TRAINING PROGRAMME ON CERVICAL CANCER PREVENTION (P-CC) — PARTICIPANT HANDBOOK

BASED ON REFERENCE DOCUMENTS AND RECOMMENDATIONS BY THE WHO
Since 2010, Médecins du Monde (MdM) has considered sexual and reproductive health (SRH) to be a key issue and a priority. In 2012, the practical implementation of the SRH conceptual framework is based on a holistic approach and is integrated in the healthcare and rights continuum. It takes an approach based on human rights, reduction of gender inequalities and empowerment of individuals and communities. In 2013, the SRH Guidelines are developed to support the implementation of our projects.

In 2014, the SRH strategy was validated with a focus on three elements, three breaking points in the healthcare and rights continuum. These points are key public health issues that are subject to both stigma and neglect, despite their major impact on mortality and morbidity for women and girls:
1. Prevention and management of unwanted pregnancies through access to comprehensive sexuality education, contraception, and safe abortion.
2. Response to SRH needs in crisis settings, including prevention and care for survivors of Gender-Based Violence (GBV).

These three priorities are also part of a political statement in favour of the respect of sexual and reproductive health and rights, statement that is taken forward at project level as well as in more cross-sectional spaces of influence at regional and global level. Since sexual and reproductive rights are an essential requirement for sexual and reproductive health, MdM has progressively adopted the concept of Sexual and Reproductive Health and Rights (SRHR).

As a part of MdM’s priorities, SRHR benefit from the continuous elaboration of tools based on international protocols that support our projects in a quality approach that enables our responses to be adapted to the populations’ needs and expectations.

Given the importance of skills and competencies in order to implement the developed strategies and approaches, strengthening skills for MdM staff is a core element of the strategic orientations on this topic. This specific training programme was thus developed to enable teams and partners of MdM to gain an understanding of the topic of CC and enhance the integration of a promotion of sexual and reproductive health and rights approach in their projects. This programme aims at developing technical skills regarding:

- Prevention of cervical cancer
- Provision of quality care of precancerous lesions
- Taking advocacy measures in favour of the promotion and exercise of sexual and reproductive health and rights.

Training of MdM teams and other actors in the field of CC is supported and laid down by a Multiannual Partnership Agreement 2018-2021 signed between MdM and AFD (French Development Agency), which targets two countries of intervention for this topic: Burkina Faso and Ivory Coast.

**AIM OF THE PROGRAMME**

**OVERALL OBJECTIVE:**
- To be able to develop and implement a project regarding the prevention of CC (P-CC) and care of precancerous lesions based on a public health approach and underpinned by the promotion of sexual and reproductive rights.

**SPECIFIC OBJECTIVES:**

- To take ownership of MdM’s strategy on P-CC and its integration in the overall SRHR strategy.
- To have a general understanding of the global epidemiological situation regarding CC, the main public health issues at stake and the strategies for primary and secondary prevention.
- To be able to devise and implement awareness-raising activities at community level so as to strengthen users’ individual capacities on the issue of CC and promote the empowerment of individuals and communities.
- To be able to devise and implement CC screening and testing activities as per the defined algorithm: testing or self-sampling (HR-HPV) and triage using visual inspection.
- To be able to devise and implement activities regarding care of precancerous lesions.
- To be able to devise and implement activities for the referral and counter-referral in case of diagnosed cancerous lesions.
- To be able to devise and implement activities in relation to pain management and community end-of-life care (palliative care).
INTRODUCTION

MDM POSITION: SEXUAL AND REPRODUCTIVE HEALTH AND RIGHTS

MODULE LEARNING OUTCOMES

THEORETICAL KNOWLEDGE:
- Definition of sexual and reproductive health and rights
- MDM's position and SRHR strategy
- Key advocacy messages.

PRACTICAL SKILLS:
- Identify the main barriers to exercising sexual and reproductive health and rights
- Identify the core elements of the national regulatory framework in relation to sexual and reproductive rights.

1. INTRODUCTION TO SEXUAL AND REPRODUCTIVE HEALTH AND RIGHTS: KEY CONCEPTS AND DEFINITIONS

Sexual and reproductive health and rights

“Sexual and reproductive health is a state of physical, emotional, mental, and social well-being in relation to all aspects of sexuality and reproduction, not merely the absence of disease, dysfunction or infirmity. Therefore, a positive approach to sexuality and reproduction should recognize the part played by pleasurable sexual relationships, trust, and communication in promoting self-esteem and overall well-being. All individuals have a right to make decisions governing their bodies and to access services that support that right”.

In order to guarantee sexual and reproductive health and rights, an essential package of intervention must be made available: comprehensive sexuality education, counselling and services offering effective contraceptives, antenatal care, emergency obstetric care (both antenatal and postnatal), comprehensive abortion care, prevention and treatment of HIV and other STI, prevention, screening and care of gender-based violence (GBV), information, counselling and services in sexual health and well-being, and services regarding hypofertility and infertility. These interventions are essential and a part of MDM’s approach to ensure the healthcare continuum in SRHR (see below figure on continuum of care in SRHR). Because sexual and reproductive rights are an essential premise to sexual and reproductive health, MDM decided to use the term of SRHR as defined by the Guttmacher-Lancet Commission.

2. MDM’S POSITION AND STRATEGY IN SEXUAL AND REPRODUCTIVE HEALTH

a) MDM’s position regarding SRHR

Health is a universal human right to which every person is entitled, and it must be guaranteed by the States. For MDM, this implies to support and strengthen public health systems so that they ensure access to care and respect of the right to health. It is also necessary to strengthen the individual capacities of users, as rights holders, so that they become aware of their rights and may claim them. In 2010, MDM asserted its commitment towards the respect of SRHR and universal access to sexual and reproductive health services. This implies strengthening the healthcare continuum from community level to reference centres, at all steps of the users’ life.

The implementation of this commitment is based on two complementary approaches:
- A public health approach through the provision of holistic, quality care services that respect the healthcare continuum and are accessible to all.

FIGURE 1: HEALTHCARE CONTINUUM IN SRHR

1 Guttmacher-Lancet Commission, Accelerate Progress—Sexual and Reproductive Health and Rights for All, 2018
An approach based on promotion of sexual and reproductive health and rights through advocacy actions in favour of the right to access adequate health services.

For further information, see: Sexual and Reproductive Health and Rights Guideline

b) MDM’s strategy

MDM acknowledges the importance of a holistic approach that enables care of people throughout the continuum of care, at community level, primary care level through to referral centres. This holistic approach enables care to be delivered to people throughout their life course in the area of sexuality and reproduction. (See figure 1)

The identification of the components of this continuum and the associated healthcare provision is based on the definition of integrated health and sexual and reproductive rights given by the Guttmacher Lancet Commission in 2018. Enhancing access to healthcare services and respect of the right to health are essential to exercise their sexual and reproductive rights will be undertaken. In addition, the consideration of sociocultural barriers can also strengthen the adequacy between the offer of care and the needs of the individuals. Reflection on access to healthcare services should be undertaken in partnership with health authorities and local stakeholders so as to work hand-in-hand and avoid creating parallel or contradictory strategies.

Three delays are pointed out that are the cause of most maternal deaths and disabilities:

- Delayed arrival at the healthcare centre: This delay is structural, due to impassable roads and limited communication which delay the point of first contact with healthcare services.
- Delayed identification of complications: Lack of knowledge of clinical signs, difficulty in assessing risk and insufficient access to family planning services are reasons for delayed first contact.
- Delay in dispensing appropriate care: Health centres do not have the operative resources to care for the patients. There is a lack of skilled professionals along with a lack of human and material resources that limit the scope of care for complications linked to delivery.

Therefore, MDM’s strategy aims at strengthening capacities in order to exercise sexual and reproductive health and rights and at implementing integrated comprehensive and quality SRHR services in the countries of intervention. The aim of this strategy is to (see figure 3):

1. Strengthen the continuum of care in SRHR at all stages of the project and in partnership with the actors involved.
2. Enhance users’ ability to exercise their sexual and reproductive health and rights.
3. Strengthen the exercise of sexual and reproductive rights and reduce gender inequalities through the involvement of community actors and users at each step of the project.


3. DETERMINANTS OF SRHR AND TYPES OF BARRIERS TO EXERCISING SRHR

A person’s state of health is defined by complex inter-relationships between individual, social, cultural, environmental, financial, and political factors. These determinants of health explain the inequalities in health within a country or between two countries. It is important to take them into account and address these determinants to improve a population’s health. Moreover, these determinants have an impact on the availability of adequate and quality provision of care but also on the access to healthcare services.

The presence of an available service does not necessarily guarantee that it is used in practice. By taking account of all determinants of access to sexual and reproductive healthcare, MdM strengthens its commitment to enhancing the links between levels of care for women and newborns.

**a) Sociocultural barriers**

Sociocultural determinants of access to healthcare may be defined as all popular norms, values, knowledge and practices associated with health, and governing actions and thinking about health, illness and also care.

Taking account of sociocultural determinants enables to strengthen communication between the various actors of a given health project and the targeted population, and thus improves the quality of our projects by taking account of needs, values and norms held by service-users. Performing a sociocultural diagnosis at the onset of a project is a recommended step in order to identify the key community actors, to understand the barriers to accessing care, the therapeutic pathways and understand the views on sexual and reproductive health, in particular regarding unwanted pregnancies.

**b) Geographical barriers**

Geographical barriers represent the physical distance that exists between care provided and demand for it. Geographical access is determined by the distance and time of transportation, which depends on the mode of transportation available for the woman and the difficulty of the journey. First and foremost, it depends on the availability of SHRH services in health facilities close to communities.

To reduce geographical barriers, it is important to ensure the availability and quality of services, to improve referral pathways and to reduce the financial impact of transportation on families’ budget.

**c) Financial barriers**

Direct payment by users in health facilities is an obstacle to healthcare. Healthcare is often costly and unpredictable for families with a low income. Financial barriers include direct and indirect cost of care. Indeed, seeking care may also imply shortfalls as a result of the interruption of income-generating activities.

MdM took a stand in 2012 on financial access to care and is committed to introducing or extending free access to primary health care. Thus, we particularly act in support of free healthcare policies covering all aspects of the continuum in SRHR.

For further information: MdM Guideline: Access to healthcare and sociocultural determinants.

For further information: MdM Position paper 2012 Améliorer l’accessibilité financière aux soins de santé primaire [Improving financial access to primary healthcare].

**d) Legal and political barriers**

Barriers to accessing SRHR services, in particular access to contraception (notably for minors), to post-abortion care or to medical abortion, may be induced by a restrictive political and legal environment regarding these issues. Inappropriate administrative procedures can also impede the free exercise of rights (e.g., compulsory advice from several persons, “cooling-off” period, etc.).

An analysis of the regulatory framework is an essential premise of any SRHR project and must be continued throughout the implementation of the project, as it influences the quality and nature of the service provision, as well as the manner in which the rights of women are considered.

Beyond service provision, integrating advocacy actions to the project can help lift barriers and enhance the exercise of sexual and reproductive rights.
KEY MESSAGES

- Sexual and reproductive health is a state of complete well-being, physical, emotional, mental, and social in relation to sexuality and the reproductive system, and is not merely the absence of disease, dysfunction, or infirmity. This includes the ability to:
  - Have a satisfying sex life
  - Access information on family planning (FP) and use a chosen contraceptive method
  - Access health services that accompany women in pregnancy and birth.

- To achieve and maintain good sexual health, all individuals must see their sexual rights respected, protected, and exercised.

- MdM supports the right of women to choose their motherhood, the number of children and the spacing of pregnancies.

- MdM’s commitment to SRHR is based on both a public health approach and the promotion of sexual and reproductive rights approach.

- SRHR are a key theme for MdM and must be understood as a part of the healthcare continuum. However, three breaking points in this SRHR continuum have been identified as priorities:
  - Prevention and management of unwanted pregnancies
  - Responses to SRHR needs in crisis settings, and notably response to physical and/or sexual violence,
  - Prevention of cervical cancer.

- Sexual and reproductive rights are regulated by international legal instruments in relation to human rights in general and women’s rights in particular, which are binding for the States.

- Barriers to the exercise of SRHR can be sociocultural, geographical, financial, legal, administrative.

- MdM participates in advocacy actions in favour of universal access to contraception and in favour to lifting legal restrictions and obstacles to safe abortion.

NOTES

- What do I take away from this session?
- What elements require further clarification?
- Understandings to develop?
PART 1
CERVICAL CANCER PREVENTION
COMMON SESSIONS
CERVICAL CANCER PREVENTION TRAINING PROGRAMME - PARTICIPANT HANDBOOK

INTRODUCTION TO THE ISSUE OF CERVICAL CANCER AND MDM STRATEGY FOR PREVENTION

I. BACKGROUND INFORMATION ON THE ERADICATION OF CERVICAL CANCER

"One woman dies of cervical cancer every two minutes. Each one is a tragedy, and we can prevent it." — Dr Tedros Adhanom Ghebreyesus, Director-General of the World Health Organization (WHO)

Cervical cancer is a disease caused by a viral infection by human papilloma virus (HPV). This virus is sexually transmitted, and most cases could be avoided through adequate screening. Due to inequalities, this cancer’s mortality rate is higher in low- or middle-income countries with failing health systems. In addition to its impact on mortality, it also has a human, social and financial impact that constitutes a real burden for these countries. Prevention and screening of precancerous lesions, followed by appropriate treatment when required, are essential to prevent new cases of cancer. The last WHO recommendations include the involvement of countries and leaders globally. In fact, it is the first time that 194 countries commit to eradicating that type of cancer, following the adoption of a resolution during the World Health Assembly in 2020.

a) The strategy for elimination of CC adopted on November 16th, 2020 is based on the following standpoints:3

- View participation to the response given to non-communicable diseases as a step toward universal access to health.
- Recognize the commitment of populations, in particular women and girls, families, and communities.
- Include all stakeholders as essential to the management of the health system, to fully empower people to improve and protect their own health.
- Promote access to diagnosis, screening, treatments, and affordable care, as well as to vaccination reducing the risk of cancers such as CC and view this promotion as a step towards a more comprehensive approach to prevention and control.
- Implement and upscale any measures proved as financially effective to achieve eradication of CC as a public health issue, including the following; HPV vaccination, screening and testing for precancerous lesions, early diagnosis and treatment of invasive cancers, and use of palliative care.
- Embrace a holistic approach to prevention and control of CC. This includes vaccination programmes, screening and treatment programmes, specific services for adolescents, specific services for HIV and sexual and reproductive health, and both communicable and non-communicable diseases.

b) The WHO strategy is based on 3 key steps: vaccination, screening, and treatment.

The global strategy for the eradication of cervical cancer suggests the following goals to be pursued:

- A world where CC is eliminated as a public health problem.
- A threshold of 4 per 100,000 women per year affected by CC, for elimination as a public health problem.
- The 90-70-90 targets must be reached by 2050 for countries that are on the path towards cervical cancer elimination.
- A mathematical model that illustrates the benefits of achieving the 90-70-90 targets for the eradication of CC by 2030 in low- or middle-income countries.
- The median CC incidence rate must decrease by 42% by 2045, and 97% by 2100, thus preventing over 34 million new cases of CC.
- The aggregated median number of avoided deaths from CC will be of 300,000 by 2030, over 14 million by 2070, and over 62 million by 2120.

The main risk factor for developing cervical cancer is a persistent infection with Human Papilloma Virus (HPV). HPV is mainly transmitted through sexual contact.

99.7% of cervical cancers are indeed associated with HPV. This virus is sexually transmitted, and most cases could be avoided through adequate screening. Due to inequalities, this cancer’s mortality rate is higher in low- or middle-income countries.

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99.7% of cervical cancers are indeed associated with an HPV infection. HPV is therefore a necessary condition for the development of cervical cancer and precancerous lesions. At first, the persistence of the virus does not cause cytological or histological modifications (latent infection); eventually, it may cause lesions such as condyloma or intraepithelial neoplasia.

Therefore, Médecins du Monde acts by tackling different angles:

- Developing the experience and technical expertise of the organisation on this topic.

3 The Twenty-third World Health Assembly (23/05/2020). Global strategy to accelerate the elimination of cervical cancer as a public health problem and its associated goals and targets for the period 2020-2030, Agenda item 11.4
Cervical cancer is the most frequent female cancer in 45 countries. These countries are in Sub-Saharan Africa, many countries in Asia and some countries of Central America (see maps 1 and 2).

The data presented above underlines important disparities between women living in high-income countries and those living in low-income countries. Every two minutes, a woman dies of cervical cancer worldwide, 266,000 in 2012, 90% of which occurred in a low- or middle-income country. Among the 538,000 new cases of cancer diagnosed in the world, 85% occurred in the least developed regions.

The main reason for this disparity is the relative absence of efficient screening programmes. Cervical cancer is thus diagnosed too late, preventing the recourse to efficient treatment. In high-income countries, the incidence and mortality rates for cervical cancer have decreased in the last 30 years, through prevention programmes (screening, diagnosis, and early treatment of cancers).

According to the World Health Organisation (WHO), cervical cancer will kill 443,000 women per year in the world in 2030. Over 98% of these deaths will occur in developing countries, among which 90% in Sub-Saharan Africa. The increase in cervical cancer rates in the world, and particularly in Africa, is currently undermining the progress made in the last 20 years in terms of reducing maternal mortality and morbidity.

Women who are HIV positive are six times more likely to develop CC. This increased risk is present throughout the life cycle and begins with a higher risk of being infected with HPV and a quicker progression into cancer, less chance of regression of precancerous lesions and higher rates of disease recurrence after treatment.

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KEY MESSAGES

- Over 340,000 women die each year of cervical cancer. This represents one woman every two minutes.
- Illness caused by the persistence of HPV, a sexually transmitted virus.
- This illness could be avoided in a majority of cases through adequate screening.
- Over 85% of deaths occur in low- or middle-income countries, where access to screening and treatment is insufficient.
- 4th female cancer in the world.

NOTES

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- What elements require further clarification?
- Understandings to develop?
I. HUMAN PAPILLOMA VIRUS

a) Introduction

Infection by Human Papilloma Virus (HPV) is the most frequent viral infection in the reproductive system. Most men and women with a sexual activity will be infected at one point in their life, and some may be infected several times. There are many types of HPV, a lot of which cause no disorder; HPV infections generally disappear without treatment within a few months and 90% will spontaneously disappear within 2 years after the date of the infection. A small proportion of infections caused by certain types of HPV can persist and develop into cancers. Cervical cancer is by far the most frequent illness linked with HPV. Almost all cases of cervical cancer can be linked to HPV infection.

While data is limited regarding anogenital cancers other than cervical cancers, there is a growing body of evidence that enables a correlation to be made between HPV and anal, vulvar, vaginal, and penile cancer. Even if these cancers are less frequent than cervical cancer, their association with HPV makes them potentially avoidable using the same primary prevention strategies as those applicable to cervical cancer. Some oral cancers and laryngeal cancers can also be caused by oncogenic HPV, contracted through oral sexual contact.

b) Human Papilloma Virus

Characteristics

HPV is a DNA virus which belongs to the family of the Papilloma Viridae which encompasses 200 types of virus.

- Low oncogenetic risk HPV causing acuminated condyloma
- High oncogenetic risk HPV or HR HPV present in cases of invasive cervical cancers

<table>
<thead>
<tr>
<th>LESIONS</th>
<th>ASSOCIATED TYPES OF HPV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cutaneous warts</td>
<td>1, 2, 3, 7, 63, 26, 27...</td>
</tr>
<tr>
<td>Acuminated condyloma</td>
<td>6, 11, 16, 51...</td>
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<tr>
<td>Intra-epithelial cervical neoplasia, cervical cancer, anal and genital cancers</td>
<td>16, 18, 31, 45, 33, 68...</td>
</tr>
<tr>
<td>Oral papillomatosis, recurring laryngeal papillomatosis</td>
<td>6, 11</td>
</tr>
<tr>
<td>Laryngeal Carcinoma</td>
<td>16, 18</td>
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The typology of HR HPV varies depending on the geographical area, however HR HPV 16 and 18 are the most frequent in the case of diagnosed cancer.

c) Mode of transmission

Direct transmission

HPV transmission is mostly through sexual contact, even without penetration. Skin-to-skin contact of sexual organs can be enough to infect the partner. HPV virus is highly contagious. The risk of infection is at its highest at the beginning of sexual activity for both men and women. Low-oncogenetic types of HPV can coexist with HR HPV.

Indirect transmission

Due to its resistance to environmental conditions, the papillomavirus may be transmitted indirectly, however this is rare; it can resist in water, towels, public baths, saunas... (e.g., plantar warts).
d) Symptoms of an infection with HPV

HPV causes infections that are most often benign and asymptomatic. Depending on the type, there may be a variety of associated lesions: condyloma, cutaneouswarts, oral papillomatosis, or in the case of HR HPV- cervical, anal, vaginal, or vulvar cancers.

The virus can cause lesions that may appear a few months after contracting the virus but in some cases, the silent period can last months or years. This period where the virus is present but dormant is called the latency period.

The types of HPV which are non-carcinogenic (6 and 11 in particular), can cause acuminated condyloma and respiratory papillomatosis (whereby tumours develop in the respiratory tract between the virus but in some cases, the silent period can last months or years. This period where the virus is present but dormant is called the latency period.

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Condyloma

Condyloma are small lesions of the mucosa and can take many forms:

- Acuminated condyloma: look like skin-coloured, small warts or cauliflower-like growths. They may be isolated or grouped in one or several localisations.
- Papular condyloma: take the shape of small warts (papula) skin-coloured or pink, isolated or confluent.
- Condyloma lata: look like plane spots (macula), they are red or skin-coloured. Therefore, they are not always visible.

They are localised in the genital or anal area and are most often not painful. They can be external or internal. Depending on sexual practices, it is possible that condyloma be found in the mouth. Lesions can disappear spontaneously, but their size and number usually tend to grow.

