

Comparison of quality of life between patients undergoing chronic hemodialysis with reusable dialyzer and single-use dialyzer: A retrospective cohort study

Lucky Aziza Bawazier, author

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Abstrak

BACKGROUND: in Indonesia, majority of hemodialysis centers use reusable dialyzer for cost efficiency reason. Currently, there is no available data regarding the quality of life of the end stage-renal disease patient who use reusable dialyzer measured by a standardized questionnaire, as it was stated that at molecular level, reusable dialyzer could worsen leukocyte activity and could affect patients complaints and symptoms. **METHODS:** this was a retrospective cohort study which involved 39 subjects. All subjects underwent hemodialysis at Cipto Mangunkusumo Hospital. The study was conducted in March - September 2017. All subjects had experienced two kinds of dialyzers, the reusable dialyzers (before 2015) and the single-use dialyzers (after 2015). Of all patients, 19 patients did not know the change of dialyzers. Subjects were interviewed with Kidney Disease Quality of Life-Short Form 36 questionnaire. **RESULTS:** in kidney disease component dimension, there was a significant mean difference between reusable group (68.74; SD 13.22) and single-use group (74.87; SD 13.54) (Wilcoxon test, $p=0.01$). The Physical Component Summary dimension, in reusable group was 63.65; SD 27.07 and in single-use group was 69.38; SD 23.07 (Wilcoxon test, $p=0.217$). The Mental Component Summary dimension, in reusable group was 71.78; SD 21.54 and in single-use group was 75.27; SD 22.30 (Wilcoxon test, $p=0.127$). Bivariate analysis and further analysis showed significant association between income less than 5 million rupiah and low quality of life ($p=0.048$). **CONCLUSION:** the reusable dialyzer membrane lowers the ESRD patients quality of life influenced by another factor such as low income.

.....Pendahuluan: di Indonesia, pemakaian membran hemodialisis dengan metode reuse banyak digunakan karena hemat biaya. Diperlukan data apakah tindakan hemodialisis dengan metode reuse cukup optimal untuk kualitas hidup pasien karena metode reuse dapat menimbulkan perubahan tertentu pada tingkat molekuler tubuh yang diduga dapat meningkatkan gejala dan keluhan. Metode: studi ini menggunakan desain kohort retrospektif pada 39 subjek penelitian yang menjalani hemodialisis di unit hemodialisis Rumah Sakit Cipto Mangunkusumo pada Maret – September 2017. Subjek pernah menjalani hemodialisis dengan dua tipe membran, yaitu membran dialisator reuse (sebelum tahun 2015) dan membran dialisator single-use (sejak tahun 2015). Sebanyak 19 dari 39 pasien tidak mengetahui penggantian membran dialisator. Subjek diwawancara dengan kuesioner Kidney Disease Quality of Life-Short Form 36. Hasil: rerata dimensi kualitas hidup komponen penyakit ginjal pada kelompok single-use adalah 74,87 (SD 13,54) dan reuse 68,74 (SD 13,54) (uji Wilcoxon, $p = 0,01$). Rerata dimensi komponen fisik pada kelompok single-use adalah 69,38 (SD 23,07) dan reuse 63,65 (SD 27,07) (uji Wilcoxon, $p = 0,217$). Rerata dimensi komponen mental pada kelompok single-use adalah 75,27 (SD 22,30) dan reuse 71,78 (SD 21,54) (uji Wilcoxon, $p = 0,315$). Pada uji analisa bivariat dan lanjutannya dalam model regresi linear ditemukan asosiasi yang signifikan antara pendapatan dibawah 5 juta rupiah dengan kualitas hidup ($p=0,048$). Kesimpulan: dialisator reuse menurunkan kualitas hidup pasien yang menjalani hemodialisis dipengaruhi oleh faktor lain salah satunya pendapatan yang rendah