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手卫生在遏制抗微生物药物耐药性中的作用

Combat antimicrobial resistance: the role of hand hygiene

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Antimicrobial resistance (AMR) is increasing rapidly worldwide^[1]. The European Centre for Disease Prevention and Control (ECDC) estimates that 25 000 deaths, 2.5 million extra hospital days, and 1.5 billion extra Euros are associated with AMR infection in Europe each year^[2]. In the United States, according to the Centers for Disease Control and Prevention (CDC), healthcare-associated infections (HAIs) caused by carbapenem-resistant Enterobacteriaceae are responsible for 610 deaths annually^[3]. Therefore, it's urgent to prevent and control the spread of AMR.

Health care workers' (HCWs) contaminated hands play an important role in the spread of HAIs^[4]. Hand hygiene should be implemented for all patients at all times; this is key to prevent HAI and the spread of AMR in healthcare setting. The first study that showed an improvement in hand hygiene compliance with a hospital-wide multimodal strategy also demonstrated a reduction in HAI and AMR spread^[5], the increase in hand hygiene compliance from 47.6% in 1994 to 66.2% in 1997

was associated with a reduction in the prevalence of HAIs from 16.9% in 1994 to 9.9% in 1998 as well as with the overall decrease in incidence of methicillin-resistant *Staphylococcus aureus* (MRSA) infections from 2.16 to 0.93 episodes per 10 000 patient-days. The multimodal hand hygiene improvement programme had a strong support from hospital administrator, the human resources department, pharmacy, chief executive, medical and nursing directors, as well as all health care workers(HCWs) in the hospital. The most prominent component of this strategy was the change from hand washing to the use of alcohol-based hand rub (ABHR); individual bottles of ABHR were distributed to all HCWs and they were encouraged to carry it in their pockets and used it to clean their hands. Additionally, colourful posters that emphasized the importance of hand hygiene were displayed all over the hospital, educational sessions were performed to teach HCWs, and monitoring of hand hygiene and feedback of results to HCWs

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were frequently performed. This programme later became the WHO hand hygiene multimodal improvement strategy^[4], which is constituted by five elements: system change with the preferred use of ABHR rather than handwashing with soap and water, HCWs' education, compliance monitoring of the "five moments for hand hygiene" and performance feedback, reminders in the workplace and institutional safety climate. Importantly, this strategy not only helped to decrease HAI but also reduce cost. In Geneva, the hand hygiene program contribute to less than 1% of the costs associated with HAIs^[6]. A study conducted in Taiwan showed that for every U. S. \$ 1 spent on hand hygiene promotion, U. S. \$ 23. 7 were saved^[7]. Many other studies published in the past years provided evidence on the central role of hand hygiene in the prevention and control of HAI^[8]. Additionally, a review about the role of hand hygiene in controlling AMR in healthcare settings has been published by WHO^[9]. The evidence for promoting hand hygiene is very strong.

WHO published several guidelines and documents to help healthcare settings to promote hand hygiene, including *WHO Guidelines on Hand Hygiene in Health Care*^[4], *A Guide to Implementation of the WHO Multimodal Hand Hygiene Improvement Strategy*^[10], *Hand Hygiene Technical Reference Manual*, etc. The Chinese versions of these guidelines and tools are available free of charge (<http://www.who.int/gpsc/5may/tools/zh/>). Additionally, the Ministry of Health of China has published a national hand hygiene guideline in 2009 (<http://www.nhfpc.gov.cn/zwgkzt/s9496/200904/40118.shtml>). These documents show the strong commitment from the Chinese authorities towards improving hand hygiene and open another door for infection control practitioners (ICPs) to promote hand hygiene in their hospitals. Most ICPs and HCWs in China have understood the importance of hand hygiene in infection control and have started to improve hand hygiene with encouraging results. A recently published study conducted in more than 200 hospitals in 14 provinces

of China revealed that the compliance with hand hygiene was up to 70%^[11]. As a winner of 'The Asia Pacific Hand Hygiene Excellence Award and Innovation Award' in 2012^[12], the West China Hospital of Sichuan University is also a model to inspire other hospitals in China.

