A new survey by the British Lung Foundation shows the majority of parents in the UK are unaware of the potentially fatal infant winter disease respiratory syncytial virus (RSV). The survey, based on 500 parents with a child under two, found 89% were unaware of the symptoms and possible dangers of RSV (BLF, 2008).

This virus affects nearly all children in the first few years of life. It can cause sniffles and cold-like symptoms but in some infants it can lead to life-threatening lung infections such as bronchiolitis and pneumonia.

The BLF warns that thousands of children are likely to be admitted to hospital during the course of the RSV ‘season’ from mid-October to February. In addition, provisional figures from the Health Protection Agency (2008) suggest a trend of increasing cases in the early part of this year’s season compared with the previous two years.

In view of the lack of awareness of RSV among parents of young infants, it is vital that community nurses raise awareness and remain vigilant for signs that indicate a serious respiratory condition. Those working in acute care will play a vital role in managing infants admitted with severe infections.

**KEY FINDINGS**

The BLF says chest infections caused by RSV are the most common cause of hospital admissions in young children, with around 20,000 aged under one year admitted each year in the UK. However, the foundation’s survey showed that only 9% of parents are aware of this, with almost half (47%) wrongly believing that meningitis is the biggest cause of infant hospital admissions.

While premature babies are at high risk of developing severe respiratory illnesses due to RSV infection, as few as 7% of parents were aware of this. Children with pre-existing lung conditions are also at high risk but only around 10% of parents knew this.

**THE VIRUS**

RSV is a negative-sense, enveloped ribonucleic acid (RNA) virus that causes the formation of giant cells or syncytia. It survives only a few hours in the environment and can be easily destroyed with disinfectant.

The virus is spread via respiratory secretions, from close contact with infected people or contaminated objects. It then enters the body through the mucous membranes of the eyes, mouth or nose, sometimes through inhalation of droplets caused by an infected person sneezing or coughing.

RSV is a common virus that usually causes mild cold-like symptoms. According to the US Centers for Disease Control and Prevention (2008), RSV infection is usually limited to the upper respiratory tract and sometimes accompanied by fever, in most healthy full-term infants. However, in 25–40% of RSV infections, the lower respiratory tract becomes infected and the infant may develop bronchiolitis or pneumonia (CDC, 2008).

RSV is also a factor in sporadic acute bronchitis and mild upper respiratory tract infections in adults. According to the HPA, RSV infections may be overlooked in older children and adults. Several studies have shown that it causes severe respiratory illness in older people and that outbreaks are associated with higher death rates. Peak numbers of RSV infections are reported in December and January every winter, although the size of the peak varies from winter to winter.
At-risk groups

Certain groups of infants are more likely to develop a severe infection than others. These are:

- Premature babies in the first few months of life;
- Babies born very early who required additional oxygen for more than one month after birth;
- Those with congenital heart disease;
- Infants with immune problems;
- Those with cystic fibrosis.

By the age of two, virtually all children in the UK will have developed antibodies to RSV, indicating that they have come into contact with the virus and built up some resistance to it. In spite of this, older children and adults, especially older people, can also contract it.

INCIDENCE

The HPA compiles data on reports of RSV infections submitted to its Centre for Infections from HPA and NHS laboratories in England and Wales on a weekly basis (this data only includes recent specimens and is provisional). In week 44 this year (27 October to 2 November), the HPA received 207 reports of RSV infections, compared with 196 in the same week in 2007 and 43 in 2006. In week 43 this year, there were 183 reports of RSV, compared with 77 and 29 in 2007 and 2006 respectively. This trend is also apparent in the number of reports for earlier weeks in the season (HPA, 2008).

These figures illustrate the importance of vigilance among all healthcare professionals, and of educating parents about the symptoms of RSV, the dangers it poses and those groups most at risk.

SYMPTOMS

RSV produces a variety of symptoms in different areas of the respiratory tract, from the nose to the lungs. In more severe cases it can result in respiratory failure.

Initial symptoms are usually like those of the common cold. These include runny nose, mild fever, sore throat, mild cough, blocked nose and ear infection. After 3–5 days symptoms may worsen as the virus spreads to the lower respiratory tract. They may progress to include breathlessness, rapid breathing, wheezing and a strong cough. In infants with severe infection there can be abnormal retractions of the muscles between the ribs, due to the effort of drawing breath. RSV can also cause acute viral croup (obstruction of the larynx) and viral pneumonia.

The box below contains useful questions that nurses can ask parents in order to establish whether or not a child has a severe RSV infection.

DIAGNOSIS AND TREATMENT

A clinical facts article in Nursing Times outlined a basic approach to diagnosing and managing RSV (NT, 2006). The virus can be identified from fluid obtained from the nose. Auscultation can reveal abnormal lung sounds, while chest X-ray can show pneumonia or bronchiolitis. In addition, arterial blood gas analysis can identify decreased oxygen saturation.

In terms of management, mild infections normally resolve without treatment. More severe infections may require hospital treatment with oxygen therapy, humidified air and hydration using IV fluids. A ventilator may be used to provide respiratory support. In terms of drug treatment, bronchodilators can be administered to open the airways. In very serious cases antiviral drugs such as ribavirin may be tried. Antibiotics are of no benefit in the treatment of RSV.

The BLF (2006) says appropriate paracetamol preparations, such as Calpol, are helpful in reducing temperature and making infants feel comfortable. Passive immunisation has become available via a series of injections, which can be given to high-risk babies in the first few months of life.

ADVICE ON PREVENTION

Nurses should give parents the following advice and information in order to prevent the spread of RSV (NT, 2006; BLF, 2006):

- Avoid contact with anyone who has a cold or fever;
- Kissing an infected baby can spread the infection;
- Environmental tobacco smoke inhalation is linked to RSV exacerbation, so parents who smoke should be given cessation advice;
- Frequent handwashing among family members and carers is important, especially before handling a baby;
- Tissues should be used when coughing or sneezing and disposed of immediately;
- Toys used by children who have symptoms of a cold should be washed regularly;
- If a child is considered to be at high risk, for example one born before 32 weeks’ gestation, parents should seek medical advice.

CONCLUSION

As the BLF survey shows, parental knowledge of RSV is low. Nurses have a vital role to play in raising awareness of this potentially fatal virus, through giving advice on prevention and careful monitoring of cold-like symptoms, so that parents know when to seek medical attention.

FIVE QUESTIONS TO ESTABLISH A SEVERE RSV INFECTION

- Did this illness start with a cold and/or a blocked, runny nose?
- Has your child been feverish or had a temperature?
- Has your child had a strong cough that may have made them vomit?
- Is your child’s breathing very rapid or laboured? This might be accompanied by noisy breathing.
- Is your child feeding normally?