HOSPEEM-EPSU position in view of the European Commission study supporting the assessment of different options concerning the protection of workers from exposure to hazardous medicinal products, including cytotoxic medicinal products

Every year more than **12.7 million healthcare workers in Europe**, including 7.3 million nurses, are **potentially exposed to carcinogenic, mutagenic and reprotoxic hazardous drugs**. Studies show that hospital workers who handle cytotoxic drugs are three times more likely to develop malignancy[1,2] and that nurses exposed to cytotoxic drugs are twice as likely to miscarry[3]. The health hazard for handling these drugs is a significant concern as they are not only classified as potentially carcinogenic but also mutagenic (mutating genetic material) and reprotoxic (interfering with reproduction).

Increased genetic damage has been demonstrated in nurses, particularly in day hospital nurses, the group handling the highest number of hazardous drugs during the administration process. As cancer often takes decades to emerge, a case of leukaemia diagnosed in a nurse or a pharmacist today might be the product of workplace exposures in the 1980s. **The scientific evidence of the severe risk of harm to healthcare workers, including leukaemia and breast cancer, is conclusive**[4,5] and has been available for more than 30 years. **Now is the time to act to apply the control measures in the Carcinogen and Mutagens Directive 2004/37/EC (CMD) to the preparation, administration, and disposal of hazardous drugs to prevent occupational exposure.**

In terms of the European legislative framework, the CMD, together with Directive 98/24/EC, is the only effective and existing European OSH legislation to protect workers from occupational exposure to hazardous drugs. **Including a list of hazardous drugs in the CMD would be a powerful lever to change behaviour and practice, by requiring the Member States to introduce effective preventative and risk management measures where these are lacking at the national level.** Without their inclusion, the CMD in practice does not apply to hazardous drugs, and national legislations are often lacking. Legislation, good practice guidance and adequate protection of healthcare workers on the ground is limited across the Member States. It is difficult, but not impossible as some current legal cases display, to prove a direct link in individual cases between long term exposure at relatively low levels to cases of cancer or other health problems in healthcare workers.

The scientific evidence, however, is clear that there is a link between exposure and health problems and that healthcare workers and patients should not be exposed to hazardous drugs at any level. Awareness of the problem is increasing with greater use of hazardous drugs, with more cancer diagnosed, an ageing population, and new and more advanced technology to protect workers from exposure. The groups that are most affected by occupational exposure and the problem are in particular (oncology) nurses and pharmacy technicians who are in charge of the infusions on hospital wards and preparations in the pharmacy, respectively.

On 5 June 2019, the third revision of the CMD (CMD3) included amendments recognising and prioritising for **the first time the specific importance of protecting workers and patients who are exposed to such drugs through work involving**: the preparation, administration or disposal of hazardous drugs, including cytotoxic drugs; services related to cleaning, transport, laundry or waste disposal of hazardous drugs or materials contaminated by such drugs; or personal care for patients treated with hazardous drugs.

The European Commission is required by CMD3 to undertake a study and consultation by Q2 2020 on further amending the Carcinogens and Mutagens Directive to include hazardous drugs, including cytotoxic drugs and to produce a report including a potential legislative

proposal. Since then, the European Commission has contracted FGB (IT), COWI (DK) and IOM (IE) to carry out the study with the support of Exposure Control (SE).

The objective of the study is to assess the implications of different options for an EU initiative. Options under consideration include The introduction of an amendment to the Carcinogens and Mutagens Directive (CMD); amending other relevant legislation outside of the Occupational Safety and Health (OSH) domain and developing or updating non-legislative instruments. In the framework of the different options foreseen by the **European Commission, the main legislative option included in the study of amending the Directive is to include hazardous drugs as either a category in Appendix I or a list of specific drugs in Appendix III.**

Threshold levels of exposure to hazardous drugs cannot be predicted. It is, therefore, difficult to establish limit values so contact with genotoxic carcinogens should be avoided at all levels, which is why **hazardous medicinal products should be included as a category in Annex I of the CMD**. The science, the magnitude and nature of the problem and the risk to the health of workers and patients from occupational exposure are clear. **The only way to address these risks is through further amendments to the CMD in 2020 - 2021**.

To prevent occupational exposure, hospitals and healthcare employers are required to undertake risk assessments. However, replacement of hazardous medicinal products is not an option for most cases, as patients still need these products for cancer and other treatments. As stipulated in Article 5 (2, 3) “employers shall ensure that the carcinogen or mutagen is, in so far as is technically possible, manufactured and used in a closed system. Where a closed system is not technically possible, the employer shall ensure that the level of exposure of workers is reduced to as low a level as is technically possible.” If, as stated above, the hazardous medicinal products were to be included in Annex I of the CMD, the interpretation of the wording “technically possible” needs to be clarified. The clarification needs to allow for the safest possible handling technique according to national legislative specificities.

Some advances have been made in recent years with compounding automation (or robotics) for cytotoxic drugs. While these are technological advances in the overall compounding process, most still rely on needles and syringes to perform the drug transfer steps. As with needle and syringes, there is still a risk of contamination inside the robotic enclosure and on the final preparation that is handled by healthcare workers. Studies[10,11] have confirmed that contamination is present on doses prepared in the robotic devices and on the gloves of the operators. The Cochrane review, March 2018[12], concludes that “the available evidence does not support or refute the routine use of closed-system drug transfer devices in addition to safe handling of infusional hazardous drugs, as the evidence is too uncertain to conclude that there are differences in exposure or financial benefits between CSTD plus safe handling versus safe handling alone. None of the studies reports health benefits”.

The **key target for the prevention of occupational exposure in healthcare workers is to reduce surface and environmental contamination and ensure where possible effective surface decontamination and monitoring**.

The CMD should, therefore, include key preventative measures in healthcare which achieve these aims. Measuring surface contamination, before and after cleaning and decontamination, and the levels of uptake of hazardous drugs are the preferred options. The MEWIP (Kiffmeyer)[13] study shows that increased monitoring results in decreased contamination. However, existing protocols only usually require that it be done once a year which is not enough and is only in pharmacies, not the wards. **There should be a legal obligation in the CMD for more regular quantitative monitoring of surface contamination and health surveillance of workers**. Currently, there are no limit values for surface

contamination. Therefore, quantitative monitoring data is more important, accessible, and actionable for healthcare institutions.

Further protection for healthcare workers and patients to prevent exposure at the workplace would include: the preparation of hazardous drugs and spiking of medication bags should be carried out in the hospital pharmacy, not on the wards; healthcare workers must receive suitable and regular information and training; suitable Personal Protective Equipment (PPE) and appropriate training should be provided to all healthcare workers exposed to hazardous drugs; and suitable decontamination, cleaning and disinfection guidelines are required in line with Art. 11 (1,2).

Based on this considerations, EPSU and HOSPEEM call the European Commission to include in its CMD4 report or accept Parliamentary amendments for the revision of the CMD in 2020-2021 that include hazardous drugs, including cytotoxic drugs, as a category in Appendix I. Healthcare workers and patients deserve to be protected by legislation now through measures that are legally binding for all the actors in healthcare, with the best possible systems of work, technology as well as education and training to avoid the risk of toxic and genetic damage and associated diseases resulting from exposure to hazardous drugs.

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