RISING AIR POLLUTION: DEMAND ACTION-DRIVEN ADVOCACY AND BEHAVIOUR CHANGE FOR HEALTHER LIVES

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ABSTRACT

Air pollution is a major environmental health problem affecting the developing and the developed countries alike. The effects of air pollution on health are very complex as there are many different sources and their individual effects vary from one to the other. It is not only the ambient air quality in the cities but also the indoor air quality in the rural and the urban areas that are causing concern. In fact in the developing world the highest air pollution exposures occur in the indoor environment. Air pollutants that are inhaled have serious impact on human health affecting the lungs and the respiratory system; they are also taken up by the blood and pumped all-round the body. These pollutants are also deposited on soil, plants, and in the water, further contributing to human exposure. (1) Governments alone are not responsible for addressing such issues and health care professionals (HCPs) need to consider whether their duty of care should extend beyond normal clinical boundaries. When considering the ethics around the generation and effects of air pollution, especially in relation to justice and health care, actions taken by HCPs (e.g. in a country such as India) potentially extend beyond treating individual patients one-at-a-time for toxic effects of emissions and include advocating on behalf of others. (2) This paper covers the health impacts arising from ambient and household air pollution globally and at the national level (India) and recommends policy measures to reduce the health impact from air pollution in the national context. (3) Community health advocacy is also considered as of the main tasks of public health. Health professionals try to solve health problems with effective strategies. One of them is, specifically, community health advocacy. To act on health problems in the global context, participation and communitarian perspective is a choice. In addition to this behaviour change towards healthier lives by modifications in specific practices pertaining to rationale use of energy, water, cooking etc. is crucial for quality of life.

Keywords: Air Pollution, Advocacy, HCPs, Community Health Policy, Behaviour Change.

INTRODUCTION

Clean air is the foremost requirement to sustain healthy lives of humankind and those of the supporting ecosystems which in return affect the human wellbeing. Release of various gaseous emissions and particulate matter (PM) has been on the rise due to rampant industrialized growth Anthropogenic emissions of various kinds are being pumped into the atmosphere (called primary pollutants) and lead to the formation of new pollutants due to chemical reactions in the atmosphere (called secondary pollutants). These are building up the concern of ambient air pollution (AAP) as a prominent global threat to human health in many ways. For instance, according to the Fifth Assessment Report of the IPCC 'nearly all the non-CO2 climate-altering pollutants are health damaging, either directly or by contributing to secondary pollutants in the atmosphere'. (3)

The UN General Assembly's Open Working Group (OWG) on Sustainable Development Goals forwarded to the Assembly its proposal for a set of goals that consider economic, social and environmental dimensions to improve people's lives and protect the planet for future generations at the conclusion of the Group's thirteenth and final session at UN Headquarters on 19 July 2014. The proposal contains 17 goals with 169 targets covering a broad range of sustainable development issues, including ending poverty and hunger, improving health and education, making cities more sustainable, combating climate change, and protecting oceans and forests. The goal 3 "Ensure healthy lives and promote well-being for all at all ages" aims at securing a healthy life for all. There are 9 sub-goals to this goal and sub-goal 3.9 targets

to substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water, and soil pollution and contamination by 2030. (3)

We acknowledge that for various reasons the concept of health care advocacy is not straightforward, and with air pollution, complex local causes and effects combine with wider historical and current global factors to impact on human health. Many factors affect the current state of air pollution in India, such as weather patterns that are being significantly disrupted by climate change. In addition, some pollution sources are far removed from the place where the effects of toxic air are at their most potent. (4)

While governments can intervene at the local level, policy interventions are unlikely to succeed unless (a) they are multi-faceted and (b) the full extent of health problems arising from exposure to polluted air are acknowledged. Governments have a responsibility to mitigate harms caused to citizens by poor air quality, but we accept that it is naïve to suppose that simple solutions exist for complex problems, or that HCPs can rectify these problems. HCPs can, however, work effectively in conjunction with NGOs and social welfare organizations, and they can advocate in a variety of ways, such as providing expert testimony to scientific inquiries or intervening directly with local, regional or national governmental bodies. While HCPs may feel powerless to ameliorate situations of such magnitude, we propose that it is possible for their services and/or goodwill to extend beyond treating individual patients and the traditional public health preventative role. Engaged HCP citizen-advocates can action behalf of patients who are most at risk and least able to protect themselves against something as insidious as air pollution. (4)

