Primary survey: Highlights from this issue

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I have the privilege of writing the first primary survey of 2023 and would like to take this opportunity to wish you all a happy and prosperous new year and thank you for your ongoing support of the journal.

EMS and children

This month's issue has two very different papers in relation to EMS and children. Frequent use of emergency medical services (EMS) is a global issue, although paediatric frequent use is poorly understood. In the first paper, Scott and colleagues in the UK undertook a systematic review to establish what is currently known about frequent use of EMS by children and adolescents with a view to making recommendations for future research. Eight papers were included in the review from four countries. All studies were retrospective designs, with no experimental studies focused on paediatric users. The authors found that paediatric frequent EMS users were more likely to use services for medical reasons rather than trauma, including respiratory complaints, mental health, and seizures, data on gender and ethnicity were inconclusive and there was no data on socioeconomic status. Definitions of paediatric patient or frequent use was inconsistent. Unsurprisingly, the authors concluded that the lack of focused research in this area of practice is worrying, especially when considering the potential for safeguarding concerns among this population. Clearly there is a need for further research to better identify the underlying reasons for frequent EMS use among paediatric patients, and to develop interventions in this population.

Having just highlighted the need for more research relating to paediatrics and EMS, I am pleased to recommend the next paper by Andrew and colleagues from Australia. They conducted a retrospective study to describe the characteristics and outcomes of non-transported paediatric patients by EMS. Our paramedic colleagues do amazing work in the pre hospital setting but some of this work is invisible to us in the ED as we know little about the patients they don't transport to hospital, making such decisions may be difficult in some cases. This is a large study which included 62 975 non-transported patients. Overall, 2.1% re contacted the EMS within 48 hours, 13.8% self-presented to a public ED, 1.9% were admitted to hospital, and 0.1% had an adverse event, including two deaths. Although adverse events were rare among paramedic-initiated non-transport cases, the authors found that deranged vital signs, attendance at the end of shift, or attendance by paramedics with higher exposure to non-transport cases, were associated with poorer outcome. This study is an eye opener and will have particular resonance for paramedics and pre hospital clinicians.

The sunshine vitamin

Vitamin D often referred to as the 'sunshine vitamin' has an essential role in regulating inflammation and immune function. It is recommended that most adults should get 1500–2000 international units (IU) of vitamin D daily but our diets alone may not be enough so it's not surprising that vitamin D deficiency is one of the most common nutritional deficiencies worldwide. How extreme vitamin D deficiency compounds severe illness is not well understood so it was really interesting to read a study in this issue by Malinverni and colleagues from Belgium who investigated the association between severe vitamin D deficiency and sepsis related outcomes in patients presenting to the emergency department. This was a single site study between 2014 and 2017 of 164 patients, 18% of whom had septic shock. Severe vitamin D deficiency was present in 46% of patients. In the subgroup of patients admitted to ICU severe deficiency was associated with increased 28 day adjusted mortality (HR=3.06(1.05–8.94), p=0.04 and lower chances of discharge (sub-HR=0.05 (0.32–0.81). The authors concluded that severe vitamin D deficiency at emergency department admission is associated with higher mortality and longer hospital stays in patients with severe sepsis. Since there is a high prevalence of Vitamin D deficiency worldwide, this study is important and relevant to ED clinicians globally. It's perhaps confirmation of something we already suspected.

Opioids and frequent attenders

Patients with chronic pain on sustained opioid therapy who present to the ED when their pain becomes intolerable often have a poor experience. This is partly due to the fact that emergency services are set up to provide rapid treatment for acute pain but also because they may be unfairly perceived as frequent attenders with all the negativity that sadly this implies. So, it was enlightening to read the paper by Racine-Hemmings and colleagues from Canada who sought to understand the association between sustained opioid use and frequent ED use among chronic non cancer pain (CNCP) patients. They conducted a retrospective cohort study which included adults with both≥1 chronic condition and ≥ 1 ED visit in 2012 or 2013. They found that due to confounding by social and medical vulnerability, CNCP patients with sustained opioid use appear to have a higher propensity for frequent ED use in unadjusted models. However, sustained opioid use was not associated with frequent ED use in these patients after adjustment. They advise that further research should not focus on sustained opioid use without accounting for medical and social vulnerability. Since inadequate pain management in EDs worldwide continues to be a problem that we need to address, we should take note here and reserve judgement.

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