problemele de imunizare la pre-testare (în limitele  $68,6\pm1,4\%$  și  $71,1\pm2,1\%$ , P>0,05) și la post-testare (în limitele  $76,5\pm1,3\%$  și  $78,4\pm1,8\%$ , P>0,05). Este observată o diferență semnificativă a nivelului de cunoștințe măsurat la pre-testare și post-testare în toate regiunile examinate (P<0,001).

La examinarea separată a datelor obținute în mun. Chișinău a fost determinat un nivel mai redus de cunoștințe la compartimentul *Securitatea realizării vaccinărilor*, comparativ cu datele generalizate pe țară, respectiv 64,8±3,0 și 69,2±2,1, P< 0,05. La alte două compartimente – *EAPV* și *Comunicarea cu populația* – nu a fost evidențiată vreo diferență semnificativă între datele obținute la pre-testare și post-testare (P>0,05).

## Concluzii

În baza studiului realizat se poate de constatat că nivelul de cunoștințe al medicilor de familie privind problemele de imunizare nu poate fi apreciat ca unul satisfăcător, deoarece o treime din ei au arătat la pretestare un nivel redus de cunoștințe în domeniul imunizărilor. În general, aproximativ o treime din cei testați nu cunosc problemele majore legate de realizarea PNI, mai cu seamă la compartimentele privind planificarea vaccinărilor, securitatea realizării acestora, evenimentele adverse postvaccinale.

Seminarele realizate în majoritatea regiunilor au demonstrat o eficiență înaltă a instruirii medicilor de familie privind problemele abordate. Nivelul de cunoștințe al MF din diferite regiuni este aproape similar, ceea ce permite de a folosi metode standardizate și unificate pentru organizarea instruirii lor.

### **Bibliografie**

- 1. Henrikson N.B. et al. *Physician Communication Training and Parental Vaccine Hesitancy: A Randomized Trial*. In: Pediatrics, 2015, Jul., nr. 136(1), p. 70-79.
- 2. Glanz J.M. et al. Addressing Parental Vaccine Concerns: Engagement, Balance, and Timing. In: PLoS Biol., 2015, Aug. 7, nr. 13(8), e1002227.
- 3. Tsuchiya Y., Shida N. *Factors associated with mothers not vaccinating their children against mumps in Japan*. In: Public Health, 2016, Aug., nr. 137, p. 95-105.
- 4. Danchin M., Nolan T. *A positive approach to parents with concerns about vaccination for the family physician*. In: Aust. Fam. Phys., 2014, nr. 43(10), p. 690-694.
- O'Leary S.T. et al. Characteristics of Physicians WHO Dismiss Families for Refusing Vaccines. În: Pediatrics, 2015, Dec., nr. 136(6), p. 1103-1111. doi: 10.1542/ peds.2015-2086.
- 6. Al-Hazmi A.H. *Knowledge, attitudes and practice of primary health care physicians towards hepatitis B virus in Al-Jouf province, Saudi Arabia*. In: BMC Res. Notes, 2014, May 9, nr. 7, p. 288. doi: 10.1186/1756-0500-7-288.

- 7. Hwang S.S. et al. *Trust in Sources of Advice about Infant Care Practices: The SAFE Study*. In: Matern Child Health J., 2016, Sep., nr. 20(9), p. 1956-1964.
- 8. Paya N. et al. *Vaccination status of family physicians in the Loire district, France*. In: Med. Mal. Infect., 2013, Jun., nr. 43(6), p. 239-243.
- 9. Bucov V. et al. *Analiza datelor multianuale privind acoperirea vaccinală la maladiile-țintă ale PNI*. În: BAŞ, 2017, nr. 1, p. 42-46.
- 10. Immunization in Practice A practical guide for health staff. WHO, 2015, 291 p. http://www.who.int/immunization/documents/training/en/

CZU: 618.146-006.6-076.5-084

# ORGANIZED CERVICAL SCREENING: AN OVERVIEW

#### Philip DAVIES<sup>1</sup>, Natalia ZARBAILOV<sup>2</sup>,

<sup>1</sup>Director General, International Cervical Cancer Prevention Association (ICCPA), <sup>2</sup> State University of Medicine and Pharmacy *Nicolae Testemitanu*, Republic of Moldova

Cervical cancer primarily affects younger women with the majority of cases diagnosed between 35 and 50 years of age, a period when many women are working, caring for their families or doing both. In the European Union (EU), about 34,000 new cases of cervical cancer and 16,000 deaths are reported every year [1, 2]. Eastern Europe has substantially higher rates of cervical cancer than Western Europe and this is primarily due to the extensive opportunistic screening or nationally organized cervical screening programs in Western Europe [3].

