Patient education affects the overall outcome of every health care encounter. When compared with other health care professionals, nurses are experts in delivering patient education. Patient education is a core component of nursing education and training. Nursing care involves using a comprehensive approach when treating patients and their families. In today’s world the demands on health care professionals are growing, and nurses are often restricted by time constraints that limit the available time for necessary patient education.

When providing patient education, nurses must adapt to the needs of the learner. Common myths exist regarding older client learning abilities. The first common myth is that older adults are resistant to change. The second myth is that older adults are unable to retain new material. The last myth is that older adults defer to younger family members, and therefore the family should be the main focus in the teaching interaction (Miller, 2004). Nurses should acknowledge that these myths exist; however, when providing patient education a nurse must look at the patient as an individual. Learners of all age groups have various learning needs and capabilities. Effective client teaching with older adults can be accomplished by understanding the learning process in older adults, sensory changes that affect learning, and how teaching strategies can be adapted to meet the needs of older clients.

Limited research exists on the learning styles and teaching strategies of the older adult. The elderly population is growing. Currently, 35.9 million people in the United States are age 65 or older; by 2030, more than 72 million individuals are projected to be over age 65 (Wan, Sengupta, Velkoff, & DeBarros, 2005). Therefore, more extensive research in these areas is needed to ensure effective patient education.

**Acquisition of New Information by Older Adults**

Learning styles and effective teaching strategies for older adults have not been extensively researched by nurses, although the principles of adult learning, as explained by Knowles (1984), have been used by nurses teaching elders (Best, 2001). Best iden-
...tified that Knowles’ theory of adults as self-directed learners applies to older, as well as younger, adults. Readiness to learn and motivation to master new information are critical factors in effective learning by older adults. Therefore, desire to learn is a precursor to effective learning by elders, and care should be taken to demonstrate the relationship between the elder’s motivation for learning and the phenomenon of knowledge acquisition.

A summary of the available research yields four generalizations (Poon, 2001):

• Older adults tend to learn new material more slowly than younger adults do.
• Age-related changes are not the only factor involved in learning effectiveness; individual differences in learning ability are also important.
• Instruction and practice can improve the elder’s learning performance.
• Older adults learn more effectively when the information is related to things they already know.

Freund (1996) phrased it more poetically, “You can teach an old dog new tricks; it just might take a little longer” (p. 16). Poon (2001) further stated that the research literature demonstrates that learning by older adults may be affected by environmental, medical, cognitive, and psychological factors.

Intelligence is not a singular phenomenon; rather there are at least two pertinent aspects. Fluid intelligence, or reasoning and processing, has been viewed as the aptitude for learning (Beier & Ackerman, 2005). As individuals age, they become somewhat less adept as learners, with learning ability beginning to taper off at about age 20 (Beier & Ackerman, 2005). This deterioration in learning skill, however, must be considered in light of crystallized intelligence, or the knowledge gained through previous education and experience. The older adult may have a profound fund of information that can compensate for an age-related decrease in fluid intelligence. Crystallized intelligence remains fairly stable across the lifespan. Hence, Poon’s (2001) summary of the research literature confirmed the salience of both fluid and crystallized intelligence to learning ability in the older adult.

Generalizations, however, do not tell the whole story, and do not help nurses tailor teaching styles to learner need. A review of some of the more recent literature on learning and older adults will focus more specifically on content, technique, and learner characteristics of older adults.

Learning Styles and Abilities Of Older Adults

It is important to remember that most older adults do not have dementia and successfully make all decisions needed to function in the everyday world. Only 5% of elders have dementing illnesses, although the percentage increases to nearly 30% in those over age 85 (Federal Interagency Forum on Age-Related Statistics, 2004). Many studies on the relationship between age and learning ability have focused on standard measures such as ability to learn lists of new words, or paired associations, skills that may not be applicable in daily functioning (Beier & Ackerman, 2005; Chasseigne, Grau, Mullet, & Cama, 1999). Higher levels of cortisol, a hormone associated with stress, have been correlated with poorer short-term memory (Wright, Kunz-Elbrecht, Iliffe, Foeze, & Steptoe, 2005), and many learning situations may be affected unintentionally.

Beier and Ackerman (2005) studied the learning abilities of older adults in a setting that reproduced “real world” conditions. In other words, they included both a structured video lecture and self-directed homework, and examined a usual learning situation, rather than the “best” learning that is often studied. Adults from age 18 to 65, and of diverse racial and ethnic backgrounds, were taught cardiovascular health information using a video, PowerPoint® presentation, and packet of articles that participants could take home. The study demonstrated that older adults did better with the self-directed homework packet in acquiring knowledge of cardiovascular health than they did with the video and PowerPoint. These results must be used with caution as only adults up to age 65 were included in the study. Masunaga (1998) and Roberson (2005) also found that older adults are better at self-paced and self-directed learning than at instructor-direct-
ed learning.

