

regressed to CIN1 or less within 6 months after delivery (n=41), without CIN (n=16), CIN3 covering 3–4 quadrants (n=14) and randomly selected CIN3 (n=41). *FAM19A4/miR124-2* methylation analysis was performed blinded on first diagnosis.

**Results** All pregnant women with cervical cancer and with CIN3 progressing to cancer tested positive for *FAM19A4/miR124-2* methylation (100%, 22/22). In the regressing CIN3 group 47.5% and in the group without CIN 21.6% tested methylation positive. High-volume CIN3 and random selected CIN3 were methylation-positive in 91.7% and 82.1%. Methylation levels were significantly higher in progressive CIN3 and cancer compared to the controls ( $P<0.0005$ ). The likelihood ratio of a negative methylation test (LR-) for progressive CIN3+ was 0 (95%CI:0–0.208).

**Conclusion** A negative *FAM19A4/miR124-2* methylation test can rule out progressive CIN disease in pregnant women diagnosed with CIN3. This can help the clinician by managing these pregnant women with conservative follow-up until after delivery. (Int J Cancer. 2022 Jun 6. doi: 10.1002/ijc.34153)

2022-RA-1270-ESGO

#### QUALITY OF LIFE AFTER RISK-REDUCING SURGERY FOR BREAST AND OVARIAN CANCER PREVENTION: A SYSTEMATIC REVIEW AND META-ANALYSIS

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**Introduction/Background** RRS is the most-effective prevention for breast-cancer (BC) and ovarian-cancer (OC) in women with increased-risk. We aimed to assess the quality-of-life (QoL) impact of risk-reducing surgery (RRS) including risk-reducing-mastectomy (RRM), risk-reducing-salpingo-oophorectomy (RRSO) and risk-reducing early-salpingectomy and delayed-oophorectomy (RRESDO) through a systematic review and meta-analysis.

**Methodology** We searched major databases until December 2021 following a prospective protocol (PROSPERO-CRD42022319782). Qualitative-synthesis was performed to identify the impact of RRS on various QoL outcomes. Fixed-effects meta-analysis was performed to obtain pooled estimates of QoL outcomes.

**Results** Thirty-one studies were included (N=4151 post-RRS vs. N=3905 controls). 12/12 studies post-RRM (N=944) reported unchanged general-health QoL, and 10/16 (N=1911) post-RRSO reported unchanged/improved general-health QoL despite short-term deficits (N=578). 13/16 studies (N=1602) showed affected sexual-function post-RRSO. Meta-analysis showed a reduction (-1.21[-1.53,-0.89]; N=3070) in sexual-pleasure and an increase (1.12[0.93,1.31]; N=1400) in sexual-discomfort using the Sexual-Activity-Questionnaire. HRT in pre-menopausal RRSO was associated (on meta-analysis) with an increase (1.16 [0.17, 2.15]; N=291) in sexual-pleasure and

a decrease (-1.20 [-1.75, -0.65]; N=157) in sexual-discomfort. 4/10 studies post-RRM (N=236) showed impacted sexual-function, while 6/10 (N=572) showed stable sexual-function. 5/10 studies post-RRM (N=514) reported no body-image problems, whereas 5/10 (N=344) showed otherwise. 12/13 studies (N=1871) reported increased menopause symptoms post-RRSO with a reduction (-1.96 [-2.81, -1.10]; N=1745) in Functional-Assessment-of-Cancer-Therapy-Endocrine Subscale on meta-analysis. 5/5 studies (N=365) post-RRM and 8/10 (N=1223) post-RRSO reported unchanged/decreased cancer-related-distress. RRESDO (2 studies, N=413) resulted in better sexual-function and menopause-specific QoL.

**Conclusion** RRM/RRSO reduced cancer-related distress with unaffected general-health QoL. Women/clinicians should be aware of the negative impact of sexual dysfunction and menopause related symptoms from RRSO, along-with potential detrimental impact of RRM on body-image. Early salpingectomy does not appear to increase sexual dysfunction or impact menopause symptoms and RRESDO may be a promising alternative to mitigate QoL-related risks.