Now, it's time to celebrate the WHO hand hygiene day in 2017. By the end of February 19, 2017, 217 health care facilities across 177 countries have registered to support the annual hand hygiene campaign and have committed to action to improve hand hygiene (you can also register your facility at: <http://www.who.int/gpsc/5may/register/en/>). You can get posters, videos and other materials for free in the *Clean Care is Safer Care* website to promote hand hygiene and the 5th of May at your hospital (<http://www.who.int/gpsc/5may/en/>).

Fight antimicrobial resistance—it's in your hands !

近年来,抗微生物药物耐药性(antimicrobial resistance,AMR)在全球范围内飞速增长^[1]。据欧洲疾病预防控制中心估计,欧洲范围内 AMR 相关感染每年将导致 2.5 万例患者死亡,额外增加 250 万住院日以及 15 亿欧元花费^[2]。美国的情况同样严重,据美国疾病控制与预防中心(CDC)估计,美国每年仅耐碳青霉烯类肠杆菌科细菌引起的感染就会导致 610 例患者死亡^[3]。因此,预防和控制 AMR 的传播已迫在眉睫。

医务人员污染的手在医院感染的传播过程中起着重要作用^[4],医疗机构内防控医院感染和遏制 AMR 的传播,手卫生扮演着关键的角色。2000 年 Lancet 上发表了第一篇通过多策略模式改进全院手卫生依从性的研究^[5],证实手卫生在防控 AMR 中的作用,手卫生依从性从 1994 年的 47.6% 上升至 1997 年的 66.2%,相应的医院感染发生率从 1994 年的 16.9% 下降至 1998 年的 9.9%,耐甲氧西林金黄色葡萄球菌(methicillin-resistant *Staphylococcus aureus*, MRSA)感染的发生率从 2.16 例/万患者日降低至 0.93 例/万患者日。该研究中使用的手卫生多策略模式得到了医院管理者、人力资源部门、药房、临床主任、护士长以及全院医务人员的大力支持,核心内容包括:鼓励所有医务人员使用小

包装的速干手消毒剂(alcohol-based hand rub, ABHR)消毒双手,全院范围内使用色彩缤纷的海报宣传手卫生的重要性,培训教育医务人员,以及监测和反馈手卫生的依从性。后来,上述策略演变成世界卫生组织(World Health Organization, WHO)手卫生多模式改进策略^[4],包括:系统改变(工作中更倾向于使用 ABHR 消毒双手而不是洗手)、培训和教育、监测和反馈手卫生依从性、工作场所提醒以及建立安全文化 5 大策略。这些措施不仅能帮助医疗机构降低医院感染,而且能降低医疗费用。在日内瓦,手卫生项目的花费仅占医院感染相关费用的 1%^[6];台湾地区在手卫生方面每花费 1 美元,可以节约 23.7 美元^[7]。过去几年中,手卫生在防控医院感染中核心作用的研究非常多^[8],WHO 也发表了一篇关于手卫生降低 AMR 的系统综述^[9]。因此,有足够的循证医学证据支持我们在医院内推动手卫生项目。

另外,为帮助医疗机构推动手卫生,WHO 还发布了《世界卫生组织手卫生指南》^[4]、《WHO 多模式改进手卫生策略实施指南》^[10]、《手卫生技术参考手册》等指南,在 WHO 的网站上也可以免费获得部分指南的中文版本(<http://www.who.int/gpsc/5may/tools/zh/>)。中国卫生部于 2009 年颁布了《医务人员手卫生规范》(<http://www.nhfp.gov.cn/zwgkzt/s9496/200904/40118.shtml>),为中国医院推动手卫生项目提供了制度保障。现在,中国大多数的感控工作者和医务人员都已经知道手卫生在感染预防和控制中的重要作用,并已经开始改进手卫生行为。一项中国 14 个省份 200 多所医院参与的调查结果显示,医务人员手卫生依从性已达到 70%^[11]。作为 2012 年“亚太手卫生杰出大奖”的获得者——四川大学华西医院也为其他医院推动手卫生树立了榜样^[12]。

现在,是开展 2017 年世界手卫生日活动的时候,截至 2017 年 2 月,已经有来自 177 个国家的 19 217 所医疗机构在网上注册参与年度手卫生活动。请立即行动起来,注册参与今年的手卫生活动(注册网址:<http://www.who.int/gpsc/5may/register/en/>),你可以从 WHO 的官方网站(<http://www.who.int/gpsc/5may/en/>)上下载相关的宣传海报、视频等资料。

遏制抗微生物药物耐药性,就在你的手中。

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