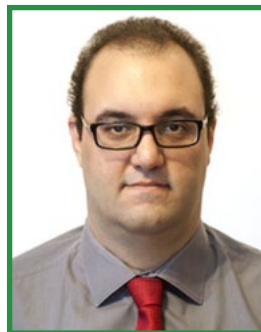


# Survey of Cervical Screening & Awareness in South Lebanon



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## Introduction

Cervical cancer is the 11<sup>th</sup> most common cancer among women in Lebanon and the 6<sup>th</sup> most common cancer in women age 15-44 years<sup>1</sup>. Across Western Asia, Lebanon ranks 8<sup>th</sup>, (4.6/100,000 women/year)<sup>2</sup>. About 113 new cases of cervical cancer are diagnosed annually in Lebanon (estimated for 2012)<sup>3</sup>. The incidence of cervical cancer has reduced significantly since the introduction of routine cervical screening. Cervical cancer is a *preventable* disease. It can only be prevented by encouraging sexually active women, between the ages of 25 and 65, to have regular cervical screening.

## Cervical Screening Methods

**1) Cervical (PAP) smear** is offered every 2-3 years and this will help identify any pre-cancer changes in the tissues of the cervix. The liquid based cytology (LBC) has a lower rate of inadequate smear reporting when compared to the conventional method.

**2) Primary Human Papilloma Virus (HPV) testing** is another method of screening and is usually done every 5 years and taken in a similar fashion as a cervical smear. This will help identify women carrying high risk HPV.

## Human Papilloma Virus

Human papillomavirus (HPV) is a small DNA virus. It infects the deeper layers of the skin and internal lining of organs such as the cervix, vagina, penis and mouth. HPV is *sexually transmitted* and is a common viral infection that can be found in many sexually active men and women and is often asymptomatic.

There are more than 100 types, of which 40 infect the genital area. HPV infections normally resolve spontaneously and almost 90% do so within two years without any intervention or risk of developing cancer. Persistent HPV infection (0.9%) causes the cell changes that eventually lead to cancer over a period of 10-30 years. Although there are more than 100 different types of HPV, the most oncogenic and high risk HPV (hrHPV) types for cervical cancer are 16, 18, 33 and 31 (see table 1). Types 6 and 11 commonly cause genital warts. HPV has also been implicated in other cancers as shown in (table 2)

Three roles of hrHPV testing have been thoroughly identified. The first is the triage of borderline and low-grade cervical screening tests for referrals to a *colposcopy clinic*. The second serves as a test of cure (TOC) post treatment for cervical intraepithelial neoplasia (CIN) and finally, as primary HPV screening. Using hrHPV testing as a primary screening has greater sensitivity than cytology, automated high-throughput testing and, importantly, longer screening intervals. The screening intervals could be extended to 5 or 6 years. The major *disadvantage* however is the lower specificity compared with cytology: Young women in particular have a high rate of HPV infection which varies from around 40% aged 20 years to around 20% aged 30. One strategy to improve the *specificity* of HPV testing is to add a complementary biomarker such as p16INK4A (p16)

or p16 combined with minichromosome maintenance protein family (MCM).

The other possible disadvantage of primary HPV testing in Lebanon is, unlike some countries in the world where the test is offered free of charge as part of a national screening program, patients have to cover the financial expense of the tests. The cost of HPV screening is significantly more expensive than cervical smears. Another practical and cultural issue to consider is how would one counsel a woman with positive HPV test considering that it is sexually transmitted?

Women who test hrHPV positive should have reflex cytology (PAP smear) as triage and those with positive results (abnormal cells) are referred directly to a *colposcopy clinic*. With these methods of screening, patients can be offered early treatment for any pre-cancer changes with the aim to prevent the development of cancer of the cervix. There are other recommended indications for referral to a *colposcopy clinic*. These are positive hrHPV test if reflex cytology has not been performed, persistent low grade smears, abnormal looking vulva, vagina and cervix, persistent post coital bleeding as well as women aged 40 and above with abnormal bleeding or vaginal discharge. Offering the **HPV vaccine** to girls and boys during their adolescent period is highly recommended. This has become a routine and *free of charge* practice in many developed countries as part of their commitment for the prevention of cervical cancer. Offering the vaccination will help protect and develop immunity in this age group before they become sexually active. Vaccines that are currently available in the market are Gardasil (type 6,11,16,18) and Cervarix (16,18). Other new vaccines are also in development.

