2. It is important to keep in mind that common diseases occur more commonly. *The rare manifestations of a common disorder are more common than the common manifestations of a rare disorder.* When a symptom or a sign is commonly found in a large number of diseases, its absence is more significant than its presence for making a specific diagnosis.
3. Give due credence to the diagnosis made by the previous physician but do not accept it as a gospel truth. You should make your own decision regarding the likely diagnosis based on the sequence of events, course of the disease, leads obtained on investigations and therapeutic response to medications.
4. Efforts should be made to fit the total clinical picture into a single diagnostic entity. This is more often possible in a child as compared to an adult. No diagnosis should be taken for granted, even when it is attributed to a reliable physician or a renowned medical institution, unless it is based on a sound evidence and logic.
5. Avoid masking symptoms and signs by giving drugs to a patient with an evolving disease process. Do not instil mydriatics into the eyes for examination of fundus or give sedatives to a child with head injury because this would compromise the diagnostic utility of pupillary size and level of consciousness. In a case of undiagnosed acute abdomen or head injury, strong analgesics and sedatives should be avoided.
6. Do not delay the surgical diagnostic procedure or a laparotomy whenever it is indicated.
7. The diagnosis of a curable disease should not be overlooked. When clinical picture is compatible both with tuberculosis and Hodgkin's disease, it is preferable to confirm the diagnosis by a lymph node biopsy before starting the treatment.
8. Do not allow the social position of the patient or family to limit your examination. Undress the child completely whenever necessary. Incomplete or cursory examination is the most important cause of diagnostic misadventures.
9. Be confident but don't be biased or dogmatic in your approach. Be humble with due empathy and consideration.
10. The diagnosis may be made in stages and do not hesitate to revise your diagnosis after a period of observation. The appearance of new symptoms and signs, as the disease evolves, may offer additional diagnostic clues. Sir Robert Hutchison, the legendary clinician, has enunciated several don'ts for the diagnosticians (*Box 1.2*).

Box 1.2 Don'ts for diagnosticians

- Don't be too clever
- Don't diagnose rarities
- Don't be in a hurry
- Don't be faddy
- Don't mistake a label for diagnosis
- Don't diagnose two diseases simultaneously
- Don't be too cocksure
- Don't be biased
- Don't hesitate to revise your diagnosis
- Don't be dogmatic
- Don't be arrogant
- Don't ignore your intuition and common sense

THE DIAGNOSTIC POSSIBILITIES

In allopathic system of medicine, most diseases can be classified into eight broad etiologic groups (Table 1.1). Infections account for over 75% of all diseases. In children, protein-calorie malnutrition and deficiency of micronutrients (vitamins and minerals) constitutes the core health problem which makes children susceptible to develop infective disorders which are likely to run a relatively protracted and fulminant course. Overnutrition and obesity are emerging as public health problems among adolescent children belonging to affluent or well-to-do families. Most genetic (inborn errors of metabolism), chromosomal and developmental abnormalities manifest during childhood. The degenerative disorders due to aging are uncommon

2

History Taking

"Methods of physicians are like those of a detective, one seeking to explain the disease, other a crime".

Arthur Conan Doyle

History taking is an art and demands skills of a lawyer, detective and judge. It requires inquisitiveness, persistence and tact. The physician should strive to obtain a lucid chronological story of child's illness with special emphasis on mode of onset, course of events and evolution of disease process. Pediatrics has been likened to veterinary medicine because young children cannot express their symptoms. The symptomatology in young children is often "colored" by the perceptions of "caregivers" or the parents. An intelligent and observant mother can provide satisfactory story of illness but at times may exaggerate facts due to her anxiety and concern. Father spends little time with the child and is generally ill-informed about child's problems. Schoolgoing children can give a fair account of their physical difficulties and should always be encouraged to talk and explain their symptoms.

The physician must exhibit humility, concern and politeness while recording the history. He should be gentle, sympathetic, gracious and kind in his approach but alert and attentive. During history taking, provide positive non-verbal cues to enhance doctor–patient/parent communication. You should lean forward, listen attentively with interest, maintain eye contact, nod appropriately, do not cross your arms or exhibit any sense of superiority or arrogance.

