How best to respond to affective, behavioral, and cognitive symptoms of individuals with dementia remains one of those “thorny issues” that plague practitioners who work with older adults (Morley et al., 2014). After decades of research showing their limited effectiveness and considerable adverse effects, the use of antipsychotic medications are recommended for treatment only when symptoms are severe, dangerous, and/or cause significant distress to the patient (Reus et al., 2016). Every major geropsychiatric organization has supported appropriate person-centered nonpharmacological interventions as the first line of treatment, and the Centers for Medicare & Medicaid Services (2016) now require that antipsychotic medications be reduced and dementia care be person-centered in our nation’s nursing homes (American Geriatrics Society & American Association for Geriatric Psychiatry, 2003). All of this is occurring at a time when rigor and transparency are assuming more attention in the scientific community, and when individuals with dementia are demanding that health care move away from a deficit-focused model of care (Dementia Alliance International, 2016). Implementation of these recommendations and regulations has been slow. Health care providers (e.g., nurses, physicians) not only lack knowledge of and experience with nonpharmacological interventions, they also believe in the efficacy of antipsychotic agents (Lemay et al., 2013). There are a number of reasons for using antipsychotic agents rather than nonpharmacological options, including feasibility issues of time and cost when implementing some of these interventions (Seitz et al., 2012). But there are other issues from the human science side of the problem.

One problem is the often-cited lack of evidence for the efficacy of nonpharmacological interventions that some (Brasure et al., 2016), but not all (Livingston et al., 2014), systematic reviews report. We could take issue with the methodology used in the reviews that lead to unfavorable conclusions about nonpharmacological interventions, but that concern is better covered in an excellent article by Cohen-Mansfield et al. (2014). Instead, we see an opportunity to bring clarity to the field by capitalizing on the confluence of socio-political factors that are currently influencing scientific research in general and dementia care in particular. We propose that investigators can improve the rigor and endorsement of their work in three critical areas by: (a) identifying clinical targets and measuring outcomes with more precision; (b) specifying the scientific premise that supports the mechanisms by which nonpharmacological interventions produce positive outcomes; and (c) changing the terminology used to describe the unique focus.

IDENTIFYING CLINICAL TARGETS AND MEASURING OUTCOMES

The term clinical target is used to specify the central focus of the intervention (i.e., the individual, caregiver, environment, or health care system). Outcomes refer to the specific aspects of the individual that are influenced or changed by the intervention. In this case, we are referring to the affective, behavioral, or cognitive symptoms of the individual with dementia. A key challenge in conducting experimental research on these symptoms is the need to capture the full range and complexity of outcomes addressed by the intervention. Empirically based theories are indispensable in this regard because they identify potential targets (e.g., the person, caregiving dyad, environment) and what needs to be operationally defined in our research. What can’t be adequately identified, can’t be accurately detected.

Going beyond theory, family members, formal caregivers, and those with dementia provide important eco-
logical insight into choosing meaningful and achievable outcomes. Individuals close to the experience of dementia have important insights into contextual factors that impact interventions and the ways in which they vary, such as the appropriate timeframe for outcome measurement and changes to treatment response in light of progressive decline. For example, the timeframe for outcome measurement for individuals with greatly limited ability to form new memories may be “in the moment” of the intervention. Researchers need to be thoughtful about outcome selection, as well as the timing of measuring outcomes so that results are clinically meaningful. The involvement of key stakeholders in the selection of appropriate outcomes reflects the principles of participatory research and person-centered care, and has been supported by grassroots organizations that advocate for the human rights of individuals with dementia (Dementia Alliance International, 2016).

Nonpharmacological interventions go beyond reducing symptoms associated with dementia. An intervention such as therapeutic activity may not only reduce agitation but promote social engagement. Investigators need to capture the added value of these interventions by including measures of relevant strength-based outcomes, such as well-being, engagement, and function. Specifying and measuring outcomes that are sensitive to change in quality of life indicators and have ecological validity can improve effect sizes in studies, promote uptake to practice and policy, and reduce costs by fostering improved performance and resource use (Plantinga et al., 2007).

SPECIFYING MECHANISMS OF ACTION AND MODERATORS OF TREATMENT EFFECT

Demonstrating positive treatment effects is a principal concern in all intervention science, yet this knowledge does not provide a wholly sufficient evidence base upon which to inform and change practice. Identifying and characterizing the mediators and moderators of treatment effects and the processes through which clinical changes occur is essential, as this provides clinicians with a more defined understanding of when certain approaches are likely to be successful and for which individuals. Investigating mechanisms of action is a necessary prerequisite to developing a more sophisticated understanding of the complex interface among identified symptoms, potential active components, processes of change, and desired outcomes. Again, empirically based theories are important and current science acknowledges the biological, social, environmental, personal, and genetic determinants of symptoms associated with dementia.

Understanding the process by which a treatment or approach functions to produce an effect is a challenging task, bearing in mind that “mediation does not equal mechanism” (Nezu & Nezu, 2007, p. 212). Criteria for establishing mechanisms of action are more stringent and include demonstrating strong associations among intervention, proposed mechanism, and outcome as well as various features of that association including the specificity, gradient, plausibility, and temporal precedence of proposed mechanisms to outcomes (Nezu & Nezu, 2007). Approaches that can advance the state of the science include component analysis, mediation analyses, and study designs that measure proposed mechanisms and outcomes, thus establishing temporal precedence of potential mechanisms.

