



Gender and Diversity in Research and Innovation

Vanessa Moore, European Institute of Women's Health

Thursday, 29 October 2020

GoNano Online Conference on Responsiveness to Societal Needs and Values in Nanotechnologies and Beyond



GoNano is a Coordination and Support Action funded by the European Union under the NMBP Programme of Horizon 2020, Grant Agreement n° 768622.

Find us on



European Institute of Women's Health

- The European Institute of Women's Health is a health NGO launched in 1996
- The EIWH advocates for a gender-sensitive approach to health and research policy, prevention, treatment, and care in order to reduce health inequalities and improve quality
- **Organisation:**
 - Extensive multi-national, multi-disciplinary network of patient groups, health NGOs, researchers, gender experts, politicians, and medical professionals
 - Expert Advisory Board

EIWH Policy Briefs – Increasing the health literacy on women’s health



- Major chronic diseases and how they differ in women
 - Women and CVD, Asthma, Diabetes, Lung Cancer
 - Cervical Cancer, HIV/AIDS
- Safe Use of Medicines during Pregnancy
- Prevention and important health issues for women
 - Vaccination across the lifespan,
 - Women and Smoking, including pregnant women
 - Women and Alcohol

WOMEN AND SMOKING IN THE EU
Gender and Chronic Disease Policy Briefings | World No Tobacco 2013 | January 2013

Smoking in the EU: The Basics
Smoking is the leading cause of preventable disease and death in Europe for women and men.¹

During the last two decades, smoking has become more popular among younger women with potentially disastrous consequences for their future health. Although overall the smoking prevalence has been narrowing, among women than men, the smoking gap has been narrowing across the EU-27 due to a decrease in male and alarming increase in female smokers in many countries.

In the past social constraints kept down tobacco use in women. However, with increasing gender equality, women became empowered to enter the labour market, exercise their freedom to spend their own money as they choose. These societal changes have made women a prime target for the promotional activities of the tobacco industry. Today, combining both daily and occasional smokers, female prevalence has reached 48.5% in Austria and is averaging 21% across Europe.²

Large variations in smoking rates occur throughout the WHO European region. In the EU-27 the overall rate of women smoking is highest in Austria, Bulgaria and Greece. The increase of women smoking has been particularly pronounced in Eastern Europe, after the fall of Communism and the privatisation of tobacco sales.

The Tobacco Disease Burden: Why Gender Matters
About 1/3 of EU citizens smoke, up to 50% of women smoke in some countries.³ Annually, smoking costs the EU €98-130 billion in health expenses.⁴ Tobacco is the leading cause of premature mortality in Europe, harming nearly every organ in the body. Over half of smokers die prematurely. Smoking is a major risk factor for developing many chronic diseases, see Figure 2. Women who smoke have an increased risk of cardiovascular disease, lung disease, various cancers, osteoporosis, reproductive health problems and various other diseases compared to non-smoking women.⁵

Research indicates that women are as vulnerable to the harmful effects of tobacco smoke as are men, if not more so. For certain diseases like chronic obstructive pulmonary disease (COPD) the risk to women from smoking is higher than in men.⁶

Women smoke for different reasons and are more vulnerable to tobacco smoke. They become addicted to nicotine more rapidly, have more difficulty quitting and experience more severe withdrawal symptoms than men.⁷

WOMEN AND DIABETES IN THE EU
Gender and Chronic Disease Policy Briefings | January 2013

Diabetes: The Basics
Diabetes is a complex metabolic disease characterized by elevated blood glucose (sugar) levels. The increased glucose levels cause serious damage, especially to the eyes, kidney, nerves, heart and blood vessels. Insulin is a hormone produced by the pancreas that regulates blood glucose. Type 1 diabetes occurs when the pancreas produces no insulin, its cause and prevention measures are largely unknown. Type 2 diabetes, which is the most common form, occurs when the body does not produce enough insulin and the insulin that is produced does not work properly. It often results from excessive body weight and lack of exercise. Gestational Diabetes Mellitus (GDM) occurs in women during pregnancy.¹

Diabetes: Why Gender Matters
Worldwide diabetes is increasing rapidly and in some countries it is reaching epidemic proportions. For women it is the 6th leading cause of death in high-income countries and is becoming one of the most common non-communicable diseases globally. Prevalence of diabetes is increasing in every country across Europe each year. Women of ethnic minority groups appear to have an increased risk of developing diabetes. For both men and women, the proportion of people with diabetes increases with age. For younger women, diabetes can be a hard burden to carry. Fluctuations in hormone levels occur through the menstrual cycle and these fluctuations can affect blood sugar control. When symptoms are naturally high, the body may be resistant to its own insulin or injected insulin. Many women find their blood sugar levels to be high 1-5 days before, during or after their periods.² During pregnancy Diabetes can cause difficulties for both mother and the unborn child. Women with diabetes should prepare for their pregnancy and stay in close contact with their doctor throughout the pregnancy. Their blood sugar levels will have to be monitored much more frequently, and it is very important that medication use is discussed with the treating doctor and not self-managed.³

Increasing rates of obesity, smoking and sedentary lifestyles in women are putting them at risk of type 2 diabetes. This is compounded by women's greater longevity. The above chart of the prevalence of diabetes illustrates a large variation across EU Member States in the role of diabetes among men and women. In some Member States, like the Czech Republic, Greece, Hungary, Malta, Slovakia and Sweden, more women have diabetes than men. In other Member States, the gap in diabetes prevalence between men and women is narrowing.

