What You Cannot See Can Still Kill You: On the Use of Latent Constructs

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Nursing research relies heavily on the use of latent constructs to describe and understand phenomena that cannot be measured through direct observation. In statistical models, variables representing these constructs, often operationalized and represented as scores on self-report measures, stand in as symbolic representations of real forces having an impact on patients' experiences of living and dying. In this sense, latent constructs represent real phenomena that cannot always be seen directly.

Research by Vachon, Given, Given, and Dunn (2019), published as an online exclusive with this issue of *Oncology Nursing Forum*, highlights the unique challenges faced by patients with cancer who are prescribed oral oncolytic agents (OOAs), including temporary stoppages of treatment that can have serious health consequences. The study analyzed associations between the occurrence and frequency of OOA temporary stoppages and concepts, such as burden of treatment (BOT) and multimorbidity. BOT is conceptually defined as a combination of the actual workload associated with treatment and the patient's perception of this workload (Vachon et al., 2019). Multimorbidity is not explicitly conceptually defined, but operationally defined as a count of the number of conditions requiring medication management at the outset of OOA therapy, abstracted from study participants' clinical records (Vachon et al., 2019). In the research, BOT and multimorbidity were included as predictor variables in multiple logistic regression models of factors associated with temporary stoppages of OOA therapy. After examining these associations within a secondary analysis of data collected from 272 people with cancer who were newly prescribed OOAs across six National Cancer Institute (NCI)–designated cancer centers, Vachon et al. (2019) concluded that BOT and multimorbidity had

no statistically significant effect on the occurrence or frequency of OOA temporary stoppages. The sample of participants for this study was highly educated, entirely insured, aged an average of 61 years, and identified primarily as Caucasian.

To interpret and draw conclusions from the research conducted by Vachon et al. (2019), measurement choices and assumptions associated with their statistical models must be critically analyzed. These include variables representing the concepts of BOT and multimorbidity, both of which could be considered latent constructs. Although latent constructs can be defined in multiple ways, one of the simplest definitions is that a latent construct represents a phenomenon that exists within a model but does not appear directly in a dataset (Bollen, 2002). In other words, the concept cannot be directly observed and captured empirically. Therefore, the researcher must make decisions about what observable indicators can be measured to allow for testing hypotheses involving the latent construct. An example of a latent construct might be the concept of symptom burden. One might say that symptom burden is impossible to observe directly, at least not in the same way that a cancerous tumor cell may be directly observed under a microscope. However, oncology nurse researchers often include variables, such as symptom burden, in their analyses by hypothesizing which observable indicators are associated with symptom burden and designing self-report assessments to capture those observable indicators in the form of responses to items on a symptom burden scale. Although the researchers have not directly observed and measured symptom burden, the scale score represents symptom