



# PRESERVED IMPLICIT MEMORY IN DEMENTIA CARE

A Potential Model for Care

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In the next decade, millions of persons with dementia will need nursing care, which will challenge our current approaches to care. This discussion explains a new nursing practice approach for the care of persons living with dementia. Memory research now demonstrates that some forms of memories are preserved by persons with dementia, and these memories are referred to as implicit memories (IM). This discussion briefly explains what implicit memories are and how they can improve nursing's approach to care of persons with dementia. (For original manuscript, see Preserved Implicit Memory (PIM) Model for Dementia Care (Harrison, Son, Kim, Whall, 2007).

## ***Preserved Implicit Memory (PIM)***

What are implicit memories? Implicit memories are the unconscious effect of previous experience on subsequent tasks performance. Have you ever recognized and driven down a familiar road, knowing where to turn without consciously thinking about it? This is a form of implicit memory (IM). The memory is not recalled or "declared" consciously<sup>1</sup> but is instead demonstrated in completion of a task.

Clinically, IM is said to be demonstrated by improved speed or accuracy when recognizing an object<sup>11</sup> (priming) or completing a task (motor skill learning). Thus tasks that require one to recognize an object and do something with the object are tasks that may be preserved in implicit memory. For persons with dementia, preserved implicit memories may include tasks such as dressing, bathing, brushing teeth which are vital to remaining independent.

### *Translating research into practice*

Implicit memory research has not yet been translated into practice but has great potential for improving the lives of persons with dementia. This next section describes the preserved implicit memory (PIM) model and how it can be applied in dementia care environments and nursing practice.

Each person has unique lifetime experiences that influence what their implicit memories are. Life experiences including cohort influences, and societal effects, all influence one's implicit memories. Thus dementia care environments that utilize antique furnishing or play music from the 1940's are encouraging the activation of PIM for most residents that share memories of US social life in the 1930–40's. Implicit memories are strengthened by cultural and religious objects and experiences. Nursing homes and environments that display religious objects and hold services that are consistent with residents' early life are improving function because residents can participate without effortful conscious recall.

Another feature known to improve memory is “age of acquisition,” the age at which an object or task was originally learned. Studies demonstrate that people name pictures of objects more quickly when those objects were learned in younger years compared to those learned later in life <sup>21,37</sup>. Environments that include music, objects, and art from one's younger life will access these preserved implicit memories. Indeed, research demonstrates that persons in “home-like” dementia en-

vironments demonstrate fewer declines in activities of daily living than those in traditional institutional settings.<sup>40</sup> The PIM model of care provides the evidence based framework to explain these findings.

Nursing practice can be improved through purposeful use of preserved implicit memories. Selecting dinnerware or eating utensils that are familiar to persons with dementia may preserve the implicit memories needed for independently eating a meal because their use requires no new memory or conscious effort. Activation of familiar preserved implicit memories reduces the cognitive effort required to “understand” and use new objects. For example, the design of telephones has changed significantly in the past thirty years. Use of a rotary dial telephone may preserve this motor skill for persons with dementia until a later stage of dementia.

Research demonstrates that practice can sustain some motor skills for dementia patients in the later stage. When skills are practiced under constant conditions (the same steps each time), the skill is often preserved even though it may be done more slowly. This finding suggests that the nursing approach include clear protocols for everyday tasks such as dressing and eating that include consistent and repetitive practice in these tasks.

For example, the task of “brushing teeth” illustrates how nursing practice can include both priming and motor skill practice to preserve this skill. Mr. H, with severe dementia, lives in an assisted living facility. Nurses assess his PIM through interviews with his wife and find that he indeed learned to brush his teeth as a young child, used a natural toothbrush (never used an electronic toothbrush), preferred a mint flavored toothpaste, and often listened to the radio morning news while brushing his teeth in the bathroom. So the nurses set up his bathroom with many of his unique PIM features (natural toothbrush, radio, mint toothpaste) and have him complete the steps needed to brush his teeth in the same order each day. The nursing approach has included perceptual priming and strengthening the motor skill memory to pre-

serve his function for brushing his teeth. Although the exact “dose” (frequency and duration) of these interventions remains undetermined, one study with dementia patients found that priming required three months (not one month) to be effective<sup>36</sup>.

There are limitations to the PIM model. For example, priming can be perceptual (color, shape) or conceptual (similar meanings), but only perceptual priming is preserved in dementia. Motor skills are eventually lost in the severe stage of dementia. Only those objects and skills learned earlier in life can be preserved, thus function in skills such as computer use may not be preserved. However, this approach to nursing care of persons with dementia is a positive approach and one that focuses on finding those memories that are preserved and using them in interventions that sustain patients’ everyday function. Millions of dementia patients can benefit from this new approach to care aimed at preserving implicit memories and sustaining function.

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