Cervical cancer

In the case of high oncogenic risk HPV16 and HPV18, which are responsible for cervical cancer, the symptoms are directly related to advanced precancerous lesions and can take the form of:

- Abnormal vaginal bleeding: outside regular periods.
- Pain in the back, leg, or pelvis.
- Loss of appetite or weight loss.
- Tiredness.

The evolution of a cancer takes place over 15 to 20 years (except for women with HIV where evolution is quicker, in 4-5 years).

Exogenous factors

- High number of sexual partners.
- Young age at first intercourse: seems to play a role, there is however a link between young age and high number of partners.
- Tobacco through cocarcinogenic action and immunodepression.
- Multiparity: having given birth several times vaginally exposes a zone of the cervix called ectocervix. This exposure facilitates HPV infection.

A link has been demonstrated between the occurrence of cervical cancer and co-infection by another STI, in particular HSV-2, chlamydia trachomatis and of course, HIV.

Viral cofactors

Infection with a HR HPV is a requirement but the oncogeneic profile depends on the genotypes. HPV 16 and 18 are major factors of an evolution into cancer.

Host factors

Endogenous hormone rates (number of pregnancies, menopausal status); genetic factors and individual immune response capacity (individual immune deficiency) play a role in carcinogenesis8.

II. PHYSIOPATHOLOGY OF CERVICAL CANCER

a) Anatomy of the cervix

Anatomy

The uterine cervix is about 3 cm long. It is positioned on the lower end of the uterus and forms a canal between the uterus and the vagina. It is primarily composed of connective tissue and muscles. It can be divided into two main regions:

- The endocervix, which is the internal part of the cervix attached to the uterus.
- The ectocervix, which is the external, circular lip-shaped part of the cervix protruding into the vagina.

The endocervix

The endocervix is the part of the cervix that is exterior to the external os. It is the only visible part of the cervix during a speculum examination. The part of the cervix that lies internally, above the external os is called the endocervix.

b) Physiopathology

The cervix in a precancerous condition when the changes undergone by certain cervical cells make them more at risk of developing into a cancer. This condition is not yet a cancer but there is a high risk of evolving into cervical cancer if untreated. When a precancerous condition is not treated, it may take up to 10 years before a cancer develops, but it may be shorter than that.
Precancerous conditions of the cervix initiate in a region that is called the transformation zone. This is where a type of coating (columnar cells), continuously transform into another type (squamous cells). The transformation of columnar cells into squamous cells is a physiological process. However, it makes these cells more sensitive to the effects of human papilloma virus (HPV). Precancerous modifications of the cervix are somewhat frequent. They can occur at any age, but it is mostly women in their 20’s or 30’s. Infection with human papilloma virus (HPV) is the main risk factor for precancerous changes in the cervix and of cervical cancer.

Precancerous lesions include both cervical intraepithelial neoplasia (CIN) and adenocarcinoma in situ. Both lesions are asymptomatic. They usually have a long time span between their appearance and their evolution into invasive lesions, which leaves time for screening and diagnosis.

Persistent infection of cervical mucosa by HPV is necessary to the development of precancerous lesions and cervical cancer. Precancerous conditions of the cervix are characterised by the extent of the abnormalities of the cells (visible using a microscope) and the severity of cellular changes. They are grouped according to the type of cell that present with abnormalities. 

c) Histological Classification

Precancerous lesions are also called cervical intraepithelial neoplasia or CIN. They can take various forms that are more or less severe. A classification helps differentiate three main types of lesions according to their severity:

CIN 1: abnormal cells represent 1/3 of the thickness of the epithelium;
CIN 2: abnormal cells represent 2/3 of the thickness of the epithelium;
CIN 3: abnormal cells touch the entire epithelium.

Cervical intraepithelial neoplasia CIN represent a variety of lesions characterised by cellular disorganisation, mainly linked to impaired differentiation and proliferation of abnormal cells. The number and localisation of these abnormalities enable to classify CIN with regards to their severity and talk about simple infections lesions (CIN 0) or pre-invasive lesions (CIN 1, 2 and 3).

Epidemiological data suggests a recent rise in the incidence and prevalence rates of CIN and a decreased mean age of patients presenting these lesions.

For patients with a CIN 3, the risk of developing a cancer after 30 years is estimated between 31 and 50% in the absence of treatment. For CIN 2 the estimated time to develop a cancer varies between 5 and 19 years, but faster evolutions are sometimes reported, specifically when there is infection with HPV16.

Adenocarcinoma in situ The Adenocarcinoma in situ (AIS) represents 1% of precancerous cervical lesions and is usually found in women between 25 and 50 years, thus 10 to 20 years before the development of invasive adenocarcinoma. The frequency of these lesions is rising for young women.

Around 50% of AIS are associated with intra-epithelial squamous lesions. Up to 90% of AIS are said to be HPV-induced (especially HPV18).

d) The phenomenon of clearance

The amount of time between the infection with HPV and the development of cancer is varying. In fact, at least 60% of mild dysplasia will spontaneously disappear whereas 10% will evolve into moderate dysplasia within 2 to 4 years following the time of infection, and only 50% of dysplasia will develop into invasive cancer. HPV infection is mostly TRANSIENT and in time the cytological and histological abnormalities will disappear.

It will take between 10 and 20 years for mild dysplasia to develop into carcinoma. This slow evolution makes cervical cancer easily avoidable if it is screened. Figure 10 illustrates this clearance phenomenon.

III. PREVENTION

a) Introduction

Prevention and diagnosis of precancerous lesions, followed by adequate treatment when required, are the key actions to prevent the 530 000 new cases of uterine cancer that are diagnosed every year.

Today, some screening tests exist that are affordable and easy to use, which could reduce the burden of death by cervical cancer in the least developed countries. The WHO recently acknowledge the importance of committing to prevention and screening of cervical cancer at a global scale. Some countries are beginning to integrate this issue in national health policy. However, there is a lack of resources that prevents effective implementation and access of women to simple and effective solutions to prevent this disease that may have disastrous consequences in the case of delayed diagnosis.

Primary prevention: the public health aim is to reduce infection with HPV. The key interventions are the following: vaccination, comprehensive sexuality education and promotion of the use of condoms.

Secondary prevention: the public health aim is to reduce the prevalence and the incidence of CC and its associated mortality, by preventing precancerous lesions of developing into invasive cancer. The key interventions are information, screening, and treatment of precancerous lesions.

Primary prevention

HPV Vaccination:
- HPV Vaccination: ≥ 11 YO
- Sex education: <16 YO
- Sex education: <16 YO

Secondary prevention

Screening and treatment:
- Screen and treat: low-cost strategy (5% follow-up by cryotherapy)
- Molecular screening test and typing of HR HPV

Tertiary prevention

Women suffering from invasive cancer:
- Surgery
- Radiotherapy
- Chemotherapy

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** Adapted from WHO Guidance Note (2013) Comprehensive cervical cancer prevention and control: a healthier future for girls and women, Geneva

12. WHO (2014); Comprehensive Cervical Cancer Control; A guide to essential practice, 2nd Edition
13. WHO (2017); Comprehensive Cervical Cancer Control; A guide to essential practice
Vaccination of young girls aged 9 to 14 years-old (3 injections 6 months apart).

- Comprehensive sexuality education.
- Promotion of the use of condoms.

**WHO (2016), Guide to introducing HPV vaccine into national immunization programmes**

Vaccination of young girls aged 9 to 14 years-old (3 injections 6 months apart).

- Primary prevention

Primary prevention aims at reducing infection with HPV through 3 actions:

- Vaccination of young girls aged 9 to 14 years-old (3 injections 6 months apart).
- Promotion of the use of condoms.
- Comprehensive sexuality education.

**Vaccination**

The WHO recommends systematic vaccination against HPV for young girls aged 9 to 14, given that in most countries they do not have any sexual activity at that age.

The age range must be adjusted at national level, in accordance with available data on sexual activity for young people.

There are three types of vaccines to date, the characteristics of which are summarised and compared in the following table:

**TABLE: SUMMARY OF THE CHARACTERISTICS OF ANTI-HPV VACCINES**

<table>
<thead>
<tr>
<th>CHARACTERISTICS</th>
<th>BIVALET (CERVARIX)</th>
<th>QUADRAVILENT (GARDASIL®/SILGARD®)</th>
<th>NINEAVALENT 9VHPV</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE OF VACCINE</td>
<td>Virus-Like Particle (VLP) with L1 recombinant plasmid</td>
<td>Virus-Like Particle (VLP) with L1 recombinant plasmid</td>
<td>Virus-Like Particle (VLP) with L1 recombinant plasmid</td>
</tr>
<tr>
<td>TYPES OF HPV IN THE VACCINE</td>
<td>16, 18</td>
<td>6, 11, 16, 18</td>
<td>6, 11, 16, 18, 31, 45, 52, 58</td>
</tr>
<tr>
<td>PROTECTION</td>
<td>Cervical cancer (and precancerous genital lesions of the cervix, vulva and vagina)</td>
<td>Cervical cancer (and precancerous genital lesions of the cervix, vulva and vagina)</td>
<td>Cervical cancer (and precancerous genital lesions of the cervix, vulva and vagina)</td>
</tr>
<tr>
<td>CROSS-PROTECTION</td>
<td>31, 33</td>
<td>31, 45</td>
<td>Unnecessary</td>
</tr>
<tr>
<td>NUMBER OF REQUIRED DOSES</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>DOSING INTERVAL</td>
<td>0 and 6 months (no maximum interval, but it is recommended not to exceed 12-15 months)</td>
<td>0 and 6 months (no maximum interval, but it is recommended not to exceed 12-15 months)</td>
<td>0 and 6 months (no maximum interval, but it is recommended not to exceed 12-15 months)</td>
</tr>
<tr>
<td>MODE OF ADMINISTRATION</td>
<td>Intramuscular injection</td>
<td>Intramuscular injection</td>
<td>Intramuscular injection</td>
</tr>
<tr>
<td>PHARMACEUTICAL FORM AND TYPE OF VACCINE MONITOR (VVM)</td>
<td>Single dose vial, VVM 30, two-dose vial, VVM 50</td>
<td>Single dose vial, VVM 30, two-dose vial, VVM 50</td>
<td>Single dose vial, VVM to be determined</td>
</tr>
<tr>
<td>STORAGE TIME</td>
<td>48 months at 2-8 °C for the single dose vial</td>
<td>36 months at 2-8 °C for the two-dose vial</td>
<td>36 months at 2-8 °C, the vaccine is freeze-sensitive</td>
</tr>
<tr>
<td>EFFECTIVE CO-ADMINISTRATION WITH OTHER VACCINES FOR ADOLESCENTS**</td>
<td>Hepatitis B, Diphtheria/Tetanus/Pertussis, Poliomyelitis</td>
<td>Diphtheria/Tetanus/Pertussis, Poliomyelitis</td>
<td>Diphtheria/Tetanus/Pertussis, Poliomyelitis</td>
</tr>
<tr>
<td>CONTRAINDICATIONS</td>
<td>Severe allergic reaction to one of the constituents of the vaccine following the first dose</td>
<td>Severe allergic reaction to one of the constituents of the vaccine following the first dose</td>
<td>Severe allergic reaction to one of the constituents of the vaccine following the first dose</td>
</tr>
<tr>
<td></td>
<td>Severe febrile illness</td>
<td>Severe febrile illness</td>
<td>Severe febrile illness</td>
</tr>
<tr>
<td></td>
<td>Pregnancy</td>
<td>Pregnancy</td>
<td>Pregnancy</td>
</tr>
</tbody>
</table>

According to the WHO Guidance Note 18 (November 2020), the targeted population should be girls between 9 and 14 years old, before the beginning of sexual activity. The recommended immunisation schedules should provide two doses spaced by 6 months, for girls under the age of 15 (this also includes girls 15 or older when injected with the 2nd dose).

While there is no maximum interval between doses, it is suggested not to exceed 12 to 15 months. If the interval between doses is inferior to five months, a third dose will be administered at least 6 months after the first dose, regardless of the reasons for this early injection. A three doses schedule (0, 1-2, 6 months) is recommended for girls aged 15 or more and for immunosuppressed patients, including those positive for HIV (whether or not they are treated with antiretroviral). It is not necessary to screen for infection with HPV or HIV before vaccinating against HPV.

The present recommendations regarding the immunisation schedule apply to both bivalent and quadrivalent vaccines.

Natural infection is not a protection label. The low concentration of antibodies is not enough to provide protection against reinfection and reactivation of the virus.

HPV vaccination for boys and men is under discussion, and it is important to increase the co-responsibility of people regardless of gender, to the public health problem of CC. However, it is less cost-effective in reducing the incidence of CC in comparison with large scale vaccination of a high proportion of young girls in the targeted age group. This is all the more the case that there is a current shortage of vaccines worldwide.

To ensure vaccination uptake, the programme must be associated with strong communication to stand up against the rise of anti-vaccination movements. This is why particular focus should be given to advocacy actions and community involvement, to reassure populations on the efficiency, safety, and benefits of the vaccine.

The WHO website provides regular updates of summary tables on recommendations for systematic vaccination.

For further information regarding vaccination, refer to chapter 4 of Comprehensive Cervical Cancer Control, A guide to essential practice.

**WHO (2016), Guide to introducing HPV vaccine into national immunization programmes**

To treat precancerous lesions, the favoured technique is loop electrosurgical excision procedure (LEEP). In contexts where this method cannot be used, or where resources are limited, the most recent WHO guidelines recommend cryotherapy as another method to satisfactorily treat lesions diagnosed by Visual Inspection with Acetic Acid (VIA). In countries that have the adequate resources, other techniques such as cold knife cone may be used.

The current available options to screen and treat precancerous lesions include the following:

- **Screen, triage and treat** - Use of a screening test providing immediate results (HPV test) followed by a triage examination and immediate treatment (through thermocoagulation of the lesions) without waiting for additional test results, except if cancer is suspected. Early detection and treatment of precancerous lesions enable to prevent most of cervical cancers. Three different types of tests are currently available:
  - Traditional test (Papanicolaou smear test) and liquid-based cytology (LBC)
  - Visual inspection with acetic acid (VIA)
  - HPV test enabling the identification of high-risk HPV (for example, types 16 and 18).

**Sequential testing** - realisation of a second screening test (triage test) for patients screened positive for the first test, and treatment if precancerous lesions are confirmed.

**Screening and realisation (for women with positive test results)** of colposcopy and biopsy, and treatment according to the results of the biopsy.

In 2012, there were almost a billion women between 30 and 49, and most of these women had never been screened in their life.

**d) Tertiary prevention**

In many countries, the capacities to provide these services are insufficient, or the existing services are not accessible or affordable for a majority of women. The main difficulties faced in the implementation of efficient treatment systems are the following:

- Elaborating reference documents and guidelines developing and promoting the implementation of measures to manage cervical cancer.
- Enhancing access to high quality equipment
- Developing and sustaining a referral network

**Towards a specialised referral facility** - The main challenge in delivering treatment is to develop and sustain an efficient and quality network that will enable referral and timely access to care, while ensuring the continuum by linking the health facility with the referral unit, the laboratory and diagnosis and treatment centres. A referral protocol and effective communication system must be in place to ensure the efficiency of the referral system. The referral network may vary between countries and also depends on the health system of each country.

- **Treatment compliance** - it is also very difficult to get a treatment completed when it requires prolonged stay in a treatment centre location at regional or national level. Geographical, financial, and social barriers frequently lead to non-compliance, in particular regarding radiotherapy. Ensuring support for accommodation and travel expenses and/or providing an allocation to compensate lost working hours may play an essential role in enabling women and their families to overcome difficulties for the duration of the treatment. In countries that lack the resources to treat this type of cancer, it is useful to be aware of intergovernmental agreements for referral to neighbouring countries and put them to use.

- **Palliative care** - Ensure that patients with cervical cancer in a life-threatening stage benefit from care regarding pain and suffering (physical and psychological). This requires resources, specialised skills, and supervision. Effective palliative care implies a team of physicians, nurses and other specialists and members of the community working in collaboration at facility level, community level and family level.

According to Hunt, Nouvet, Chénier et al. (2020)

<table>
<thead>
<tr>
<th>Possible intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requires a cross-sectional and ambitious approach with the following foundations:</td>
</tr>
<tr>
<td><strong>Empowering women</strong>: strengthening self-determination and women’s capacity to make their own decisions</td>
</tr>
<tr>
<td><strong>Reducing gender inequalities</strong>: Respecting fundamental rights for all</td>
</tr>
<tr>
<td><strong>Reducing poverty</strong>:</td>
</tr>
</tbody>
</table>

**Key components**

- Adopt a health promotion approach enhancing empowerment and a healthy life course
- Protecting the exercise of rights to health, education, safety, etc.
- Strengthening comprehensive sexual education
- Planning preventative interventions for the age group 25-50 years old
- Eliminating marriage before the age of 18, preventing violence and sexual coercion
- Involving men to help them contribute to their health
- Taking action with local stakeholders and public services
- Enabling women to participate in the development of projects that affect them should be the cornerstone of any action.

The true challenges are the fight against poverty, gender inequalities, discrimination and lack of access to services.

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19. Ibid.
20. Ibid.
KEY MESSAGES

- Papillomavirus is a very frequent group of viruses worldwide, but most infections are transient.
- HPV is a necessary condition; CC is mainly caused by infection by HPV transmitted through sexual contact. HPV represents a group of over 200 types of viruses, of which over 40 can be transmitted through genital contact.
- Only a small percentage of the overall infections with HPV will be responsible for invasive cancer.
- Two vaccines are approved in most countries, that enable the prevention of infection by high-risk HPV types 16 and 18. The vaccine cannot be used as therapeutic treatment.
- Vaccination of young girls before the beginning of sexual activity is an important aspect of primary prevention.
- Even the girls who were vaccinated will need to be screened and test for cervical cancer. Vaccination do not provide protection for all HPV, and in addition, we do not know the duration of the effectiveness of the vaccine.

NOTES

- What do I take away from this session?
- What elements require further clarification?
- Understandings to develop?
COMMON SESSION 3
INTERVENTION STRATEGY, PROTOCOL TESTING ALGORITHM AND DECISION-MAKING

I. SCREENING STRATEGIES RECOMMENDED BY THE WHO

The WHO recommends strategies that allow women to benefit from timely care and that avoid loss to follow-up as much as possible. Thus, they encourage the use of rapid screening methods that enable the delivery of results and treatment of women in a single visit. This is the case for the “test and treat” and “sequential testing” methods that are carried out with rapid tests (VIA/VILI and/or point-of-care HPV testing).

“Screen & treat”: a single visit with a method that allows for immediate delivery of results (e.g. VIA) and immediate treatment if necessary.

Sequential testing: carry out an initial screening test, followed by a confirmation test (if initial tests results are positive), and treat if necessary. Both tests may be carried out on the occasion of a single visit, or two sequential visits.

The step requiring confirmation of the diagnosis by colposcopy and biopsy is not efficient in low-income countries.

The WHO recommends expanding the coverage of the screening rather than its frequency.

The WHO recommends screening all women aged 30 to 49. This age group may be extended depending on age-related prevalence and life expectancy. Screening by HPV testing results in an important increase in false positives.

II. MDM’S SCREENING STRATEGY

a) Mdm’s strategy to prevent CC

The Mdm Strategy

Médecins du Monde’s objective to reduce morbidity and mortality caused by cervical cancer takes account of recommendations by the WHO. It includes three innovations based on scientific and technical knowledge of the area. The three suggested innovations are:

- POWER TO TAKE ACTION
  - Choice between self-sampling and test by a health professional

- QUALITY
  - Screening of HPV by PCR technique to improve the quality of the screening

- INNOVATION
  - Use of thermocoagulation as an alternative to cryotherapy to treat precancerous lesions

**b) Intervention Algorithm**

Our algorithm is based on the following 4 elements to enhance programme optimisation:
- Definition of the target population
- Choice of screening test
- Elaboration of the screening modalities
- Definition of the interval between screenings.

**Target population**

The WHO recommends to screen women between 30 and 49 years old, favouring coverage over the repetition of the screening for a given patient. This is because infections with HR-HPV are very frequent in young girls, but most of these are transient: they will disappear spontaneously from the woman’s body. Only a small percentage of HPV infection persist for several years and will cause cervical cancer. However, younger, or older women may be offered screening, depending on their risk of developing precancerous lesions. Screening women under 30, in particular for HR-HPV, will increase false positives and overtreatment. Indeed, a majority of women will contract an HPV infection during the first sexual intercourses, and this may cause cervical lesions, most of which will heal spontaneously.

Screening for women older than 55 is not deemed pertinent, given the life expectancy in many countries, and since CC is an illness that requires years to develop (approximately to years).

The WHO is also in favour of expanding coverage rather than increasing frequency of screenings. In HIV+ patients, screening will be offered for all sexually active women as soon as they are aware of the seropositive status, and regardless of their age.

People excluded from the target population:
- Women who have had a hysterectomy (for a benign disease)
- Age groups defined by WHO recommendations and national strategies <30 years and >50 years
- Women having been treated twice by cryotherapy and thermocoagulation
- Women with suspected cervical cancer
- Women up to date with their tests (avoid over testing which has no added benefit).

**Screening modalities**

Screening makes it possible to select people in general population who are carriers of an affection through systematic use and not on the basis of symptoms. It is a public health action. It therefore classifies a large number of apparently healthy people into two categories: those who probably have the disease and those who probably do not, with the aim of reducing the morbidity and/or mortality of the disease in the screened population.

There are two different types of screening:
- Organized (or mass) screening applies to an age group, by invitation. It is set up according to specifications and is subject to quality control. It applies to the population with no particular risk factor.
- Opportunistic (or individual) screening is an individual, not a collective, approach. During a contact with a health professional, a person requests or is offered screening.

**Choice of screening test**

The 2020 WHO recommendations include:
- Visual inspection with acetic acid (only if the junction zone is visible).
- Search for HR-HPV with a threshold ≥1.0 pg/ml: the search for HR-HPV is the method of choice recommended by the WHO in middle-income countries when this is financially possible, as an addition or in substitution of direct visualisation methods.