Task Force through Community health advocacy

Community health advocacy is a reflection on the role of different issues in relation with an empowering view of public health. People need advocacy and empowerment to achieve health outcomes more than isolated health interventions assistance. Although the role of health services is important to promote and

secure health, there are other issues that are important to guarantee people's health. Community, organizations, and institutions must advocate for health with the necessary tools and in the context of each society. They also emphasize how to integrate values and ethics in health advocacy objectives. (5)

Key Statistics

Rising pollution in the developing world is ranked as the sixth most significant global trend this year – and in Asia it's the third. China became the largest greenhouse gas emitter in 2005 and remains in this position, followed by the United States and the European Union, according to the World Resources Institute. Brazil and India are the fifth and the eighth biggest polluters. (6)

Developing countries will suffer the most from the weather-related disasters and increased water stress caused by global warming, consequences outlined in our other trend chapters. Even 2°C warming above pre-industrial temperatures – the minimum the world will experience – would result in 4-5% of African and South Asian GDP being lost and developing countries are expected to bear 75-80% of impact costs. (6)

There are two main ways developed countries need to help with this process. There needs to be a flow of funding to the developing world, providing the means to finance change, and we must cooperate to develop new low- carbon technologies. It's crucial that countries such as China build up their research and development capacity for solar power, wind turbines and carbon capture, and international cooperation can help developed countries become involved higher up the supply chain. (6)
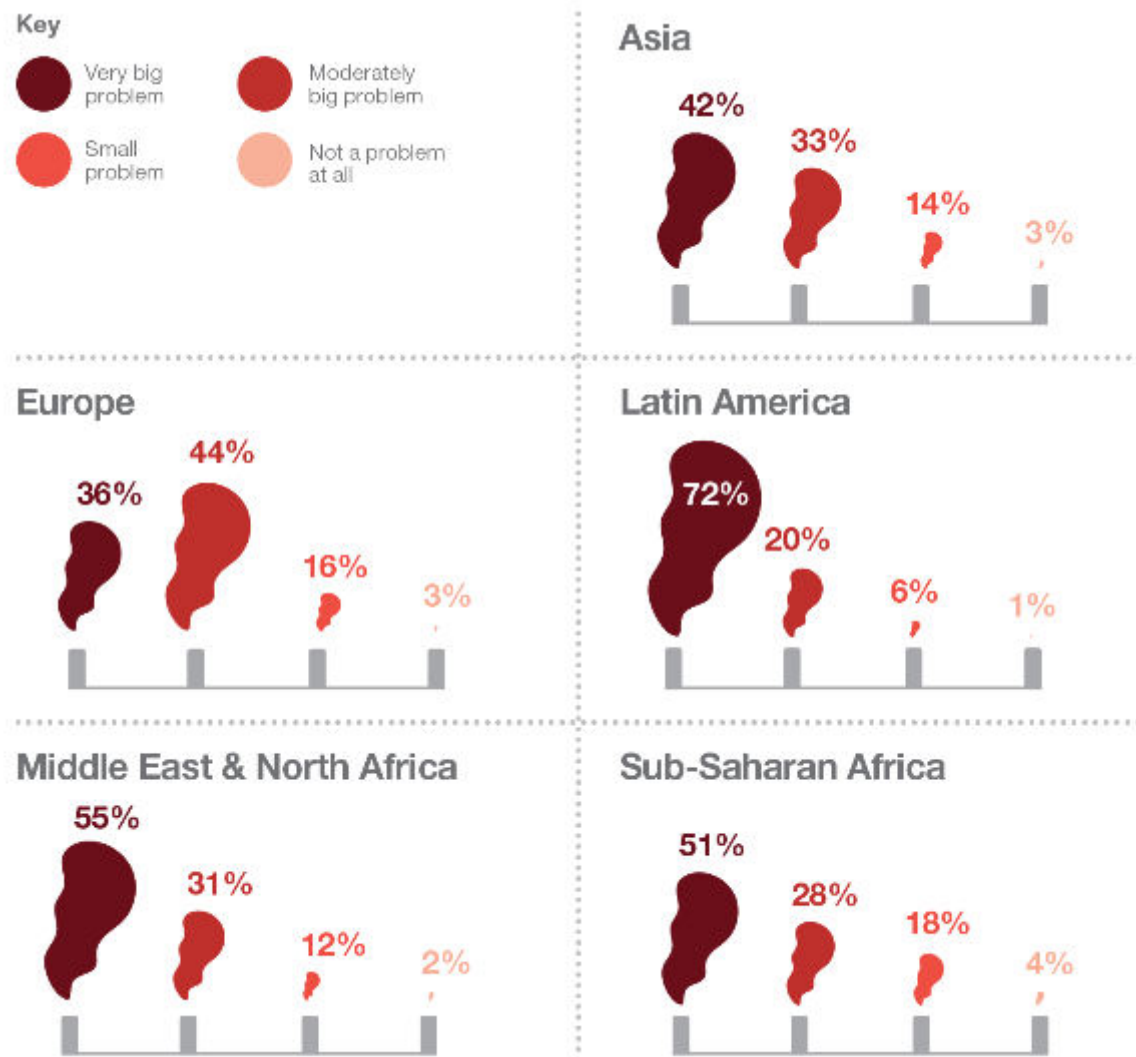
Air pollution is a major risk factor for heart disease, stroke, chronic obstructive pulmonary disease (umbrella term for several progressive lung diseases including emphysema) and lung cancer, and increases the risks for acute respiratory infections and exacerbates asthma.