## Survey

Between April and November 2015, a cross sectional survey of cervical smears awareness and testing was conducted in South Lebanon. 500 women were randomly selected from the population (G\* Power analysis required 474 participants). Information gathered on age, marital status, number of children, "have you ever had a smear?" question, age at first smear, any abnormal smear results and occupation. Statistical analysis was performed in IBM SPSS v 14.

## Results

The results are shown in the following charts

See below

## Conclusion

This survey covered a cross section of women in the community. 57% of eligible women never had a smear. This is a high rate compared to data from the United Kingdom where it is 22.2% in 2014 and 80.6% in 2004. Several studies have identified demographic groups associated with nonattendance in the UK cervical screening programs. These include young women, older women >50 years of age, this was different to the findings in our survey as 73.1% of women who did not have a PAP smear and should have had one done were between 26 and 50 years of age. Reasons for nonattendance are variable and complex and often include, inconvenience, fear of cancer, apathy, and concerns about the actual procedure. The most common reason given in our survey for not having a smear was "not informed by the doctor". This was an interesting observation as it is routine practice when taking a gynecological history to ask women about their smear history. There was no correlation between a woman's occupation and having a smear  $F=4.1$   $p=0.042$   $CI$  95% [-3.14,1.32]. In the group of women who did have a smear there was inconsistency in the frequency of having a smear. The international recommendation is every 2-3 years and in this group the majority had 77.5% had only one smear and most of them more frequent than 2-3 years and in some cases every six months. There was a correlation between a woman's age and doing the PAP smear: the older the woman, the less likely to do a smear,  $F=6.1$   $p=0.014$   $CI$  95% [-9.5,-6.2]. There was no correlation between the number of children and whether a PAP smear was done or not.

This survey highlighted a huge deficiency in awareness and education of the importance of having regular cervical smears in this group of women. To address this deficiency we are currently undertaking awareness campaigns in the form of community presentations and public posters. It will also be helpful to implement a standardized and unified policy on cervical screening in Lebanon.

## References

- 1) National cancers register in Lebanon 2005-2007
- 2) Globocan ([http://globocan.iarc.fr/old/summary\\_table\\_site.html.asp](http://globocan.iarc.fr/old/summary_table_site.html.asp))
- 3) ICO information Centre on HPV and cancer, Human Papillomavirus and Related Diseases Report, 2014. [www.hpvcentre.net](http://www.hpvcentre.net)
- 4) Progress in Cervical Screening in the UK. Scientific Impact Paper No.7 March 2016. [www.rcor.org.uk](http://www.rcor.org.uk)

Table 1.

HPV type	Percentage of cervical cancer cases caused by HPV type	Cumulative percentage
16	58.1%	58.1%
18	15.7%	73.8%
33	4.4%	78.2%
31	4.0%	82.2%
45	2.9%	85.1%
35	1.6%	86.7%
58	1.2%	87.9%
56	1.0%	88.9%
52	0.6%	89.5%
39	0.2%	89.7%
51	0.2%	89.9%
68	0.3%	90.2%
59	0.1%	90.3%
Other	1.4%	91.7%
No type identified	8.3%	100%

Percentage of cervical cancer cases caused by HPV type. Adapted from Smith JS et al., 2007; *Int J Cancer*. 121(3):621-32.

Table 2.

Percentage of different cancer types caused by high-risk HPV types

Cancer site	Percentage of cases caused by HPV
Cervix	> 99%
Penis	40%
Vulva, vagina	40%
Anus	90%
Mouth	3%
Oropharynx	12%

Source: Prof Margaret Stanley, University of Cambridge  
Results (Figures 3, and 4)