The WHO suggests triaging patients whose acetic acid screening is positive: only patients that are positive both to the HPV test (HR-HPV) and the acetic acid test (VIA) will be offered treatment. Women with positive HPV (HR-HPV) that have a negative acetic acid test (VIA) will be tested again after a year.

In addition, the WHO points out that even if carrying out a test with acetic acid is easy to implement in contexts where the resources are limited, its quality depends on the expertise of the practitioner, which makes for variations in effectiveness.

**Defining the screening modalities**

Two aspects must be envisaged regarding screening modalities for CC, that depend on the choice of screening test:
- The use of self-sampling in the screening for HR-HPV
- The development of a ‘screen, triage and treat’ strategy.

**Self-sampling:**

Screening was more efficient with self-sampling than those tests enable to increase coverage by <20%, despite the loss of sensitivity when compared to tests by a practitioner.

In the recommendations published in 2020, the WHO recommends setting up a ‘screen, triage and treat’ programme where treatment is decided upon a positive test result, without need for the histological confirmation by a diagnostic test. The testing strategy may be in the form of single test, which, if positive, will suffice to begin treatment. It may also be in the form of sequential testing, in which case women with all tests positive will be treated, while the others will be more closely monitored. Women at risk of developing precancerous lesions must benefit from adequate treatment, and women with suspected invasive cancer must be referred to an appropriate facility.

Given that one of our tests is based on the search for HPV the ‘screen, triage and treat’ strategy will only be possible in facilities with a laboratory.

**Definition of the interval between tests**

The timespan between two screenings depends on the patient’s medical history:
- 1 year: seronegative patients with HR-HPV positive and VIA negative test results, patients must then benefit from an HPV test.
- 3 years: HIV positive patients with HPV negative results.
- 5 to 10 years: HIV negative patients with HR-HPV negative results.

This interval may be adapted according to the evolution of knowledge and research in the field.

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*ALL HPV+ WOMEN AND SEXUALLY ACTIVE, AGE RANGE TO BE ADAPTED, ACCORDING TO THE MINISTRY OF HEALTH*
c) Issues at stake

MdM strategic issues

<table>
<thead>
<tr>
<th>Training</th>
<th>Interdependent nature of VIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Referral pathway</td>
<td>Setting up a pathway depending on the diagnosis or course of action</td>
</tr>
<tr>
<td>Communication system</td>
<td>Efficient communication system between health facilities is required to ensure the efficacy of the referral pathway (indicator)</td>
</tr>
<tr>
<td>Lost to follow-up/ Patient follow-up</td>
<td>Common definition of lost to follow-up</td>
</tr>
<tr>
<td>Setting up a contact system (contact persons)</td>
<td>Establishing a register</td>
</tr>
<tr>
<td>Link ensured between screening services and treatment and follow-up after treatment</td>
<td></td>
</tr>
<tr>
<td>Traceability</td>
<td>Developing a data protection system with anonymisation</td>
</tr>
<tr>
<td>Medical waste</td>
<td>Partnership with reference hospital</td>
</tr>
<tr>
<td>Quality of sample transportation</td>
<td>Quality indicator</td>
</tr>
<tr>
<td>Appropriate equipment</td>
<td></td>
</tr>
<tr>
<td>Referral and counter-referral partnerships between health facilities</td>
<td></td>
</tr>
<tr>
<td>Evaluation</td>
<td>To set up</td>
</tr>
</tbody>
</table>

The elaboration of the patient pathway is a crucial step in defining MdM’s strategy of intervention.

It takes account of any obstacles that patients may face in their pathway of care. Medical waste management is also an important issue to address.

The following figures highlight the various barriers in the care pathway.

The barriers to accessing services must lead to the elaboration of a strategy to strengthen the health system.
**FIGURE 16: PATIENT PATHWAY / MEDICAL CENTER (WITH LABORATORY)**

**FIGURE 17: MEDICAL WASTE MANAGEMENT**

**KEY MESSAGES**

- The MDM strategy is based on three principles of action: strengthening service provision, reinforcing individual capacities, and taking advocacy actions.
- The service provision for the screening of CC is based on an integrated approach of ‘screen, triage and treat’.
- The target population are all women from 30 to 55, except women who have benefitted from treatment (cryotherapy, thermocoagulation, LEEP, cold knife cone or more invasive).
- Women who are HIV+ require close monitoring regardless of their age and from the onset of their sexual life.
- Identifying all the barriers to service provision should enable to develop a strategy for strengthening the health system.
### NOTES

- What do I take away from this session?
- What elements require further clarification?

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### Understandings to develop?
COMMON SESSION 4
COMMUNITY HEALTH APPROACH

I. THE MULTIPLE DETERMINANTS OF ACCESS TO SCREENING

‘Sensitisation and awareness-raising alone are not enough to improve screening uptake. During the design phase, screening programmes should take into account structural and cultural barriers that may negatively impact on the uptake of screening services and, where possible, address these.23’

Barriers to accessing screening for CC are not limited to the availability of the test or the dissemination of information. Many other factors can be involved such as the lack of transportation, women’s uneasiness with male healthcare practitioners, lack of confidentiality or hygiene in health facilities, language barriers, family commitments limiting or preventing women from travelling, lack of support from men who have the power over women’s health choices, etc.

Unless there is an in-depth understanding of the context of the intervention, a project to promote screening for CC may be inefficient at best, if not counterproductive24.

Thus, during the design stage and throughout the interventions, it is crucial to explore, identify and take account of all structural determinants (financial, political, legal etc.) and sociocultural determinants (gender relationships, health practices, perception of body and illness, etc.) that have an impact on acceptability and accessibility to screen, prevention, and treatment of cervical cancer.

The involvement of the people who are directly affected through a community approach, from the onset of the intervention is paramount to correctly identify the determinants of access to screening and to set up activities that are adapted to the people and context and respond to their needs.

II. A COMMUNITY HEALTH APPROACH

‘Cervical cancer prevention programs that listen to and learn from the community and that involve community members in program implementation and materials development are more likely to increase demand, ensure follow-through for treatment, and, ultimately, reduce disease burden25’

What is a community health approach?

Strengthening community action is one of the five pillars of health promotion as defined by the WHO in the Ottawa Charter 26. It is defined as ‘the process of enabling people to increase control over and to improve their health and that of the community’. It is defined as the process through which individuals and families take responsibility for their own health and well being, participate in enhancing community health, and develop their ability to get involved in individual and community health27.

Indeed, health promotion requires effective participation of the community in defining priorities.

PROBLEM TREE

The problem tree is a visual support and reflection tool that facilitates exploration and discussion around the consequences and determinants of a given health issue (e.g., limited access to CC).

MdM can facilitate or support the use of the problem tree with or by the people directly concerned so that they identify and become aware of the factors that have an impact on their health. They will be in the best position to identify and develop appropriate strategies and actions to influence the situation.

For more information on the use of the problem tree in a community approach, refer to: Empowerment en Pratique #1 - L’arbre de santé : un outil de réflexion collective (only in French)

26. The others are: Building Healthy Public Policy, Creating supportive environments, Reorienting Health Services, Developing personal skills
making decision, developing, and implementing planning strategies aimed at achieving better health. At the heart of this process lies the empowerment of individuals and communities, who are considered capable of taking their destinies in their own hands and to take responsibility for their actions. Community development builds on the human and material resources of the community to foster self-help and social support, to establish flexible systems that are likely to reinforce participation and public control around health.

What is a community?
The term ‘community’ encompasses complex and dynamic concepts. We have multiple identities, and each individual belongs to multiple communities (geographical, professional, family, etc.). It must never be assumed that a group of people sharing a living area, or a workplace automatically becomes a ‘community’. Indeed, individuals in each group may hold different or opposing interests.

In a community approach we are seeking to gather individuals and groups around what they have in common, common interests, to ‘congregate’ around a given health issue.

The core principles of the community approach: A community-based approach to health is based on some core principles that should be continuously implemented.

For further information, please refer to the MdM guide “Working with communities”.

### a) Creating alliances and partnerships with community leaders and organisations

Dès les phases de conception et élaboration d’une initiative, il est nécessaire de identifier et établir alliances with community organisations and influential community members from the design stage of an intervention. These organisations and people can be varied in nature: formal or informal, women’s groups, village or neighbourhood committees, health services, political groups, religious leaders, or institutions, etc.

These actors can both participate in identifying multiple barriers and levers of prevention, and also participate in the elaboration of strategies and actions that are culturally appropriate and adapted to the local context. Co-creating actions from the outset with community actors contributes to community taking ownership of the topic. In turn, these people will become ambassadors who will convey information to their peers. When there are no such organisations or when they are not formally constituted, the opportunity to support the creation or reinforcement of community organisation capacities should be considered and weighed.

In an aim of good governing, transparency and acknowledgement, etc. to be able to play an essential role without compromising their health, safety or well-being.

Finally, the role of community agents must be viewed as flexible and adapted to the local context. In some settings, a woman will prefer to address people outside her community to stay anonymous, in others she will prefer to address people she trusts in her closer circles.

### b) Mobilising and strengthening community, resources around implementation of actions

Community involvement should go beyond diagnosis and elaboration, and we should create opportunities for community members to engage directly in the implementation stage of the projects. This is in line with the ethical principle ‘Nothing About Us Without Us’. It is also important in order to ensure effectiveness by recognising and appropriately mobilising existing skills and expertise in communities that are necessary to the success of a project.

This involvement may take various forms: mobilisation, training and support to community health agents, development of a network of educators (volunteers or paid workers), identification and training of intermediaries, support to self-help groups (for example groups of people living or having lived with cervical cancer), etc.

Their close ties with other members of the community and their expertise based on their own experience will make these actors able to contribute to strengthening trusting relationships between community and health services, and thus enhancing the acceptability and uptake of screening. They are more able to adapt health information to the local culture and context.

Community members can also be involved in carrying out studies or research (e.g., on barriers to access for prevention, or about the perception of the illness or perception of health services) as investigators to analyse the data and put it to use. Participatory research can significantly contribute to the success of actions of prevention and screening of cervical cancer.

Community agents must benefit from appropriate and sufficient support in terms of training, supervision and acknowledgement, etc. to be able to play an essential role without compromising their health, safety or well-being.

Finally, the role of community agents must be viewed as flexible and adapted to the local context. In some settings, a woman will prefer to address people outside her community to stay anonymous, in others she will prefer to address people she trusts in her closer circles.

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**A PRACTICAL EXAMPLE IN KENYA**

In Kenya, the ACCP (Alliance for Cervical Cancer Prevention - a group of 5 international NGOs) developed a partnership with Moi University’s Nyeri Women’s Hospital, which is a national women’s organisation that brings together 25,000 local women’s groups throughout the country. Thirty-five members of the organisation in the area of intervention volunteered to inform and motivate other women in their communities to participate in the screening. Group-based activities were carried out with women’s organisations, religious congregations, parent groups and during local meetings. Home visits were carried out to provide a more intimate setting so that women can talk more freely and inquire about screening services and possible support from trained community health workers.

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**THE CRUCIAL ROLE OF COMMUNITY HEALTH AGENTS IN INDIA**

In March 2010, the CNCO (Chittaranjan National Cancer Institute) initiated a project to promote screening and treatment of cervical cancer for women living in rural areas around Kolkata.

This project is based on a strong involvement of community health agents recruited on a part-time basis in each village concerned by the intervention.

These women were trained for 2 days on the concepts, needs and steps of cervical cancer. A FAQ booklet (Frequently Asked Questions) was provided in their native language.

They played a central role in the dissemination of information, health education and support to women to make an informed choice. They carried out home visits to provide counselling to women who required it and motivate them to participate in screening actions. They also transmitted the information to husbands and other family members.

In addition, they also participated in delivering test results, carried out post-test counselling interviews and provided support to women requiring further testing or treatment.

This model of community intervention has proved extremely efficient in ensuring acceptance of screening and adherence to treatment.

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c) Developing health education strategies and education material adapted to communities

We must ensure participation of community members in the elaboration of strategies and materials for health information, education, and communication. This participation may take various forms: participatory research to study knowledge, attitudes and practices of each community in relation to cervical cancer, workshops and focus groups to elaborate key messages and identify appropriate communication tools, formation of “test groups” to assess and refine communication tools, participation of community members in the creation and elaboration of tools (such as films, radio broadcasts, visual tools, etc.), dissemination of information between peers. Particular attention should be given to the representativeness of these groups in the setting stage (issues such as language, literacy, level of education should be considered).

Involving the community helps make sure that message make sense in the local culture. Moreover, their participation fosters acknowledgement of the value of their expertise and competence and strengthens the sense of ownership over the implementation and outcomes of an intervention. People who contributed to the elaboration of tools will play a role in the dissemination of the messages in their social circles.

These mechanisms must foster dialogue and mutual learning between communities and professionals outside communities and can lead to negotiations around what can be said and done in a local context. Professionals ensure that the contents are accurate and do not contribute to stereotypes. For populations, this helps fight the negative image of communities in health facilities’ governance, etc.

In addition, communities can participate in elaborating communication tools for their communities as well as communication and training tools for professionals. This will contribute to a better understanding of patients’ views and realities by healthcare professionals.

d) Promoting accountable health services sensitive to the needs of the community

Poor uptake of screening services can be attributed to poor quality of welcome and of service, gap between the service provision and needs of populations39. Moreover, health services are not always inclusive to marginalised groups.

PARTICIPATORY ELABORATION OF INFORMATION TOOLS IN SALVADOR

As part of a project for promotion of screening for cervical cancer in Salvador, the ACCP team (Alliance for Cervical Cancer Prevention) began to make a list of the communication tools used by the ministry for health. These tools were analysed on the basis of the language used, design, size, and understanding by women of key messages. This analysis showed that existing material used fear as the main argument and that contents were inaccurate and not up to date. Focus groups were set up in rural and urban zones to refine the messages. A logo and graphic materials that put forward the benefits that women could expect from screening were designed and tested. New and updated information were integrated into new tools including: a prevention leaflet destined to women, a counselling guide for health professionals, and a guide for post-treatment. To facilitate the dissemination of these tools, training for professionals were set up across the country.

In the aim of improving the quality of services with regards to patients’ needs, it is essential to promote accountability of health services to communities. Various activities can participate in accountability: qualitative studies that explore the perceived quality of services by its users, participation of community members in awareness-raising and training of health professionals, the development of feedback mechanisms for users after their contact with any service, satisfaction surveys, involvement of communities in health facilities’ governance, etc.

Cervical cancer is revealing of social inequalities in health. Those who have the highest risk of developing cervical cancer are among the most vulnerable people40 who are also those who face most of the barriers in accessing healthcare and prevention services. In order to break the vicious circle of exclusion, targeted and affirmative actions must be taken throughout our projects to enhance participation and inclusion of marginalised individuals or groups. Specific efforts must be made so that marginalised individuals and groups are represented and heard by project decision-making and governing bodies, as well as by the health services that ought to respond to their needs. These actions must contribute to the fight against stigma and discrimination. In order for health services to improve their accessibility for marginalised populations, specific measures must be considered such as: setting-up premises to enable wheelchair access, interpretation services for allophone populations, outreach strategies for geographically isolated populations, recruitment of healthcare intermediaries from marginalised groups, etc.

Promotion and availability of HPV self-sampling is also a powerful tool to promote the inclusion of marginalised women41.

f) Empowering women and increasing men’s responsibility

THE MOBILE CLINIC EXPERIENCE IN OSMANABAD, INDIA

The ACCP project in the Osmanabad district in India took place in 722 villages with a total population of 1,235,909 inhabitants. The female literacy rate in this area is 39%, and the cervical cancer incidence rate ranges from 55 to 77 cases per 100,000 women among women aged 50–69 years.

A fully equipped van was sent out to 32 primary health care clinics, as well as other settings such as municipal offices, classrooms in local schools, and buildings housing women’s organizations that could be used for screening women using visual inspection. Project staff met with district administrative and health authorities, the president and members of the local civic bodies (panchayaths), village community leaders, teachers, and others to explain the details of the project and to seek their cooperation. On the evening before the services were to be available, eligible women, their partners, and elders in the village were invited to a meeting where a film about cervical cancer prevention was shown. On the screening day, medical social workers were on hand to explain the screening and treatment procedures to women waiting to be screened. Afterward, female health workers explained screening results and organized appointments for women with positive results of screening tests. Of the women invited, 63.4% attended and were screened through mobile clinics.

Making choices on one’s own sexual and reproductive health is a human right. However, this right is not fully exercised and there are many contexts where women face barriers to exercising free and informed choices on their sexuality. The following barriers to exercising this right are the following:

- Imbalance in power between men and women within the couple and the family
- Women’s lack of autonomy and of power of decision
- Reduced access to information on rights, health, and sexuality
- Low self-esteem

Shame and fear in the presence of health professionals
- Low access to social and financial resources...

These reasons justify the need to develop women’s power to take action and men’s sense of responsibility as a core element of our projects in cervical cancer prevention.

To achieve this aim, professionals need to act as facilitators and defenders of the exercise of sexual and reproductive rights of women. Women must be viewed as rights holders rather than “beneficiaries” of services.

Women must access clear, objective, and adequate information on the rights, anatomy of sexual reproduction, intimate hygiene, prevention, or any other information necessary in order for them to make informed health choices. Professionals must be proactive in associating women in therapeutic and preventative choices and accompany their decision with support and counselling. Support to care facilities, possibly by peers, should be provided, (e.g., for those in need of additional examinations or treatment) for women facing barriers to accessing care, with the objective of enhancing their autonomy.

WOMEN AND MEN ASSOCIATED IN THEIR COMMITMENT TO FIGHTING CERVICAL CANCER IN SOUTH AFRICA

Khayelitsha is a large town in the vicinity of Cape Town. Up to this day, there was no coordinated programme to prevent cervical cancer. The number of screening tests has significantly decreased between 1988 (5000 tests) and 1995 (only 153). A new project for health promotion initiated in the city identified the important role of men in improving women’s participation and adherence to screening and treatment of precancerous lesions. Thus, interventions were carried out to mobilise men in this community. A training programme was developed to train peer educators so that they may inform men on cervical cancer prevention and encourage them to support women in using screening services and adhering to treatment. An evaluation after the training showed significant impact on attitudes and knowledges of the men who attended.

40 In the described Kolkata project, the women most affected were the least educated, those who had married early and who had the highest number of children (see Mittal, op.cit).
KEY MESSAGES

- The barriers to cervical cancer screening can be sociocultural, geographical, financial, legal, or administrative.
- Extra-institutional activities, community involvement, health education and counselling are essential elements of an effective programme to fight cervical cancer, as they enable high immunisation coverage, high screening coverage, and good adherence to treatment.
- Importance of working on representations and development of individual capacities.

Alongside these actions, men must be involved and targeted by actions to inform them of their role and responsibility in terms of prevention and fight against cervical cancer, in order to enhance autonomy of women and encourage gender equality. Actions to strengthen women’s capacity to negotiate with men may also contribute to reducing inequalities and increase women’s empowerment.

In addition, all actions that aim at reinforcing self-esteem, financial autonomy, education, and women’s social role may contribute to reducing inequalities in cervical cancer.

Conclusion
Each cervical cancer programme should build on these six components and adapt the practical examples to local contexts in order to develop a comprehensive and effective community mobilisation strategy.

For further information, please refer to the guide “Working with communities” on the Médecins du Monde Intranet page.

NOTES

- What do I take away from this session?
- What elements require further clarification?
- Understandings to develop?
I. HEALTH EDUCATION

a) Principles of health education

Health education is a key approach to health promotion as defined by the Ottawa Charter. Health promotion is the process of enabling people to increase control over, and to improve their health. Health education aims to enable people to adopt healthier behaviours by providing them with necessary knowledge, skills and attitudes. It also aims at promoting community ownership of health issues and at encouraging community participation.

- Health education is not limited to information on health. It is more than that and seeks to provide individuals with the knowledge, skills and attitudes that they need, in order to change behaviours or strengthen health promoting behaviours for them or their community, should they wish to do so.
- Health is thus considered a resource in daily life and it’s up to each individual to make his or her choices, to find his or her balance and to determine what is good for him or her. Health education therefore aims at enabling each and every one to make responsible and informed choices regarding behaviours impacting individual or community health.

- Individual involvement also aims at promoting a participatory approach to health.

Health education is built on 4 elements:

- A target: the recipient of the information
- Materials: media, poster, leaflet, mediation...
- A setting: meetings, public talks, theatre sessions, television broadcasts, waiting rooms.
- A messenger: the person who articulates the message (health agent, peer, community actor...)

All four elements must be present and appropriate so that the target effectively has access to the message.

When a health education project is set up aiming at behaviour change, considering individual level is not sufficient. All potential barriers must be considered and lifted to make behaviour change possible. This includes barriers such as environmental barriers, financial barriers, social barriers, cultural barriers.

While health education aims to enable individuals to adopt health-promoting behaviours, the decision to do so is theirs. The aim is to empower people, not to enforce new behaviours!

Thus, it is important to consider a few ethical principles:

- Individual autonomy: respect individual choices and avoid laying blame.
- Beneficence: Use scientifically validated tools and ensure non-malfeasence.

- Do no harm: always question the methods used (the end does not justify the means) and ensure that the intervention will not have harmful consequences in other areas than health.
- Equity and social justice: Health education must not increase social inequalities in health or create new inequalities. Messages must be adapted so that they are accessible for all.
- Monitor actions regularly to adjust if required.

For further information, please refer to MdM guide: Health Education - A Practical Guide for Health Care Projects - 2010

b) Elaboration of messages and awareness-raising tools

Communication

Transmission of information implies:

- Filters include elements such as: noise, psychological state of the receiver, lack of clarity in the message, accent or language, physical barrier...
- Communication channels are auditory, visual or kinaesthetic (through practice). The effectiveness of the transmission usually is the following:
  - Auditory channel → 30% retention
  - Auditory + visual channels → 40% retention
  - Auditory + visual + kinaesthetic channels → 80% retention.

Steps for the elaboration of messages and educational material

- Identification of needs in terms of health education
  - To be carried with the users or the population
  - Identification of a health issue requiring educational material and identification of the determinants of that issue.