With the economy booming in many of India's cities since the turn of this century the number of road vehicles and dusty construction sites have multiplied, and outdoor air pollution has

become a major health hazard and a major killer. This adds to the already large burden of ill-health caused by household air pollution from the use of solid fuels for cooking in the

world's second most populous country of some 1.3 billion people.

How great a problem does rising pollution in the developing world pose for regions around the world?

Source: Pew Research Center Global Attitudes Project, 2014

Figure 1: Pollution problem rising in the developing world pose for regions around the world

In India, an estimated 1.5 million people died from the effects of air pollution in 2012, according to WHO data. Globally, air pollution – both indoor and outdoor – caused nearly 7 million deaths, or 11.6% of deaths in 2012, making it the world's largest single environmental health risk, according to World health statistics 2016.

About 98% of cities in low- and middle-income countries with more than 100 000 inhabitants do not meet norms set out in the World Health Organization's (WHO) air quality guidelines,

according to WHO's global urban air quality database. An increasing number of Indian cities are now measuring and reporting their air pollution levels to WHO and the number of such cities, globally, has nearly doubled to 3000 in 103 countries since 2014. (7)

Recent assessments suggest that the public health impacts may be considerable. Air pollution is associated with a broad spectrum of acute and chronic health effects, the nature of which may vary depending on constituent of the pollutants as well as the group of the population.

Current exposure to PM from anthropogenic sources leads to the loss of 8.6 months of life expectancy in Europe – from around 3 months in Finland to more than 13 months in Belgium. The most recent estimates of impacts of PM on mortality, based on PM10 and PM2.5 monitoring data in 40 European countries, indicate that close to 500 000 deaths per year are accelerated due to exposure to ambient PM in those countries. According to the WHO Health Reports, air pollution at current levels in European cities is responsible for a significant burden of deaths, hospital admissions and exacerbation of symptoms, especially for cardiovascular disease. (8)

Recent measures & Recommendations

There is an urgent need to adopt various strategies to improve urban and indoor air quality. To improve air quality and reduce the burden of diseases, several interventions have been adopted in India. (3)

Public health advocates and clean air campaigners are keen to see action beyond Delhi, India. Recently the Indian government took some steps in this direction committing to a 50% reduction in households using solid fuel for cooking and, last December, removing subsidies for polluting cooking gas to improve access to clean fuel for household cooking.

India recently included an additional target on reducing air pollution to the nine targets set out in WHO's Global action plan for the prevention and control of NCDs 2013–2020 in its national NCDs strategy.

For Dr. Kalpana Balakrishnan who heads the WHO Collaborating Centre for Occupational and Environmental Health at the Center for Advanced Research on Environmental Health in Chennai, such moves are thanks to a growing recognition of the double burden of outdoor and household air pollution for urban and rural populations.

Perhaps India's capital city has the advantage of having many nongovernmental organizations (NGO) campaigning for better health, a vocal media which reports extensively on health problems caused by air pollution, and a supreme court that recently banned the registration of diesel vehicles in the capital.

