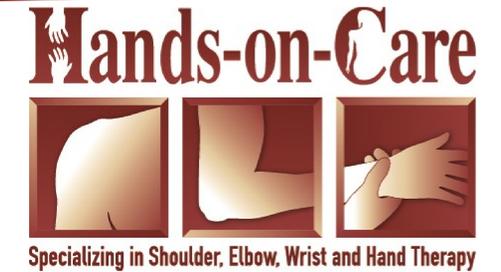


Validity of DASH scores

By Saba Kamal, OTR, CHT



Purpose

Is DASH reflective of the impairment at hand?

Background

Outcome measures are given to assess the patient's adaptation to an injury, especially DASH scores and we question its importance/relevance in therapy.

REASON FOR THIS APPROACH

Patients present with a short term dysfunction/injury. Therapy must be designed to alter the impairment, which should result in resolving the impairment and/or reducing the disability.

Adaptation assessment to an injury must be done. However, it should be done when the impairment is resolved to see if the patient can function with the disability using a compensatory mechanism.

Problems with previous treatment approach

DASH given as adaptation initially does not present the intensity of the physical impairment for which the patient seeks therapy. Instead, it limits the visits seen in therapy. For example – if the patient is casted, they may not have pain in the hand and may be able to compensate well. However, when they are out of the cast and have to perform the same activity with limited ROM, strength and pain to complicate things, their DASH score may be higher than before. This can cause the insurance company to deny visits, assuming they are not performing well in therapy based on the score given. If a patient keeps compensating for the arm to be treated, it prevents them for receiving the care that is needed to help return to normal functioning.

The impairment model and the functional model of DASH must correlate and present a picture that accurately reflects the scope of the problem.

If payment system is to change from a fee for therapy to a value based system, the score must reflect a combined impairment model and a client centered model together as one.

Study Design

A patients DASH score is calculated based on adaptation and compensation. The instructions to the patients are as follows

This questionnaire asks about your symptoms as well as your ability to perform certain activities. Please answer every question, based on your condition in the last week. If you did not have the opportunity to perform an activity in the past week, please make your best estimate on which response would be the most accurate. It doesn't matter which hand or arm you use to perform the activity; please answer based on your ability regardless of how you perform the task.

When patients attend therapy, their goal is to maximize the benefits gained from therapy and to use their hands the best possible way without having to compensate for the problem. Thus, avoiding surgery or developing secondary problems down the road.

So, we gave the same DASH with a different set of instructions after they finished the first DASH.

This questionnaire asks about your symptoms as well as your ability to perform certain activities. Please answer every question, based on your condition in the last week. If you did not have the opportunity to perform an activity in the past week, please make your best estimate on which response would be the most accurate. It is pertinent that you answer these questions considering the affected arm when performing the activity. Please answer based on your prior level of function to perform the task as you normally would and want to return to.

Sample Size

A sample size of 12 patients was used to ascertain the patient's needs from therapy. To learn a compensatory mechanism to be functional or to gain normalcy as the patient previously had?

The theoretical construct of this study was to ensure that cause and effect are accurately represented in real-world situations. Patients with upper quadrant injury were chosen, however the injury was not specific to one joint.

Questioning the logic

The question presented in this study, is why does the patient seek therapy services?

Do they seek services to learn a compensatory mechanism to be functional? Or is it to rehabilitate their problem, enhance their function, improve their lifestyle and prevent future problems?

It is not ideal to treat every injury that a patient presents with. However, if they present with a wrist fracture and rate opening a jar by putting the jar in between their legs, and continue living with the disability, it must be questioned if that is the reason the patient is seeking therapy. Is the goal of the patient to continue functioning in a compensatory manner or return back to normalcy.

E.g.: A stroke patient may take 2 years to regain all their function, but in order to satisfy the payer, we teach compensatory mechanisms instead of accurately treating the medical problem with NDT techniques, which may take more time to return the patient back to function, the best possible he could have. We limit recovery by focusing on compensation, than actual return to function.

It must be questioned if teaching compensation is even therapeutic in the early stages of treatment. Or should the therapist aspire to treat the patient's medical condition and get concrete returns to enrich their lives in the best possible way?

Results

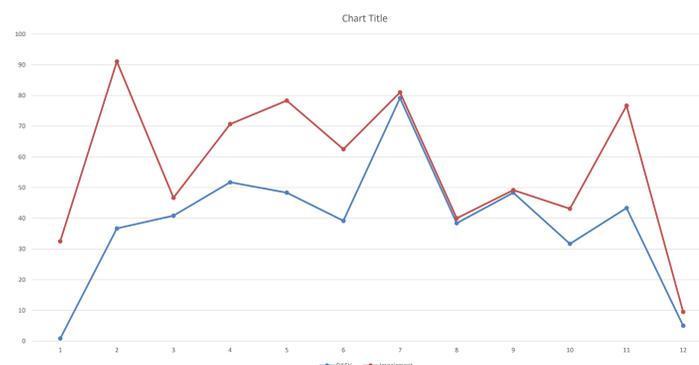
After both DASH questionnaires were implemented, we questioned the goal of the patient in therapy

to learn to compensate for the problem as it made them functional based on the first score

OR

to learn to overcome the impairment at hand and prevent future problems based on the second score

The scores were tallied and the difference noted.



Discussion

If given a choice as stated between the two DASH's, we wanted to ascertain if a patient centered approach favored an impairment model or a compensatory model.

The results obtained indicate that the 2nd set of DASH given to the patient was always higher than the 1st set. This was as expected and led us to hypothesize that the patient favored the impairment model to regain function rather than just learn compensatory techniques.

Thus, the impairment goals must be designed to educate the patient, regain the parameters of normalcy rather than compensation by improving ROM, strength etc. The scores indicate that return to normal lifestyle is preferable to the patient. This client centered approach in therapy to minimize the impairment is preferred by the patient than accepting the status quo and living with it.

Adaptation to injury is inevitable, however, it must be done at the end of therapy to ascertain the patients level of function with the disability. Further studies may be needed to redesign the DASH to have an equal representation of function and impact of the impairment. When the compensatory scores are equal to the impairment scores on the DASH given, then the patient can be considered as rehabilitated by both models.

References

- Outcome instruments for the assessment of the upper extremity following trauma: a review. [Dowrick AS¹](#), [Gabbe BJ](#), [Williamson OD](#), [Cameron PA](#).
- A concept for comprehensively measuring health, function and quality of life following orthopaedic interventions of the upper extremity. [Simmen BR¹](#), [Angst F](#), [Schwyzer HK](#), [Herren DB](#), [Pap G](#), [Aeschlimann A](#), [Goldhahn J](#).
- Development of a score set to measure function and quality of life in patients suffering from elbow pathology. [Liem IS¹](#), [Kolling C](#), [Marks M](#), [Nelissen RG](#), [Goldhahn J](#).
- Development of an upper extremity outcome measure: the DASH (disabilities of the arm, shoulder and hand) [corrected]. The Upper Extremity Collaborative Group (UECG) [Hudak PL¹](#), [Amadio PC](#), [Bombardier C](#).