- Defining the target group
  - Health education must be specific to the target group: to its needs, its reality, its information channels...

- The definition of the target group must be precise: primary target population can be identified separately from a secondary target population that will indirectly benefit from education.

- Collecting and organising adequate information that will define messages and educational content

MODULE LEARNING OUTCOMES

THEORETICAL KNOWLEDGE:
- Key information to be delivered to various audiences about CC.

PRACTICAL SKILLS:
- Formulate simple and understandable messages.

SOFT SKILLS:
- Behave in a non-judgmental and sympathetic manner.
c) Health education and prevention of cervical cancer

Concerning prevention of CC, messages should be adapted to all groups and individual realities. Messages may mention the following:

- Information about responsible and enjoyable sexuality
- Anatomy of male and female genital organs
- Importance of medical care
- Contraceptive methods
- Available services and means to access them
- Discussion around reasons for not using contraception when one wishes to avoid or delay pregnancy
- Individual rights regarding contraception, sexuality, abortion, access to healthcare services...

II. AWARENESS-RAISING

Awareness-raising involves sharing information with the aim of increasing knowledge on preventative health in order to stay healthy and prevent illnesses such as cervical cancer. Awareness-raising actions must also communicate information on available services.

a) Which population should be targeted?

The aim of awareness-raising is to maximise coverage and use of cervical cancer services. To achieve this aim, the following priority populations should be targeted:

- Young women and men (vaccination, use of condoms, sexuality education)
- Women targeted by the screening programme
- Vulnerable groups: women with HIV, sex workers, refugees, and other marginalised groups
- Political, religious and community leaders
- Men
- Organisations, private sector.

b) How to raise awareness on screening for cervical cancer?

The person conducting awareness raising should:

- Have a good grasp on the topic.
- Be at ease with the topic, not experience any embarrassment when talking about female anatomy and sexuality.
- Be clear and coherent. Issue key messages that are easy to understand and appropriate for the audience, be coherent with these messages. Prepare and test messages and tools on some people and adjust them accordingly.
- Work on messages to counter fears and misconceptions. (See Table)
- Be receptive and non-judgmental.
- Provide support and a listening ear. Be patient and understanding and help women and families to find solutions.
- Be welcoming and encouraging. People who feel welcome are more likely to come back for care when they need it.
- Tailor messages to the intended audience (women under 30, over 30, seropositive women, sex workers, men, etc.).
- Given their closeness with the target population, peer educators have knowledge of the population and personal experience that makes them key actors in awareness-raising campaigns.

You must keep in mind that effective communication often leads to increasing screening tests rates and to saving the life of many women.

Health workers must be able to speak about sexuality in a non-judgemental manner and to deal with the issues of screening while protecting all patients’ intimacy and privacy. It is important to think about what key messages to communicate to men (encourage their partners, sisters and mothers to vaccinate, get tested and follow treatment if necessary, use condoms to avoid STI and pregnancy), all the while avoiding to strengthen power imbalance between men and women, specifically trying to avoid reinforcing the power of decision of men over women.

Encourage HIV+ women to get a yearly test from an early age and encourage women to get tested for HIV. This adaptation to care for people living with HIV should not result in increased stigma and discrimination of these women.

Key messages:

- Cervical cancer is an avoidable illness.
- Test exists that enable an early detection of any change of the cervix that may develop into cancer if untreated.
- There are safe and effective treatments for these lesions.
- Every woman aged 30 to 55 years should be tested at least once for cervical cancer.
- There is a vaccine for girls that prevents cervical

<table>
<thead>
<tr>
<th>MESSAGES TO AVOID</th>
<th>UNEXPECTED OUTCOMES</th>
<th>ALTERNATIVES</th>
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<tbody>
<tr>
<td>Women with cervical cancer or precancerous lesions have an STI</td>
<td>Discourages women to undergo screening and cause them problems in their relationship.</td>
<td>• Cervical cancer is caused by a virus called HPV that is transmitted by sexual contact; most people will be infected with this virus at one point in their life. • Most HPV infections spontaneously disappear without the person being aware that he/she was infected.</td>
</tr>
<tr>
<td>The screening test searches for the presence of cervical cancer.</td>
<td>Leads people to think that a positive result to the test is a diagnosis of cancer.</td>
<td>• The screening test is a simple procedure (cervical smear test, VIA or HPV test) that enables early detection of cervical abnormalities (called precancerous lesions), before they develop into cancer.</td>
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<tr>
<td>The use of an IUD or of a contraceptive pill may cause cervical cancer.</td>
<td>Women will be afraid of using contraceptives even if this information is incorrect.</td>
<td>• The use of IUD does not increase the risk of cervical cancer. • Contraceptive pills may cause a very small increase of the risk of cervical cancer, but the benefits of pregnancy prevention outweigh that risk.</td>
</tr>
<tr>
<td>The screening test is painful during the procedure, a part of the woman’s body is removed.</td>
<td>Women will be afraid of the screening tests. Fear can also reach family members who will prevent them from getting tested.</td>
<td>• Some women find speculum examination uncomfortable, but the test is not painful. • During the test, the practitioner uses a swab or a soft brush to sample a few cervical cells. • The test is simple and only lasts a few minutes. • A screening test is different from a biopsy or a surgery. Screening tests require no incision.</td>
</tr>
<tr>
<td>There is no need to screen for cervical abnormalities because when the result is positive it means that the woman has a life-threatening disease and will die.</td>
<td>Only a small number of women will get tested if they believe there is no solution.</td>
<td>• If a woman is diagnosed with precancerous lesions, she will be offered safe and simple treatment. • If the test is carried out at the appropriate age, it is possible to prevent cervical cancer. • When it is diagnosed early, cervical cancer can be cured.</td>
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<tr>
<td>TOPIC</td>
<td>KEY MESSAGES</td>
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<tr>
<td><strong>CERVICAL CANCER</strong></td>
<td>Cervical cancer occurs when there is an unusual rise of cervical cells.</td>
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<tr>
<td></td>
<td>Cervical cancer is caused by persistent infection with high-risk HPV.</td>
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<tr>
<td><strong>HPV</strong></td>
<td>HPV is a very frequent virus and is transmitted through sexual contact.</td>
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<td></td>
<td>A majority of people will be infected at one point in their life.</td>
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<td></td>
<td>In most cases the HPV infection will spontaneously disappear.</td>
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<td></td>
<td>Some infections will persist and will lead to the development of cervical cancer.</td>
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</tr>
<tr>
<td><strong>RELATIONSHIP BETWEEN HPV AND CERVICAL CANCER</strong></td>
<td>Persistent high-risk HPV infection causes cervical cancer within 10 to 15 years.</td>
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<td></td>
<td>Being infected with HPV doesn’t mean having cancer.</td>
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<tr>
<td><strong>HPV TEST</strong></td>
<td>An HPV test detects the presence of HPV infection.</td>
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<tr>
<td></td>
<td>This test can be a self-sampling or be carried out during a gynaecological examination by sampling cervix cells using a vaginal swab. The swab is then placed in a tube and sent to the laboratory for analysis.</td>
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<tr>
<td></td>
<td>Self-sampling has the advantage of permitting the patient to do it herself.</td>
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<td></td>
<td>Self-sampling: evidence suggests that the results of HPV self-sampling can be similar to tests carried out by a practitioner.</td>
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<tr>
<td><strong>HPV TEST RESULTS</strong></td>
<td>The result is positive or negative.</td>
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<td></td>
<td>A negative result means that no high-risk HPV infection was found.</td>
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<td></td>
<td>A positive result means that there is an infection with a high-risk type of HPV and that another test using visual inspection with acetic acid must be carried out.</td>
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<tr>
<td><strong>VIA TEST</strong></td>
<td>The VIA test does not require any anaesthesia and is not painful.</td>
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<tr>
<td><strong>VIA TEST RESULTS</strong></td>
<td>A positive result means that there are precancerous lesions likely to develop into cervical cancer.</td>
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<tr>
<td><strong>THERMOCOAGULATION</strong></td>
<td>This is a technique that uses high temperature to destroy precancerous lesions.</td>
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<td></td>
<td>The cervix does not include any nerves, so this is painless.</td>
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<td></td>
<td>Safe and effective treatment of precancerous lesions.</td>
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**d) Awareness-raising tools**

Awareness-raising tools are most effective when they are developed with people from the target population. Develop key messages and tools, test them on an audience and modify them according to the feedback.

**Material:**
- Flap boards
- Leaflets
- Plays and role plays
- Radio broadcasts and video clips

**Specific tool regarding self-sampling:**

Self-sampling helps increase the coverage rates. Indeed, women may experience fear of pain or embarrassment at the idea of a gynaecological examination, thus discouraging them from getting tested. Self-sampling increases the acceptability of screening and widen access to some populations by lifting the practitioner barrier (no need for speculum examination) or geographical barrier in cases when the screening is organised locally.

**Conditions of use:**
- Do not carry out the test during menstrual periods
- No sexual intercourse the day before
- Do not carry out vaginal wash or apply any product in the prior 24 to 48 hours

**Figure 19: Instructions for self-sampling**

- Partially open the packaging.
- Do not touch the cotton or drop the swab. If this occurs, request another sampling kit.
- Remove the swab from the bag.
- Hold the swab as shown in figure 1, by placing the thumb and the index at the top of the swab.
- Spread your labia with one hand so that the swab does not touch the external parts (see figure 2).
- Gently insert the swab in the vagina on around 2/3 of the distance (see figure 2).
- Gently rotate the swab three times during 10 to 30 seconds. Make sure the swab reaches the vaginal mucosa so that the moist is absorbed by the swab.
- Remove the swab without touching the skin.
- Immediately place it in the transport medium and seal the sample.

**IV. AVOIDING LOSS TO FOLLOW-UP**

The proposed algorithm will not permit all cases to benefit from a ‘screen and treat’ strategy, thus making projects at risk of high lost to follow-up rates. All activities must be developed with specific thought of how to reduce these lost to follow-up:
- Specific focus on counselling
- Developing a network of community actors for close monitoring
- Setting up an effective monitoring system.

**III. HIV AND CERVICAL CANCER**

Key messages to deliver to women living with HIV are the following:
- Women living with HIV are at higher risk of being infected with HPV and cervical cancer. Screening must be more frequent and initiated as soon as the diagnosis of HIV is made, regardless of the age.
- Cervical cancer progresses faster for women with HIV, hence the higher frequency of screening tests.
- If you have precancerous lesions, you will need to be treated.
- When the HIV infection rates of a country are high, women must be encouraged to test for HIV. It is important to identify where testing is possible.

---

**TOPIC**

**KEY MESSAGES**

| CERVICAL CANCER | Cervical cancer occurs when there is an unusual rise of cervical cells. |
| | Cervical cancer is caused by persistent infection with high-risk HPV. |
| | HPV is a very frequent virus and is transmitted through sexual contact. |
| | A majority of people will be infected at one point in their life. |
| | In most cases the HPV infection will spontaneously disappear. |
| | Some infections will persist and will lead to the development of cervical cancer. |
| | Persistent high-risk HPV infection causes cervical cancer within 10 to 15 years. |
| | Being infected with HPV doesn’t mean having cancer. |
| | An HPV test detects the presence of HPV infection. |
| | This test can be a self-sampling or be carried out during a gynaecological examination by sampling cervix cells using a vaginal swab. The swab is then placed in a tube and sent to the laboratory for analysis. |
| | Self-sampling has the advantage of permitting the patient to do it herself. |
| | Self-sampling: evidence suggests that the results of HPV self-sampling can be similar to tests carried out by a practitioner. |
| | The result is positive or negative. |
| | A negative result means that no high-risk HPV infection was found. |
| | A positive result means that there is an infection with a high-risk type of HPV and that another test using visual inspection with acetic acid must be carried out. |
| | The VIA test does not require any anaesthesia and is not painful. |
| | A positive result means that there are precancerous lesions likely to develop into cervical cancer. |
| | This is a technique that uses high temperature to destroy precancerous lesions. |
| | The cervix does not include any nerves, so this is painless. |
| | Safe and effective treatment of precancerous lesions. |
PART 2
CERVICAL CANCER PREVENTION HEALTH SESSIONS
I. COUNSELLING

a) What is counselling?

Counselling is a conversation that takes place between a person acknowledged as actor and subject of his/her history and an external player who provides guidance. Both of these two individuals engage in a collaborating relationship. The external player motivates, supports and strengthens. He/she does not direct, nor does he/she adopt a wait-and-see approach, as the aim is to modify behaviours and practices. The aim is that the person identifies what he/she wants and wishes to change within the scope of his/her abilities and resources.

Counselling is a type of psychological and social guidance and designates a situation in which two people construct a relationship, one explicitly requesting support from the other in addressing, solving and taking ownership of issues he/she is facing.\(^\text{32}\)

b) Counselling principles and attitudes

- **Attitudes**
  - The basis of counselling is active listening so as to encourage better expression of wishes and resources that the person has, with the aim of changing or adopting a new method or practice.
  - The professional must have a positive and unconditional attitude: regardless of the person’s practices and will to change, the professional must not judge or express agreement with the person’s opinions and practices.
  - His role is that of a non-expert. His attitude is what enables the person who knows what he/she wishes to attain, to identify strategies appropriate to his/her situation and that will be achievable.
  - The counselling interview increases motivation for change and ability to put it into practice (empowerment).

- **Natural communication styles**
  - There are several communication attitudes. Some are authoritarian: the professional enforces his/her opinion. Some are passive: the professional is not set to provoke change. The appropriate attitude in counselling is one that provides guidance to a person thereby moving towards a change that the person wants.

<table>
<thead>
<tr>
<th>DIRECT</th>
<th>GUIDE</th>
<th>FOLLOW</th>
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<tbody>
<tr>
<td>Inform without permission or without assessing need</td>
<td>Inform with choices</td>
<td>Inform</td>
</tr>
<tr>
<td>Suggest solutions</td>
<td>Active empathetic listening</td>
<td>Listening</td>
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<tr>
<td>Question</td>
<td>Question/Open questions</td>
<td>Question</td>
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Appropriate approach

- During a counselling interview, the relationship is a collaboration and provides autonomy for the user, as opposed to a more ‘traditional’ approach whereby the professional is an expert, and the user is expected to obey the prescriptions.
- Ideally, counselling should instate trust between the user and the professional.

\(^\text{32}\) See Fiche pratique de travail de formation à la médiation, p. 25 (translation by MdM)


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<thead>
<tr>
<th>DIRECT</th>
<th>GUIDE</th>
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<tbody>
<tr>
<td>Inform without permission or without assessing need</td>
<td>Motivate</td>
<td>Accompany</td>
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<td>Suggest solutions</td>
<td>Support</td>
<td>Leave me be</td>
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<tr>
<td>Question</td>
<td>Strengthen</td>
<td>Express empathy without guidance</td>
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<tr>
<th>User</th>
<th>Motivational</th>
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<td>Passive</td>
<td>Actor</td>
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<td>Practitioner</td>
<td>Expert</td>
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<td>Relationship</td>
<td>Guide</td>
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<td>Authority</td>
<td>Confrontation</td>
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<td>Autonomy</td>
<td>Collaboration</td>
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<tr>
<th>1. CERVICAL CANCER PREVENTION TRAINING PROGRAMME - PARTICIPANT HANDBOOK</th>
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<tbody>
<tr>
<td>HEALTH SESSION 1</td>
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<tr>
<td>INDIVIDUAL COUNSELLING</td>
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</tbody>
</table>

MODULE LEARNING OUTCOMES

THEORETICAL KNOWLEDGE:
- Key information to be delivered to various audiences about CC
- Principles of counselling
- Components of counselling about CC in order to foster free and informed choice.

PRACTICAL SESSIONS:
- Carry out a counselling session
- Adopt appropriate attitudes and relationship approaches.

SOFT SKILLS:
- Behave in a non-judgmental and sympathetic manner
- Request informed consent from the patient.
main counselling techniques and attitudes:

Listening
This is a core competence for counselling. It is both an attitude and a skill. Listening is a way to engage that implies sensibility and attention to others. It enables to grasp more than the mere content of the conversation. Sometimes this is all a person needs. By reformulating, it enables a person to listen to his/herself and reflect more deeply.

Openness
Openness is a fundamental attitude in counselling. It is directed to others. The practitioner must show that he/she is trying to understand the person and accept him/her. It is shown by verbal expressions and non-verbal attitudes.

Non-judgmental position
Being non-judgemental ensures a trusting relationship that leads to greater authenticity, integrity, and an honest relationship. Judgment is a major obstacle. It impedes one’s empowerment. It may cause dependency and sometimes cause people to run from the relationship.

Empathy
Empathy is a form of understanding defined as the ability to perceive and understand feeling through the eyes of another. The practitioner must bracket his/her own perspective and without losing it focus on the other’s view of reality. Empathy must be expressed to the user. It is about putting words on what we perceive as being a denominating person for the person, by listening to his/her immediate needs, seeking to understand his/her perspective, and rephrasing his/her view. When the user does not feel judged but understood, empathy increases self-esteem. It improves the quality of the dialogue, and fosters the expression of deeper emotions, experiences, and practices. Therefore, it facilitates the identification of weaknesses and resources.

Concurrence
I do what I say and what I say is what I think. It is what lies between the professional and his being and emotions, and the thoughts triggered by the user. One should not try to be different. The concurrence of the practitioners facilitates the concurrence of the user.

Open questions
The practitioner must favour open questions so as to:

- Introduce the topic in a non-authoritative manner
- Establish trust and acceptance
- Be open to the other being
- Better understand the person’s perspective
- Steer

Open questions foster sharing and exploration of attitudes, feelings, values, and behaviours. The form and the tone must not provoke feelings of intrusion.

A list of closed questions tends to put the person in a defender’s position, who will then be only partly truthful. Closed questions give a feeling of control and structure for the practitioner, but they keep the user in a passive attitude. The question ‘Why’ should be avoided as it can be viewed as a request for justification and can provoke resistance and lead the person to argue for the status quo. Rephrase with open questions.

Mirroring / rephrasing
It is more than a mere repetition of the phrase. It is about trying to say what was just stated with one’s own words. Rephrasing helps to:

- Check that the understanding is correct
- Ensure the person feels listened to
- Summarise what is being said
- Deepen the understanding without judgment or confrontation
- Demonstrate that you understand and accept the state of mind, experience, and view of that person without judgement or criticism.
- Show that he/she will not be pushed until he/she is ready.
- It is of great help in developing and exploring the relationship.

Clarification
Clarification enables the practitioner to ensure that he/she has correctly understood the person’s statement. It shows that the practitioner is interested in what is being said and gives an opportunity to further clarify his/her thoughts. ‘What do you mean by...? ‘Please tell me about...’ And then... what else?’.d) Counselling for cervical cancer screening

It is important that women understand that this is not a screening test for cervical cancer, but that the test identifies women at risk of developing a cancer in the future.

Objectives
- Provide clear information and counselling so that each person can acquire new knowledge and adapt this knowledge in practice to make their own decision to get screened or not for cervical cancer.
- Identify medical conditions that imply specific care or that can influence adherence to screening (HPV, pregnancy, menopause, menstrual cycle).
- Discuss the possibility of undergoing the screening test.

The counselling step helps screening to be well accepted and followed up, in accordance with each patient’s personal context. Enabling the user to be an actor of her medical pathway has the following advantages:

- Increased satisfaction
- Decreased lost to follow-up
- Higher adherence.

The steps to take to help in the choice to screen or not are based on the GATHER model (developed by the WHO):

- Greet
  - Greet the patient and introduce yourself
  - Ensure confidentiality
  - Explain the role, objectives and detail what will happen during the counselling session.

- Ask
  - Ask questions and listen to the patient
  - Explore what she has (state of health), what she does (family, profession), what she knows (in terms of cervical cancer screening), what she believes (about cervical cancer), how she feels (regarding her relationships and sexual life, her gynaecological follow-up), what she needs (projects, wishes, pregnancies).

- Tell
  - Deliver clear, tailored, and relevant information
  - Ensure that the information is well understood
  - Information includes self-sampling, analysis of the presence of HPV, VIA, thermocoagulation, and further possible investigations at a referral centre.

- Help
  - Help her to make her own choices
  - Insist on the fact that the final decision belongs to the users
  - To help with the choice, it is possible to encourage the user to think about her family situation, her preferences, the benefits/risks of carrying out this screening and the consequences of her choice
  - The caregiver encourages the user to respect her choice to be screened and choose if and when to treat precancerous lesions, depending on the context.

- Explain
  - Discuss adherence to CC screening
  - Inform about the nature of cervical cancer and the consequences of an HPV infection
  - Inform of the possibility of self-sampling or sampling by a practitioner
  - Explain the importance and aim of the HPV test and the visual inspection with acetic acid test (VIA)
  - Provide detailed information on the subsequent stages of the screening process (if negative HPV, carrying out visual inspection with acetic acid, and possibility of treating precancerous lesions)
  - Offer written material that can help.

- Return
  - Follow-up appointments are to evaluate healing after thermocoagulation
  - Offer the option to continue her gynaecological routine check-ups
  - Repeat screenings regularly all her life.

Favouring a “Motivational Interviewing” approach
“Motivational interviewing” is a directive, client-centred counselling style for eliciting behaviour change by helping clients to explore and resolve ambivalence” (Miller et Rollnick, 1999).

The underpinning principles of the method are the following:

- An approach based on collaboration rather than prescription
- Respect for individuals’ autonomy and decision
- Trigger rather than give orders
- Importance of encouraging the person to suggest change and the way to achieve it
- Decision to renounce an authoritative role
- Choice of exploratory activities rather than limitations of the person
- Express a genuine interest for a person’s experience and views.

In other words, this is a communication method where the professional is facilitator that helps the person to set her own course according to her own aims. The person is the expert of his or her life. Therefore, it is two experts (patient and professional) who collaborate, by sharing their expertise to analyse the situation and make a joint decision regarding the future. The professional directs the course of the interview but not the choice of the person.