Elders are better at understanding the meaning, rather than the details, of written materials (Radvansky, Zwaan, Curied, & Copeland, 2001). Finucane, Mertz, Slavic, and Scholze Schmidt (2005) compared 169 older adults (ages 65 to 94 years) with 171 younger adults (19 to 50 years). Written information was presented to both groups on simple and complex health-related issues, such as health maintenance organization choices and nutrition. Older adults made more comprehension errors than younger adults did, on both simple and complex information. Differences between the younger and older group were based on poorer short-term memory and increased time needed to process information in the older adults. The authors noted, however, that the older group did not do as poorly on complex information as expected, indicating that older...
adults probably compensate for changes they experience in short-term memory and processing speed. Consistent with Beier and Ackerman’s (2005) findings, previous familiarity with the information may affect comprehension. The tendency of older adults to deliberate over information may also improve comprehension. When information must be presented as a lecture or other verbal presentation, older adults’ learning is enhanced by taking notes (McGuire, Morian, Codding, & Myer, 2000), so the availability of paper and pencil is recommended.

Beier and Ackerman (2005) hypothesized that some learning accomplished by older adults is mediated by familiarity with the topic (for example, older adults tended to learn better when they had some experience or background with the topic). These results were also obtained by Jones et al. (2005). Thus, crystallized intelligence may be an important asset in learning. Considering this study in light of patient education might lead the nurse to consider using handouts and articles that the elder could take home to study, as well as relating the topic to something the elder is already familiar with. Taking the time to ask about educational and occupational history may provide insight into how to link new information to the older adult’s previous experience, thereby increasing the likelihood of effective learning.

One of the variables in acquiring new knowledge is the uncertainty involved in the strength of the relationship between a cue (information) and a criterion (the outcome to be understood). For example, information about keeping an indwelling catheter clean is a cue, whereas a subsequent urinary tract infection is a criterion. Learners constantly make judgments based on how strongly the cue is related to the criterion. Individuals tend not to master new information as well when the connection between cue and criterion is very uncertain (Chasseigne et al., 1999). This holds true for both younger and older adults; both groups learn more effectively when the criterion is very likely given in the presence of the cue. Older adults, however, do markedly worse than younger adults when the relationship between cue and criterion are inverse. Although the authors did not discuss the significance of this, it seems reasonable to infer that teaching for older adults should emphasize direct relationships, such as maintaining healthy skin with skin care, rather than preventing skin breakdown with skin care.

Urologic nurses frequently are tasked with teaching psychomotor skills, such as clean intermittent catheterization, to older adults. Rodrigue, Kennedy, and Raz (2005) addressed this issue in a longitudinal study of adults, aged 23 to 77 years. A perceptual motor test, mirror tracing, was administered to individuals on 3 days, and then repeated for another 3 days in 5 years. Older adults took more time to complete the task at both measurements, although they were able to accurately trace faster on days 2 and 3 in both time periods. Furthermore, older adults differed more from younger adults on the 5-year followup than they did in the initial testing period. Rodrigue et al. (2005) noted substantial variability in speed of tracing within age groups, but also noted that older adults achieved a low error rate with practice as younger adults did, and this accuracy was maintained over the 5-year period. It did take longer for older adults to gain both accuracy and speed at the 5-year followup, demonstrating an aging effect in individuals towards less speed and less accuracy in skill performance. The older adults, however, did learn and perform the skill accurately although they required more practice, and were slower in skill performance. The nurse, then, may be heartened with the knowledge that the older client will be able to master psychomotor skills, but should plan extra practice time, spread over a period of days.

Effective Teaching Strategies For Older Adults

Effectively teaching an older adult requires the nurse to consider the skills and background of the individual older, generalities of learning in this population, and the circumstances of the teaching session.

Strong communication skills and attention to the clinical environment are essential when interacting with older individuals. Numerous factors can adversely affect the outcome of an interaction: possible barriers include sensory impairments, medication effects, ageist attitudes on the part of the provider, sociocultural factors, and a noisy or chaotic environment (Scanland & Bradway, in press).