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#### COST-EFFECTIVENESS OF RISK-REDUCING SURGERY FOR BREAST AND OVARIAN CANCER PREVENTION: A SYSTEMATIC REVIEW

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**Introduction/Background** Risk-reducing mastectomy (RRM) and salpingo-oophorectomy (RRSO) are the gold standard preventative strategies for women at high-risk of breast cancer (BC)/ovarian cancer (OC). Risk-reducing early-salpingectomy followed by delayed-oophorectomy (RRESDO) is being trialled as an alternative to RRSO. Opportunistic bilateral salpingectomy (OBS) during gynaecological surgery has been proposed as a potential approach to prevent OC in general population. We performed a systematic review of the published evidence on cost-effectiveness of RRM/RRSO/RRESDO for BC/OC prevention in intermediate/high-risk women, and OBS in baseline-risk.

**Methodology** We searched major databases to December 2021. We included economic evaluation studies reporting on cost-effectiveness/cost-utility outcomes in women at high-risk of BC/OC undergoing RRM/RRSO/RRESDO, or baseline OC risk undergoing OBS.

**Results** Our search yielded 5801 citations; 22 studies were included. Eight studies concluded that RRM/RRSO individually or in combination were cost-effective compared to surveillance/no surgery for unaffected *BRCA1/2* carriers, while one study found that RRESDO was cost-effective. Two studies on women at low/intermediate OC-risk specified that RRSO was cost-effective at OC lifetime risks of  $\geq 4\%$  (pre-menopausal) and  $\geq 5\%$  (post-menopausal women). These results were partially sensitive to initial age, uptake rates, cancer risk-reduction, and disutility following surgery. Four studies concluded that the addition of OBS to hysterectomy was cost-effective for OC prevention in the general population. Similarly, OBS was cost-effective as an alternative to

sterilisation via laparoscopy (four studies) or at caesarean section (two studies). However, given the paucity of high-quality long-term outcome data, the uncertainty of level of risk-reduction, lack of disutility data, there remains some uncertainty around cost-effectiveness.

**Conclusion** This systematic review confirms that RRM/RRSO are cost-effective, and RRESDO is potentially cost-effective in women at intermediate/high risk of BC/OC in several high-income countries. Although OBS seems to be a potentially cost-effective option for OC risk-reduction, there is a need for high-quality evidence around its long-term including oncological outcomes.

**2022-RA-1293-ESGO** **VALIDATION OF A SUSTAINABLE INTERNATIONALLY MONITORED CERVICAL CANCER SCREENING SYSTEM USING A VISUAL SMARTPHONE INSPECTION IN KINSHASA**

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**Introduction/Background** To determine the sensitivity, specificity, positive and negative predictive values of a cervical cancer screening program based on visual inspection with acetic acid and Lugol's-iodine using a smartphone in a sub-urban area of very low resources in Kinshasa.

**Abstract 2022-RA-1293-ESGO Table 1**

| CYTOLOGY           | VIA+VIL             |                          |
|--------------------|---------------------|--------------------------|
|                    | NEGATIVE<br>(N=387) | POSITIVE<br>(N=86)       |
| Normal (N=420)     | 369                 | 51                       |
| ASCUS (N=14)       | 6                   | 8                        |
| LSIL (N=30)        | 11                  | 19                       |
| HSIL (N=9)         | 1                   | 8                        |
|                    | <u>Any lesion</u>   | <u>High grade lesion</u> |
| <u>Sensitivity</u> | 66.0%               | 88.8%                    |
| <u>Specificity</u> | 87.8%               | 83.1%                    |
| PPV                | 40.7%               | 9.1%                     |
| NPV                | <b>95.3%</b>        | <b>99.7%</b>             |

**Methodology** This cross-sectional validation study was conducted at Monkole-Hospital and it included women between the ages of 25–70 after announcing a free cervical cancer screening campaign through posters placed in the region of our hospital. Questionnaires collected sociodemographic and behavioral patient characteristics. In the first consultation, we gathered liquid-based cytology samples from every woman. At that time, local health providers performed two combined visual inspection techniques (5% acetic acid and Lugol's iodine) while a picture was performed with a smartphone. Two international specialists evaluated the results of the smartphone cervicography. When a visual inspection was considered suspicious, patients were offered immediate cryotherapy. Cytological samples were sent to the Pathology Department of the University of Navarra for cytological assessment and HPV DNA genotyping.