PAEDIATRICS

Elective in Pune, India

Objectives

1. What is the pattern of infective disease in young children in Pune, India and how does this differ to the UK?
2. How do Vaccination Programmes differ for Children in the UK and India?
3. What is the treatment of Diarrhoeal illness in the UK and India?
4. How is studying and working in India different to the UK?

1. What is the pattern of infective disease in young children in Pune, India and how does this differ to the UK?

India and the UK are very different countries in terms of climate, population and wealth so the pattern of disease varies wildly through all age ranges. The most obvious difference is the increased prevalence of diseases spread through the faeco-oral route of transmission including salmonella, typhoid, hepatitis A and other cause of gastroenteritis. (1) Diarrhoeal illness is by far the most common complaint in a paediatrics clinic in India. On discussion with an Indian paediatrician they talked of a decreased incidence of Otitis Media and an increase in lower respiratory tract infections seen in Indian children, however it was difficult to find any studies to show this or to suggest why, my time in clinics seemed to agree – seeing several lower respiratory tract infections and no ear infections. Conjunctivitis is common due to the practice of applying Kajal (2) (a black cosmetic) to the eyes of young children. Paediatricians encourage patients against this practice (2); however it is clearly still very common.

A big infective disease worry in India is rabies as young children often play with or near stray dogs which are a constant presence in India – especially in the countryside but also in the cities, vaccination post-bites is free but children in India still die from rabies. Diseases such as malaria and tuberculosis are a risk at all ages in India, and polio has not yet been eradicated from India despite the vaccination programme.(1)

Not everything is different however, and in my time I saw a large number of upper respiratory tract infections that were believed to be viral in origin and were treated with supportive advice, normal saline nose drops and paracetamol -- as they often would be in the UK.

2. How do Vaccination Programmes differ for Children in the UK and India?

Vaccination in India and the UK is mostly addressed by government policy. In India certain vaccines are compulsory (and hence free) similarly to how in the UK some are strongly encouraged and free, others are privately available. The timing of vaccines, and which vaccines are available however differs.

In India the following Vaccines are compulsory: (2)

Vaccine	Timing
BCG + OPV	0 – 1 month
DPT + OPV	1.5 months 2.5 months 3.5 months
Hepatitis B	0 months 1 month 6 months 10 years
Measles	6 – 9 months
MMR (Measles, Mumps and Rubella)	15 months
DPT	18 months
Typhoid	2 years 5 years 8 years
DT	5 years
Tetanus Toxoid	10 years 15 years

The following private vaccines are routinely offered by paediatricians: (2)

Vaccine	Timing
Meningococcus & HIB	1.5 months 2.5 months 3.5 months 1.5 yrs
Hepatitis A	After 1 year 1 year after first dose
Varicella Zoster Virus	After 1 year

As well as this the rabies vaccine is routinely given free of charge as needed by children who've been bitten by a dog. (In India, testing the animal is difficult so all children are given a course of rabies vaccines if bitten, and dog bites are very common especially in rural areas)

The NHS offers the following programme to all children (3)

Vaccine	Timing
DTaP/IPV/Hib (Diphtheria, Polio, Tetanus, Pertussis Haemophilus Influenzae B 5 –in-1)	2 months 3 months 4 months 12 months
Pneumococcus	2 months 4 months 12 months
Meningitis C	3 months 4 months 12 months
MMR (Measles, Mumps and Rubella)	12 months 3 years and 4 months
DtaP/IPV (Diphtheria, Polio, Tetanus, Pertussis 4 – in – 1)	3 years and 4 months
HPV	13 years (Female only)
Td/IPV (Tetanus, Diphtheria, Polio)	15 years

Parents can pay for other vaccinations in the UK, however it is very rare to do so and patients would not be offered this by their GP – who run vaccination programmes in the UK. BCG is also offered in some areas with high prevalence at birth in the UK. Hepatitis B is only offered to children who are at a specific high risk – such as those with hepatitis b positive parents. Typhoid and Hepatitis A are advised as travel vaccines, and may be free in some areas for some people. Diphtheria, Tetanus, Polio, Pertussis are all vaccinated against in both the UK and India, however in India the oral polio formulation is used and the frequency of boosters varies. Meningococcus, HIB and Pneumoccocus aren't routinely offered free of charge in India and only 1 dose of MMR and a separate measles vaccine is used earlier, in part due to the higher prevalence of measles in India. Rabies is in theory an eradicated disease in the UK, however if rabies were suspected the vaccine would be given for it along with the immunoglobulin free of charge in an NHS hospital. This would not routinely be needed for a dog bite received in the UK.

