Heart Failure Management Programs Reduce Readmissions and Prolong Survival

In their recent systematic review and meta-analysis of the overall impact of multidisciplinary management programs on the risk of readmission and all-cause mortality in patients with chronic heart failure (CHF), Gwadry-Sridhar et al concluded that this type of intervention had a positive impact on morbidity but minimal impact on mortality. Our own meta-analysis of these same programs concluded that CHF management programs not only reduce the risk of readmission (risk ratio [RR], 0.84; 95% confidence interval [CI], 0.75-0.93) but also reduce the risk of all-cause mortality (RR, 0.83; 95% CI, 0.70-0.99). There are 2 important explanations why these analyses reached different conclusions.

First, for reasons that are not clear, Gwadry-Sridhar et al chose to limit their analysis to 7 trials involving 1113 patients with CHF, published prior to the year 2000 (plus their own unpublished study, involving an additional 126 patients). Notably, 2 large randomized trials published in *Lancet* and *Archives of Internal Medicine* in 1999 that described the effects of a multidisciplinary, home-based intervention (n = 200) and a pharmacist-led program of care (n = 181), respectively, were omitted from this analysis. This major oversight cannot be defended on the basis of patient duplication, study quality, or “contamination” with non-CHF patients. Between 2001 and 2003, at least 10 more randomized trials involving 1925 patients with CHF were then published. Including these and more recently published reports, we were able to analyze 29 trials involving 5039 patients, giving substantially more power to detect a difference in survival.

Second, it appears that while Gwadry-Sridhar et al formally considered the possible confounding effects of analyzing heterogeneous strategies within the spectrum of CHF management programs, they underestimated the potential for varying outcomes based on the type of strategy applied. Categorizing programs according to their complexity, duration, and mode of patient contact is an important consideration in any analysis of this type. In our own analysis, we found that singular strategies designed to educate patients about their CHF had minimal impact on the risk of all-cause mortality (RR, 1.14; 95% CI, 0.67-1.94), whereas truly multidisciplinary strategies were particularly effective in this regard (RR, 0.75; 95% CI, 0.59-0.96).

Given the limitations of the meta-analysis of Gwadry-Sridhar and colleagues, we would strongly urge that their findings do not hinder the development of truly multidisciplinary CHF management programs to both reduce the risk of readmission (and indeed, multiple readmissions) and prolong survival.

**In reply**

Stewart and colleagues wonder why we did not include the study by Gattis et al in our review. The reason was that because the intervention was delivered exclusively by a clinical pharmacist and our focus was on a multidisciplinary intervention, the study was not eligible. Stewart and colleagues also question our excluding the study by Stewart et al. Stewart et al had published a very similar article in 1998, and we suspected considerable overlap in populations. Stewart and colleagues failed to answer our queries. Because the 1998 publication included a more comprehensive presentation of the data, we restricted ourselves to that report of the data.

We did not include the other studies that Stewart and colleagues cite in their letter because they were published after we submitted our manuscript. It is encouraging that, when combined in the meta-analyses, the pooled results now suggest a benefit in reduced mortality. Thus, the letter by Stewart and colleagues demonstrates the usefulness of periodic updates of meta-analyses. Unfortunately, there are still insufficient numbers of studies and patients to conduct informative subgroup analyses.

Stewart and colleagues’ contention that we are hindering the development of true multidisciplinary CHF management programs constitutes a very odd misreading of our article. Our discussion emphasized the importance of the