly preventable disease!