3. What is the treatment of diarrhoeal illness in the UK and India?

The mainstay of treatment for diarrhoeal illness in the UK and India is the same – maintaining adequate hydration. This is done in both countries in the same manner by initially encouraging

oral intake typically with a light diet and water. In India `water and plain rice` are often the doctor's recommendation. Supplementation with oral rehydration solution (a mixture of sodium and glucose dissolved in water available as a powder often with flavouring to make it taste better and sometimes with other electrolytes added) can also be tried, this can be bought or prepared yourself, however in both India and the UK it is more common to either buy it (or be given a prescription for it free of charge). IV fluids would be the next step if this isn`t sufficient – or if the child was initially very dehydrated. Crystalloids (such as normal saline) are given in both the UK and India for this purpose, however in part due to the heat and hence additional problems with dehydration they seem to be given earlier in India and in larger quantities. In both countries the routine use of anti-diarrhoea agents such as loperamide is not advised.

The main difference in treatment between the UK and India is the role of antibiotics in the treatment of diarrhoeal illness. Antibiotics are rarely used in the UK, as diarrhoea is commonly caused by a self limiting viral infection. In India it is much more common for it to be due to either a bacterial or amoebic cause hence either oral or IV antibiotics are often started. For bacterial diarrhoea ciprofloxacin is often used and for amoebic diarrhoea metronidazole is favoured. Due to the difficulties that can exist in discriminating between the two these are often both given. These antibiotics, even when given IV can be given on an outpatient basis either if the patient is likely to be in clean surroundings by leaving in an IV cannula, or by repeated injected. In India oral vitamin/mineral supplements are often given as well, especially zinc supplements as zinc deficiency is thought to worsen the diarrhoea, this is also advised in the UK if zinc deficiency is suspected. (4)

4. How is studying and working in India different to the UK?

The India system is a 4 and half year undergraduate course which you can start from 18 followed by a year's "Internship "similar to the English Foundation Programme. This system is structurally very similar to the UK, and according to several older consultants and professor I spoke to is in part based on the British system of the past (when there was only one PRHO year). For the first two years of medical school basic science is taught and then clinical rotations take place – as in the UK. After internship specialisation begins within the students chosen field and a number of options exist as to the exams that you take. It seems less formalised after this but most consultants seem to take an MD for 3 years in their "Postgraduate" phase.

Other differences range from the mundane to the fundamental. On a mundane level, medical students in India are still expected to wear white coats on the wards – a big difference from hospitals in the UK. More fundamentally there seemed to be a stricter hierarchy in the Indian system with students not asking their teachers questions – questions from myself and other foreign students I was with were welcomed and encouraged so I am unable to fully understand

why this is the case. On ward rounds Indian students and interns would recite word-for-word answers out of textbooks in response to consultant questions another concept that was strange for me. Whilst being placed in Pune, I spent some time with American students however and through are discussion it seemed that the hierarchy is stricter in the UK than in the USA, so there is clearly a spectrum throughout the world and it is important to bear in mind how my own habits might seem odd to others.

Otherwise differences varied between hospitals, private hospitals and clinics for a single speciality are very common so teams were often smaller and consultants often worked at multiple hospitals. In general the life of the hospital with rounds, operations and clinics was very similar but the timings seemed less rigid than in the UK and clinics would often start when rounds finished, and operations begin when clinic was over rather than having a slot for each activity.

Personally, I found studying in India a rewarding experience with very friendly junior doctors and consultants who were as interested to grill me on questions about the English healthcare system as I could ask them questions about the Indian system. It was surprising at times how much was held in common between both India and the UK.

References

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