When conducting an intervention study, researchers need to ensure the intervention or treatment is carried out the same way each time. In the study by Thompson, Thomson, Gaskin, and Plummer (2019) in this issue, the intervention was outlined in detail even though intervention fidelity is not mentioned. Researchers need to consider how to achieve the fidelity of their intervention when conducting a study, and readers need to examine research reports for how authors consistently implement the treatment. Intervention fidelity is essential to evidence-based practice and quality improvement projects as well as research. In this column, I will provide a brief introduction to intervention fidelity with some key references.

What Is Intervention Fidelity?

Intervention fidelity has been defined as the extent to which the intervention is delivered as intended over time (Gray, Grove, & Sutherland, 2017; Murphy & Gutman, 2012). Researchers must consider the theoretical and operational levels of intervention fidelity. The fidelity of an intervention or treatment is particularly important in behavioral or educational study as the conduct of the intervention can drift from what was intended. Drift is a threat to internal validity and may lead to unclear and confused results (Toomy & Hardeman, 2017).

To address fidelity, researchers need to design a study to include methods to assess and monitor the reliability and validity of the intervention. Researchers should assess what is delivered to enable an accurate evaluation (Toomy & Hardeman, 2017). Reporting these methods is necessary for readers to judge the quality of a study. Addressing intervention fidelity requires consideration of several components, including design, quality of delivery, participant responsiveness, and program differentiation (Ibrahim & Sidani, 2016).

Design

When designing a study, researchers should consider the theoretical basis for the intervention. The intervention may not be based on a theory in some cases, but use of a theory can strengthen the research. Essential elements of a theory-based intervention might be applied to different situations in other research. Developing a matrix with the elements and content of the intervention can help link the theory to the intervention (Ibrahim & Sidani, 2016). If a theory was not used, an appropriate rationale should be provided (Hoffman et al., 2014).

During the design phase, researchers also need to plan for adherence of healthcare providers involved in the study to the implementation and delivery of the intervention. Periodic monitoring of adherence can be designed. Other methods to ensure consistency of delivery is the use of recordings such as the DVDs used by Thompson and colleagues (2019) in their study. Another aspect to consider when designing a consistent study is dose, which includes the amount, frequency, and duration of the intervention (Ibrahim & Sidani, 2016).

Quality of Delivery

If an intervention is to be carried out by nurses or other healthcare providers, competence of the interventionists must be assured. Appropriate training and perhaps manuals that outline procedures might be included. Skills, attitude, and occurrence/nonoccurrence of behaviors can be important to internal validity of the study. Each provider must administer the intervention in the same manner each time the intervention is given. If the intervention includes personalization, this should be described (Hoffman et al., 2014). Before the study begins, researchers should assess the competence of the people implementing the intervention.

Standardization of the intervention and its delivery is essential. For example, in a clinical trial of a physical activity intervention among sedentary adults, an in-depth assessment of audio-recorded sessions showed only 44% of the intervention techniques were delivered as planned. The intervention proved to be no more effective than a brief advice leaflet (Hardeman et al., 2008).

Participant Responsiveness

Researchers also will need to monitor how participants receive the intervention: if they accept the content and engage in the activities. Patient characteristics (e.g., gender identity, comorbid conditions, age) can
influence their responsiveness and therefore affect the study (Ibrahim & Sidani, 2016). Researchers can monitor this by noting attendance at sessions or administering assessment of knowledge and self-efficacy.

**Program Differentiation**

Another important component of intervention fidelity is being clear during the design, implementation, and reporting phases regarding components of the intervention that are different than other treatments, especially the comparison group. In clinical studies, researchers usually compare a new intervention to current practice. If the difference between what is provided to treatment and comparison groups is unclear, the internal validity and outcomes of the study can be affected seriously (Ibrahim & Sidani, 2016).

In addition to understanding the quality of an interventional study, complete reporting of an intervention is key to other researchers’ ability to replicate the study in other groups or other settings. A template for intervention description and replication (TIDieR) checklist has been developed to help researchers better report on intervention studies (Hoffman et al., 2014). Different types of interventional studies will need different formats and examples, as provided online by Hoffman and colleagues.

**REFERENCES**