More has been done in Delhi than elsewhere in India to tackle the problem. The auto-rickshaws run on compressed natural gas and, earlier this year, the state government piloted a congestion scheme to reduce the volume of traffic, in which vehicles with odd and even number plates could enter the city on alternate days. Other recent measures in the capital include tighter vehicle emissions' norms, higher penalties for burning rubbish and better control of road dust. (7)

In order to control the indoor air pollution through provision of clean energy access, government has introduced various schemes that would facilitate clean energy access such as, the Village Energy Security Programme, and the Remote Village Electrification Programme. The Ministry of New and Renewable Energy (MNRE) is promoting setting up of biogas plants in all the states and union territories of the country. Biogas plants are being promoted under the scheme National Biogas and Manure Management Programme for setting up of family-type biogas plants. (3)

Issues of acceptability, affordability, and poor awareness levels about alternate cooking fuels or modern technologies are the most major hurdles. On the supply side, pricing and distribution of different cooking fuels vary geographically and across demographic segments. Purely governmental planning without community participation affects the implementation and success of such schemes. Awareness generation among public and policymakers would help improve the path each community could take toward cleaner fuels. (3)

More epidemiological studies should be taken up to determine how ambient and household air pollution is affecting people's health. Quantification of the impact is particularly insightful to provide policy the push and can act as a benchmark to understand the need for particular tools for air quality monitoring. Data gaps in quantification of the impact need to be addressed strongly and promptly, for research to be able to perform the necessary analysis and to be able to provide the most suitable policy recommendations. These data gaps also hinder further research into the matter and limit the

understanding of trends in pollutant concentration levels and spread of diseases. (3)

Given the size of the economic cost of the health effects of air pollution, the benefits of reducing that burden could easily outweigh the monetary cost of investments in more ambitious programmes to reduce pollution (OECD 2014). The best available estimate of the economic cost of the health impacts of outdoor air pollution in China and India combined is larger than the OECD total – about USD 1.4 trillion in China and about USD 0.5 trillion in India in 2010.There should be advances made in instrumentation to adopt continuous information systems for monitoring ambient concentrations and pollution from high-emitting industries or sectors (transport). Increased monitoring can play an important role as a health advisory system and as a means of increasing pressure on polluters to comply with existing regulations. There is an urgent need of development of a sustainability index to bench mark using these components strong environmental governance-guidelines/ violators. (3)

Awareness-Raising to stimulate & sustain Behaviour change

Providing information about improved health benefits; time saved in fuel gathering and preparation; and fuel cost savings are important motivators of change, and also key to ensuring sustained change over time. Introduction of new household energy technologies needs to be supported by such education and outreach; monitoring of uptake over time can help identify what works and what does not. (7)

Education and awareness-raising also can target specific behaviors and practices. One simple example is fuel management. Drying fuel wood before use improves combustion and reduces emissions of health-damaging smoke. However, often people will collect anything that is combustible, such as crop residues laden with heavy moisture, which produce significant emissions when burned. In some settings, households choose to burn wet wood to have the fuel last longer, even though the wood produces much more smoke. (7)

Behaviour changes are generally required in order to increase ventilation in the cooking area,

through actions such as opening window or doors, using a chimney, or even cooking outdoors – all of which can significantly reduce personal exposure to harmful air pollutants. (7)

CONCLUSIONS

The health ramifications of air pollution are a subject of significant global concern, and HCPs with no special interest in global health could find themselves treating patients with illnesses and disease directly linked to breathing polluted air. How best to respond in such instances is important, and while ill-judged advocacy could be worse than making no response at all, skillful advocacy and negotiation could potentially improve health outcomes, especially for disadvantaged patients. (4)

The advocacy groups and think tanks can positively add solution minds to these associations which can help government in propitious way.

Globally, problems surrounding air pollution present an urgent challenge, and like India, many countries have a long way to go in terms of developing effective policies to mitigate the effects of air pollution. We hope that as the Indian government and public bodies respond to the growing crisis of polluted air, professional bodies will issue guidelines acknowledging the role of HCPs, industry, advocacy groups as a whole.

Reductions in pollutant levels are amongst the public health benefits likely to be associated with an increase in active travel. Rejection of proposals for congestion charging is linked to uncertainties over the impacts of the charge as well as a lack of information to those who will be affected. A few studies show a tentative link between air pollution and subjective measures of wellbeing (from happiness surveys or self-reported life satisfaction), and there is some limited evidence that living in a neighbourhood which provides infrastructure and green spaces encouraging walking and cycling is associated with better mental health and quality of life. (9)

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CONFILCTS OF INTEREST

The content and views in article is author independent opinion and in no way related to Reckitt Benckiser's views and policies.

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