Chemical exposure at work is putting Scottish plastic workers at risk of breast cancer

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A new study published in the journal *New Solutions* presents strong evidence that women employed in the plastics industry are exposed to workplace chemicals that can increase their risk of breast cancer and reproductive abnormalities.

The study, by the University of Stirling, Occupational Health Clinics for Ontario Workers and the National Network on Environments and Women's Health, supports recent research led by the University of Stirling which reported a five-fold increased risk of developing breast cancer in premenopausal women who work in the plastics industry. Together these studies reveal the need for swift regulatory action on carcinogenic and endocrine disrupting chemicals on a global scale.

One Canadian worker taking part in the study explained the way chemical exposures affect her at work: "I don't know if it's from the smoke or if it's from the fumes. You smell fumes, you taste [it] in your mouth, and then you get—it's like a light-headedness, dizziness."

Scottish plastics workers have reported similar experiences when interviewed by researchers:

- "My concern was that the chemicals were openly used. Some people would be using different chemicals at more or less every

bench. And when some of the ovens were on with no extraction…that was another complaint. I felt my eyes with the heat and the fumes building up – it was almost unbearable. It was really horrendous. F. didn't bother about PTFE [flu] and he didn't tell us when he was putting parts in the oven to cure them. It was only when we smelt the fumes and shouted, 'F, have you put something in the curing?' and he would go 'Aye'. I would go like, 'Get out of the road until it's cured'. When the oven cools down it means that the fumes are going to stop."

- "Round the fabrication, and you would maybe be doing a job, maybe cementing like the clear acrylics, you would actually go to start work and you could actually see the dust landing on it and you would have to tell him to stop sweeping up because all they were doing was agitating all the dirt in the place and you had to tell him to stop while you got your job done. Because of them having no windows and no extraction, there was nowhere for it to go".
- "Sometimes you would go into the coating shop and when you opened the door, you would get a 'yuuugh' and you were gasping to get out of the place [because] you couldn't breathe…They were spraying stuff and they were coating. What they used to have was these big tubs of powder, they attached a blower to it so that there was air getting blown through it. As soon as you attached the blower it was all over the place…also they used to take parts out of the [back door] and burn the plastic off with a blow torch and all the fumes would blow in."

The study's synthesis of scientific findings on carcinogens and endocrine disruptors is one of its most important contributions. Workers in the plastics industry are reported to have high body burdens of hormone disrupting chemicals such as acrylonitrile, styrene, BPA and phthalates.

Professor Andrew Watterson of the University of Stirling said: "In

Europe a number of countries have banned bisphenol A (BPA) and took action to ban baby bottles that were manufactured using the known hormone disruptor.

"But often there are still limited or no effective safeguards in place to protect workers who are directly exposed to BPA (and several other carcinogenic and endocrine disrupting chemicals used as additives in plastics manufacturing) on a daily basis.

"In the UK there are some 200,000 workers in the plastics industry in around 6000 workplaces and well over 90% of the workplaces are in small and medium enterprises. Yet the HSE, the UK enforcement agency, has recently floated proposals to remove active inspection of the plastics industry and only engage in reactive visits.

"Our research indicates the need for more not less oversight and investigation of health hazards facing workers in the plastics industry. Endocrine disruptors may also affect men's health in potentially serious ways and merit serious surveillance."

The European Commission is currently reviewing its strategy on endocrine disruptors and will be proposing criteria for the identification of substances with endocrine disrupting properties. This makes the findings in this paper of particular relevance to that review and the wider debate: www.ec.europa.eu/environment/e … docrine/index_en.htm

Provided by University of Stirling