Creating a CD-ROM Program for Cancer-Related Patient Education

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Purpose/Objectives: To describe the process of developing a cancer-related patient and family education CD-ROM program and initial evaluation results.

Data Sources: Published research, theory, practice, and personal experience.

Data Synthesis: CD-ROM programs can be far more comprehensive than the booklets and videotapes used more commonly in patient education. Developing CD-ROM programs requires funding, organizational skills, access to content experts, and a team composed of people who have the varied skills required for a finished multimedia product. The time frame for CD-ROM production is often longer than that of other patient-education formats. Published reports and this institution's experience confirm that patients accept this medium. Evaluation to date suggests that CD-ROMs may be more useful to patients and their families than any other single information source.

Conclusions: CD-ROM technology is more expensive than videotapes and booklets, but it allows for greater depth of content and may satisfy a broader range of educational needs than other media. Funding often can be obtained through foundations and with unrestricted educational grants from pharmaceutical companies.

Implications for Nursing: Nurses can lead multidisciplinary teams to produce CD-ROMs for their patient populations. These programs can be used before a patient has a first consultation to introduce a cancer or treatment and anytime during cancer diagnosis and treatment. They can reinforce one-on-one teaching or provide greater depth of content than ever could be provided in individualized teaching sessions. They can facilitate patients' self-directed learning and may allow nurses and doctors to teach on a different level. These programs also can complement patients' Internet searches either by creating a solid foundation for further investigation or by confirming the reliability of information gained through a variety of Internet sources.

Key Points . . .

➤ Multiple studies have found that computer programs increase knowledge and are accepted across educational and socioeconomic levels.

➤ CD-ROM technology can handle vast amounts of information without having it appear overwhelming to the user.

➤ Computers do not intimidate most patients. Older patients and new computer users often are willing to use a computer to get information.

➤ Further research will help to establish the best opportunities to provide these programs to patients and determine how they should be incorporated in a program that covers a patient's educational needs from diagnosis through treatment and beyond.

Salerno, & Huss, 1991; Lo, Lo, Wells, Chard, & Hathaway, 1996) when the programs are compared to standard teaching. This article describes CAL program development using CD-ROMs at a major urban comprehensive cancer center, the barriers encountered, early evaluation results, and future plans.

Advantages of CD-ROM Technology

In the mid-1990s, Memorial Sloan-Kettering Cancer Center (MSKCC) committed to using multimedia for patient education for a variety of reasons. Adult-learning theory strongly supports the premise that adults are self-directed in their learning (Galbraith, 1991; Knowles, 1977; Stipek, 1988). Multimedia is an excellent teaching tool for the independent learner because it can handle large amounts of information. For example, one compact disk can hold hundreds of pages of text or narration, animation, video, and still images. Also, differing learning styles can be accommodated through its use. Illustrations, video clips, and animations help the visual learners, and narration helps both auditory learners and poor readers. Self-pacing fa-

The number of computer-assisted learning (CAL) programs for patient education is increasing, as is the research testifying to their usefulness. Multiple studies have found that computer programs are accepted across educational and socioeconomic levels (Gustafson et al., 1993, 1999; McTavish et al., 1994) and ages (Mercer, Chiriboga, & Sweeney, 1997; Petersen, 1988). Many more have demonstrated a knowledge increase (Consoli et al., 1995; Flood et al., 1996; Mercer et al.; Tibbles, Lewis, Reisine, Rippey, & Donald, 1992) and positive outcomes (Douglas, Mann, & Hodge, 1998; Glasgow et al., 1997; Huss et al., 1992; Huss,

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