Cervical screening, cervical cancer, and inequality.

TJ Day
July 2014
What cervical screening does

Cervical screening looks for two things:

1) Abnormal cells on the cervix which may in time turn into cervical cancer

2) Presence or absence of the Human Papilloma Virus (HPV)

Either:

1) A screening sample will be taken, and if abnormal cells are present, an HPV test will also be carried out (HPV Triage and Test of Cure)

2) An HPV test will be carried out first. Only if HPV is present will the sample be tested for abnormal cells (HPV Primary Screening).
Outcomes of screening

• About 1 in 20 women will have an abnormal screening result (5%).

HPV triage and test of cure:

  Borderline changes or mild abnormalities = HPV test
    HPV present = referral to colposcopy

HPV primary screening:

  HPV present = cytology
    Abnormal cytology = referral to colposcopy
Uptake of cervical screening

The most up-to-date figures (2012-13) show that:

• 4.24 million women were invited to come for cervical screening
• 3.32 million of those women were tested
• Almost 3.57 million cervical cytology samples were processed by cytology clinics (some women need repeat tests for clinical reasons)
• 97.8% of women received their results within 2 weeks
• Currently, 78.3% of eligible women have been screened at least once over the last five years.
Coverage - the % of women attending for screening in the last five years

Source: KC53, Health and Social Care Information Centre
Inequalities in coverage

Cervical screening: five year coverage of the target age group (25-64) by administrative area

Uneven coverage with lower rates in large industrial areas (Liverpool, London, Manchester, Birmingham, Teesside)

Source: NHS Cancer Screening Programme, PHE. 31st March 2012
Cervical cancer: epidemiological context

• Mortality rates reduced by 60% over the past 20 years
  • From 5.8 to 2.2 per 100,000 female population
  • Reflects success of screening programme: saves estimated 4,500 lives per year

• Survival following diagnosis improved since 1980s
  • From 83% to 88% for one-year relative survival
  • From 64% to 70% for five-year relative survival
  • Survival is worse in older women

Cervical cancer: epidemiological context

Inequalities in incidence

• Variation in incidence: highest incidence rate per area is more than double that of lowest rate

• Evidence suggests worse incidence in women living in more deprived areas
  - Average incidence rate 10.4 per 100,000 (30 most deprived areas) compared with 7.8 per 100,000 (30 most affluent)
Inequalities in incidence: variation

Map of incidence by Cancer Networks 2005-2009

Inequalities in incidence

• Deprivation linked to higher rate of incidence: a combination of possible factors
  - Cigarette smoking (greater risk of squamous cell carcinoma compared with adenocarcinomas)
  - HPV infection – more likely in women who are having sex early, or many sexual partners
  - Pregnancy before age 17 (x2 risk of cervical cancer compared with 1st pregnancy over age 25)

Inequalities in mortality

- Average mortality rate among 30 most deprived areas is almost twice as high as in the most affluent 30 areas
  - Ranges from 3.2 per 100,000 to 1.7 per 100,000

- Linked to a range of factors:
  - Higher incidence of cancer in more deprived areas
  - Poorer screening uptake (later presentation means the risk of more advanced cancer and less effective treatment)

Inequalities in mortality: variation

Map of mortality: by Cancer Networks 2006-2010

Inequalities in survival

• Survival following diagnosis improved since 1980s
  – From 83% to 88% for one-year relative survival
  – From 64% to 70% for five-year relative survival
  – Survival is worse in older women

• Cancer survival is worse in women living in most deprived fifth of areas compared with fifth least deprived.

• Relative survival varies by deprivation:
  - At one-year: 6% gap in relative survival
  - At five-year: 11% gap in relative survival
Inequalities in survival

Cervical cancer: inequalities

- Inequalities in coverage, incidence and mortality
- Inequalities playing out at many levels:
  - socio-economic
  - age
  - ethnicity
  - at-risk or vulnerable groups
Other ‘at risk’ groups

- Women who have experienced sexual abuse are less likely to attend regular cervical screening
- People with a learning disability are less likely to be screened
- Lesbian and bisexual women are up to 10 times less likely to have had screening in the past 3 years.

Inequalities in coverage

• More than 20% of women don’t attend screening
• Younger women are more likely to decline a screening invitation than older women
• White British women are more than twice as likely to have had cervical screening as women of other ethnicities

Source: Populus-Hanover Poll of 1,546 women aged 18+ online between 19th and 24th November, 2008.
Moser K et al. Inequalities in reported use of breast and cervical screening in Great Britain. BMJ 2009;338:b2025.
Opportunities to take action: upstream

• An approach that takes into account the wider determinants of health

• The benefits of public health strategies on:
  - Smoking cessation
  - Supporting sexual health services (e.g. on teenage pregnancy)
Opportunities to take action:
Enhancing the NHS Cervical Screening Programme

• Since 2008, girls aged 12-13 vaccinated against HPV types 16 and 18, which cause around 75% of cervical cancers.
  • In the future, the incidence is expected to fall and the pattern of disease to change as a result of vaccination. Continuing to achieve high vaccine uptake will be key to this.

• Pilot of HPV Primary Screening.
  • Potential to double length of screening interval
  • Started in May 2013. Results due in 2016/17.
Opportunities to take action

Future areas of research

- Self sampling as part of research study to increase uptake in 25 year olds (NIHR funded STRATEGIC study)

- The STRATEGIC study is also looking at other interventions such as additional information, a ‘nurse navigator’, or internet appointment booking.

- How to reach out to BME communities (Jo’s Cervical Cancer Trust)
Conclusions

• There are complex links between deprivation and cervical cancer

• Inequalities map onto socio-economic deprivation, age, and ethnicity, plus others.

• Role for stakeholders to act on the wider determinants of health as well as enhancing the NHS Cervical Screening Programme
Thank you

www.cancerscreening.nhs.uk

To order leaflets and posters, go to:
or call 0300 123 1002 (Dept. of Health Orderline)

www.gov.uk/government/organisations/public-health-england