The clinician should maintain a friendly, warm, relaxed, unhurried and informal atmosphere throughout the interaction with the family. Always keep your mind open and receptive—even an experienced physician can learn something new from his patients and their attendants. There is a popular saying, that *"a smart mother or grandmother can make a better diagnosis than a dull doctor"*. Physician must remember that the patient is his honored client and he should relieve the anxiety of the parents and instil confidence in them towards himself during the interview. However, he should not behave like an enthusiastic salesman by dramatizing the illness of the child. It is often forgotten that while you are taking history and assessing the attendant and child, you are also being assessed by them on the basis of your behavior and approach. Your facial expression, tone of the voice, body language and attitude of impatience, arrogance, disbelief and reproach can all affect the outcome of communication between the doctor and patient/parents.

History taking is the beginning of the most crucial doctor–patient (parent) relationship, which is essential for developing mutual trust and confidence. The doctor must know his or her own personality, recognize weaknesses and develop strengths and abilities to improve his or her communication skills. Assess the quality of parent–child and parent–parent relationship while recording history and conducting physical

DEVELOPMENTAL HISTORY

In children suspected to have delayed development or CNS disorder, a detailed developmental history should be asked. Precise timing of social smile, head control, rolling over, sitting, standing, walking, self-feeding and dressing, bladder and bowel control and speech should be enquired. It is useful to compare the development of the index child with other normal siblings. It is easier for the mother to recall differences in the development of index child as compared to other siblings rather than absolute ages for attaining various milestones of development. Identify whether it is a global developmental retardation, or retardation is present in a specific field, e.g. delayed speech in the presence of normal motor development is indicative of deafmutism, while delayed standing and walking with normal social and adaptive development is indicative of protein-energy malnutrition, and congenital dislocation of hips. A detailed assessment of development is discussed in *Chapter 6*.

FAMILY HISTORY

Family pedigree should be enquired and a genetic diagram or family tree of three or four generations constructed as shown in Figure 2.4. Ask information from both the parents and grandparents to identify the nature and mode of inheritance of genetic disorders. The details of symbols used for constructing a pedigree chart are shown in *Box 2.2*. Record whether child is adopted or biological? In an out of family adopted child, it is not possible to ascertain the genetic background.

Consanguinity (blood relationship between parents) refers to kinship of common lineage or ancestory. The offsprings of consanguineous parents are at a greater risk to suffer from certain genetic disorders because of sharing of genes. The closer is the relationship among the parents, greater is the risk of genetic disorder (Table 2.3). The most common consanguineous relationship is first degree cousins, in which the spouses share 1/8 (12.5%) of their genes. According to Ayurveda, marriage within the *Gotra* in Hindu culture is a consanguineous marriage and should be avoided

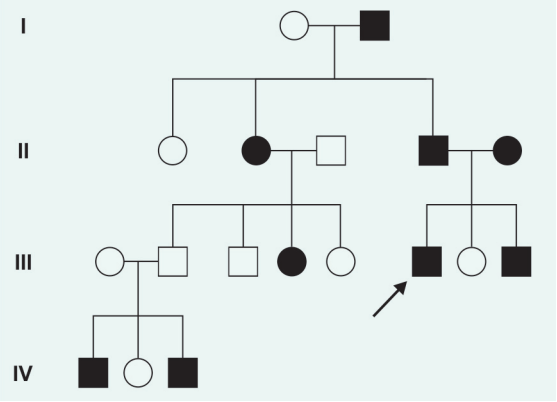

Figure 2.4 Pedigree of four generations of brachydactyly which is inherited as a dominant trait.

to reduce the burden of genetic disorders. First cousin marriages, are common among Muslims and they have high incidence of genetic disorders.

History of contact with possible infectious illnesses should be sought, e.g. viral fever, tuberculosis, leprosy, childhood infectious diseases, infective hepatitis, typhoid fever, scabies, and pyoderma. The index case may be in the family, neighbourhood, creche or school. History of similar ailment in the family members should be asked when genetic, infective or allergic disorder is strongly suspected. In a child with fever of acute onset, history of fever and coryza among family contacts is highly suggestive of viral infection. Ask for history of consanguinity among parents when a genetic disorder is suspected. In case a particular disease is manifesting only among male siblings, it is suggestive of X-linked inheritance, e.g. hemophilia, pseudohypertrophic muscular dystrophy, G-6-PD deficiency, etc.

