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LETTER TO THE EDITOR

FUNCTIONAL INDEPENDENCE MEASURE (FIM)

Sir,

While it may be the case that a goal-oriented rehabilitation program is superior to a non-goal-oriented program in gaining functional improvement, Wikander et al. (1) have not demonstrated this convincingly in their paper.

First, if the randomization of patients was contingent on bed availability as they state, then the patients were not randomly allocated at all, and the use of the term "randomization" is therefore misleading.

Secondly, no information is given about the urological history of the patients, a variable that needs to be taken into account in deciding whether the groups are comparable.

Thirdly, the claim that there is a non-significant difference between the onset of the stroke and time of admission, with 12.7 (SEM 1.1) days for the intervention group and 17.5 (SEM 1.3) days for the control group, is wrong. The difference between the group means is 4.8 (pooled SEM 1.73) days. This difference is significant ($p = 0.0092$), and the 95% confidence interval for the difference between the population means is 1.3–8.3 days. The measure of functional status, which was said to be not significantly different between the groups, was therefore measured significantly later in the control group than in the intervention group. The conclusion to be drawn from this is that the control group had more severe strokes than the intervention group. The differences found between the groups may therefore not have been due to the intervention, but may be merely an illustration of the reality of severe neurological damage. The poor outcomes generally reported in the control group support this latter interpretation.

Fourthly, there is an error in the Methods section, where it is stated that Pitman's test was used to compare medians. Pitman's permutation test (2) does not deal with medians, and it requires at least an interval scale of measurement, whereas the functional scales are ordinal. We presume a median test was employed.

Finally, we note that goal setting with FIM involves a limited set of activities, and trust that the authors also set goals in activities that may be independent of the FIM, but that the patient also perceives as important.

REFERENCES

1. Wikander, B., Ekelund, P. & Milsom, I.: An evaluation of multidisciplinary intervention governed by Functional Independence Measure (FIM^{SM}) in incontinent stroke patients. Scand J Rehab Med *30:* 15–21, 1998.
2. Pitman, E. J. G.: Significance tests which may be applied to samples from any populations. J R Stat Soc Suppl *4:* 119–130, 1937.

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REPLY TO THE LETTER BY DICKSON & KÖHLER

Sir,

We read with interest the comments made by Hugh G. Dickson and Friedbert Köhler regarding our article entitled "An evaluation of multidisciplinary intervention governed by Functional Independence Measure (FIM^{SM}) in incontinent stroke patients", which was published earlier in the *Scandinavian Journal of Rehabilitation Medicine*. While we can accept some of the criticisms made, we do not agree with all the points raised by Dickson and Köhler. We wish therefore to make the following comments.

We do not consider our description of how the patients were allocated to the two wards misleading.

In the Material and Methods section, the method of allocation was clearly stated, as understood by Dickson and Köhler.

The patients included in our study were assessed on admission to the ward in regard to the degree of incontinence and the need for help with urination. The mean age of the patients was 74–75 years, and all had recently had a stroke. We did not include details of the patients' urological history, as we considered it possible that this information was unreliable because of memory difficulties in these elderly recent stroke victims.

We agree with Dickson and Köhler that the difference in days to admission was significant, as they correctly pointed out. We regret this error in the Table. In addition, Dickson and Köhler suggested that this difference may have influenced the results, and we agree that this is a possibility. However, on the other hand, there was no difference in functional status performed on admission to our clinic between the patients from the two wards. Thus, it is by no means certain that the difference in time to admission explains the differences recorded in the patients from the two wards after the study period.

We did not use Pitman's permutation test to compare medians. Means and medians were used in the Tables to present the results of the groups. We regret the misleading formulation given in the description of statistical methods.

The FIM concept involves a predetermined number of activities, which has previously been evaluated in other situations and settings (see reference list from our article). We agree entirely with Dickson and Köhler that other goals, considered by the patients to be of importance, are also of value.

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