lock-down) can potentially negatively impact the psychological well-being of school-age children. In the event of similar future pandemics, strategies need to be in place to safeguard the psychological well-being of individuals by offering them timely and appropriate psychological support, as well as taking the appropriate steps in the effective management of those already affected psychologically.

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QUICK, STAB ME IN THE THIGH! OOPS I'VE FORGOTTEN MY EPIPEN-A PEER PILOT SURVEY OF TEENAGERS' PERSPECTIVES

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Background Anaphylaxis is a severe life-threatening allergic reaction; the treatment of choice is adrenaline(epinephrine). The most common UK adrenaline auto-injector is the EpiPen. Primary school children (under 11 years) will have this administered by a parent/carer or teacher if in school. Secondary school aged children (11–18) are supposed to carry their EpiPens themselves for self-administration, however many do not. **Objectives** Pilot survey exploring the reasons that secondary school aged children do not carry their EpiPens and rating suggestions for how to improve this. **Methods** A questionnaire was devised exploring these issues asking:

1. Do they have an EpiPen?
2. Their knowledge of EpiPens? (sliding bar range: 0 bad to 10 good)
3. Were they concerned about adolescents not carrying their EpiPens?
4. Which of the following did they think were factors for teenagers not carrying their EpiPens? (Multiple responses accepted).
 - Nowhere to put them
 - Forgotten
 - Expired
 - Don't expect them to be needed
 - Don't realise they have to
 - Other (asked to specify)
5. Rate the following in effectiveness to increase teenagers carrying EpiPens; Smaller Pens; Better education; Better ways to carry them(Likert scale: 1 not good to 5 ideal).

The questionnaire was approved by the school as part of a sixth form Welsh Baccalaureate project. It was sent digitally as a convenience sample to members of the sixth form, Girl Guides and an adult from each family to complete via Survey-Monkey®. Comparative statistical tests comparing adults and teenagers results were performed($p < 0.05$ taken as significant). **Results** The survey was sent to 82 teenagers; there were 61 respondents, 35 teenagers and 26 adults.

Q1) Only 2 children had EpiPens.

Q2) EpiPen knowledge: Overall mean score 4.4 (SD 2.8). Teenagers mean 4.0 (SD 2.5); adults mean 5.0 (SD 3.1): students t -test t -value 1.43 $p = 0.079$.

Q3) Concerned about EpiPen carriage: Overall yes 47 (77.1%), no 3 (4.9%), don't know 11 (18.0%). Teenagers yes 30 (85.7%), no 1 (2.9%), don't know 4 (11.4%); adults yes 17 (65.4%), no 2 (7.7%), don't know 7 (26.9%). Chi-square 1.1132 $p = 0.29$.

Q4)

Factors for teenagers not carrying their EpiPens	n(%)
Nowhere to put them	27(44%)
Forgotten	37(61%)
Expired	7(11%)
Not expected to be needed	45(74%)
Don't realise they have to	17(28%)
Other	9(15%)

Q5)

Methods to improve carriage	Mean rating(1–5)			Mann-Whitney U value	P value
	Overall score	Adults	Teenagers		
Smaller Pens	3.5	3.6	3.5	418.5	0.84
Better education	4.1	3.9	4.3	359.0	0.24
Better ways to carry them	3.7	3.6	3.9	376.5	0.36

Conclusions There was a wide range of self-reported knowledge scores about EpiPens and most respondents were concerned that EpiPens were often not carried. They felt the reasons for this included; not expecting them to be needed, forgetting them and not having anywhere to carry them due to their size. Almost all respondents felt that education and an improved, smaller design for both EpiPens and their carry-cases would increase carriage rates. In this pilot survey no differences between adults and children were demonstrated.

Sixth form student projects may enable teenagers' perspectives on medical topics to be assessed through a non-threatening peer evaluation. Post-Covid this peer based digital technique may warrant further exploration.

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ULTRASOUND GUIDED FLUID RESUSCITATION IN PEDIATRIC SEPTIC SHOCK: A RANDOMIZED CONTROLLED TRIAL

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Background Over-zealous fluid resuscitation in septic shock can lead to fluid overload and its associated poor outcomes. Hence we need dynamic markers of fluid responsiveness to better guide fluid therapy in children with septic shock. Ultrasound parameters are an option available to PICU physicians for the same.

Objectives To evaluate the role of Ultrasound in reducing the incidence of fluid overload in children with septic shock. Fluid overload was defined as Cumulative fluid balance percentage (CFB%) $> 10\%$. The primary outcome was a reduction in the number of patients with fluid overload on day 3 of admission. Secondary outcomes were resuscitation and shock reversal time, total fluid bolus, fluid overload on day 1, use of Furosemide and inotropes, the occurrence of AKI, the requirement of mechanical ventilation, length of stay, and mortality.