Consequences of visual changes associated with aging include presbyopia (the decreased ability to focus on near objects), an increased sensitivity to glare, altered color perception, and slower processing of visual information (Miller, 2004). Blue, green, and lavender are particularly difficult for older adults to differentiate from each other (Griffiths, Johnson, Piper, & Langdon, 2004), so these colors should not be used in preparing teaching materials. As much as possible, remove any physical barriers (for example, equipment tables) that may further compromise the field of vision. Hallway, bathroom, and examination room lighting should minimize glare while remaining bright enough to allow older adults to appropriately navigate the office setting. Teaching materials should be prepared in different-sized fonts so that visual impairments can be accommodated; a font size of 18 point might be a good place...
Case Study

A 76-year-old woman has been diagnosed with stress urinary incontinence (UI). Her past health history includes hypertension, osteoarthritis (OA), and chronic obstructive pulmonary disease. She takes a number of prescription and over-the-counter (OTC) medications; she and her primary provider prefer that she not take any additional medications for the UI. She is not an ideal surgical candidate. The urologic nurse practitioner (NP) suggests the patient begin pelvic floor muscle exercises (PFME). The patient receives verbal instructions in PFME and is scheduled for a return visit in 2 weeks.

The patient is very motivated, but finds that she is having difficulty identifying the correct muscles for PFME. At followup she is re-instructed in PFME using biofeedback techniques. This visit confirms that the patient has limited pelvic floor muscle strength and endurance, and significant difficulty with pelvic floor muscle isolation. Her finances and insurance limit her ability to obtain home biofeedback; her functional status limits her ability to come into the office for regular biofeedback sessions. The NP feels vaginal cones may provide a simple sensory aid for performing PFME. The patient, on the other hand, is somewhat concerned because she “has been a widow for more than 20 years,” is not sexually active, never used tampons, and is not sure she likes the idea of “inserting something ‘down there.’”

Comments/Teaching Points Regarding Case Study

A course of PFME is an appropriate first-line therapy for UI; however, some women are unsuccessful with verbal and written instructions. Vaginal cones are an inexpensive, home-based method for helping women train their pelvic floor muscles (Herbison, Plevnick, & Mantle, 2005). Vaginal cones are sold OTC and can be ordered directly from the manufacturer; no prescription is necessary. The devices are shaped like a tampon and include one cone shell with five graduated weights (20-70 grams). Patients are instructed to insert the cone into the vagina and follow a program for gradually increasing cone weight to strengthen and tone pelvic floor muscles.

In this case study, suggested modifications to the “typical” vaginal cones instructions might include:

1. Have the patient obtain the cones, but suggest she not try to use them until she comes into the office for a teaching session with the NP. This may help alleviate some of her fears and give her in-person feedback about techniques for inserting, removing, cleaning, and caring for the cones.
2. Determine whether the manufacturer’s instructions are in a large enough font for the patient to read. If not, make a copy in a larger font that she can take home with her. Include office contact information and instruct the patient to call with any questions.
3. Consider beginning the teaching session with a review of female anatomy using diagrams or models as necessary.
4. Assess the patient’s dexterity. This is essential as conditions such as OA of the fingers or hands may impair the patient’s ability to use the cones properly. For example, it may be more difficult for her to remove and replace the different weights or reach to the vagina for cone insertion. Suggest alternate methods for insertion and removal as necessary.
5. The patient may need to use a water-soluble lubricant to ease cone insertion. Demonstrate and observe a return demonstration regarding lubricant use. Provide the patient with specific verbal and written instructions regarding the type of lubricant to purchase and frequency of use.
6. Schedule the patient for a return visit to review any questions and assess compliance and effectiveness of using vaginal cones to enhance PFME.
on learning ability (Wright et al., 2005). If possible, schedule longer new-patient and followup visits for older patients. Because older adults often have many years of a past health history to review, a health status questionnaire that is completed prior to an initial office visit may be useful. This can be timesaving; however, it remains essential that the provider closely review the questionnaire and ask additional questions as necessary. Symptoms related to common non-urologic illnesses may impact the urologic chief complaint and, in turn, increase the amount of time necessary to identify the primary reason for the visit. For example, an exacerbation of chronic heart failure may result in nocturia as well as both day and nighttime urinary incontinence. Thus, it becomes essential that the provider take the extra time to discern if urologic complaints are caused by active or acute exacerbation of such chronic illness.

There is variability in how much information older adults want and use when it comes to managing health-related concerns. Griffiths et al. (2004) found that older adults could reliably adhere to a medication regime, even without understanding the purpose of the medications. On the other hand, Masunaga’s (1998) experience with Elderhostel participants (generally characterized by their desire to “gain new knowledge” [p. 10] and higher-than-average levels of formal education) demonstrated that these older adults wanted in-depth knowledge that was well-organized and interactive. The older adults in Masunaga’s sample remarked positively on the enthusiasm of the instructor, organization of the presentation, examples and explanation of concepts, and a variety of teaching techniques as helpful. Nearly two-thirds of the group preferred a lecture with discussion format. Challenges, through quizzes and questioning, were appreciated.

