FORCES International

Scientific Committee

A CRITIQUE OF:

G Invernizzi, A Ruprecht, R Mazza, E Rossetti, A Sasco, S Nardini, R Boffi

Particulate matter from tobacco versus diesel car exhaust: an educational perspective. *Tobacco Control 2004;13:219–221.*

The Italian National Cancer Institute of Milan must have fallen on hard times if it keeps taking credit for so called "scientific" papers, such as the miserable report: "Particulate matter from tobacco versus diesel car exhaust: an educational perspective." (G. Invernizzi, et al., Tobacco Control 2004;13:219–221) - a paper that is either incompetent or deliberately set up to deceive. More prosaically, it could also be a means to satisfy the puppeteers of WHO and the Italian Health Ministry, who keep financing lavishly the antismoking puppets at the Institute. The paper asserts to have tested that within 30 minutes three smoldering cigarettes produce more airborne fine particulate matter (PM10.00-1.00) than a diesel engine displacing 2000 cc and running idle for the same time, all tested in a garage of 60 m^3 without ventilation. Here reproduced is the data graph given in the paper.

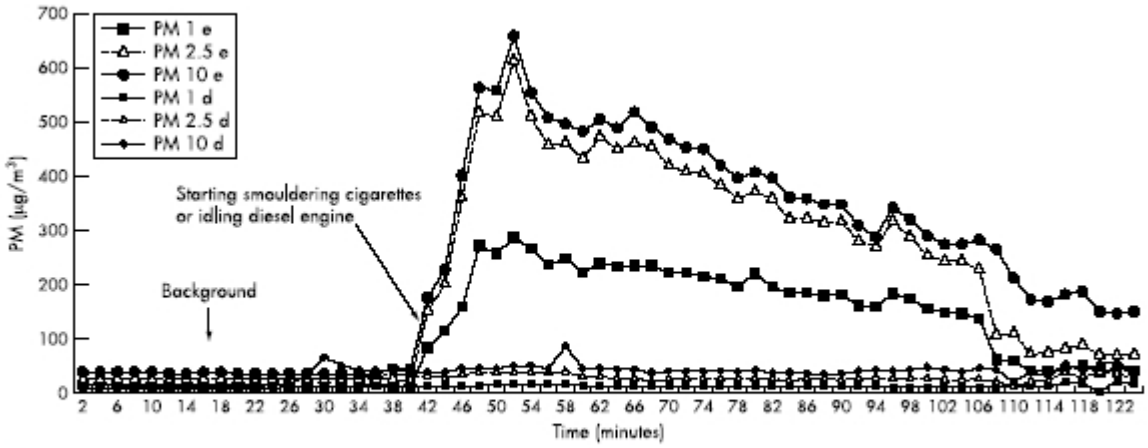

Figure 1 Particulate matter (PM) production from environmental tobacco smoke (e) and an ecodiesel engine (d) (three smouldering cigarettes or an idling engine for 30 minutes in a 60 m^3 garage).

Let's see… To begin, an engine running idle is hardly representative of the much higher real-life pollution of engines normally running at greater speeds and more stressful loads. But even as it is, a study of this kind would have to offer minute details of the topography of the setup and of air circulation vectors, details that the study virtually ignores. The diesel engine was installed in a car, the cooling fan of which must have turned on at least a couple of times in 30 minutes, thus circulating the entire volume of the closed garage a few times over. The exhaust hot gas also contributed to the circulation, plus a thermal expansion that must have ensured a loss of air to the outside and a consequent dilution of the internal air. In 30 minutes the engine breathed and recycled some 24 m^3 of internal air, thus providing a well known scrubbing effect on air particulates. The mixing, expansion, dilution, and scrubbing were gradually increasing during the 30 minutes, and are the likely explanation for the otherwise inconceivable report of a nearly constant concentration of diesel-emitted PM between 50 and 122 minutes, as in the graph above.

Ostensibly not so during the smouldering of three cigarettes, with no ventilation or air dilution of sorts. In fact quite the opposite was likely occurring, for the generated particulates

were likely to concentrate near the burning cigarettes and the measuring device: the latter being positioned – what do you know! - just above the cigarettes at the very convenient distance of 1.5 m. One could add that three cigarettes consumed exclusively by smouldering produced far more smoke particulate that if they had been actively smoked.

The cigarettes produced a maximum of particulates around the 54 minute mark, of which one third was of $PM_{1.00}$, and two thirds of $PM_{2.50-10.00}$. In about 90 minutes, the concentration of the cigarette-generated particulates was about at the level of the particulates from the diesel engine. Of note, the reduction of the cigarette particulates was slower for the $PM_{1.00}$ than for the larger callipers. So, keeping in mind that the garage was closed and there was no ventilation to speak of, where did the cigarette-generated particulates end up?