The principles of Motivational Interviewing are:

- Expansion of empathy
- Exploration of ambivalence or dilemma experienced when facing possible change or decision with impact on the life of patients
- Lead the patient to express her own personal aims
- Assist her in understanding the contradictions between the current situation and her personal aims
- Discuss available options (e.g.: different contraceptive methods including emergency contraception) and guide her in finding an adapted and acceptable choice in her view.

d) Pre and post HPV test counselling

Contents of the interview

Information:

- Explain the screening algorithm
- Explain HPV tests
- Go into detail explaining the sampling procedure and inform of the possibility of self-sampling
- Depending on the woman’s choice, explain...
the procedure for self-sampling/sampling by a health practitioner
- Explain the analysis process and waiting times for the delivery of results (48 hours or 3 to 4 hours)
- Reassure the patient on the fact that a positive test result does not mean that she has cancer (especially if the patient is under 30. Explain the clearance phenomenon and how they are more at risk of having a positive HPV test).

**Counselling**
- For the choice to go through with screening
- Assessment of the woman’s support (make sure she is not coerced)
- Discussion on the rationale for her discussion, should she wish to
- Counselling leads to a decision to go through with the screening or not.

**Medical history:** (to be recorded by the professional/practitioner/midwife)
- Reasons for contact: pregnancy symptoms, circumstances...
- Obstetric history: number of pregnancies
- Gynaecological history: Date of last period, regularity of the menstrual cycle, any gynaecological affections, contraceptive history...
- Search for clinical signs of cervical cancer: post-coital bleeding, irregular bleeding...
- Sexual history: partner(s), STI symptoms, HIV status (if this is unknown, encourage testing).
- Surgical/military history: chronic illness, surgical interventions
- Treatment and allergies
- Social history: domestic environment, violence, etc.

**Clinical examination:**
- Holistic health assessment
- Abdominal examination
- Pelvic examination: signs of infection, signs of cancer (granular aspect of the cervix)
- Offer a self-sampling test or a test carried out by a professional (using a speculum).

**Laboratory tests: the sample is sent to the laboratory.**

**Communicate test results**
- If visual inspection reveals a granular aspect leading to suspicion of cervical cancer; explain referral and insist on the importance of an appointment to confirm the cancer diagnosis.
- Explain that the only way to confirm this is biopsy and detail the procedure.
- Reassure the patient by telling her that treatments exist for cervical cancer.

**g) Care before treatment of precancerous lesions**

**Objectives**
- Provide comprehensive information and counselling so that each woman may make her own decision about getting test for cervical cancer.
- Identify any medical conditions that would imply specific care or may influence adherence to treatment (HIV, pregnancy, menopause, menstrual cycle).

**Content of the counselling interview**
- **Information on:**
  - The detailed procedure of visual inspection with acetic acid
  - Duration of the procedure
  - Expected sensations that they may experience during the test with acetic acid.
  - The time required before resuming sexual intercourse, vaginal ring or menstrual cup: one month is necessary for proper healing. If this waiting time is impossible, recommend the use of a condom for that duration.

**Clinical examination:**
- For choices regarding treatment
- Assessment of the woman’s support network: ensure she is not being coerced
- Discussion about the reasons for her choice if she wishes to discuss them
- Counselling leads to a decision to get tested or not.

**Clinical examination:**
- Holistic health assessment
- Abdominal examination
- Pelvic examination: signs of infection, signs of cancer (cervix with a granular aspect).

**Gynaecological examination:**
- Breast examination
- Pelvic examination
- Speculum examination
- Apply acetic acid, identify lesions and draw them for the patient if necessary, for more precise understanding.

**Delivering test results**
- The test is negative. This means that the patient will not have any precancerous or cancers cervical lesions in the 3 coming years.
- The test is positive. This means that the patient has precancerous lesions that may develop into cancerous lesions of the uterine cervix.
  - Option of immediate treatment with thermocoagulation
  - Referral for further investigations or other possible treatments (LEEP).

If the visual inspection shows a granular aspect of the cervix that leads to suspect cervical cancer; offer referral and insist on the importance of an appointment to confirm the diagnosis of cervical cancer. Explain to the patient that the only way to diagnose cancer is biopsy and explain the procedure. Reassure the patient by telling her that treatments exist for cervical cancer.

**h) Post-thermocoagulation care**

**Objectives**
- Identify and care for any complications
- Provide information about thermocoagulation
- Determine whether there is any other need in terms of sexual and reproductive health that might require additional care.

**Contents of post-thermocoagulation care**
- Before discharge from the health facility (following thermocoagulation):...
• Provide quality counsel, active listening to the woman and her needs
• Deliver clear oral and written information including:
  ➔ Sexual relations or the introduction of any vaginal item (vaginal ring for example) should be avoided for 1 month
  ➔ Side effects: possible bleeding and cramps
  ➔ The woman must consult the health facility if she experiences abdominal pain of increasing intensity, major bleeding, or fever.
• Prescribe iron if necessary (in case of anaemia), pain relief, emotional support if requested.
• Refer to other services after needs assessment (contraception, STI/HIV testing, violence, social needs, etc.).
  ➔ A follow-up visit should be planned between 9 and 12 months following the treatment.

Attention should be given to:
• Referring women to other services that might address other needs.
• Staff will raise the subject of prevention of STI/HIV and insist on the importance of condoms and infection control (specially for people at risk).

A follow-up visit should be planned between 9 and 12 months following the treatment.

Attention should be given to:

Referring women to other services that might address other needs.

Staff will raise the subject of prevention of STI/HIV and insist on the importance of condoms and infection control (specially for people at risk).

KEY MESSAGES

➡ A counselling interview is a collaborative conversation between a person acknowledged as both subject and actor of his/her history and a professional who provides guidance. The professional motivates, supports, and strengthens.

➡ Counselling is an essential tool to strengthen individual capacities. It also ensures informed consent and helps identify individual views and encourage adherence to screening and treatment of precancerous lesions.

➡ The following attitudes and abilities are essential for adequate counselling: openness, empathy, active listening.

➡ The core set of methods for effective counselling interview are open questions, clarification, rephrasing.

➡ Confidentiality is crucial and should not be overlooked. Make sure that nobody else is hearing the conversation.

➡ The key topics of counselling on cervical cancer screening are:
  • Understanding users’ views of cervical cancer
  • Providing accurate and adequate information
  • Making sure the woman understands the benefits and risks of screening and treatment
  • Support the woman’s choice.

➡ What do I take away from this session?
➡ What elements require further clarification?

➡ Understandings to develop?
HEALTH SESSION 2
HPV TESTING

MODULE LEARNING OUTCOMES

I. INTRODUCTION

An HPV test identifies the presence of oncogenic papillomavirus in cervical cells. This is of high interest as it has been demonstrated that cervical cancer is caused by a virus.

There are various screening methods. A cervical smear test is costly (requires training for cytopathologists), dependent on the cytologist, and has low sensitivity. It has no quality check, which is problematic to ensure quality results. In addition, results are not immediately available. As for VIA (visual inspection with acetic acid) or VILI (visual inspection with Lugol’s iodine), techniques for which many staff can be trained, the results are immediately available and easily integrated into primary health care services. However, the specificity is moderate which leads to overtreatment, and it is also a practitioner-dependent method. The HPV test has a high negative predictive value (NPV). However, it lacks specificity (a positive test result does not mean that lesions are present).

Large scale randomised trials have demonstrated that HPV screening is more efficient (>30%) to detect CIN 3 on the first screening cycle compared to cytology. In a metanalysis of four randomised trials conducted in Europe, the HPV test provided higher protection against invasive cancer than cytology. The risk of cancers within 3 years after a negative HPV test was about 70% lower than after a negative cytology test. For that reason, the WHO recommends that when these methods are available, screening should be carried out using HPV testing followed by VIA to avoid overtreatment.

II. AVAILABLE METHODS

Virological methods are limited: HPV are hard to grow and serologies are not very useful. This is why HPV is identified through molecular methods, that are more sensitive than cytology.

There are different techniques for the detection of HPV DNA:

- Solution-phase hybridisation
- PCR amplification coupled with immuno-enzymatic detection
- Real-Time PCR

Amplification by polymerase chain reaction (PCR) is an in vitro gene amplification technique used in molecular biology.

It selectively amplifies (with a billion-multiplying factor) trace amounts of a known DNA or RNA sequence. This can help detect HPV for example.

The technique is a 3-step technique:

1. Thermic denaturation of DNA: when the temperature reaches 95°C, hydrogen bonds are broken, and the 2 DNA strands are forced apart. DNA becomes a single strand in the reaction medium.

2. Hybridisation of the primers: the reaction medium contains 2 primers, that each assemble with one of the 2 strands. The primers will bind to the DNA single strands when the temperature is between 50 and 65°C. The primers are in excess amount and will bind as soon as they meet with complementary sequences.

3. Extension of the primer: primers are extended by integrating deoxyribonucleic acids that correspond to the sequence of the strand to which the primers are bound. This step takes place at a temperature of 72°C.

III. XPERT HPV TEST

The Xpert® HPV test technique takes place inside a cartridge that must be labelled by the technician. The sample is vortexed before 1ml of the solution is poured into the reaction tube using the provided pipette. The reaction tube is then inserted in the cartridge for automated analysis.

The HPV Xpert® test can identify the region E6/E7 of viral DNA for all 14 high risk HPV. There is a channel that enables the detection of HPV 16, one for HPV18/45 and three others that detect the other 55 high risk HPV: 31, 33, 35, 39, 51, 52, 56, 58, 59, 66 et 68.

The automated system requires a single use cartridge that must be labelled by the technician. The sample is vortexed before 1ml of the solution is poured into the reaction tube using the provided pipette. The reaction tube is then inserted in the cartridge for automated analysis.

The automated system requires a single use cartridge that holds the PCR reagents, houses the sample, and carries out the PCR processing. The first stage is the ultrasound cell lysis which frees nucleic acids from both HPV virus and human cells. The DNA is then


I. THEORETICAL KNOWLEDGE:
- Articulate the modalities of an HR-HPV test
- List the equipment required to carry out an HPV test or a self-sampling test
- Have basic knowledge of the use of sample analysis equipment.

II. PRACTICAL SKILLS:
- Explain the procedure to the patient and offer self-sampling
- Carry out sampling for an HPV test
- Plan the sample’s pathway from the community or health facilities to centres that are equipped to perform the analysis.

III. SOFT SKILLS:
- Behave in a non-judgemental and non-discriminatory manner
- Establish a respectful and trusting relationship.
purified on a filtration column and eluted. The DNA is thus made ready for real-time amplification and detection, similarly to PCR. Cellular control called the adequacy of the sample is performed that enables the detection of a single copy human gene and ensures that the sample holds enough cells to enable the detection of the presence or not of HPV.

The Xpert® HPV test is a single-sample test, it takes 1 minute to prepare the cartridge and launch the test. The analysis lasts less than an hour. Several cartridges can be launched one after the other. There is very little manipulation time by the technicians (less than 2 minutes). It includes the following steps:

- Transfer of the sample into the cartridge
- Scanning barcodes for the cartridge and the sample
- Insertion of the cartridge in the analysis robot
- Unloading of the cartridge at the end of the test
- Retrieve the results in the Xpert® software and transcribe in the LIS (Laboratory Information System).

HR-HPV genotypes will be detected using 5 different fluorescent probes. Five graphs will appear on the results: one graph for HPV 16, another for HPV 18/45 and three for the pooled results for the 11 other HR-HPV, since 3 channels correspond to these genotypes; Canal P3: HPV 31, 33, 35, 39, 52, 58 / Canal P4: HPV 51 et 59 / Canal P5: HPV 39, 56, 66, 68. In a table over the graph, the Ct will be visible as well as the reference number, date, and time of the test.

a) Sampling technique

This is the same technique as the one used for pap smear test. It only lasts a few minutes and can cause mild discomfort, some pressure, or cramps, however it is usually not painful. To carry out the HPV screening test, the practitioner gently inserts a speculum in the vagina. This is to separate the vaginal walls so that the practitioner can see the upper part of the vagina and the cervix. He/ she inserts the swab up to the cervix and/or upper vagina and rotates the brush 5 times clockwise. After sampling the cells, the physician, midwife or nurse puts them in a container. The sample is sent to a laboratory where it is analysed to identify if its DNA is that of an HR-HPV. There is a possibility of light vaginal bleeding for one or 2 days after an HPV test.

b) Self-sampling

- Self-sampling can be done in a confidential and private location.
- Partially open the packaging.
- Do not touch the cotton or drop the swab. If this occurs, request another sampling kit.
- Menstrual period (can be done in case of light vaginal bleeding)
- Sexual intercourse within 24 hours of sampling
- Vaginal wash within 24 hours of sampling
- Use of any vaginal solution within 24 hours of sampling

Remember to mark the sample with patient’s name, reference number, date, and time of the test.

The sample can be done with or without speculum examination and can be carried out by a health professional or by the woman herself. Indeed, several studies have shown comparable effectiveness of self-sampling versus practitioner sampling.

For the test to be analysed correctly, it must not be carried out in the following situations:

- Menstrual period (can be done in case of light vaginal bleeding)
- Sexual intercourse within 24 hours of sampling
- Vaginal wash within 24 hours of sampling
- Use of any vaginal solution within 24 hours of sampling.

V. CONDITIONING AND SHIPMENT OF SAMPLES

The transportation process must enable to:

- Ensure patient confidentiality and anonymity
- Protect the sample from any damage (fall, leak, etc.)
- Ensure that the conditions are respected for transportation in a timely manner with regards to HPV DNA stability and in appropriate temperature conditions.

The samples must be placed in plastic bags: one bag per patient.

- Fold the laboratory order and put it in the bag
- Store the sample in a cooler to keep it between 15 and 30°C
- Transfer to a laboratory as soon as possible
- For samples that are transferred by a courier, a transport tracing sheet must also be filled out; the time of delivery at the laboratory must be mentioned by a member of staff in the laboratory or by the courier.

VI. DELIVERY OF TEST RESULTS

Results consist in a simple POSITIVE or NEGATIVE with a colour code (green/red).
How to interpret the results?

The test will come back either positive or negative.

- **Negative result** (low risk of developing cervical cancer in the next 5 years)
- **Positive result** (contact with a virus that is likely to cause precancerous lesions): offer VIA; reassure, if there is no suspicion of cancer, by explaining that the test does not mean that she has cervical cancer and that a majority of women who have HPV infection will not develop cervical cancer.
KEY MESSAGES

- Research show that the HPV screening test is very useful for screening cervical cancer. Its association with VIA will avoid overtreatment.
- Molecular screening methods to screen for HPV infection is based on the detection of HR-HPV DNA in vaginal and/or cervical samples.
- The sampling can be performed by a health practitioner (with or without a speculum) or by the woman herself.
- All studies show similar sensitivity between self-sampling and sampling by a practitioner.

NOTES

- What do I take away from this session?
- What elements require further clarification?
- Understandings to develop?
I. BACKGROUND INFORMATION

a) What is visual inspection?

Naked-eye visual inspection of the cervix is a simple test for early detection of precancerous lesions and developing invasive cancer. Several techniques exist:

- Visual inspection with acetic acid (VIA)
- Visual inspection with acetic acid and magnification (VIAM)
- Visual inspection with Lugol’s iodine (VILI)

Barriers to the implementation of cytological screening in environments where resources are scarce have led to explore the possibility of alternative tests such as VIA or VILI.

The results of VIA or VILI are immediately available and do not require any laboratory service. The results are classified according to change of colour in the cervix. Perfect knowledge of the anatomy, physiology and pathology of the cervix are a prerequisite to the understanding and interpretation of this test.

b) Anatomical and pathological basis of VIA

Application of 5% acetic acid is believed to cause reversible coagulation or precipitation of the cellular proteins. It also causes swelling in the epithelial tissue, columnar and any abnormal squamous epithelium.

c) Conditions of the test

VIA can be performed at any moment of the cycle and during the menstrual period for a woman suspected of STI or HIV, or in the case of diagnosed infections.

d) Limitations/Strengths

<table>
<thead>
<tr>
<th>LIMITATIONS</th>
<th>STRENGTHS</th>
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<tbody>
<tr>
<td>Overtreatment (it is not a diagnosis test but a screening test)</td>
<td>Simple and requires minimal equipment</td>
</tr>
<tr>
<td>Requires developing standardized training and quality assurance standards</td>
<td>Low cost for setting-up and maintenance</td>
</tr>
<tr>
<td>Less accurate for menopausal women</td>
<td>Immediate availability of test results</td>
</tr>
<tr>
<td>False positives: immature squamous metaplasia, leukoplakia and condyloma</td>
<td>VIA can be integrated in primary health care settings</td>
</tr>
<tr>
<td>Interpretation depends on the practitioner and requires quality assurance control measures</td>
<td>Can be performed at any time of the cycle</td>
</tr>
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II. PROCEDURE

The person in charge of performing visual inspection must have solid knowledge in anatomy, physiology, and pathology of the cervix. He/she must be aware of the clinical aspects of benign affections, inflammation, precancerous lesions and invasive cervical cancer.

a) Material

Biomedical equipment

- Examination table
- Light source
- Sterile bivalved speculum (Cusco’s or Grave’s)
- Instrument tray.

Medical instruments

- Compress/cotton
- Pickup forceps
- Medical gloves
- Recently prepared acetic acid solution (3 to 5%)
- A plastic container with 0.5% chlorine solution to decontaminate instruments
- A plastic bucket with a polythene bag to dispose of contaminated swabs and other waste items
- Sheet or form to record the events
- Timer.

Maintenance

- Material
- Bleach
- Steriliser

Preparation of 5% acetic acid solution: add 5ml of glacial acetic acid to 95ml of distilled water. If vinegar is used make sure that the concentration of acetic acid is 5%.

b) Procedure

Advice before VIA test

Provide women with the following information:

- Nature of cervical cancer and consequences of an HPV infection
- Risk factors for the illness
- Role and importance of VIA screening
- Consequences of not continuing tests after a negative HPV result
- Options for treatment if the VIA test is abnormal.

Medical interview

Patient’s history: bleeding pattern, parity, contraception, risk factors for cervical cancer.

Examination:

- Vula, vagina, cervix
- Perform a bimanual and rectovaginal examination if necessary. Search for:
  - Cervical motion tenderness
  - Pregnancy
  - Uterine anomaly
CERVICAL CANCER PREVENTION TRAINING PROGRAMME - PARTICIPANT HANDBOOK
VISUAL INSPECTION WITH ACETIC ACID

Procedure
Wash hands
Inspect external genital parts and examine the urethral orifice for any discharge
Gently insert the speculum until feeling a resistance and gently open it to reveal the cervix
When the cervix is entirely visible, block the speculum open so that it stays in place and reveals the cervix
Adjust light source to see the cervix
Inspect the cervix and look for signs of infection (cervicitis) such as a white purulent discharge (mucopus); ectopy (ectropion); visible tumours or cysts, ulcerations or lesions.
Use a clean swab to remove any discharge, blood, or mucus from the cervix.
Identify the cervical os and the squamous columnar junction (SCJ) around it
Dip a clean swab in acetic acid solution and apply it to the cervix
After applying acetic acid, wait for at least one minute and inspect the cervix to detect in changes in colour
Pay careful attention to the SCJ; easy bleeding, any white or thickened areas
If necessary, apply more acetic acid and swab the cervix to remove mucus, blood or any discharge that might appear during inspection and impede proper visualisation
After completing visual inspection of the cervix, use a clean cotton swab to remove any remaining acetic acid from the cervix and vagina
Gently remove the speculum
If the VIA test is negative, dip the speculum in a 0.5% chlorine solution for 10 minutes for decontamination
If the VIA test is positive and if the patient opts for treatment, place the speculum on a high-level disinfected plate, or in a recipient so as to be able to reuse it for thermocoagulation.

Counselling after negative results:
Deliver the test results to the woman
Give the information that the next appointment should be 3 years later (or 1 year if HIV+).

Counselling after positive results:
Deliver the results to the woman
Explain recommended further investigations to perform and procedures to follow
Reassure the woman.

Infection control
Remove gloves
Dispose of gloves in a bucket with a plastic bag
Wash hands after the examination
Decontaminate instruments in 5% chlorine solution for 10 minutes then sterilise in an autoclave or by immersion in boiling water for 20 minutes.

Information system
Fill out the register
Fill out individual records (VIA report and/or personal records).

III. INTERPRETATION OF THE RESULTS

a) Classification
At the interpretation stage, one must carefully observe:
The intensity of the white colour of the acetowhite lesions: are they shiny white, cloudy white, pale white or dull white?
The border and demarcations of the white lesions: distinctly clear and sharp or indistinct diffused margins? raised or flat? regular or irregular margins?
Are the lesions uniformly white in colour or does the colour intensity vary across the lesions or are there any areas of erosis within the lesion?
Location of the lesion: is it near, or far away from the transformation zone? Is it abutting (touching) the squamocolumnar junction? Does it extend into the endocervical canal? Does it occupy the entirety, or only a part of the transformation zone? Does it involve the entire cervix (which usually indicates early preclinical invasive cancer)?
Size (extent or dimensions) and number of the lesions.
If in doubt, it is safe to repeat the test a few times, taking care not to induce bleeding. Women with suspected invasive cancers should be referred for further investigations and treatment.