Older adults must practice a new skill, or rehearse new information, in order to learn it (Fenter, 2002). Learning is even more effective if the elder can practice as the teaching is going on, which is consistent with the remarks made by the elders in Masunaga’s (1998) sample. Elders retain skills better if several related skills are practiced within a single session, than if just one skill is practiced. In other words, rather than only teaching the application of urostomy appliance during a session, the nurse would augment learning by including practice on sanitation of the appliance and preparation of the skin. The use of cues and feedback will further assist the older adult to remember, such as with a card that outlines major steps to take in urostomy care. The older adult must have the opportunity to actively participate, through questioning and trials.

### Implications for Nursing Practice

Teaching older adults and their families may be a time-consuming task, but one that will reap rewards down the road. Keeping several principles in mind will ensure that teaching is effective, and that learning is accurate and long term. Critical points are highlighted in Table 1.

<table>
<thead>
<tr>
<th>Teaching Tips with Older Adult Clients</th>
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<tbody>
<tr>
<td>1. Decide what is necessary to know, and what is nice to know.</td>
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<tr>
<td>2. Prepare a teaching plan for the “necessary to know,” but be ready to include the “nice to know” if the client asks.</td>
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<td>3. Assess the client’s knowledge base and previous experience.</td>
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<td>4. Set aside enough time, both within individual sessions and in sessions across time.</td>
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<tr>
<td>5. Build in lots of practice time.</td>
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<tr>
<td>6. Encourage feedback, and be guided by the client.</td>
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<td>7. Set the stage properly:</td>
</tr>
<tr>
<td>a. Good light</td>
</tr>
<tr>
<td>b. Quiet</td>
</tr>
<tr>
<td>c. Comfort</td>
</tr>
<tr>
<td>8. Have handouts ready, and check their appropriateness for:</td>
</tr>
<tr>
<td>a. Reading level commensurate with client’s skills</td>
</tr>
<tr>
<td>b. Contrasting colors</td>
</tr>
<tr>
<td>c. Readable font</td>
</tr>
<tr>
<td>d. Low glare</td>
</tr>
<tr>
<td>9. Provide note-taking supplies</td>
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<tr>
<td>10. Be enthusiastic!</td>
</tr>
<tr>
<td>11. Be patient – and remind the client to be as well.</td>
</tr>
<tr>
<td>12. Schedule visits that are close enough to each other to facilitate learning. If possible, schedule several appointments within a few days for reinforcement and practice.</td>
</tr>
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</table>

Take the time to get to know the older client, what she/he wants to know and already knows. Formal education is a helpful, if imperfect, marker of crystallized intelligence. Asking the client about the highest level of education completed will provide some clues for how to plan the content and teaching strategies. Whenever possible, include written materials or pictures for the older adult to take home, models or diagrams to illustrate important points during the teaching session, and frequently offer opportunities for the client to ask questions or give feedback. Avoid glossy, laminated photos that produce glare, and do not use green, blue, and shades of lavender in the same print medium. Also be wary of pre-produced “patient education” handouts that
may be written at an inappropriate reading level, or in a font that is too small to be seen. Take cues from the client, and be ready to trim or expand information as necessary. Some elders may ask very tough questions, and it is better to be over-prepared than unable to address the interests and concerns of the older adult. It will also be helpful to be prepared to teach essential self-care information or skills, but with fuller explanations at the ready. Make sure that paper and pencil are available for note taking.

When selecting information to be presented, recall that older adults learn more effectively when the cue and stimulus are more strongly related to each other. Rare or unusual symptoms or complications should not be presented for most clients, and material should be presented in positive relationships (for example, if you do x, y may occur, rather than negative ones [if you don’t do x, z will occur]). Older adults are more self-directed as learners, and whenever possible, allow the client to set the timing for followup sessions. Practice is important, both for skills and knowledge, and the older adult should be encouraged that repetition over the next few days and weeks will help the learning process. Also remember that stress is inversely related to effective learning in older adults, so beware of “hard sell,” rushed, or high-pressure tactics that may detract from the teaching plan.

Set the stage for the learning session. Good lighting, a clear and comfortable workspace, and quiet, nondistracting acoustics will enhance the learning effectiveness of the older adult. Resist the temptation to sit next to the client; rather sit where your face is clearly visible. Speak clearly, in a slightly louder voice than usual, but don’t shout or over-energize.

Time taken to prepare will be well worth the benefits of increased client knowledge and self-care. Hours of frustrating phone calls or urgent visits may be prevented by helping the older adult gain the knowledge and skills needed to be an active participant in the health care plan.

References

Additional Readings

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