Using computer-aided systems to provide patient information

Hampshire (1998) asserted that this practice would be the norm in the future. Five years on, it is still not the norm.

Involving patients

A combination of factors needs to be incorporated into the way information is delivered to meet differing needs. The better the quality and quantity of information, the greater the chance of patients making informed choices. People with particular disabilities, such as those who have problems with eyesight, could find computer technology inappropriate for learning. For this reason interactive computer learning should be offered alongside other methods of delivering patient information.

Nurses have a role to play in facilitating patient education. Interactive learning can be individualised as patients and nurses communicate. Concerns can be raised and addressed. Nurses and patients can set realistic goals such as planning diets and exercise programmes as they discuss health benefits, and nurses can monitor effectiveness by checking patient understanding. This approach can help patients feel in control, which is important for people with cancer who often experience feelings of loss of control and hopelessness.

An interactive computer system was piloted in the US that focused on women from lower socioeconomic classes with breast cancer. The majority of women receiving the information reported that the support and problem-solving information they received was satisfactory and met their needs (McTavish et al, 1995).

The barriers

Computers are relatively new in the NHS and not all staff may be trained in using them. Issues of cost, maintenance, training and the appropriate person to aid the learner through the process could be problematic. There may also be concerns about security and access problems. Language barriers and issues for patients who have sensory impairment remain difficulties that no study has yet addressed.

Possible solutions

It may be advantageous to provide an in-house local trust intranet service that offers quality and up-to-date patient information. An intranet service would mean patients could only access websites that the health trust had approved. It could be developed and maintained locally, incorporating national policy strategies, protocols and evidence-based research that is user-friendly and without jargon. Updates and changes would be 'real-time' (done on site) and would save time and money.

In the US, Sorrentino et al (2002) piloted an intranet service for patients. On evaluation, patients approved of the system and its content. The service was also cost-effective as updates could be carried out on site.

All the studies reviewed suggest a positive patient education outcome. However, very few of these include people from lower socioeconomic backgrounds and none includes people from ethnic minorities or people with disabilities. Further research is needed.

Protection from potential misuse could be arranged by in-house connection restrictions. Information could include reputable charities such as Cancer Research UK and CancerBACUP. A CD-ROM system could mean information is available in different languages. Both internet and CD-ROM systems allow the user to interact through pictures, symbols and sound. The data viewed could be evidence-based research on subjects such as nutrition, lifestyle and relaxation techniques and could be updated at regular intervals.

Once staff become familiar with the new technology, it is hoped that it can be used to benefit patients. Monitoring patient use of the systems could be achieved by nurses keeping checklists. This could help determine the need for services and its expansion after a number of consistent pilots. To establish whether learning goals have been achieved a patient questionnaire could be used before and after use of the interactive systems. These could help determine whether the systems being used have been successful in enabling individuals to enhance their well-being and would allow concerns and barriers to learning to be identified. Nurses would be in a position to suggest improvements to the systems and/or their roles as enablers.

Future practice

Research to date indicates that computer-aided systems could be an empowering learning tool for patients. Such systems could operate alongside other means of information provision. However, further research is needed in order to identify how the needs of certain people can be met. This research should include diverse ethnic groups and varied socioeconomic groups. Cost implications also need to be considered and a number of pilot studies should be conducted.

**BOX 1. DIFFERENT TYPES OF LEARNING STYLE**

Four learning styles have been identified (Honey and Mumford, 1995)

- Activists
- Theorists
- Reflectors
- Pragmatists
Studies have shown positive results in well-being when patient information needs is not a new concept. Further research is needed to better address the needs of vulnerable groups in society; information must be monitored for quality and to ensure it is up to date; and access and security issues need to be addressed.

BOX 2. ACTION POINTS FOR E-LEARNING

Requirements for computer-aided systems:

- The process should be facilitated by a nurse with teaching and learning training;
- Cost implications should be considered – from staff training to equipment;
- Further research is needed to better address the needs of vulnerable groups in society;
- Information must be monitored for quality and to ensure it is up to date;
- Access and security issues need to be addressed.

AUTHOR Baljinder Kaur, BSc, is community staff nurse, North West Leeds District Nursing Relief Team, Leeds North West Primary Care Trust.


Patient information should be tailored to suit the learning style of each person. Benefits and constrains of the method of information delivery should be taken into consideration. Using computer-aided systems to provide for patients’ information needs is not a new concept. Studies have shown positive results in well-being when such systems are used and nurses act as facilitators.

It is important for the NHS to stay abreast of advances in computer technology, especially as patients are now using the internet for information purposes. Nurses must identify the information needs of patients, families and carers in order to enhance well-being. As patients’ needs differ, nurses must find ways of individualising patient information. It is also important to critically analyse the benefits and constraints of each information strategy.

Policy

Information and support has been identified as being important to patients, families and carers, in helping them to improve well-being during the cancer experience (DoH, 2000). The Calman-Hine Report (DoH, 1995) recommends that the information given to patients and carers should be in a format they can understand. Nurses have an important role to play in providing information and should make sure to develop their own computer literacy skills.

Evaluation of need

It is important to establish how well current information meets patients’ needs. Evidence-based research can then be used to develop new ways of making information accessible to patients and carers.

Nurses can identify individual needs by using nursing models or a ‘Concerns Assessment’ (Edwards and Miller, 2001), which highlights areas of concern, particularly those relating to psychosocial issues. The amount of information that a patient requires could be substantial and it would be difficult to give an up-to-date leaflet for every area of concern to each patient.

The evidence

Several studies have been undertaken to improve understanding of patients’ information needs. Iconomou et al (2002) found that most patients wanted to know as much as possible about chemotherapy regardless of the type of cancer. Similarly, Kushi et al (2001) found that patients wanted to learn about nutrition.

Wilson et al (2000) reported that women from rural areas and lower socioeconomic groups required more information about breast cancer and felt current information was not meeting their need for emotional support. Cortis et al (1996) discovered similar issues when they measured the quantity of information being given to patients.

A study of low-literacy women revealed that patient-education leaflets on breast cancer prevention, detection and treatment were not adequate (Glazer et al, 1996). Another small-scale study by Mohrmann et al (2000) found readability and cultural sensitivity were identified as areas of concern for some women. Both studies concluded that leaflets did not provide adequate information to women who had limited education.

Learning styles

Once the need for information has been identified, it is important for nurses to identify the individual learning style of the patient (Box 1).

For example, leaflets may not be suitable for people who are ‘activists’. Such people learn better through involvement. Patients who are ‘reflectors’ may need to consider the past and present before making decisions and may want to know about others’ experiences. ‘Theorists’ may need to apply theoretical perspectives rather than simply learning to use or do something and may prefer to work independently. ‘Pragmatists’ generally learn from others by using role models.

Interactive learning

Although the idea of interactive learning is not a new concept, it has never really taken off – possibly because of limited research and issues related to cost and quality of information.

An interactive video disk system was piloted in a large UK city, which provided patient information on risks and benefits of cancer treatments. When patients were asked if they would recommend the system to others, 92 per cent said yes (Maslin et al, 1998). However, the study does not make clear which socioeconomic groups were involved. Hampshire (1998) was involved in a pilot study in which community nurses in a deprived inner-city area in the UK used laptops in primary care as an information tool for women with breast cancer. This was the first study of its kind in the UK and it proved to be very successful with patients, as they were able to use the laptops to search for information they specifically required.

REFERENCES


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