

## The silent victims of the US embargo against Iran

Since the new US embargo of Iran on Aug 6, at the MAHAK Pediatric Cancer Treatment & Research Center, parents ask questions every day about whether any drugs are available to treat their children, and whether they are genuine and not counterfeit.

MAHAK—the Society to Support Children Suffering from Cancer—is the only charity organisation dedicated to children with cancer in Iran. It was founded 27 years ago, and last year supported approximately 7000 cancer treatments delivered to children in paediatric haematology–oncology wards throughout the whole of Iran.

Re-establishment of sanctions, scarcity of drugs due to the reluctance of pharmaceutical companies to deal with Iran, and a tremendous increase in oncology drug prices (due to the plummeting value of the Iranian rial by 50–70%), will inevitably lead to a decrease in survival of children with cancer.

Kheirandish and colleagues<sup>1</sup> showed that during the previous embargo, access to drugs, particularly those that depended on the import of their raw material or finished products, was substantially reduced, including cancer medicines.

According to the WHO Model List of Essential Medicines for Cancer in Children<sup>2</sup> and the current drug stockpiling at our hospital, next month the absence of asparaginase and mercaptopurine will prevent us from treating patients with leukaemia patients (table). Leukaemia is a leading cause of childhood cancer in Iran, with more than 3500 children treated last year, all of whom were supported by MAHAK.

Within the next 3 months, shortages of vincristine and ifosfamide will prevent proper treatments of CNS tumours, lymphomas, Wilms' tumour, sarcomas, and retinoblastoma. Adjuvant medicines such as mesna, granisetron, and drugs for infectious

diseases such as fluconazole, nystatin, and co-trimoxazole will also become unavailable. An unsustainable situation will rapidly develop because essential medicines for paediatric cancer treatments in low-income and middle-income countries listed by WHO<sup>3</sup> are the 30 most prescribed drugs in our hospital. The purchase of any medical equipment, such as linear accelerator spare parts, will become all but impossible and further jeopardise treatment conditions.<sup>4</sup> During the previous embargo, radiation treatments in our hospital were interrupted for 2 months until spare parts could be imported. Economic sanctions are violating the right of children with cancer to access timely and appropriate health care.<sup>5</sup> The separation between economic sanctions and health-care catastrophe is extremely tenuous. International global medical support is urgently needed to avoid looming medical tragedy.

We declare no competing interests.

\*Mithra Ghalibafian,  
Shabnam Hemmati, Eric Bouffet  
m.ghalibafian@mahak-charity.org

MAHAK Pediatric Cancer Treatment and Research Center (MPCTRC), Tehran 1956993461, Iran (MG, SH); and The Hospital for Sick Children, Toronto, ON, Canada (EB)

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	Out of stock	<3 months' supply
<b>Antineoplastics</b>		
	Asparaginase	Vincristine
	Mercaptopurine	Daunorubicin
	Vinblastine	Ifosfamide
	Bleomycin	..
	Idarubicin	..
	Busulfan	..
	Melphalan	..
<b>Antimicrobials</b>		
	Fluconazole	Co-trimoxazole
	..	Nystatin
<b>Supportive care drugs</b>		
	Paracetamol	Mesna
	Fentanyl	Granisetron

Table: Drugs in essential need of supply as of September, 2018