Consistent identification of potential mechanisms of action influencing clinical targets is a necessary first step in challenging the mistaken assumption that all nonpharmacological interventions target the same underlying problems by virtue of addressing similar outcomes. This mistaken assumption is frequently illustrated by inconsistent findings within and across studies of comparable nonpharmacological interventions that seemingly address equivalent clinical targets and outcomes—but yield different findings. What we have been labeling as “nonpharmacological interventions” may be particularly well-suited to achieving a broader range of outcomes when they are implemented in an individualized fashion, taking into account modifiers of effectiveness and mechanisms of action. Dementia presents a number of notable contextual factors that may contribute to these variations and should be empirically explored, such as variations in caregiving support systems and vast heterogeneity in cognitive abilities. Again, individuals closer to the experience of dementia may have important insights into individual moderators of treatment effect that might influence response to a particular intervention.

Greater attention to measuring and explaining these variations is needed to support clinicians in more precisely targeting their approaches not only by symptom, but also by potential mechanisms, thus enabling clinicians to more proactively address potential unmet needs. Three different interventions for individuals with dementia are used below to demonstrate a potential system of categorization using clear explication of clinical outcomes and relevant mechanisms of action and moderators of treatment effect.

The MOUTh intervention combines the best oral hygiene practices with care-resistant behavior reduction techniques and is used during the provision of mouth care
This intervention could be categorized as:

- Clinical target: caregiver interaction with individual with dementia;
- Mechanisms of action: threat reduction; and
- Outcomes: decreased resistive behavior during oral hygiene care, and improved oral hygiene. Perception of threat can be measured through biomarkers, such as salivary cortisol, or self-report. Potential moderators of intervention effect are functional status and presence or absence of paranoia.

Cognitive training interventions benefit function by modifying the use of reserve neural networks used for mental activity (Herrera, Chambon, Michel, Paban, & Alescio-Lautier, 2012). This intervention could be categorized as:

- Clinical target: cognitive ability of individual with dementia;
- Mechanisms of action: neuroplasticity; and
- Outcomes: improved memory and executive function, and activities of daily living. Neuroplasticity could be measured through neuroimaging or neurocognitive testing. Severity of dementia may moderate the effectiveness of this intervention.

A third example comes from bright light therapy (Haffmans, Sival, Lucius, Cats, & Van Gelder, 2001). Bright light therapy acts by improving the synchronization of circadian rhythm. Bright light therapy could be categorized as:

- Clinical target: environmental lighting;
- Mechanisms of action: circadian rhythm synchronization; and
- Outcomes: decreased agitation late in the day, daytime sleepiness, and poor nighttime sleep and improved engagement during the day. Multiple biomarkers can be used to measure changes in circadian rhythm, such as core body temperature or actigraphy. Bright light therapy may be differentially effective for individuals with abnormal melatonin levels or those taking medications that influence sleep.

A ROSE BY ANOTHER NAME: CHANGING THE TERM “NONPHARMACOLOGICAL INTERVENTION”

Categorization is in the evolutionary hard-wiring of brains of humans and other animals (Low et al., 2003; Tomasello, 2009). The phrase nonpharmacological interventions is terminology based on what the intervention is not. Wording interventions according to what they are not actually work against our tendency to understand our world within groupings. In a recent editorial, Specht and Beattie (2016) noted that the designation “nonpharmacological” does not signify much about the interventions, but connotes a medical model of treatment.

Some advocacy groups, including the Dementia Action Alliance and Dementia Alliance International, have suggested that the term approach be used as it connotes a more humanistic perspective to care. In a recent article, Zeisel, Reisberg, Whitehouse, Woods, and Verheul (2016) proposed the term ecopsychological interventions to refer to these nonpharmacological interventions. The term relates to the nature of the interventions themselves and not their outcomes. It is not clear if this term or others adequately capture the essence of what constitutes nonpharmacological interventions, but we believe they are a step in the right direction and offer a positive and distinctive nomenclature. The growing consensus for using language that sets nonpharmacological interventions apart from medical treatments, but also views them as complementary to those treatments, may improve acceptance, funding, and uptake.

CONCLUSION

Scientists, individuals with dementia, and advocacy groups see a need to go beyond the status quo in dementia care to include quality of life outcomes, such as achieving greater pleasure in daily activities, in addition to the more deficit-focused perspective. What we have been labeling as “nonpharmacological interventions” may be particularly well-suited to achieving a broader range of outcomes when they are implemented in an individualized fashion, taking into account modifiers of effectiveness and mechanisms of action as described above. We are reminded by individuals with dementia, however, that words matter; what we label these interventions is not necessarily a rose by another name (Dementia Action Alliance, 2015).

The suggestions we have made for rewording interventions according to clinical targets and mechanisms and moderators of action may begin the process of building a taxonomy of these strategies that are evidence-based and embraced by scientists and the communities we serve alike. Research in Gerontological Nursing author guidelines contain recent updates regarding specifying targets, descriptions of interventions, mechanisms of action, and outcomes in the abstract and narrative portions of manuscripts reporting intervention studies.

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