Diabetes and Cardiovascular Disease - the strong interconnection
Diabetes and CVD are strongly interconnected. Diabetes is now regarded as the biggest risk factor for heart disease. People with diabetes are at a greater risk of developing CVD such as heart attack and stroke, if the disease is left undiagnosed or poorly controlled.⁴ Diabetic women have a greater risk of heart disease and at a younger age compared with non-diabetic women.⁵ Although pre-menopausal women without diabetes have a lower risk of heart disease than men, it appears that the protective benefit of female hormones is lost in women with diabetes, regardless of age. Death from heart disease associated with type 2 diabetes is about 60 per cent greater in women than it is in men.⁶ Recognising that diabetes and CVD are closely interconnected, cardiologists of the European Society of Cardiology and diabetologists of the European Association for the Study of Diabetes, joined forces to develop evidence-based guidelines to improve the quality and management in diagnosis and care of both CVD and diabetes.⁷



EIWH in GoNano

- GoNano objective: to create an engagement process cognisant of gender, diversity, culture and communication traditions
- To align nanotechnology R&I with societal needs, important to look at societal issues such as gender and diversity. These areas of focus present an opportunity to get a deeper insight into what motivates opinions, thoughts, needs, values and concerns
- What information and knowledge do we get from looking into divergences of opinions and differences in discourse?
- What can we gain from increased awareness and focus on these issues?

DELIVERABLE 1.2: UNDERSTANDING THE ROLE OF CULTURE, GENDER AND COMMUNICATION TRADITIONS, AND THEIR IMPLICATIONS FOR ENGAGEMENT METHODOLOGIES, COMMUNICATION AND DISSEMINATION

-LITERATURE REVIEW

-SOCIAL MEDIA ONLINE ANALYSIS

Gender (and Diversity)

- Women are underrepresented in STEM and nanotechnology
 - women remain underrepresented at all levels
- Increases with the level of occupational hierarchy in STEM
 - statistical data showing women clustered in low-ranking positions in both the United States and Europe
- Structural issue
 - for example, studies have shown that women are as effective as men in scientific collaboration, but structural underrepresentation mean that women start from a disadvantage in terms of both their overall collaboration ties and access to strategic information
- Core values and assumptions in STEM fields, including nanotechnology, have been fundamentally shaped by men and male norms

(Gender and) Diversity

- Diversity can be a difficult term to define – does it refer to ethnicity, sexual orientation, age, ability, religion, social class, education?
- STEM tends to be overwhelmingly white/Asian (and male)
- What creates diversity – does including a woman on a team make it diverse, even if she is from a white privileged middle-class background? Or is a team more diverse if it includes a privileged, middle class man but who comes from a minority background?
- Crucial to look at how these multitude of social identities **intersect** with each other
 - Intersectionality is the interaction between gender, race, and categories e.g. sexual orientation, age, ability; and the outcomes of these interactions in terms of the power structure

Gender and Diversity

- When diversity is missing, a scientific community is unlikely to consider the needs/concerns of groups affected by future nanotechnology
- Lack of inclusion of gender and diversity has a knock-on effect on science and research
 - Increased diversity in the workplace creates more innovation, more awareness of societal concerns
 - Policy-makers will have more diversity of experts to reach out to when designing policies that will affect the broader population
 - Encouraging diversity creates an 'innovation dividend' for scientific organisations that lead to smarter, more creative teams with more new discoveries
- Including more diversity in the workplace creates scientists more aware of societal concerns, which is an essential part of effective dialogue

Gender and diversity in the GoNano co-creation methodology



- GoNano co-creation methodology included gender and diversity in the co-creation workshops held in the Netherlands, Spain, and the Czech Republic
- Gender and diversity was considered throughout this co-creation process
 - information material for the citizen workshops
 - content material in the workshops
 - recruitment criteria specifically aimed at gender and diversity amongst the citizens
 - the dynamics observed in the workshops
- Moderators in the workshops received training specifically on gender and diversity, for example probing questions, and highlighting dimensions of gender and diversity in relation to ongoing research or future nano-enabled products
- Conscious of achieving as balanced a panel of stakeholders as possible for stakeholder sessions, to avoid a “manel”



Thank you!



Thank you
for
listening!



SLIDO question for after talk if necessary

- Does your organisation have a gender and diversity policy?
- If yes what does it look like?
- If not , do you think it a good idea to consider such a policy.
-
- What consideration is there of diversity in your workplace?
-
- Should gender and diversity be mandatory in the design of research protocols?
-
- What advantages and added value would gender and diversity in the design of research protocol bring to society
-