Cervical screening programmes can reduce both the incidence as well as the mortality of cervical cancer by up to 80%. However, reductions of this size will only be produced by well organized programmes in which a large proportion (70% or more) of the target population is regularly screened, all the component services are of high quality, all the services are efficiently coordinated and all women with a positive screening test are properly followed-up and any clinically relevant disease is treated [4].

#### Table 1

#### Cervical cancer incidence and mortality

	2009	2010	2011	2012	2013	2014	2015	р
Incidence	16.8	15.5	17.2	16.8	16.3	16.5	15.6	0.509
Mortality	8.7	10.4	8.0	8.2	8.7	9.2	8.1	0.585

In 2015, cervical cytology laboratories in the Republic of Moldova (RM) reported processing 236,579 Pap tests which would have been enough to screen about 90% of the target population. This should have produced substantial reductions in cervical cancer rates, but data from Moldovan National Cancer Registry show that cervical cancer incidence and mortality have remained high and without any statistically significant improvement since 2009 (*table 1, figure 1*). In addition, the proportion of late stage diagnoses (FIGO stages III & IV) has remained very high and stable at about 50% over the period from 2009-2015 (*figure 2*).



Figure 1. Cervical cancer incidence & mortality



### Figure 2. Cervical cancer by stage at diagnosis

However, these incidence and mortality rates are based on the 2004 census and the true at-risk population is now known to be smaller so the actual rates will be even higher [5]. Therefore, the main issue with cervical cancer in RM is not whether there is enough money to provide cervical screening (as the services already being paid for would be sufficient to screen 90% of the target population), but rather why all the resources that are currently being spent on these services are not producing any results.

The reason for this is that cervical screening in RM is being conducted opportunistically without proper staff training, standardization of procedures, and coordination of the component health services, effective patient management or quality assurance (QA). It therefore will not reduce cervical cancer rates but will increase the harms of screening (see Table 2) [6]. Because of this, the European Guidelines for Quality Assurance in Cervical Screening recommend that cervical screening should be delivered only through well organized programmes [7].

Table 2

Harms Inherent in Cancer Screening Programmes

1	False negative screening test results leading to delays in cancer diagnosis or treatment.
2	False positive results leading to unnecessary stress, anxi- ety and invasive diagnostic procedures that carry a risk of complications.
3	Over-diagnosis through the identification of disease with no true malignant potential or that would not become clinically relevant during the individual's lifetime.
4	Over-treatment through the treatment of disease with no true malignant potential or that would not become clinically relevant during the individual's lifetime.
5	Unnecessary adverse sequelae such as premature mem- brane rupture and premature delivery in women who have been treated for cervical intraepithelial neoplasia (CIN).
6	Unnecessary costs arising from all of the above, which take health care resources away from services that could other- wise provide greater benefits for the population.

Therefore, effective measures must be taken to organised cervical screening, including the introduction of:

- A screening coordination unit run by staff that can effectively organize, monitor and evaluate the health services that are required to deliver the screening programme,
- Training curricula with training standards and certification criteria,
- Working practice recommendations,
- Performance indicators, performance standards and QA procedures,
- Systems to monitor and evaluate all of the component health service and ensure compliance with international, evidence-based recommendations.
  Undertaking these measures will substantially

improve the accessibility, the effectiveness and the cost-effectiveness of cervical screening, while simultaneously minimizing the harms of screening [8, 9].

# References

- 1. Arbyn M., Raifu A.O., Autier P., Ferlay J. Burden of cervical cancer in Europe: estimates for 2004. In: Ann. Oncol., 2007, nr. 18, p. 1708–1715.
- 2. Arbyn M., Autier P., Ferlay J. Burden of cervical cancer in the 27 member states of the European Union: estimates for 2004. In: Ann. Oncol., 2007, nr. 18, p. 1423–1425.
- 3. Levi F. *Inequalities in health in Europe*. In: Brit. Med. J., 2001, nr. 322, p. 798.
- 4. International Agency for Research on Cancer. *IARC Handbooks of Cancer Prevention*. Vol. 10: Cervix Cancer Screening. Lyon: IARC Press, France, 2005.
- 5. Strengthening the Link between Migration and Development in Moldova. A report Prepared for the World Bank within the Migration and Remittance Peer-Assisted Learning Network (MIRPAL), Chisinau, 2010. http:// siteresources.worldbank.org/INTECA/Resources/ WBMoldovaReport.pdf