VIA categories
- An acetowhite area is not significant if it is far from the squamocolumnar junction and does not touch it
- An acetowhite area close to the squamocolumnar junction is significant.

b) Negative VIA Test results
VIA screening is reported as negative in the case of any of the following observations:
- No acetowhite reaction
- No acetowhite lesions are observed on the cervix
- Polyps protrude from the cervix with bluish white acetowhite areas
- Nabothian cysts appear as button-like areas, as whitish acne, or pimples
- Dot-like areas are present in the endocervix, which are due to grape-like columnar epithelium staining with acetic acid
- Presence of shiny, pinkish white, cloudy white, bluish white, faint patchy or doubtful lesions with ill-defined, indefinite margins, blending with the rest of the cervix
- Angular, irregular, digitating acetowhite lesions, resembling geographical regions, distant (detached) from the squamocolumnar junction (satellite lesions)
- Faint line-like or ill-defined acetowhitenning is seen at the squamocolumnar junction
- Strreak-like acetowhitenning is visible in the columnar epithelium.

c) Positive VIA results
The VIA test result is reported as positive in any of the following situations:
- There are distinct, well-defined, dense (opaque, dull or oyster-white) acetowhite areas with regular or irregular margins, close to or abutting the squamocolumnar junction in the transformation zone or close to the external if the squamocolumnar junction is not visible
- Strikingly dense acetowhite areas are seen in the columnar epithelium
  - The entire cervix becomes densely white after the application of acetic acid
  - Condyloma and leukoplasia are located close to the squamocolumnar junction, turning intensely white after application of acetic acid.

d) VIA positive for invasive cancer
The result of the test is reported as invasive cancer when:
- There is a clinically visible ulceroproliferative growth on the cervix that turns densely white after application of acetic acid and that bleeds on touch.

Tools to help identify precancerous lesions.

<table>
<thead>
<tr>
<th>VIA OUTCOME</th>
<th>CLINICAL SIGNS</th>
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<tbody>
<tr>
<td>NEGATIVE TEST</td>
<td>No acetowhite lesions or mildly acetowhite, polyps, cervicitis, inflammation, Nabothian cysts</td>
</tr>
<tr>
<td>POSITIVE TEST</td>
<td>Distinct, well-defined dense acetowhite areas (opaque/dull or oyster-white) with regular or irregular margins close to the squamocolumnar junction Condyloma and leukoplasia close to the squamocolumnar junction</td>
</tr>
<tr>
<td>SUSPICION OF CANCER</td>
<td>Visible ulcerated lesions, growths on the cervix that bleed on touch.</td>
</tr>
</tbody>
</table>
### KEY MESSAGES

- VIA is one of the methods for early detection of cellular alterations of the cervix, lesions which become visible to the naked eye after application of acetic acid on the cervix during a speculum examination.
- As part of the defined screening algorithm, it is used as triage and takes place after a positive HR-HPV test.
- Training and guided practice is necessary to ensure competent performance of VIA.

### NOTES

- What do I take away from this session?
- What elements require further clarification?
- Understandings to develop?
HEALTH SESSION 4
TREATMENT OF PRECANCEROUS LESIONS AND FOLLOW-UP

I. OVERVIEW OF AVAILABLE METHODS

Early detection through targeted screening followed by treatment of the diagnosed precancerous lesions can prevent most cases of cervical cancer.

As per the ‘screening and treatment’ approach, the decision of treatment is based on a screening test and not a diagnostic test, and the treatment must take place as soon as possible if the test is positive.

Decision for treatment is based on a VIA positive outcome and does not require a histological confirmation (diagnosis). WHO recommendations for the treatment of precancerous lesions are:

- Cryotherapy/ thermocoagulation
- LEEP
- Cold-knife cone

a) Cryotherapy

Cryotherapy treats precancerous lesions by freezing precancerous cells and causing cellular dehydration. This is achieved by applying a low temperature cryogenic probe on the abnormal zone. Cervical tissue heals in around a month.

**Principle:** Application of a low temperature probe on the surface of the lesions to freeze abnormal areas by cellular dehydration.

**Technique:** Use of carbonic snow (CO2) or liquid nitrogen (N2O).

**Indications:**
- Visible lesions
- Lesions covering less than 75% of the cervix
- Lesions covering less surface than the probe
- Visible squamocolumnar junction (SCJ)

**Contra-indications:**
- Endocervical lesions
- Invasive cancer
- Pregnancy.

**Procedure:**
- 15 minutes
- No anaesthesia
- Probe is positioned on the cervix
- Apply gas twice for a duration of 3 minutes with a 5-minute interval between both applications.

**Side-effects:** Cramps (2 to 4 weeks) / Uncomfortable discharge (2 to 4 weeks).

**Customary advice:**
- No vaginal douche
- No tampons
- No sexual intercourse for a month
- Use condoms for 6 weeks.

b) Thermocoagulation

Thermocoagulation treats precancerous lesions by causing tissue necrosis. A high temperature probe is applied to the abnormal area. Cervical tissue heals in around a month. Indications are the same as for cryotherapy.

**Principle:** Application of a high temperature probe to the surface of a lesion to cause necrosis of abnormal areas.

**Technique:** Application of the probe at 100°C on the cervix while exerting pressure on the cervix for 1 minute.

**Indications:**
- Visible lesions
- Lesions covering less than 75% of the cervix
- Lesions covering less surface than the probe
- Visible squamocolumnar junction (SCJ)

**Contra-indications:**
- Endocervical lesions
- Invasive cancer
- Pregnancy.

**Procedure:**
- 2 minutes of procedure
- No anaesthesia
- Probe is positioned on the cervix
- Apply the probe at 100°C on the zone for 1 minute.

**Side-effects:** Cramps (2 to 4 weeks) / Uncomfortable discharge (2 to 4 weeks).

**Customary advice:**
- No vaginal douche
- No tampons
- No sexual intercourse for a month
- Use condoms for 6 weeks.

c) Loop electrosurgical Excision Procedure (LEEP)

The Loop Electrosurgical Excision Procedure uses a wire loop that cuts the tissues so as to remove abnormal zones while ensuring haemostasis. This haemostasis is ensured with a ball electrode. The tissue can be sent for anatomopathological analysis to assess the extent of the lesion.

**Principle:** Electrosurgical removal of a part of the cervix (with the aim of sparing as much tissue as possible).

**Technique:** Use of a thin electrosurgical loop to remove abnormal areas to entirely eliminate the lesion and the transformation zone.

MODULE LEARNING OUTCOMES

**THEORETICAL KNOWLEDGE:**
- List the different treatment techniques for precancerous lesions (cryotherapy, thermocoagulation, LEEP and cold-knife cone) and their indications.
- Explain basic principles of the implementation of thermocoagulation and LEEP.
- List the possible complications of these various treatments.
- List the required equipment to carry out thermocoagulation and LEEP.
- Enumerate the modalities for follow-up monitoring and treatment of precancerous lesions.

**PRACTICAL SKILLS:**
- Carry out treatment using thermocoagulation.

**SOFT SKILLS:**
- Establish a trusting and respectful relationship.
TREATMENT OF PRECANCEROUS LESIONS AND FOLLOW-UP

Principle: Surgical removal of a cone-shaped part of the cervix. The cone must extend the abnormal zone by at least 3 mm and be sufficiently deep.

Contra-indications:
- Lesions covering over 75% of the cervix
- Invasive cancer
- Pregnancy

Procedure:
- 15 minutes without anaesthesia
- Anaesthesia (local, locoregional or general)
- Partial removal of the cervix using an electrosurgical loop
- Haemostasis with a ball electrode

Side-effects:
- Bleeding
- Foul-smelling discharge
- Abdominal pain
- Risk of preterm labour

Customary advice:
- No vaginal insertion for 1 month
- No sexual intercourse for 1 month

Risk of preterm labour
Abdominal pain
Foul-smelling discharge
Bleeding

Side-effects:
- Haemostasis with a ball electrode.
- Partial removal of the cervix using an electrosurgical loop
- Anaesthesia (local, locoregional or general)
- Performed using a scalpel.

Side-effects:
- Bleeding
- Foul-smelling discharge
- Abdominal pain
- Infection
- Risk of preterm labour.

Customary advice:
- No vaginal insertion for 1 month
- No sexual intercourse for 1 month

Indications:
- Lesions covering over 75% of the cervix
- Endocervical lesions
- SCJ not visible.

Contra-indications:
- Invasive cancer
- Pregnancy

Procedure:
- 15 minutes without anaesthesia
- Anaesthesia (local, locoregional or general)
- Partial removal of the cervix using an electrosurgical loop

Advantages:
- Few side effects and complications
- Easy procedure
- Minimal equipment needs
- Short duration (2’)
- Affordable since no need of advanced technical facilities
- No need for electricity
- No need for anaesthesia required
- No histological confirmation
- Unreliable supply (requires liquid nitrogen or dry ice)
- Lower success rates with large lesions
- No pathological confirmation
- Few complications.

Limitations:
- Lower success rates with large lesions
- No histological confirmation.

Indications:
- Positive screening test
- Lesions not more than 2 mm larger than the probe
- Entirely visible lesions not extending to the endocervical area or towards the vaginal wall.

Exclusion criteria:
- Positive screening test
- Entirely visible lesions not extending to the endocervical area or towards the vaginal wall.
- Pregnancy
- Menstruation.

Indications:
- Suspicion of glandular dysplasia or invasive carcinoma
- Lesions not more than 2 mm larger than the probe

Advantages:
- Comparable to cryotherapy, CKC or LEEP
- Effects comparable to cryotherapy for 100°C thermocoagulation
- Easy-to-use equipment
- No anaesthesia required
- Easy procedure
- Few complications.

Limitations:
- Lower success rates with large lesions
- No histological confirmation.

Indications:
- Non-visible SCJ
- Endocervical lesions
- Lesions covering more than 75% of the cervix
- Visible SCJ
- Lesions no wider than the probe
- Uses a scalpel to remove abnormal zones
- 15 minutes excluding anaesthesia
- Apply gas twice for 3 minutes with a 5-minute interval
- Apply 100°C probe on the cervix for 2 minutes
- Apply gas twice for 3 minutes
- 15 minutes excluding anaesthesia
- 2 minutes
- Apply gas twice for 15 minutes
- 2 minutes
- 2 minutes
- Apply gas twice for 15 minutes
- 2 minutes
- 2 minutes
- Partial removal of the cervix using an electrosurgical loop
- Haemostasis with a ball electrode

Advantages:
- Possibility of a biopsy
- Few side effects and complications
- Local anaesthesia (pencervical block)
- Costly equipment
- Advanced technical facilities

Limitations:
- Lower success rates with large lesions
- No histological confirmation

Indications:
- Non-visible SCJ
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Advantages:
- Possibility of a biopsy
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Limitations:
- Lower success rates with large lesions
- No histological confirmation.

COLD-KNIFE LEEP CRYOTHERAPY CONE TREATMENT OF PRECANCEROUS LESIONS AND FOLLOW-UP

The following table summarises the key characteristics of the different treatments.

<table>
<thead>
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<th>INDICATIONS</th>
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<tr>
<td>Covered less than 75%</td>
<td>No anaesthesia</td>
<td>Short duration (2’)</td>
<td>No histological confirmation</td>
</tr>
<tr>
<td>Lesions no wider than the probe</td>
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<td>No need for electricity</td>
<td>Unreliable supply (requires liquid nitrogen or dry ice)</td>
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II. THERMOCOAGULATION

Thermocoagulation should not be performed during pregnancy. Pregnant women will be asked to come back 3 months after their delivery for a new assessment and treatment, if still necessary.

a) Background information

Effectiveness:
- Comparable to cryotherapy, CKC or LEEP
- Little perspective regarding evaluation.

Recovery rates:
- 96% for CIN 1
- 99% for CIN 2 and 3.

Advantages:
- Affordable as it does not require consumables (gas)
- Effects comparable to cryotherapy for 100°C thermocoagulation
- Easy-to-use equipment
- No anaesthesia required
- Easy procedure
- Few complications.

Limitations:
- Lower success rates with large lesions
- No histological confirmation.

Indications:
- Non-visible SCJ
- Endocervical lesions
- Lesions covering more than 75% of the cervix

Contra-indications:
- Positive screening test
- Entirely visible lesions not extending to the endocervical area or towards the vaginal wall.
- Pregnancy
- Menstruation.

b) Counselling

All patients can freely decide to accept or refuse treatment. If it is refused, offer the patient screening one year later (see chapter on Counselling).

- Provide detailed information on the procedure, the risks, the benefits
- Encourage the patient to ask questions
- Ask the patient to confirm her consent to treatment
- Expected side-effects:
  - Cramps
  - Vaginal discharge (abundant, aqueous)
  - Light bleeding

C) Equipment and material

- Examination table
- Light source
- Bivalve speculum (Cusco or Graves)
- Instrument plate or recipient
- Thermocoagulation machine
- Cotton swabs
- Unused examination gloves or high-level disinfection surgical gloves
- Unused wooden spatula and/or a condom
- 0.5% chlorine solution to decontaminate the instruments
- A sheet to record the events.

d) Procedure

- Warn the patient that speculum is going to be inserted and that she may feel some pressure
- Gently insert the speculum entirely until feeling a resistance and open it to see the cervix
- When the cervix is entirely visible, fix the speculum in open position so that it stays in place with the cervix visible
- Adjust the light source to see the entirety of the cervix
- Use a cotton swab to remove any discharge, blood, or mucus from the cervix

The surgical removal of a cone-shaped part of the cervix (hence the name) and biopsy.
Loop Electro Excision Procedure (LEEP) is the partial removal of the area of the cervix comprising the junction zone between the columnar epithelium and the squamous epithelium, using a thin loop connected to an electrosurgical generator. This removal must prevent the development of precancerous lesions into cervical cancer.

It is adapted to patients with a theoretical indication for destructive treatment but whose lesions extends beyond 75% of the cervix or extend to the endocervical area, or in cases where the SCJ is not entirely visible.

LEEP is not recommended in the case of suspected invasive cancer. It is also contra-indicated during pregnancy. Pregnant women will have to come back 3 months after delivery for a new assessment before pregnancy. Pregnant women will have to come back 3 months after delivery for a new assessment. Pregnant women will have to come back 3 months after delivery for a new assessment. Pregnant women will have to come back 3 months after delivery for a new assessment. Pregnant women will have to come back 3 months after delivery for a new assessment.

IV. FOLLOW UP

When treatment for cervical cancer has been successful, follow-up monitoring must be set up to ensure the continuum of care. This must be adjusted to the situation and will notable help address side effects of the treatment and ensure that a good quality of life is recovered. It also aims at early detection of a possible relapse.

Regarding patients treated with thermocoagulation

A follow-up visit must be planned at 4 to 6 weeks after treatment. This visit will include:

- Gynaecological examination to ensure cervical healing
- Delivery of information insisting on the importance of regular gynaecological check-ups. Gynaecological check-ups aim at:
  - Guaranteeing personalised contraception
  - Preventing and screening for STI
  - Detecting female cancers such as breast and cervical cancer.

Follow-up visits will be planned 1 year after the treatment and will include a VIA Screening test. If the lesion evolves or persists, the treatment will be repeated, maximum once. After that the follow-up visit must be carried out in a higher-level facility.

Regarding patients whose tests were negative

Patients with negative results must be screened again at 5 to 10 years in the case of a negative HPV test. Patients with negative VIA results following a positive HPV test should repeat an HPV test at 1 year.

Of course, these recommendations are to be adjusted to each project’s financial resources.
In order for cervical cancer prevention to be effective, women whose screening test is positive must receive efficient treatment.

- There are several types of recommended treatments depending on the context and available resources and depending on the size of the lesions: Cryotherapy / Thermocoagulation are a first line treatments and loop electrosurgical excision procedure (LEEP) is adequate for any lesion covering over 75% of the cervix or in cases where the SCJ is not visible.

- These various treatments can be carried out at different levels of care depending on national recommendations.

- Using a ‘screen and treat’ approach helps reduce the number of lost to follow-up and may reduce the waiting time before the woman benefits from treatment.

- Importance of follow-up to ensure early detection of relapse.

- It is important to maintain medical care on a lifelong basis, even in the absence of severe illness.
NOTES

- What do I take away from this session?
- What elements require further clarification?

- Understandings to develop?
I. CLINICAL FORM AND CANCER DIAGNOSIS

When a woman accesses health services to complain about irregular blood loss, post-coital bleeding or postmenopausal bleeding, or even persistent vaginal discharge (despite treatment of STIs), they must be offered a speculum examination to identify any unusual aspect and refer the patient in case of suspected cervical cancer.

Cervical cancer is caused by the development of abnormal cells in the uterine cervix, characterised by their ability to proliferate. The cervix is composed of three types of tissues:
- Ectocervical squamous epithelium: it covers the external part of the cervix called ectocervix.
- Endocervical columnar epithelium: it covers the internal part of the cervix called endocervix.
- Connective tissue or supporting tissue: covered by both previous tissues that meet on a line named the ‘junction zone’ or ‘transformation zone’.

Cervical cancer develops from one of the three following elements:
- Squamous cell carcinoma (85%): initiates in the ectocervix. It is by far the most frequent cervical cancer
- Adenocarcinoma (15%): initiates in the endocervix
- Sarcoma: initiates in the connective tissue. This type of cancer is extremely rare.

‘In situ’ cancers are caused by cervical dysplasia only superficial epithelium is affected. The basal membrane and underlying connective tissue are not affected.

Squamous cell carcinoma and adenocarcinoma are considered invasive when they pass the basal membrane separating them from connective tissue and progress into the underlying connective tissue.

Risk factors:
- Sexual activity: early first intercourse (<17 years old) and number of sexual partners are major risk factors.
- Tobacco consumption: currently seems to be the second factor
- Oral contraception: the effect of oestroprogestagens is debated. They seem to facilitate carcinogenesis.
- Immune deficiencies are new elements that have been identified as risk factors, such as kidney transplants and HIV seropositivity.

Other medical disorders may cause similar symptoms. This is why it is necessary to refer patients to a referral facility to perform a biopsy that will lead to a diagnosis. Signs and symptoms of cervical cancer include the following:

Other medical disorders may cause similar symptoms.

Medical history and interview
Clinical examination must be carried out after a comprehensive interview of the patient’s medical and gynaecological history and risk factors. This examination comprises a gynaecological examination (speculum examination, vaginal and rectal examination) and palpation of abdomen and lymph nodes.

Gynaecological examination
During speculum examination, extensions in the vaginal walls will be evidenced when the speculum is being opened.

Vaginal examination aims at assessing volume, cervical motility and vaginal fornicea. Rectal examination can detect parametrial invasion of cervical cancer. Bimanual inspection can help assess the lateral extent of the tumour along the uterosacral ligaments.

Cervical cancer can be suspected in the presence of an abnormal screening (gynaecological examination and/or VIA) or in the presence of symptoms. Further investigations are required to confirm the diagnosis. The aim of these investigations is threefold:
- Confirm the diagnosis of cancer and identify the
The most commonly used diagnostic examinations are:

- **Biopsy:** this is a sample of cervical tissue that is sent for anatopathological analysis, which helps confirm the presence of the precancerous or cancerous lesion and assess their extent (CIN 1 to 3, in situ tumour or invasive tumour). It is the gold standard. It can be performed on lesions visible during VIA or using colposcopy if no lesions are visible.

- **Endocervical curettage** in case extension of lesions in the endocervical area are suspected, or if the squamocolumnar junction is inside the endocervix.

Biopsy is necessary to assert the diagnosis and define the histological type. Biopsy consists in removing small samples using a biopsy forceps. The sample is sent to histopathology for analysis. Biopsy can be carried out without anaesthesia. Bleeding is usually minimal.

### Diagnosis

Since women whose results are positive for the screening tests do not necessarily have precancerous lesions, it is normally expected that they undergo a diagnostic test that will confirm or not the presence of lesions, and possibly assess the stage of the illness.

**Colposcopy** is an examination of the vulva, vagina and cervix using a powerfully lit and magnifying instrument. This can be paired with digital cameras. The colposcope is a costly equipment and its use requires training. It is used after screening to guide biopsies and may help in the choice of the most adapted treatment (cryotherapy/LEEP).

The most commonly used diagnostic examinations are:

- **Biopsy:** this is a sample of cervical tissue that is sent for anatopathological analysis, which helps confirm the presence of the precancerous or cancerous lesion and assess their extent (CIN 1 to 3, in situ tumour or invasive tumour). It is the gold standard. It can be performed on lesions visible during VIA or using colposcopy if no lesions are visible.

- **Endocervical curettage** in case extension of lesions in the endocervical area are suspected, or if the squamocolumnar junction is inside the endocervix.

**Aims**

- Provide understandable information and counselling so that each woman may make her own decisions.
- Explain the upcoming stages of care and treatment.

**Contents of care**

- **Announce the suspicion of cancer**
- **Explain what will happen in the hospital** (confirming the diagnosis and stage of the cancer)
- **Further examinations** (blood sample, biopsy).
- **Upon confirmation,** specialists will explain and discuss procedures and treatment
- **Make an appointment with the hospital**
- **Provide contact details of the facility and organisations** so that she has adequate support when needed.

**Counselling**

- **Discussion with the patient** (and her family if she so wishes)
- **Listening capacities = powerful therapeutic tool**
- **Request permission to discuss the situation before speaking**
- **Be clear and straightforward when announcing a suspected cervical cancer,** and state that the only diagnosis tool is biopsy.

**c) Announcing suspected cervical cancer**

The sooner the diagnosis is made, the better the chances of healing with limited heavy treatment. The welcome the patient receives at first point of contact in the pathway of care and the quality of listening and information provided upon announcement of the diagnosis are major elements that will influence the rest of the pathway.

The announcement of a suspected cancer is a difficult moment for any patient.

Adherence to care and treatment is improved by adequate and timely information delivered to the patient. Therefore, the announcement must include a medical step that will detail the stages that are to be followed. The information delivered must be clear and understandable. The patient must be provided with contact details for the facility or organisations that she might need to support her during the course of care.

### KEY MESSAGES

- A woman who is diagnosed with invasive cervical cancer at an early stage can usually recover if provided with effective treatment.
- Without treatment, invasive cervical cancer is almost always lethal.
- Definitive diagnosis of invasive CC is provided by histological examination of a biopsy sample.
- It is essential that health professionals in primary healthcare facilities be able to identify and quickly refer women presenting with symptoms and frequent signs of CC.
II. STAGING SYSTEM FOR CERVICAL CANCER DEVELOPMENT

Cervical cancer treatment includes surgery, radiotherapy, chemotherapy, which can be used combined or individually.

a) Surgery

Principles:
- Major surgery practiced under general anaesthesia that consists in removing the cervix, the uterus (with or without ovaries), parametrial tissue, the upper area of the vagina and the pelvic lymph nodes.