SOCIAL HISTORY

Socioeconomic status (SES) is an important determinant of the health and well-being of the family. The useful determinants of social status include education and occupation of the family head and his monthly income. A number of scales are available to objectively assess the SES of the family but Kuppuswamy scale is the most popular. The scale is relevant for urban population and takes

TABLE 2.7 Recommended immunization schedule (*contd.*)

Additional Vaccines during Special Situations
IPV (injectable or inactivated polio vaccine) is given to immunocompromised or HIV-positive children. It is being administered routinely as a part of post polio eradication policy.
Meningococcal quadrivalent conjugate vaccine (MCV4 or Menactra) is given after 9 months in two doses 8 weeks apart.
Pneumococcal polysaccharide vaccine, i.e. PPV 23 (chronic lung and heart disease, splenectomy, nephrotic syndrome, immunocompromised child) is given in a single dose or maximum of 2 doses.
Influenza cum swine flu vaccine (bronchial asthma, immunocompromised child). Initially 2 doses are given 4 weeks apart in children between 6 months and 9 years, followed by yearly boosters at the onset of winter. In children above 9 years, single primary dose is recommended.
Anti-rabies vaccine "pre-exposure prophylaxis" is given to high-risk individuals (children having pets, hostelers, postmen, veterinary doctors, wildlife or dog handlers) in 3 primary doses 1.0 mL IM on day 0, 7 and 21 or 28. A booster dose is given after one year and then every 5 years or alternatively a booster dose is taken when titer of antibodies falls below 0.5 iu/mL. In immunized subjects, for post-exposure protection, only two doses are given on days 0 and 3. In these subjects, there is no need to administer rabies immune globulins (RIG).
Cholera vaccine (to control epidemics, visitors to *Kumbh Mela,* Haj pilgrims).
Japanese B encephalitis vaccine (endemic areas, and during epidemics) is administered (0.5 mL 1–3 years, 1.0 mL 3–10 years SC) in 2 primary doses 4 weeks apart to children above one year of age. The need for boosters is not determined. Yellow fever (travelers to South Africa). A single dose of vaccine is given after the age of 6 months. Avoid in pregnant women and infants below 6 months.

[a]Vi capsular polysaccharide *S. typhi* type 2 conjugated to tetanus toxoid (Typbar TCV) can be given during 9–12 months followed by a single booster after 6 months to one year for lifelong protection.
[b]Additional doses of oral polio vaccine given under pulse polio immunization program must be taken by all children below the age of 5 years.
[c]Pregnant women must receive 2 doses of TT or Td at 4 weeks interval. The second dose should be taken at least 4 weeks before delivery.
[d]In older children, single or two primary doses of PCV13 are given.
[e]Live hepatitis A vaccine (Biovac-A) is given in a single or two doses.
[f]Human papillomavirus vaccine for girls. The vaccine is currently being recommended for males as well.

BCG: Bacillus Calmette-Guerin vaccine for TB, HBV: hepatitis B vaccine, DTP: triple antigen containing vaccines against diphtheria, tetanus and pertussis (whooping cough), DTwP (whole cell pertussis), DTap (acellular pertussis), PCV13: 13-valent pneumococcal conjugated vaccine, PPV 23: 23-valent pneumococcal polysaccharide vaccine. OPV: oral polio vaccine, IPV: inactivated polio vaccine, MMR: measles, mumps and rubella vaccine, Tdap: tetanus toxoid with low dose diphtheria and pertussis vaccine, Td: dual vaccine with small dose diphtheria vaccine (5 Lf or 2 i.u.) which can be safely given to adults, TT: tetanus toxoid, Hib: *Haemophilus influenzae* type b, HAV: hepatitis A vaccine

MODERN TRENDS FOR RECORD KEEPING

I. The SOAP Chart

It incorporates baseline conventional data plus system review with detailed list of problems, plan of management for each problem, auditing and computerization of data. It is undergoing modifications and its biggest disadvantage is that it leads to depersonalization.

The acronym of SOAP is used to document problem-oriented medical record where **S** stands for subjective, **O** for objective, **A** for assessment or analysis for differential diagnosis and **P** for plan of action, with the help of a flowchart or algorithm.

Example: Rahul 2 years old boy from Ballabgarh township presented with following complaints: