PATIENTS EFFECT OF LAUGHTER THERAPY ON STRESS AND
quality of life short form version 1.3 (KDQOL-SF™ 1.3) before
were measured by visual analogue scale (VAS) and serum cortisol
individual session by telephone for 4 weeks. The mood and stress
composed of weekly four group sessions and daily 15 seconds’ of
control group were remained. Laughter therapy program was
completed the laughter therapy program and 18 patients in a
center were randomized (1:1) to either a laughter group or a
hemodialysis patients attending a university hospital dialysis
OBJECTIVES: The purpose of this study was to assess the effects
2Kyung Hee University, Seoul, South Korea, 3Bundang CHA Hospital,
1Pochon CHA University, Sungnam, Gyeonggi-Do, South Korea,
was demonstrated for emotion (p < 0.001), while communication scores decreased
significantly over the same time period (p = 0.02). However, sta-
tistically significant decreases in scores were seen between 12
months SIS scores and the additional sixth time point score for
social participation (p = 0.03), memory (p = 0.02), and commu-
nication (p = 0.3). A significant increase for this same time period
was demonstrated for emotion (p < 0.001). CONCLUSION:
Increases in physical, emotion, memory and social participation
component scores demonstrated a significant improvement over
an initial 12 month period. However, significant decreases in
social participation, memory and communication were seen for
the time period between the 12 month score and scores at least
one and a half to four years later. These results suggest that while
there may be significant physical and cognitive improvements
during the first year post stroke, individuals were experiencing
difficulties with social reintegration, communication and
memory at later time points. Results from this preliminary study
demonstrate the need for continued, longitudinal research on
HRQoL in long-term stroke survivors.

URINARY/KIDNEY—Clinical Outcomes Studies

EFFECT OF LAUGHTER THERAPY ON STRESS AND
HEALTH-RELATED QUALITY OF Life in HEMODIALYSIS
PATIENTS
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OBJECTIVES: The purpose of this study was to assess the effects
of laughter therapy on mood, stress and health-related quality of life
(HRQoL) in patients treated with hemodialysis. METHODS:
This is a randomized controlled intervention study. Briefly, forty
hemodialysis patients attending a university hospital dialysis
center were randomized (1:1) to either a laughter group or a
control group without laughter therapy. A total of 11 patients
completed the laughter therapy program and 18 patients in a
control group were remained. Laughter therapy program was
composed of weekly four group sessions and daily 15 seconds’ of
individual session by telephone for 4 weeks. The mood and stress
were measured by visual analogue scale (VAS) and serum cortisol
level, respectively, and HRQoL was evaluated by kidney disease
quality of life short form version 1.3 (KDQOL-SF™ 1.3) before
and after active laughter program. RESULTS: Mood measured
by VAS was significantly improved in the active laughter therapy
group (n = 11) compared to control group (n = 18) (p < 0.05),
whereas changes in serum cortisol level was not significantly
different between two groups. Role due to emotional, social
functioning, and mental health quality of life scales improved
significantly in the laughter group (all p’s < 0.05). In the kidney
disease-targeted scales, symptom/problem and quality of social
interaction scales were significantly improved in the laughter
group (all p’s < 0.01). CONCLUSION: A Laughter therapy was
an effective program for improving the mood and limitations of
usual role activities due to emotional problems, mental health
and social domains of quality of life in hemodialysis patients.
at-risk was set to 0.72, and it was assumed that new dialysis modality distribution would reach by year 3. The model allowed various sensitivity analyses. RESULTS: If PD utilisation increased to 25% without any reimbursement increase for PD, 5-year savings was estimated to be €13 million. If APD was reimbursed by an additional €1300 per patient, 5-year savings increased to €18 million, assuming overall PD utilisation increased to 30% and APD share of PD increased from 4.5% to 30%. If APD reimbursement increased an additional €2300 per patient and APD share of PD increased to 50%, it would require 35% of all PD patients undergoing dialysis treatment to achieve €18 million savings. Finally, at this level of additional APD reimbursement, 5-year savings increase to €25 million as PD utilisation increases to 40%. With €25 million in savings, an additional 1478 patient-years of treatment could be provided in Romania. CONCLUSION: With additional reimbursement for PD and the resulting increase in PD utilisation, there is an opportunity for government to lower the total dialysis budget. Government can apply the savings to treat additional ESRD patients.

**PUK4**

**IN THE UNITED KINGDOM, AN INCREASED UTILISATION OF PERITONEAL DIALYSIS THERAPY COULD LEAD TO AN INCREASE IN THE NUMBER OF PATIENTS BEING TREATED FOR RENAL REPLACEMENT THERAPY (RRT)**

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OBJECTIVES: There is expected to be an increase in the number of patients needing dialysis in the UK over the next 5 years. Outcomes for the different modalities available, haemodialysis (HD) and peritoneal dialysis (PD), have been shown to be similar yet the majority of dialysis patients are treated with HD. Any changes in dialysis delivery that could lead to a more efficient use of resources could increase the number of RRT patients that could be treated. The objective of this evaluation is to project a five-year impact on total dialysis costs when there is a hypothesised shift in modality from HD to PD. METHODS: An Excel-based budget impact model was used to estimate the impact of a shift in modality utilisation. The model takes into account dialysis modality shares, annual average cost of treating patients per modality, annual RRT growth rate and years to reach new modality distribution. Cost data from a recent UK study were used. At baseline (June 2007) there were 23,133 RRT patients undergoing dialysis therapy, 79% using HD and 21% using PD. Annual direct cost per patient was £39,412 for HD, £20,764 for home HD (HHD), £22,350 for automated PD (APD), and £16,355 for continuous ambulatory PD (CAPD). Total costs included drug treatment and transport costs. At baseline, 2% of the HD population was on HHD and 48% of the PD population was on CAPD. RESULTS: If PD utilisation increases to 30% (of which 60% is APD) by 2011, the cumulative 5-year budget is reduced by a total of £166 million. This cumulative 5-year savings can provide an additional 5,036 patient-years of treatment. CONCLUSIONS: In the UK, an increased use of PD provides an opportunity to treat additional patients within a fixed budget, which is a potential solution to the increased demand for RRT in the coming years.

**PUK5**

**RETROSPECTIVE PHARMACOECONOMIC STUDY OF THE USE OF CYCLOSPORINE A MICROEMULSION (SANDIMMUN® NEORAL®) IN COMPARISON WITH CYCLOSPORINE A GENERICS FOR IMMUNOSUPPRESSION FOLLOWING KIDNEY TRANSPLANTATION**

Tolkushin AG, Kulikov A, Yagudina RI, Morozov A
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OBJECTIVES: Identification of the better drug for immunosuppression following renal transplantation. METHODS: Efficacy data sources included completed comparative randomized clinical trials of Sandimmun Neoral and cyclosporine A generics (Stolyarevich E. S. 2006, Taber D. J., et al. 2005, CTS 2001); costs were derived from the wholesale prices of the study drugs (Protek, Cia International, Shreya Corporation, as of 11 October 2006). The study evaluated the costs of initial and maintenance immunosuppression, treatment of rejection episodes, and haemodialysis necessitated by transplant death in the compared groups. RESULTS: Analysis of randomized clinical trials has revealed that Sandimmun Neoral is superior to cyclosporine A generics as regards one-year renal graft survival rates (88% vs. 78%) (CTS 2001). Furthermore, application of cyclosporine A generics entails more frequent episodes of acute rejection (25% vs. 39%), recurrent rejection (4% vs. 13%), and rejection requiring administration of antibodies (8% vs. 19%), Taber D. J. et al. 2005). The total cost of 2-year therapy was over 58.8 million roubles and 72 million roubles per 100 patients in the Sandimmun Neoral and cyclosporine A generics groups, respectively. CONCLUSION: Sandimmun Neoral is the leading alternative for immunosuppression following renal transplantation, i.e. it is preferable from a clinicoeconomic perspective.

**PUK6**

**RETROSPECTIVE PHARMACOECONOMIC STUDY OF THE USE OF CYCLOSPORINE A MICROEMULSION (SANDIMMUN® NEORAL®) IN COMPARISON WITH TACROLIMUS (PROGRAF®) FOR IMMUNOSUPPRESSION FOLLOWING KIDNEY TRANSPLANTATION**

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OBJECTIVES: Identification of the better drug for immunosuppression following renal transplantation. METHODS: Efficacy data sources included completed comparative randomized clinical trials of cyclosporine microemulsion (Sandimmun Neoral, CsA) and tacrolimus (Prograf, Tac). Costs were derived from the wholesale prices of the study drugs (international drug distributor Shreya, as of 25 September 2006). Costs of other medicines with the exception of calcineurin inhibitors (Mycophenolate Mofetil, corticosteroids, Azathioprine), transplantation surgery, diagnostic laboratory procedures, and pharmacokinetic monitoring of blood concentrations of drugs were considered constant and left out of calculations in this comparative study. RESULTS: Analysis of randomized clinical trials has revealed similar efficacies for both analyzed treatment options, whereas the safety profile of tacrolimus is more of a problem: the frequency rates of the new onset post-transplant diabetes mellitus for CsA and Tac are 26.5% and 33.6%, respectively, according to Vincenti F. (2005), or 9.8% and 15.4%, respectively, as reported by Keown P. (2004). The rates of diarrhea in the study of Levy G. (2005) were 14% in the CsA group and 29% in those treated with Tac. This study evaluated the costs of initial and maintenance immunosuppression with Sandimmun Neoral and Prograf, which were approximately 22,600 roubles vs. 58,700 roubles for initial therapy and 176,300 roubles vs. 952,300 roubles for one-year maintenance immunosuppression, respectively. The amount of