- Kramer B.S. *The science of early detection*. In: Urologic Oncology, vol. 22, no. 4, July-August, 2004, p. 344-347.
- 7. European Commission. *European Guidelines for Quality Assurance in Cervical Cancer Screening (Second Edition)*. Office for Official Publications of the European Communities, Luxembourg, 2008.
- 8. von Karsa L., Anttila A., Ronco G., et al. *Cancer Screening in the European Union*. Report on the Implementation of the Council Recommendation on Cancer Screening. First Report. Luxembourg, Grand Duchy of Luxembourg: Services of the European Commission, 2008.
- 9. European Commission. Brussels, Belgium: Commission of the European Communities; Report from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions. *Implementation of the Council Recommendation of 2 December 2003 on Cancer Screening (2003/878/EC)*, 2008.

CZU: 618.146-006.6-076.5-084:614.253.1

# ORGANIZED CERVICAL SCREENING: THE ROLE OF PRIMARY HEALTH CARE

Natalia ZARBAILOV<sup>1</sup>, Philip DAVIES<sup>2</sup>, <sup>1</sup>State University of Medicine and Pharmacy Nicolae Testemitanu, Republic of Moldova, <sup>2</sup>Director General, International Cervical Cancer Prevention Association (ICCPA)

Cervical cancer is a serious and persistent public health problem in the Republic of Moldova. Cervical screening programmes can reduce both the incidence as well as the mortality of cervical cancer by up to 80%. However, reductions of this size will only be produced by well organised programmes in which a large proportion (70% or more) of the target population is regularly screened, all the component services are of high quality, all the services are efficiently coordinated and all women with a positive screening test are properly followed-up so any clinically relevant disease can be treated [1].

In 2015, cervical cytology laboratories in the Republic of Moldova (RM) reported processing 236,579 Pap tests. This would have been enough to screen about 90% of the target population so it should have produced substantial reductions in cervical cancer rates. However, data from Moldovan National Cancer Registry show that cervical cancer incidence and mortality, and the proportion of late stage diagnoses (FIGO stages III & IV) all remained very high and without any statistically significant improvement since 2009 [2].

The reason for this is that cervical screening in RM is being conducted opportunistically without any of the elements that are required for it to be effective [3]. Therefore, RM must now move forward with the process of implementing an effective organised cervical screening programme that complies with the European Guidelines for Quality Assurance in Cervical Screening (the European Guidelines) [4].

Primary Health Care (PHC), as the key health service interacting with the public, must play a central role in the design, planning, implementation and delivery of an organised cervical screening programme, as recommended by both international and national policy documents:

1. The European Strategy for the Prevention and Control of Non-communicable Diseases [5] sets-out a comprehensive, integrated approach to tackling NCDs through population-level health promotion and disease prevention programmes that are coordinated with PHC providers who should actively identify high-risk individuals to maximise population coverage and deliver effective services to reduce NCDs including cervical cancer.

2. The Action Plan for Implementation of the European Strategy for the Prevention and Control of Non-communicable Diseases 2012–2016 [6] specifies a set of priority interventions to reduce NCD morbidity and mortality. These include PHC delivery of cervical screening for the detection of cervical intraepithelial neoplasia (pre-cancer) with subsequent referral for the treatment of any clinically relevant disease.

3. The WHO Better Non-communicable Disease Outcomes: Challenges and Opportunities for Health Systems. Republic of Moldova Country Assessment [7] also specifies the PHC delivery of cervical screening for the detection of cervical pre-cancer with subsequent referral for the treatment of any clinically relevant disease.

4. The RM Ministry of Health Order no. 695 of 13.10.2010 on the Provision of Primary Health Care [8] specifies that family physicians and family nurses are responsible for:

Family physicians:

- 97.1 Providing health education and promote healthy lifestyles.
- 97.3 Identifying people in high-risk groups and early stages of disease.
- 97.4 Conducting annual prophylactic medical examinations.

Family nurses:

103 d Conducting disease screening of patients and recording of results.