Indications:
- The choice of treatment is based on the size and clinical form of the cancer.
- Surgery as primary treatment: Surgery is used as primary treatment option and consists in the removal of a variable portion of tissue depending on the development of the cancer in the pelvis and other individual characteristics of each patient.
- Surgery as secondary treatment: This can still aim at healing the patient: It consists in radical hysterectomy including removal of a portion of the upper vaginal to reduce the risk of relapse of the cancer.
- Surgery as palliative care: This is sometimes carried out when the cancer is at an advanced stage to reduce intestinal obstruction or treat fistula (abnormal communication between the vagina and the urinary tract or the rectum) resulting from the irradiation or extension of the primary cancer.

Treatment duration: 10 to 14 days of hospital stay

Complications:
- Infection
- Haemorrhage
- Lesions of neighbouring organs
- Risk of thromboembolic event
- Hysterectomy leading to sterility and bladder and/or intestine dysfunction.

c) Chemotherapy

When chemotherapy is used to treat cervical cancer, it is often associated with radiotherapy. This combination is the reference treatment of tumours that are larger than 4 cm or that have extended beyond the cervix into the pelvis.

Principle:
- Chemotherapy treatment is based on the administration of anti-cancer drugs. It is also referred to as medical treatment. It is a general treatment that affects the whole body. It can affect cancerous cells regardless of their location, even if they are isolated and were not identified during diagnosis. Chemotherapy treatments destroy cancerous cells by impeding their division process.

Recommendations:
- Chemotherapy is not offered routinely. Its use and effectiveness vary depending on the stage of the cancer and its extent.

Duration of treatment:
The number of irradiations as well as the duration of the treatment are subject to various factors: stage of the cancer, overall health condition, other treatments. Treatment is spread so as to protect normal tissues.

Side-effects:
The most frequent side effects are:
- Skin alterations
- Tiredness
- Loss of appetite

Complications:
- Menopause
- Infertility
- Dyspareunia

b) Radiotherapy

Principle:
- It consists in using ionising radiations to destroy cancerous cells. It may be used to treat both early and advanced stages of cancer. It is a completely painless procedure, that only lasts a few minutes. There are two types of radiotherapy treatments.
- Intracavitary radiotherapy is the most frequently used type of radiotherapy for cervical cancer. It consists in introducing an applicator to apply radioactive substance in the vagina or uterus.
- External beam radiotherapy involves using an external treatment device close to the body that directs high intensity X-radiations towards the tumour.

Duration of treatment:
- The total duration can vary. It may take place continuously, every day for a given period of time, or it can be fractioned into cycles whereby cures are spaced with a resting period.

Side effects:
- Side effects of chemotherapy depend on the drugs that are used, as well as the dosage and the patients (who may react differently to the same treatment). Some side effects can be reduced or avoided by preventative treatments and practical tips.

- Hair loss
- Nausea and vomiting
- Diarrhoea
- Musculoskeletal pain
- Tiredness
- Mouth sores

The following table summarizes these treatments:

<table>
<thead>
<tr>
<th>COMPLICATIONS</th>
<th>RADICAL SURGERY</th>
<th>EXTERNAL BEAM RADIOThERAPY</th>
<th>INTRACA VITARY RADIOTHERAPY</th>
<th>CHEMOTHERAPY</th>
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<tbody>
<tr>
<td>Infection</td>
<td>Major surgery requiring general anaesthesia and removal of the cervix, uterus (possible ovaries), para-metrial tissue, upper vagina, and pelvic lymph nodes.</td>
<td>Consists in targeting the tumour using a radiation beam from an external source, also called teletherapy.</td>
<td>Consists in delivering radiation using radioactive sources place in specific implants in the cervical canal and vaginal fornices.</td>
<td>Cisplatin or Carboplatin by intravenous (IV) injection are the most frequently used chemotherapy drugs.</td>
</tr>
<tr>
<td>Haemorrhage</td>
<td>Early stages (Stage I and some cases of stage IIA).</td>
<td>All stages including palliative care.</td>
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<td>Advance stages (in association with radiotherapy). Palliative care. Relapse.</td>
</tr>
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<td>Lesions of neighbouring organs</td>
<td>Between 10 and 14 days.</td>
<td>Daily treatment lasts 10-15 minutes. The regimen requires around 20-25 cures spread over 4 to 5 weeks (5-6 weekly cures).</td>
<td>Low-dose brachytherapy requires only one hospitalisation of 2-3 days.</td>
<td>Chemotherapy can be administered in ambulatory care, outpatient clinic in weekly cures for 5 weeks.</td>
</tr>
<tr>
<td>Risk of thromboembolic event</td>
<td>Failure to treatment</td>
<td>Skin alteration Tiredness Loss of appetite.</td>
<td>Skin alteration Tiredness Loss of appetite Pain.</td>
<td>Hair loss Nausea and vomiting Diarrhoea Musculoskeletal pain Tiredness.</td>
</tr>
<tr>
<td>Hysterectomy leading to sterility and bladder and/or intestine dysfunction.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Effective care of women with cervical cancer ought to be multidisciplinary (gynaecologist, oncologist, radiotherapist, etc.). Follow-up is recommended after treatment for 2 to 5 years to monitor the effectiveness of the treatment and prevent relapse.
d) Prognostic factors

Survival depends on the stage of the cancer. Usually, the earlier the diagnosis and treatment, the better the chances of survival for cervical cancer. There is no available statistical data on the various stages of cervical cancer. The following information was drawn from multiple sources and may include data from different countries:

<table>
<thead>
<tr>
<th>STAGE</th>
<th>SURVIVAL RATE AT 5 YEARS</th>
</tr>
</thead>
<tbody>
<tr>
<td>I A</td>
<td>93 %</td>
</tr>
<tr>
<td>I B</td>
<td>80 %</td>
</tr>
<tr>
<td>I I A</td>
<td>65 %</td>
</tr>
<tr>
<td>I I B</td>
<td>58 %</td>
</tr>
<tr>
<td>I IIA</td>
<td>55 %</td>
</tr>
<tr>
<td>I IIB</td>
<td>32 %</td>
</tr>
<tr>
<td>I VA</td>
<td>16 %</td>
</tr>
<tr>
<td>I V B</td>
<td>15 %</td>
</tr>
</tbody>
</table>

The prognosis is influenced by many determinants, among which the following:
- Medical history
- Type of cancer
- Stage of the cancer
- Specific characteristics of cancer
- Treatment options
- Response to treatment.

Nabothian Cyst
Nabothian cysts usually appear on the surface of the cervix. Endocervical cells produce mucus. Sometimes, squamous cells that are usually found in the ectocervix begin to develop on cells that produce endocervical mucus. They trap the mucus in the cervix, and this mucus continues to be produced and accumulates in a round smooth growth called a Nabothian cyst. This can be diagnosed during a routine pelvic examination. It does not usually require any treatment. In some cases, it can become big enough to modify the shape of the cervical canal and prevent adequate pelvic examination. In that case, it is possible to drain the cyst to evacuate the mucus.

Cervical fibroma
Cervical fibroma, also known as leiomyoma, initiates in the muscular tissue of the uterine cervix. Its aspect is similar to the uterine fibroma, but it is less frequent. Cervical fibroma is usually small, measuring 0.5 to 1 cm wide. It can be found in women of any age. Most women with a cervical fibroma present with no clinical signs or symptoms. Usually, there is no need for treatment except if it causes symptoms such as bleeding or pain. Some women will use medication to control these symptoms. Others may require surgery to remove the fibroma.

KEY MESSAGES
- Treatment options include surgery, radiotherapy, and chemotherapy; they can be used as a stand-alone treatment or combined.
- Without treatment, invasive cervical cancer is almost always lethal.
- A multidisciplinary approach is required to ensure efficient care for women with cervical cancer.
- With appropriate treatment, the survival rate at 5 years is over 80% for stage I cancers, 70% for stage IIA, 50% for stage IIB, and less than 10% for stage IV.
NOTES

➡ What do I take away from this session?
➡ What elements require further clarification?

➡ Understandings to develop?
HEALTH SESSION 6: INFECTION CONTROL AND UNIVERSAL PRECAUTIONS

I. BACKGROUND INFORMATION AND TRANSMISSION CYCLE

Definition
A nosocomial infection is a local or general infection caused by an infectious agent that was not present on admission in the health facility. Any microorganism may cause infection.

All human beings are sensitive to most infectious agents if they are not immune (vaccine).

Infection transmission cycle

- **Infectious agent**: pathogenic organism that may cause an infection.
- **Reservoir**: Environment where the infectious agent can survive, whether it develops there or not (human, animal, equipment).
- **Portal of exit**: the means by which a pathogen exits from the reservoir (respiratory, genital, urinary, mucosal, blood, etc.).
- **Mode of transmission**: an infectious agent can be transmitted through one or several routes. Direct contact (person to person) or indirect (via an inanimate object or surface) such as airborne transmission, vector-born transmission (insect) or via a vehicle (food, drugs, droplets, sneezing).
- **Portal of entry**: respiratory tract, genital or urinary tract, digestive tract, mucosa, parenteral transmission, transplacental transmission.
- **Host**: a person that lacks sufficient resistance to a specific microorganism.

II. BASIC PRINCIPLES OF UNIVERSAL PRECAUTIONS

Universal precautions are a set of simple measures to prevent infection transmissions during service provision. This includes minimising the risk of severe infections (hepatitis B, hepatitis C and HIV) from or to:

- Patients
- Service providers
- Other members of staff such as cleaning and maintenance staff.

This is all the more important since many infections are asymptomatic. Thus, prevention is essential regardless of the status of the patient, and each person must be considered at risk of being contagious and/or being infected.

The measures are based on several components:

- Hand washing is the main practical technique to avoid cross-contamination
- Use physical barriers (mask, apron, protection goggles)
- Use safe working procedures
- Isolate patients in case they cannot be protected against airborne transmission
- Practice equipment maintenance in accordance with recommended practice on infection control.

MODULE LEARNING OUTCOMES

THEORETICAL KNOWLEDGE:
- Articulate the different universal precautions to implement in order to prevent infections during screening, treatment and follow-up.
- Explain the sterilisation procedures for various instruments and equipment used for screening and treatment of precancerous and cancerous lesions.
a) Hand washing

Hand washing is the easiest way to prevent cross-contamination.
- Wash hands with water and soap, before and after each action.
  - Patient examination
  - After removing gloves (possible holes in gloves)
  - After touching blood or other body fluids, even with gloves.

b) Protective equipment

Gloves
Wear gloves before touching a wounded skin, mucosa, blood, or any body fluid, or soiled instruments. Use new gloves for each patient to avoid cross-contamination.

Keep gloves on when touching soiled instruments or material or when disposing of contaminated waste.

Protection goggles, aprons, and masks
In the event of splashes of body fluids like during delivery.

c) Manipulating instruments and material

Single-use material and contaminated surfaces
- Dispose of single-use items soiled with blood or body fluids using a sealed plastic bag.
- Place sharp instruments and needles in safe containers.
- Never reuse a needle and syringe.
- Do not recap, twist, or break needles before discarding them.
- Dispose of medical waste with the usual precautions, etc.
- Clean sheets, reusable linen with detergent, sundry them and iron them if possible.
- Clean and disinfect working surfaces such as examination tables and floors.

Non-disposable instruments and gloves
- Any instrument that was in contact with the vaginal and cervix (speculum, forceps, gloves, etc.) must be decontaminated, cleaned, and sterilised or undergo high level disinfection after each use.
- Thermic probes must be decontaminated, cleaned, and subjected to high level disinfection.
- Examination tables must be decontaminated after each patient. Other instruments (thermocoagulation device, light) must be decontaminated at least daily and if they are soiled.

III. EQUIPMENT MONITORING AND MAINTENANCE

Instrument maintenance is subject to three steps:
- Decontamination
- Cleaning
- Sterilisation or high-level disinfection.

a) Decontamination

Decontamination is the process that enables instruments and gloves that have already been used to be manipulated without risk.

This step inactivates hepatitis B and HIV viruses. It is achieved by immersion of instruments and gloves immediately after use in a big plastic bucket containing a 0.5% chlorine solution for 10 minutes (no longer because chlorine is corrosive), then rinse them with clear water.

Chlorine solution is obtained by putting together 1 volume of bleach with 9 volumes of water. The solution must be prepared every day and destroyed as soon as it is soiled.

This solution can also be replaced by ethanol or 60-90% isopropanol to decontaminate surfaces.

b) Cleaning

Soon after decontamination, the instruments must be cleaned. This is achieved by scrubbing them with a brush under running water and with detergent.

The staff in charge of that step must wear a mask or protection goggles and cleaning gloves.

When thoroughly cleaned, the instruments are rinsed with boiled water. Instruments with teeth-shaped or screw-shaped components, or articulated devices must receive particular attention at that stage.

c) Sterilisation / High-level disinfection

Sterilisation
Sterilisation consists in the destruction of all microorganisms. Instruments that are in contact with sterile parts of the body, i.e., that penetrate the skin, or the uterus must go through that sterilisation stage.

To achieve sterilisation, there are two options:
- Autoclave steam sterilisation: 20 minutes for unwrapped instruments, 30 minutes for wrapped instruments. It is the method of choice.
- Chemical sterilisation: soak instruments for 8 to 10 hours in a 2.4% glutaraldehyde solution or 24 hours in an 8% formaldehyde solution, then rinse them with sterile water.

High-level disinfection
HLD destroys all micro-organisms excluding bacterial spores. It is an alternative when there is no sterilisation equipment or when the instruments are too fragile for sterilisation.

The following options can be used:
- Boil instruments for at least 20 minutes in drinking water.
  - The water must be renewed daily. Ensure that it covers the instruments and set the timer when boiling is effective. Do not add anything in the container after setting the timer.
- Soak instruments for 20 minutes in a 0.1% chlorine solution or 2% glutaraldehyde solution. An alternative is to soak them for 30 minutes in 6% oxygenated water. Thoroughly rinse with boiled water, leave to dry, and wrap in a sterile cloth.

Chemical products are corrosive and may reduce the duration of the use of instruments that are regularly disinfected with this method.

IV. MEDICAL WASTE DISPOSAL

Bad management of medical waste may cause serious illnesses for health professionals and staff in charge of waste disposal, as well as the general population.

It is therefore necessary to prevent infection of all staff members in contact with the waste.

Contents of medical waste
- 80% of waste in health facilities is not contaminated (paper, boxes, plastic containers).
- 20% only is contaminated (blood, body fluids, outdated vaccines, bottles, mercury from thermometers), part of which are considered hazardous waste. Its elimination requires specific technical and organisational procedures.

<table>
<thead>
<tr>
<th>MEDICAL WASTE</th>
<th>NOT HAZARDOUS</th>
<th>HAZARDOUS</th>
<th>PHARMACEUTICAL</th>
<th>TOXIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXAMPLES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Compresses,</td>
<td>Needle,</td>
<td>Outdated drugs</td>
<td>Chemical waste: solvent,</td>
</tr>
<tr>
<td></td>
<td>syringes,</td>
<td>tube, scalp,</td>
<td>or vaccines,</td>
<td>detergent, disinfectant,</td>
</tr>
<tr>
<td></td>
<td>gloves,</td>
<td>glass vial,</td>
<td>vial containing</td>
<td>engine oil, Cytotoxic</td>
</tr>
<tr>
<td></td>
<td>infusion line</td>
<td>, etc.</td>
<td>residues of drugs</td>
<td>chemotherapy)</td>
</tr>
<tr>
<td>RISKS</td>
<td>Infectious</td>
<td>Infectious</td>
<td>Toxic</td>
<td>Carcinogenic properties,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Accidental Blood Exposure</td>
<td>Transmission of resistant</td>
<td>teratogenic properties, Toxic for the environment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(HIV, hepatitis B or C)</td>
<td>pathogens.</td>
<td></td>
</tr>
<tr>
<td>PROTECTION</td>
<td>Gloves, handwashing,</td>
<td>Gloves, handwashing</td>
<td>Never mix toxic solutions</td>
<td>Waste should be disposed of in hermetic waterproof containers.</td>
</tr>
<tr>
<td>MEASURES</td>
<td>procedure for waste disposal</td>
<td>Containers for infectious waste Avoid bad habits</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Waste should be sorted on the place of use, based on waste management protocols.
KEY MESSAGES

➡ Infectious diseases continue to be a major cause of death on a global scale.
➡ Health professionals and their patients are at risk of contracting these diseases.
➡ Transmission of infections within health facilities is mainly caused by lack of respect for handwashing and universal precautions.
➡ Inadequate waste management in care facilities can be the starting point of serious illnesses for health professionals, for staff in charge of waste disposal, for patients and for the wider community.
➡ Infection control is EVERYONE’s responsibility.

NOTES

➡ What do I take away from this session?
➡ What elements require further clarification?
➡ Understandings to develop?
HEALTH SESSION 7
PALLIATIVE CARE: PAIN MANAGEMENT AND END-OF-LIFE CARE

I. PALLIATIVE CARE: DEFINITION, KEY COMPONENTS

a) Definition
The WHO defines palliative care as a means to improve quality of life for patients and families faced with the issues associated with illnesses. It is not reduced to end-of-life care, as it encompasses interventions throughout the development of the illness. It aims at providing care for all distressing symptoms, notably pain, and takes account of the emotional and spiritual needs of patients and their close ones. Palliative care can be delivered by members of the community, health staff, and can take place in the patients’ homes or in health facilities.

Each year, an estimated 40 million people require palliative care, and 78% of them live in low- or middle-income countries.

On a global scale, need for palliative care will continue to rise, caused by an increasing number of non-communicable diseases and aging populations.

Palliative care is considered a fundamental human right and is stated in international human right statements.

b) Key components
Palliative care is meant to improve quality of life for patients and their close relatives who face issues associated with life-threatening diseases. These issues may be physical, psychosocial, or spiritual. Palliative care is characterised by the following items:

- Provides pain relief treatments and address other distressing symptoms
- Affirms life and regards dying as a normal process
- Intends neither to hasten or postpone death
- Integrates the clinical, psychological, and spiritual aspects of patient care
- Enables patients and their close ones to be as empowered as possible in their decision-making
- Provides a support system for families during the course of care
- Improves quality of life and may positively influence the course of the illness
- Must be offered early in the course of the illness, as soon as the advanced stage of the illness is confirmed.

The resolution on palliative care was adopted during the World Health Assembly in 2014 and commits governments worldwide to further develop norms and services at national level to increase access to palliative care for all patients.

II. PAIN MANAGEMENT

« Access to pain relief is a human right »
Pain has a strong impact on quality of life and psychological well-being, as patients find their suffering increased by a vicious circle of pain-apprehension-suffering. For these reasons, treatment of pain caused by cervical cancer must be integrated in care.

Since pain is a subjective sensation, its intensity can be experienced differently depending on the individual. For that reason, to provide efficient pain relief, the starting point is always to assess it as precisely as possible, and to achieve this, one must have an understanding of the complexity of pain.

a) What is pain?
Definition
The International Association for the Study of Pain (IASP) defines pain as ‘an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage’.

Characteristics of pain
- Acute pain is associated with sudden damage of tissues or organs.
- Chronic pain is pain that last over 3 months, either persisting or recurring. Pain then shifts from becoming the symptom of an illness to being the illness itself, as it will impact the person’s functional, relational capacities and therefore will have an effect on daily activities.

Types of pain
- Nociceptive pain, caused by lesions of a body part (burns, fractures, inflammation...). This type of pain is part of the body’s warning mechanisms to alert that something is wrong.
- Neuropathic pain is caused by the effects on sensitive nerves of lesions that may be caused by compression or tear due to trauma, or compression by a cancerous tumour. Neuropathic pain is chronic by nature and is described as an electric pulse, stabbing pain, or burning in the body parts linked to the nervous lesions. This type of pain can persist after the lesion is healed, as is the case for persistent pain after cancer recovery.
- Idiopathic pain or pain of unknown origin is probably linked to an alteration of pain control systems.

Cervical cancer pain
A majority of women with advanced cervical cancer will experience pain at a point of the development of their illness. This is a complex type of pain that includes both nociceptive and neuropathic components with various origins, intensity, and duration.

MODULE LEARNING OUTCOMES

THEORETICAL KNOWLEDGE:
- Awareness of the ethical framework in terms of end-of-life care and palliative care.
- Knowledge of the most frequent clinical signs in end-of-life patients.

PRACTICAL SKILLS:
- Use recommended methods for pain assessment and explain the modalities of pain management, including indications and administration regimens of pain relief treatments.
- Explain activities to set up, in partnership with local civil society partners, to develop community-based care.
- Articulate the basic principles of home and community care.

SOFT SKILLS:
- Behave in a respectful, empathetic, non-judgemental manner, supportive of women.
- Discuss representations of illness, end-of-life, and death.
Pain can be caused by the cancer itself (compression by the tumour, by infiltration of malignant cells or metastasis...), but also by the treatments of the cancer.

In fact, many cancer drugs, notably chemotherapy and radiotherapy have neurotoxic effects. These treatments can cause nociceptive pain at the time of treatment and neuropathic pain later.

**Examples of pain linked to cervical cancer**
Pelvic pain, severe back pain, dyspareunia (caused by the reduction of size of the vagina after surgery or hardening of vaginal tissue following radiotherapy etc.).

**b) Pain assessment**

Pain is a subjective and personal experience that cannot be measured but can be assessed. It requires personalised treatment and therefore its management is time consuming.

Pain assessment is conducted by interviewing the patient and evaluating pain. Pain evaluation must be carried in a non-judgemental manner, the reality of pain being the patient’s perception.

**Medical interview**
- Where is the pain located? (use body diagrams)
- What improves or worsens pain? How is it progressing with time?
- How long has the pain been present?
- What pain relief medications have been used?
- What is the intensity of the pain?
- Is there any psychological or spiritual element that adds to the physical issues of the illness? Is the patient worried, anxious, depressed, or sad?
- Does pain limit normal physical activity? (sitting, standing up, walking, running, interacting socially).

