THE IMPACT OF ANTI-TNF (ETANERCEPT) THERAPY ON WORK PRODUCTIVITY IN PATIENTS WITH RHEUMATOID ARTHRITIS, ANKYLOSING SPONDYLITIS, PSORIATIC ARTHRITIS AND PSORIASIS IN THE CZECH REPUBLIC

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BACKGROUND
Rheumatoid arthritis (RA), ankylosing spondylitis (AS), psoriatic arthritis (PsA) and psoriasis (Ps) have significant impact on patients' functional abilities and social daily activities. They also affect work ability and productivity and thus cause high productivity costs immediately after diagnosis. Foreign studies show that early TNF-α inhibitors, in our case etanercept (ETN), slow down disease progression, improve overall disease burden and allow patients to return to work [1-5].

OBJECTIVES
The aim of this study was to examine the impact of etanercept therapy on work productivity in patients with RA, PsA, AS and Ps and if not returned to work, to determine anti-rheumatic therapy value (QoL, productivity costs and health-related quality of life (HRQoL) were tested using Wilcoxon rank-sum test.

RESULTS
The baseline values of absenteeism, presenteeism and total HPQ score were 0.171, 0.738 and 0.676, respectively. Absenteeism decreased only slightly to 0.099 (p=0.120) but presenteeism and total HPQ score significantly increased to 0.897 and 0.823 (both p<0.001) after 3 months of treatment with ETN. The average productivity costs decreased to €1,930 (p<0.001) and €2,068 (p<0.001) in AS, –€1,218 (p<0.001) in RA, –€810 (p=0.001) in PsA and –€2,195 (p<0.001) in Ps.

CONCLUSIONS
Modern biological anti-TNF (etanercept) therapy has proved to substantially decrease the productivity costs and also improvement of their quality of life and the main clinical outcomes.

METHODS
Work productivity was examined in 107 working patients (whole sample 193 patients) using the Health and Work Productivity Questionnaire (HPQ) (0.67) after ETN treatment initiation and in 70 patients (whole sample 145 patients) after 3 months of the treatment. The details of a sample are summarized in flowchart (Figure 3). The differences in work productivity and health-related quality of life (HRQoL) were tested using Wilcoxon rank-sum test.

Productivity costs were monetarized using average gross wage which is equal to €(843) (converted from CZK to €), by exchange rate of 21.3 CZK (HLR) and calculated using friction cost (FC) and human capital (HC) approaches (10). When calculated by FC, we used a friction period of 6 months. When using HC, we calculated productivity costs with retirement (62 years) while applying annual discount rate of 3%. We also measured HRQoL (using EQ-5D-3L questionnaire) and the main clinical outcomes in given diagnosis (DAS28 and HAQ in RA, BASDAI and BASFI in AS, PASI and DOL in PsA and BSA in Ps). These results show that although AS treatment did not result in the highest change in HPQ score, it translated into the highest reduction of productivity costs when measured by HC which is caused by generally lower age of patients (43 vs. 40 years of age in other diagnosis). In all patients, there was also a decrease of working incapacity in the last 3 months from 6.1 to 1.5 days on average. The 3-months ETN therapy also significantly increased the HRQoL, the average baseline EQ-5D-3L index of 0.395 increased to 0.686 (p<0.001) and EQ-VAS score of 39.5 increased to 70.9 (p<0.001). Increases of HRQoL in particular diagnoses are similar to the overall increase (Table 2). Finally, ETN therapy led to improvement of all important clinical outcomes in all diagnoses (Table 3).

REFERENCES
2. Mlčoch T, Jirčíková J1, Mandelíková M1, Kruntorádová K1, Doležal T1. Value Outcomes s.r.o.
3. 66 pts not working
4. 57 pts working
5. 51 pts working
6. 32 RA
7. 145 patients after 3 months of treatment
8. 19 patients before treatment
9. 184 patients after 3 months of treatment
10. Using the ETN (0.5-mg) questionnaire and the main clinical outcomes in given diagnosis (DAS28 and HAQ in RA, BASDAI and BASFI in AS, PASI and DOL in PsA and BSA in Ps).

Figure 1.  Patient flowchart

Figure 2.  Working productivity measured by HPQ in given diagnosis

Figure 3.  Productivity costs (measured by friction cost approach)