Elective report

What is the epidemiology of the commonest conditions that cause admission to SCBU in the UK? How does this compare to other countries?

There are a number of symptoms, causes by various different conditions that can be the reason for admission to SCBU. These symptoms include respiratory distress, seizures, jaundice and many more. For my report, I have looked into the epidemiology of some of the common causes of respiratory distress in neonates. .

Respiratory distress which is not due to an infective cause can affect about 1% of infants[1]. In neonates, there are many different causes of respiratory distress. Three of the most common non-infective causes in the UK are infant respiratory distress syndrome, meconium aspiration syndrome and transient tachypnoea of the newborn[2].

Respiratory distress syndrome is inversely linked to gestational age. It affects about 50% of babies born at 28 to 32 weeks gestation, with the incidence decreasing significantly closer to term[3]. Therefore to look into its incidence, the incidence of premature birth needs to be looked at. In the UK in 2012, 7.3% of all live births were premature before 37 weeks, with over 90% of these being after 28 weeks. The incidence has remained steady over a number of years[4]. Comparing this globally, the worldwide incidence of preterm birth is about 10% and has been increasing over the last 20 years[4].

Another cause of respiratory distress is meconium aspiration syndrome. The incidence of meconium-stained liquor is about 8-25% of births after 34 weeks[5]. Of these, meconium aspiration syndrome will affect about 10% of neonates born with meconium stained liquor[6]. Overall, meconium aspiration syndrome will affect about 1-3% of all live births[5].

Respiratory distress may also be due to transient tachypnoea of the newborn. This is much more common in babies born via caesarean section. It is a very common cause of respiratory distress and can be the cause in up to 40% of all cases[7]. It often resolves between 24 and 72 hours[1].

What is the current vaccination schedule and how is it delivered to the population in the UK? How does this differ from other countries?

The current vaccination schedule for children in summaried in table 1. Table 2 summerises the number of doses of each vaccine given in the UK.

Table 1: Vaccination schedule in the UK[8]

Age	Vaccine	Disease protected against
2 months	DTaP/IPV/Hib	Diptheria, tetanus, pertussis, polio, Haemophilus influenzae B
	PCV	Pneumacoccal
	Rotarix	Rotavirus
3 months	DTaP/IPV/Hib	Diptheria, tetanus, pertussis, polio, Haemophilus influenzae B
	MenC	Meningitis C
	Rotarix	Rotavirus
4 months	DTaP/IPV/Hib	Diptheria, tetanus, pertussis, polio,

	PCV	Haemophilus influenzae B Pneumococcal
12-13 months	Hib/MenC MMR PCV	Haemophilus influenzae B, meningitis C Measles, mumps, rubella Pneumococcal
2, 3 and 4 years	Nasal flu spray	Influenza
3-5 years	DTaP/IPV booster MMR	Diptheria, tetanus, pertussis, polio, Measles, mumps, rubella
11-13 years (girls)	HPV	Human papillomavirus
13-18 years	Td/IPV booster MenC	Tetanus, diptheria, polio Meningitis C

Table 2: Number of doses of each vaccine given in the UK[8]

Vaccine	**Number of doses**
DTap (Diptheria, tetanus, pertussis)	4 (5th dose of diptheria and tetanus only)
IPV (polio)	5
Hib (Haemophilus influenzae B)	4
PCV (pneumococcal)	3
Rotavirus	2
MenC (meningitis C)	3
MMR (measles, mumps, rubella)	2
Flu	3
HPV (human papilloma virus)	1

Tables 1 and 2 only include vaccines which are offered to every one in the UK and do not include those that are offered to high risk groups only such as hepatitis B and tuberculosis.

Most of these vaccines can be given in GP surgeries by trained healtcare professionals and a record is kept in the child's red book as well as by the person administering the vaccine. Some vaccines, such as HPV, are given in schools with healthcare professionals taking the vaccines and giving the doses there.

When comparing the UK vaccination schedule to that in the United States, all the vaccines offered in the UK are also reccomended in the United State, with slight variations in timings. In addition to this, vaccines for hepatitis A and B, and varicella are also recommended for everyone in the United States, where as in the UK these are either not offered routinely, or only offered to children deemed to be in high risk groups[9].

France also offer most of the same vaccinations as the UK, again with slight variations in timing. The vaccines not offered in France that are offered in the UK are rotavirus and flu vaccine, and like the United States, France also offeres the Hepatits B vaccine where as the UK does not[10].

<u>What are the main screening programs in paediatrics?</u>

Screening programmes in paediatrics can be divided into 3 main groups: newborn and 6-8 week checks, blood spot tests, and newborn hearing[11].

The newborn and 6-8 week checks, also called the baby checks, are full head to toe examinations of the babies[12]. It is usually carried out by the peadiatric team or midwives in hospitals, and GPs in the community. Its main purpose is to exclude major abnormilities by doing a full examination in a systemic way by starting at the head and working your way down, includes specific checks of the eyes, heart, hips, and testes in boys.

Newborn hearing screening is offered in the first few weeks of life, and in the majority of cases done before mother and baby leave the maternity unit[13]. An automated otocoustic emission test is performed, whereby the babies hearing is screened by assessing echos produced by the cochlea in response to an external sound.

The newborn blood spot test, or the heel prick test, is a blood test taken from a heel prick sample at about 5 days of age[14]. It is used to screen for a number of diseases. In the UK, it looks for sickle cell disease, cystic fibrosis, congenital hyperthyrodism, and some metabolic diseases such as phenylketonuria and medium-chain acyl-CoA dehydrogenase deficiency,

Reflect on how this placement will impact my future career

By spending time on the wards and in clinics throughout my placement, I have been able to see a wide variety of different patients with different problems. This has developed my clinical knowledge in a variety of clinical situations and I think this will be helpful in jobs that may include paediatrics such as emergency medicine and GP, both of which I will be doing in my Fy2. My main learning however, has been in acute management of these cases and I feel I will need more expose to chronic management in the future to getter a better understanding of some of the conditions I have seen.

One of the reasons I chose to do an elective in paediatrics is that it is one of the specialities I have considered pursuing as a career. This placement has given me more exposure to the speciality and has allowed me to explore it more before I will have to finally choose which speciality I would like to go into. I have enjoyed this placement and feel that is I do decide to become a paediatric trainee, the knowledge and experience I have gained from this placement will come in useful.

Whilst on my placement, I was able to attempt to write a literature review. As I have never done this before, I found it quite challenging as there was very little information available on the topic I was writing about. I think that in the future, if I were to attempt to write another, this experience has given me a good foundation on how to go about it.

Ref

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