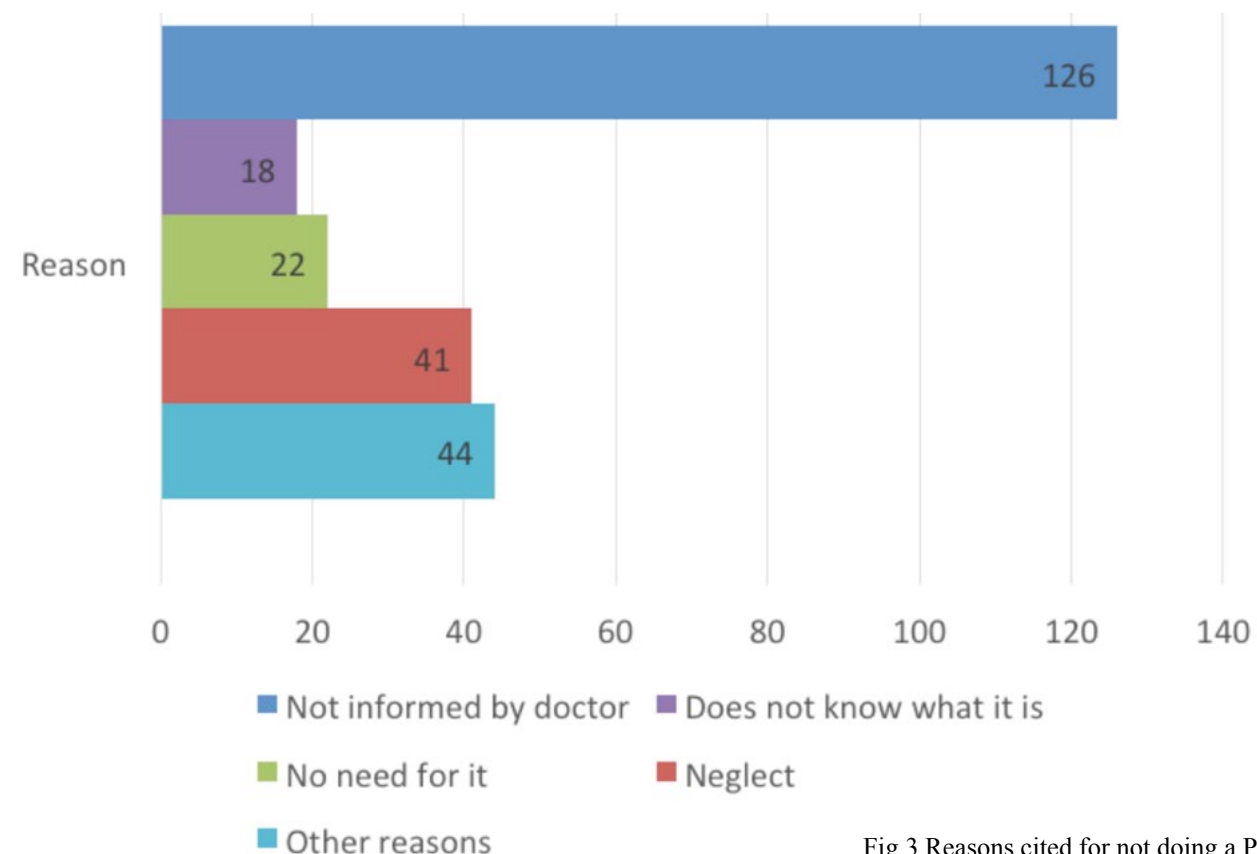


Fig.3 Reasons cited for not doing a PAP smear

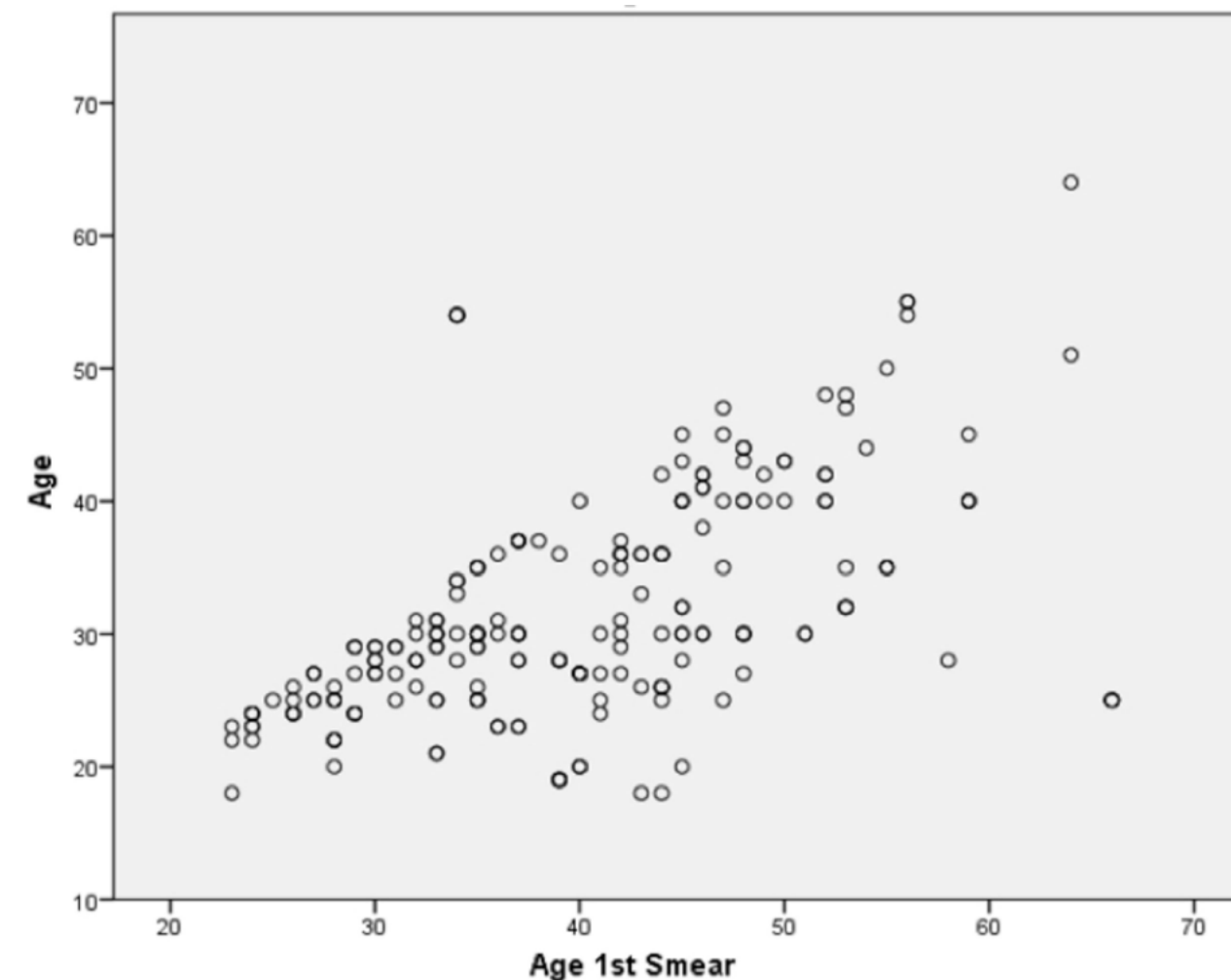


Fig. 4 Age of 1<sup>st</sup> smear vs current age. Pearson = 0.564 p=0.001

## Infos

### Sclérose en Plaques, les Avancées de la Science

Pour la première fois, un traitement a permis à des personnes atteintes de sclérose en plaques de retrouver leurs facultés motrices.

La sclérose en plaques touche le système nerveux central, endommageant le cerveau et la moelle épinière et provoquant des lésions qui entravent la mobilité des patients allant jusqu'à les paralyser.

Jusqu'à aujourd'hui, même s'il existait déjà des traitements capables d'atténuer les symptômes et de ralentir la progression de la maladie, aucun n'avait permis aux malades de retrouver leurs facultés motrices.

Pourtant, au Royal Hallamshire Hospital de Sheffield en Angleterre, plusieurs patients paralysés ont récemment

retrouvé leur mobilité.

Un miracle? Non, une avancée scientifique. Des chercheurs ont prélevé des cellules souches à 20 malades puis les ont mis sous traitement par chimiothérapie. Après le traitement, ils ont réinjecté les cellules souches à ces malades. Celles-ci ont contribué à recréer un système immunitaire sain, non atteint par la maladie.

Les patients, incapables de bouger jusqu'alors ont pu marcher à nouveau, faire du vélo et même nager! Ils racontent leur histoire dans un documentaire intitulé *Can you stop my Multiple Sclerosis?* (Pouvez-vous guérir ma sclérose en plaques?).