**Quantify the intensity of pain**

Pain intensity is ideally evaluated when the patient is not in pain so that her concentration is not affected.

As soon as the treatment is delivered, the team carries out a new evaluation to ensure that it is effective. If pain does not decrease after the adequate time for the medication to be efficient, the drug or its dosage are inappropriate and must be questioned. Thus, pain must be regularly assessed.

Disparities between pain as assessed by the practitioner and pain expressed by the patient can be reduced through discussion.

**c) Pain relief**

**Key elements:**
In 2019, the International Narcotics Control Board state that there were 121 countries where the opioid consumption levels were insufficient or very insufficient to satisfy basic medical needs. In 2011, this represented 83% of the world population living in these countries with insufficient access to opioids.

**Therapeutic principles:**
- Provide early treatment of the cause of the symptom
- Prevent the pain by continuous drug intake (fixed hours)
- Relieve the symptom completely and remove its memory
- Keep the patient valid as so far as is possible
- Protect the patients’ intellectual capacities (avoid sedative treatments)
- Favour oral or rectal treatments
- Personalised prescription.

**Pain assessment using facial expressions and gestures**
- If the patient is unreactive, does not communicate or if her behaviour is hard to interpret, hetero-assessments (where pain is assessed by the practitioner) can be used. This requires additional training (Doloplus Algoplus scales).

As soon as the treatment is delivered, the team carries out a new evaluation to ensure that it is effective. If pain does not decrease after the adequate time for the medication to be efficient, the drug or its dosage are inappropriate and must be questioned. Thus, pain must be regularly assessed.

Disparities between pain as assessed by the practitioner and pain expressed by the patient can be reduced through discussion.

**WHO PAIN RELIEF LADDER**

<table>
<thead>
<tr>
<th>STEP 1</th>
<th>STEP 2</th>
<th>STEP 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NON-OPIOID PAIN RELIEF</strong></td>
<td><strong>WEAK OPIOID</strong></td>
<td><strong>STRONG OPIOID</strong></td>
</tr>
<tr>
<td><strong>PARACETAMOL</strong></td>
<td><strong>SALICYLATE</strong></td>
<td><strong>NSAID</strong></td>
</tr>
<tr>
<td><strong>INDICATIONS</strong></td>
<td>Analgesic, antipyretic</td>
<td>Analgesic, antipyretic, anti-inflammatory at high dose antiplatelet agent at low dose</td>
</tr>
<tr>
<td><strong>DOSE REGIMEN</strong></td>
<td>500 mg 2 every 4 to 6 hours</td>
<td>500 mg every 4 hours</td>
</tr>
<tr>
<td><strong>PHARMACEUTICAL FORMS</strong></td>
<td>Oral, rectal, IV</td>
<td>Oral</td>
</tr>
<tr>
<td><strong>COMMENTS</strong></td>
<td>Well tolerated, can be associated with other pain relief treatments.</td>
<td>Maximum dose of 3000 mg (75)</td>
</tr>
<tr>
<td><strong>SIDE EFFECTS</strong></td>
<td>Hepatotoxicity</td>
<td>Digestive disorders, stomach ulcer, allergy, asthma, haemorrhage, tonsillitis.</td>
</tr>
<tr>
<td><strong>CONTRA-INDICATIONS</strong></td>
<td>Liver failure, known allergy</td>
<td>Peptic ulcer, anti-coagulant treatment.</td>
</tr>
</tbody>
</table>

The use of the pain relief ladder for the administration of pain relief treatment is efficient in addressing pain. Symptoms are sometimes difficult to control at all stages of the illness and must be closely monitored. To relieve pain, the WHO ladder (see table above) must be used in link with national protocols.

**Pain relief treatment administration**
- **Begin by Step 1 analgesics (paracetamol, aspirin, or ibuprofen).**
- If pain increases or persists, use a weak opioid such as codeine, which may be associated with a step 1 analgesic. In order to prevent the side-effects of opioids, laxative and antiemetic treatments should be administered.
- If pain continues to increase, administer morphine, associated or not with opioids.
Women with advanced cervical cancer can present with foul-smelling and bloody vaginal discharge due to bacterial proliferation. The following solutions can be offered:
- Sitting baths with warm water. Gently dry the zones using zinc oxide cream or petroleum jelly.
- Absorb the discharge with clean cloth or menstrual pads.
- Carry out vaginal douche with one of the following solutions made with boiled water:
  - 1 tablespoon of sodium bicarbonate (baking soda) in 2 cups of water
  - Half a cup of vinegar in 2 cups of water
  - 5 to 10 crushed tablets of metronidazole dissolved in two cups of water.
- Pack the vagina with clean cloths soaked in one of these solutions, twice daily.
- Broad-spectrum antibiotic should be prescribed with caution (only temporarily effective and at risk of vaginal yeast infection). The patient should complete the course of treatment otherwise this may worsen the symptoms.

**Fistula (abnormal passage between the vagina and the urinary bladder or the rectum).** This may be caused by extension of the cancer into these organs or by radiotherapy. Fistulas cause foul-smelling irritating discharge. In that case the vagina should not be douched or packed. Alternative solutions may be offered:
- Sitting baths with warm water. Gently dry the zones using zinc oxide cream or petroleum jelly.
- Absorb the discharge with clean cloth or menstrual pads.
- Broad-spectrum antibiotic should be prescribed with caution (only temporarily effective and at risk of vaginal yeast infection). The patient should complete the course of treatment otherwise it may worsen the symptoms.

Vaginal bleeding may result of the insertion of any item in the vagina. Vaginal douches and vaginal packing are not recommended. Alternatives to sexual penetration should be preferred. In the case of bleeding, the woman should:
- Lie down and monitor the bleeding in case of light bleeding
- Access a health facility in case of heavy bleeding.

The following table summarises how to manage the most frequent symptoms at advanced stages of cervical cancer.

### Holistic health support

Following a healthy diet, exercising, and avoiding risky behaviours such as tobacco and excess alcohol consumption will enhance health and well-being.

## Achieving a healthy diet

Nutrition advice and support in following a healthy diet are neglected aspects of care during illness. Nutritional balance can be modified during treatment for people with cancer. Tiredness, loss of appetite, nausea, vomiting, aversions to food, modified sense of taste and smell... are some of the most frequent complaints.

A few key actions can be taken in such situations:
- Drink 1.5 litres of water each day
- Have set number of daily rations of vegetables, fruit, and wholegrain products (wholegrain bread, pasta, rice...)
- Ensure sufficient protein intake
- Avoid excess fat, salt, and sugar.

This advice should be followed wholeheartedly. Feeling coerced into a healthy diet will result in a loss of energy. This may have negative impact on nutritional status and therefore on quality of life.

Maintaining a good nutritional status is important in the fight against cancer and improves chances of success in the treatment. Good nutritional status is first and foremost guaranteed by sufficient protein and calorie intake. At that point, these calories or proteins may come from a less healthy diet, which is not of primary importance. Women should be encouraged to eat food that is appealing to them, even if they do not crave for healthy and balanced diets.

### Physical exercise

More and more studies demonstrate the benefits of physical exercise as tertiary prevention, notably for patients with cancer. Physical exercise reduces stress, nausea, constipation, and may improve appetite. Patients with cancer have altered cardiorespiratory and muscular capacities. These modifications may lead to a state of intolerance to exercise, causing diminished autonomy, quality of life, self-esteem, and increased physical and psychological signs of tiredness.

If the patient is well enough to allow it, exercising for 5 to 10 minutes a day is recommended for people with little previous exercise habits. For people who already regularly exercised: they should maintain their habits as long as possible.

The sooner physical exercise can be introduced (or maintained) in the pathway of care, the more beneficial the effects on the patient.

### Avoid risky behaviours

- Quit smoking or reduce tobacco consumption
- Avoid passive smoking by no staying in a room with smokers
- Limit alcohol consumption.

## Symptoms

<table>
<thead>
<tr>
<th>SYMPTOMS</th>
<th>CAUSE</th>
<th>PREVENTION</th>
<th>MEDICAL CARE</th>
<th>HOME CARE</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAGINAL DISCHARGE</td>
<td>Tumoral necrosis Fistula Bacterial proliferation</td>
<td>Hard to prevent Palliative radiotherapy or surgical removal of the tumour</td>
<td>Vaginal packing soaked with solution twice daily Antibiotic or antifungal treatment</td>
<td>Frequent sitting baths Menstrual pads Douches</td>
</tr>
<tr>
<td>FISTULA</td>
<td>The tumour causes a passage</td>
<td>Hard to prevent None</td>
<td>None</td>
<td>Frequent sitting baths Menstrual pads Douches Zinc oxide cream or petroleum jelly</td>
</tr>
<tr>
<td>VAGINAL BLEEDING</td>
<td>Caused by the tumour</td>
<td>Palliative radiotherapy Transfusion in case of heavy bleeding</td>
<td>Avoid physical efforts and sexual intercourse Resting</td>
<td></td>
</tr>
<tr>
<td>NAUSEA AND VOMITING</td>
<td>Opioids Severe pain Radiotherapy Chemotherapy Fever</td>
<td>Antiemetic treatment from the onset of the cancer / Pain relief treatment</td>
<td>Metoclopramide or promethazine</td>
<td>Small regular sips of fluids (coca tea, ginger)</td>
</tr>
<tr>
<td>DIARRHOEA</td>
<td>Gastroenteritis Parasites Radiotherapy</td>
<td>Good food hygiene Handwashing Boiled drinking water</td>
<td>Treat the cause Loperamide</td>
<td>Dehydration solution Food on demand Keep patient clean Avoid skin disorders</td>
</tr>
<tr>
<td>CONSTIPATION</td>
<td>Opioids Dehydration</td>
<td>Drink fluids High fiber diet Laxative treatment</td>
<td>Associate opioids with laxative treatment</td>
<td>Change diet</td>
</tr>
<tr>
<td>LOSS OF APPETITE</td>
<td>Illness Treatment</td>
<td>Frequent, light meals Fresh food</td>
<td>Possibility of using co-steroids</td>
<td>Possibility of using co-steroids</td>
</tr>
<tr>
<td>WEAKNESS TIREDNESS</td>
<td>Illness Post-operative period Anaemia</td>
<td>General care</td>
<td>Treat cause if possible General care</td>
<td></td>
</tr>
</tbody>
</table>
f) Non-pharmacological treatment

Most types of pain can be efficiently treated using a broad association of medical and non-medical approaches. Cultural and traditional approaches may be used as an addition to modern medicine but should never replace it.

Psychological support to patient and families

Drugs have limitations in the treatment of complex types of pain linked to cancer or cancer treatment. It is necessary to listen to patients, take account of their personal, family, and professional issues. Thus, psychological support can be as useful as pain relief treatments. Each treatment must be personalised, adjusted to the needs and characteristics of a patient and her family. The aim is to relieve pain or make it bearable to minimise impact on daily life and alteration of quality of life.

Therapeutic education consists in explaining the illness, its treatments, and expected side effects.

Support the patient in developing self-care skills and adaptations skills that will be useful in improving and maintaining health, quality of life for him/her and his/her family.

Alternative medicine

A number of patients make use of complementary methods as an addition to medical treatment. Such treatments are taken alongside the classical treatment. Some of these methods contribute to improve well-being and quality of life during and after treatment. Some methods who claim to be substitutes to modern medicine are not recommended.

Some of these complementary methods are listed below:

- Cultural traditions/local customs (in addition but not substituted to pain relief)
- Emotional support: family’s care and support are essential
- Physical methods (massage)
- Distractions (music, art therapy, expression, relaxation, etc.)
- Meditation or prayer as per the patient’s habits
- Massage therapy

Unharmful practices can turn out to be very beneficial. Choice of a possible complementary method will be made after personal discussion with the patient in a non-judgmental manner. Thus, every practitioner should be aware of the importance of:

- Empathetic listening
- Patients’ various emotional states (different stages: shock, why me? etc.)
- Not imposing a point of view
- Encouraging family to support the patient.

III. END-OF-LIFE CARE

a) Preparing for death

End of life is a very difficult period for everyone. Sadness can leave close ones lost or helpless. Families as well as the patient may feel like the efforts came to nothing. Even if they are made aware of the severity of the illness, members of the family are often surprised and feel like they had not been properly warned and prepared for this time.

Therefore, it is important to prepare for death with the family by:

- Encouraging family members to discuss things to make death less harrowing and facilitate grieving
- Informing family members of mood that may affect the patient (for example when she expresses anger towards her family), explaining that these crises must be accepted
- Discussing things with the patient in light of the cultural context.

The caregiver can support the patient by:

- Relieving her pain
- Helping her to overcome her feelings of guilt and regret
- Offering referral to spiritual or religious support, or to a support group
- Remembering to ask where and with who she wishes to die
- Being available to discuss and respond her questions when needed
- Reassuring that her wishes will be respected.

b) Death

At the time of death, it is important to respect local traditions and rites, as well as the patient or the family’s wishes regarding body hygiene, funeral, etc.

c) Grief

The family has a great need for support in these painful moments. Caregivers may also provide a listening ear, support, and comfort to families. This will help them come to terms with the loss of the patient. Caregivers and/or community agents who participated in the patient’s care may suggest discussion or reminiscence of memories.
NOTES

- What do I take away from this session?
- What elements require further clarification?

- Understandings to develop?
APPENDIX 1: FIGO CLASSIFICATION OF CERVICAL CARCINOMA

Stage I
Stage I carcinoma is strictly confined to the cervix. Extension to the uterine corpus should be disregarded. Diagnosis of stages IA1 and IA2 is based on microscopy, preferably with a cone encompassing the entire lesion.

Stage IA1: Invasive carcinoma that can be diagnosed only by microscopy. Stromal invasion does not exceed 5 mm depth and 7 mm width.
Stage IA: Stromal invasion does not exceed 3 mm depth and 7 mm width.
Stage IA2: Stromal invasion is between 3 and 5 mm deep and its width does not exceed 7 mm.

Stage IB:
Clinical lesions are confined to the cervix, or subclinical lesions are more important than stage IA. Any visible lesion even superficial is classified IB.
Stage IB1: Lesions do not exceed 4 cm.
Stage IB2: Lesions exceed 4 cm.

Stage II
Stage II carcinoma invades beyond the uterus but has not extended onto the lower third of the vagina or to the pelvic wall. It involves the upper two-thirds of the vagina.

Stage IIA:
Invasion is limited to the upper two-thirds of the vagina without parametrial involvement.
Stage IIB: Parametrial involvement but not up to the pelvic wall.

Stage III
The carcinoma has extended to the pelvic wall. Rectal examination confirms there is no zone between the tumour and the pelvic wall that has not been invaded. The tumour involves the lower third of the vagina. All carcinoma causing hydronephrosis or non-functioning kidney are stage III cancers.

Stage IIIA:
No extension to the pelvic wall, involves lower third of the vagina.
Stage IIIB: Extension to the pelvic wall, hydronephrosis or non-functioning kidney.

Stage IV
The carcinoma has extended beyond the pelvis or has involved the mucosa of the bladder and/or rectum.

StageIVA: Spread to adjacent pelvic organs.
Stage IVB: Spread to distant organs.


APPENDIX 2: INFORMED CONSENT

INFORMED CONSENT

The doctor/health practitioner has explained in sufficient detail the tests with vinegar (VIA) and iodine (VILI) that will enable early detection and prevention of cancer in my cervix. I am aware that the surface of my cervix will be observed after application of vinegar (5% acetic acid) or iodine solution, to detect precancerous lesions or cancer. I know that these procedures are not painful but may cause irritation or light bleeding that will disappear spontaneously.

I have understood that, if the test is positive, I will be offered further investigations such as visual inspection with a magnifying device named colposcope, and the analysis of a sample of cervical tissue (biopsy) before I am offered any treatment.

In the event of anomalies (infection, precancerous lesions, cancer, or complications), I have been informed that I might require medical treatment or thermocoagulation (destruction of the abnormal part of the cervix using a thermal probe) or undergo a surgical procedure that may be followed by radiotherapy.

By signing this form, I agree to submit to the above-mentioned tests and treatment if necessary* / I do not wish to submit to these tests. *

Signature:
Date:
Name:
Address:

* Delete as appropriate
### APPENDIX 3: CLEANING AND STERILISATION OF INSTRUMENTS AND EQUIPMENT USED FOR EARLY DETECTION AND TREATMENT OF CERVICAL NEOPLASIA

<table>
<thead>
<tr>
<th>INSTRUMENT/MATERIAL</th>
<th>PROCEDURE</th>
<th>SUGGESTED TECHNIQUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speculum, vaginal spacer, biopsy forceps, tissue forceps, pickup forceps, Cheatle forceps.</td>
<td>Decontamination and cleaning followed by sterilisation or HLD (High level disinfection).</td>
<td>Immersion for 10 minutes in a 0.5% chlorine solution followed by cleaning with water and detergent, clean instruments can then be immersed for 20 Minutes in boiling water (HLD) or sterilised in an autoclave before being reused.</td>
</tr>
<tr>
<td>Gloves</td>
<td>Decontamination, cleaning, and sterilisation.</td>
<td>Immersion for 10 minutes in a 0.5% chlorine solution followed by cleaning with water and detergent, sterilisation in an autoclave before wrapping.</td>
</tr>
<tr>
<td>Examination table, halogen, electric lamps, trolley, trays.</td>
<td>Low- or medium-level disinfection.</td>
<td>Wipe with 60-90% ethanol or isopropanol or with 0.5% chlorine solution.</td>
</tr>
</tbody>
</table>

### PREPARATION OF A 0.5% CHLORINE SOLUTION

The formula to prepare diluted chlorine solution using chlorine bought in a shop is the following:

Total number of doses of water = \( \frac{\% \text{ of concentrated solution}}{\% \text{ diluted solution}} - 1 \).

For example, to prepare 0.5% chlorine solution using household 5% chlorine solution is

\[ \frac{5.0\%}{0.5\%} - 1 = 10 - 1 = 9 \text{ doses of water}; \text{thus, you must add one dose of bleach to nine doses of water.} \]

If the chlorine bought in the shop is powder, use the following formula to calculate the dose of power (in grammes) that you will need to prepare 0.5% chlorine solution:

\[ \frac{\text{Grammes}}{\text{litre}} = \frac{\% \text{ diluted solution}}{\% \text{ concentrated solution}} \times 1000. \]

For example, to prepare a 0.5% chlorine solution using a 35% calcium hypochlorite powder:

\[ \frac{0.5\%}{35\%} \times 1000 = 14.2 \text{ g}. \text{You must add 14.2 g of power to 1L of water or 142 g to 10L of water.} \text{The instruments should not stay in the bleach for over ten minutes and must be cleaned with boiling water immediately after decontamination, to avoid fading colour and corrosion of the metal.} \]

**Decontaminating the floor of the screening centre:**

This must be carried out daily using chemical detergents such as iodophors (e.g. 10% povidone iodine).
## APPENDIX 4: PREPARATION OF 5% ACETIC ACID SOLUTION, LUGOL’S SOLUTION AND MONSEL’S PASTE

### a) 5% Acetic Acid solution

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Amounts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Glacial acetic acid</td>
<td>5 ml</td>
</tr>
<tr>
<td>2. Distilled water</td>
<td>95 ml</td>
</tr>
</tbody>
</table>

**Preparation:** Carefully add 5 ml of glacial acetic acid in 95 ml of distilled water and mix.

**Storage:** Any unused solution must be disposed of at the end of the day.

**Label:** 5% acetic acid

**Caution:** Glacial acetic acid should always be diluted, otherwise it may cause serious chemical burning if applied to the epithelium.

### b) Lugol’s solution

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Amounts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Potassium iodide</td>
<td>10 g</td>
</tr>
<tr>
<td>2. Distilled water</td>
<td>100 ml</td>
</tr>
<tr>
<td>3. Iodine</td>
<td>5 g</td>
</tr>
</tbody>
</table>

**Preparation**

A. Dissolve 10 g of potassium iodide in 100 ml of distilled water
B. Gradually add 5 g of iodine with constant mixing
C. Filter and store in an amber glass bottle in the dark.

**Storage:** 1 month

**Label:** Lugol’s solution; Use by: (date)

### c) Monsel’s paste

**Ingredients/Amounts**

1. Ferric sulphate 15 g
2. Ferrous sulphate powder
3. Sterile water for mixing 10 ml
4. Glycerol starch (see preparation below) 12 g

**Preparation**

A. In a glass beaker, add a few grains of ferrous sulphate powder to 10 ml of sterile water. Shake.
B. Dissolve the ferric sulphate base in the solution by stirring with a glass stick. The solution should become crystal clear.
C. Weigh the glycerol starch in a glass mortar. Mix well.
D. Gradually add the ferric sulphate solution to the glycerol starch, constantly mixing to get a homogeneous mixture.
E. Place in a 25 ml brown glass bottle.
F. Most practitioners prefer to leave the stopper of the bottle loose to allow the mixture to evaporate until it has a sticky paste-like consistency and looks like mustard. This may take 2-3 weeks depending on the environment. The top of the bottle must be secured for storage. If necessary, sterile water can be added to the paste to thin it.

**Note:** This solution contains 15% of iron.

**Storage:** 6 months

**Label:** Monsel’s paste; Shake before use; External use only; Use by: (date)

### d) Glycerol starch (ingredient in Monsel’s paste)

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Amounts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Starch</td>
<td>30 g</td>
</tr>
<tr>
<td>2. Sterile water for mixing</td>
<td>30 ml</td>
</tr>
<tr>
<td>3. Glycerine</td>
<td>390 g</td>
</tr>
</tbody>
</table>

**Preparation**

A. In a china crucible, dissolve the starch in the sterile water.
B. Add glycerine. Shake well.
C. Heat the crucible and its contents over a Bunsen burner. Mix constantly with a spatula until the mass takes on a thick, swelling consistency. Do not overheat or the mixture will turn yellow.

**Storage:** 1 year

**Label:** Glycerol starch; Store in a cool place; For external use only; Use by: (date)

**Caution:** Do not overheat or the mixture will turn yellow.
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