Methods This is a prospective randomized controlled superiority trial, conducted in the PICU of a government-aided

Abstract 237 Table 1

Method	Probe Placement	Aim	Threshold
IVC collapsibility/ distensibility	Sub-xiphoid area	Fluid responsiveness	>50%/12%
Ejection fraction	Parasternal long axis view	Cardiac contractility	<50%
Lung ultrasound	Intercostals space to count B lines	Extra-vascular lung water	>3 B lines/ view

tertiary care hospital in Eastern India. The sample size was 56, calculated on the basis of a similar pediatric RCT. Patient enrolment occurred between May 2019 and July 2020. Children aged between 1 month and 12 years with suspected septic shock were randomized to receive either ultrasound or clinically guided fluid boluses (in a 1:1 ratio) and subsequently followed up for primary and secondary outcomes. Exclusion criteria were Dengue, Anaphylaxis, Ascites, and patients with pre-existing chronic kidney disease, interstitial lung disease, heart disease, and adrenal insufficiency. Ultrasound was used in the treatment group whenever there was clinical suspicion of inadequate perfusion.

Results 68 children were enrolled in the study. 4 patients of Dengue and 4 patients who died within 24 hours were excluded. The number (%) of patients with fluid overload on day 3 of admission was significantly lower in the ultrasound group (25% vs. 62%, $p=0.012$) as was the CFB% on day 3 ($6.8 \pm 6.6\%$ vs. $13.4 \pm 10.7\%$, $p=0.019$). Total fluid bolus was significantly lower {median of 40(30–50) ml/kg vs. 50 (40–80) ml/kg, $p=0.003$ }. Resuscitation time was significantly lower in the ultrasound group (13.4 ± 5.6 h vs. 20.5 ± 8 h, $p=0.002$) and so was the requirement of Furosemide (39.3% vs. 71.4%, $p=0.016$). None of the deaths in the ultrasound group were due to unresolved shock ($p=0.101$). There was no significant benefit derived from ultrasound in terms of ventilator duration, inotrope/vasopressor requirement, length of PICU/hospital stay, and mortality.

Conclusions Due to a lack of comparative studies on this topic, our study adds insight into the utility of ultrasound in improving outcomes in septic shock. Ultrasound made the PICU physician exercise restraint in administering fluid boluses and allowed earlier initiation of inotropes. Ultrasound was found to be significantly better than clinically guided therapy, in preventing fluid overload as well as being quicker in achieving initial hemodynamic stabilization. Hence ultrasound is a potentially useful tool for fluid resuscitation in children with septic shock.

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USE OF TELEMEDICINE IN A DEVELOPMENTAL AND BEHAVIOURAL PAEDIATRIC SERVICE DURING THE COVID-19 PANDEMIC: INITIAL EXPERIENCES OF CAREGIVERS & PROVIDERS, SINGAPORE

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Background Telemedicine has been used increasingly as an alternative care model in the Coronavirus 2019 pandemic. The practice of Developmental and Behavioural Paediatrics (DBP) relies heavily on direct child observations and building trust and

rapport with caregivers over time and telemedicine was not routinely used in the Singapore setting.

Objectives We aimed to describe the initial experiences of caregivers and providers with telemedicine in a DBP service in Singapore during this pandemic.

Methods This cross-sectional survey included caregivers who accessed telemedicine (through telephone or video-based platforms) and healthcare providers at a tertiary DBP clinic between 8 April and 14 May 2020, coinciding with the Circuit Breaker (similar to a lockdown) period in Singapore. Participants completed a questionnaire on experiences, perceived benefits and limitations of teleconsultation. Descriptive statistics and tests of comparison were conducted.

Results Around half of the patients ($N = 216$, 47.3%) who were offered a teleconsultation agreed to it, of which 105 caregivers (48.6%) participated. Caregivers had children with diagnosis including autism spectrum disorder (33.3%), language delay (28.6%), and attention deficit hyperactivity disorder (12.4%). Most caregivers felt that their concerns were adequately addressed (98.1%), with good technological connectivity (95.2%). Majority had no difficulty preparing for the teleconsultation (61.0%) and 44.8% reported ease of follow-up with plans after. Perceived benefits included safety (47.6%) and reduced need to take time off work (24.8%). Perceived benefits included safety (47.6%) and reduced time off work (24.8%). Caregivers who had video-based teleconsultation (compared to telephone-based) had more difficulties preparing for the teleconsultation (52.3% vs 27.4, $p=0.03$). These caregivers were also more likely to have difficulties with remembering and following up with plans discussed during the consultation, compared to those who had a telephone-based consultation (52.3% vs 25.0%, p value = 0.02).

Twenty-five providers participated. Providers included paediatricians, allied health therapists e.g. psychologists, speech and occupational therapists and social workers. Fifty-two percent of providers were satisfied with teleconsultation compared to in person consults. Only 28.0% of providers rated technology infrastructure to be good. Most providers (92.0%) felt safer with teleconsultation. The most common difficulty perceived by providers was incompleteness of consultation without assessing the child physically. The two main perceived benefits of teleconsultation by providers included feeling safer as they were able to minimize physical interaction with patients and being able to provide similarly good care with less inconvenience to patients.

Overall 63.8% of caregivers and 56.0% of providers would continue teleconsultation services post-pandemic. Amongst providers, paediatricians were more likely to continue teleconsultation services after current restrictions were lifted, compared to non-physician providers (100% vs 38.9%, $p=0.008$).

Conclusions Telemedicine was generally well received by caregiver and physician providers. Teleconsultation in a DBP practice setting is a viable option in a pandemic situation and can be considered even beyond this pandemic for continued care.

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TRENDS OF NEONATAL SEPSIS AMONG PRETERM INFANTS BORN <32 WEEKS GESTATION OVER A 13-YEAR PERIOD

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