The answer is readily apparent to anyone familiar with the different chemical and physical conditions under which cigarette and the diesel particulates are generated, but it is obvious that the researchers at the Cancer Institute of Milan have not the foggiest idea of what goes on. Or else they know it, and they know they are lying. Diesel particulates are produced at a temperature in excess of 2,000° Centigrade, are made up of solid and dry substances, and therefore remain essentially the same indefinitely. By contrast, the cigarette particulates are produced at temperatures varying from 20 to about 600° Centigrade through interacting processes of combustion, pyrolysis, distillation, sublimation, and other. Immediately as produced, such particulates are not dusts but microscopic droplets mainly containing water and other volatiles that evaporate at a speed commensurate with the humidity and temperature of the surrounding air. As a consequence, the droplets lose volume (this is why the $PM_{1.00}$ disappear more slowly), and partially coagulate among themselves. After suitable time, most of such droplets disappear altogether and some eventually end up as fine dusts.

To cap it all, this so-called experiment should have - but did not - factored in the dilution of the cigarette particulates in the 60 m^3 of the garage. Indeed, the 1992 US EPA report reviewed data on the contribution of passive smoke to ambient air particulates, showing concentrations below 50 $\mu g/m^3$, which are well below the emissions of the diesel engine of the Milan's Cancer Institute.

In a fit of narcissism, the authors of this piece affirm to have demonstrated a ”negative comparison of ETS [i.e. environmental tobacco smoke] in respect to traffic pollution” and that “ETS could be considered to be one of the main residual contributors to air pollution.” In view of the wide publicity the authors have given to this piece, it is clear they were not restricting its meaning to the neighbourhood of Chiavenna, the small Italian town where the study was conducted, but that the message was intended to apply to urban environments at large. An appropriate example would be Milan itself, but do the authors speak of indoor or outdoor conditions?

If it is a comparison of indoor air, could they tell who in his own right mind would run a 2,000 cc diesel in an office or a living room? A run of 30 minutes in a 60 m^3 room would be conducive to lethal conditions, while 3 cigarettes smoked even in 10 minutes would do no more than adding some odour. And incidentally, what was the location of the technicians talking the measurements while the diesel engine was running? Given that the paper does not mention automatic or telemetry measurements, where the operators wearing suitable masks or positive pressure respirators? Were they following official prescriptions of laboratory or industrial hygiene? Were there some fatal casualties? Something is fishy on this account, with all the elements of an interesting thriller.

If, instead, the half-asphyxiated authors had intended to make comparisons with Milan’s

urban air, then they should have run under load and at some speed the diesel engine of a full-size bus in the garage, plus two or three of those two-cycle scooter engines that leave behind long wakes of blue smoke. To mention nothing of the difference between the weight of fuel burned in one day in Milan versus the weight of all cigarettes smoked in the same time. Could they explain what they were talking about, or should one think they were smoking something more exciting than tobacco?

Thus, if some or the researchers at the National Cancer Institute of Milan wished to be considered as serious and honest people rather than jesters, then they should go back to school, learn a few things, and conduct clean and well controlled experiments. If, on the other hand, they simply wish to run some fraudulent propaganda and to hell with real life, then they can continue to be what they are. But we, the people who are forced to pay for and to swallow this stuff, why should we continue to pony up for this level of incompetence?

The FORCES International Scientific Committee [*]

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[*] The FORCES International (www.forces.org) Scientific Committee includes scientists, researchers, analysts, technicians, medical doctors, and engineers. These people still exercise their professions in universities, laboratories, or as free professionals in several nations. Because of the environment of intimidation, moral, and financial lynching by the international "health" establishment against those who expose antismoking frauds, the direct exposure of the above-mentioned people would almost certainly represent professional and economic damage for them and for their families, as has already happened for those who have come forward in the past.

Notwithstanding that, all the members of the International Committee share a love for the truth, and a hatred for frauds and disinformation turned to political and commercial ends. They express disgust and concern for the deep corruption of the institutions of "public health", which has great social repercussions on our and future generations. The members of the Committee contribute their work either for free, or for a very modest compensation for live expenditures by FORCES International.

To these people, FORCES offers the protection of guaranteed anonymity, and expresses the greatest admiration and gratitude of its readers and members in the world – and the appreciation of all those who have the fight against the healthist corruption at heart.

However, it is impossible to ignore that those who still have the courage to denounce frauds and deceit are now reduced to circumspection and hiding. That should be a clear warning for those who still insist on believing in the honesty of the "health" movement.